cabur®
CONNECTING ENERGY
SINCE 1952

Automation and control solutions

2024 EDITION

OVER 70 YEARS

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CONNECTING ENERGY
SINCE 1952

Automation and control solutions

2024 EDITION

IMQ CERTIFIED
QUALITY MANAGEMENT SYSTEM
ISO 9001:2015

IMQ CERTIFIED
ENVIRONMENTAL MANAGEMENT SYSTEM
ISO 14001:2015

WARNING If not specified, the technical data in this catalogue are typical and measured at 25°C (77°F), 230 Vac, Unom, Vdc and rated current; ripple is measured at 20 MHz with probe connected to 0.1 µF. The technical data in this catalogue are typical and are not binding for Cabur and may be modified without prior notice, simply for production or improvement and/or evolution reason. Please contact our technical-commercial offices for any relevant confirmation or updates. For more informations visit our web site www.cabur.eu.

The Company

Founded in Italy in 1952, Cabur quickly conquered the role of leader amongst the national manufacturers of terminal blocks for electrical panels, always paying particular attention to the needs of installers and to cutting-edge technological solutions.

Today the company develops and manufactures a wide range of products for the electrotechnical and electronic industry which are renowned for their reliability even in extreme conditions of use.

The current production is the result of the many years of experience gained by Cabur as a partner of the main national bodies and companies, perfected through actions and collaborations abroad and includes:

- Connections for electrical panels
- Automation and control solutions
- Industrial marking systems
- Solutions for the energy transition

The wide and diversified offer guarantees a level of flexibility and unique ability to find solutions tailored to specific needs, which enables us to respond to the most varied and complex installation needs.

Always oriented towards the improvement of its products, in recent years Cabur has responded to the Industry 4.0 project with the expansion of production facilities and important product innovations.

In pursuing a corporate culture based on Total Quality, Cabur has adopted the main European directives of the reference market and collaborates with the most prestigious national and foreign Institutes and Laboratories.

Its products are the result of qualitative choices of particular relevance in the field of raw materials used that, in addition to providing an ample guarantee of functionality and reliability over time, also work in full compliance with all the Norms, Regulations, Laws and applicable requirements, binding and self-adopted, with full satisfaction of all compliance obligations.

INDUSTRIAL CONNECTIVITY SOLUTIONS

AUTOMATION AND CONTROL SOLUTIONS

INDUSTRIAL MARKING SOLUTIONS

SOLUTIONS FOR ENERGY TRANSITION

www.cabur.eu

INDEX

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SINCE 1952

POWER

DIN rail power supplies

Uninterruptible power supplies

Cabur continues to renew and expand its range of power supplies for use in industrial automation and control of processes and systems, improving product performance and technology to meet the needs created by the continuing changes in applications and regulations.

QUALITY AND SAFETY: Cabur was the first Italian company to obtain UL508 Industrial Control Equipment certification for industrial automation processes and Hazardous Location Class 1 Div. 2 for processes in dangerous areas, as well as to have been certified as conforming to the Directives on Electric Safety. It also has been EMC certified by an accredited laboratory. All of these are indispensable for the CE certified label.

INNOVATION AND RESEARCH:
- 1997 - Cabur is the first Italian company to produce switching power supplies for DIN-rails with 90-264Vac/110-340Vdc universal input.
- 2001 - Cabur is the first Italian company to produce high efficiency power supplies with resonant technology (the 20A 3-phase dissipates only 36W compared to over 75W for our competitors at the time).
- 2009 – With the new generation of power supplies in the catalogue, Cabur has further improved performance using "Synchronous Rectifier" technology, which reduces power dissipation and operating temperature to the minimum, an indispensible factor in minimising the size of the power supplies, which are the smallest on the market.

The lifespan of a power supply is halved by every +10°C increase in operating temperature. Hence, reducing operating temperature is fundamental to endurance and reliability, two objectives that can be achieved only by using circuit technology and next generation components. Thanks to this combination, Cabur has achieved output of over 94% (the new 20A 3-phase dissipates only 28W, compared to the 50-75W in heat dissipation found in other products currently on the market).

HIGH OVERLOAD CAPACITY: the new power supplies have an overload capacity of over +50% for 5 seconds or for several minutes (please see the technical data), while maintaining stable output voltage even under these conditions.

SYSTEM COMMUNICATIONS: all the CSF, CSG, and CSW Series models are provided with "intelligent" alarm contacts that commutate when the output voltage drops below -10% of the nominal value. This allows the controls to activate automated or emergency procedures to reduce machine stoppage, production losses, and the risk to safety.

TOTAL PROTECTION: all models are provided with output protection against overload short circuiting, overtemperature, and overvoltage, both for input and output. Input for the 3-phase models includes the Active Surge Suppressor – Inrush Current Limiter, which avoids malfunctioning in the case of overvoltage generated by commutation of loads or malfunctions on industrial networks, where the value can reach 3-4 times the network voltage, with a duration of 1.3ms (Regulation VDE-0160), which can be destructive for the input components. This increases reliability, especially in networks subject to power surges and power malfunctions.

SHORT CIRCUIT AND OVERLOAD PROTECTION: this serves to protect the power supply from malfunctions due to overloading and overheating of the components. This function can be designed by starting with different application needs, with varying practical results and costs. In automated applications, the operating conditions and the nature of the loads can vary greatly and are only partially known to the power supply designer. Power supplies for automated processes need to meet a number of requirements: they need to be protected from overcurrent, but at the same time they need to be able to supply loads which call for a high peak current, working at temperatures of at least 45° C, according to regulations, and sometimes higher, in critical ventilation situations and guaranteeing high reliability and acceptable costs.
The overcurrent protection must support the high peak currents required by loads such as filament lamps (cold, they make a short circuit), capacitive loads such as dc/dc converters and filter condensators (when these switch on they are seen as a short-circuit for a few tenths of a ms) or inductive loads (engines in dc, electromagnets, etc.) which at peak require currents from 5 – 30 times their nominal power. Frequently, all these loads must be started up at the same time. The breakaway starting current must be provided for a sufficient duration to "start" the load, which can go from a few tenths of a ms up to 5s.
With high-power power supplies, which power various loads protected from overcurrent, the capacity to provide overcurrent is indispensable to guarantee selectivity in protection interventions. This is because it allows the fuse of the malfunctioning load to be "burned" before the electronic protection of the power supply intervenes, disconnecting the output and hence the entire system.

ELECTRONIC OVERLOAD POWER SUPPLY PROTECTION CAN BE OBTAINED USING VARIOUS TECHNIQUES:
- switch off the output as soon as possible: this is cost effective but doesn't allow for either start up of heavy loads nor for protection selectivity for various loads.
- constant power protection: if the allowed overload is sufficiently high, it is possible to start up heavy loads. However, if the condition continues, the power supply will continue to operate in overload and with a high thermal stress level. Hiccup protection: combines the advantages of the techniques described above, while limiting the disadvantages because it allows over +50-100% of the overload for at least 5 seconds, and then switches off output for a longer break. In this way, the peak power necessary for heavy load peaks is obtained while component heating is decreased, as they can cool off during the break. Hiccup protection with high overcurrent output, for durations from 200 ms to over 5 sec., has been proven to satisfy the new requirements established by the Machinery Directive EN 60204-1.

REAL OPERATING TEMPERATURE: the operating temperature range for all Cabur models is between –20 and +50°C at full load without derating (see technical data), certified in accordance with the rigorous UL508 standard.
The project takes into consideration the ambient temperature, allowed overcurrent, and overcurrent duration when determining component size, and is always more than the 45°C required by the standards for electrical panels. Ambient temperature is a fundamental reference parameter, because this influences not only performance, but also component operating temperature and power supply duration.

HOLD UP TIME: this is the time in which the power supply output supplies nominal voltage at nominal load. This performance is important because it limits the cases in which machine/system stoppage can occur due to voltage "holes" in the network. EMC standards establish that Hold Up time must be at least 10ms. For all Cabur power supplies, Hold Up time is greater than that required by the official standards, which ensures better operational consistency in networks with frequent voltage holes.

MTBF: this figure should be taken with care, because it is the result of theoretical calculations that are easy to manipulate. For example, if we know that the mortality rate for 25 year old men is 0.1%/year, the resultant MTBF, calculated in accordance with SN29500 – IEC 61709, would be 800 years. Obviously, this result is highly unrealistic. The significant piece of information is the "life expectancy," which for men averages about 75 years – less spectacular but more realistic. The same reasoning can be applied to electronic products for which, in accordance with the calculation methods, we can use an MTBF of 750,000 hours (85 years), or a life expectancy of about 70,000 hours (7.9 years, on average). The second estimate is less optimistic, but is without doubt closer to reality. As a consequence, data published regarding MTBF must be interpreted based on the credibility of the calculation methods used. In addition to the values according to SN 29500, Cabur has also chosen to declare those according to the MIL HDBKn217F standards, which are much stricter.

CUSTOM POWER SUPPLIES: Cabur designs and produces "custom" power supplies on request to meet the requirements of regulations and the high demanding applications. Furthermore our laboratory offers technical documentation and the measures which prove the conformity of the products with the directives on Electric Safety and Electromagnetic Compatibility, besides the necessary technical support to define the product characteristics on the basis of the client's needs and our own experience.

THE ENVIRONMENT AND ROHS CONFORMANCE:
Cabur was one of the first Italian companies to obtain the International Environmental Certificate UNI EN ISO 14001, certified by CSQ for ecologically compatible treatment of all the materials used in our production.
Since 2007, all Cabur products have been manufactured in conformity with the Rohs Wee directives.

General notes

PARALLEL AND REDUNDANT PARALLEL CONNECTION: all Cabur power supplies can be connected in parallel to combine the power of two or more power supplies. In addition, models that already include an output separation diode (ORing diode) are available for use with redundant parallels (please see the related item in the catalogue).

We recommend adjusting the outputs of all the power supply units to the same voltage (tolerance ± 50 mV), applying the same calibration load, before connecting them in parallel. We also recommend using power supply units of the same model. If it is necessary to connect two power supplies without internal diodes in redundant parallel, the connection must be completed as in fig. 1.

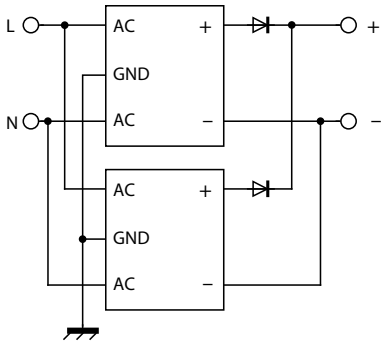


Figure 1

CONNECTION IN SERIES: all Cabur power supplies can have their outputs connected in series to double the voltage (see fig. 2) or to obtain dual voltage output, for example with ± 12V or ±24 V (see fig. 3).
We recommend that you use power supplies of the same model and an anti-parallel diode, of an appropriate size to resist the maximum current of the power supply.

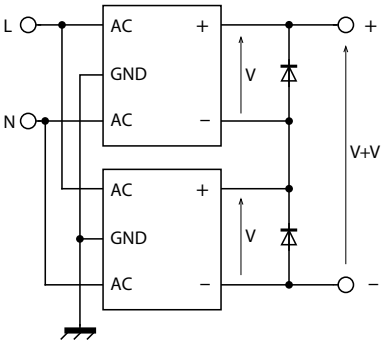


Figure 2

POWER SIGNAL OK: this is found on all CSF, CSG, and CWS models. The 1A / 30Vdc contact commutates when output voltage falls below the threshold of -10% of nominal voltage, in the case of a short circuit on the output line or an overload that exceeds the specifications, or due to network failure.

100-340VDC POWER SUPPLY: available for certain models (please see technical data), which respect the following:
– power supply of 110...127 Vdc, reduces output current by 25%
– min. voltage allowed 100 Vdc, max 340 for single phase, 280...775 Vdc for single/2-phase, 564... 775Vdc for 3-phase (please see technical data)
– respect input polarity as indicated in the instructions.

Note for power supplies with secondary input from a transformer

ISOLATION: this series of power supply units is not insulated.
TYPE OF USE: they are suitable for use in PELV (Protective Extra Low Voltage, one pole grounded) and SELV (Safety Extra Low Voltage, no pole grounded).
The transformer used must have double or reinforced isolation in accordance with CEI 14.6 / EN 60742.
In the case of use in PELV circuits, only ground one pole of the 24 Vdc of the power supply unit. In the case of use in SELV circuits, do not ground the input grounding terminal.
Grounding one pole of the secondary of the transformer and the 24Vdc of the power supply would damage the power supply.

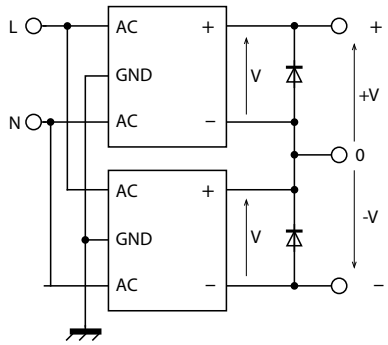


Figure 3

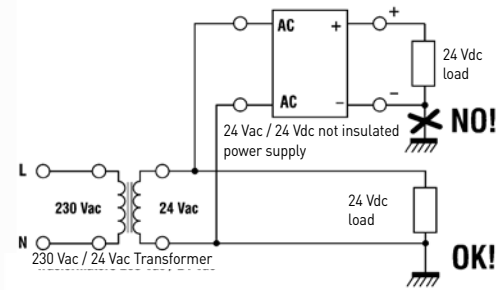


Figure 4

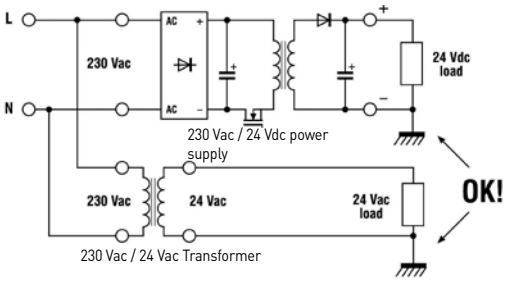


Figure 5

POWER SUPPLIES - QUICK SELECTION TABLE

OUTOUT RATED VOLTAGE [VDC]	OUTPUT ADJUSTABLE RANGE [VDC]	CONTINUOUS CURRENT [A]	OUTPUT POWER [W]	INPUT RATED VOLTAGE [VAC]	PHASE NO.	INPUT VOLTAGE RANGE [VAC]	INPUT VOLTAGE RANGE [VDC]	ALARM CONTACT	REDUNDANT VERSION	TYPE	CODE	PAGE
1.2...24	—	0.3...1.5	30	12-24	1	10...26	-	—	—	CL1R	XCL1R	48
1.2...24	—	0.8...5	120	12-24	1	10...26	-	—	—	CL5R	XCL5R	48
12...15	12...15	7	85	—	—	—	18...36	—	—	CSA120CB	XCSA120CB	45
12	—	1.2	15	120-230	1	85...264	100...370	—	—	CSD1-015W/012V/AA	XCSD1015W012VAA	13
12	—	4....2.0	30	120-230	1	85...264	100...370	—	—	CSD1-030W/012V/AA	XCSD1030W012VAA	14
±5...15	±5...15	2.5...1.7	60	120-230	1	85... 264	90... 370	—	—	CSD1-060W/012V/AD	XCSD1060W012VAD	15
12	12...15	5...4	72	120-230	1	85...264	100...370	—	—	CSD1-072W/012V/AA	XCSD1072W012VAA	16
12	12...15	6	85	120-230	1	90...264	100...345	•	—	CSF85B	XCSF85B	19
12	12...15	8 - 7	96	230-400-500	1-2	187...550	270...725	•	—	CSW121B	XCSW121B	34
12	12...15	16 - 17	192	230-400-500	1-2-3	185...550	270...770	•	—	CSW241B	XCSW241B	35
12-24	11.5 ... 29	100	2400	400-500	3	340...550	—	•	•	CSG2401C	XCSG2401C	43
24	—	0.6	15	120-230	1	85...264	100...370	—	—	CSD1-015W/024V/AA	XCSD1015W024VAA	13
24	—	1.25	30	120-230	1	85...264	100...370	—	—	CSD1-030W/024V/AA	XCSD1030W024VAA	14
24	23.5... 27.5	3	72	120-230	1	85...264	100...370	—	—	CSD1-072W/024V/AA	XCSD1072W024VAA	16
24	16 ... 28	3	72	120-230	1	85...264	100...370	•	—	CSL1-072W/024V/AA	XCSL1072W024VAA	26
24	23...27.5	3.5	85	120-230	1	90...264	100...345	•	—	CSF85C	XCSF85C	18
24	23...27.5	3.5	85	120-230	1	90...264	100...345	•	•	CSF85CP	XCSF85CP	18
24	23...27.5	5	120	120-230	1	90...264	100...345	•	—	CSF120C	XCSF120C	20
24	23...27.5	5	120	120-230	1	90...264	100...345	•	•	CSF120CP	XCSF120CP	20
24	16 ... 28	5	120	120-230	1	85...264	100...370	•	—	CSL1-120W/024V/AA	XCSL1120W024VAA	26
24	24...27.5	5	120	230-400-501	1-2	187...550	270...725	•	—	CSW121C	XCSW121C	34
24	22.5...27.5	5	120	—	—	—	10.5...18	—	—	CSA120BC	XCSA120BC	45
24	22.5...27.5	5	120	—	—	—	18...36	—	—	CSA120CC	XCSA120CC	46
24	22.5...27.5	5	120	—	—	—	36...72	—	—	CSA120DC	XCSA120DC	46
24	23...27.5	10	240	120-230	1	90...132 / 185...264	300...345	•	—	CSF240C	XCSF240C	22
24	23...27.5	10	240	120-230	1	90...132 / 185...264	300...345	•	•	CSF240CP	XCSF240CP	22
24	23...29	10	240	120-230	1	85...264	90...370	•	—	CSL1-240W/024V/AA	XCSL1240W024VAA	27
24	24...27.5	10	240	230-400-500	1-2-3	185...550	270...770	•	—	CSW241C	XCSW241C	35
24	23...27	10	240	—	—	—	100...130	—	•	CSA240FC	XCSA240FC	47
24	24 ... 28	20	480	120-230	1	90...132 / 185...264	259...370	•	•	CSF500C	XCSF500C	24
24	20 ... 28	20	480	120-230	1	85...264	100...370	•	—	CSL1-480W/024V/AA	XCSL1480W024VAA	28
24	20 ... 28	20	480	120-230	1	85...264	100...370	•	—	CSL1-480W/024V/GA	XCSL1480W024VGA	28
24	20 ... 28	20	480	120-230	1	85...264	100...370	•	—	CSL1-480W/024V/AB	XCSL1480W024VAB	28
24	23.3...27.5	20	480	230-400-500	1-2-3	187...550	250...725	•	—	CSW481C	XCSW481C	36
24	24...28	20	480	400-500	3	340...550	—	•	—	CSG500C	XCSG500C	39
24	20 ... 28	20	480	400-500	3	340...550	—	•	—	CSL3-480W/024V/AA	XCSL3480W024VAA	30
24	20 ... 28	20	480	400-500	3	340...550	—	•	—	CSL3-480W/024V/GA	XCSL3480W024VGA	30
24	20 ... 28	20	480	400-500	3	340...550	—	•	—	CSL3-480W/024V/AB	XCSL3480W024VAB	30
24	24...28	30	720	400-500	3	340...550	—	•	—	CSG720C	XCSG720C	40
24	23...27.5	40	960	230 / 400-500	1-2	180...264 / 360...550	550...775	•	•	CSW960CP	XCSW960CP	37
24	24...28	40	960	400-500	3	340...550	—	•	—	CSG960C	XCSG960C	41
24-48	23 ... 56	50	2400	400-500	3	340...550	—	•	•	CSG2401D	XCSG2401D	43

- • INFORMATION AVAILABLE
- — INFORMATION NOT AVAILABLE

POWER SUPPLIES - QUICK SELECTION TABLE

OUTOUT RATED VOLTAGE [VDC]	OUTPUT ADJUSTABLE RANGE [VDC]	CONTINUOUS CURRENT [A]	OUTPUT POWER [W]	INPUT RATED VOLTAGE [VAC]	PHASE NO.	INPUT VOLTAGE RANGE [VAC]	INPUT VOLTAGE RANGE [VDC]	ALARM CONTACT	REDUNDANT VERSION	TYPE	CODE	PAGE
48	45...55	2.5	120	120–230	1	90...264	100...345	•	•	CSF120DP	XCSF120DP	21
48	45...55	5	240	120–230	1	90...132 / 185...264	300...345	•	•	CSF240DP	XCSF240DP	23
48	45...55	10	480	120–230	1	90...132 / 185...264	259...370	•	•	CSF500D	XCSF500D	24
48	40.5 ... 55.5	10	480	120–230	1	85...264	100...370	•	—	CSL1-480W/048V/AA	XCSL1480W048VAA	28
48	40.5 ... 55.5	10	480	120–230	1	85...264	100...370	•	—	CSL1-480W/048V/GA	XCSL1480W048VGA	28
48	40.5 ... 55.5	10	480	120–230	1	85...264	100...370	•	—	CSL1-480W/048V/AB	XCSL1480W048VAB	28
48	45...55	10	480	230-400-500	1-2-3	187...550	250...725	•	—	CSW481D	XCSW481D	36
48	40.5 ... 55.5	10	480	400–500	3	340...550	—	•	—	CSL3-480W/048V/GA	XCSL3480W048VGA	30
48	40.5 ... 55.5	10	480	400–500	3	340...550	—	•	—	CSL3-480W/048V/AB	XCSL3480W048VAB	30
48	40.5 ... 55.5	10	480	400–500	3	340...550	—	•	—	CSL3-480W/048V/AA	XCSL3480W048VAA	30
48	45...55	20	960	400–500	3	340...550	—	•	•	CSG960D	XCSG960D	41
24-48	23 ... 56	50	2400	400–500	3	340...550	—	•	•	CSG2401D	XCSG2401D	43
72	72...85	6	430	230-400-500	1-2-3	187...550	250...725	•	—	CSW481G	XCSW481G	37
72	62.5 ... 81	6.6	480	120–230	1	85...264	100...370	•	—	CSL1-480W/072V/AA	XCSL1480W072VAA	29
72	62.5 ... 81	6.6	480	120–230	1	85...264	100...370	•	—	CSL1-480W/072V/GA	XCSL1480W072VGA	29
72	62.5 ... 81	6.6	480	120–230	1	85...264	100...370	•	—	CSL1-480W/072V/AB	XCSL1480W072VAB	29
72	60 ... 81	6.6	480	400–500	3	340...550	—	•	—	CSL3-480W/072V/GA	XCSL3480W072VGA	31
72	60 ... 81	6.6	480	400–500	3	340...550	—	•	—	CSL3-480W/072V/AB	XCSL3480W072VAB	31
72	60 ... 81	6.6	480	400–500	3	340...550	—	•	—	CSL3-480W/072V/AA	XCSL3480W072VAA	31
72	72...85	13.3	960	400–500	3	340...550	—	•	•	CSG960G	XCSG960G	42
72	50 ... 87	33	2400	400–500	3	340...550	—	•	•	CSG2401G	XCSG2401G	44
100-110-170	88...175	14	2400	400–500	3	340...550	—	•	•	CSG2401R	XCSG2401R	44

• INFORMATION AVAILABLE
— INFORMATION NOT AVAILABLE

CSD SERIES

MODULAR SWITCHING POWER SUPPLIES

DOMOTIC POWER

Single-phase switching power supply with power up to 70W for use in civil and industrial automation applications. The technical and design characteristics of the housing, with standard modular DIN measurements for installation in control units **were planned to optimise use in home automation.** The performance level and compact size also make it an excellent solution for electrical panels and shallow containers.

High output and a contained working temperature support energy savings and longer component life.

Suggested uses

- Industrial automation applications
- Civil automation applications
- General applications in systems installed using small remote panels

Main features

- The 90...264 Vac and 110...370 Vdc inputs, make it suitable for use on all power supply networks.
- These are Isolation Class 2 power supplies that do not require a grounding connection, which reduces the times and costs of installation in remote panels and surveillance and monitoring systems.
- Their high efficiency reduces energy consumption and operating temperature and allows for use in small housings.
- The large power reserve allows continuous current to be supplied up to at least +50% higher than the rated value, ensuring safety and reliability.
- Short-circuit and overload protection designed to deliver peak currents more than 150% higher than the rated value required by heavy loads.
- Thermal protection prevents failure in cases of prolonged overload at high ambient temperatures.
- Thanks to the high performance and excellent ventilation of internal the components, they are greatly reduced in size and have a degree of protection from accidental contacts of IP20 per IEC529.

Compact size
Ideal for modular control units and shallow containers

Short-circuit and overload protection
Designed to deliver the typical peak currents required by medium loads

Power boost
The output power supplied reaches up to 130% of the rated value.

High efficiency
Designed to save energy and reduce operating temperature

Input 90...264 Vac and 110...370 Vdc
Appropriate for use on all power supply networks

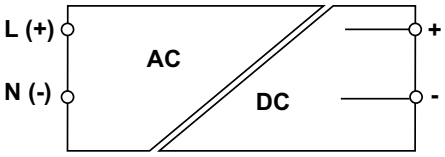
SINGLE PHASE POWER SUPPLIES
DOMOTIC POWER LINE

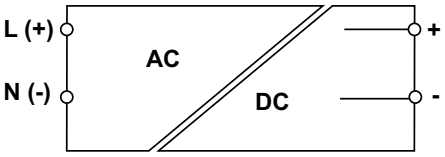
- **Single phase and DC input**
- **Short circuit, overload and input overvoltage protection**
- **Over temperature protection**
- **Suitable for standard applications**
- **Isolation Class 2, no grounding needed**

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance



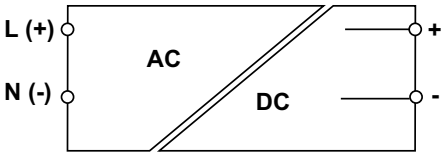


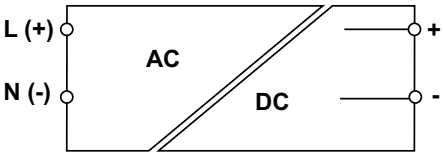
CODE	XCSD1015W024VAA	XCSD1015W012VAA
TYPE	CSD1-015W/024V/AA	CSD1-015W/012V/AA
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	85...264 Vac	85...264 Vac
Input voltage DC	100...370 Vdc (derating Uin	100...370 Vdc (derating Uin
Frequency	47...63 Hz	47...63 Hz
Current consumption	0.29 A (120 Vac) / 0.18 A (230 Vac)	0.29 A (120 Vac) / 0.18 A (230 Vac)
Inrush peak current	5 A	5 A
Power factor	> 0.6	> 0.6
Internal protection fuse	T 1 A	T 1 A
External protection on AC line	MT: C-2 A / Fuse: T-2 A	MT: C-2 A / Fuse: T-2 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	12 Vdc ±1%
Output adjustable range		
Continuous current	0.6 A at 60°C	1.2 A at 60°C
Overload limiting	0.81 A	1.6 A
Short circuit peak current		
Ripple @ nominal ratings	50 mVpp	50 mVpp
Hold up time	12 ms (120 Vac) / 20 ms (230 Vac)	12 ms (120 Vac) / 20 ms (230 Vac)
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	86% (120 Vac) / 86% (230 Vac)	84% (120 Vac) / 85% (230 Vac)
Dissipated power	2.2 W (120 Vac) / 2.2 W (230 Vac)	2.7 W (120 Vac) / 2.6 W (230 Vac)
Operating temperature range	–20...+70°C (derating -0.9 W >60°C)	–20...+70°C (derating -0.9 W >60°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	class 2, without PE link	class 2, without PE link
Output / ground isolation	class 2 without PE connection	class 2 without PE connection
Standard / approvals	EN 60950-1, EN 62368-1	EN 60950-1, EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	35x62x90 mm	35x62x90 mm
Approximate weight	91 g	91 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSD SERIES

SINGLE PHASE POWER SUPPLIES DOMOTIC POWER LINE

- **Single phase and DC input**
- **Short circuit, overload and input overvoltage protection**
- **Over temperature protection**
- **Suitable for standard applications**
- **Isolation Class 2, no grounding needed**





NOTE

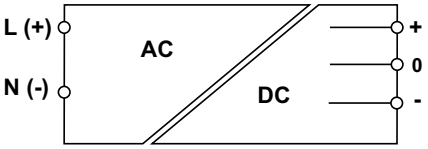
Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSD1030W024VAA	XCSD1030W012VAA
TYPE	CSD1-030W/024V/AA	CSD1-030W/012V/AA
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	85...264 Vac	85...264 Vac
Input voltage DC	100...370 Vdc (derating Uin<130 Vdc)	100...370 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	0.56 A (120 Vac) / 0.34 A (230 Vac)	0.56 A (120 Vac) / 0.34 A (230 Vac)
Inrush peak current	5 A	5 A
Power factor	> 0.6	> 0.6
Internal protection fuse	T 2 A	T 2 A
External protection on AC line	MT: C-3 A / Fuse: T-3 A	MT: C-3 A / Fuse: T-3 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	12 Vdc ±1%
Output adjustable range		5...15 Vdc
Continuous current	1.25 A at 50°C	4A (5V), 2.9A (10V), 2.5A (12V), 2.0A (15V) at 55°C
Overload limiting	2.0 A	6.9...3.0 A
Short circuit peak current		
Ripple @ nominal ratings	50 mVpp	50 mVpp
Hold up time	12 ms (120 Vac) / 20 ms (230 Vac)	12 ms (120 Vac) / 20 ms (230 Vac)
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	88% (120 Vac) / 87% (230 Vac)	87% (120 Vac) / 86% (230 Vac)
Dissipated power	4 W (120 Vac) / 3.9 W (230 Vac)	4.1 W (120 Vac) / 4 W (230 Vac)
Operating temperature range	–20...+70°C (derating -1.2 W >50°C)	–20...+70°C (derating -1.2 W >55°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	class 2, without PE link	class 2, without PE link
Output / ground isolation	class 2 without PE connection	class 2 without PE connection
Standard / approvals	EN 60950-1, EN 62368-1	EN 60950-1, EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	53x62x90 mm	53x62x90 mm
Approximate weight	148 g	148 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

SINGLE PHASE POWER SUPPLIES
DOMOTIC POWER LINE

- Single phase and DC input
- Short circuit, overload and input overvoltage protection
- Over temperature protection
- Suitable for standard applications
- Isolation Class 2, no grounding needed



NOTE

Please refer to the datasheet for more details

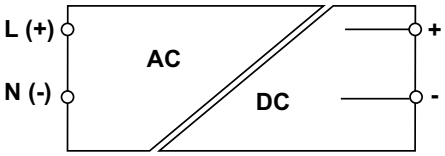
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

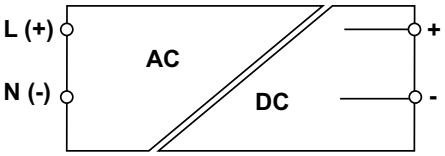
CODE	XCSD1060W012VAD
TYPE	CSD1-060W/012V/AD
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	90...264 Vac
Input voltage DC	100...370 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz
Current consumption	0.94 A (120 Vac) / 0.54 A (230 Vac)
Inrush peak current	15 A
Power factor	> 0.6
Internal protection fuse	T 2 A
External protection on AC line	MT: C-3 A / Fuse: T-3.15 A
OUTPUT TECHNICAL DATA	
Output voltage range	±5...±15 Vdc ±1%
Output adjustable range	±5...±15 Vdc
Continuous current	2.5 A (±5 Vdc), 2.3 A (±10 Vdc), 2.1 A (±12 Vdc), 1.7 A (±15 Vdc)
Overload limiting	7.5 A (±5 Vdc), 5.9 A (±10 Vdc), 5.4 A (±12 Vdc), 4.8 A (±15 Vdc)
Short circuit peak current	
Ripple @ nominal ratings	50 mVpp
Hold up time	20ms
Status indication	LED "DC OK"
Alarm contact	
Parallel connection	possible
Redundant parallel connection	possible with external ORing diode
GENERAL TECHNICAL DATA	
Efficiency	75% (5 Vdc output) / 83% (12 Vdc output)
Dissipated power	9.4 W (120 Vac) / 9.5 W (230 Vac)
Operating temperature range	-20...+60°C (derating 2W > 55°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	class 2, without PE link
Output / ground isolation	class 2 without PE connection
Standard / approvals	EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	71x62x90 mm
Approximate weight	200 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	

CSD SERIES

SINGLE PHASE POWER SUPPLIES DOMOTIC POWER LINE

- **Single phase and DC input**
- **Short circuit, overload and input overvoltage protection**
- **Over temperature protection**
- **Suitable for standard applications**
- **Isolation Class 2, no grounding needed**





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSD1072W024VAA	XCSD1072W012VAA
TYPE	CSD1-072W/024V/AA	CSD1-072W/012V/AA
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	85...264 Vac	85...264 Vac
Input voltage DC	100...370 Vdc (derating Uin<130 Vdc)	100...370 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.17 A (120 Vac) / 0.71 A (230 Vac)	1.17 A (120 Vac) / 0.71 A (230 Vac)
Inrush peak current	15 A	15 A
Power factor	> 0.6	> 0.6
Internal protection fuse	T 2 A	T 2 A
External protection on AC line	MT: C-3 A / Fuse: T-3 A	MT: C-3 A / Fuse: T-3 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	12 Vdc ±1%
Output adjustable range	23.5... 27.5 Vdc	12...15 Vdc
Continuous current	3 A at 55°C	5...4 A at 55°C
Overload limiting	4.5 A	8.0 A
Short circuit peak current		
Ripple @ nominal ratings	50 mVpp	50 mVpp
Hold up time	12 ms (120 Vac) / 20 ms (230 Vac)	12 ms (120 Vac) / 20 ms (230 Vac)
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	89% (230 Vac)	89% (230 Vac)
Dissipated power	9.6 W (120 Vac) / 7.9 W (230 Vac)	10 W (120 Vac) / 8.5 W (230 Vac)
Operating temperature range	–20...+70°C (derating -2.6 W >55°C)	–20...+70°C (derating -1.8 W >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	class 2, without PE link	class 2, without PE link
Output / ground isolation	class 2 without PE connection	class 2 without PE connection
Standard / approvals	EN 60950-1, EN 62368-1	EN 60950-1, EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	71x62x90 mm	71x62x90 mm
Approximate weight	229 g	229 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSF SERIES

SWITCH MODE POWER SUPPLY COOL POWER LINE

Single-phase switching power supply with DIN-rail, designed specifically for applications in command and control panels for industrial automation and process control. Capable of delivering +60% to +80% nominal current for a prolonged period of time while maintaining a constant output voltage and equipped with a voltage threshold-controlled failure contact which is triggered when the voltage drops below 90% of the rated value. **With these features and numerous international certifications, this range of power supplies enables designers to meet the requirements of the Machinery Directive EN 60204-1,** allowing the protection devices connected to the output to trigger quickly, safely and selectively, thus ensuring continuity of service to the other parts of the system.

Suggested uses

- Applications in industrial automation with high performance and reliability requirements.
- Applications which require selectable overcurrent protections on DC lines
- Applications in machine automation with high command and control voltage reliability and safety requirements
- Applications in process control
- Uses with heavy loads
- Civil automation applications

Main features

- The 90...264 Vac and 110...370 Vdc inputs, make it suitable for use on all power supply networks.
- Threshold failure contact which is triggered when the voltage falls below 90% of the rated value.
- Versions with integrated ORing diode for redundant parallel connection, preventing the need for external devices and reducing bulk and installation costs.
- High efficiency reduces energy consumption and the operating temperature of components and allows use in small panels and severe environmental conditions.
- Large power reserve allows for delivery of at least +60-80% nominal current and voltage for several minutes, ensuring safety and reliability.
- Output voltage is adjustable and the output is protected against input surge from the DC line generated from inductive loads.
- The output is equipped with dual electronic protection which prevents dangerous voltages for powered components in the event of an internal fault.
- Thermal protection prevents faults in case of prolonged overload with high ambient temperatures.
- Construction ensures excellent ventilation capacity of internal components, with reduced sizes and a degree of protection from accidental contacts of IP20 per IEC529.
- Thanks to their high performance and excellent ventilation capacity, they are among the smallest on the market.

COOL POWER

48Vdc and 72-85Vdc models have been introduced, designed to reliably power engines in DC. They:

- supply peak power equal to even 4-5 times the nominal current, which is required by the engine during the peak phase
- have an output stage protected from overvoltage generated by the engines and drives during braking, which could otherwise cause malfunctions or cause the power supply to lose control over output voltage stability.

Extremely compact dimensions
Among the smallest on the market, optimising the use of space in the panel without compromising performance

Short-circuit and overload protection
Designed to deliver the strong peak currents required by heavy loads

Power boost
The output power reaches 120% of the nominal value for several minutes, up to 160% in the event of overload, and up to 300% during a short-circuit, to enable the protection devices connected to the output to trigger quickly, safely and selectively, without the use of additional modules.

High efficiency
Designed to save energy and reduce operating temperature

Input 90...264 Vac and 110...370 Vdc
Appropriate for use on all single-phase power supply networks

Intelligent failure contact
Notifies when the output voltage falls below 90% of the rated value once a threshold is surpassed

CSF SERIES

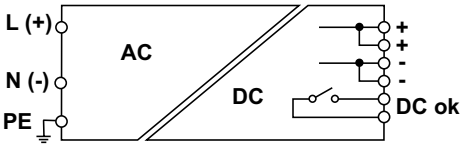
SINGLE PHASE POWER SUPPLIES COOL POWER LINE

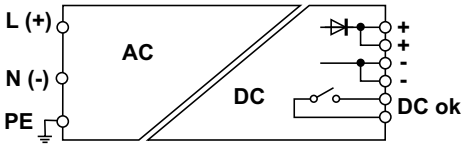
- Single phase and DC input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance





CODE	XCSF85C	XCSF85CP
TYPE	CSF85C	CSF85CP
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	90...264 Vac	90...264 Vac
Input voltage DC	100...345 Vdc (derating Uin<130 Vdc)	100...345 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.6 A (120 Vac) / 0.9 A (230 Vac)	1.6 A (120 Vac) / 0.9 A (230 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse	T 2 A	T 2 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	24 Vdc ±1%
Output adjustable range	23...27.5 Vdc	23...27.5 Vdc
Continuous current	3.5 A at 50°C	3.5 A at 50°C
Overload limiting	6 A for >30 s	6 A for >30 s
Short circuit peak current	10 A for 50 ms	10 A for 50 ms
Ripple @ nominal ratings	70 mVpp	70 mVpp
Hold up time	20 ms (120 Vac) / 70 ms (230 Vac)	20 ms (120 Vac) / 70 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	86% (120 Vac) / 90% (230 Vac)	86% (120 Vac) / 90% (230 Vac)
Dissipated power	14 W (120 Vac) / 10 W (230 Vac)	14 W (120 Vac) / 10 W (230 Vac)
Operating temperature range	–20...+60°C (derating -1.45 W >45°C)	–20...+60°C (derating -1.45 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	400 g	400 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSF SERIES

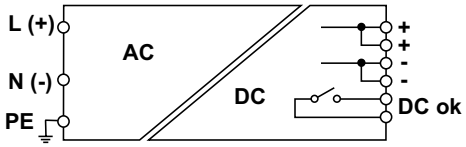
SINGLE PHASE POWER SUPPLIES COOL POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

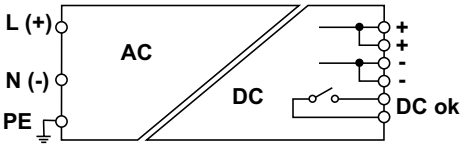


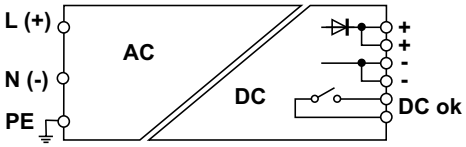
CODE	XCSF85B
TYPE	CSF85B
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	90...264 Vac
Input voltage DC	100...345 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz
Current consumption	1.6 A (120 Vac) / 0.9 A (230 Vac)
Inrush peak current	20 A
Power factor	> 0.65
Internal protection fuse	T 2 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA	
Output voltage range	12 Vdc ±1%
Output adjustable range	12...15 Vdc
Continuous current	6 A at 50°C
Overload limiting	9A for >30 s
Short circuit peak current	10 A for 50 ms
Ripple @ nominal ratings	30 mVpp
Hold up time	15 ms (120 Vac) / 60 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >10.8 Vdc)
Parallel connection	possible
Redundant parallel connection	possible with external ORing diode
GENERAL TECHNICAL DATA	
Efficiency	83% (120 Vac) / 87% (230 Vac)
Dissipated power	17 W (120 Vac) / 13 W (230 Vac)
Operating temperature range	–20...+60°C (derating -1.45 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	40x130x115 mm
Approximate weight	400 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	

CSF SERIES

SINGLE PHASE POWER SUPPLIES COOL POWER LINE

- Single phase and DC input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSF120C	XCSF120CP
TYPE	CSF120C	CSF120CP
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	90...264 Vac	90...264 Vac
Input voltage DC	100...345 Vdc (derating Uin<130Vdc)	100...345 Vdc (derating Uin<130Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.9 A (120 Vac) / 1.1 A (230 Vac)	1.9 A (120 Vac) / 1.1 A (230 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse	T 3.15 A	T 3.15 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	24 Vdc ±1%
Output adjustable range	23...27.5 Vdc	23...27.5 Vdc
Continuous current	5 A at 45°C	5 A at 45°C
Overload limiting	8 A for >30 s	8 A for >30 s
Short circuit peak current	15 A for 50 ms	15 A for 50 ms
Ripple @ nominal ratings	30 mVpp	30 mVpp
Hold up time	17 ms (120 Vac) / 72 ms (230 Vac)	17 ms (120 Vac) / 72 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	86% (120 Vac) / 90% (230 Vac)	86% (120 Vac) / 90% (230 Vac)
Dissipated power	19 W (120 Vac) / 13 W (230 Vac)	19 W (120 Vac) / 13 W (230 Vac)
Operating temperature range	–20...+60°C (derating -1.9 W >45°C)	–20...+60°C (derating -1.9 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	400 g	400 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSF SERIES

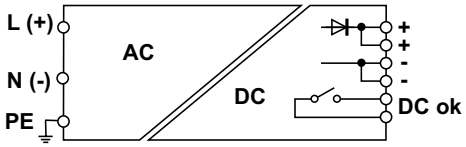
SINGLE PHASE POWER SUPPLIES COOL POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

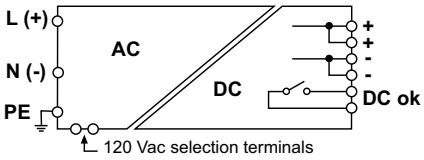


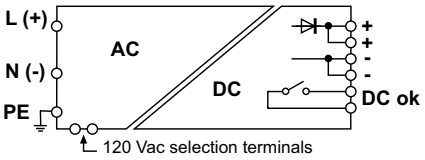
CODE	XCSF120DP
TYPE	CSF120DP
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	90...264 Vac
Input voltage DC	100...345 Vdc (derating Uin<130Vdc)
Frequency	47...63 Hz
Current consumption	1.9 A (120 Vac) / 1.1 A (230 Vac)
Inrush peak current	20 A
Power factor	> 0.65
Internal protection fuse	T 3.15 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA	
Output voltage range	48 Vdc ±1%
Output adjustable range	45...55 Vdc
Continuous current	2.5 A at 45°C
Overload limiting	8 A for >30 s
Short circuit peak current	7.5 A for 50 ms
Ripple @ nominal ratings	30 mVpp
Hold up time	16 ms (120 Vac) / 81 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible
Redundant parallel connection	already fitted with internal ORing diode
GENERAL TECHNICAL DATA	
Efficiency	86% (120 Vac) / 90% (230 Vac)
Dissipated power	20 W (120 Vac) / 13 W (230 Vac)
Operating temperature range	–20...+60°C (derating -2.4 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	40x130x115 mm
Approximate weight	400 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	

CSF SERIES

SINGLE PHASE POWER SUPPLIES COOL POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**





NOTE

Please refer to the datasheet for more details

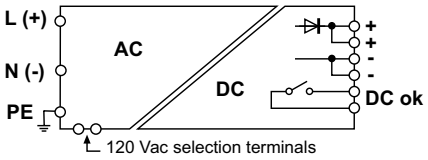
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

1) Dual voltage input, with selection through external jumper

CODE	XCSF240C	XCSF240CP
TYPE	CSF240C	CSF240CP
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	90...132 Vac / 185...264 Vac (1)	90...132 Vac / 185...264 Vac (1)
Input voltage DC	300...345 Vdc	300...345 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	3.5 A (120 Vac) / 1.8 A (230 Vac)	3.5 A (120 Vac) / 1.8 A (230 Vac)
Inrush peak current	35 A	35 A
Power factor	> 0.6	> 0.6
Internal protection fuse	T 6.3 A	T 6.3 A
External protection on AC line	MT: C-10 A / Fuse: T 10 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	24 Vdc ±1%
Output adjustable range	23...27.5 Vdc	23...27.5 Vdc
Continuous current	10 A at 45°C	10 A at 45°C
Overload limiting	15 A for >30 s	15 A for >30 s
Short circuit peak current	25 A for 400 ms	25 A for 400 ms
Ripple @ nominal ratings	50 mVpp	50 mVpp
Hold up time	30 ms (120 Vac) / 60 ms (230 Vac)	30 ms (120 Vac) / 60 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	88% (120 Vac) / 90% (230 Vac)	88% (120 Vac) / 90% (230 Vac)
Dissipated power	32 W (120 Vac) / 27 W (230 Vac)	32 W (120 Vac) / 27 W (230 Vac)
Operating temperature range	–20...+60°C (derating -4 W >45°C)	–20...+60°C (derating -4 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	63.5x135x140 mm	63.5x135x140 mm
Approximate weight	920 g	920 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

SINGLE PHASE POWER SUPPLIES
COOL POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**



NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

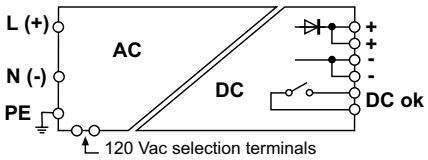
1) Dual voltage input, with selection through external jumper

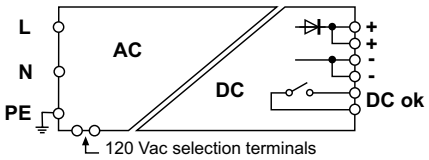
CODE	XCSF240DP
TYPE	CSF240DP
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	90...132 Vac / 185...264 Vac (1)
Input voltage DC	300...345 Vdc
Frequency	47...63 Hz
Current consumption	3.5 A (120 Vac) / 1.8 A (230 Vac)
Inrush peak current	35 A
Power factor	> 0.6
Internal protection fuse	T 6.3 A
External protection on AC line	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA	
Output voltage range	48 Vdc ±1%
Output adjustable range	45...55 Vdc
Continuous current	5 A at 45°C
Overload limiting	7.5 A for >30 s
Short circuit peak current	25 A for 400 ms
Ripple @ nominal ratings	50 mVpp
Hold up time	30 ms (120 Vac) / 60 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible
Redundant parallel connection	already fitted with internal ORing diode
GENERAL TECHNICAL DATA	
Efficiency	89% (120 Vac) / 89% (230 Vac)
Dissipated power	28 W (120 Vac) / 28 W (230 Vac)
Operating temperature range	–20...+60°C (derating -4 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	63.5x135x140 mm
Approximate weight	920 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	

CSF SERIES

SINGLE PHASE POWER SUPPLIES COOL POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

1) Dual voltage input, with selection through external jumper

CODE	XCSF500C	XCSF500D
TYPE	CSF500C	CSF500D
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	90...132 Vac / 185...264 Vac (1)	90...132 Vac / 185...264 Vac (1)
Input voltage DC	259...370 Vdc	259...370 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	8.4 A (120Vac) / 4.4 A (230Vac)	8.4 A (120Vac) / 4.4 A (230Vac)
Inrush peak current	25 A	25 A
Power factor	> 0.75	> 0.75
Internal protection fuse		
External protection on AC line	MT: C-16 A / Fuse: T 15 A	MT: C-16 A / Fuse: T 15 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	24...28 Vdc	45...55 Vdc
Continuous current	20 A at 45°C	10 A at 45°C
Overload limiting	22 A for >5 s	12 Af for >5 s
Short circuit peak current	35 A for 5 s	20 A for 5 s
Ripple @ nominal ratings	50 mVpp	50 mVpp
Hold up time	12 ms (120 Vac) / 20 ms (230 Vac)	12 ms (120 Vac) / 20 ms (230 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	already fitted with internal ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (120 Vac) / 92% (230 Vac)	92% (120 Vac) / 92% (230 Vac)
Dissipated power	44 W (120 Vac) / 44 W (230 Vac)	44 W (120 Vac) / 44 W (230 Vac)
Operating temperature range	–20...+60°C (derating -8.2 W >45°C)	–20...+60°C (derating -8.2 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 4 mm²	4 mm² / 4 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	80x139x127 mm	80x139x127 mm
Approximate weight	1.3 kg	1.3 kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A	TAP207A , TAP128A , TAP178A , TAP209A

CSL SERIES

SWITCH MODE POWER SUPPLY EASY POWER LINE

Switching power supply for DIN-rail, for general applications in automation and installation. Offering excellent value for money, these offer a perfect and convenient solution for uses in which the powered loads do not require strong peak currents.
They can deliver over +30% of nominal current for a sustained period, keeping the output voltage stable and ensuring continuity of supply to the system. **With these features, this range of power supplies enables designers to meet the requirements of the Machinery Directive EN 60204-1,** allowing the protection devices connected to the output to trigger quickly, safely and selectively, thus ensuring continuity of service to the other parts of the system.

EASY POWER

Suggested uses

- Civil automation applications
- General applications in plant installations

Main features

- High efficiency reduces energy consumption and the operating temperature of components and allows use in small panels and severe environmental conditions.
- Power reserve +20-30% of nominal current, ensuring safety and reliability.
- Output voltage is adjustable and protected against incoming surge generated by inductive loads on the DC line, and is equipped with a double electronic protection that prevents the powered device from failing in case of an internal malfunction.
- Short-circuit, overload and thermal protection prevents faults in case of prolonged overload with high ambient temperatures.
- Construction ensures optimal capacity of ventilation of internal components, extremely reduced overall dimensions and degree of protection IP20 by accidental contact according to IEC529.
- Offer superior performance, features and reliability compared to other products of a similar power and cost.

Short-circuit, overload and thermal protection
Prevents faults in case of prolonged overload with high ambient temperatures

Adjustable output voltage Protected
against incoming surge generated by inductive loads on the DC line

Power boost
The output power reaches 130% in the event of overload, and up to 150% during a short-circuit

Extremely compact dimensions
Among the smallest on the market, optimising the use of space in the panel without compromising performance

High performance
Reduces the energy consumption and operating temperature of components and allows for use in small panels and in severe ambient conditions

CSL SERIES

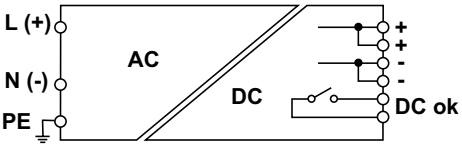
SINGLE PHASE POWER SUPPLIES EASY POWER LINE

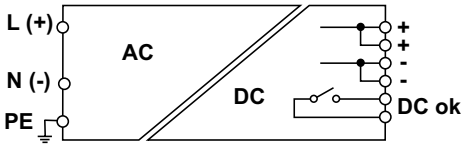
- Single phase and DC input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for standard applications
- Alarm contact

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

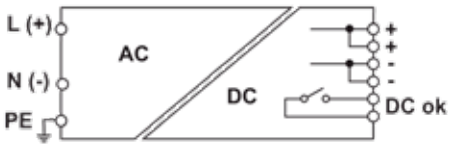




CODE	XCSL1072W024VAA	XCSL1120W024VAA
TYPE	CSL1-072W/024V/AA	CSL1-120W/024V/AA
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	85...264 Vac	85...264 Vac
Input voltage DC	100...370 Vdc (derating Uin<130Vdc)	100...370 Vdc (derating Uin<130Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	0.8 A (120 Vac) / 0.4 A (230 Vac)	1.5 A (120 Vac) / 0.8 A (230 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse	T 2 A	T 3.15 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	24 Vdc ±1%
Output adjustable range	16 ... 28 Vdc	16 ... 28 Vdc
Continuous current	3 A at 50°C	5 A
Overload limiting	<6 A for 30 s	<6 A for 30 s
Short circuit peak current	15 A for 50 ms	15 A for 50 ms
Ripple @ nominal ratings	40 mVpp	50 mVpp
Hold up time	20 ms (120 Vac) / 70 ms (230 Vac)	20 ms (120 Vac) / 20 ms (230 Vac)
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >22.0 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >22.0 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	87% (120 Vac) / 87% (230 Vac)	85% (120 Vac) / 85% (230 Vac)
Dissipated power	10.8 W (120 Vac) / 10.8 W (230 Vac)	21.2 W (120 Vac) / 21.2 W (230 Vac)
Operating temperature range	–20...+70°C (derating -3 W/°C >50°C)	–20...+70°C (derating -3 W/°C >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 62368-1	EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x115x115 mm	40x115x115 mm
Approximate weight	400 g	400 g
Mounting information	vertical on a rail, 20 mm from adjacent components	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus cULus	CE cULus cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Marking tag		

SINGLE PHASE POWER SUPPLIES
EASY POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for standard applications**
- **Alarm contact**



NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSL1240W024VAA
TYPE	CSL1-240W/024V/AA
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	85...264 Vac
Input voltage DC	90...370 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz
Current consumption	2.28 A (120Vac) / 1.17 (230 Vac)
Inrush peak current	30 A
Power factor	>0.9
Internal protection fuse	T 4 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc ±1%
Output adjustable range	23...29 Vdc
Continuous current	10 A at 50°C
Overload limiting	> 12.5 A
Short circuit peak current	13.5 A (Hiccup mode)
Ripple @ nominal ratings	50 mVpp
Hold up time	20 ms (120 Vac) / 30 ms (230 Vac)
Status indication	LED "DC OK"
Alarm contact	dry contact, max. 1A @ 24 Vdc
Parallel connection	possible
Redundant parallel connection	possible with external ORing diode
GENERAL TECHNICAL DATA	
Efficiency	96% (120 Vac) / 98% (230 Vac)
Dissipated power	33 W / 26 W
Operating temperature range	-20...+70°C (derating -6 W > 50°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	60x127x140 mm
Approximate weight	750 g
Mounting information	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Marking tag	

CSL SERIES

SINGLE PHASE POWER SUPPLIES EASY POWER LINE

- **Single phase and DC input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for standard applications**
- **Alarm contact**

NOTE

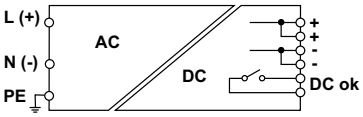
Please refer to the datasheet for more details

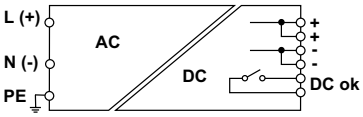
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

(1) Standard version

(2) With protective coating that allow installation in environment with extreme conditions (product on demand)

(3) With communication port that allow the connection to the net through the external interface XCCI001MB (product on demand)





STANDARD VERSION	XCSL1480W024VAA	XCSL1480W048VAA
	CSL1-480W/024V/AA (1)	CSL1-480W/048V/AA (1)
WITH PROTECTIVE COATING	XCSL1480W024VGA	XCSL1480W048VGA
	CSL1-480W/024V/GA (2)	CSL1-480W/048V/GA (2)
WITH COMMUNICATION INTERFACE	XCSL1480W024VAB	XCSL1480W048VAB
	CSL1-480W/024V/AB (3)	CSL1-480W/048V/AB (3)
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	85...264 Vac	85...264 Vac
Input voltage DC	100...370 Vdc (derating Uin<130 Vdc)	100...370 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	4.9 A (120 Vac) / 2.4 A (230 Vac)	4.3 A (120 Vac) / 2.2 A (230 Vac)
Inrush peak current	36 A	36 A
Power factor	> 0.99	> 0.99
Internal protection fuse	Yes 8 A	Yes 8 A
External protection on AC line	MT: C-6 A / Fuse: T-6.3 A	MT: C-6 A / Fuse: T-6.3 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	20...28.5 Vdc	40.5...55 Vdc
Continuous current	20 A at 50°C	10 A at 50°C
Overload limiting	23 A (max. 25 A constant current)	13 A (max. 15 A constant current)
Short circuit peak current	32 A 300 ms On /800 ms Off (HICCUP mode)	25 A 100 ms On /800 ms Off (HICCUP mode)
Ripple @ nominal ratings	200 mVpp	200 mVpp
Hold up time	18 ms (120 Vac) / 18 ms (230 Vac)	18 ms (120 Vac) / 18 ms (230 Vac)
Status indication	LED "DC OK", LED "Stand-by"	LED "DC OK", LED "Stand-by"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	90.7 %	90.9 %
Dissipated power	53 W	48 W
Operating temperature range	–20...+70°C (derating -14 W/°C >50°C)	–20...+70°C (derating -14 W/°C >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 4 mm²	4 mm² / 4 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	80x170x127 mm	80x170x127 mm
Approximate weight	1.5 kg	1.5 kg
Mounting information	vertical on a rail, 20 mm from adjacent components	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Marking tag		

CSL SERIES

SINGLE PHASE POWER SUPPLIES EASY POWER LINE

Single phase and DC input

- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for standard applications**
- **Alarm contact**

NOTE

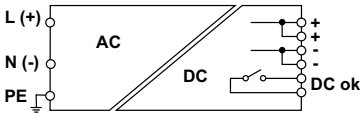
Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

(1) Standard version

(2) With protective coating that allow installation in environment with extreme conditions (product on demand)

(3) With communication port that allow the connection to the net through the external interface XCCI001MB (product on demand)



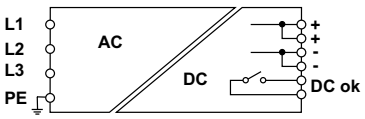
STANDARD VERSION	CSL1-480W/072V/AA (1)	XCSL1480W072VAA
WITH PROTECTIVE COATING	**CSL1-480W/072V/GA (2)**	**XCSL1480W072VGA**
WITH COMMUNICATION INTERFACE	**CSL1-480W/072V/AB (3)**	**XCSL1480W072VAB**
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	
Input voltage AC	85...264 Vac	
Input voltage DC	100...370 Vdc (derating Uin<130 Vdc)	
Frequency	47...63 Hz	
Current consumption	4.4 A (120 Vac) / 2.2 A (230 Vac)	
Inrush peak current	36 A	
Power factor	> 0.99	
Internal protection fuse	Yes 8 A	
External protection on AC line	MT: C-6 A / Fuse: T-6.3 A	
OUTPUT TECHNICAL DATA		
Output voltage range	72 Vdc ±1%	
Output adjustable range	60...81 Vdc	
Continuous current	6.6 A at 50°C	
Overload limiting	7.5 A (max. 9 A constant current)	
Short circuit peak current	18A 100 ms On /800 ms Off (HICCUP mode)	
Ripple @ nominal ratings	200 mVpp	
Hold up time	18 ms (120 Vac) / 18 ms (230 Vac)	
Status indication	LED "DC OK", LED "Stand-by"	
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >68.4 Vdc)	
Parallel connection	possible	
Redundant parallel connection	possible with external ORing diode	
GENERAL TECHNICAL DATA		
Efficiency	91.5 %	
Dissipated power	44 W	
Operating temperature range	–20...+70°C (derating -14 W/°C >50°C)	
Input / output isolation	3 KVac / 60 s (no SELV output)	
Input / ground isolation	1.5 kVac / 60 s	
Output / ground isolation	0.5 kVac / 60 s	
Standard / approvals	EN 60950-1	
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	
Overvoltage category / pollution degree	II / 2	
Protection degree	IP 20	
Connection terminal	4 mm² / 4 mm²	
Housing material	aluminium	
Dimensions (LxHxD)	80x170x127 mm	
Approximate weight	1.5 kg	
Mounting information	vertical on a rail, 20 mm from adjacent components	
APPROVALS AND MARKINGS	CE cULus LISTED	
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail (IEC60715/TH35-15)		
Marking tag		

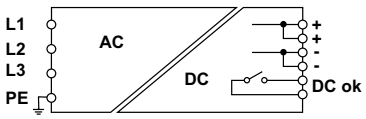
COMMUNICATION

XCI001MB is a microprocessor-controlled communication interface that allow the connection to the net and the remote monitoring of the CSL1-480...AB/CSL3-480...AB power supply, by using the ModBus RTU protocol.
The communication Interface can be directly powered by the monitored PSU by the AUX2 port or can be powered by an auxiliary PSU (10 - 30 Vdc). This option allows the remote control of the PSU ON/OFF.
The connection to the ModBus net take place by 2 equivalent RJ-45 port.

CSL SERIES
3-PHASE POWER SUPPLIES EASY POWER LINE

- 3-phase 400-500 Vac input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Alarm contact
- High overload capability to ensure the protections selectivity and start-up of heavy loads





NOTE

(1) Standard version

(2) With protective coating that allow installation in environment with extreme conditions (product on demand)

(3) With communication port that allow the connection to the net through the external interface XCCI001MB (product on demand)

Please refer to the datasheet for more details

STANDARD VERSION	**XCSL3480W024VAA** **CSL3-480W/024V/AA (1)**	**XCSL3480W048VAA** **CSL3-480W/048V/AA (1)**
WITH PROTECTIVE COATING	**XCSL3480W024VGA** **CSL3-480W/024V/GA (2)**	**XCSL3480W048VGA** **CSL3-480W/048V/GA (2)**
WITH COMMUNICATION INTERFACE	**XCSL3480W024VAB** **CSL3-480W/024V/AB (3)**	**XCSL3480W048VAB** **CSL3-480W/048V/AB (3)**
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	3x 400–500 Vac
Input voltage AC	340...550 Vac	340...550 Vac
Input voltage DC	500 - 600 Vdc	500 - 600 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	0.8 A (400 Vac)	0.8 A (400 Vac)
Inrush peak current	22 A	22 A
Power factor	0,76	0,76
Internal protection fuse		
External protection on AC line	MT: C-4 A / Fuse: T-3.15 A	MT: C-4 A / Fuse: T-3.15 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	20...28.5 Vdc	40.5...55 Vdc
Continuous current	20 A at 50°C	10 A at 50°C
Overload limiting	23 A (max. 25 A constant current)	15 A (max. 26 A constant current)
Short circuit peak current	35A 400 ms On /800 ms Off (HICCUP mode)	40 A 400 ms On /800 ms Off (HICCUP mode)
Ripple @ nominal ratings	200 mVpp	200 mVpp
Hold up time	10 ms (400 Vac)	10 ms (400 Vac)
Status indication	LED "DC OK", LED "Stand-by"	LED "DC OK", LED "Stand-by"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >>21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	90.5% (400 Vac)	91% (400 Vac)
Dissipated power	48 W (400 Vac)	47.5 W (400 Vac)
Operating temperature range	–20...+70°C (derating -14 W/°C >50°C)	–20...+70°C (derating -14 W/°C >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 4 mm²	4 mm² / 4 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	80x170x127 mm	80x170x127 mm
Approximate weight	1.5 kg	1.5 kg
Mounting information	vertical on a rail, 20 mm from adjacent components	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Marking tag		

3-PHASE POWER SUPPLIES
EASY POWER LINE

- 3-phase 400-500 Vac input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Alarm contact
- High overload capability to ensure the protections selectivity and start-up of heavy loads

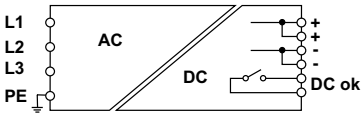
NOTE

(1) Standard version

(2) With protective coating that allow installation in environment with extreme conditions (product on demand)

(3) With communication port that allow the connection to the net through the external interface XCCI001MB (product on demand)

Please refer to the datasheet for more details



STANDARD VERSION	CSL3-480W/072V/AA (1)	XCSL3480W072VAA
WITH PROTECTIVE COATING	CSL3-480W/072V/GA (2)	XCSL3480W072VGA
WITH COMMUNICATION INTERFACE	CSL3-480W/072V/AB (3)	XCSL3480W072VAB
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	
Input voltage AC	340...550 Vac	
Input voltage DC	500 - 600 Vdc	
Frequency	47...63 Hz	
Current consumption	0.8 A (400 Vac)	
Inrush peak current	22 A	
Power factor	0,76	
Internal protection fuse		
External protection on AC line	MT: C-4 A / Fuse: T-3.15 A	
OUTPUT TECHNICAL DATA		
Output voltage range	72 Vdc ±1%	
Output adjustable range	60...81 Vdc	
Continuous current	6.6 A at 50°C	
Overload limiting	11 A (max. 22.5 A constant current)	
Short circuit peak current	20 A 400 ms On /800 ms Off (HICCUP mode)	
Ripple @ nominal ratings	200 mVpp	
Hold up time	10 ms (400 Vac)	
Status indication	LED "DC OK", LED "Stand-by"	
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >68.4 Vdc)	
Parallel connection	possible	
Redundant parallel connection	possible with external ORing diode	
GENERAL TECHNICAL DATA		
Efficiency	91.5% (400 Vac)	
Dissipated power	44.6 W (400 Vac)	
Operating temperature range	–20...+70°C (derating -14 W/°C >50°C)	
Input / output isolation	3 KVac / 60 s (no SELV output)	
Input / ground isolation	1.5 kVac / 60 s	
Output / ground isolation	0.5 kVac / 60 s	
Standard / approvals	EN 60950-1	
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	
Overvoltage category / pollution degree	II / 2	
Protection degree	IP 20	
Connection terminal	4 mm² / 4 mm²	
Housing material	aluminium	
Dimensions (LxHxD)	80x170x127 mm	
Approximate weight	1.5 kg	
Mounting information	vertical on a rail, 20 mm from adjacent components	
APPROVALS AND MARKINGS	CE cULus LISTED	
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail (IEC60715/TH35-15)		
Marking tag		

COMMUNICATION

XCI001MB is a microprocessor-controlled communication interface that allow the connection to the net and the remote monitoring of the CSL1-480...AB/CSL3-480...AB power supply, by using the ModBus RTU protocol.
The communication Interface can be directly powered by the monitored PSU by the AUX2 port or can be powered by an auxiliary PSU (10 - 30 Vdc). This option allows the remote control of the PSU ON/OFF.
The connection to the ModBus net take place by 2 equivalent RJ-45 port.

CSW SERIES

SWITCH MODE POWER SUPPLY UNIVERSAL POWER LINE

DIN-rail based switching power supply with universal input 185...550 Vac single/2 /3-phase for industrial automation and process control applications. Input circuit technology makes these immune to overvoltage caused by faults in 3-phase networks with neutral, increasing the reliability of application. This series offers **greater reliability in industrial environments** compared to single-phase power supplies. The input stage uses components with an operating voltage of 900 V, offering greater resistance to the voltage peaks present in industrial networks than single-phase components. The ability to operate from 185 to 550 Vac allows these power supplies to be used in both 230 V single-phase networks and 400 V 3-phase networks.

Suggested uses

- Wherever maximum flexibility of use is required in single- or 3-phase networks
- Applications in industrial automation and process control
- Uses with heavy loads
- Civil automation applications

Main features

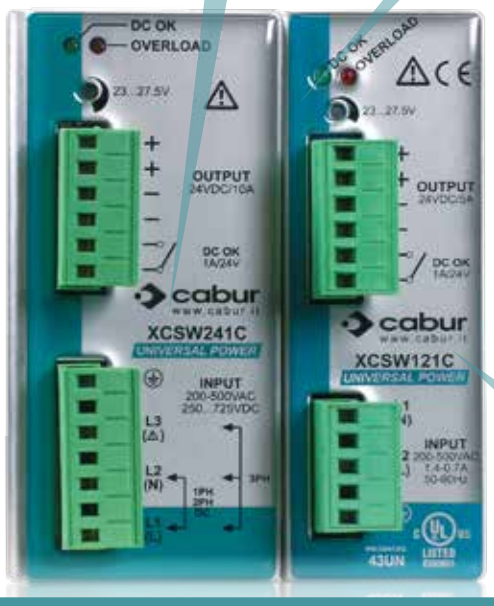
- The 185...550 Vac extended range input is compatible with 230...240 Vac single-phase power, 208 Vac 2-phase and 400...500 Vac 2-phase and 3-phase for maximum adaptability to AC networks, eliminating the need for an isolation transformer.
- The 2-phase input offers reduced bulk, wiring, installation costs and panel space.
- Eliminates the need for a network voltage adaptation transformer.
- Versions with DC OK failure contact
- High efficiency reduces energy consumption and the operating temperature of components and allows use in small panels and severe environmental conditions.
- Large power reserve allows 5 seconds of current to be supplied at least +50% higher than the rated value, ensuring safety and reliability.
- The output is adjustable and protected against incoming surge from the DC line, and is equipped with electronic protection that turns off the output in case of an internal malfunction.
- Short-circuit and overload protection designed to supply peak currents of more than 150% of the rated value required by heavy loads, while the thermal protection prevents faults in case of prolonged overload with high ambient temperatures.
- Construction ensures excellent ventilation capacity of internal components, with reduced sizes and a degree of protection from accidental contacts of IP20 per IEC529.
- Thanks to their high performance and excellent ventilation, they are among the smallest on the market.

185...550 Vac wide range input

Compatible with 230...240 Vac single-phase power, 208 Vac 2-phase and 400...500 Vac 2-phase and 3-phase for maximum adaptability to AC networks, eliminating the need for an isolation transformer.

Power boost

The output power reaches 120% of the nominal value for several minutes, up to 150% in the event of overload, and up to 250% during a short-circuit, to enable the protection devices connected to the output to trigger quickly, safely and selectively, without the use of additional modules.



High performance

Reduces the energy consumption and operating temperature of components and allows for use in small panels

Increased reliability in industrial environments

The input stage uses components with an operating voltage of 900 V, more resistant to the voltage peaks found in industrial networks

UNIVERSAL POWER

Greater reliability

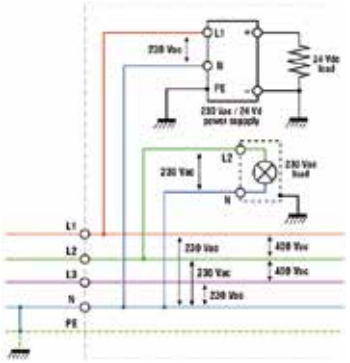
This series offers greater reliability in industrial environments compared to single-phase power supplies.

The input stage uses components with an operating voltage of 900 V, offering greater resistance to the voltage peaks present in industrial networks than single-phase components.

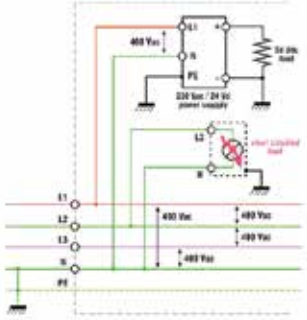
The ability to operate from 185 to 550 Vac makes these power supplies immune to network faults:

With the output powered at 230 Vac (1L-N), in case of a short in another device connected to L2-N, the neutral is increased to around 400 Vac and the input is powered phase-phase until the protection is opened, which in most cases occurs within 300 ms; this is one of the most frequent causes of malfunction in 230 Vac single-phase power supplies in industrial environments (figures 1 and 2)

Another type of fault in 230 Vac single-phase devices with phase-neutral power is due to the accidental disconnection or interruption of the panel neutral by the plant neutral: with no return to the star point, the neutral increases to phase voltage and applies to single-phase loads of around 400 Vac, and malfunction is inevitable.



Typical application with 3-phase network with neutral. This is used to obtain a voltage of 230 Vac to power loads (a single lamp in the example) and power supplies.



A single short-circuit on the load will raise the neutral potential and all devices connected to it will be powered between two phases, i.e. at around 340...400 Vac rather than 230 Vac.

CSW SERIES

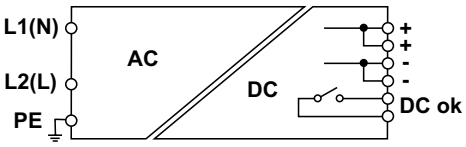
1-2-3-PHASE POWER SUPPLIES UNIVERSAL POWER LINE

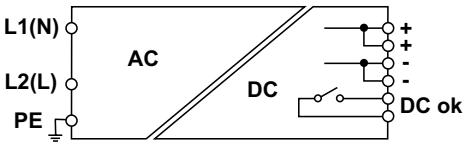
- Single phase and 2-phase input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads

NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance



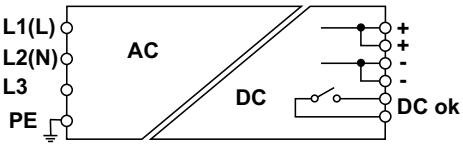


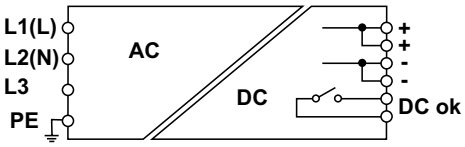
CODE	XCSW121C	XCSW121B
TYPE	CSW121C	CSW121B
INPUT TECHNICAL DATA		
Input rated voltage	1-2x 230-400-500 Vac	1-2x 230-400-500 Vac
Input voltage AC	187...550 Vac	187...550 Vac
Input voltage DC	270...725 Vdc	270...725 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.1 A (230 Vac) / 0.55 A (400 Vac)	1.1 A (230 Vac) / 0.55 A (400 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse		
External protection on AC line	MT: C-6 A / Fuse: T-4 A	MT: C-6 A / Fuse: T-4 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	12 Vdc ±1%
Output adjustable range	24...27.5 Vdc	12...15 Vdc
Continuous current	5 A	8 A (12 Vdc) - 7 A (15 Vdc)
Overload limiting	7.5 A for >30 s	10 A for >30 s
Short circuit peak current	14 A for 0.4 s	20 A for 0.4 s
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	20 ms (230 Vac) / 80 ms (400 Vac)	20 ms (230 Vac) / 80 ms (400 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >10.8 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	87% (230 Vac) / 87% (400 Vac)	84% (230 Vac) / 86% (400 Vac)
Dissipated power	18 W (230 Vac) / 18 W (400 Vac)	20 W (230 Vac) / 17 W (400 Vac)
Operating temperature range	–20...+60°C (derating -3 W >45°C)	–20...+60°C (derating -3 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	600 g	600 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSW SERIES

1-2-3-PHASE POWER SUPPLIES UNIVERSAL POWER LINE

- Single phase and 2-phase input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads





NOTE

Please refer to the datasheet for more details

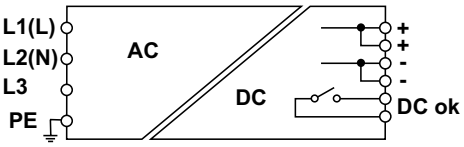
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

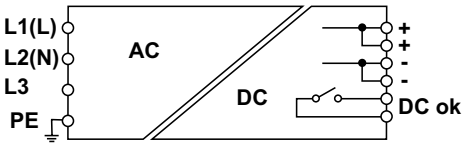
CODE	XCSW241C	XCSW241B
TYPE	CSW241C	CSW241B
INPUT TECHNICAL DATA		
Input rated voltage	1-2-3x 230-400-500 Vac	1-2-3x 230-400-500 Vac
Input voltage AC	185...550 Vac	185...550 Vac
Input voltage DC	270...770 Vdc	270...770 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	2 A (230 Vac) / 1 A (400 Vac)	2 A (230 Vac) / 1 A (400 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse		
External protection on AC line	MT: C-6 A / Fuse: T-6.3 A	MT: C-6 A / Fuse: T-6.3 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	12 Vdc ±1%
Output adjustable range	24...27.5 Vdc	12...15 Vdc
Continuous current	10 A at 50°C	16 A (12 Vdc) - 15 A (15 Vdc)
Overload limiting	15 A for >6 s	20...18 A for >6 s
Short circuit peak current	38 A for 0.5 s	34 A for 0.5 s
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	15 ms (230 Vac) / 100 ms (400 Vac)	15 ms (230 Vac) / 100 ms (400 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >10.8 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	91% (230 Vac) / 92% (400 Vac)	89% (230 Vac) / 90% (400 Vac)
Dissipated power	24 W (230 Vac) / 21 W (400 Vac)	22 W (230 Vac) / 20 W (400 Vac)
Operating temperature range	–20...+60°C (derating -3 W >50°C)	–20...+60°C (derating -3 W >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	55x130x115 mm	55x130x115 mm
Approximate weight	1 kg	1 kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSW SERIES

1-2-3-PHASE POWER SUPPLIES UNIVERSAL POWER LINE

- Single phase and 2-phase input
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSW481C	XCSW481D
TYPE	CSW481C	CSW481D
INPUT TECHNICAL DATA		
Input rated voltage	1-2-3x 230-400-500 Vac	1-2-3x 230-400-500 Vac
Input voltage AC	187...550 Vac	187...550 Vac
Input voltage DC	250...725 Vdc	250...725 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	2.2 A (230 Vac) / 1 A (400 Vac)	2.2 A (230 Vac) / 1 A (400 Vac)
Inrush peak current	20 A (230 Vac) / 40 A (500 Vac)	20 A (230 Vac) / 40 A (500 Vac)
Power factor	> 0.95	> 0.95
Internal protection fuse		
External protection on AC line	MT: C-6 A / Fuse: T-6.3 A	MT: C-6 A / Fuse: T-6.3 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	23.3...27.5 Vdc	45...55 Vdc
Continuous current	20 A at 45°C	10 A at 45°C
Overload limiting	28 A for >5 s	14 A for >5 s
Short circuit peak current	50 A for 0.3 s	25 A for 0.3 s
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	20 ms (230 Vac) / 20 ms (400 Vac)	20 ms (230 Vac) / 20 ms (400 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (230 Vac) / 92% (400 Vac)	92% (230 Vac) / 92% (400 Vac)
Dissipated power	42 W (230 Vac) / 42 W (400 Vac)	42 W (230 Vac) / 42 W (400 Vac)
Operating temperature range	–20...+60°C (derating -16 W >45°C)	–20...+60°C (derating -16 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	73x137x140 mm	73x137x140 mm
Approximate weight	1 kg	1 kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSW SERIES

1-2-3-PHASE POWER SUPPLIES UNIVERSAL POWER LINE

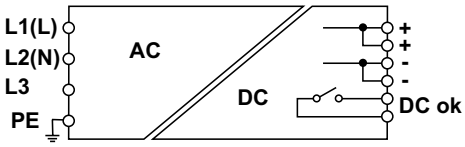
- **Single phase and 2-phase input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**

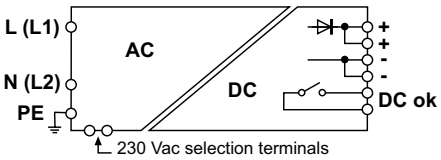
NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

(1) Dual voltage with selection through external jumper





CODE	XCSW481G	XCSW960CP
TYPE	CSW481G	CSW960CP
INPUT TECHNICAL DATA		
Input rated voltage	1-2-3x 230-400-500 Vac	1x 230 Vac / 2x 400-500 Vac
Input voltage AC	187...550 Vac	180...264 Vac / 360...550 Vac (1)
Input voltage DC	250...725 Vdc	550...775 Vdc
Frequency	47...63 Hz	47...63 Hz
Current consumption	2.2 A (230 Vac) / 1 A (400 Vac)	4.7A (230 Vac) / 4A A (400 Vac)
Inrush peak current	20 A (230 Vac) / 40 A (500 Vac)	16 A
Power factor	> 0.95	> 0.6
Internal protection fuse		
External protection on AC line	MT: C-6 A / Fuse: T-6.3 A	MT: C-10 A / Fuse: 1-2x T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	72 Vdc ±1%	24 Vdc ±1%
Output adjustable range	72...85 Vdc	23...27.5 Vdc
Continuous current	6 A at 45°C	40 A a 45°C
Overload limiting	9 A for >5 s	50 A for >5 s
Short circuit peak current	12 A for 0.3 s	65 A for 5 s
Ripple @ nominal ratings	100 mVpp	200 mVpp
Hold up time	20 ms (230 Vac) / 20 ms (400 Vac)	20 ms (230 Vac) / 20 ms (400 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >68.4 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	91% (230 Vac) / 91% (400 Vac)	90% (400 Vac) at 230 Vac
Dissipated power	42 W (230 Vac) / 42 W (400 Vac)	<100 W (400 Vac) at 230 Vac
Operating temperature range	–20...+60°C (derating -16 W >45°C)	–20...+60°C (derating -32 W >45°C)
Input / output isolation	3 KVac / 60 s (no SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	4 mm² / 10 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	73x137x140 mm	80x139x127 mm
Approximate weight	1 kg	1.2 Kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		TAP207A , TAP128A , TAP178A , TAP209A

CSG SERIES

SWITCH MODE POWER SUPPLY TRIPLE POWER LINE

400...500 Vac 3-phase switching power supply for industrial automation applications. They can deliver over +50% of nominal current for a sustained period, keeping the output voltage stable and ensuring continuity of supply to the system. Equipped with voltage threshold controlled failure contact which is triggered when the voltage falls below 90% of the rated value.

With these features and numerous international certifications, this range of power supplies enables designers to meet the requirements of the Machinery Directive EN 60204-1, allowing the protection devices connected to the output to trigger quickly, safely and selectively, thus ensuring continuity of service to the other parts of the system.

Suggested uses

- Applications in machine automation with high command and control voltage reliability and safety requirements
- In applications which require selectable overcurrent protections on DC lines
- Industrial automation applications
- Uses with heavy loads

Main features

- With 340...550 Vac/507...770 Vdc input, making them suitable for use on all power supply networks.
- High efficiency reduces energy consumption and the operating temperature of components and allows use in small panels and severe environmental conditions.
- Large power reserve allows for delivery of at least +50% of nominal current for 5 seconds maintaining the output voltage stable, ensuring safety and reliability.
- Output voltage is adjustable and protected against incoming surge from the DC line, and is equipped with a double electronic protection that prevents damage to the powered device in case of an internal malfunction.
- Short-circuit and overload protection designed to deliver peak currents more than 150% higher than the rated value required by heavy loads.
- Thermal protection prevents faults in case of prolonged overload with high ambient temperatures.
- Construction ensures optimal capacity of ventilation of internal components, extremely reduced overall dimensions and degree of protection IP20 by accidental contact according to IEC529.

TRIPLE POWER

Special power supplies for engines DC, Brushless, and relative drives

New 48Vdc, 72-85Vdc, and 110-180Vdc models have been introduced, designed to reliably power engines in DC. They:

- supply peak power equal to even 4-5 times the nominal current, which is required by the engine during the peak phase
- have an output stage protected from overvoltage generated by the engines and drives during braking, which could otherwise cause mal-functions or cause the power supply to lose control over output voltage stability
- Provide output voltage at 48Vdc, and 72...85Vdc. By increasing the voltage of the engine power supply, the same power can be obtained at lower current, with notable ad-vantages for performance, engine construction, connection wires, and drives.

Integrated smart alarm contact

Notifies when the output voltage falls below 90% of the rated value once a threshold is surpassed

Super compact size

Power boost

The output power reaches 120% of the nominal value for several minutes, up to 150% in the event of overload, and up to 250% during a short-circuit, to enable the protection devices connected to the output to trigger quickly, safely and selectively, without the use of additional modules.

Wide range

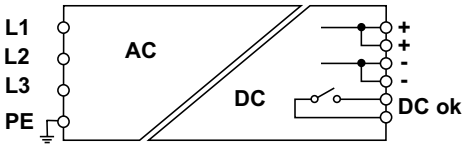
Designed to save energy and reduce operating temper-ature

Wide range

The widest range on the market, with power ratings from 120 to 2400W and output voltages of 24, 48 and 72 V, for uses including powering special motors

3-PHASE POWER SUPPLIES
TRIPLE POWER LINE

- 3-phase 400-500 Vac input or 2-phase with derating
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads

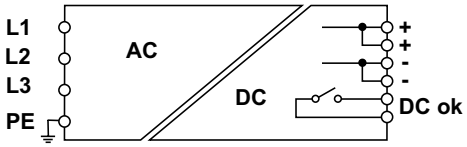


NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSG500C
TYPE	CSG500C
INPUT TECHNICAL DATA	
Input rated voltage	3x 400–500 Vac
Input voltage AC	340...550 Vac
Input voltage DC	
Frequency	47...63 Hz
Current consumption	1 A (400 Vac) / 0.6 A (500 Vac)
Inrush peak current	35 A
Power factor	> 0.75
Internal protection fuse	
External protection on AC line	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc ±1%
Output adjustable range	24...28 Vdc
Continuous current	20 A at 50°C
Overload limiting	22 A for >5 s
Short circuit peak current	35 A for 5 s
Ripple @ nominal ratings	100 mVpp
Hold up time	15 ms (400 Vac) / 30 ms (500 Vac)
Status indication	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)
Parallel connection	possible
Redundant parallel connection	possible with external ORing diode
GENERAL TECHNICAL DATA	
Efficiency	93% (400 Vac) / 93% (500 Vac)
Dissipated power	36 W (400 Vac) / 36 W (500 Vac)
Operating temperature range	–20...+60°C (derating -6 W >50°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	4 mm² / 4 mm²
Housing material	aluminium
Dimensions (LxHxD)	80x139x127 mm
Approximate weight	1.3 kg
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A

CSG SERIES
3-PHASE POWER SUPPLIES TRIPLE POWER LINE

- 3-phase 400-500 Vac input or 2-phase with derating
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads



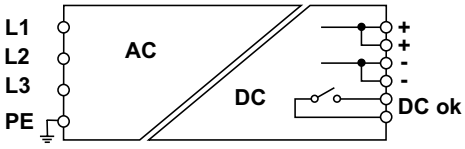
NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

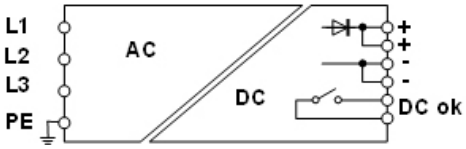
CODE	XCSG720C	XCSG720D
TYPE	CSG720C	CSG720D
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	3x 400–500 Vac
Input voltage AC	340...550 Vac	340...550 Vac
Input voltage DC		–
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.4 A (400 Vac) / 1.1 A (500 Vac)	1.4 A (400 Vac) / 1.1 A (500 Vac)
Inrush peak current	30 A	30 A
Power factor	> 0.75	> 0.75
Internal protection fuse		–
External protection on AC line	MT: C-10 A / Fuse: T 10 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	24...28 Vdc	45...55 Vdc
Continuous current	30 A a 50°C	15 A a 50°C
Overload limiting	45 A for > 5 s	45 A for > 5 s
Short circuit peak current	60 A for 1.5 s	60 A for 1.5 s
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	10 ms (400 Vac) / 15 ms (500 Vac)	10 ms (400 Vac) / 15 ms (500 Vac)
Status indication	LED DC OK / LED Alarm	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A
Parallel connection	possibil	possibil
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (400 Vac) / 92% (500 Vac)	92% (400 Vac) / 92% (500 Vac)
Dissipated power	60 W (400 Vac) / 60 W (500 Vac)	60 W (400 Vac) / 60 W (500 Vac)
Operating temperature range	–20...+60°C	–20...+60°C
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 4 mm²	4 mm² / 4 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	80x139x127 mm	80x139x127 mm
Approximate weight	1.3 kg	1.3 kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A	TAP207A , TAP128A , TAP178A , TAP209A

3-PHASE POWER SUPPLIES
TRIPLE POWER LINE

- 3-phase 400-500 Vac input or 2-phase with derating
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads

NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

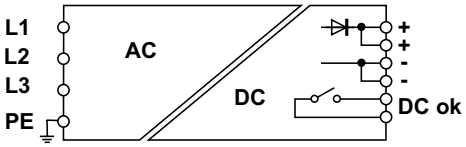




CODE	XCSG960C	XCSG960D
TYPE	CSG960C	CSG960D
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	3x 400–500 Vac
Input voltage AC	340...550 Vac	340...550 Vac
Input voltage DC		
Frequency	47...63 Hz	47...63 Hz
Current consumption	2.2 A (400 Vac) / 1.1 A (500 Vac)	2.2 A (400 Vac) / 1.1 A (500 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse		
External protection on AC line	MT: C-10 A / Fuse: T 10 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc ±1%	48 Vdc ±1%
Output adjustable range	24...28 Vdc	45...55 Vdc
Continuous current	40 A a 50°C	20 A at 50°C
Overload limiting	44 A for >5 s	23 A for >5 s
Short circuit peak current	63 A for 5 s	40 A for 5 s
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	10 ms (400 Vac) / 15 ms (500 Vac)	10 ms (400 Vac) / 15 ms (500 Vac)
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uout >43.2 Vdc)
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (400 Vac) / 92% (500 Vac)	92% (400 Vac) / 92% (500 Vac)
Dissipated power	80 W (400 Vac) / 80 W (500 Vac)	80 W (400 Vac) / 80 W (500 Vac)
Operating temperature range	–20...+60°C (derating -18 W >45°C)	–20...+60°C (derating -18 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	2 kVac / 60 s	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 10 mm²	4 mm² / 10 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	80x139x127 mm	80x139x127 mm
Approximate weight	1.2 Kg	1.2 Kg
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	
Mounting rail (IEC60715/TH35-7.5)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	TAP207A , TAP128A , TAP178A , TAP209A	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		TAP207A , TAP128A , TAP178A , TAP209A

CSG SERIES
3-PHASE POWER SUPPLIES TRIPLE POWER LINE

- 3-phase 400-500 Vac input or 2-phase with derating
- Short circuit, overload, input and output overvoltage protections
- Over temperature protection
- Suitable for applications that require high reliability and performance
- Smart alarm contact, signals when output voltage drops more than 10%
- High overload capability to ensure the protections selectivity and start-up of heavy loads

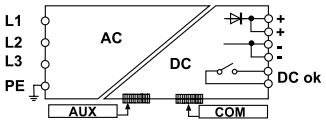


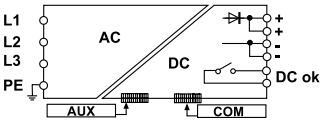
NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSG960G
TYPE	CSG960G
INPUT TECHNICAL DATA	
Input rated voltage	3x 400–500 Vac
Input voltage AC	340...550 Vac
Input voltage DC	
Frequency	47...63 Hz
Current consumption	2.2 A (400 Vac) / 1.1 A (500 Vac)
Inrush peak current	20 A
Power factor	> 0.65
Internal protection fuse	
External protection on AC line	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA	
Output voltage range	72 Vdc ±1%
Output adjustable range	72...85 Vdc
Continuous current	13.3 A at 50°C
Overload limiting	17 A for >5 s
Short circuit peak current	27 A for 5 s
Ripple @ nominal ratings	100 mVpp
Hold up time	15 ms (400 Vac) / 18 ms (500 Vac)
Status indication	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uout >68.4 Vdc)
Parallel connection	possible
Redundant parallel connection	already fitted with internal ORing diode
GENERAL TECHNICAL DATA	
Efficiency	94% (400 Vac) / 94% (500 Vac)
Dissipated power	60 W (400 Vac) / 60 W (500 Vac)
Operating temperature range	–20...+60°C (derating -18 W >45°C)
Input / output isolation	3 KVac / 60 s (no SELV output)
Input / ground isolation	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	4 mm² / 10 mm²
Housing material	aluminium
Dimensions (LxHxD)	80x139x127 mm
Approximate weight	1.2 Kg
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A

3-PHASE POWER SUPPLIES
TRIPLE POWER LINE

- **3-phase 400-500 Vac input or 2-phase with derating**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**





NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

CODE	XCSG2401C	XCSG2401D
TYPE	CSG2401C	CSG2401D
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	3x 400–500 Vac
Input voltage AC	340...550 Vac	340...550 Vac
Input voltage DC		
Frequency	47...63 Hz	47...63 Hz
Current consumption	4.2 A (400 Vac) / 3.5 A (500 Vac)	4.2 A (400 Vac) / 3.5 A (500 Vac)
Inrush peak current	10 A (with active limitation circuit)	10 A (with active limitation circuit)
Power factor	> 0.92	> 0.92
Internal protection fuse		
External protection on AC line	MT: C-10 A / Fuse: T 10 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	12-24 Vdc ±1%	24-48 Vdc ±1%
Output adjustable range	11.5...29 Vdc	23...56 Vdc
Continuous current	100 A a 45°C	50 A a 45°C
Overload limiting	150 A for >5 s	75 A for >5 s
Short circuit peak current	150 A for 5 s	75 A for 5 s
Ripple @ nominal ratings	200 mVpp	200 mVpp
Hold up time	10 ms (400 Vac) / 10 ms (500 Vac)	10 ms (400 Vac) / 10 ms (500 Vac)
Status indication	LED "DC OK" / LED "Alarm" / Display	LED "DC OK" / LED "Alarm" / Display
Alarm contact	dry contact, max. 1A @ 24 Vdc (programmable)	dry contact, max. 1A @ 24 Vdc (programmable)
Parallel connection	possible	possible
Redundant parallel connection	already fitted with internal ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (400 Vac) / 92% (500 Vac)	93% (400 Vac) / 93% (500 Vac)
Dissipated power	200 W (400 Vac) / 200 W (500 Vac)	180 W (400 Vac) / 180 W (500 Vac)
Operating temperature range	–20...+60°C (derating -40 W >45°C)	–20...+60°C (derating -40 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 35 mm²	4 mm² / 35 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	234x105x130 mm	234x105x130 mm
Approximate weight	2.8 Kg	2.8 Kg
Mounting information	vertical on a rail, 60 mm from adjacent components	vertical on a rail, 60 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A	TAP207A , TAP128A , TAP178A , TAP209A

APPLICATIONS

Series CSG2401 has an internal microprocessor that controls the many functions of the power supply, which can be programmed thanks to a user-friendly menu activated by 4 buttons on the front and shown on the front display.

Front display: during normal operation, this shows the output voltage value and current used by the load; during programming, it allows for the choice of the various functions available.

Input protection: the input circuit has been designed to avoid the most common problems seen in 3-phase networks. It therefore has:

1) a PFC circuit failure (latched shutdown) circuit
2) a system for controlling lack of phase that automatically reduces output power
3) an auto-restart switch-off system in the event of overvoltage and undervoltage

Output protection: limit current can be selected as between 10% and 100% of rated current; protection type against overload and short circuit can be chosen from:

1) Hiccup auto reset with limit current, equal to 150% of rated current and ON/OFF time can be altered;
2) constant power

Output signals: in addition to the "DC OK" and "FAULT" LEDs, the device also has:

1) an analogue signal 0...10V or 4...20mA that provides an indication of current used by the load
2) a programmable alarm contact able to signal and record the exceeding of the various limits to a memory: output voltage, input current, output overload, over temperature and other parameters that can be defined by programming.

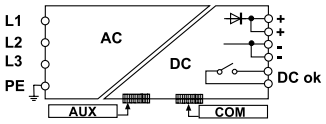
Additional functions:

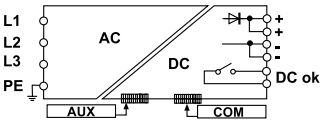
1) Battery charger: the acid lead battery charging function can be selected;
2) Remote sensing (sense): this allows for the monitoring and compensation of voltage drops on long power supply lines
3) The power supply can be switched off and disabled from a remote position
4) Auxiliary voltage: auxiliary 12 Vdc is also available, regardless of the main output voltage status
5) Temperature control: by connecting an external sensor (NTC), the battery charge temperature can be controlled.
6) Communication port: by means of an RS232 communication device the power supply can be piloted and monitored from a remote position.

CSG SERIES
3-PHASE POWER SUPPLIES TRIPLE POWER LINE

- **3-phase 400-500 Vac input or 2-phase with derating**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Suitable for applications that require high reliability and performance**
- **Smart alarm contact, signals when output voltage drops more than 10%**
- **High overload capability to ensure the protections selectivity and start-up of heavy loads**

NOTE
Please refer to the datasheet for more details
Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance





CODE	XCSG2401G	XCSG2401R
TYPE	**CSG2401G**	**CSG2401R**
INPUT TECHNICAL DATA		
Input rated voltage	3x 400–500 Vac	3x 400–500 Vac
Input voltage AC	340...550 Vac	340...550 Vac
Input voltage DC		
Frequency	47...63 Hz	47...63 Hz
Current consumption	4.2 A (400 Vac) / 3.5 A (500 Vac)	4.2 A (400 Vac) / 3.5 A (500 Vac)
Inrush peak current	10 A (with active limitation circuit)	10 A (with active limitation circuit)
Power factor	> 0.92	> 0.92
Internal protection fuse		
External protection on AC line	MT: C-10 A / Fuse: T 10 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	72 Vdc ±1%	100-110-170 Vdc ±1%
Output adjustable range	50...87 Vdc	88...175 Vdc
Continuous current	33 A at 45°C	14 A at 45°C
Overload limiting	50 A for >5 s	21 A for >5 s
Short circuit peak current	50 A for 5 s	21 A for 5 s
Ripple @ nominal ratings	200 mVpp	200 mVpp
Hold up time	10 ms (400 Vac) / 10 ms (500 Vac)	10 ms (400 Vac) / 10 ms (500 Vac)
Status indication	LED "DC OK" / LED "Alarm" / Display	LED "DC OK" / LED "Alarm" / Display
Alarm contact	dry contact, max. 1A @ 24 Vdc (programmable)	dry contact, max. 1A @ 24 Vdc (programmable)
Parallel connection	possible	possible
Redundant parallel connection	already fitted with internal ORing diode	already fitted with internal ORing diode
GENERAL TECHNICAL DATA		
Efficiency	92% (400 Vac) / 92% (500 Vac)	92% (400 Vac) / 92% (500 Vac)
Dissipated power	200 W (400 Vac) / 200 W (500 Vac)	200 W (400 Vac) / 200 W (500 Vac)
Operating temperature range	–20...+60°C (derating -40 W >45°C)	–20...+60°C (derating -40 W >45°C)
Input / output isolation	3 KVac / 60 s (no SELV output)	3 KVac / 60 s (no SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	4 mm² / 35 mm²	4 mm² / 35 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	234x105x130 mm	234x105x130 mm
Approximate weight	2.8 Kg	2.8 Kg
Mounting information	vertical on a rail, 60 mm from adjacent components	vertical on a rail, 60 mm from adjacent components
APPROVALS AND MARKINGS	CE cULus	CE cULus
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	TAP207A , TAP128A , TAP178A , TAP209A	TAP207A , TAP128A , TAP178A , TAP209A

APPLICATIONS

Series CSG2401 has an internal microprocessor that controls the many functions of the power supply, which can be programmed thanks to a user-friendly menu activated by 4 buttons on the front and shown on the front display.

Front display: during normal operation, this shows the output voltage value and current used by the load; during programming, it allows for the choice of the various functions available.

Input protection: the input circuit has been designed to avoid the most common problems seen in 3-phase networks. It therefore has:

1) a PFC circuit failure (latched shutdown) circuit
2) a system for controlling lack of phase that automatically reduces output power
3) an auto-restart switch-off system in the event of overvoltage and undervoltage

Output protection: limit current can be selected as between 10% and 100% of rated current; protection type against overload and short circuit can be chosen from:

1) hiccup auto reset with limit current, equal to 150% of rated current and ON/OFF time can be altered;
2) Constant power

Output signals: in addition to the "DC OK" and "FAULT" LEDs, the device also has:

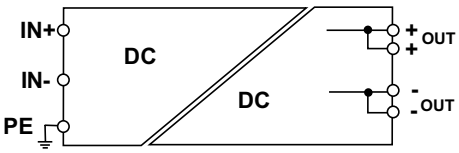
1) an analogue signal 0...10V or 4...20mA that provides an indication of current used by the load
2) a programmable alarm contact able to signal and record the exceeding of the various limits to a memory: output voltage, input current, output overload, over temperature and other parameters that can be defined by programming.

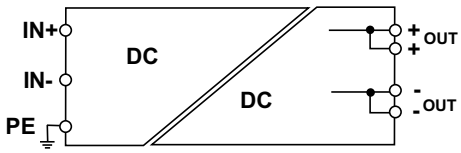
Additional functions:

1) Battery charger: the acid lead battery charging function can be selected;
2) Remote sensing (sense): this allows for the monitoring and compensation of voltage drops on long power supply lines
3) The power supply can be switched off and disabled from a remote position
4) Auxiliary voltage: auxiliary 12 Vdc is also available, regardless of the main output voltage status
5) Temperature control: by connecting an external sensor (NTC), the battery charge temperature can be controlled.
6) Communication port: by means of an RS232 communication device the power supply can be piloted and monitored from a remote position.

SWITCH MODE POWER SUPPLIES
DC/DC CONVERTERS

- **DC wide range input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Compact dimension**





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

Inrush current measured at Un with battery power supply; peak current varies according to the internal impedance of the current source and the resistance of the connections.

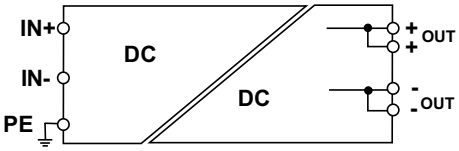
The capacitors between phase and neutral, requires that the isolation tests are carried out in DC

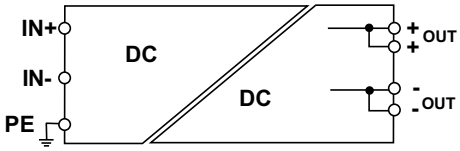
CODE	XCSA120BC	XCSA120CB
TYPE	CSA120BC	CSA120CB
INPUT TECHNICAL DATA		
Input rated voltage	12 Vdc	24 Vdc
Input voltage AC		
Input voltage DC	10.5...18 Vdc	18...36 Vdc
Frequency		
Current consumption	10 A (12 Vdc) ±10%	5.1 A (24 Vdc) ±10%
Inrush peak current	60 A	110 A
Power factor		
Internal protection fuse	T 20 A	T 10 A
External protection on AC line	MT: C-25 A / Fuse: T-25 A	MT: C-13 A / Fuse: T-13 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc	12...15 Vdc
Output adjustable range	22.5...27.5 Vdc	12...15 Vdc
Continuous current	5 A (24 Vdc)	7 A (12 Vdc)
Overload limiting	6.5 A	9.1 A
Short circuit peak current	12 A for 300 ms	15 A for 300 ms
Ripple @ nominal ratings	100 mVpp	100 mVpp
Hold up time	1 ms	2 ms
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	83% (12 Vdc)	85% (24 Vdc)
Dissipated power	25 W (12 Vdc)	17 W (24 Vdc)
Operating temperature range	–20...+50°C	–20...+50°C
Input / output isolation	2.1 kVdc / 60s	2.1 kVdc / 60s
Input / ground isolation	1.41 kVdc / 60s	1.41 kVdc / 60s
Output / ground isolation	0.75 kVdc / 60s	0.75 kVdc / 60s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	550 g	550 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

CSA SERIES

SWITCH MODE POWER SUPPLIES DC/DC CONVERTERS

- **DC wide range input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Compact dimension**





NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

Inrush current measured at Un with battery power supply; peak current varies according to the internal impedance of the current source and the resistance of the connections.

The capacitors between phase and neutral, requires that the isolation tests are carried out in DC

CODE	XCSA120CC	XCSA120DC
TYPE	CSA120CC	CSA120DC
INPUT TECHNICAL DATA		
Input rated voltage	24 Vdc	48 Vdc
Input voltage AC		
Input voltage DC	18...36 Vdc	36...72 Vdc
Frequency		
Current consumption	5.8 A (24 Vdc) ±10%	2.8 A (48 Vdc) ±10%
Inrush peak current	90 A	120 A
Power factor		
Internal protection fuse	T 10 A	T 5 A
External protection on AC line	MT: C-13 A / Fuse: T-13 A	MT: C-6 A / Fuse: T-6 A
OUTPUT TECHNICAL DATA		
Output voltage range	24 Vdc	24 Vdc
Output adjustable range	22.5...27.5 Vdc	22.5...27.5 Vdc
Continuous current	5 A (24 Vdc)	5A (24 Vdc)
Overload limiting	6.5 A	6.5 A
Short circuit peak current	12 A for 300 ms	13 A for 300 ms
Ripple @ nominal ratings	150 mVpp	200 mVpp
Hold up time	2 ms	4.5 ms
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection	possible	possible
Redundant parallel connection	possible with external ORing diode	possible with external ORing diode
GENERAL TECHNICAL DATA		
Efficiency	87% (24 Vdc)	90% (48 Vdc)
Dissipated power	18 W (24 Vdc)	13 W (48 Vdc)
Operating temperature range	–20...+50°C	–20...+50°C
Input / output isolation	2.1 kVdc / 60s	2.1 kVdc / 60s
Input / ground isolation	1.41 kVdc / 60s	1.41 kVdc / 60s
Output / ground isolation	0.75 kVdc / 60s	0.75 kVdc / 60s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	550 g	550 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag		

SWITCH MODE POWER SUPPLIES
DC/DC CONVERTERS

- **DC wide range input**
- **Short circuit, overload, input and output overvoltage protections**
- **Over temperature protection**
- **Compact dimension**

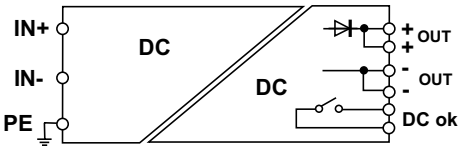
NOTE

Please refer to the datasheet for more details

Above overcurrent limit, the protection starts cycling in ON/OFF mode(hiccup autoreset), the maximum current supplied depends by the line resistance

Inrush current measured at Un with battery power supply; peak current varies according to the internal impedance of the current source and the resistance of the connections.

The capacitors between phase and neutral, requires that the isolation tests are carried out in DC

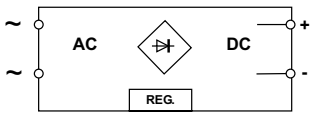


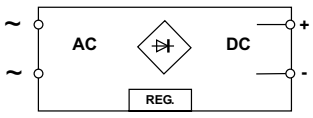
CODE	XCSA240FC
TYPE	CSA240FC
INPUT TECHNICAL DATA	
Input rated voltage	110 Vdc
Input voltage AC	
Input voltage DC	100...130 Vdc
Frequency	
Current consumption	2.4 A (110 Vdc) ±10%
Inrush peak current	150 A
Power factor	
Internal protection fuse	T 5 A
External protection on AC line	MT: C-6 A / Fuse: T-6 A
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc
Output adjustable range	23...27 Vdc
Continuous current	10 A at 50°C
Overload limiting	15 A
Short circuit peak current	21 A for 300 ms
Ripple @ nominal ratings	100 mVpp
Hold up time	4 ms
Status indication	LED "DC OK"
Alarm contact	dry contact, max. 1A @ 24 Vdc
Parallel connection	possible
Redundant parallel connection	already fitted with internal ORing diode
GENERAL TECHNICAL DATA	
Efficiency	89% (110 Vdc)
Dissipated power	28W (110 Vdc)
Operating temperature range	–20...+60°C (derating -6 W >50°C)
Input / output isolation	2.1 kVdc / 60s
Input / ground isolation	1.41 kVdc / 60s
Output / ground isolation	0.75 kVdc / 60s
Standard / approvals	EN 60950-1
EMC Standard	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	40x130x115 mm
Approximate weight	800 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	

CL SERIES
LINEAR POWER SUPPLIES WITH ADJUSTABLE OUTPUT

- **Powered by a 12-24 Vac secondary transformer**
- **Short circuit, overload and input overvoltage protection**
- **Over temperature protection**
- **Adjustable output voltage**

NOTE
Please refer to the datasheet for more details





CODE	XCL1R	XCL5R
TYPE	CL1R	CL5R
INPUT TECHNICAL DATA		
Input rated voltage	12-24 Vac	12-24 Vac
Input voltage AC	10...26 Vac (see Tab. 1)	10...26 Vac (see Tab. 1)
Input voltage DC		
Frequency	47...63 Hz	47...63 Hz
Current consumption	2.5 A (24 Vac)	6 A (24 Vac)
Inrush peak current		
Power factor		
Internal protection fuse	T 3 A	T 10 A
External protection on AC line	MT: C-4 A / Fuse: T 4 A	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA		
Output voltage range	1.2...24 Vdc	1.2...24 Vdc
Output adjustable range	(see Table 1 and Table 2)	(see Table 1 and Table 2)
Continuous current	0.3...1.5 A (see Tab. 2)	0.8...5 A (see Tab. 2)
Overload limiting		
Short circuit peak current		
Ripple @ nominal ratings	< 50 mVpp a 24 Vac	< 50 mVpp a 24 Vac
Hold up time	>20 ms	>20 ms
Status indication	LED "DC OK"	LED "DC OK"
Alarm contact		
Parallel connection		
Redundant parallel connection		
GENERAL TECHNICAL DATA		
Efficiency		
Dissipated power		
Operating temperature range	–20...+45°C	–20...+45°C
Input / output isolation	not insulated	not insulated
Input / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals		
EMC Standard		
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material	aluminium
Dimensions (LxHxD)	43x74x130 mm	37x115x118 mm
Approximate weight	120 g	350 g
Mounting information	vertical on a rail, 20 mm from adjacent components	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Marking tag		

APPLICATIONS

Cabur CL-R series power supplies are linear stabilised with adjustable output, capable of satisfying all small load power needs with non-standard voltages at an extremely affordable cost.
They can be rail mounted in any position as long as sufficient space is left for the free circulation of air for cooling, while model CL1R has a degree of protection IP00, meaning it is to be used inside a protected container.
Even where the power supply is protected against overcurrents, it is advised to follow the nominal data indicated in the tables below.

(1) **CL1R** and **CL5R** provide the nominal performances if combined with the secondary voltages indicated in **Tab. 1**; with a secondary voltage of 24...27 Vac, the maximum obtainable current at output voltages adjusted to values below 24 Vdc is indicated in **Tab. 2**; to stabilise the output voltage and reduce ripple at full load, linear power supplies must be powered with an input voltage that exceeds the output voltage, whereas if they are powered at 24 Vac, with an output adjusted to 24 Vdc and maximum current absorption, the ripple increases and the stability of the output voltage to load variations and ±10% network variations drops; voltages above 27 Vac cause significant heating, triggering the thermal protection and reducing the current supplied.
Products are supplied with a default voltage of 24 Vdc at the output and 26 Vac at the input.

INPUT (Vac)	Uout max (Vdc)	Iout max (A) XCL1R	Iout max (A) XCL5R
24...27	24	1.5	5
16...18	15	1.5	5
14...16	12	1.5	5
12...14	10	1.5	5
12	9	1.5	5
9	5	1.5	5

Table 1 (see explanation to the side)

INPUT (Vac)	Uout max (Vdc)	Iout max (A) XCL1R	Iout max (A) XCL5R
24	24	1.5	5
24	15	0.8	2.5
24	12	0.7	2
24	10	0.5	1.5
24	9	0.45	1.3
24	5	0.3	0.8

Table 2 (see side explanation)

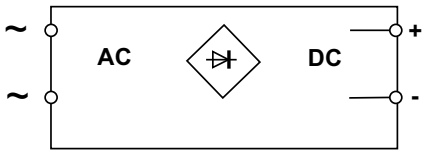
FILTERED POWER SUPPLY

- **Powered by a 12-24 Vac secondary transformer**
- **Rail mountable**

NOTE

Please refer to the datasheet for more details

Output not protected against overcurrent and short circuit, an external fuse must be installed.



CODE	XAR6
TYPE	AR6
INPUT TECHNICAL DATA	
Input rated voltage	12-24 Vac
Input voltage AC	6...20 Vac
Input voltage DC	
Frequency	47...63 Hz
Current consumption	7.2 A (24 Vac)
Inrush peak current	
Power factor	
Internal protection fuse	T 8 A
External protection on AC line	MT: C-10 A / Fuse: T 10 A
OUTPUT TECHNICAL DATA	
Output voltage range	Uout = (Uin x 1.41) - 2V
Output adjustable range	
Continuous current	6 A at 20°C
Overload limiting	External fuse must be installed
Short circuit peak current	
Ripple @ nominal ratings	2.5 Vpp
Hold up time	>20 ms
Status indication	LED "DC OK"
Alarm contact	
Parallel connection	
Redundant parallel connection	
GENERAL TECHNICAL DATA	
Efficiency	
Dissipated power	
Operating temperature range	–20...+45°C
Input / output isolation	not insulated
Input / ground isolation	0.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	70x80x93 mm
Approximate weight	140 g
Mounting information	vertical on a rail, 20 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Marking tag	

APPLICATIONS

The rectified and filtered power supply comprises a transformer which isolates and reduces the secondary voltage from the network voltage (not supplied), a bridge rectifier and a filter capacity that convert alternating voltage into direct voltage at an SELV value of less than 60 Vdc.
The power supply is not stabilised, therefore the output voltage varies according to the power consumed by the load and to network voltage fluctuations of ±10%. The formulae described in the output technical data are used to calculate voltage at no load, 50% load and full load and to select the transformer best suited to your needs. **These power supplies are a reliable and affordable source for powering relays, contactors, solenoid valves** and loads capable of operating smoothly with a relatively high (5%) alternating waste on 24 Vdc (ripple) and strong changes in output voltage, whereas in applications in which the network is highly unstable and prone to voltage dips, **they may not be suitable for powering devices with microprocessors and memories, analogue converters or devices that require a highly stable power supply voltage.**

Tab. 1 Input/Output behaviour

INPUT (Vac)	OUTPUT without load (Vdc)	OUTPUT full load (Vdc)
20	28.7	24.2
18	25.4	21.4
15	21.2	17.2
12	17	15
9	12.7	8.7
6	8.5	4.5

UNINTERRUPTIBLE POWER SUPPLIES
DC/DC UPS ACCESSORY

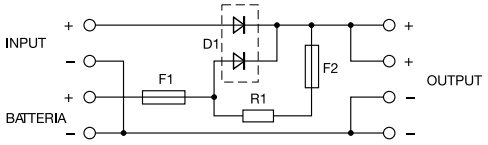
- **Connected to a DC line, allow to supply loads and charge the backup battery**
- **Suitable for Lead-Acid batteries**
- **Suitable for power supplies with adjustable output**

NOTE

Please refer to the datasheet or operating instruction for more details

In order to complete the charge, the DC output of the power supply must be 2-3V more than nominal voltage of the battery

XCSBC does not prevent deep discharge of the battery



CODE	XCSBC
TYPE	CSBC
INPUT TECHNICAL DATA	
Input rated voltage	12-24 Vdc
Input voltage AC	
Input voltage DC	6...30 Vdc
Frequency	
Current consumption	> 3 A
Inrush peak current	
Power factor	
Internal protection fuse	
External protection on AC line	
OUTPUT TECHNICAL DATA	
Output voltage range	12-24 Vdc
Output adjustable range	Vin-0.2 normal operation / Vbatt-0.2 battery operation (max. 29 Vdc)
Continuous current	10 A at 45°C
Battery safety fuse	Fuse: 6.3 A replaceable
Status indication	
Alarm contact	
Battery type	Lead-Acid
Battery capacity	max. 4 Ah (12 Vdc) / max. 10 Ah (24 Vdc)
Charging current	0.5 A (12 Vdc) / 1 A (24 Vdc)
Battery disconnection voltage	function not present
Protection	short-circuit / battery overload
GENERAL TECHNICAL DATA	
Efficiency	88%
Dissipated power	7.5 W (12 Vdc) 15 W (24 Vdc)
Operating temperature range	–20...+50°C
Input / output isolation	
Input / ground isolation	
Output / ground isolation	
Standard / approvals	
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal	2.5 mm² / 2.5 mm128
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	26x80x93 mm
Approximate weight	80 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

APPLICATIONS

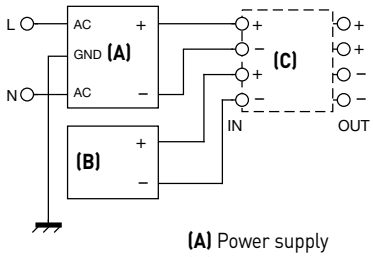
1. Battery charger

This module enables Cabur power supplies to charge a battery while simultaneously powering the load.
The diodes effectively block the power supply from the battery, the resistor limits the load current to prevent power supply safety cut-off and prolonging the life of the battery, and fuse F1 protects the battery in the event of a short-circuit on the load.
The connection occurs as shown below.

2. Placing power supplies in parallel

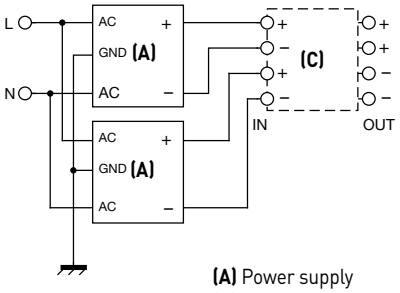
This module can be used to put two power supplies without a blocking diode in parallel, eliminating the need for fuse F2 in series with the charging current limiting resistor.
The connection occurs as shown below.

1. Battery charger



(A) Power supply
(B) Battery
(C) CSBC

2. Placing power supplies in parallel



(A) Power supply
(C) CSBC

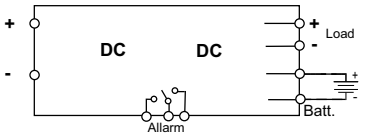
UNINTERRUPTIBLE POWER SUPPLIES
DC/DC UPS ACCESSORY

- **Connected to a DC line, allow to supply loads and charge the backup battery**
- **Suitable for Lead-Acid batteries**
- **Suitable for power supplies with adjustable output**
- **Battery protection (oveload and deep discharge)**
- **LED status indicator and alarm contact**
- **It allows to start loads from battery**

NOTE

Please refer to the datasheet or operating instruction for more details

In order to complete the charge, the DC output of the power supply must be 2-3V more than nominal voltage of the battery



CODE	XCSU5220W024VAA
TYPE	CSU5-220W/024V/AA
INPUT TECHNICAL DATA	
Input rated voltage	24 Vdc
Input voltage AC	
Input voltage DC	26...28.5 Vdc
Frequency	
Current consumption	< 14 A (full load and discharged battery)
Inrush peak current	
Power factor	
Internal protection fuse	
External protection on AC line	
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc
Output adjustable range	26...28 Vdc normal operation, 17...26 Vdc battery operation
Continuous current	10 A at 50°C
Battery safety fuse	Fuse: 15 A replaceable
Status indication	LED "DC OK" / LED "Battery OK" / LED "Battery low" / LED "Load OK"
Alarm contact	1 dry contact (DC OK/BATTERY)
Battery type	Lead-Acid
Battery capacity	max. 40 Ah (24 Vdc)
Charging current	2 A - 4 A selectable
Battery disconnection voltage	≤ 18 Vdc ±0.5 V
Protection	reverse polarity, short-circuit, battery overload, battery deep discharge
GENERAL TECHNICAL DATA	
Efficiency	
Dissipated power	
Operating temperature range	–20...+50°C
Input / output isolation	
Input / ground isolation	
Output / ground isolation	
Standard / approvals	
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm129
Housing material	aluminium
Dimensions (LxHxD)	55x130x115 mm
Approximate weight	300 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	

CSU SERIES

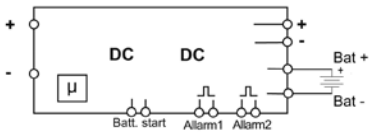
UNINTERRUPTIBLE POWER SUPPLIES DC/DC UPS ACCESSORY

- **Connected to a DC line, allow to supply loads and charge the backup battery**
- **Suitable for 12Vdc and 24 Vd loads and Lead-Acid batteries**
- **Battery protected against oveload and deep discharge**
- **Easy setting with frontal DIP-switch**
- **LED status indicator and alarm contacts**
- **It allows to start loads from battery**

NOTE

Please refer to the datasheet or operating instruction for more details

The internal DC / DC converter increases the voltage only towards the battery and not the load, which will receive the voltage set on the power supply



CODE	XCSU5240W024VAA
TYPE	CSU5-240W/024V/AA
INPUT TECHNICAL DATA	
Input rated voltage	12-24 Vdc
Input voltage AC	
Input voltage DC	12...13 Vdc / 24...25 Vdc
Frequency	
Current consumption	10 A max
Inrush peak current	
Power factor	
Internal protection fuse	
External protection on AC line	
OUTPUT TECHNICAL DATA	
Output voltage range	12-24 Vdc
Output adjustable range	10...17 Vdc / 19...30 Vdc
Continuous current	20 A (12 Vdc) / 10 A (24 Vdc)
Battery safety fuse	Fuse: 5 A replaceable
Status indication	LED "DC OK" / LED "Battery" / LED "Alarm"
Alarm contact	2 dry contacts (DC OK BATTERY STATUS)
Battery type	Lead-Acid
Battery capacity	1.2...40 Ah programmable
Charging current	0.12...4 A programmable
Battery disconnection voltage	10...11 Vdc (12V) / 19...20Vdc (24V)
Protection	reverse polarity/overload/deep discharge
GENERAL TECHNICAL DATA	
Efficiency	96%
Dissipated power	5 W
Operating temperature range	-20...+60°C (derating -2 W >50°C)
Input / output isolation	
Input / ground isolation	
Output / ground isolation	
Standard / approvals	
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm² / 0.75 mm² (signals)
Housing material	aluminium
Dimensions (LxHxD)	40x130x115 mm
Approximate weight	300 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

APPLICATIONS

It's a smart battery charger with a microprocessor that is able to automatically select the input voltage and battery voltage to 12 or 24V. The device is able to charge gel battery or Lead-acid battery.

PRODUCT FEATURES:

- possibility to supply 12Vdc or 24Vdc load depending on the input voltage (crossed combination are not allowed).
- in order to allow the charge of the battery, an internal DC/DC step-up converter increase the voltage towards the battery, thus avoiding overloading.
- Selection of the Battery capacity through dip-switch, from 1.2Ah up to 40Ah.
- two alarms are available (relays), one for monitoring the primary voltage and the second for the state of the battery
- The device is protect against a wrong configuration, for example if the input voltage is 12Vdc and the battery is 24Vdc.
- Temporary start from battery without primary voltage is allowed.
- Programmable Shutdown timer through dip-switch (buffer timer).

CSU SERIES

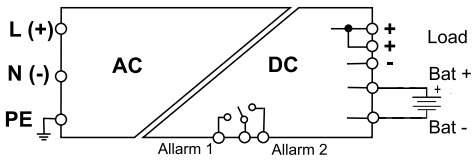
UNINTERRUPTIBLE POWER SUPPLIES
DC-UPS WITH INTEGRATED POWER SUPPLY

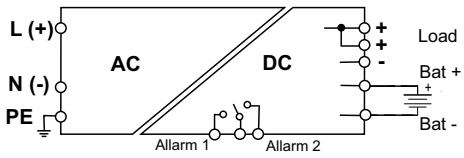
- **Power supply with integrated battery charger**
- **Suitable for Lead-Acid batteries**
- **Supplies power to load and battery simultaneously**
- **Battery protection (oveload and deep discharge)**
- **LED status indicator and alarm contact**

NOTE

Please refer to the datasheet or operating instruction for more details

In order to complete the charge, the DC output of the power supply must be 2-3V more than nominal voltage of the battery





CODE	XCSC120B	XCSC120C
TYPE	CSC120B	CSC120C
INPUT TECHNICAL DATA		
Input rated voltage	120–230 Vac	120–230 Vac
Input voltage AC	90...264 Vac	90...264 Vac
Input voltage DC	100...345 Vdc (derating Uin<130 Vdc)	100...345 Vdc (derating Uin<130 Vdc)
Frequency	47...63 Hz	47...63 Hz
Current consumption	1.6 A (120 Vac) / 0.91 A (230 Vac)	1.9 A (120 Vac) / 1.1 A (230 Vac)
Inrush peak current	20 A	20 A
Power factor	> 0.65	> 0.65
Internal protection fuse	T 3.15 A	T 3.15 A
External protection on AC line	MCB: C-4 A / Fuse: T 4 A	MCB: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA		
Output voltage range	12 Vdc ±1%	24 Vdc ±1%
Output adjustable range	13...15 Vdc normal operation, 9...15 Vdc battery operation	26...26 Vdc normal operation, 17...25 Vdc battery operation
Continuous current	5 A at 50°C	5 A at 50°C
Battery safety fuse		
Status indication	LED "DC OK" / LED "Alarm"	LED "DC OK" / LED "Alarm"
Alarm contact	dry contact, max. 1A @ 24 Vdc (Uin >21.6 Vdc)	dry contact, max. 1A @ 24 Vdc (Uin >10.8 Vdc)
Battery type	Lead-Acid	Lead-Acid
Battery capacity	max. 1.2 Ah (12 Vdc)	max. 1.2 Ah (24 Vdc)
Charging current	150 mA	150 mA
Battery disconnection voltage	⩽ 9 Vdc ±0.5 V	⩽ 18 Vdc ±0.5 V
Protection	short-circuit / battery overload	reverse polarity, short-circuit, battery overload, battery deep discharge
GENERAL TECHNICAL DATA		
Efficiency	81% (120 Vac) 83% (230 Vac)	84% (120 Vac) 86% (230 Vac)
Dissipated power	25 W (120 Vac) 22 W (230 Vac)	22 W (120 Vac) 19 W (230 Vac)
Operating temperature range	–20...+60°C (derating -2 W >45°C)	–20...+60°C (derating -3.2 W >45°C)
Input / output isolation	3 KVac / 60 s (SELV output)	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s	0.5 kVac / 60 s
Standard / approvals	EN 60950-1	EN 60950-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	2.5 mm² / 2.5 mm²	2.5 mm² / 2.5 mm²
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x130x115 mm	40x130x115 mm
Approximate weight	450 g	450 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

CSC SERIES

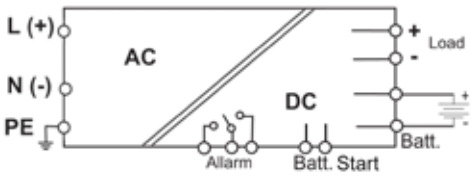
UNINTERRUPTIBLE POWER SUPPLIES
DC-UPS WITH INTEGRATED POWER SUPPLY

- **Power supply with integrated battery charger**
- **Suitable for Lead-Acid batteries**
- **Supplies power to load and battery simultaneously**
- **Battery protection (oveload and deep discharge)**
- **LED status indicator and alarm contact**
- **Possibility of starting load from battery**

NOTE

Please refer to the datasheet or operating instruction for more details

In order to complete the charge, the DC output of the power supply must be 2-3V more than nominal voltage of the battery



CODE	XCSU1220W024VAA
TYPE	XCSU1-220W/024V/AA
INPUT TECHNICAL DATA	
Input rated voltage	120–230 Vac
Input voltage AC	90...264 Vac
Input voltage DC	90...370 Vdc (derating Uin
Frequency	47...63 Hz
Current consumption	2.73 A (120 Vac) / 1.17 A (230 Vac)
Inrush peak current	30 A
Power factor	>0.9
Internal protection fuse	T 2 A
External protection on AC line	MCB: C-4 A / Fuse: T 4 A
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc
Output adjustable range	26...28 Vdc normal operation, 17...26 Vdc battery operation
Continuous current	10 A at 50°C
Battery safety fuse	
Status indication	
Alarm contact	1 dry contact (DC OK)
Battery type	Lead-Acid
Battery capacity	max. 40 Ah (24 Vdc)
Charging current	2 A - 4 A selectable
Battery disconnection voltage	≤ 18 Vdc ±0.5 V
Protection	short circuit, battery overload, deep battery discharge
GENERAL TECHNICAL DATA	
Efficiency	
Dissipated power	22 W (120 Vac) 19 W (230 Vac)
Operating temperature range	–20...+50°C
Input / output isolation	3 KVac / 60 s (SELV output)
Input / ground isolation	1.5 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Standard / approvals	EN 62368-1
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5mm² / 1.5mm² push-in
Housing material	aluminium
Dimensions (LxHxD)	100x130x140 mm
Approximate weight	1.35 kg
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

BPS SERIES

UNINTERRUPTIBLE POWER SUPPLIES BATTERY PACK HOLDER

- 24V battery holder modules
- With two 12V lead acid VRLA AGM batteries
- Versions for 1.2Ah, 3.4Ah, 7.2Ah, 12Ah batteries
- Quick connection with Push-in terminal and integrated protection fuse

CODE	XBPS01AHAA	XBPS03AHAA
TYPE	BPS-1.2AH/AA	BPS-3.4AH/AA
BATTERY TECHNICAL DATA		
Input rated voltage	24 Vdc	24 Vdc
Nominal capacity	1.2 Ah	3.4 Ah
Max. charge current	0.3 A	1.0 A
Charging voltage	27.6 Vdc (20°C)	27.6 Vdc (20°C)
Parallel connection of more battery packs	possible	possible
Series connection of more battery packs	no	no
Battery safety fuse	15 A	25 A
Spare fuse	present	present
Battery type	AGM VRLA	AGM VRLA
GENERAL TECHNICAL DATA		
Operating temperature range	–20...+50°C	–20...+50°C
Overvoltage category / pollution degree	III / 2	III / 2
Protection degree	IP20	IP20
Connection terminal	0.2 ... 4 mm² push-in	0.2 ... 16 mm² push-in
Housing material	aluminium	aluminium
Dimensions (LxHxD)	65x115x172 mm	83x152x190 mm
Approximate weight	1.7 Kg	3.6 Kg
Mounting information	Mounting on panel.	Mounting on panel.
ACCESSORIES		
Spare battery	8911012 (1 pieces)	8911034 (1 pieces)
APPROVALS AND MARKINGS	CE	CE

BPS SERIES

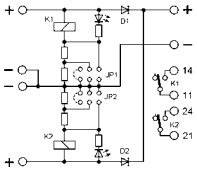
UNINTERRUPTIBLE POWER SUPPLIES BATTERY PACK HOLDER

- 24V battery holder modules
- With two 12V lead acid VRLA AGM batteries
- Versions for 1.2Ah, 3.4Ah, 7.2Ah, 12Ah batteries
- Quick connection with Push-in terminal and integrated protection fuse

CODE	XBPS07AHAA	XBPS12AHAA
TYPE	BPS-7.2AH/AA	BPS-12AH/AA
BATTERY TECHNICAL DATA		
Input rated voltage	24 Vdc	24 Vdc
Nominal capacity	7.2 Ah	12 Ah
Max. charge current	2.1 A	3.6 A
Charging voltage	27.6 Vdc (20°C)	27.6 Vdc (20°C)
Parallel connection of more battery packs	possible	possible
Series connection of more battery packs	no	no
Battery safety fuse	25 A	40 A
Spare fuse	present	present
Battery type	AGM VRLA	AGM VRLA
GENERAL TECHNICAL DATA		
Operating temperature range	–20...+50°C	–20...+50°C
Overvoltage category / pollution degree	III / 2	III / 2
Protection degree	IP20	IP20
Connection terminal	0.2 ... 16 mm² push-in	0.2 ... 16 mm² push-in
Housing material	aluminium	aluminium
Dimensions (LxHxD)	169x83x265 mm	169x115x265 mm
Approximate weight	5.5 Kg	8.5 Kg
Mounting information	Mounting on panel.	Mounting on panel.
ACCESSORIES		
Spare battery	8911072 (1 pieces)	8911120 (1 pieces)
APPROVALS AND MARKINGS	CE	CE

REDUNDACY MODULES

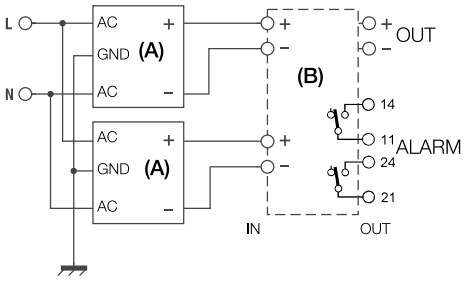
- **Suitable for connecting power supplies without ORing diodes**
- **12, 24 and 48 Vdc selectable operating voltages**
- **2 alarm relays**
- **Compact dimensions**



APPLICATIONS

This module this used for placing two power supplies without blocking diodes in parallel; jumpers can be used to select the desired operating voltage, and each channel has a relay and an LED diode giving you a remote alarm signal in case a power supply switches off.

Connection Diagram



(A) Power supply
(B) CSBD

CODE TYPE	XCSBD CSBD
INPUT TECHNICAL DATA	
Input rated voltage	12-24-48 Vdc
Input nominal current	2 x 15 A
OUTPUT TECHNICAL DATA	
Output voltage range	12–24–48 Vdc selectable
Output adjustable range	1 x 15 A (max. 30 A peak)
IN-OUT voltage drop	0.7 V a 15 A
Status indication	LED "DC OK"
Alarm contact	2 dry contacts, max. 1A @ 24 Vdc
GENERAL TECHNICAL DATA	
Efficiency	
Dissipated power	
Operating temperature range	–20...+50°C
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	40x130x85
Approximate weight	120 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

CSR SERIES

REDUNDACY MODULES

- **Suitable for connecting power supplies without ORing diodes**
- **Suitable for 12 to 80 V**
- **CPU-controlled electronic redundancy**
- **Current failure and unbalance alarm**
- **High efficiency and low consumption**

NOTE

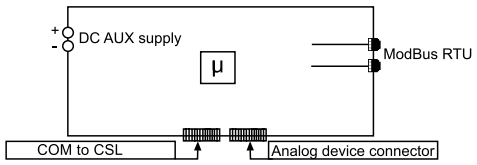
(1) The DC-OK LED signals the status of the output, Unmbalance LEDs signal if the current sharingis balanced or not balanced, alarm LED signals an unmbalanced and critical situation or the failure of one power supply

(2) The Alarm contact opens in case of an unmbalanced and critical situation or the failure of one power supply

CODE	**XCSR2M20AA**	**XCSR2M40AA**
TYPE	**CSR-2M/20AA**	**CSR-2M/40/AA**
INPUT TECHNICAL DATA		
Input rated voltage	12...80 Vdc	12...80 Vdc
Input nominal current	2 x 20 A	2 x 40 A
OUTPUT TECHNICAL DATA		
Output voltage range	10.8...85 Vdc	10.8...85 Vdc
Output adjustable range	1 x 25 A (max. 40 A peak)	1 x 50 A (max. 80 A peak)
IN-OUT voltage drop	0.2 V a 25 A	0.2 V a 50 A
Status indication	LED "DC OK" / LED "Alarm" / LED "Unbalance" (1)	LED "DC OK" / LED "Alarm" / LED "Unbalance" (1)
Alarm contact	dry contact, max. 1A @ 24 Vdc (2)	dry contact, max. 1A @ 24 Vdc (2)
GENERAL TECHNICAL DATA		
Efficiency	>98% (12 V / 50 A)	>98% (12 V / 50 A)
Dissipated power	5 W	10 W
Operating temperature range	–20...+50°C	–20...+50°C
EMC Standard	EN 61000-6-2, EN 61000-6-4	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal	16 mm² / 16 mm² / 1.5 mm² (signal)	16 mm² / 16 mm² / 1.5 mm² (signal)
Housing material	aluminium	aluminium
Dimensions (LxHxD)	40x110x145	40x110x145
Approximate weight	200 g	200 g
Mounting information	vertical on a rail, 10 mm from adjacent components	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		

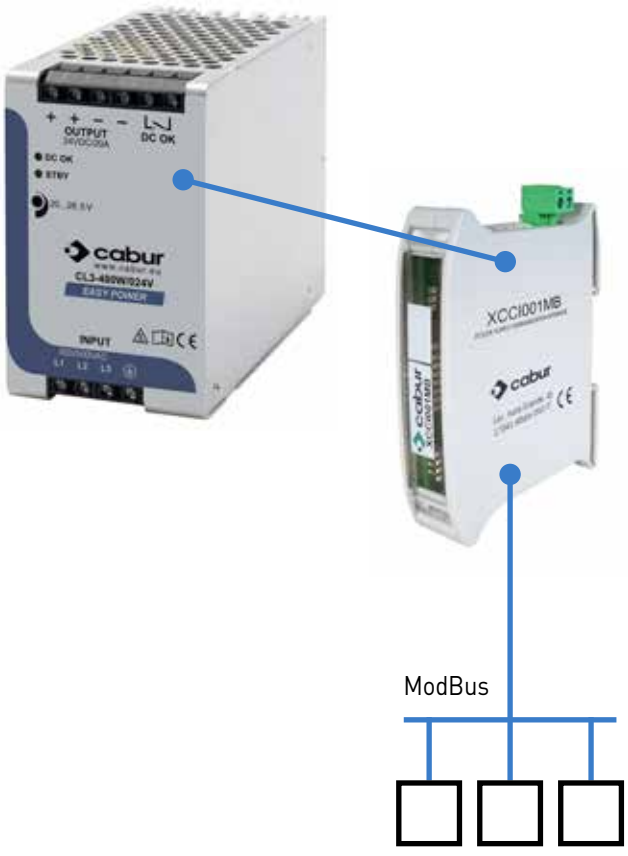
COMMUNICATION INTERFACE

- **Monitoring of signals from the CSL 480W series power supplies**
- **Remote power on and off of the power supplie**
- **ModBus RTU communication**



XCCI001MB is a microprocessor-controlled communication interface that allow the connection to the net and the remote monitoring of the CSL1-480...AB/CSL3-480...AB power supply, by using the ModBus RTU protocol.
The communication Interface can be directly powered by the monitored PSU by the AUX2 port or can be powered by an auxiliary PSU (10 - 30 Vdc). This option allows the remote control of the PSU ON/OFF.
The connection to the ModBus net take place by 2 equivalent RJ-45 port and the address of the device can be set by using the dip switch on the front panel.
The XCCI001MB also allow the connection of additional analog and digital signals, through the AUX1 port.

CODE	**XCCI001MB**
TYPE	**CCI-001-MB**
Power supply	10 – 30 Vdc
Communication protocol	ModBus RTU
Signalling	Green LED – Power on / Yellow LED – TX/RX activity on going
Operating temperature	-20 .. +50 °C
Protection degree	IP20
Standards	CE
Dimensions	40x130x115 mm
Weight	300 g
Housing material	Alluminium
Mounting	DIN rail



CONNECTING ENERGY
SINCE 1952

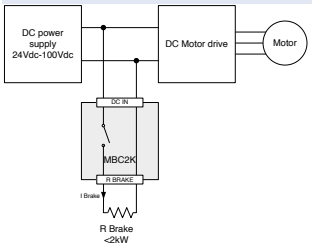
Protections

MBC2K MOTOR BRAKE CONTROLLER

MBC2K is a microprocessor-controlled device designed for braking DC bus-powered engines. It is activated by the surge generated by the engine when its drive requires braking.

When the MBC2K is connected on the DC bus powering the engine drive (see diagram in fig. 1), the device activates automatically when the DC bus voltage exceeds the set threshold and transfers the power generated by the engine to the braking resistor, where it is dissipated. MBC2k is equipped with protection against short circuit, overload and over temperature in order to guarantee reliable operation. MBC2K can be connected to any DC bus power supply with a voltage within 24 and 100 Vdc. The simplified application is illustrated in the block diagram in Figure 1, the front view of the unit with all controls and functions is shown in Figure 2. CONNECT up to 4 units in parallel to increase the peak braking power up to 8 KW. MBC2K also has a 7-segment display and an LED for instantly viewing the DC bus voltage (accuracy +/- 1 V) which helps the user during set-up and in displaying error messages.

Figure 1 application block diagram



MBC2K setup

The MBC2K unit must be set-up prior to operation.

The menu comprises three pages, navigable using the MENU button;

The values shown can be adjusted by pressing the SET/RESET button.

a) brake intervention threshold (VTH)

b) brake intervention threshold hysteresis

c) Master/Slave mode; for selecting single mode (Master mode) or for parallel connection of up to 4 cards (1 Master+3 Slave).

Active protections

The MBC2K integrates active protections to ensure stable and reliable operation under normal use conditions. When it detects a fault, MBC2K turns itself off to prevent an uncontrolled flow of current through the braking resistor.

Fault status is indicated by the alarm LED flashing continuously.

And the integrated alarm relay allows the status of the module to be checked remotely.

To help the user understand which defect has occurred, an error code is shown on the 7-segment display.

Connect up to 4 MBC2K units in parallel

Up to 4 MBC2K units can be connected in parallel to increase peak braking capacity to 8 KW. Each unit is capable of braking 2 KW of peak power, for which each unit requires its own braking resistor. To set up this configuration, MBC2K is equipped with a bus that is used to synchronise the operation of all connected units (up to 4 max.). The principle of operation is based on one MBC2K unit configured as a Master and the other MBC2K units (up to 3) configured as Slaves.

The Master measures the DC bus voltage and decides when to insert the braking resistors into the circuit, sending a command on the synchronisation bus. When the Slave units connected to the synchronisation bus receive the command from the Master unit, they insert their braking resistor into the circuit. When MBC2K is configured in Slave mode, all of its protective circuits remain operational.

1. **SET / RESET:** Used to reset any errors and to change configurations in set-up mode.
2. **MENU:** Used to enter set-up mode and to navigate through the menu pages.
3. **Synchronisation bus connector:** used to connect up to 4 units in parallel.
4. **Braking resistor thermostat connector:** used to connect a thermostat present on the braking resistor (Klixson normally closed type is recommended; if not used, short-circuit the 2 terminals).
5. **Remote alarm connector:** an SPDT contact triggers the fault/malfunction signal.
6. **Braking resistor connector:** used to connect the external braking resistor.
7. **DC bus connector:** used to connect MBC2K to the 24 ...100Vdc DC bus power supply.
8. **Protective earth (PE) connector:** used to connect the device to the ground protection.
9. **100s display:** used to view numbers >99; e.g. if the indicator is on and the display reads "03", the measurement is 103V.
10. **Braking indicator:** indicates that the unit is braking the engine and supplying current to the braking R.
11. **7-segment display:** when the unit is in operation, this shows the DC bus voltage (accuracy +/-1V); it is also used to display menu items and error codes.
12. **Alarm LED:** indicates a fault or error status.

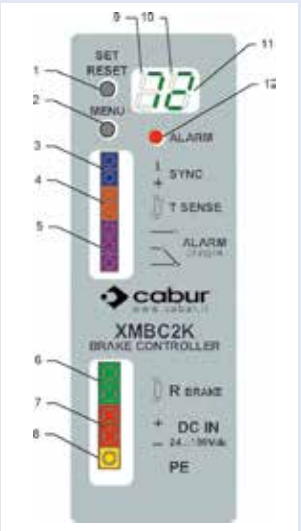


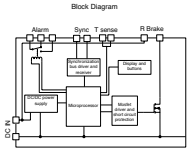
Figure 2 MBC2K - Front view

MBC2K

MOTOR BRAKE CONTROLLER

- **20 threshold levels**
- **Braking power until 2 kW**
- **Braking power until 8 kW, with allowable parallel connection**
- **Simple function programming**
- **Braking resistor temperature control**

NOTE
(1) Produced on demand, contact our sales office for availability



CODE TYPE	XMBC2K MBC2K (1)
INPUT TECHNICAL DATA	
DC bus range	24...100 Vdc
Maximum braking current	50 A for 1 s
Operating voltage braking	27...106 V, threshold adjustable in 20 steps
Threshold hysteresis	3 V or 6 V switchable
User interface	2 setup buttons (SET/RESET and MENU) Two 7-segment displays 1 LED alarm status indicator (general) 1 SPDT remote failure contact (general)
Protection	Under DC bus voltage (110 Vdc) Braking resistor overtemperature (only where a thermostat is connected to the resistor) Module internal over temperature (temp. > 90°C
Parallel connection	Up to 4 MBC2Ks can be connected in parallel and synchronised through the bus to obtain a total peak braking power of 8 kW (with four 2 kW braking resistors).
GENERAL TECHNICAL DATA	
Dissipated power	20 W
Operating temperature range	0...+70°C
Input / ground isolation	500 Vac / 60s
Standard / approvals	EN60950 for SELV use up to 60 Vdc; use at higher voltages is not SELV classifiable
EMC Standard	EN55011 Class B
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	aluminium
Dimensions (LxHxD)	39x128x115
Approximate weight	200 g
Mounting information	vertical on a rail, 10 mm from adjacent components
APPROVALS AND MARKINGS	
	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

APPLICATIONS

MBC2K is a microprocessor-controlled device designed for braking DC bus-powered engines. It is activated by the surge generated by the engine when its drive requires braking.
When the MBC2K is connected on the DC bus powering the engine drive (see diagram in fig. 1), the device activates automatically when the DC bus voltage exceeds the set threshold and transfers the power generated by the engine to the braking resistor, where it is dissipated. MBC2k is equipped with protection against short circuit, overload and over temperature in order to guarantee reliable operation. MBC2K can be connected to any DC bus power supply with a voltage within 24 and 100 Vdc. The simplified application is illustrated in the block diagram in Figure 1, the front view of the unit with all controls and functions is shown in Figure 2. Connect up to 4 units in parallel to increase the peak braking power up to 8 KW. MBC2K also has a 7-segment display and an LED for instantly viewing the DC bus voltage (accuracy +/- 1 V) which helps the user during set-up and in displaying error messages.

ADJUSTABLE ELECTRONIC OVERCURRENT PROTECTION FROM 1...10 A / 24 VDC

According to the new EN60204-1, it is **compulsory** to protect wires on SELV-PELV lines from overcurrent. The standard requires that 24 Vdc overcurrent protections intervene by cutting out the failure before the control and command 24 Vdc falls below 21.6V, cutting off power to the controls and preventing the emergency and safety features from activating.
Under EN 60204-1 and EN 61131-1 and -2, overcurrent protection on SELV/PELV lines must be capable of isolating shorts within 10 ms and hazardous overcurrents within 5 s. The use of power supplies with a high output overcurrent capacity and fast, accurate protections facilitates fault isolation before the 24 V falls below 21.6 V, leaving the controls without power.

Figure 1

Fuses and magneto-thermal switches inserted on 24 Vdc lines have characteristic intervention I/ts that are not suitable for isolating faults with the required speed and accuracy, while the fuses may be replaced with different types, affecting the behaviour of the protection and the safety of the system.

The proper coordination of the circuit in which the overcurrent protection is inserted must consider the total R of the line as: R connections + R wires + R protection + R residual malfunctioning load. The total R must always allow a safe current to circulate in the circuit once the protection is triggered and the protection should neither be undersized, to prevent undesirable bursts at peak load, nor oversized, to prolong its intervention t.

The entire circuit, including power supply, protection, wiring and connections, must be designed such that all overcurrents can be cut-off within 5 s before the 24 Vdc falls below 21.6 Vdc. This requirement can be met with Cabur's CSF and CSG series power supplies, designed to provide a high output overcurrent (nom. I >+50% for > 5s) and CEP System electronic overcurrent protections with an accuracy and speed far superior to magneto-thermal switches and fuses, whose trigger t is independent of ambient T and can be reset locally or remotely.

Figure 3

Protection features

MGTs have two different intervention curves: Thermal and magnetic. The magnetic relay only triggers in the event of a short with different I/t curves; thermal relays all have the same intervention curve regardless of the MGT curve and in the event of an overload they behave as shown in figure 2: overload currents of 1.13 x In are cut in >1h, and at overcurrent > 1.45 x In, the trigger occurs in several minutes.
The disconnection of short-circuit currents is activated by the magnetic relay whose trigger t ranges from 0.01 to 0.1 s, and it occurs at very high currents which the power supply used may not be able to deliver: a C5 MGT used in DC has a safe trigger of > 70 A, a current which only (but not all) power supplies with a far higher nom. I, e.g. 40 A, are capable of providing, but which is not deliverable by 10 A power supplies.
Using MGT as an overcurrent protection, if the power supply used has an overload I 1.2 times greater than its nominal I, disconnection will occur after 20...60 minutes, while with a current 2.5 times higher than the nominal I it will trigger after 25 s to 2 min., depending on the Tamb, times which are too long to guarantee stability at 24V to protect wiring and protection selectivity. In case of malfunction, until the protection triggers, the power supply remains in overload in excess of x 1.5 x 5 s and the 24 V falls below 21.6 V, leaving normal functions and particularly the safety functions without power.

Figure 4

Protection selectivity

In case of an overload or short, only the malfunctioning circuit is isolated from its protection without any effects on the power to the other loads. This feature is obtained using power supplies with a high overcurrent capacity and quick and precise protections.

CEP system – the smart current control system

CEP "recognises" overcurrent at the lowest and most precise threshold and isolates the malfunctioning circuit in the fastest possible time. For maximum flexibility of use, the CEP system allows you to set 10 trigger currents from 1 A to 10 A in 1 A increments, and has 3 intervention curves: "Rapid – Normal – Delayed" (see fig. 3).
The protection status is indicated by two LEDs and a remote alarm transistor output, while the load can be activated/deactivated using the button on the front (fig. 5) or controlled remotely by PLC. The ability to control individual channels separately is useful during installation since various components can be activated and tested individually, while in large plants, the remote control feature can be used to gradually activate the various loads, preventing multiple simultaneous overloads at system start-up.
An additional safety feature is manual disconnection, with which even when reactivating the protections remotely the load will remain inactive, preventing hazardous operating conditions.

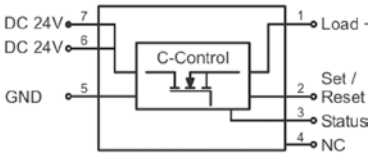
Figure 5

- **Programmable from 1 A to 10 A**
- **3 programmable characteristic curves**
- **Remote or local ON/OFF control**
- **Green ON/red OFF status LED and remote signalling**
- **Slide contact for manual disconnection**
- **Sealable front cover for programming protection**

NOTE

Remote control is through 24 Vdc pulses. Such pulse durations should be: = impulse > 1 s / OFF = impulse > 100 ms and < 800 ms

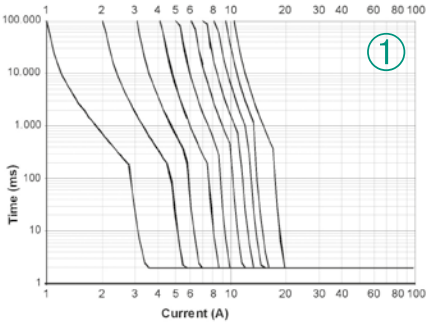
The 3 standard characteristic curves are shown in the diagrams; the CEP-D3 version also has a softwareprogrammable curve.

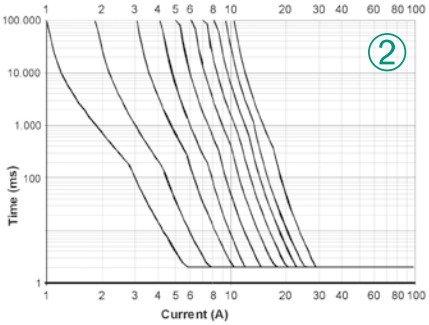


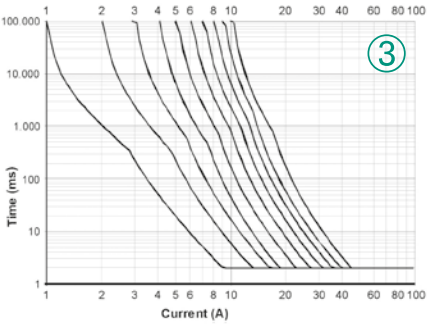
1) sealable cover
2) programming current
3) identification tag
4) programming intervention curve
5) replacing the fuse

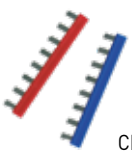
CODE	XCEPD1
TYPE	CEP-D1
INPUT TECHNICAL DATA	
Input rated voltage	24 Vdc
Input voltage range	18...32 Vdc
Input current	10 A DC max
OUTPUT TECHNICAL DATA	
Output voltage range	24 Vdc (voltage drop < 170 mV at Un / In)
Continuous current	1...10 A DC programmable in 1 A increments
Max system current	40 A DC with CEP-RCC distribution bar
Default trip curves	slow, medium and fast
Max connectable output capacity	10,000 µF
Protection	electronic, against reverse polarity
Remote On-OFF control	external 24 Vdc pulse
Status indication	Green LED: constant = OK, flashing = Iout at 90% of nominal, red LED: constant = output manually switched off, flashing slowly = overcurrent, flashing quickly = error
Alarm contact	open collector transistor (overcurrent status)
GENERAL TECHNICAL DATA	
Operating temperature range	–25...+60°C (derating -2 A >40°C)
Input / output isolation	3 KVac / 60 s (SELV output)
Standard / approvals	EN60950-1
EMC Standard	EN61131-1, EN61131-2, EN60898, EN60947-4-1, EN50081
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal	2.5 mm² / 2.5 mm²
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	8x115x116 mm
Approximate weight	120 g
Mounting information	vertical on a rail, side by side
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Marking tag	CEP-MTW (code XCEPMTW, table with 50 tags)
Support for supply bus bar	CEP-SS (code XCEPSS)
Supply bus bar	CEP-RCC (code XCEPRCC)
Cover for supply bus bar	CEP-RCP (code XCEPRCP)
Plugin jumper	CEP-BCR (8 poles red) CEP-BCB (8 poles blue)

Characteristic curve:
1) fast
2) medium
3) slow









CEP-BCR and CEP-BCB

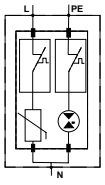
CEP-MTW

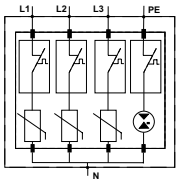
CEP-SS

SURGE PROTECTION DEVICE

- For single phase and three-phase systems
- Phase and neutral connection in a single cartridge
- Compact dimensions

NOTE
(1) the fuses is not mandatory on all plants, if it's necessary choose one that match correctly with the system





CODE		ISPD275AC1PNPE	ISPD440AC3PNPE
TYPE		ISPD275AC1PNPE	ISPD440AC3PNPE
TECHNICAL FEATURES			
Test class		II	II
Type of Network		TN, IT, TT	TN, IT, TT
Nominal voltage Un		220 - 230 (V)	230 - 400 (V)
Max. continuous voltage		275 (V)	440 (V)
Working frequency		50 - 60 (Hz)	50 - 60 (Hz)
Max. Discharge current (8/20µs)		40 (kA)	40 (kA)
Nominal discharge current (8/20µs)		20 (kA)	20 (kA)
Voltage protection level at In		1.5 (kV)	1.5 (kV)
Protection mode		L – N / N – PE	L1, L2, L3 – N / N – PE
Isolation resistance		> 10^2 (MΩ)	> 10^2 (MΩ)
Response time		⩽ 25 (ns)	⩽ 25 (ns)
Recommended back-up fuse		125 (1) (A)	125 (1) (A)
Max. cables section		25 (mm^2)	25 (mm^2)
Mounting Guida TH35		Yes	Yes
Working temperature		-40...+70 °C	-40...+70 °C
Protection degree		IP20	IP20
Housing material		PPO	PPO
Inflammability class		UL94—V0 plastic material	UL94—V0 plastic material
FAULT INDICATOR			
Green LED			
Red LED		Fail	Fail
Remote control contact			
Dimensions (LxHxD)		18x90x66	36x90x68
Quantity / Package		1 piece	1 piece
APPROVALS AND MARKINGS		CE	CE

cabur®
CONNECTING ENERGY
SINCE 1952

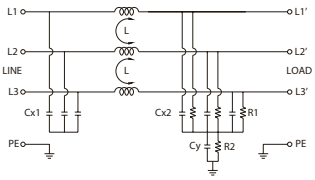
Single phase and 3-phase industrial EMI filters

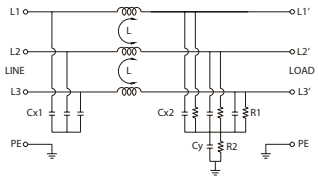
EMI FILTER
3-PHASE FILTER WITHOUT NEUTRAL

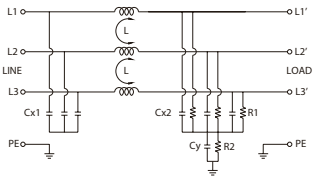
- **Models from 7 to 130 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**



NOTE
(1) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors







CODE	XF07TDVST2	XF16TDVST2	XF30TDVST2
TYPE	F07TDVST2	F16TDVST2	F30TDVST2
GENERAL TECHNICAL DATA			
Rated voltage	480 Vac ± 10%	480 Vac ± 10%	480 Vac ± 10%
Continuous current	7 A	16 A	30 A
Leakage current	30 mA	30 mA	30 mA
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+85°C	-25...+85°C	-25...+85°C
Isolation L / L	1.45 kVdc / 60 s (1)	1.45 kVdc / 60 s (1)	1.45 kVdc / 60 s (1)
Isolation L / PE	2.25 kVdc / 60 s (1)	2.25 kVdc / 60 s (1)	2.25 kVdc / 60 s (1)
Protection degree	IP 20	IP 20	IP 20
Connection terminal	fixed screw terminal blocks	fixed screw terminal blocks	fixed screw terminal blocks
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	42x192x72 mm	47x252x72 mm	52x272x87 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	20	15	15
0.5 MHz	60	50	50
1 MHz	60	55	55
5 MHz	60	60	60
10 MHz	50	50	50
30 MHz	35	35	35
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	25	25	25
0.5 MHz	60	55	55
1 MHz	65	60	60
5 MHz	60	60	60
10 MHz	55	55	55
30 MHz	40	40	40
APPROVALS AND MARKINGS			

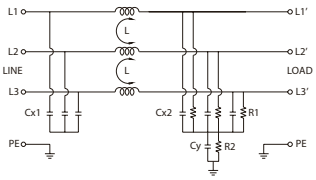
TDV SERIES

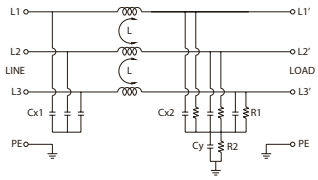
EMI FILTER
3-PHASE FILTER WITHOUT NEUTRAL

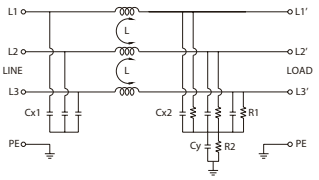
- **Models from 7 to 130 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**

NOTE

(1) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors





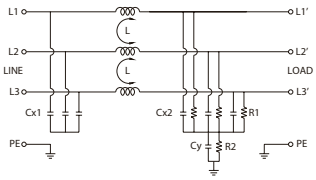


CODE	XF42TDVST2	XF55TDVST2	XF75TDVST2
TYPE	F42TDVST2	F55TDVST2	F75TDVST2
GENERAL TECHNICAL DATA			
Rated voltage	480 Vac ± 10%	480 Vac ± 10%	480 Vac ± 10%
Continuous current	42 A	55 A	75 A
Leakage current	30 mA	30 mA	30 mA
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+85°C	-25...+85°C	-25...+85°C
Isolation L / L	1.45 kVdc / 60 s (1)	1.45 kVdc / 60 s (1)	1.45 kVdc / 60 s (1)
Isolation L / PE	2.25 kVdc / 60 s (1)	2.25 kVdc / 60 s (1)	2.25 kVdc / 60 s (1)
Protection degree	IP 20	IP 20	IP 20
Connection terminal	fixed screw terminal blocks	fixed screw terminal blocks	fixed screw terminal blocks
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	52x312x87 mm	87x252x92 mm	92x272x137 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	55	15	15
0.5 MHz	70	55	55
1 MHz	70	55	55
5 MHz	45	55	55
10 MHz	35	50	50
30 MHz	20	35	30
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	45	25	20
0.5 MHz	45	55	50
1 MHz	45	60	50
5 MHz	45	60	50
10 MHz	45	50	55
30 MHz	30	40	40
APPROVALS AND MARKINGS			

EMI FILTER
3-PHASE FILTER WITHOUT NEUTRAL

- **Models from 7 to 130 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**

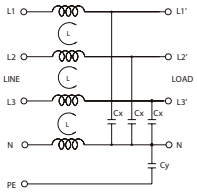
NOTE
(1) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors

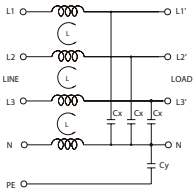


CODE	XF100TDVST2
TYPE	F100TDVST2
GENERAL TECHNICAL DATA	
Rated voltage	480 Vac ± 10%
Continuous current	100 A
Leakage current	30 mA
Frequency	50...60 Hz
Operating temperature range	-25...+85°C
Isolation L / L	1.45 kVdc / 60 s (1)
Isolation L / PE	2.25 kVdc / 60 s (1)
Protection degree	IP 20
Connection terminal	fixed screw terminal blocks
Housing material	metallic
Dimensions (LxHxD)	90x270x150 mm
Approximate weight	
Mounting information	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)	
0.15 MHz	35
0.5 MHz	50
1 MHz	45
5 MHz	25
10 MHz	15
30 MHz	7
Differential mode (L/PE) attenuation (dB)	
0.15 MHz	30
0.5 MHz	35
1 MHz	35
5 MHz	35
10 MHz	30
30 MHz	7
APPROVALS AND MARKINGS	

EMI FILTER
3-PHASE FILTER WITH NEUTRAL

- **Models from 10 to 20 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Excellent quality/price/performance ratioi**





NOTE

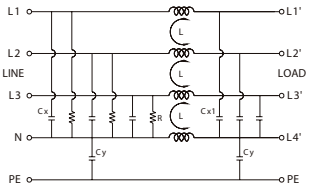
(1) Produced on demand, contact our sales office for availability

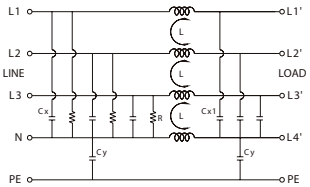
(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.

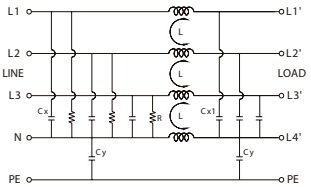
CODE	**XF10TYG9**	**XF20TYS9**
TYPE	**F10TYG9 (1)**	**F20TYS9 (1)**
GENERAL TECHNICAL DATA		
Rated voltage	440 Vac ± 10%	440 Vac ± 10%
Continuous current	10 A	20 A
Leakage current	0.5 mA	1.92 mA
Frequency	50...60 Hz	50...60 Hz
Operating temperature range	-25...+85°C	-25...+85°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 00	IP 00
Connection terminal	flat plug (10 A) and screw (20 A)	flat plug (10 A) and screw (20 A)
Housing material	metallic	metallic
Dimensions (LxHxD)	50x85x44mm	50.3x85x44mm
Approximate weight		
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)		
0.15 MHz	10	10
0.5 MHz	20	15
1 MHz	20	20
5 MHz	20	35
10 MHz	30	40
30 MHz	25	25
Differential mode (L/PE) attenuation (dB)		
0.15 MHz	10	10
0.5 MHz	20	15
1 MHz	25	20
5 MHz	25	20
10 MHz	30	25
30 MHz	30	20
APPROVALS AND MARKINGS		

EMI FILTER
3-PHASE FILTER WITH NEUTRAL

- **Models from 36 to 100 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**







NOTE

(1) Produced on demand, contact our sales office for availability

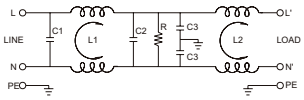
(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.

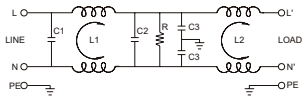
CODE	XF36TYT8	XF50TYT8	XF100TYT8
TYPE	F36TYT8 (1)	F50TYT8 (1)	F100TYT8 (1)
GENERAL TECHNICAL DATA			
Rated voltage	440 Vac ± 10%	440 Vac ± 10%	440 Vac ± 10%
Continuous current	36 A	50 A	100 A
Leakage current	3 mA	3 mA	1.3 mA
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+85°C	-25...+85°C	-25...+85°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 20	IP 20	IP 20
Connection terminal	fixed screw terminal blocks	fixed screw terminal blocks	fixed screw terminal blocks
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	107x191.5x82 mm	124x194x104 mm	162x252x132 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	25	25	10
0.5 MHz	50	45	20
1 MHz	50	45	25
5 MHz	50	40	30
10 MHz	40	40	30
30 MHz	25	25	20
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	30	30	30
0.5 MHz	50	50	40
1 MHz	55	50	40
5 MHz	50	40	35
10 MHz	40	40	35
30 MHz	30	30	25
APPROVALS AND MARKINGS			

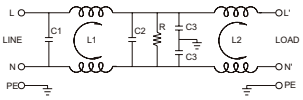
DK SERIES

EMI FILTER
SINGLE-CELL SINGLE-PHASE FILTER

- **Models from 3 to 30 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**







NOTE

(1) Produced on demand, contact our sales office for availability

(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.

CODE	XF03DKBG5B	XF06DKBG5B	XF12DKBG5B
TYPE	F03DKBG5B (1)	F06DKBG5B (1)	F12DKBG5B
GENERAL TECHNICAL DATA			
Rated voltage	115–250 Vac ± 10%	115–250 Vac ± 10%	115–250 Vac ± 10%
Continuous current	3 A	6 A	12 A
Leakage current	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+100°C	-25...+100°C	-25...+100°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 00	IP 00	IP 00
Connection terminal	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	64.5x34x30 mm	64.5x34x30 mm	64.5x34x30 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	20	15	10
0.5 MHz	30	20	20
1 MHz	35	25	22
5 MHz	45	40	35
10 MHz	50	45	45
30 MHz	45	45	40
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	7	10	10
0.5 MHz	35	20	20
1 MHz	50	45	40
5 MHz	45	45	45
10 MHz	45	50	45
30 MHz	45	45	45
APPROVALS AND MARKINGS			

DK SERIES

EMI FILTER
SINGLE-CELL SINGLE-PHASE FILTER

- **Models from 3 to 30 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**

NOTE

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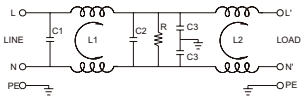
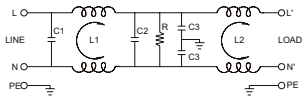
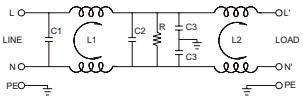
(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.







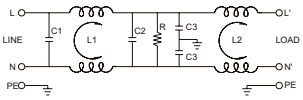
FILTRI

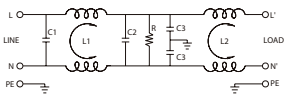
CODE	XF16DKCG5B	XF20DKCG5B	XF30DKCS5B
TYPE	**F16DKCG5B**	**F20DKCG5B (1)**	**F30DKCS5B**
GENERAL TECHNICAL DATA			
Rated voltage	115–250 Vac ± 10%	115–250 Vac ± 10%	115–250 Vac ± 10%
Continuous current	16 A	20 A	30 A
Leakage current	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	1 mA (115Vac) / 2mA (250Vac)
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+100°C	-25...+100°C	-25...+100°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 00	IP 00	IP 00
Connection terminal	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	45.5x71.5x30 mm	52x84.8x30 mm	56.5x114x46.4 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	10	10	10
0.5 MHz	18	18	25
1 MHz	20	20	30
5 MHz	35	30	45
10 MHz	45	35	50
30 MHz	30	35	35
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	10	10	12
0.5 MHz	18	12	40
1 MHz	40	35	50
5 MHz	40	35	50
10 MHz	40	40	50
30 MHz	35	40	45
APPROVALS AND MARKINGS			

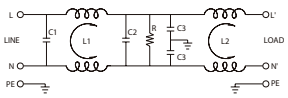
DP SERIES

EMI FILTER
DOUBLE-CELL SINGLE-PHASE FILTER

- **Models from 3 to 30 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**







NOTE

(1) Produced on demand, contact our sales office for availability

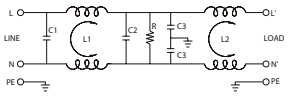
(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.i

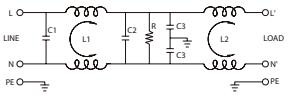
CODE	XF03DPCG5C	XF06DPCG5C	XF12DPCG5C
TYPE	F03DPCG5C (1)	F06DPCG5C (1)	F12DPCG5C
GENERAL TECHNICAL DATA			
Rated voltage	115–250 Vac ± 10%	115–250 Vac ± 10%	115–250 Vac ± 10%
Continuous current	3 A	6 A	12 A
Leakage current	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+100°C	-25...+100°C	-25...+100°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 00	IP 00	IP 00
Connection terminal	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	45.5x71.5x30 mm	45.5x71.5x30 mm	52x84.8x29.2mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	45	30	15
0.5 MHz	60	50	25
1 MHz	60	60	35
5 MHz	55	55	55
10 MHz	45	50	55
30 MHz	45	35	35
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	12	8	12
0.5 MHz	45	45	40
1 MHz	45	45	40
5 MHz	45	45	35
10 MHz	45	45	35
30 MHz	45	45	40
APPROVALS AND MARKINGS			

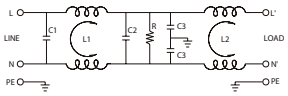
DP SERIES

EMI FILTER
DOUBLE-CELL SINGLE-PHASE FILTER

- **Models from 3 to 30 A**
- **Elevated attenuation from 150 kHz to 30 MHz**
- **Elevated attenuation even on long cables**
- **Compact dimension**







NOTE

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(2) Isolation test need to be made in DC voltage, according to EN 60950, cause by the internal filter capacitors.i

FILTRI

CODE	XF16DPCG5C	XF20DPCG5C	XF30DPGS5C
TYPE	F16DPCG5C	F20DPCG5C	F30DPGS5C
GENERAL TECHNICAL DATA			
Rated voltage	115–250 Vac ± 10%	115–250 Vac ± 10%	115–250 Vac ± 10%
Continuous current	16 A	20 A	30 A
Leakage current	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	0.40 mA (115 Vac) / 0.80 mA (250 Vac)	1 mA (115 Vac) / 2mA (250 Vac)
Frequency	50...60 Hz	50...60 Hz	50...60 Hz
Operating temperature range	-25...+100°C	-25...+100°C	-25...+100°C
Isolation L / L	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)	1.45 kVdc / 60 s (2)
Isolation L / PE	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)	2.25 kVdc / 60 s (2)
Protection degree	IP 00	IP 00	IP 00
Connection terminal	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)	flat plug (from 3 to 20 A) / self-blocking nut (30 A)
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	52x84.8x39.2 mm	56.5x114.0x46.4 mm	86x120x58 mm
Approximate weight			
Mounting information	screw fixing, on metal panel	screw fixing, on metal panel	screw fixing, on metal panel
Common mode (L/PE) attenuation (dB)			
0.15 MHz	20	15	10
0.5 MHz	35	40	30
1 MHz	45	45	35
5 MHz	60	50	55
10 MHz	50	50	45
30 MHz	35	40	30
Differential mode (L/PE) attenuation (dB)			
0.15 MHz	12	12	18
0.5 MHz	40	45	45
1 MHz	40	45	50
5 MHz	45	40	40
10 MHz	45	35	40
30 MHz	50	50	40
APPROVALS AND MARKINGS			

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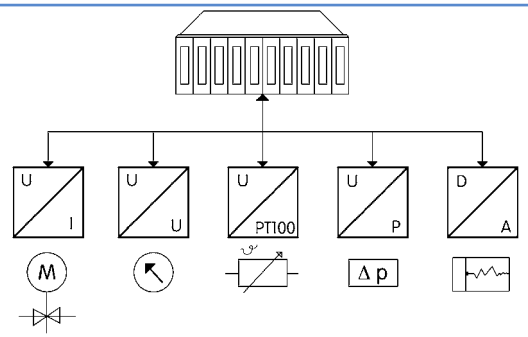
CONNECTING ENERGY
SINCE 1952

Converters

Isolation and conversion of analogue signals

Applications of analogue converters and galvanic separation

They convert electrical signals generated by sensors which take physical measurements such as temperature (thermocouples and PT100 resistance thermometers), frequency (proximity, contacts, photocells), current (TA, Hall sensors), resistance (potentiometers), voltage, pressure, level, etc. into standardised electrical signals, adapting them to PLC, DCS and industrial PC (control) outputs, or they convert a given analogue signal into a different one, adapting it to control inputs/outputs or allowing for long-distance signal transmission without interference by means of galvanic separation (fig. 1).



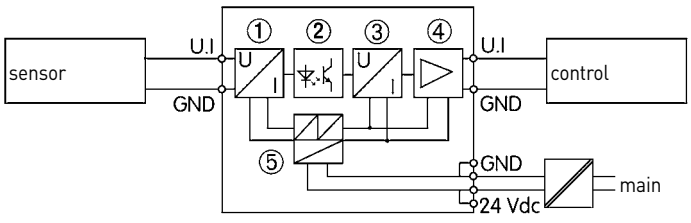
SIGNAL ADAPTATION fig. 1

Adaptation between sensor output signal and control input signal

physical measurement taken	sensor output	converter input	converter output
Temperature	Normally one of the following signals indicated in the next column	0 – 60 mV ±60 mV	0 – 5 V ±5 V
Frequency		0 – 100 mV ±100 mV	0 – 10 V ±10 V
Current		0 – 500 mV ±500 mV	0 – 20 mA ±20 mA
Resistance		0 – 1 V ±1 V	4 – 20 mA
Voltage		0 – 5 V ±5 V	
Pressure		0 – 10 V ±10 V	
Level measurement		0 – 5 mA ±5 mA	
		0 – 10 mA ±10 mA	
		0 – 20 mA ±20 mA	
		0 – 20 mA	

Long-distance signal transmission

Voltage signals can reach a max. distance of 10-20 m, beyond which they lose reliability and become highly sensitive to induced and ground-derived interference, therefore in order to transmit to distances beyond 20 m a voltage signal must be converted into a current signal and galvanically separated (fig. 2).
Current signals can surpass a transmission distance of 300 m and are less sensitive to induced interference. The long-distance transmission of a current signal requires galvanic separation.



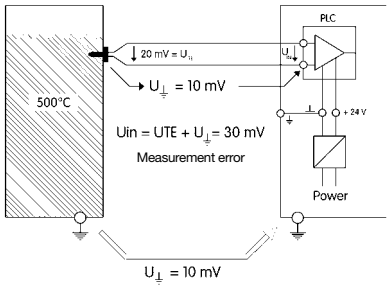
BLOCK DIAGRAM OF AN AMPLIFIER WITH GALVANIC SEPARATION fig. 2

① Input amplifier
② Opto-isolator
③ Signal adapter
④ Output amplifier
⑤ DC/DC Converter

Galvanic signal separation (signal isolation):

- isolates and electrically separates the sensor circuit from the control circuit and from the power supply circuit; each circuit therefore operates in relation to its own zero potential which, being isolated from other circuits, cannot be altered by ever-present potential differences between different ground references (fig.3)

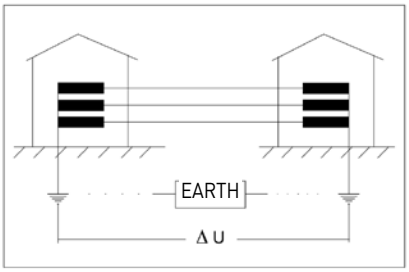
fig. 3



NON-ISOLATED THERMOCOUPLE AND DIFFERENT GROUND POTENTIALS

- isolates and separates different ground potentials between power supply, control and sensors/actuators
- allows for signal transmission without errors or interference and with greater reliability
- the higher the isolation (in kV), the greater the security of the transmission in the presence of ground potentials, electromagnetic or temporary interference (lightning, discharge, etc.). (fig 4)

fig. 4

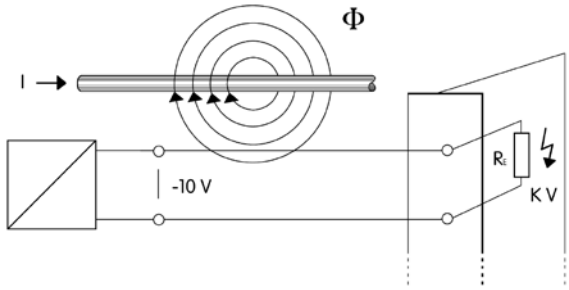


GROUND CIRCUITS AND POTENTIAL DIFFERENCE

Galvanic separation is necessary when:

- the distance between control and sensor/actuator is greater than 20 m
- ground or mass references are different
- ground potentials are high, or may become high in case of discharges or currents leaked to ground
- electromagnetic interference is present
- signal cables are wired in ducts with power cables (fig. 5)

fig. 5

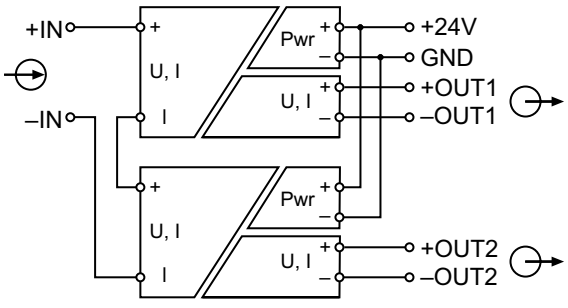


INTERFERENCE

Connection of analogue converters in series and in parallel

- To obtain signal redundancy or to simply duplicate it, multiple converter inputs can be connected to a single sensor.
- In case of current signals, the converter input will be connected in series (fig. 6)

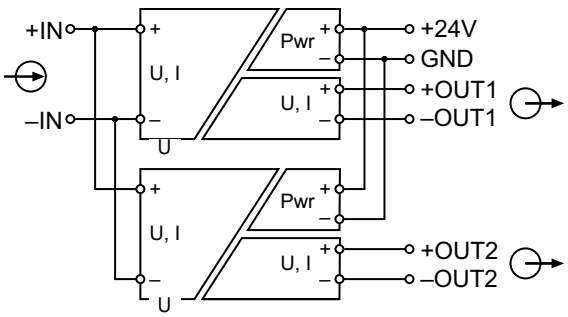
fig. 6



CONVERTERS IN SERIES

- In case of voltage signals, the converter input will be connected in parallel (fig. 7)

fig. 7



CONVERTERS IN PARALLEL

CONVERTERS - QUICK SELECTION TABLE

INPUT RANGE	OUTPUT RANGE	POWER SUPPLY VOLTAGE	INSULATION TYPE	PARAMETRIZATION	CODE	TYPE	PAGE
19 range programmabili	7 passi programmabili	24 Vdc	3-vie	DIP switch	XCAPIPO3	CAPIPO3	82
0...60 / 0...100 / 0...300 / 0...500 mV 0...1 / 0...10 / 0...20 / 2...20 V 0...5 / 0...10 / 0...20 / 4...20 / ±5 / ±20 mA	0...10 V 0...20 / 4...20 mA	24 Vac/dc	3-vie	DIP switch	XCONAA516P	CON-AA-516P	83
0...10 V 0...20 / 4...20 mA	0...10 V 0...20 / 4...20 mA	24 Vac/dc	3-vie	DIP switch	XCONAA539P	CON-AA-539P	84
0...10 V	0...10 V	24 Vac/dc	3-vie	—	XCONAA530P	CON-AA-530P	85
0...10 V	0...20 mA	24 Vac/dc	3-vie	—	XCONAA531P	CON-AA-531P	85
0...10 V	4...20 mA	24 Vac/dc	3-vie	—	XCONAA532P	CON-AA-532P	85
0...20 mA	0...10 V	24 Vac/dc	3-vie	—	XCONAA533P	CON-AA-533P	86
0...20 mA	0...20 mA	24 Vac/dc	3-vie	—	XCONAA534P	CON-AA-534P	86
0...20 mA	4...20 mA	24 Vac/dc	3-vie	—	XCONAA535P	CON-AA-535P	86
4...20 mA	0...10 V	24 Vac/dc	3-vie	—	XCONAA537P	CON-AA-537P	87
4...20 mA	0...20 mA	24 Vac/dc	3-vie	—	XCONAA536P	CON-AA-536P	87
4...20 mA	4...20 mA	24 Vac/dc	3-vie	—	XCONAA538P	CON-AA-538P	87
0...20 mA, 4...20 mA	0...20 / 4...20 mA, (max 21 mA)	—	2-vie	—	XCONPC528P	CON-PC-528P	88
0...10 V / 0...20 mA / 4...20 mA	0...10 V/0...20 mA/0...20 mA	24 Vdc	4-vie	DIP switch	X756321	LCON_AASP_D	89
0...1 A AC/DC	0...10 V / 0...20 mA / 4...20 mA	24 Vdc	3-vie	DIP switch	X756540	WAA7-0540	94
0...5 A AC/DC	0...10 V / 0...20 mA / 4...20 mA	24 Vdc	3-vie	DIP switch	X756541	WAA7-0541	94
0...10 A AC/DC	0...10 V / 0...20 mA / 4...20 mA	24 Vdc	3-vie	DIP switch	X756542	WAA7-0542	94
0...28.8 kHz (AC/DC 0.8...30 Vpp)	0...10 V, (max. 10.6 V) 0...20 / 4...20 mA, (max 21 mA)	24 Vac/dc	3-vie	DIP switch	X756524	CWNFA 6-0524	95

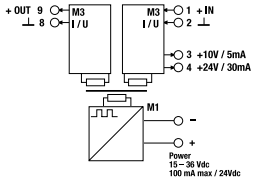
CONVERTERS - QUICK SELECTION TABLE

INPUT RANGE	OUTPUT RANGE	POWER SUPPLY VOLTAGE	INSULATION TYPE	SIGNAL TYPE	PARAMETRIZATION	CODE	TYPE	PAGE
-200...+2400°C (depend on sensor type)	0...10 V/0...20 mA/0...20 mA	24 Vdc	3-vie	Vari	DIP switch, FDT/DTM software	X756340	LCON_TA_DFDT	91
"-50...+50°C (-58...+122°F) -50...+100°C (-58...+212°F) -50...+150°C (-58...+302°F) 0...+100°C (+32...+212°F) 0...+150°C (+32...+302°F) 0...+200°C (+32...+392°F) 0...+300°C (+32...+572°F) 0...+400°C (+32...+752°F)"	0...10 V/0...20 mA/0...20 mA	24 Vac/dc	3-vie	PT100 / 2 wires	DIP switch	XCONTA809P	CON-TA-809P	92
"-50...+50°C (-58...+122°F) -50...+100°C (-58...+212°F) -50...+150°C (-58...+302°F) 0...+100°C (+32...+212°F) 0...+150°C (+32...+302°F) 0...+200°C (+32...+392°F) 0...+300°C (+32...+572°F) 0...+400°C (+32...+752°F)"	0...10 V/0...20 mA/0...20 mA	24 Vac/dc	2-vie	PT100 / 3 wires	DIP switch	XCONTA819P	CON-TA-819P	92
"-50...+200°C (-58...+392°F) -50...+350°C (-58 ...+662°F) 0...+200°C (+32...+392°F) 0...+400°C (+32...+752°F) 0...+600°C (+32...+1112°F) 0...+800°C (+32...+1472°F) 0...+1000°C (+32...+1832°F) 0...+1200°C (+32...+2192°F)"	0...10 V/0...20 mA/0...20 mA	24 Vac/dc	3-vie	TE: J, K	DIP switch	XCONTA839P	CON-TA-839P	93

ANALOG SIGNAL CONVERTERS
PROGRAMMABLE GALVANIC ISOLATOR

- **Input: 19 selectable ranges**
- **Output: 7 selectable ranges**
- **Insulation: 3.0 kVac, 3-way isolation**
- **Auxiliary supply for loop powered sensors**
- **Auxiliary supply for potentiometer**

NOTE
Factoy setting: 0...10 V Input / 0...10 V output



TAB.1 - INPUT SELECTION TABLE

INPUT RANGE		SW1 (INPUT)							
UNIPOLAR	BIPOLAR	1	2	3	4	5	6	7	8
0 – 60 mV	± 60 mV								
0 – 100 mV	± 100 mV		●						
0 – 500 mV	± 500 mV			●					
0 – 1 V	± 1 V				●				
0 – 2 V	± 2 V						●		
0 – 5 V	± 5 V			●	●	●	●		
0 – 10 V	± 10 V							●	
0 – 5 mA	± 5 mA	●		●					
0 – 10 mA	± 10 mA	●			●				
0 – 20 mA	± 20 mA	●					●		
4 – 20 mA	—	●				●			●

TAB.2 - OUTPUT SELECTION TABLE

OUTPUT RANGE	INPUT TYPE	SW2 (OUTPUT)								SW3
		1	2	3	4	5	6	7	8	
0 – 5 V	UNIP.	X		●				●		U
	BIP.	X	●	●				●	●	U
± 5 V	UNIP.	X			●			●		U
	BIP.	X		●				●		U
0 – 10 V	UNIP.	X		●						U
	BIP.	X	●	●					●	U
± 10 V	UNIP.	X			●					U
	BIP.	X		●						U
0 – 20 mA	UNIP.	X		●				X		I
	BIP.	X	●	●				X	●	I
± 20 mA	UNIP.	X			●			X		I
	BIP.	X		●				X		I
4 – 20 mA	UNIP.	X				●	●	X		I
	BIP.	X	●			●	●	X	●	I

● = ON
= OFF
X = ANY

CODE	XCAPIP03
TYPE	**CAPIP03**
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	19 programmable ranges (see tab. 1)
Maximum voltage current signal IN	15 V / 30 A
Input impedance IN	1 MΩ (voltage input) / 50 Ω (current input)
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	7 programmable steps (see tab. 2)
Maximum output signal OUT	12 V / 25 mA
Load impedance OUT	⩾ 10 kΩ (voltage output) / ⩽ 500 Ω (current output)
Ripple	
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vdc (15...36 Vdc)
Current consumption	100 mA (24 Vdc)
Accuracy	0.1% FSR (23°C)
Linearity error	0.1%
Temperature coefficient	
Setting time	
Transmission frequency	400Hz...1kHz
Resolution	
Rise time	
Operating temperature range	-10...+65°C
Insulation	3.0 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	IEC 664-1, DIN VDE0110.1
EMC Standard	EN 50081-2, EN 50082-2
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	22.5x108x119 mm
Approximate weight	150 g
Mounting information	vertical on a rail, distance 5 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

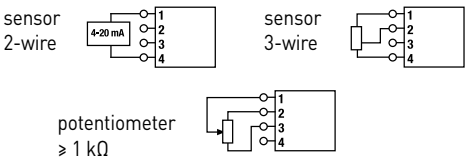
INPUT STAGE

The module can manage single-pole and two-pole inputs selecting between steps (see TAB. 1):

- 0...60 mV ± 60 mV
- 0...100 mV ± 100 mV
- 0...500 mV ± 500 mV
- 0...1 V ± 1 V
- 0...5 V ± 5 V
- 0...10 V ± 10 V
- 0...5 mA ± 5 mA
- 0...10 mA ± 10 mA
- 0...20 mA ± 20 mA
- 4...20 mA

The input stage provides two power supplies (10 V and 24 V) for remote sensors. It is possible to run potentiometers and directly power 4...20 mA two-wire loop sensors.

Connection examples:



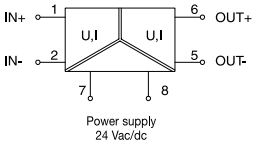
OUTPUT STAGE

The module provides single-pole and two-pole output signals with the following steps (see Tab. 2):

- 0...5 V ± 5 V
- 0...10 V ± 10 V
- 0...20 mA ± 20 mA
- 4...20 mA

ANALOG SIGNAL CONVERTERS
PROGRAMMABLE GALVANIC ISOLATOR

- **Input: 14 or 16 selectable ranges**
- **Output: 3 selectable ranges**
- **3-way isolation**



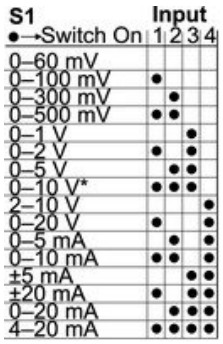
CODE	XCONAA516P
TYPE	CON-AA-516P
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	14 programmable ranges (see tab. 1)
Maximum voltage current signal IN	
Input impedance IN	330 kΩ (voltage input) / 100 Ω (current input)
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	18 V (current output) / 5 mA (voltage output)
Load impedance OUT	2 KΩ (voltage output) /500 Ω (current output)
Ripple	<20 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption	
Accuracy	0.1% FSR (23°C)
Linearity error	0.05% FSR
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	30 Hz 3dB
Resolution	
Rise time	6 ms
Operating temperature range	-25...+60°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	17.5x93x73 mm
Approximate weight	60 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus LISTED
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

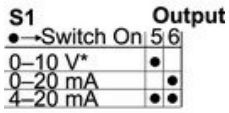
APPLICATIONS

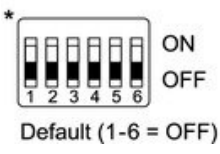
Converts and galvanically isolates the main standardised analogue signals; input programmable with 14 signal ranges and output with the three most used standardised signals. Configuration is obtained by setting the DIP-switches on the side.
This module offers multiple in/out signal combinations, allowing for significant savings in terms of costs.
3-way galvanic separation ensures total isolation between input, output and power supply which, together with automatic signal calibration, ensures excellent precision without the need for calibration.
Where multiple output channels are needed for a single signal source, multiple converters may be used connecting the signal inputs in parallel, in the case of voltage signals, or in series, in the case of current signals.

Tab. 1 - Input ranges

0...60 / 0...100 / 0...300 / 0...500 mV
0...1 / 0...2 / 0...5 / 0...10 / 0...20 / 2...20 V
0...5 / 0...10 / 0...20 / 4...20 / ±5 / ±20 mA

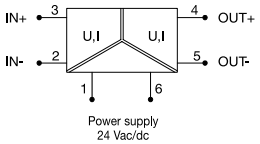






ANALOG SIGNAL CONVERTERS
PROGRAMMABLE GALVANIC ISOLATOR

- **Input: 3 selectable ranges**
- **Output: 3 selectable ranges**
- **3-way isolation**



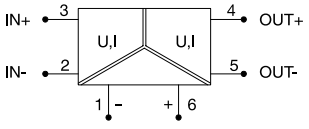
APPLICATIONS

Convert and galvanically isolate the main standardised analogue signals; input programmable with 3 signal ranges and output with the 3 most used standard signals. Configuration is obtained by setting the DIP-switches on the side. Programmable in the most used signal combinations, these cards allow for a significant cost saving over the more complex 14 range version. Where multiple output channels are needed for a single signal source, multiple converters may be used connecting the signal inputs in parallel (with voltage signals) or in series (with current signals).

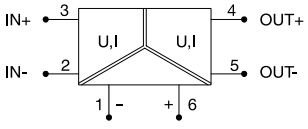
CODE	**XCONAA539P**
TYPE	**CON-AA-539P**
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	0...10 V / 0...20 mA / 4...20 mA
Maximum voltage current signal IN	
Input impedance IN	330 kΩ (voltage input) / 100 Ω (current input)
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	16 V (current output) / 5 mA (voltage output)
Load impedance OUT	2 KΩ (voltage output) /500 Ω (current output)
Ripple	<20 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption	
Accuracy	0.1% FSR (23°C)
Linearity error	0.05% FSR
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	30 Hz
Resolution	
Rise time	6 ms
Operating temperature range	-25...+60°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm
Approximate weight	30g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

ANALOGUE SIGNAL CONVERTERS
GALVANIC ISOLATOR

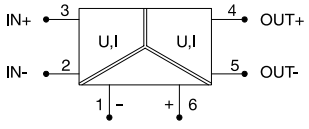
- **Input: 0...10 V**
- **Output: 0...10 V / 0..20 mA / 4...20 mA**
- **Insulation: 2.5 kVac, 3-way isolation**



Power supply
24 Vac/dc



Power supply
24 Vac/dc

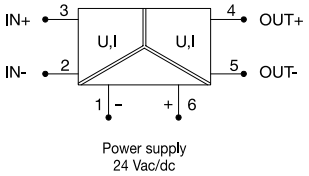


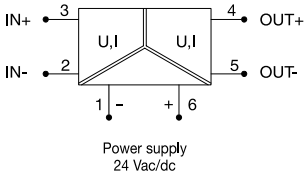
Power supply
24 Vac/dc

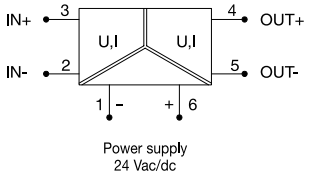
CODE	XCONAA530P	XCONAA531P	XCONAA532P
TYPE	CON-AA-530P	CON-AA-531P	CON-AA-532P
INPUT TECHNICAL DATA			
Signal type IN	analogue	analogue	analogue
Input range IN	0...10 V	0...10 V	0...10 V
Maximum voltage current signal IN			
Input impedance IN			
Parametrization IN			
OUTPUT TECHNICAL DATA			
Signal type OUT	analogue	analogue	analogue
Output range OUT	0...10 V	0...20 mA	4...20 mA
Maximum output signal OUT			
Load impedance OUT		500 Ω	500 Ω
Ripple	<20 mV	<20 mV	<20 mV
Status indication	LED	LED	LED
Parametrization OUT			
GENERAL TECHNICAL DATA			
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption			
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	0.05% FSR	0.05% FSR	0.05% FSR
Temperature coefficient	<150 ppm / K FSR	<150 ppm / K FSR	<150 ppm / K FSR
Setting time			
Transmission frequency	30 Hz 3dB	30 Hz 3dB	30 Hz 3dB
Resolution			
Rise time	6 ms	6 ms	6 ms
Operating temperature range	-25...+60°C	-25...+60°C	-25...+60°C
Insulation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
EMC Standard			
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm	6.2x93x73 mm	6.2x93x73 mm
Approximate weight	29 g	29 g	29 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag			
Plugin jumper red			
Plugin jumper white			
Plugin jumper blue			
Programming kit			

ANALOGUE SIGNAL CONVERTERS
GALVANIC ISOLATOR

- **Input: 0...20 mA**
- **Output: 0...10 V / 0..20 mA / 4...20 mA**
- **Insulation: 2.5 kVac, 3-way isolation**



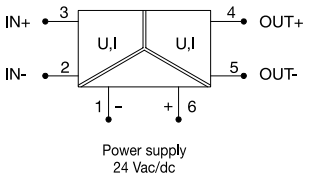


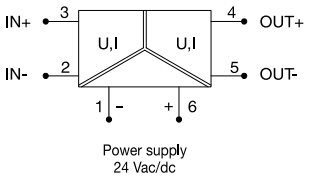


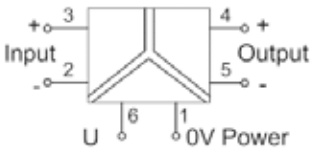
CODE	XCONAA533P	XCONAA534P	XCONAA535P
TYPE	CON-AA-533P	CON-AA-534P	CON-AA-535P
INPUT TECHNICAL DATA			
Signal type IN	analogue	analogue	analogue
Input range IN	0...20 mA	0...20 mA	0...20 mA
Maximum voltage current signal IN			
Input impedance IN			
Parametrization IN			
OUTPUT TECHNICAL DATA			
Signal type OUT	analogue	analogue	analogue
Output range OUT	0...10 V	0...20 mA	4...20 mA
Maximum output signal OUT			
Load impedance OUT		500 Ω	500 Ω
Ripple	<20 mV	<20 mV	<20 mV
Status indication	LED	LED	LED
Parametrization OUT			
GENERAL TECHNICAL DATA			
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption			
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	0.05% FSR	0.05% FSR	0.05% FSR
Temperature coefficient	<150 ppm / K FSR	<150 ppm / K FSR	<150 ppm / K FSR
Setting time			
Transmission frequency	30 Hz 3dB	30 Hz 3dB	30 Hz 3dB
Resolution			
Rise time	6 ms	6 ms	6 ms
Operating temperature range	-25...+60°C	-25...+60°C	-25...+60°C
Insulation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
EMC Standard			
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm	6.2x93x73 mm	6.2x93x73 mm
Approximate weight	29 g	29 g	29 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag			
Plugin jumper red			
Plugin jumper white			
Plugin jumper blue			
Programming kit			

ANALOGUE SIGNAL CONVERTERS
GALVANIC ISOLATOR

- **Input: 4...20 mA**
- **Output: 0...10 V / 0..20 mA / 4...20 mA**
- **Insulation: 2.5 kVac, 3-way isolation**



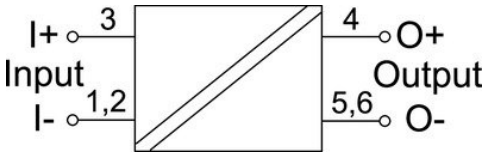




CODE	XCONAA536P	XCONAA537P	XCONAA538P
TYPE	CON-AA-536P	CON-AA-537P	CON-AA-538P
INPUT TECHNICAL DATA			
Signal type IN	analogue	analogue	analogue
Input range IN	4...20 mA	4...20 mA	4...20 mA
Maximum voltage current signal IN			
Input impedance IN			
Parametrization IN			
OUTPUT TECHNICAL DATA			
Signal type OUT	analogue	analogue	analogue
Output range OUT	0...20 mA	0...10 V	4...20 mA
Maximum output signal OUT			
Load impedance OUT	500 Ω		500 Ω
Ripple	<20 mV	<20 mV	<20 mV
Status indication	LED	LED	LED
Parametrization OUT			
GENERAL TECHNICAL DATA			
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption			
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	0.05% FSR	0.05% FSR	0.05% FSR
Temperature coefficient	<150 ppm / K FSR	<150 ppm / K FSR	<150 ppm / K FSR
Setting time			
Transmission frequency	30 Hz 3dB	30 Hz 3dB	30 Hz 3dB
Resolution			
Rise time	6 ms	6 ms	6 ms
Operating temperature range	-25...+60°C	-25...+60°C	-25...+60°C
Insulation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
EMC Standard			
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm	6.2x93x73 mm	6.2x93x73 mm
Approximate weight	29 g	29 g	29 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)			
Marking tag	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Plugin jumper red			
Plugin jumper white			
Plugin jumper blue			
Programming kit			

ANALOG SIGNAL CONVERTERS
PASSIVE ISOLATOR

- **Input: 4...20 mA**
- **Output: 4...20 mA**
- **Insulation: 1.5 kVac, 2-way isolation**
- **Suitable for loop powered sensors**



CODE	XCONPC528P
TYPE	CON-PC-528P
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	4...20 mA
Maximum voltage current signal IN	
Input impedance IN	
Parametrization IN	
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	4...20 mA
Maximum output signal OUT	
Load impedance OUT	<1 KΩ (Rb)
Ripple	<5 mV
Status indication	LED
Parametrization OUT	
GENERAL TECHNICAL DATA	
Power supply voltage	
Current consumption	
Accuracy	0.1% FSR (23°C)
Linearity error	<0.06% (100 Ω)
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	
Resolution	
Rise time	
Operating temperature range	-25...+60°C
Insulation	1.5 kVac / 60 s
Insulation type	2-way (IN-OUT)
Standard approvals	EN 60947-5-1
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm
Approximate weight	40 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

APPLICATIONS

Passive galvanic isolators are used to separate signals generated by active (i.e. powered) sensors, and are also referred to as current loop or loop powered. The load applied to them must have a resistance of below 400 Ω at 20 mA, including the resistance of the conductors.
The input voltage delivered must be 2.7 V higher than the output voltage (see note 1).
When these use conditions are met, passive converters are able to reduce wiring costs for power supply cables and prevent the need for external power supplies; they are not suitable for long connection wiring since they can heavily influence the output signal level.

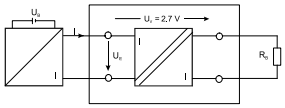


fig. 1

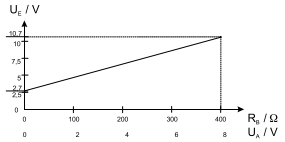
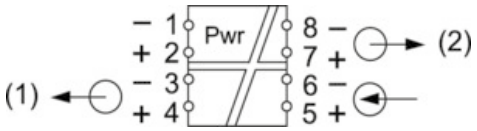


fig. 2

ANALOG SIGNAL CONVERTERS
SIGNAL DUPLICATOR (SPLITTER)

- **Input: 3 selactable ranges**
- **Output: 3 selectable ranges**
- **Insulation: 2.5 kVac, 4-way isolation**

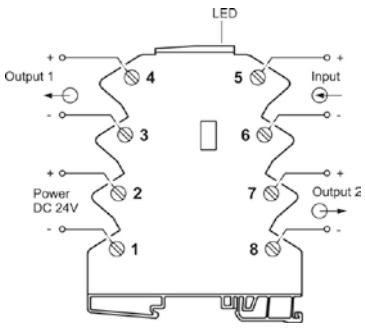


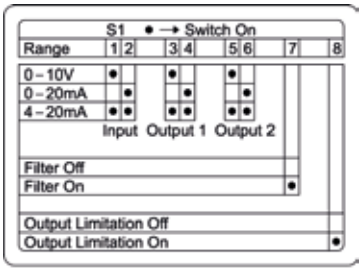
Programming kit X756894

CODE	X756321
TYPE	LCON_AASP_D
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	0...10 V / 0...20 mA / 4...20 mA
Maximum voltage current signal IN	
Input impedance IN	500 KΩ (voltage input) / 100 Ω (current input)
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	double output, analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	10.5 V (current output) / 21 mA (voltage output)
Load impedance OUT	2 KΩ (voltage output) /400 Ω (current output)
Ripple	<20 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vdc (16.8...30 Vdc)
Current consumption	13 mA
Accuracy	0.1% FSR (23°C)
Linearity error	±0.1% FSR
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	
Resolution	16 bit
Rise time	
Operating temperature range	-40...+70°C
Insulation	2.5 kVac / 60 s
Insulation type	4-way (IN / OUT1 / OUT2 / power)
Standard approvals	EN 60947-5-1
EMC Standard	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	1.5 mm² / 1.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x90x115.5 mm
Approximate weight	60 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	CWBK 7-0802 (codice X766802)
Plugin jumper white	CWBK 7-0803 (codice X766803)
Plugin jumper blue	CWBK 7-0804 (codice X766804)
Programming kit	

APPLICATIONS

LCONAASP is a programmable 4-way isolated converter, it allows to convert, amplify and duplicate a standard analog signal. Input can be set to the standard analog signals 0 ... 20 mA, 4 ... 20 mA and 0 ... 10 V, the signal is isolated, converted and duplicated into two independent signals that can be set to 0 ... 20 mA, 4 ... 20 mA and 0 ... 10 V.
The ranges can be set easily through a DIP switch

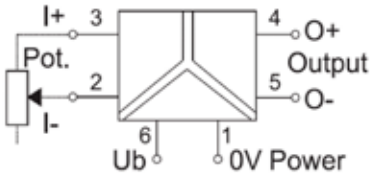




See instruction leaflet for details

ANALOGUE SIGNAL CONVERTERS FOR POTENTIOMETERS

- **Input: 0...1kΩ / 0...6kΩ potentiometers**
- **Output: 3 selectable ranges**
- **Insulation: 2.5 kVac, 3-way isolation**

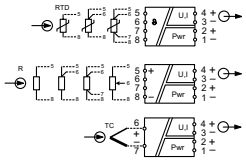


CODE	XCONPA557P
TYPE	CON-PA-557P
INPUT TECHNICAL DATA	
Signal type IN	potentiometers
Input range IN	0...1 kΩ / 0...6 kΩ
Maximum voltage current signal IN	
Input impedance IN	1 MΩ
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V / 0...20 mA / 4...20 mA
Maximum output signal OUT	16 V (current output) / 5 mA (voltage output)
Load impedance OUT	>2 kΩ (voltage output) / < 700 Ω (current output)
Ripple	<20 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vac/dc (19.2...26.4 Vdc / 19.2...26.4 Vac)
Current consumption	13 mA (24 Vdc) / 22 mA (24 Vac)
Accuracy	0.3% FSR (23°C)
Linearity error	±0.1% FSR
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	10 Hz 3dB
Resolution	
Rise time	
Operating temperature range	-25...+60°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm
Approximate weight	29 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

TEMPERATURE CONVERTER UNIVERSAL MEASUREMENT

- **Input: PT100, PT1000, thermocouples, potentiometers**
- **Output: 4 selectable ranges**
- **Insulation: 2.5 kVac, 3-way isolation**
- **DIP-switch and FDT/DTM software programmable ranges**

NOTE
(1) Input and output signal range, can be customised using FDT/DTM software and LCONZUSB interface

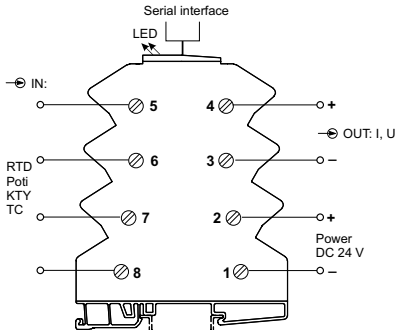


Programming kit X756894

CODE	X756340
TYPE	**LCON_TA_DFDT**
INPUT TECHNICAL DATA	
Signal type IN	PT100, PT1000, potentiometer 0...600kΩ, thermocouples (B, C, E, J, K, N, R, S, T)
Input range IN	-200...+2400°C, based on sensor
Maximum voltage current signal IN	
Input impedance IN	
Parametrization IN	DIP switch, FDT/DTM software (1)
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	10.5 V (current output) / 21 mA (voltage output)
Load impedance OUT	>2 kΩ (voltage output) / < 700 Ω (current output)
Ripple	
Status indication	LED
Parametrization OUT	DIP switch, FDT/DTM software (1)
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vdc (16.8...30 Vdc)
Current consumption	18 mA
Accuracy	0.2% FSR (for PT) / 0.4% FSR (for TC)
Linearity error	±0.1% FSR
Temperature coefficient	<100 ppm / K FSR
Setting time	5...500 ms (adjustable, default 30 ms)
Transmission frequency	
Resolution	16 bit
Rise time	
Operating temperature range	-40...+70°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	1.5 mm² / 1.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x90x115.5 mm
Approximate weight	40 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	CWBK 7-0802 (codice X766802)
Plugin jumper white	CWBK 7-0803 (codice X766803)
Plugin jumper blue	CWBK 7-0804 (codice X766804)
Programming kit	LCONZBUSB (codice X756894)

APPLICATIONS

CWTPR 7-0360 is a "universal" converter for a wide range of analogue signals that can be used with the most popular models of analogue sensors on the market. Both input ranges and output thresholds can be changed using FDT/DTM software and a USB interface.
The normally open contacts of the two output thresholds are managed by two solid state relays.

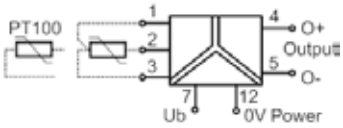


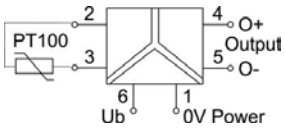
Range*	S1				S2							
Start	7	8	1	2	End	3	4	5	6	7	8	
-200°C	●				0°C	●						
-150°C	●	●			50°C		●	●				
-100°C	●		●		100°C	●	●		●			
-50°C		●		●	150°C	●		●	●			
0°C	●	●	●	●	200°C	●	●	●	●			
					250°C	●				●		
Sensor*	S1	1	2	3	300°C	●	●			●		
Pt100	●				350°C	●		●		●		
Pt1000		●			400°C	●	●	●		●		
TE J	●	●			450°C	●			●	●		
TE K			●		500°C	●	●		●	●		
R	●	●	●		550°C	●		●	●	●		
					600°C	●	●	●	●	●		
Output*	S1	4	5	6	650°C	●						●
0 – 20mA	●				700°C	●	●					●
4 – 20mA		●			750°C	●		●				●
0 – 10V	●	●			800°C	●	●	●				●
±10V			●		850°C	●			●			●
					900°C	●	●		●			●
					950°C	●		●	●			●
					1000°C	●	●	●	●			●
					1050°C	●				●		●
					1100°C	●	●			●		●
					1150°C	●		●		●		●
					1200°C	●	●	●		●		●
					1250°C	●			●	●		●
					1300°C	●	●		●	●		●
					1350°C	●		●	●	●		●
					1400°C	●	●	●	●	●		●
					● → Switch On							

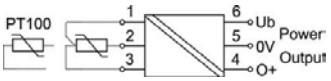
S1-S2 1-8 off: FDT/DTM

TEMPERATURE CONVERTER
PT100/RTD SIGNAL CONVERTER

- **Input: 8 selectable ranges**
- **Output: 3 selectable ranges**
- **3-way isolation**



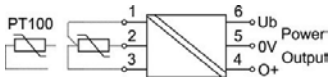




CODE	XCONTA817P	XCONTA809P	XCONTA819P
TYPE	**CON-TA-817P**	**CON-TA-809P**	**CON-TA-819P (2)**
INPUT TECHNICAL DATA			
Signal type IN	PT100 2/3-fili	PT100 2-fili	PT100 2/3-wire (1)
Input range IN	-50 °C +50 °C/ -50 °C +100 °C/ -50 °C +150 °C / 0 °C +100 °C /0 °C +150 °C/ 0 °C +200 °C / 0 °C +300 °C / 0 °C +400 °C	-50 °C +50 °C/ -50 °C +100 °C/ -50 °C +150 °C / 0 °C +100 °C /0 °C +150 °C/ 0 °C +200 °C / 0 °C +300 °C / 0 °C +400 °C	-50 °C +50 °C/ -50 °C +100 °C/ -50 °C +150 °C / 0 °C +100 °C /0 °C +150 °C/ 0 °C +200 °C / 0 °C +300 °C / 0 °C +400 °C
Maximum voltage current signal IN			
Input impedance IN	>1 MΩ (2-wire) / >500 kΩ (3-wire)	>1 MΩ (2-wire) / >500 kΩ (3-wire)	>1 MΩ (2-wire) / >500 kΩ (3-wire)
Parametrization IN	DIP switch	DIP switch	DIP switch
OUTPUT TECHNICAL DATA			
Signal type OUT	analogue	analogue	analogue
Output range OUT	0...10 V / 0...20 mA / 4...20 mA	0...10 V / 0...20 mA / 4...20 mA	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	16 V (current output) / 5 mA (voltage output)	16 V (current output) / 5 mA (voltage output)	16 V (current output) / 5 mA (voltage output)
Load impedance OUT	2 KΩ (voltage output) /500 Ω (current output)	2 KΩ (voltage output) /500 Ω (current output)	2 KΩ (voltage output) /500 Ω (current output)
Ripple	<20 mV	<20 mV	<20 mV
Status indication	LED	LED	LED
Parametrization OUT	DIP switch	DIP switch	DIP switch
GENERAL TECHNICAL DATA			
Power supply voltage	24-240 Vac/dc	24 Vac/dc (18.0...31.2 Vdc / 19.2...26.4 Vac)	24 Vac/dc (18.0...31.2 Vdc / 19.2...26.4 Vac)
Current consumption	22 mA (24 Vac) / 19 mA (24 Vdc)	13 mA (24 Vdc) / 22 mA (24 Vac)	13 mA (24 Vdc) / 22 mA (24 Vac)
Accuracy	0.3% FSR (23°C)	0.3% FSR (23°C)	0.3% FSR (23°C)
Linearity error	0.1% FSR	0.1% FSR	0.1% FSR
Temperature coefficient	<150 ppm / K FSR	<150 ppm / K FSR	<150 ppm / K FSR
Setting time			
Transmission frequency	10 Hz 3dB	10 Hz 3dB	10 Hz 3dB
Resolution			
Rise time			
Operating temperature range	-25...+60°C	-25...+60°C	-25...+60°C
Insulation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Insulation type	3-vie (IN / OUT / power)	3-vie (IN / OUT / power)	2-way (IN / OUT - power)
Standard approvals			EN 60947-5-1
EMC Standard			
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	17.5x93x73 mm	17.5x93x73 mm	6.2x93x73 mm
Approximate weight	30 g	30 g	30 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag			
Plugin jumper red			
Plugin jumper white			
Plugin jumper blue			
Programming kit			

TEMPERATURE CONVERTER
THERMOCOUPLE SIGNAL CONVERTER

- **Ingresso: termocoppie (J / K)**
- **Uscita: 3 range configurabili**
- **Isolamento a 3 vie**



APPLICATIONS

The module converts and isolates signals deriving from type J (FeCuNi) or K (NiCr-Ni) thermocouples into a proportional analogue signal and is programmable in eight input temperature ranges and into the three main standard output signals. Configuration is obtained by setting the DIP-switches located on the side.
The converters are galvanically isolated, which ensures more precise signal reading, and can be used both with isolated and non-isolated thermocouples.

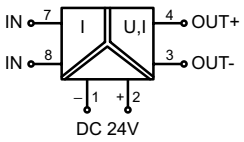
CODE	**XCONTA839P**
TYPE	**CON-TA-839P**
INPUT TECHNICAL DATA	
Signal type IN	thermocouple (J / K)
Input range IN	-50...+200 °C/ -50...+350 °C/ 0...+200 °C/ 0...+400 °C/ 0...+600 °C/ 0...+800 °C / 0...+1000 °C / 0...+1200 °C
Maximum voltage current signal IN	
Input impedance IN	>1 MΩ
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	16 V (current output) / 5 mA (voltage output)
Load impedance OUT	2 KΩ (voltage output) /500 Ω (current output)
Ripple	<20 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vac/dc (18.0...31.2 Vdc / 19.2...26.4 Vac)
Current consumption	
Accuracy	0.5% + 2K FSR (23°C)
Linearity error	0.1% FSR
Temperature coefficient	<150 ppm / K FSR
Setting time	
Transmission frequency	10 Hz
Resolution	
Rise time	
Operating temperature range	-25...+60°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	EN 60947-5-1
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (push-in)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x93x73 mm
Approximate weight	30 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE cULus
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

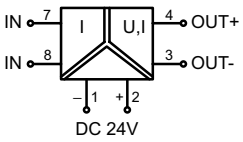
WAA SERIES

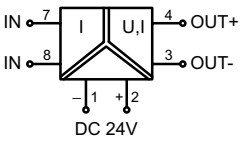
CURRENT CONVERTER

- **Input: 0...1 A AC/DC**
- **Output: 3 selectable ranges**
- **Insulation: 2.5 kVac, 3-way isolation**

NOTE
(1) Do not connect directly to a 400 V line



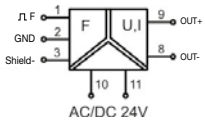




CODE	X756540	X756541	X756542
TYPE	**WAA7-0540**	**WAA7-0541**	**WAA7-0542**
INPUT TECHNICAL DATA			
Signal type IN	current	current	current
Input range IN	0...1 A AC/DC	0...5 A AC/DC	0...10 A AC/DC
Maximum voltage current signal IN	400 V (1)	400 V (1)	400 V (1)
Input impedance IN	0.06 Ω	0.02 Ω	0.01 Ω
Parametrization IN	DIP switch	DIP switch	DIP switch
OUTPUT TECHNICAL DATA			
Signal type OUT	analogue	analogue	analogue
Output range OUT	0...10 V / 0...20 mA / 0...20 mA	0...10 V / 0...20 mA / 0...20 mA	0...10 V / 0...20 mA / 0...20 mA
Maximum output signal OUT	21 mA (voltage input)	21 mA (voltage input)	21 mA (voltage input)
Load impedance OUT	>1 kΩ (voltage output) / < 400 Ω (current output)	>1 kΩ (voltage output) / < 400 Ω (current output)	>1 kΩ (voltage output) / < 400 Ω (current output)
Ripple	<5 mV	<5 mV	<5 mV
Status indication	LED	LED	LED
Parametrization OUT	DIP switch	DIP switch	DIP switch
GENERAL TECHNICAL DATA			
Power supply voltage	24 Vdc (16.8...30 Vdc)	24 Vdc (16.8...30 Vdc)	24 Vdc (16.8...30 Vdc)
Current consumption	13 mA	13 mA	13 mA
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	0.5% FSR (23°C)	0.5% FSR (23°C)	0.5% FSR (23°C)
Temperature coefficient	<150 ppm / K FSR	<150 ppm / K FSR	<150 ppm / K FSR
Setting time			
Transmission frequency			
Resolution			
Rise time			
Operating temperature range	-25...+60°C	-25...+60°C	-25...+60°C
Insulation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)	3-way (IN / OUT / power)
Standard approvals			
EMC Standard			
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	1.5 mm² / 1.5 mm² (screw)	1.5 mm² / 1.5 mm² (screw)	1.5 mm² / 1.5 mm² (screw)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x90x115.5 mm	6.2x90x115.5 mm	6.2x90x115.5 mm
Approximate weight	55 g	55 g	55 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag			
Plugin jumper red	CWBK 7-0802 (codice X766802)	CWBK 7-0802 (codice X766802)	CWBK 7-0802 (codice X766802)
Plugin jumper white	CWBK 7-0803 (codice X766803)	CWBK 7-0803 (codice X766803)	CWBK 7-0803 (codice X766803)
Plugin jumper blue	CWBK 7-0804 (codice X766804)	CWBK 7-0804 (codice X766804)	CWBK 7-0804 (codice X766804)
Programming kit			

FREQUENCY SIGNAL CONVERTER

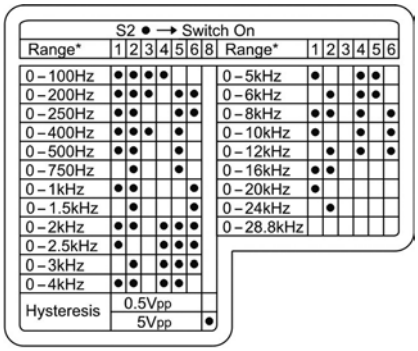
- **Input: 21 selectable ranges of frequency signal**
- **Output: 3 selectable ranges**
- **Insulation: 2.5 kVac, 3-way isolation**

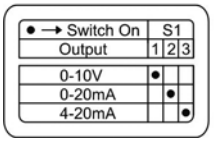


APPLICATIONS

This module is used to convert a sinusoid or rectangular frequency signal into a standard analogue signal (e.g. 0...10 V, 0...20 mA or 4...20 mA). A microprocessor detects the signal and calculates the output value, ensuring extremely high precision and stability. Measurement range is set using a DIP switch: the device offers 64 calibrated ranges from 0...100 Hz to 0...28.8 kHz.

CODE	X756524
TYPE	CWNFA6-0524
INPUT TECHNICAL DATA	
Signal type IN	frequency
Input range IN	0...28.8 kHz (AC/DC 0.8...30 Vpp)
Maximum voltage current signal IN	
Input impedance IN	50 kΩ
Parametrization IN	DIP switch
OUTPUT TECHNICAL DATA	
Signal type OUT	analogue
Output range OUT	0...10 V, (max. 10.6 V) 0...20 / 4...20 mA, (max 21 mA)
Maximum output signal OUT	21 mA (voltage input)
Load impedance OUT	>1 kΩ (voltage output) / 400 Ω (current output)
Ripple	<5 mV
Status indication	LED
Parametrization OUT	DIP switch
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vac/dc (16.8...30 Vdc / 19.2...28.8 Vac)
Current consumption	20 mA
Accuracy	0.1% FSR (23°C)
Linearity error	0.02%
Temperature coefficient	<70 ppm/K
Setting time	200 ms
Transmission frequency	
Resolution	
Rise time	
Operating temperature range	-25...+60°C
Insulation	2.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)
Standard approvals	
EMC Standard	
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	17.5x79x84 mm
Approximate weight	70 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	TAP207A_
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	



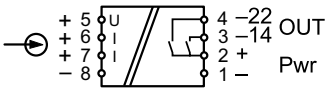


THRESHOLD MONITORING FOR TEMPERATURE SENSOR

- **Input: PT100, PT1000, thermocouples, potentiometers**
- **Output: 2 semiconductor NO contacts**
- **Insulation: 2.5 kVac, 2-way isolation**
- **FDT/DTM software programmable ranges**

NOTE

(1) Input and output signal range, can be selected using a DIP-switch or customised using FDT/DTM software and LCONZUSB interface

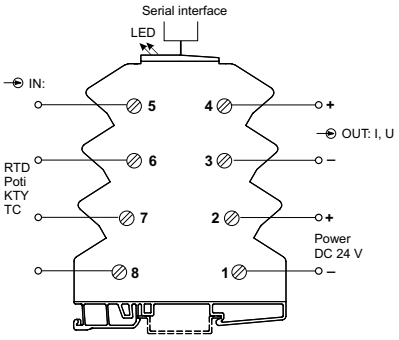


Programming kit X756894

CODE	X756370
TYPE	LCON_TLS_FDT -
INPUT TECHNICAL DATA	
Signal type IN	PT100, PT1000, potentiometer, thermocouples (B, C, E, J, K, N, R, S, T)
Input range IN	-200...+2400°C (based on sensor) or 0...600 kΩ
Maximum voltage current signal IN	
Input impedance IN	
Parametrization IN	FDT/DTM software (1)
OUTPUT TECHNICAL DATA	
Signal type OUT	2 NA contacts (solid state relay)
Output range OUT	30 Vdc / 100 mA
Status indication	LED
Operating mode OUT	limit value, window, trend, inversion and memory
Parametrization OUT	FDT/DTM software (1)
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vdc (16.8...30 Vdc)
Current consumption	12 mA
Accuracy	0.2% FSR / 0.4% FSR
Linearity error	±0.1% FSR
Temperature coefficient	<100 ppm/K
Setting time	1...500 ms (adjustable, default 30ms)
Resolution	16 bit
Operating temperature range	-40...+70°C
Insulation	2.5 kVac / 60 s
Insulation type	2-way (IN-OUT)
Overvoltage category / pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	1.5 mm² / 1.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x90x115.5 mm
Approximate weight	40 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Plugin jumper red	CWBK 7-0802 (codice X766802)
Plugin jumper white	CWBK 7-0803 (codice X766803)
Plugin jumper blue	CWBK 7-0804 (codice X766804)
Programming kit	LCONZBUSB (codice X756894)

APPLICATIONS

LCONAASP is a programmable 4-way isolated converter, it allows to convert, amplify and duplicate a standard analog signal. Input can be set to the standard analog signals 0 ... 20 mA, 4 ... 20 mA and 0 ... 10 V, the signal is isolated, converted and duplicated into two independent signals that can be set to 0 ... 20 mA, 4 ... 20 mA and 0 ... 10 V.
The ranges can be set easily through a DIP switch



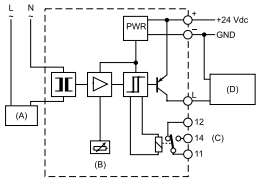
THRESHOLD MONITORING FOR CURRENT SIGNAL

- **Input: 0...40 A AC**
- **Output: SPDT contact**
- **Insulation: 3.0 kVac, 2-way isolation**
- **Adjustable threshold value**

NOTE

(1) The relay is turned on and the transistor output is high with input signal under the threshold value

(2) The insulation refers to an uninsulated conductor in contact with the toroid wall. Using insulated conductors, the insulation value of the conductor is added to the isolation value of the converter



APPLICATIONS

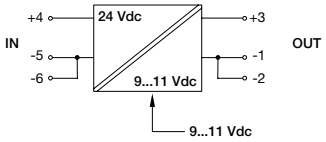
Inserted into a current circuit, the module can be used to set (using a precision potentiometer) the desired current value for the relay or transistor switch, obtaining a current threshold above or below which the switch occurs. The cable carrying the current must be passed through the module's toroidal sensor. The relay or the transistor switches when the set current threshold is surpassed.

(A) AC Load
(B) Control threshold
(C) Exchange output contact
(D) Transistor-controlled digital input 24 Vac/dc power supply

CODE	XCCIS2
TYPE	CCIS2 -
INPUT TECHNICAL DATA	
Signal type IN	analogue
Input range IN	40 A (AC 50...60 Hz)
Maximum voltage current signal IN	600 Vac / 50 A (1)
Input impedance IN	
Parametrization IN	
OUTPUT TECHNICAL DATA	
Signal type OUT	SPDT contact , PNP open collector transistor (1)
Output range OUT	100 mA (PNP open collector)
Status indication	LED
Operating mode OUT	limit value
Parametrization OUT	2...40 A ± 10% (trimmer)
GENERAL TECHNICAL DATA	
Power supply voltage	24 Vdc ± 10%
Current consumption	100 mA
Accuracy	
Linearity error	
Temperature coefficient	
Setting time	20 ms
Resolution	
Operating temperature range	-20...+60°C
Insulation	3.0 kVac / 60 s (2)
Insulation type	2-way (IN-OUT)
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal IN / OUT	cable, through in a 13 mm Ø hole / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	50x93x70 mm
Approximate weight	100 g
Mounting information	vertical on a rail, 5 mm from adjacent components
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Plugin jumper red	
Plugin jumper white	
Plugin jumper blue	
Programming kit	

AUXILIARY SUPPLY FOR SENSORS AND POTENTIOMETERS

- **Regulated switching converter**
- **Suitable for feeding potentiometers and sensors**

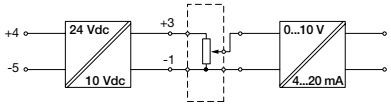


APPLICATIONS

A constant voltage is often required in process control in order to supply power or reference values. A constant voltage source is very often used in digital technology, especially with analogue position sensors (linear potentiometers). This is due to their extremely economical and effective measurements of absolute position, routes, angles and thicknesses. Moreover, the linear potentiometer requires only one continuous voltage and one analogue control or position indicator input.

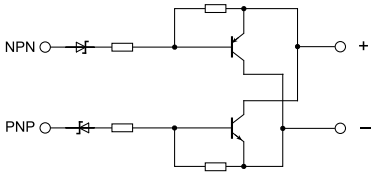
CODE	X766184
TYPE	CWCV7-6184
INPUT TECHNICAL DATA	
Input rated voltage	24 Vdc (16.8...30 Vdc)
Current consumption	30 mA at 10 Vdc
Internal protection fuse	T 1 A (external)
OUTPUT TECHNICAL DATA	
Output rated voltage	10 Vdc (9...11 Vdc adjustable)
Continuous current	60 mA
Overload limiting	yes
Ripple	
Status indication	LED "DC OK"
GENERAL TECHNICAL DATA	
Operating temperature range	-25...+60°C
Insulation	50 Vac / 60 s
Insulation type	2-way
Standard approvals	EN 50081-1, EN 50082-2, EN 61000-3-2
EMC Standards	EN61000-4-2, EN61000-4-4
Overvoltage category / Pollution degree	II / 2
Protection degree	IP 20
Connection terminal IN / OUT	1.5 mm² / 1.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions	6.2x92.5x90 mm
Approximate weight	35 g
Mounting informations	on a rail, side by side
APPROVALS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	–
Marking tag	–
Plugin jumper red	CWBK 7-0802 (code X766802)
Plugin jumper white	CWBK 7-0804 (code X766804)
Plugin jumper blue	CWBK 7-0804 (code X766804)

APPLICATIONS EXAMPLES



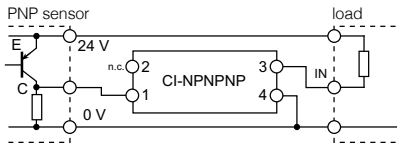
SIGNAL INVERTERS
NPN AND PNP

- **Used for convert NPN signals to PNP and viceversa**
- **Compact sizes**

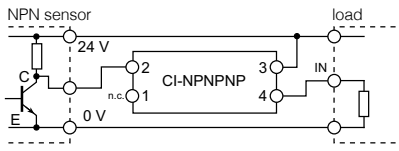


CODE TYPE	XNPNPNP CI-NPN/PNP
INPUT TECHNICAL DATA	
Input rated voltage	24 Vdc (17...30 Vdc)
Current consumption	200 mA
Frequency	120 kHz max.
OUTPUT TECHNICAL DATA	
Operating temperature range	-20...50°C
Insulation type	no
Standard approvals	IEC 664-1, DIN VDE
EMC Standard	EN 61000-6-2, EN 61000-6-4
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	45x12x77 mm
Approximate weight	20 g
Mounting information	on a rail, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

Conversion from PNP to NPN



Conversion from NPN to PNP



Modbus-RTU programmable analog converters

The XCIO4 devices are analog converters, fully programmable through a PC application and with ModBus communication interface.

There are different models:

- XCIO4VMB voltage converter
- XCIO4IMB current converter
- XCIO4RMB thermoresistance and potentiometer converter
- XCIO4TMB thermocouple converter
- XCIO4RLYMB, actuation module

Each device has up to four independent channels, it is remotely configurable through the ModBus interface and in alternative with a uUSB port with no need for additional power supply.

The devices are fully programmable by means of CaburLab software application or directly accessing the ModBus registers by means of a PLC.

The XCIO4RLYMB can be configured to have a default safe condition called safestate that allows to set the state of the output when the power is off and/or when the device is remotely controlled.

Communication bridges

The XBRI series is based on two different interconnection bridge typologies.

The XBRIRS485CP is a gateway which allows the connection between RS-485 interconnected devices towards a ModBus-TCP over Ethernet network .

The XBRIRS485ET and XBRIRS485WI are bridges with the capability to connect RS-485 devices to a 10/100 Base T Ethernet network based upon TCP/IP.

The Ethernet – RS485 communication passe through a virtual communication interface. The bridges parameters can be configured through a dedicate telnet interface (IP address, subnet mask, etc.).

Ethernet Switches

The XSWET5UP and XSWET5UP series of Din-rail Entry-level Unmanaged Ethernet Switches for industrial applications are highly compacted 5 and 8-port Ethernet switches that support IEEE 802.3/802.3u/802.3x with 10/100M, full/half-duplex, RJ45 ports.

The XSWET5UP and XSWET5UP switches are rated to operate at temperatures ranging from -10 to 60°C. The switches can be easily installed on a DIN-rail as well as multi-directional panel mounting.

CIO SERIES

ANALOGUE SIGNAL CONVERTERS FOR MODBUS SYSTEMS

- **Modbus RTU output**
- **Insulation: 1.5 kVac, 3-way isolation**
- **4 input channel**
- **parametrization via Modbus RTU**

NOTE

Factoy setting: ± 20 mA input

(1) The software CaburLab is available from our web site for free.

CODE	XCIO4IMB	XCIO4VMB	XCIO4RMB
TYPE	**CIO-4I-MB**	**CIO-4V-MB**	**CIO-4R-MB**
INPUT TECNHICAL DATA			
Signal type IN	analogue	analogue	potentiometric 0...2 kΩ, temperature PT100, PT500, PT1000, NI120, NIFE604, CU100, CU120
Input range IN	± 20 mA programmable	± 10 V programmable	-200...+850°C based on sensor (2)
Maximum voltage current signal IN	24 mA	12 V	
Input impedance IN	56 Ω	>1 MΩ	>1 MΩ
Parametrization IN	Software CaburLab (1)	Software CaburLab (1)	Software CaburLab (1)
OUTPUT TECHNICAL DATA			
Signal type OUT	Modbus RTU	Modbus RTU	Modbus RTU
Output range OUT			
Maximum output signal OUT			
Status indication	LED	LED	LED
Parametrization OUT			
GENERAL TECHNICAL DATA			
Power supply voltage	24 Vdc (8...30 Vdc)	24 Vdc (8...30 Vdc)	24 Vdc (8...30 Vdc)
Current consumption	100 mA (24 Vdc)	100 mA (24 Vdc)	100 mA (24 Vdc)
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	< 0.1% FS	< 0.1% FS	< 0.1% FS
Transmission frequency	10 Hz	10 Hz	10 Hz
Resolution	13 bits	13 bits	13 bits
Baud rate	1200 - 230400 bps (programmable)	1200 - 230400 bps (programmable)	1200 - 230400 bps (programmable)
Parity	None, Odd, Even, Mark, Space	None, Odd, Even, Mark, Space	None, Odd, Even, Mark, Space
Operation temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Insulation	1.5 kVac / 60 s	1.5 kVac / 60 s	1.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)	3-way (IN / OUT / power)
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 20	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (screw)	2.5 mm² / 2.5 mm² (screw)	2.5 mm² / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	101x79x17.5 mm	101x79x17.5 mm	101x79x17.5 mm
Approximate weight	100 g	100 g	100 g
Mounting information	vertical on a rail, distance 5 mm from adjacent components	vertical on a rail, distance 5 mm from adjacent components	vertical on a rail, distance 5 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

CIO SERIES

ANALOGUE SIGNAL CONVERTERS FOR MODBUS SYSTEMS

- **Modbus RTU output**
- **Insulation: 1.5 kVac, 3-way isolation**
- **4 input channel**
- **parametrization via Modbus RTU**

NOTE

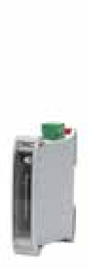
Factoy setting: ± 20 mA input

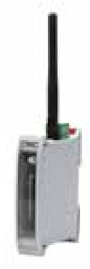
(1) The software CaburLab is available from our web site for free.

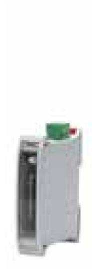
CODE	XCIO4TMB	XCIO4RLYMB
TYPE	CIO-4T-MB	CIO-4RLY-MB
INPUT TECNHICAL DATA		
Signal type IN	thermocouples (J, K, S, R, B, E, T, N), 100mV	Modbus RTU
Input range IN	-270...+1820°C based on sensor	
Maximum voltage current signal IN		
Input impedance IN	>1 MΩ	56 Ω
Parametrization IN	Software CaburLab (1)	
OUTPUT TECHNICAL DATA		
Signal type OUT	Modbus RTU	4 NO or NC contacts (programmable)
Output range OUT		2A @ 30 Vdc / 0.3A @ 125 Vac (resistive load)
Maximum output signal OUT		max. 2A 110 Vdc / 2A 125 Vac
Status indication	LED	LED
Parametrization OUT		Software CaburLab (1)
GENERAL TECHNICAL DATA		
Power supply voltage	24 Vdc (8...30 Vdc)	24 Vdc (8...30 Vdc)
Current consumption	100 mA (24 Vdc)	100 mA (24 Vdc)
Accuracy	0.1% FSR (23°C)	0.1% FSR (23°C)
Linearity error	< 0.1% FS	< 0.1% FS
Transmission frequency	10 Hz	10 Hz
Resolution	13 bits	13 bits
Baud rate	1200 - 230400 bps (programmable)	1200 - 230400 bps (programmable)
Parity	None, Odd, Even, Mark, Space	None, Odd, Even, Mark, Space
Operation temperature range	-20...+70°C	-20...+70°C
Insulation	1.5 kVac / 60 s	1.5 kVac / 60 s
Insulation type	3-way (IN / OUT / power)	3-way (IN / OUT / power)
EMC Standard	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 20	IP 20
Connection terminal IN / OUT	2.5 mm² / 2.5 mm² (screw)	2.5 mm² / 2.5 mm² (screw)
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	101x79x17.5 mm	101x79x17.5 mm
Approximate weight	100 g	100 g
Mounting information	vertical on a rail, distance 5 mm from adjacent components	vertical on a rail, distance 5 mm from adjacent components
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

ANALOGUE SIGNAL CONVERTERS FOR MODBUS SYSTEMS

- Communication on RS485—2 wire, Wifi or Ethernet serial line
- Power supply 8...30Vdc
- Configurable by web interface / command prompt
- Signaling led (green, red, yellow)
- 3 way galvanic isolation
- Compact dimensions







NOTE
LED "DC OK", LED "Allarm", LED "TX", LED "RX".

CODE	XBRIRS485ET	XBRIRS485WI	XBRIRS485CP
TYPE	BRI-RS485-ET	BRI-RS485-WI	BRI-RS485-CP
TECHNICAL DATA			
WiFi Connector		RP—SMA WIFI	
Serial ports	1 RS485	1 RS485	1 RS485
Network interfaces	Ethernet 10/100 (Base TR/TX)	WiFi 802.11b/g	Ethernet 10/100 (Base TR/TX)
Protocol	ModbusRTU/ Ethernet	ModbusRTU/ WiFi	conversion from ModbusRTU/ to Modbus TCP
Speed	up to 1Mbit/s	up to 1Mbit/s	up to 1Mbit/s
MODBUS TECHNICAL DATA			
Speed distance	0.6Km @ 38,4Kbps 0,9Km @ 19,2Kbps 1,2Km @ 9,6Kbps 2Km @ 4,8Kbps 3Km @ 2,4Kbps 7Km @ 1.2Kbps	0.6Km @ 38,4Kbps 0,9Km @ 19,2Kbps 1,2Km @ 9,6Kbps 2Km @ 4,8Kbps 3Km @ 2,4Kbps 7Km @ 1.2Kbps	0.6Km @ 38,4Kbps 0,9Km @ 19,2Kbps 1,2Km @ 9,6Kbps 2Km @ 4,8Kbps 3Km @ 2,4Kbps 7Km @ 1.2Kbps
Impedance of RS485 line	120Ω	120Ω	120Ω
Max number of connectable devices in RS485	32	32	32
GENERAL TECHNICAL DATA			
Power supply voltage	8...30 Vdc	8...30 Vdc	8...30 Vdc
Current consumption	≈ 41mA	≈ 41mA	≈ 41mA
Baud rate	1200÷230400 bps (programmable)	1200÷230400 bps (programmable)	1200÷230400 bps (programmable)
Parity	None,Odd, Even, Mark, Space	None,Odd, Even, Mark, Space	None,Odd, Even, Mark, Space
Operating temperature range	—20...+70°C	—20...+70°C	—20...+70°C
Insulation	1.5 kVac /60s	1.5 kVac /60s	1.5 kVac /60s
Insulation type	3-way	3-way	3-way
EMC Standard	EN 61000—2, EN 61000—4	EN 61000—2, EN 61000—4	EN 61000—2, EN 61000—4
Overvoltage category / pollution degree	III/2	III/2	III/2
Protection degree	IP20	IP20	IP20
Connection terminal RS485	2.5 mm²	2.5 mm²	2.5 mm²
Connection terminal Ethernet	Shielded RJ45 connector		Shielded RJ45 connector
Connection terminal WiFi		RP—SMA WiFi	
Housing material	Blend PC/ABS self—extinguishing	Blend PC/ABS self—extinguishing	Blend PC/ABS self—extinguishing
Dimensions (LxHxD)	23x79x101	23x79x101	23x79x101
Approximate weight	100 g	100 g	100 g
APPROVALS AND MARKINGS	on a rail, side by side	on a rail, side by side	on a rail, side by side
Mounting information	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

SWE SERIES

UNMANAGED ETHERNET SWITCHES

- **5 or 8 port, copper and LC fiber port options**
- **Designed to meet Level 3 (Heavy) industrial environments**
- **DIN rail mountable**

CODICE	XSWET5PU	XSWET8PU
SIGLA	SWET-5PU	SWET-8PU
Versione	5 RJ45	8 RJ45
TECNOLOGIA		
Standard	IEEE802.3, 802.3u, 802.3x	IEEE802.3, 802.3u, 802.3x
Tipo di elaborazione	Store and forward with IEEE802.3x full duplex, non-blocking flow control	Store and forward with IEEE802.3x full duplex, non-blocking flow control
Protocolli	IEEE802.3x flow control, back pressure flow control	IEEE802.3x flow control, back pressure flow control
PROPRIETÀ DELLO SWITCH		
Dimensione della MAC table	2K	2K
INTERFACCIA		
Porte RJ45	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Indicatori LED	Power, (Link / Speed / Activity for each port)	Power, (Link / Speed / Activity for each port)
DATI TECNICI GENERALI		
Tensione di alimentazione	12-24 Vac/dc (12...36 Vdc / (10...24 Vac)	12-24 Vac/dc (12...36 Vdc / (10...24 Vac)
Corrente assorbita	170 mA	170 mA
Intervallo operativo di temperatura	-10 to 60°C	-10 to 60°C
Standard / approvazioni	FCC Part15, CISPR (EN55022) Class A	FCC Part15, CISPR (EN55022) Class A
Standard EMC	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-6-2	EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-6-2
Categoria di sovratensione /grado di inquinamento	IP 30	IP 30
Tipo di connettori	1.5 mm² (screw)	1.5 mm² (screw)
Materiale del contenitore	Metal Case	Metal Case
Dimensioni (LxHxP)	25×100×75 mm	24×145×75 mm
Informazioni sul montaggio	on a rail, side by side	on a rail, side by side
APPROVAZIONI E MARCATURE	CE FC cULus LISTED	CE FC cULus LISTED
ACCESSORI		
Profilato di appoggio (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

SWE SERIES

UNMANAGED ETHERNET SWITCHES

- **5, 8, 16-port, copper and LC fiber port options**
- **Excellent price/performance ratio**
- **DIN rail mountable**

CODE	XSWEF05PU	XSWEF08PU	XSWEF16PU
TYPE	SWE-F-05PU	SWE-F-08PU	SWE-F-16PU
Version	5 – RJ45 unmanaged	8 – RJ45 unmanaged	16 – RJ45 unmanaged
INTERFACE			
Number and type of interface	5 RJ45 ports	8 RJ45 ports	16 RJ45 ports
Connection method	Auto negotiation and auto crossing	Auto negotiation and auto crossing	Auto negotiation and auto crossing
Transmission speed	10/100 Mbps	10/100 Mbps	10/100 Mbps
MAC table size	1 K	1 K	4 K
Status indication	Power, Link/Speed, Link /Activity	Power, Link/Speed, Link /Activity	Power, Link/Speed, Link /Activity
GENERAL TECHNICAL DATA			
Power supply voltage	5...58 Vdc	9...58 Vdc	12...58 Vdc
Current consumption	< 300 mA	<170 mA	< 500 mA
Operating temperature range	-40...+60°C	-40...+60°C	-40...+60°C
Ambient temperature range (storage)	-40...+85°C	-40...+85°C	-40...+85°C
Standards	IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3az	IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3az	IEEE 802.3, IEEE 802.3u, IEEE 802.3x, IEEE 802.3az
Safety Standard	EN 62368-1	EN 62368-1	EN 62368-1
EMC Standard	EN/IEC 61000-3-2; EN61000-3-3	EN/IEC 61000-3-2; EN61000-3-3	EN/IEC 61000-3-2; EN61000-3-3
Overvoltage category /pollution degree	I / 2	I / 2	I / 2
Protection degree	IP20	IP20	IP20
Connection type	1.5 mm² (screw)	1.5 mm² (screw)	1.5 mm² (screw)
Housing material	metallic	metallic	metallic
Dimensions (LxHxD)	30×118×80 mm	42×141×98 mm	40×170×108 mm
Approximate weight	406 g	420 g	832 g
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
APPROVALS AND MARKINGS	CE FC	CE FC	CE FC
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB

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CONNECTING ENERGY
SINCE 1952

Relays

Electromechanical relay modules

ELECTROMECHANICAL RELAY MODULES QUICK SELECTION TABLE

INPUT CHANNELS	INPUT RATED VOLTAGE	CONTACT TYPE	NOMINAL CURRENT (RESISTIVE LOAD)	PLUGGABLE RELAY	NOT PLUGGABLE RELAY	POSITIVE CONTROL (PNP)	NEGATIVE CONTOL (NPN)	PROTECTION CIRCUIT	CODE	TYPE	PAGE
1	24 Vdc	SPST(NO)	5 A	-	•	-	-	•	XRFA024D	RFA024D	109
1	24 Vdc	SPDT	16 A	•	-	-	-	•	XRE1824D	RE1824D	109
1	24 Vdc	SPDT	16 A	•	-	-	-	•	XRE1024D	RE1024D	109
1	24 Vac/dc	DPDT	10 A	•	-	-	-	•	XRE2024D	RE2024D	110
1	12 Vdc	SPDT	12 A	•	-	-	-	•	XCM1C012	CM1C012	111
1	24 Vdc	SPDT	12 A	•	-	-	-	•	XCM1C024	CM1C024	111
1	48 Vdc	SPDT	10 A	•	-	-	-	•	XCM1C048	CM1C048	111
1	110 Vdc	SPDT	12 A	•	-	-	-	•	XCM1C110	CM1C0110	112
1	12 Vdc	DPDT	8 A	•	-	-	-	•	XCM2C012	CM2C012	113
1	24 Vdc	DPDT	10 A	•	-	-	-	•	XCM2C024	CM2C024	113
1	48 Vdc	DPDT	8 A	•	-	-	-	•	XCM2C048	CM2C048	113
1	110 Vdc	DPDT	8 A	•	-	-	-	•	XCM2C110	CM2C0110	114
1	24 Vdc	4PDT	6 A	•	-	-	-	•	XCM4C024	CM4C024	115
1	12 Vac	SPDT	12 A	•	-	-	-	—	XCM1A012	CM1A012	116
1	24 Vac	SPDT	12 A	•	-	-	-	—	XCM1A024	CM1A024	116
1	120 Vac	SPDT	12 A	•	-	-	-	—	XCM1A120	CM1A120	116
1	230 Vac	SPDT	12 A	•	-	-	-	—	XCM1A230	CM1A230	117
1	12 Vac	DPDT	8 A	•	-	-	-	—	XCM2A012	CM2A012	118
1	24 Vac	DPDT	8 A	•	-	-	-	—	XCM2A024	CM2A024	118
1	120 Vac	DPDT	8 A	•	-	-	-	—	XCM2A120	CM2A120	118
1	230 Vac	DPDT	8 A	•	-	-	-	—	XCM2A230	CM2A230	119
1	24 Vac/dc	SPDT	6 A	-	•	•	•	•	XCKR16	CKR16	121
1	12 Vac/dc	SPDT	6 A	•	-	-	-	•	X766848	CWRE7-0848	122
1	24 Vac/dc	SPDT	6 A	•	-	-	-	•	X766842	CWRE7-0842	122
1	48 Vac/dc	SPDT	6 A	•	-	-	-	•	X766845	CWRE7-0845	123
1	115 Vac/dc	SPDT	6 A	•	-	-	-	•	X766846	CWRE7-0846	123
1	230 Vac	SPDT	6 A	•	-	-	-	•	X766847	CWRE7-0847	123
4	24 Vdc	SPDT	16 A	•	-	•	—	•	XR041E24	R41E24	124
8	24 Vdc	SPDT	16 A	•	-	•	-	•	XR081E24	R81E24	124
16	24 Vdc	SPDT	16 A	•	-	•	-	•	XR161E24	R161E24	124
4	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR041EAD	R41EAD	125
8	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR081EAD	R81EAD	125
16	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR161EAD	R161EAD	125
4	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR041U24F	R41U24F	126
8	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR081U24F	R81U24F	126
16	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XR161U24F	R161U24F	126
4	24 Vdc	DPDT	10 A	•	-	•	-	•	XR042E24	R42E24	127
8	24 Vdc	DPDT	10 A	•	-	•	-	•	XR082E24	R82E24	127
16	24 Vdc	DPDT	10 A	•	-	•	-	•	XR162E24	R162E24	127
4	24 Vac/dc	DPDT	10 A	•	-	•	•	•	XR042EAD	R42EAD	128
8	24 Vac/dc	DPDT	10 A	•	-	•	•	•	XR082EAD	R82EAD	128
16	24 Vac/dc	DPDT	10 A	•	-	•	•	•	XR162EAD	R162EAD	128
8	24 Vac/dc	SPDT	16 A	•	-	•	•	•	XRMP081CM	RMP081CM	129
4	24 Vac/dc	SPDT	8 A	•	-	•	•	•	XCRE41	CRE4-1	130
4	24 Vac/dc	SPDT	8 A	-	•	•	•	•	XCR41	CR4-1	130
8	24 Vac/dc	SPST(NO)	8 A	•	-	•	•	•	XCRE81	CRE8-1	131
8	24 Vac/dc	SPST(NO)	8 A	-	•	•	•	•	XCR81	CR8-1	131
4	24 Vac/dc	DPDT	8 A	•	-	•	•	•	XCRE42SC	CRE4-2SC	132
4	24 Vac/dc	DPDT	8 A	-	•	•	•	•	XCR42SC	CR4-2SC	132
8	24 Vac/dc	SPST(NO)	8 A	•	-	•	•	•	XCRE83	CRE8-3	133
8	24 Vac/dc	SPST(NO)	8 A	-	•	•	•	•	XCR83	CR8-3	133

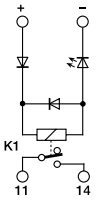
ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

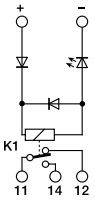
- **Not-pluggable relay**

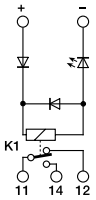
NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.







CODE	XRFA024D	XRE1024D	XRE1824D
TYPE	RFA024D (1)	RE1024D	RE1824D
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc ±10%	24 Vdc ±10%	24 Vdc ±10%
Pull in / drop out voltage type	18.4 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	15 mA ±10%	15 mA ±10%	22 mA ±10%
Turn ON / OFF time	15 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Input channels	1 not pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPST(NO), 1 Form A (NO), AgSnO2	SPDT, 1 form C, AgNi	SPDT, 1 form C, AgSnO2
Output voltage			
Nominal current	5 A (250 Vac)	16 A (250 Vac)	12 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+60°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	12x77x52 mm	16.4x70x77 mm	16.4x70x77 mm
Approximate weight	30 g	30 g	30 g
Continuous current	10 A	16 A	16 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load	100 mA / 5 Vdc		100 mA / 5 Vdc
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904075	8904058	8904075
End section			
Plugin jumper			

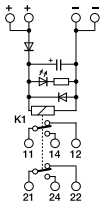
ELECTROMECHANICAL RELAY MODULES
SINGLE CHANNEL

- **Not-pluggable relay**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

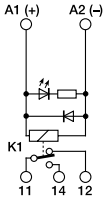


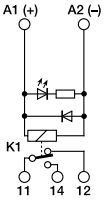
CODE	XRE2024D
TYPE	RE2024D
INPUT TECHNICAL DATA	
Input rated voltage	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V
Current consumption	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	DPDT, 2 form C, AgSnO2
Output voltage	
Nominal current	10 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+70°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 00
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	26x93x75 mm
Approximate weight	76 g
Continuous current	10 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay	
Marking tag	8904074
End section	
Plugin jumper	

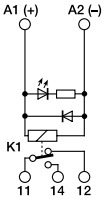
ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE
Manufacturer and model of the relay is not binding, technical data are to be considered typical







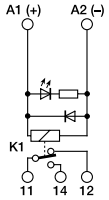
CODE	XCM1C012	XCM1C024	XCM1C048
TYPE	CM1C012	CM1C024	CM1C048
INPUT TECHNICAL DATA			
Input rated voltage	12 Vdc ±10%	24 Vdc ±10%	48 Vdc ±10%
Pull in / drop out voltage type	8.4 V / 1.2 V	16.8 V / 2.4 V	33.6 V / 7.2 V
Current consumption	44 mA ±10%	22 mA ±10%	20 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	15 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode	Free-wheel diode, Reverse polarity	Free-wheel diode
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgNi	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage			
Nominal current	12 A (250 Vac)	12 A (250 Vac)	10 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm	16x75x68 mm
Approximate weight	54 g	54 g	54 g
Continuous current	12 A	12 A	10 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay	already mounted	already mounted	already mounted
Marking tag	8904039	8904001	8904008
End section			
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poles)	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical



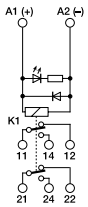
CODE	XCM1C110
TYPE	CM1C0110
INPUT TECHNICAL DATA	
Input rated voltage	110 Vdc ±10%
Pull in / drop out voltage type	77 V / 11 V
Current consumption	11 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	Free-wheel diode
Connection terminal	2.5 mm² screw
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	SPDT, 1 form C, AgNi
Output voltage	
Nominal current	12 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 20
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm
Approximate weight	54 g
Continuous current	12 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	already mounted
Marking tag	8904047
End section	
Plugin jumper	CMB16B (8 poles)

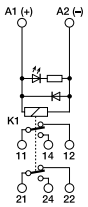
ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

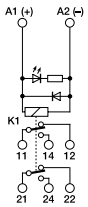
- **Pluggable relay**
- **DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical







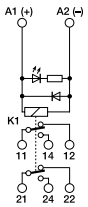
CODE	XCM2C012	XCM2C024	XCM2C048
TYPE	CM2C012	CM2C024	CM2C048
INPUT TECHNICAL DATA			
Input rated voltage	12 Vdc ±10%	24 Vdc ±10%	48 Vdc ±10%
Pull in / drop out voltage type	8.4 V / 1.2 V	16.8 V / 2.4 V	33.6 V / 4.8 V
Current consumption	44 mA ±10%	22 mA ±10%	24 mA ±10%
Turn ON / OFF time	15 ms / 8 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode	Free-wheel diode, Reverse polarity	Free-wheel diode
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgNi
Output voltage			
Nominal current	8 A (250 Vac)	10 A (250 Vac)	8 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm	16x75x68 mm
Approximate weight	67 g	67 g	67 g
Continuous current	8 A	10 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay	already mounted	already mounted	already mounted
Marking tag	8904040	8904074	8904053
End section			
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poles)	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical



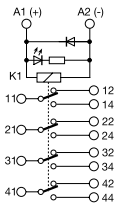
CODE	XCM2C110
TYPE	CM2C0110
INPUT TECHNICAL DATA	
Input rated voltage	110 Vdc ±10%
Pull in / drop out voltage type	77 V / 11 V
Current consumption	11 mA ±10%
Turn ON / OFF time	10 ms / 15 ms
Frequency	
Protection circuit	Free-wheel diode
Connection terminal	2.5 mm² screw
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	DPDT, 2 form C, AgNi
Output voltage	
Nominal current	8 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 20
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm
Approximate weight	67 g
Continuous current	8 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	already mounted
Marking tag	8904054
End section	
Plugin jumper	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **DC input voltage**
- **4PDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

Available on request with other input rated voltage. Please contact our selling dept.

NOTE
Manufacturer and model of the relay is not binding, technical data are to be considered typical



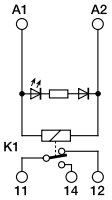
CODE	XCM4C024
TYPE	CM4C024
INPUT TECHNICAL DATA	
Input rated voltage	24 Vdc ±10%
Pull in / drop out voltage type	18 V / 2.4 V
Current consumption	40 mA ±10%
Turn ON / OFF time	20 ms / 20 ms
Frequency	
Protection circuit	Free-wheel diode
Connection terminal	2.5 mm² screw
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	4PDT, 4 form C, AgNi
Output voltage	
Nominal current	6 A (240 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 20
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	27x75x68 mm
Approximate weight	54 g
Continuous current	12 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	10 mA / 12 V
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	already mounted
Marking tag	8904069
End section	
Plugin jumper	CMB27B (6 poles)

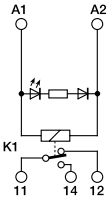
ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

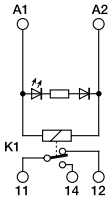
- **Pluggable relay**
- **AC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical







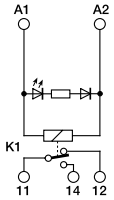
CODE	XCM1A012	XCM1A024	XCM1A120
TYPE	CM1A012	CM1A024	CM1A120
INPUT TECHNICAL DATA			
Input rated voltage	12 Vac ±10%	24 Vac ±10%	120 Vac ±10%
Pull in / drop out voltage type	9.6 V / 3.6 V	18 V / 3.6 V	86.3 V / 17.3 V
Current consumption	95 mA ±10%	48 mA ±10%	10.5 mA ±10%
Turn ON / OFF time	15 ms / 10 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit			
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgNi	SPDT, 1 form C, AgNi
Output voltage			
Nominal current	12 A (250 Vac)	12 A (250 Vac)	12 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm	16x75x68 mm
Approximate weight	54 g	54 g	54 g
Continuous current	12 A	12 A	12 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay	already mounted	already mounted	already mounted
Marking tag	8904071	8904048	8904049
End section			
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poles)	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **AC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical



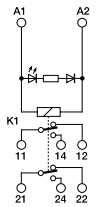
CODE	**XCM1A230**
TYPE	**CM1A230**
INPUT TECHNICAL DATA	
Input rated voltage	230 Vac ±10%
Pull in / drop out voltage type	172.5 V / 34.5 V
Current consumption	6 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	
Connection terminal	2.5 mm² screw
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	SPDT, 1 form C, AgNi
Output voltage	
Nominal current	12 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 20
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm
Approximate weight	54 g
Continuous current	12 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	already mounted
Marking tag	8904050
End section	
Plugin jumper	CMB16B (8 poles)

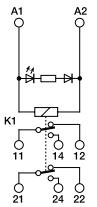
ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

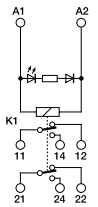
- **Pluggable relay**
- **AC input voltage**
- **DPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE
Manufacturer and model of the relay is not binding, technical data are to be considered typical









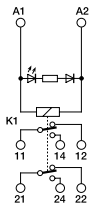
CODE	XCM2A012	XCM2A024	XCM2A120
TYPE	CM2A012	CM2A024	CM2A120
INPUT TECHNICAL DATA			
Input rated voltage	12 Vac ±10%	24 Vac ±10%	120 Vac ±10%
Pull in / drop out voltage type	9.6 V / 3.6 V	18 V / 3.6 V	86.3 V / 17.3 V
Current consumption	95 mA ±10%	48 mA ±10%	11 mA ±10%
Turn ON / OFF time	15 ms / 10 ms	10 ms / 5 ms	10 ms / 15 ms
Frequency			
Protection circuit			
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² screw type
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgNi	DPDT, 2 form C, AgSnO2
Output voltage			
Nominal current	8 A (250 Vac)	8 A (250 Vac)	8 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm	16x75x68 mm
Approximate weight	67 g	67 g	67 g
Continuous current	8 A	8 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay	already mounted	already mounted	already mounted
Marking tag	8904068	8904055	8904056
End section			
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poles)	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **AC input voltage**
- **DPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

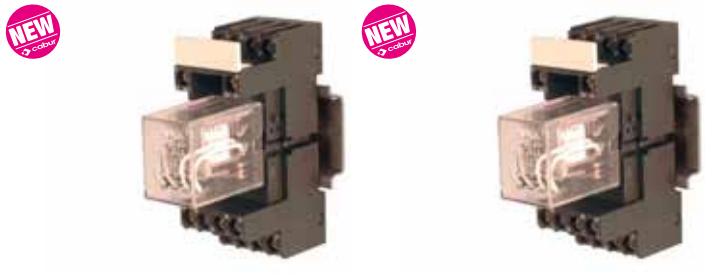
Manufacturer and model of the relay is not binding, technical data are to be considered typical



CODE	**XCM2A230**
TYPE	**CM2A230**
INPUT TECHNICAL DATA	
Input rated voltage	230 Vac ±10%
Pull in / drop out voltage type	172.5 V / 34.5 V
Current consumption	6 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	
Connection terminal	2.5 mm² screw type
Input channels	1 pluggable
OUTPUT TECHNICAL DATA	
Contact type	DPDT, 2 form C, AgNi
Output voltage	
Nominal current	8 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 20
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm
Approximate weight	67 g
Continuous current	8 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	8904057
Marking tag	already mounted
End section	
Plugin jumper	CMB16B (8 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **AC input voltage**
- **DPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**



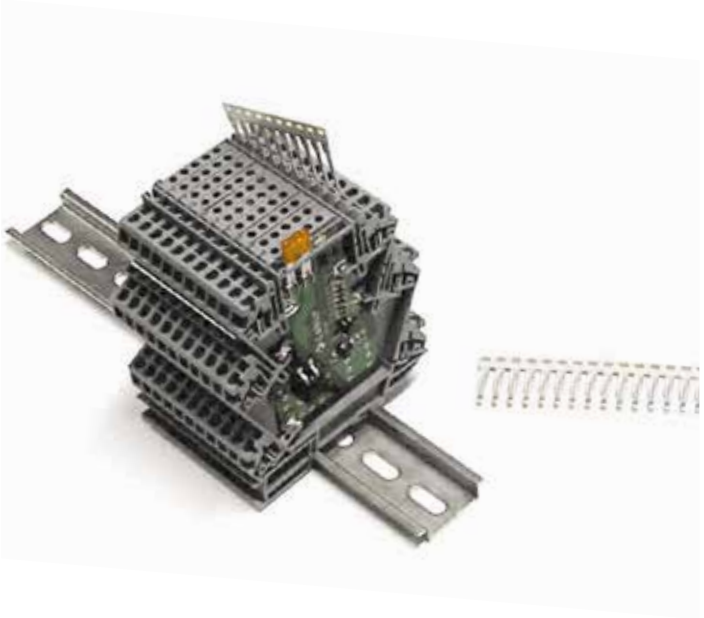
NOTE

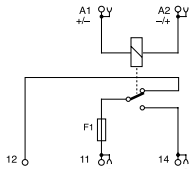
Manufacturer and model of the relay is not binding, technical data are to be considered typical

CODE	XCM4A024	XCM4A230
TYPE	**CM4A024**	**CM4A230**
INPUT TECHNICAL DATA		
Input rated voltage	24 Vac ±10%	230 Vac ±10%
Pull in / drop out voltage type	–	–
Current consumption	–	–
Turn ON / OFF time	–	–
Frequency	–	–
Protection circuit	–	–
Connection terminal	2.5 mm² screw	2.5 mm² screw
Input channels	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA		
Contact type	4PDT, 4 form C, AgNi	4PDT, 4 form C, AgNi
Output voltage	–	–
Nominal current	6 A (240 Vac)	6 A (240 Vac)
Max fuse current	–	–
Connection type	2.5 mm² screw	2.5 mm² screw
Protection circuit device	–	–
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED Input	LED Input
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	27x75x68 mm	27x75x68 mm
Approximate weight	54 g	54 g
Continuous current	12 A	12 A
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	–	–
Min applicable load	10 mA / 12 V	10 mA / 12 V
APPROVALS AND MARKINGS		
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	–	–
Spare part relay	already mounted	already mounted
Marking tag	8904033	8904077
End section	–	–
Plugin jumper	CMB27B (6 poles)	CMB27B (6 poles)

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Not-pluggable relay**
- **Allow PNP and NPN command**
- **Available plug-in jumper for potential distribution**





NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

(2) the output contact is protected by a 7.5 A replaceable fuse. It can be replaced with a lower value according to the output load and wiring. Greater values than 7.5 A is not allowed. The fuse is suitable for SELV ≤ 50 Vac and ≤ 75 Vdc voltages; if used with greater voltages it will not guarantee

cut-off capability and safe operation.

(3) the final module must always be protected with the CK/PT end plate to ensure an IP20 protection degree

CODE	**XCKR16**
TYPE	**CKR16**
INPUT TECHNICAL DATA	
Input rated voltage	24 Vac/dc ±10%
Pull in / drop out voltage type	18 V /1.2 V
Current consumption	15 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	Free-wheel diode
Connection terminal	2.5 mm² spring type
Input channels	1 not pluggable
OUTPUT TECHNICAL DATA	
Contact type	SPDT, 1 form C, AgSnO2
Output voltage	
Nominal current	6 A (30 Vac)
Max fuse current	7.5 A (2)
Connection type	2.5 mm² (AWG26-14), spring type
Protection circuit device	replaceable fuse (2)
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+60°C
Input / output isolation	3 kVac / 60 s
Protection degree	IP 00 / IP20 (3)
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6x91x100 mm
Approximate weight	40 g
Continuous current	10 A peak (2)
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	
Marking tag	NU0851
End section	XCKPT
Plugin jumper	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)

CWR SERIES

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **AC/DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

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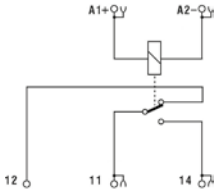
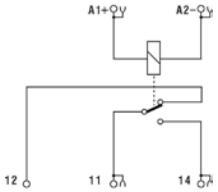
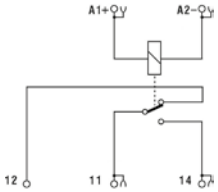




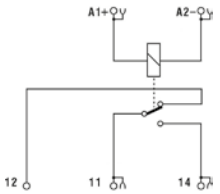


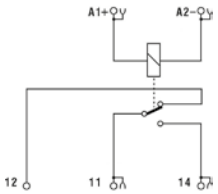
CODE	X766848	X766842	X766842S
TYPE	CWRE7-0848 (1)	CWRE7-0842	CWRE7-0842-S
INPUT TECHNICAL DATA			
Input rated voltage	12 Vac/dc ±10%	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	9 V / 0.6 V	18 V /1.2 V	18 V /1.2 V
Current consumption	10 mA ±10%	7 mA ±10%	7 mA ±10%
Turn ON / OFF time	8 ms / 5 ms	8 ms / 5 ms	8 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² spring type
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage	400 Vac max., 30 Vdc max.	400 Vac max., 30 Vdc max.	400 Vac max., 30 Vdc max.
Nominal current	6 A (250 Vac), 6 A (30 Vdc)	6 A (250 Vac), 6 A (30 Vdc)	6 A (250 Vac), 6 A (30 Vdc)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), spring type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	4 kVac / 60 s	4 kVac / 60 s	4 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x89x77 mm	6.2x89x77 mm	6.2x89x77 mm
Approximate weight	35 g	35 g	35 g
Continuous current			
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay		8904027	8904027
Marking tag	NUPUTUK50	NUPUTUK50	NUPUTUK50
End section			
Plugin jumper	CWBK7-0813 (20 poles)	CWBK7-0813 (20 poles)	CWBK7-0813 (20 poles)

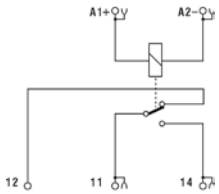
CWR SERIES

ELECTROMECHANICAL RELAY MODULES SINGLE CHANNEL

- **Pluggable relay**
- **AC/DC input voltage**
- **SPDT contact**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**







NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

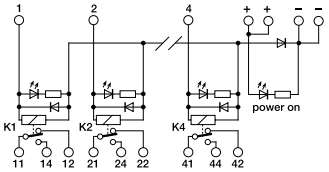
CODE	X766845	X766846	X766847
TYPE	CWRE7-0845 (1)	CWRE7-0846	CWRE7-0847
INPUT TECHNICAL DATA			
Input rated voltage	48 Vac/dc ±10%	115 Vac/dc ±10%	230 Vac ±10%
Pull in / drop out voltage type	36 V / 2.4 V		
Current consumption	5 mA ±10%	4 mA ±10%	4 mA ±10%
Turn ON / OFF time	8 ms / 5 ms	8 ms / 5 ms	8 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² screw type
Input channels	1 pluggable	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage	400 Vac max., 30 Vdc max.	400 Vac max., 30 Vdc max.	400 Vac max., 30 Vdc max.
Nominal current	6 A (250 Vac), 6 A (30 Vdc)	6 A (250 Vac), 6 A (30 Vdc)	6 A (250 Vac), 6 A (30 Vdc)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	4 kVac / 60 s	4 kVac / 60 s	4 kVac / 60 s
Protection degree	IP 20	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x89x77 mm	6.2x89x77 mm	6.2x89x77 mm
Approximate weight	35 g	35 g	35 g
Continuous current			
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE cULus	CE cULus	CE cULus
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay			
Marking tag	NUPUTUK50	NUPUTUK50	NUPUTUK50
End section			
Plugin jumper	CWBK7-0813 (20 poles)	CWBK7-0813 (20 poles)	CWBK7-0813 (20 poles)

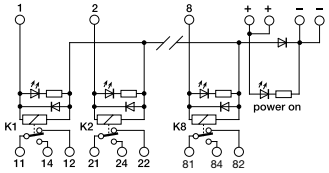
ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL

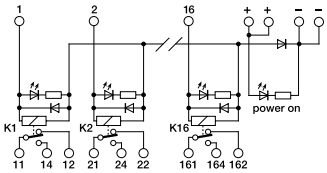
- **Pluggable relay**
- **DC input voltage**
- **SPDT contact**
- **Coils with negative common and positive command (PNP)**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical







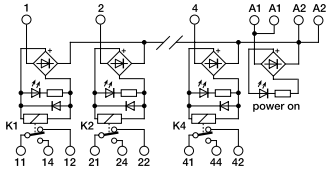
CODE	XR041E24	XR081E24	XR161E24
TYPE	**R41E24**	**R81E24**	**R161E24**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc ±10%	24 Vdc ±10%	24 Vdc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	22 mA ±10%	22 mA ±10%	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type and 16 poles connector	2.5 mm² screw type and 20 poles connector
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage			
Nominal current	16 A (250 Vac)	16 A (250 Vac)	16 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	188 g	342 g	657 g
Continuous current	16 A	16 A	16 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904073	8904073	8904073
End section			
Plugin jumper			

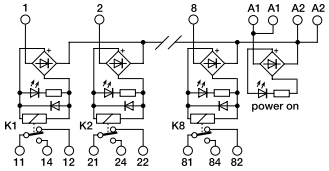
ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL

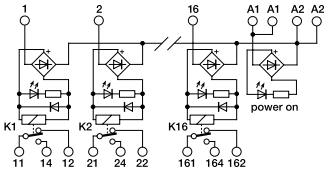
- Pluggable relay
- AC/DC input voltage
- SPDT contact
- Allow PNP and NPN command

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical



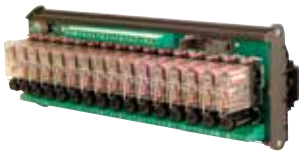




CODE	XR041EAD	XR081EAD	XR161EAD
TYPE	R41EAD	R81EAD	R161EAD
INPUT TECHNICAL DATA			
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	22 mA ±10%	22 mA ±10%	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type and 16 poles connector	2.5 mm² screw type and 20 poles connector
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage			
Nominal current	16 A (250 Vac)	16 A (250 Vac)	16 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	192 g	345 g	688 g
Continuous current	16 A	16 A	16 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904073	8904073	8904073
End section			
Plugin jumper			

ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL WITH FUSES

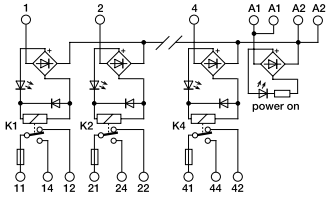
- **Pluggable relay**
- **AC/DC input voltage**
- **SPDT contact**
- **Allow PNP and NPN command**
- **Contact ptotected by replaceable fuse**

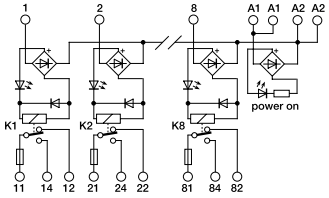


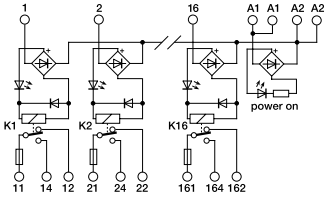
NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(2) Fuses are not provided, they must be selcted according to the load current. The max. value of 6.3 A is referred to the fuses holder capability according to EN 60127.







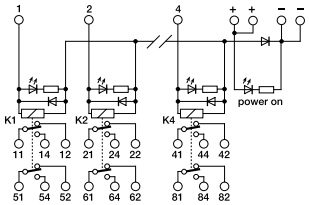
CODE	XR041U24F	XR081U24F	XR161U24F
TYPE	**R41U24F**	**R81U24F**	**R161U24F**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	22 mA ±10%	22 mA ±10%	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type and 16 poles connector	2.5 mm² screw type and 20 poles connector
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2	SPDT, 1 form C, AgSnO2
Output voltage			
Nominal current	16 A (250 Vac)	16 A (250 Vac)	16 A (250 Vac)
Max fuse current	6.3 A (250 Vac) (2)	6.3 A (250 Vac) (2)	6.3 A (250 Vac) (2)
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	210 g	326 g	770 g
Continuous current	16 A	16 A	16 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904073	8904073	8904073
End section			
Plugin jumper			

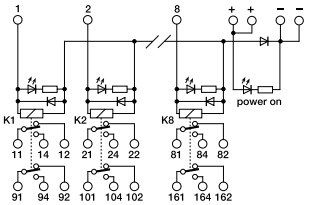
ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL

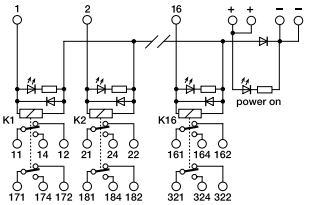
- **Pluggable relay**
- **DC input voltage**
- **DPDT contact**
- **Coils with negative common and positive command (PNP)**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical







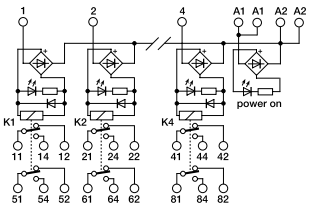
CODE	XR042E24	XR082E24	XR162E24
TYPE	**R42E24**	**R82E24**	**R162E24**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc ±10%	24 Vdc ±10%	24 Vdc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	22 mA ±10%	22 mA ±10%	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type and 16 poles connector	2.5 mm² screw type and 20 poles connector
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgSnO2
Output voltage			
Nominal current	10 A (250 Vac)	10 A (250 Vac)	10 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	225 g	419 g	811 g
Continuous current	10 A	10 A	10 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904074	8904074	8904074
End section			
Plugin jumper			

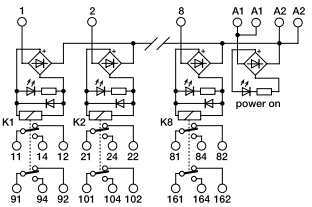
ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL

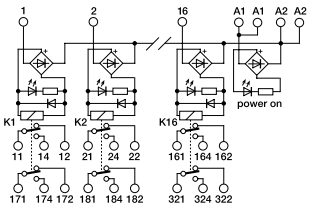
- **Pluggable relay**
- **AC/DC input voltage**
- **DPDT contact**
- **Allow PNP and NPN command**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical







CODE	XR042EAD	XR082EAD	XR162EAD
TYPE	**R42EAD**	**R82EAD**	**R162EAD**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	22 mA ±10%	22 mA ±10%	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms	10 ms / 5 ms	10 ms / 5 ms
Frequency			
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type	2.5 mm² screw type and 16 poles connector	2.5 mm² screw type and 20 poles connector
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgSnO2	DPDT, 2 form C, AgSnO2
Output voltage			
Nominal current	10 A (250 Vac)	10 A (250 Vac)	10 A (250 Vac)
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	227 g	427 g	835 g
Continuous current	10 A	10 A	10 A
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0			
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904074	8904074	8904074
End section			
Plugin jumper			

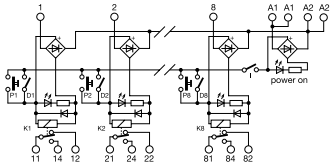
RMP SERIES

ELECTROMECHANICAL RELAY MODULES MULTI-CHANNEL WITH TEST BUTTOM

- **Pluggable relay**
- **AC/DC input voltage**
- **SPDT contact**
- **Allow PNP and NPN command**
- **Test with buttons and switches**

NOTE

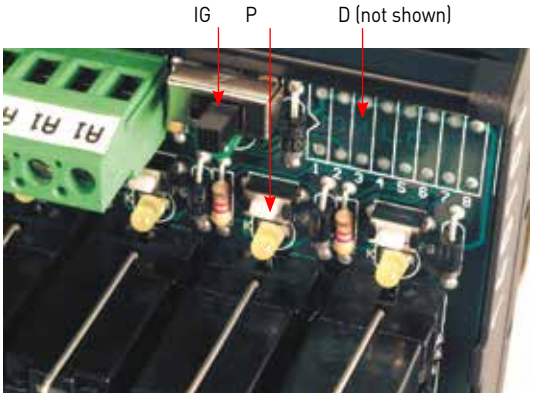
Manufacturer and model of the relay is not binding, technical data are to be considered typical



CODE	XRMP081CM
TYPE	RMP081CM
INPUT TECHNICAL DATA	
Input rated voltage	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V
Current consumption	22 mA ±10%
Turn ON / OFF time	10 ms / 5 ms
Frequency	
Protection circuit	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type
Input channels	8 pluggable
OUTPUT TECHNICAL DATA	
Contact type	SPDT, 1 form C, AgSnO2
Output voltage	
Nominal current	16 A (250 Vac)
Max fuse current	
Connection type	2.5 mm² (AWG26-14), screw type
Protection circuit device	
GENERAL TECHNICAL DATA	
Operating temperature range	-20...+70°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 00
Overvoltage category / pollution degree	II / 2
Status indication	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	136x93x75 mm
Approximate weight	350 g
Continuous current	16 A
Mounting information	on a rail, side by side
Leakage current with signal 0	
Min applicable load	
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay	
Marking tag	8904073
End section	
Plugin jumper	

P = test button
D = DIP-switch
IG = general switch for isolating buttons and the DIP-switch

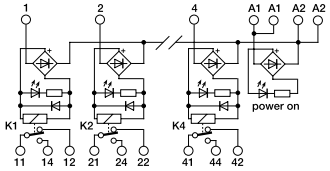
This product can be operated in alternate current (AC) and also in direct current (DC).
Relay activation can be forced temporarily using the relevant button, or permanently using a DIP-switch.

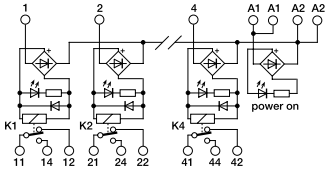


ELECTROMECHANICAL RELAY MODULES
SUPER COMPACT SERIES

- **Not-pluggable relay**
- **AC/DC input voltage**
- **Fast cabling with pluggable terminal blocks**
- **Allow PNP and NPN command**
- **Extremely compact dimensions**

NOTE
Manufacturer and model of the relay is not binding, technical data are to be considered typical





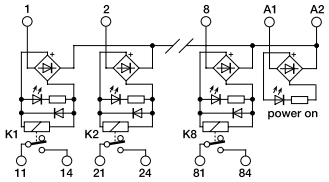
CODE	XCR41	XCRE41
TYPE	CR4-1	CRE4-1
INPUT TECHNICAL DATA		
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	16 mA ±10%	16 mA ±10%
Turn ON / OFF time	7 ms / 3 ms	7 ms / 3 ms
Frequency		
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type pluggable	2.5 mm² screw type pluggable
Input channels	4 not pluggable	4 pluggable
OUTPUT TECHNICAL DATA		
Contact type	SPDT, 1 form C, AgNi	SPDT, 1 form C, AgNi
Output voltage		
Nominal current	8 A (240 Vac)	8 A (240 Vac)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type pluggable	2.5 mm² (AWG26-14), screw type pluggable
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	119x108x22.5 mm	119x108x35 mm
Approximate weight	143 g	180 g
Continuous current	8 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0		
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	8904042	8904042
End section		
Plugin jumper		

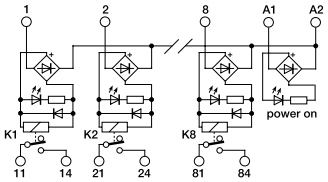
ELECTROMECHANICAL RELAY MODULES
SUPER COMPACT SERIES

- **Not-pluggable relay**
- **AC/DC input voltage**
- **Fast cabling with pluggable terminal blocks**
- **Allow PNP and NPN command**
- **Extremely compact dimensions**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical





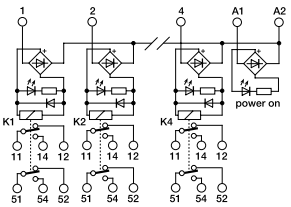
CODE	XCR81	XCRE81
TYPE	CR8-1	CRE8-1
INPUT TECHNICAL DATA		
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	16 mA ±10%	16 mA ±10%
Turn ON / OFF time	7 ms / 3 ms	7 ms / 3 ms
Frequency		
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type pluggable	2.5 mm² screw type pluggable
Input channels	8 not pluggable	8 pluggable
OUTPUT TECHNICAL DATA		
Contact type	SPST(NO), 1 Form A (NO), AgSnO2	SPST(NO), 1 Form A (NO), AgSnO2
Output voltage		
Nominal current	8 A (240 Vac)	8 A (240 Vac)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type pluggable	2.5 mm² (AWG26-14), screw type pluggable
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	119x108x22.5 mm	119x108x35 mm
Approximate weight	199 g	250 g
Continuous current	8 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0		
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	8904042	8904042
End section		
Plugin jumper		

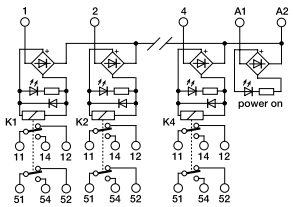
ELECTROMECHANICAL RELAY MODULES
SUPER COMPACT SERIES

- **Not-pluggable relay**
- **AC/DC input voltage**
- **Fast cabling with pluggable terminal blocks**
- **Allow PNP and NPN command**
- **Extremely compact dimensions**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical





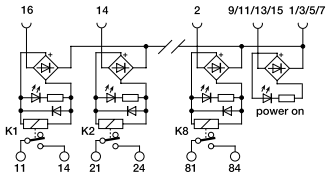
CODE	XCR42SC	XCRE42SC
TYPE	CR4-2SC	CRE4-2SC
INPUT TECHNICAL DATA		
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	33.6 V / 4.8 V	33.6 V / 4.8 V
Current consumption	20 mA ±10%	20 mA ±10%
Turn ON / OFF time	10 ms / 15 ms	10 ms / 15 ms
Frequency		
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² screw type pluggable	2.5 mm² screw type pluggable
Input channels	4 not pluggable	4 pluggable
OUTPUT TECHNICAL DATA		
Contact type	DPDT, 2 form C, AgNi	DPDT, 2 form C, AgNi
Output voltage		
Nominal current	8 A (250 Vac)	8 A (250 Vac)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type pluggable	2.5 mm² (AWG26-14), screw type pluggable
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	119x108x22.5 mm	119x108x35 mm
Approximate weight	137 g	180 g
Continuous current	8 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0		
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	8904052	8904052
End section		
Plugin jumper		

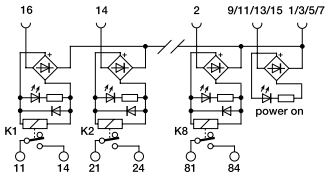
ELECTROMECHANICAL RELAY MODULES SIEMENS S7 INTERFACE

- **Pluggable relay (CRE) and not pluggable (CR)**
- **AC/DC input voltage**
- **Fast cabling with pluggable terminal blocks**
- **Allow PNP and NPN command**
- **Extremely compact dimensions**

NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical





CODE	XCR83	XCRE83
TYPE	CR8-3	CRE8-3
INPUT TECHNICAL DATA		
Input rated voltage	24 Vac/dc ±10%	24 Vac/dc ±10%
Pull in / drop out voltage type	16.8 V / 2.4 V	16.8 V / 2.4 V
Current consumption	16 mA ±10%	16 mA ±10%
Turn ON / OFF time	15 ms / 5 ms	15 ms / 5 ms
Frequency		
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	16 poles connector for Siemens PLC	16 poles connector for Siemens PLC
Input channels	8 not pluggable	8 pluggable
OUTPUT TECHNICAL DATA		
Contact type	SPST(NO), 1 Form A (NO), AgSnO2	SPST(NO), 1 Form A (NO), AgSnO2
Output voltage		
Nominal current	8 A (240 Vac)	8 A (240 Vac)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type pluggable	2.5 mm² (AWG26-14), screw type pluggable
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "DC OK" / LED "Relay"	LED "DC OK" / LED "Relay"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	119x108x22.5 mm	119x108x35 mm
Approximate weight	199 g	199 g
Continuous current	8 A	8 A
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0		
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	8904042	8904042
End section		
Plugin jumper		

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CONNECTING ENERGY
SINCE 1952

SSR

Solid state relay

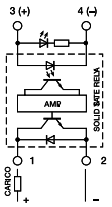
SOLID STATE RELAY
QUICK SELECTION TABLE

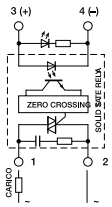
INPUT CHANNELS	INPUT RATED VOLTAGE	CONTACT TYPE	NOMINAL CURRENT (RESISTIVE LOAD)	PLUGGABLE RELAY	NOT PLUGGABLE RELAY	POSITIVE CONTROL (PNP)	NEGATIVE CONTOL (NPN)	PROTECTION CIRCUIT	CODE	TYPE	PAGE
1	5-12-24 Vdc	transistor	3 A	-	•	-	-	•	XO332060	O332060	137
1	5-12-24 Vdc	zero crossing triac	4 A	-	•	-	-	—	XO332240	O332240	137
1	24 Vdc	transistor	2 A	•	-	-	-	—	XCM1S024	CM1S024	138
1	12-24 Vdc	mosfet	5 A	•	-	-	-	•	XCM1S024E	CM1S024E	138
1	24 Vdc	zero crossing triac	3 A	•	-	-	-	—	XCM1T024	CM1T024	139
1	12-24 Vdc	zero crossing triac	3 A	•	-	-	-	•	XCM1T024E	CM1T024E	139
1	5-12-24 Vdc	transistor	80 mA	-	•	-	-	—	XCKS1S	CKS1S	143
1	5-12-24 Vdc	mosfet	10...500 mA	-	•	-	-	—	X766082	CWOT 6-6082	143
4	24 Vdc	transistor	2 A	•	-	•	•	—	XR042S24	R42S24	144
8	24 Vdc	transistor	2 A	•	-	•	•	—	XR082S24	R82S24	144
16	24 Vdc	transistor	2 A	•	-	•	•	—	XR162S24	R162S24	144
4	24 Vdc	zero crossing triac	3 A	•	-	•	•	—	XR042T24	R42T24	145
8	24 Vdc	zero crossing triac	3 A	•	-	•	•	—	XR082T24	R82T24	145
16	24 Vdc	zero crossing triac	3 A	•	-	•	•	—	XR162T24	R162T24	145
4	24 Vdc	transistor	2 A	•	-	•	•	—	XR041S24F	R41S24F	146
8	24 Vdc	transistor	2 A	•	-	•	•	—	XR081S24F	R81S24F	146
16	24 Vdc	transistor	2 A	•	-	•	•	—	XR161S24F	R161S24F	146
1	5-12-24 Vdc	mosfet	3 A / 5 A	-	•			•	XCKS024DC024DC03	CKS-024DC/024DC/03	141
1	5-12-24 Vdc	mosfet	8 A / 5 A	-	•			•	XCKS024DC024DC05	CKS-024DC/024DC/05	141
1	5-12-24 Vdc	mosfet	10 A / 15 A	-	•			•	XCKS024DC024DC10	CKS-024DC/024DC/10	141
1	12-24 Vac/dc	zero crossing triac	5 A	-	•			•	XCKS024DC230AC05	CKS-024DC/230AC/05	142

SOLID STATE RELAY MODULES
SINGLE CHANNEL

- **Not-pluggable relay**
- **Compact dimension**

NOTE
Manufacturer and model of the relay is not binding, technical data are to be considered typical

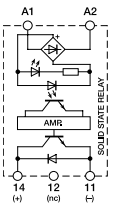


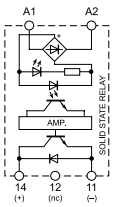


CODE	X0332060	X0332240
TYPE	0332060	0332240
INPUT TECHNICAL DATA		
Input rated voltage	5-12-24 Vdc (range 4...30 Vdc)	5-12-24 Vdc (range 4...30 Vdc)
Pull in / drop out voltage type	3 V / 1 V	4 V / 0.8 V
Current consumption	35 mA ±10%	35 mA ±10%
Turn ON / OFF time	200 µs / 800 µs	10 ms / 10 ms max.
Frequency	0...500 Hz	10...440 Hz
Protection circuit	Free-wheel diode	
Connection terminal	2.5 mm² screw type	2.5 mm² screw type
Input channels	1 not pluggable	1 not pluggable
OUTPUT TECHNICAL DATA		
Contact type	transistor	zero crossing triac
Output voltage	5...60 Vdc	12...240 Vac
Nominal current	3 A (24 Vdc) at 20°C	4 A (230 Vac) at 20°C
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device	free-wheel diode	varistor
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C (derating -0.5 W/°C over 20°C)	-20...+70°C (derating -1.2 W/°C over 30°C)
Input / output isolation	2.5 kVac / 60 s	4 kVac / 60 s
Protection degree	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	12x77x54 mm	12x77x54 mm
Approximate weight	36 g	36 g
Continuous current	10 A for 10 ms	10 A for 10 ms
Mounting information	vertical on a rail, distance 5 mm from adjacent components	vertical on a rail, distance 5 mm from adjacent components
Leakage current with signal 0	1 mA	2 mA
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay		
Marking tag	8904407	
End section		
Plugin jumper		

SOLID STATE RELAY MODULES
SINGLE CHANNEL

- **Pluggable relay**





NOTE

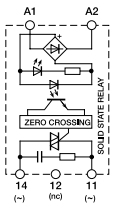
Manufacturer and model of the relay is not binding, technical data are to be considered typical

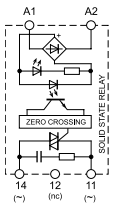
(1) Version produced upon request; contact our sales office for availability.

CODE	XCM1S024	XCM1S024E
TYPE	CM1S024	CM1S024E (1)
INPUT TECHNICAL DATA		
Input rated voltage	24 Vdc (range 19.5...28.5 Vdc)	12-24 Vdc (range 10...32 Vdc)
Pull in / drop out voltage type	19.2 V / 1 V	10 V / 10 V
Current consumption	25 mA ±10% at 24 Vdc	16 mA ±10% at 24 Vdc
Turn ON / OFF time	1 ms / 1 ms	50 µs / 250 µs
Frequency	100 Hz max	100 Hz max
Protection circuit		Free-wheel diode
Connection terminal	2.5 mm² screw type	2.5 mm² screw type
Input channels	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA		
Contact type	transistor	mosfet
Output voltage	3...50 Vdc	5...32 Vdc
Nominal current	2 A (24 Vdc) at 30°C	5 A (24 Vdc) at 60°C
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device		suppressor diode
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C (derating -0.75 W/°C over 30°C)	-20...+70°C (derating -0.1 A/°C over 60°C)
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm
Approximate weight	54 g	54 g
Continuous current	8 A for 10 ms	120 A for 20 ms (peak)
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	0.1 mA	10 µA
Min applicable load	10 mA	
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay	8904404	gia montato
Marking tag	already mounted	8904402
End section		
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poli)

SOLID STATE RELAY MODULES
SINGLE CHANNEL

- **Pluggable relay**





NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

CODE	XCM1T024	XCM1T024E
TYPE	CM1T024	CM1T024E (1)
INPUT TECHNICAL DATA		
Input rated voltage	24 Vdc (range 19.5...28.5 Vdc)	12-24 Vdc (range 10...32 Vdc)
Pull in / drop out voltage type	19.2 V / 1 V	10 V / 10 V
Current consumption	25 mA ±10% at 24 Vdc	17 mA ±10% at 24 Vdc
Turn ON / OFF time	11 ms / 11 ms (at 50 Hz)	1/2 cycle / 1/2 cycle
Frequency	30...100 Hz max	100 Hz max
Protection circuit		Free-wheel diode
Connection terminal	2.5 mm² screw type	2.5 mm² screw type
Input channels	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA		
Contact type	zero crossing triac	zero crossing triac
Output voltage	48...280 Vac	12...275 Vac
Nominal current	3 A (24 Vdc) at 30°C	3 A (24 Vdc) at 60°C
Max fuse current		
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+80°C (derating -0.05 A/°C over 30°C)	-20...+70°C (derating -0.03 A/°C over 40°C)
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	16x75x68 mm	16x75x68 mm
Approximate weight	54 g	54 g
Continuous current	120 A for 10 ms	120 A for 20 ms (peak)
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	5 mA	1 mA
Min applicable load		
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay	8904405	8904403
Marking tag	already mounted	already mounted
End section		
Plugin jumper	CMB16B (8 poles)	CMB16B (8 poles)

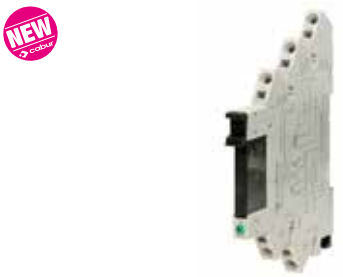
CWR SERIES

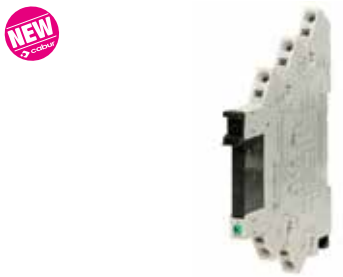
SOLID STATE RELAY MODULES SINGLE CHANNEL

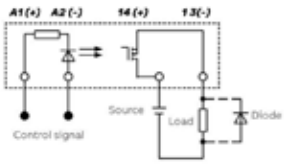
- **Pluggable relay**
- **DC input voltage**
- **Compact dimensions**
- **Available plug-in jumper for potential distribution**
- **with spring connection**

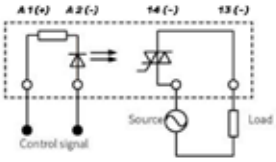
NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical





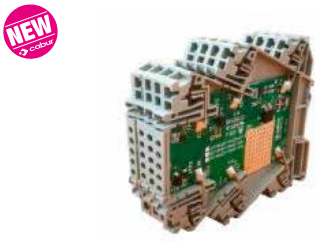


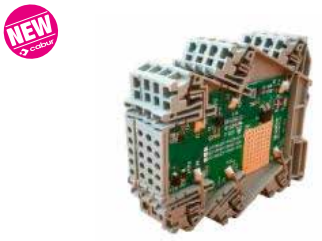


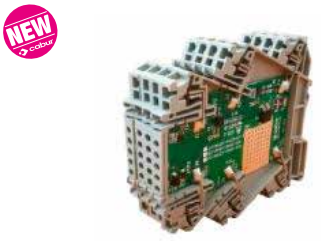
CODE	X766822S	X766832S
TYPE	CWRE7-0822-S	CWRE7-0832-S
INPUT TECHNICAL DATA		
Input rated voltage	24 Vdc ±10%	24 Vdc ±10%
Pull in / drop out voltage type	19.2 V / 9 V	19.2 V / 9 V
Current consumption	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc
Turn ON / OFF time	8 ms / 5 ms	8 ms / 5 ms
Frequency		
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² (spring)	2.5 mm² (spring)
Input channels	1 pluggable	1 pluggable
OUTPUT TECHNICAL DATA		
Contact type	mosfet	zero crossing triac
Output voltage	3...30 Vdc	48...280 Vac
Nominal current	4 A (3 ... 28 Vdc)	2 A (48...280 Vac)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), spring type	2.5 mm² (AWG26-14), spring type
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+70°C	-20...+70°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 20	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6.2x89x77 mm	6.2x89x77 mm
Approximate weight	35 g	35 g
Continuous current	48 A for 10 ms	80 A for 10 ms
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	100 µA	1.5 mA
Min applicable load	0.02 A	0.1 A
APPROVALS AND MARKINGS	CE cULus LISTED	CE cULus LISTED
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	NUPUTUK50	NUPUTUK50
End section		
Plugin jumper	CWBK7-0813 (20 poles)	CWBK7-0813 (20 poles)

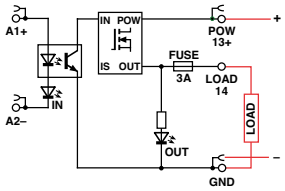
SOLID STATE RELAY MODULES
SINGLE CHANNEL

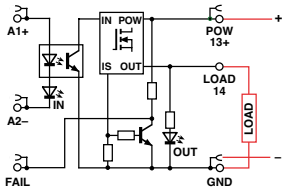
- **Not-pluggable relay**
- **Protection against short circuit, overload,overtemperature**
- **Suitable for DC loads**
- **Compact dimension**

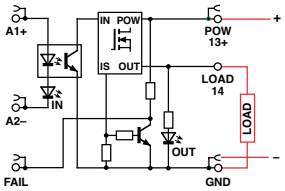












NOTE

Manufacturer and model of the components is not binding, technical data are to be considered typical

(1) The maximum current depend on the number of actived output and the ambient temperature

(2) Protection switch off the output current and yellow LED, The output restart automatically when the overload is removed. The current limiting depending also by operating temperature, for more accuracy or to protect cables with a lower rated current, an external fuse must be provided.

(3) with the CK/PT end plate on the final module

CODE	**XCKS024DC024DC03**	**XCKS024DC024DC05**	**XCKS024DC024DC10**
TYPE	**CKS-024DC/024DC/03**	**CKS-024DC/024DC/05**	**CKS-024DC/024DC/10**
INPUT TECHNICAL DATA			
Input rated voltage	5-12-24 Vdc (range 4.7...32 Vdc)	5-12-24 Vdc (range 4.7...32 Vdc)	5-12-24 Vdc (range 4.7...32 Vdc)
Pull in / drop out voltage type	4.5 V / 4.2 V	4.5 V / 4.2 V	4.5 V / 4.2 V
Current consumption	10 mA ±10% at 24 Vdc	10 mA ±10% at 24 Vdc	10 mA ±10% at 24 Vdc
Turn ON / OFF time			
Frequency	200 Hz max.	200 Hz max.	200 Hz max.
Protection circuit	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² spring type	2.5 mm² spring type	2.5 mm² spring type
Input channels	1 not pluggable	1 not pluggable	1 not pluggable
OUTPUT TECHNICAL DATA			
Contact type	mosfet	mosfet	mosfet
Output voltage	5...32 Vdc	5...32 Vdc	5...32 Vdc
Nominal current	3 A (24 Vdc) at 45°C / 5 A (24 Vdc) at 20°C	8 A (24 Vdc) at 45°C / 5 A (24 Vdc) at 20°C	10 A (24 Vdc) at 45°C / 15 A (24 Vdc) at 20°C
Max fuse current			
Connection type	2.5 mm² (AWG26-14), spring type	2.5 mm² (AWG26-14), spring type	2.5 mm² (AWG26-14), spring type
Protection circuit device	suppressor diode / resettable fuse (2)	suppressor diode / short circuit, oveload, overtemperature (2)	suppressor diode / short circuit, oveload, overtemperature (2)
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00 / IP20 (3)	IP 00 / IP20 (3)	IP 00 / IP20 (3)
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input" / LED "Output-Fail"	LED "Input" / LED "Output-Fail"	LED "Input" / LED "Output-Fail"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6x91x100 mm	6x91x100 mm	6x91x100 mm
Approximate weight	30 g	30 g	30 g
Continuous current	5 A for 2 s ±10% at 25°C (1)	21 A for 100 ms at 25°C (1)	21 A for 100 ms at 25°C (1)
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	< 25 µA at 24 Vdc	< 25 µA at 24 Vdc	< 25 µA at 24 Vdc
Min applicable load	10 mA / 5 V	10 mA / 5 V	10 mA / 5 V
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)			
Spare part relay			
Marking tag	NU0851	NU0851	NU0851
End section	XCKPT	XCKPT	XCKPT
Plugin jumper	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)

SOLID STATE RELAY MODULES
SINGLE CHANNEL

- **Not-pluggable relay**
- **Protection against short circuit, overload,overtemperature**
- **Suitable for AC loads**
- **Compact dimension**

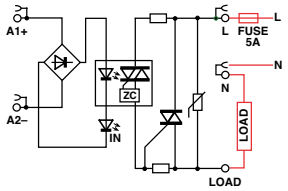
NOTE

Manufacturer and model of the components is not binding, technical data are to be considered typical

(1) The maximum current depend on the number of actived output and the ambient temperature

(2) An external protection fuse rated 5 A is required

(3) with the CK/PT end plate on the final module



CODE	XCKS024DC230AC05
TYPE	CKS-024DC/230AC/05
INPUT TECHNICAL DATA	
Input rated voltage	12-24 Vac/dc (range 9...30 Vac/dc)
Pull in / drop out voltage type	8.5 V / 8 V
Current consumption	10 mA ±10% at 24 Vdc
Turn ON / OFF time	1/2 cycle / 1/2 cycle
Frequency	100 Hz max
Protection circuit	Free-wheel diode, Reverse polarity
Connection terminal	2.5 mm² spring type
Input channels	1 not pluggable
OUTPUT TECHNICAL DATA	
Contact type	zero crossing triac
Output voltage	20...265 Vac
Nominal current	5 A (230 Vac) at 45°C
Max fuse current	
Connection type	2.5 mm² (AWG26-14), spring type
Protection circuit device	varistor (2)
GENERAL TECHNICAL DATA	
Operating temperature range	-20 ...+45°C
Input / output isolation	2.5 kVac / 60 s
Protection degree	IP 00 / IP20 (3)
Overvoltage category / pollution degree	II / 2
Status indication	LED "Input"
Housing material	UL94V-0 plastic material
Dimensions (LxHxD)	6x91x100 mm
Approximate weight	30 g
Continuous current	6 A (1)
Mounting information	on a rail, side by side
Leakage current with signal 0	< 25 µA at 24 Vdc
Min applicable load	10 mA / 24 Vac
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	
Spare part relay	
Marking tag	NU0851
End section	XCKPT
Plugin jumper	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)

SOLID STATE RELAY MODULES
SINGLE CHANNEL

- **Not-pluggable relay**
- **Protection against short circuit, overload,overtemperature**
- **Suitable for DC loads**
- **Compact dimension**

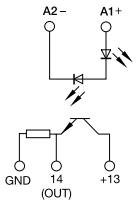
NOTE

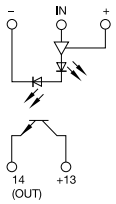
Manufacturer and model of the components is not binding, technical data are to be considered typical

(1) The maximum current depend on the number of actived output and the ambient temperature

(2) An external protection fuse rated 5 A is required

(3) with the CK/PT end plate on the final module





CODE	XCKS1S	X766082
TYPE	CKS1S (1)	CWOT 6-6082 (1)
INPUT TECHNICAL DATA		
Input rated voltage	5-12-24 Vdc (range 4...30 Vdc)	5-12-24 Vdc (range 4.5...28 Vdc)
Pull in / drop out voltage type	3 V / 3 V	4.2 V / 2.7 V
Current consumption	10 mA ±10% at 24 Vdc	0.1 mA ±10%
Turn ON / OFF time		12 µs / 12 µs
Frequency	20 kHz max duty cycle 50/50, 70/30 max	20 KHz
Protection circuit		
Connection terminal	2.5 mm² spring type	2.5 mm² screw type
Input channels	1 not pluggable	1 not pluggable
OUTPUT TECHNICAL DATA		
Contact type	transistor	mosfet
Output voltage	3...30 Vdc	5...48 Vdc
Nominal current	80 mA (30 Vdc) at 25°C	10...500 mA (24 Vdc)
Max fuse current		
Connection type	2.5 mm² (AWG26-14), spring type	2.5 mm² (AWG26-14), screw type
Protection circuit device		
GENERAL TECHNICAL DATA		
Operating temperature range	-20...+60°C	-25...+60°C
Input / output isolation	3 kVac / 60 s	3.5 kVac / 60 s
Protection degree	IP 00 / IP20 (3)	IP 20
Overvoltage category / pollution degree	II / 2	II / 2
Status indication	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	6x91x100 mm	6.2x79x84 mm
Approximate weight	32 g	29 g
Continuous current		
Mounting information	on a rail, side by side	on a rail, side by side
Leakage current with signal 0		
Min applicable load	2 mA /10 mV	
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)		
Spare part relay		
Marking tag	NU0851	
End section	XCKPT	
Plugin jumper	PTC/4/02 (2 poles); PTC/4/03 (3 poles); PTC/4/04 (4 poles); PTC/4/05 (5 poles); PTC/4/10 (10 poles); PTC/4/00 (42 poles)	

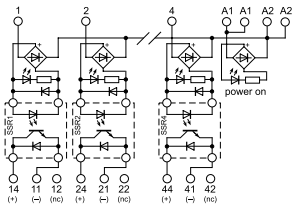
SOLID STATE RELAY MODULES MULTI-CHANNEL

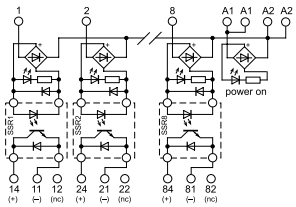
- **Pluggable relay**
- **Allow PNP and NPN command**
- **Suitable for DC loads**

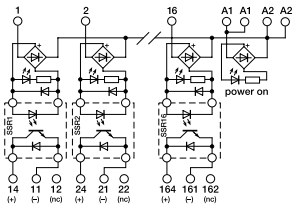
NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.







CODE	XR042S24	XR082S24	XR162S24
TYPE	**R42S24 (1)**	**R82S24 (1)**	**R162S24 (1)**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)
Pull in / drop out voltage type	19.2 V / 1 V	19.2 V / 1 V	19.2 V / 1 V
Current consumption	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc
Turn ON / OFF time	1 ms / 1 ms	1 ms / 1 ms	1 ms / 1 ms
Frequency	100 Hz max	100 Hz max	100 Hz max
Protection circuit			
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² screw type
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	transistor	transistor	transistor
Output voltage	3...50 Vdc	3...50 Vdc	3...50 Vdc
Nominal current	2 A (24 Vdc) at 30°C	2 A (24 Vdc) at 30°C	2 A (24 Vdc) at 30°C
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C (derating -0.75 W/°C over 30°C)	-20...+70°C (derating -0.75 W/°C over 30°C)	-20...+70°C (derating -0.75 W/°C over 30°C)
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	207 g	379 g	756 g
Continuous current	8 A for 10 ms	8 A for 10 ms	8 A for 10 ms
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	0.1 mA	0.1 mA	0.1 mA
Min applicable load	10 mA	10 mA	10 mA
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904404	8904404	8904404
End section			
Plugin jumper			

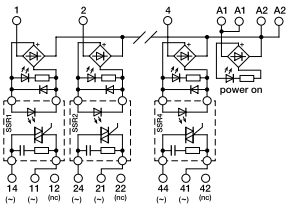
SOLID STATE RELAY MODULES MULTI-CHANNEL

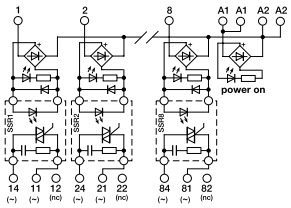
- **Pluggable relay**
- **Allow PNP and NPN command**
- **Suitable for DC loads**

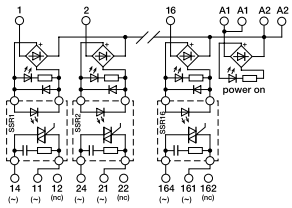
NOTE

Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.







CODE	XR042T24	XR082T24	XR162T24
TYPE	R42T24 (1)	R82T24 (1)	R162T24 (1)
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)
Pull in / drop out voltage type	19.2 V / 1 V	19.2 V / 1 V	19.2 V / 1 V
Current consumption	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc
Turn ON / OFF time	11 ms / 11 ms (at 50 Hz)	11 ms / 11 ms (at 50 Hz)	11 ms / 11 ms (at 50 Hz)
Frequency	30...100 Hz max	30...100 Hz max	30...100 Hz max
Protection circuit			
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² screw type
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	zero crossing triac	zero crossing triac	zero crossing triac
Output voltage	48...280 Vac	48...280 Vac	48...280 Vac
Nominal current	3 A (24 Vdc) at 30°C	3 A (24 Vdc) at 30°C	3 A (24 Vdc) at 30°C
Max fuse current			
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+80°C (derating -0.05 A/°C over 30°C)	-20...+80°C (derating -0.05 A/°C over 30°C)	-20...+80°C (derating -0.05 A/°C over 30°C)
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	70x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	207 g	379 g	756 g
Continuous current	120 A for 10 ms	120 A for 10 ms	120 A for 10 ms
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	5 mA	5 mA	5 mA
Min applicable load			
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904405	8904405	8904405
End section			
Plugin jumper			

SOLID STATE RELAY MODULES MULTI-CHANNEL WITH FUSES

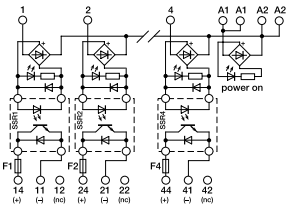
- **Pluggable relay**
- **Allow PNP and NPN command**
- **Suitable for DC loads**
- **Contact ptotected by replaceable fuse**

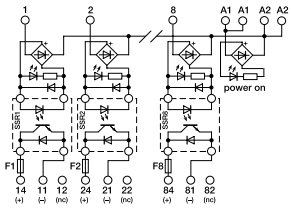
NOTE

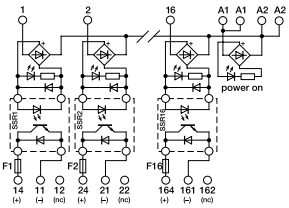
Manufacturer and model of the relay is not binding, technical data are to be considered typical

(1) Version produced upon request; contact our sales office for availability.

(2) Fuses are not provided, they must be selcted according to the load current. The max. value of 6.3 A is referred to the fuses holder capability according to EN 60127.







CODE	XR041S24F	XR081S24F	XR161S24F
TYPE	**R41S24F (1)**	**R81S24F (1)**	**R161S24F (1)**
INPUT TECHNICAL DATA			
Input rated voltage	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)	24 Vdc (range 19.5...28.5 Vdc)
Pull in / drop out voltage type	19.2 V / 1 V	19.2 V / 1 V	19.2 V / 1 V
Current consumption	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc	25 mA ±10% at 24 Vdc
Turn ON / OFF time	1 ms / 1 ms	1 ms / 1 ms	1 ms / 1 ms
Frequency	100 Hz max	100 Hz max	100 Hz max
Protection circuit			
Connection terminal	2.5 mm² screw type	2.5 mm² screw type	2.5 mm² screw type
Input channels	4 pluggable	8 pluggable	16 pluggable
OUTPUT TECHNICAL DATA			
Contact type	transistor	transistor	transistor
Output voltage	3...50 Vdc	3...50 Vdc	3...50 Vdc
Nominal current	2 A (24 Vdc) at 30°C	2 A (24 Vdc) at 30°C	2 A (24 Vdc) at 30°C
Max fuse current	6.3 A (250 Vac) (2)	6.3 A (250 Vac) (2)	6.3 A (250 Vac) (2)
Connection type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type	2.5 mm² (AWG26-14), screw type
Protection circuit device			
GENERAL TECHNICAL DATA			
Operating temperature range	-20...+70°C (derating -0.75 W/°C over 30°C)	-20...+70°C (derating -0.75 W/°C over 30°C)	-20...+70°C (derating -0.75 W/°C over 30°C)
Input / output isolation	2.5 kVac / 60 s	2.5 kVac / 60 s	2.5 kVac / 60 s
Protection degree	IP 00	IP 00	IP 00
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Status indication	LED "Input"	LED "Input"	LED "Input"
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Dimensions (LxHxD)	67x93x75 mm	137x93x75 mm	250x93x75 mm
Approximate weight	207 g	379 g	756 g
Continuous current	8 A for 10 ms	8 A for 10 ms	8 A for 10 ms
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
Leakage current with signal 0	0.1 mA	0.1 mA	0.1 mA
Min applicable load	10 mA	10 mA	10 mA
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Mounting rail (IEC60715/TH35-15)	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB	PR/3/PP, PR/3/PP/ZB, PR/3/PA, PR/3/PA/ZB
Spare part relay			
Marking tag	8904404	8904404	8904404
End section			
Plugin jumper			

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Interfaces

Interface wiring modules

Diode and Lamp holder modules

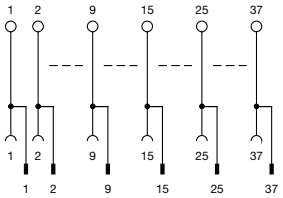
PASSIVE INTERFACE QUICKSELECTION TABLE

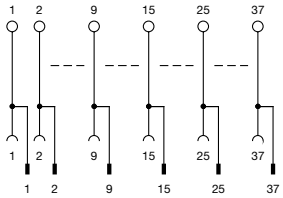
INPUT CHANNELS	INPUT RATED VOLTAGE	NUMBER OF POLES	DIMENSIONS	CODE	TYPE	PAGE
Interface module	D-sub male + female	9	37x66x93 mm	XISD09FM	ISD09FM	149
Interface module	D-sub male + female	15	47x66x93 mm	XISD15FM	ISD15FM	149
Interface module	D-sub male + female	25	70x66x93 mm	XISD25FM	ISD25FM	149
Interface module	D-sub male + female	37	107x66x93 mm	XISD37FM	ISD37FM	150
Interface module	D-sub male	25	57x80x93 mm	XCPD25M	CPD25M	151
Interface module	D-sub male	37	77x80x93 mm	XCPD37M	CPD37M	152
Interface module	D-sub male	50	92x80x93 mm	XCPD50M	CPD50M	153
Interface module	D-sub female	25	57x80x93 mm	XCPD25F	CPD25F	151
Interface module	D-sub female	37	77x80x93 mm	XCPD37F	CPD37F	152
Interface module	D-sub female	50	92x80x93 mm	XCPD50F	CPD50F	153
Interface module	IDC male	10	42x66x93 mm	XIF10PML	IF10PML	154
Interface module	IDC male	16	58x66x93 mm	XIF16PML	IF16PML	154
Interface module	IDC male	20	70x66x93 mm	XIF20PML	IF20PML	154
Interface module	IDC male	26	86x66x93 mm	XIF26PML	IF26PML	155
Interface module	IDC male	34	107x66x93 mm	XIF34PML	IF34PML	155
Interface module	IDC male	40	122x66x93 mm	XIF40PML	IF40PML	155
Interface module	IDC male	10	42x66x93 mm	XIF10PMS	IF10PMS	154
Interface module	IDC male	16	58x66x93 mm	XIF16PMS	IF16PMS	154
Interface module	IDC male	20	70x66x93 mm	XIF20PMS	IF20PMS	154
Interface module	IDC male	26	86x66x93 mm	XIF26PMS	IF26PMS	155
Interface module	IDC male	34	107x66x93 mm	XIF34PMS	IF34PMS	155
Interface module	IDC male	40	122x66x93 mm	XIF40PMS	IF40PMS	155
Interface module	IDC male	20	47x80x93 mm	XCPC20M	CPC20M	156
Interface module	IDC male	26	57x80x93 mm	XCPC26M	CPC26M	156
Interface module	IDC male	34	70x80x93 mm	XCPC34M	CPC34M	156
Interface module	IDC male	40	77x80x93 mm	XCPC40M	CPC40M	157
Interface module	IDC male	50	92x80x93 mm	XCPC50M	CPC50M	157
Interface module	IDC male	60	107x80x93 mm	XCPC60M	CPC60M	157
Interface module	IDC male	64	117x80x93 mm	XCPC64M	CPC64M	158
Component-holder modules	with common connection	8	25x55x93 mm	XCCM08CV	CCM08CV	159
Component-holder modules	with common connection	16	47x66x93 mm	XCCM16CV	CCM16CV	159
Component-holder modules	single feed-through	8	25x66x93 mm	XCCM08SV	CCM08SV	160
Component-holder modules	single feed-through	16	47x66x93 mm	XCCM16SV	CCM16SV	160
Component-holder modules	single feed-through	24	70x66x93 mm	XCCM24SV	CCM24SV	160
Diode modules	feed-through	8	25x60x76 mm	XCDM08CS	CDM08CS	161
Diode modules	feed-through	16	50x65x93 mm	XCDM16CS	CDM16CS	161
Diode modules	feed-through	24	71x65x93 mm	XCDM24CS	CDM24CS	161
Diode modules	common anode	8	45x65x93 mm	XCDM08AC	CDM08AC	162
Diode modules	common anode	16	92x65x93 mm	XCDM16AC	CDM16AC	162
Diode modules	common anode	24	137x65x93 mm	XCDM24AC	CDM24AC	162
Diode modules	common cathode	8	45x65x93 mm	XCDM08CC	CDM08CC	163
Diode modules	common cathode	16	92x65x93 mm	XCDM16CC	CDM16CC	163
Diode modules	common cathode	24	137x65x93 mm	XCDM24CC	CDM24CC	163
LED testing modules	common negative	8	45x65x93 mm	XCLT08AC	CLT08AC	164
LED testing modules	common negative	16	92x65x93 mm	XCLT16AC	CLT16AC	164
LED testing modules	common positive	8	45x65x93 mm	XCLT08CC	CLT08CC	165
LED testing modules	common positive	16	92x65x93 mm	XCLT16CC	CLT16CC	165
Lamp testing modules	common positive	8	45x65x93 mm	XCLP08CC	CLP08CC	166
Lamp testing modules	common positive	16	92x65x93 mm	XCLP16CC	CLP16CC	166

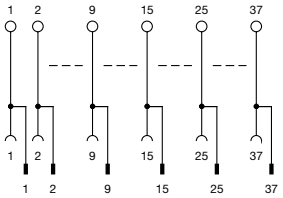
INTERFACE MODULE
D-SUB CONNECTOR

- **Universal module**

NOTE
The terminal number corresponds to the connector number





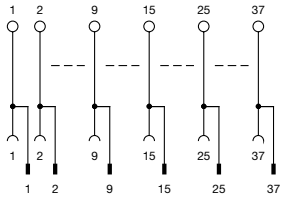


CODE	XISD09FM	XISD15FM	XISD25FM
TYPE	**ISD09FM**	**ISD15FM**	**ISD25FM**
GENERAL TECHNICAL DATA			
Number of poles	9	15	25
Version	D-sub male + female	D-sub male + female	D-sub male + female
Input rated voltage	0...25 Vac / 0...60 Vdc	0...25 Vac / 0...60 Vdc	0...25 Vac / 0...60 Vdc
Input rated current	2 A max	2 A max	2 A max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	37x66x93 mm	47x66x93 mm	70x66x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR913	PR003, PR903, PR005, PR914	PR003, PR903, PR005, PR915
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR914	PR007, PR907, PR006, PR915	PR007, PR907, PR006, PR916

INTERFACE MODULE
D-SUB CONNECTOR

- **Universal module**

NOTE
The terminal number corresponds to the connector number

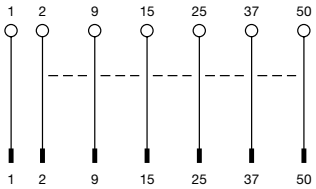


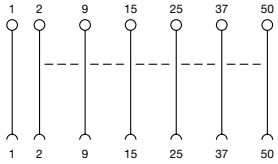
CODE	XISD37FM
TYPE	ISD37FM
GENERAL TECHNICAL DATA	
Number of poles	37
Version	D-sub male + female
Input rated voltage	0...25 Vac / 0...60 Vdc
Input rated current	2 A max
Operating temperature range	-20...+60°C
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal	2.5 mm² screw
Status indication	
Dimensions (LxHxD)	107x66x93 mm
Housing material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR916
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR917

INTERFACE MODULE
COMPACT D-SUB CONNECTOR

- **Universal module**
- **Compact dimensions**

NOTE
The terminal number corresponds to the connector number



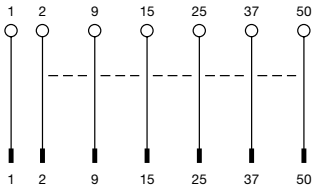


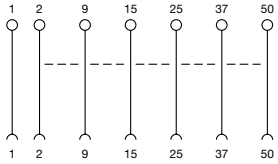
CODE	XCPD25M	XCPD25F
TYPE	**CPD25M**	**CPD25F**
GENERAL TECHNICAL DATA		
Number of poles	25	25
Version	D-sub male	D-sub female
Input rated voltage	0...25 Vac / 0...60 Vdc	0...25 Vac / 0...60 Vdc
Input rated current	2 A max	2 A max
Operating temperature range	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	57x80x93 mm	57x80x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR917	PR003, PR903, PR005, PR920
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR918	PR007, PR907, PR006, PR921

INTERFACE MODULE
COMPACT D-SUB CONNECTOR

- **Universal module**
- **Compact dimensions**

NOTE
The terminal number corresponds to the connector number

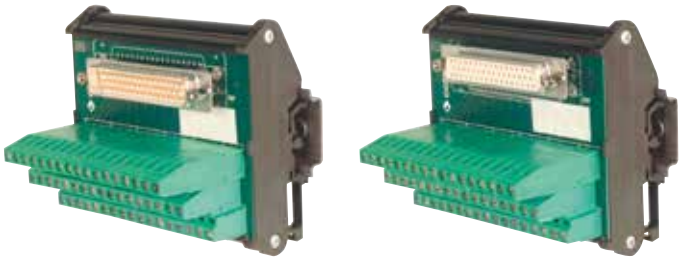




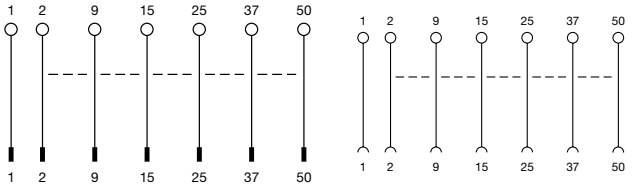
CODE	**XCPD37M**	**XCPD37F**
TYPE	**CPD37M**	**CPD37F**
GENERAL TECHNICAL DATA		
Number of poles	37	37
Version	D-sub male	D-sub female
Input rated voltage	0...25 Vac / 0...60 Vdc	0...25 Vac / 0...60 Vdc
Input rated current	2 A max	2 A max
Operating temperature range	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	77x80x93 mm	77x80x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR918	PR003, PR903, PR005, PR921
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR919	PR007, PR907, PR006, PR922

INTERFACE MODULE
COMPACT D-SUB CONNECTOR

- **Universal module**
- **Compact dimensions**



NOTE
The terminal number corresponds to the connector number



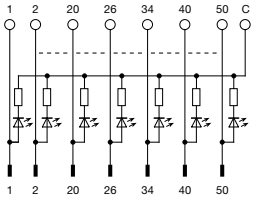
CODE TYPE	XCPD50M CPD50M	XCPD50F CPD50F
GENERAL TECHNICAL DATA		
Number of poles	50	50
Version	D-sub male	D-sub female
Input rated voltage	0...25 Vac / 0...60 Vdc	0...25 Vac / 0...60 Vdc
Input rated current	2 A max	2 A max
Operating temperature range	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	92x80x93 mm	92x80x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR919	PR003, PR903, PR005, PR922
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR920	PR007, PR907, PR006, PR923

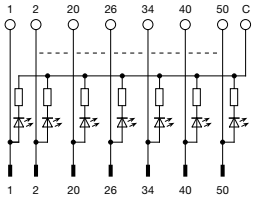
INTERFACE MODULE
IDC CONNECTOR

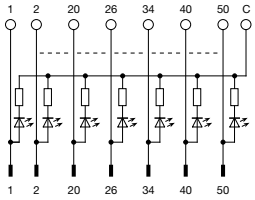
- **Universal module**

NOTE

The terminal number corresponds to the connector number
(1) Status LEDs are configured for a nominal voltage of 24 Vdc and negative common







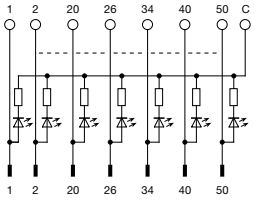
WITH LED	XIF10PML IF10PML	XIF16PML IF16PML	XIF20PML IF20PML
WITHOUT LED	**XIF10PMS** **IF10PMS**	**XIF16PMS** **IF16PMS**	**XIF20PMS** **IF20PMS**
GENERAL TECHNICAL DATA			
Number of poles	10	16	20
Version	IDC male	IDC male	IDC male
Input rated voltage	0...50 Vac/dc	0...50 Vac/dc	0...50 Vac/dc
Input rated current	750 mA max	750 mA max	750 mA max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication	LED (1)	LED (1)	LED (1)
Dimensions (LxHxD)	42x66x93 mm	58x66x93 mm	70x66x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR923	PR003, PR903, PR005, PR925	PR003, PR903, PR005, PR926
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR924	PR007, PR907, PR006, PR926	PR007, PR907, PR006, PR927

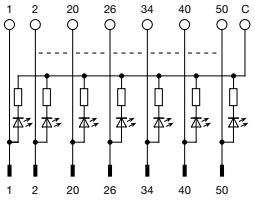
INTERFACE MODULE
IDC CONNECTOR

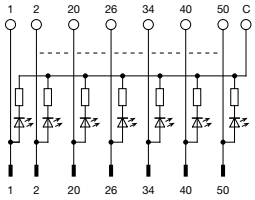
- **Universal module**

NOTE

The terminal number corresponds to the connector number
(1) Status LEDs are configured for a nominal voltage of 24 Vdc and negative common





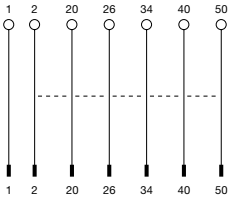


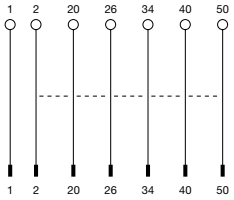
WITH LED	XIF26PML IF26PML	XIF34PML IF34PML	XIF40PML IF40PML
WITHOUT LED	**XIF26PMS** **IF26PMS**	**XIF34PMS** **IF34PMS**	**XIF40PMS** **IF40PMS**
GENERAL TECHNICAL DATA			
Number of poles	26	34	40
Version	IDC male	IDC male	IDC male
Input rated voltage	0...50 Vac/dc	0...50 Vac/dc	0...50 Vac/dc
Input rated current	750 mA max	750 mA max	750 mA max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication	LED (1)	LED (1)	
Dimensions (LxHxD)	86x66x93 mm	107x66x93 mm	122x66x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR927	PR003, PR903, PR005, PR928	PR003, PR903, PR005, PR929
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR928	PR007, PR907, PR006, PR929	PR007, PR907, PR006, PR930

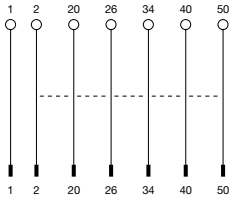
INTERFACE MODULE
COMPACT IDC CONNECTOR

- **Universal module**
- **Compact dimensions**

NOTE
The terminal number corresponds to the connector number





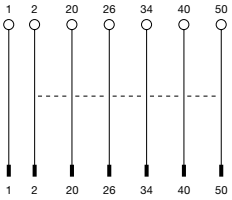


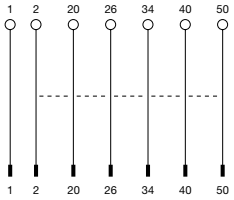
CODE	XCPC20M	XCPC26M	XCPC34M
TYPE	CPC20M	CPC26M	CPC34M
GENERAL TECHNICAL DATA			
Number of poles	20	26	34
Version	IDC male	IDC male	IDC male
Input rated voltage	0...50 Vac/dc	0...50 Vac/dc	0...50 Vac/dc
Input rated current	750 mA max	750 mA max	750 mA max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	47x80x93 mm	57x80x93 mm	70x80x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR930	PR003, PR903, PR005, PR931	PR003, PR903, PR005, PR932
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR931	PR007, PR907, PR006, PR932	PR007, PR907, PR006, PR933

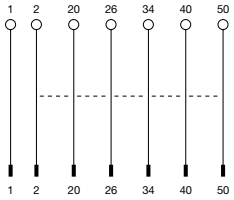
INTERFACE MODULE
COMPACT IDC CONNECTOR

- **Universal module**
- **Compact dimensions**

NOTE
The terminal number corresponds to the connector number





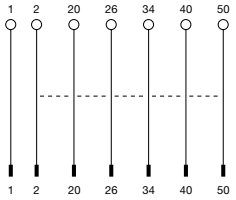


CODE	XCPC40M	XCPC50M	XCPC60M
TYPE	CPC40M	CPC50M	CPC60M
GENERAL TECHNICAL DATA			
Number of poles	40	50	60
Version	IDC male	IDC male	IDC male
Input rated voltage	0...50 Vac/dc	0...50 Vac/dc	0...50 Vac/dc
Input rated current	750 mA max	750 mA max	750 mA max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	77x80x93 mm	92x80x93 mm	107x80x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR933	PR003, PR903, PR005, PR934	PR003, PR903, PR005, PR935
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR934	PR007, PR907, PR006, PR935	PR007, PR907, PR006, PR936

INTERFACE MODULE
COMPACT IDC CONNECTOR

- **Universal module**
- **Compact dimensions**

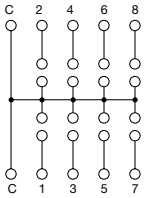
NOTE
The terminal number corresponds to the connector number

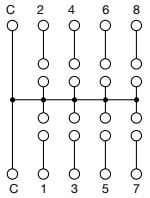


CODE	XCPC64M
TYPE	CPC64M
GENERAL TECHNICAL DATA	
Number of poles	64
Version	IDC male
Input rated voltage	0...50 Vac/dc
Input rated current	750 mA max
Operating temperature range	-20...+60°C
Overvoltage category / pollution degree	II / 2
Protection degree	IP 00
Connection terminal	2.5 mm² screw
Status indication	
Dimensions (LxHxD)	117x80x93 mm
Housing material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side
APPROVALS AND MARKINGS	CE
ACCESSORIES	
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR936
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR937

COMPONENT-HOLDER MODULES WITH COMMON CONNECTION

- **Suitable for diodes and resistors**
- **Small size**



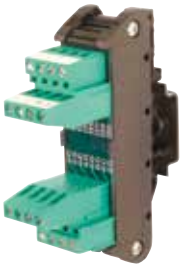


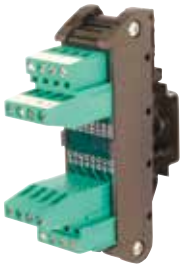
CODE	XCCM08CV	XCCM16CV
TYPE	CCM08CV	CCM16CV
GENERAL TECHNICAL DATA		
Number of poles	8	16
Version	with common connection	with common connection
Input rated voltage	0...220 V ±10%	0...220 V ±10%
Input rated current	5 A channel / 15 A on common	5 A channel / 15 A on common
Operating temperature range	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	25x55x93 mm	47x66x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR937	PR003, PR903, PR005, PR938
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR938	PR007, PR907, PR006, PR939

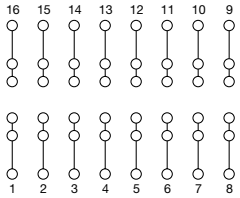
CCM SERIES

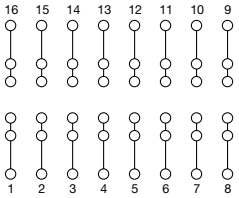
COMPONENT-HOLDER MODULES WITH COMMON CONNECTION

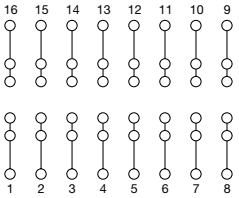
- **Suitable for diodes and resistors**
- **Small size**







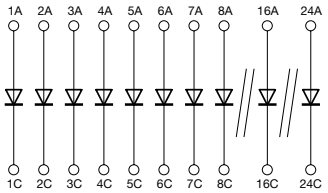


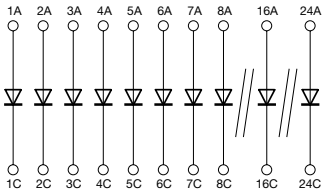


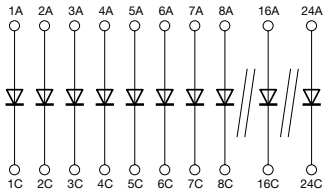
CODE	XCCM08SV	XCCM16SV	XCCM24SV
TYPE	CCM08SV	CCM16SV	CCM24SV
GENERAL TECHNICAL DATA			
Number of poles	8	16	24
Version	single feed-through	single feed-through	single feed-through
Input rated voltage	0...100 V ±10%	0...100 V ±10%	0...100 V ±10%
Input rated current	4 A max. (on common)	4 A max. (on common)	4 A max. (on common)
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	25x66x93 mm	47x66x93 mm	70x66x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR939	PR003, PR903, PR005, PR940	PR003, PR903, PR005, PR941
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR940	PR007, PR907, PR006, PR941	PR007, PR907, PR006, PR942

DIODE MODULES
FEED-THROUGH

NOTE
The module is equipped with 1N4007 diodes



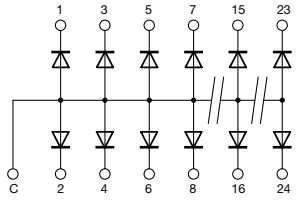


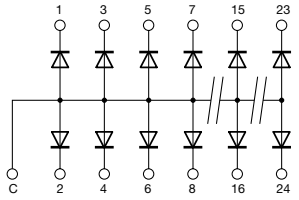


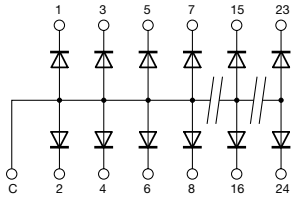
CODE	XCDM08CS	XCDM16CS	XCDM24CS
TYPE	CDM08CS	CDM16CS	CDM24CS
GENERAL TECHNICAL DATA			
Number of poles	8	16	24
Version	feed-through	feed-through	feed-through
Input rated voltage	0...100 V ±10%	0...100 V ±10%	0...100 V ±10%
Input rated current	1 A max	1 A max	1 A max
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	25x60x76 mm	50x65x93 mm	71x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR942	PR003, PR903, PR005, PR943	PR003, PR903, PR005, PR944
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR943	PR007, PR907, PR006, PR944	PR007, PR907, PR006, PR945

DIODE MODULES FEED-THROUGH

NOTE
The module is equipped with 1N4007 diodes



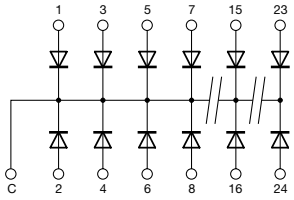


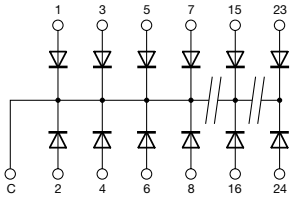


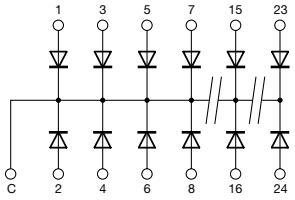
CODE	**XCDM08AC**	**XCDM16AC**	**XCDM24AC**
TYPE	**CDM08AC**	**CDM16AC**	**CDM24AC**
GENERAL TECHNICAL DATA			
Number of poles	8	16	24
Version	common anode	common anode	common anode
Input rated voltage	0...220 V ±10%	0...220 V ±10%	0...220 V ±10%
Input rated current	1 A channel / 15 A on common	1 A channel / 15 A on common	1 A channel / 15 A on common
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	45x65x93 mm	92x65x93 mm	137x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR945	PR003, PR903, PR005, PR946	PR003, PR903, PR005, PR947
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR946	PR007, PR907, PR006, PR947	PR007, PR907, PR006, PR948

DIODE MODULES FEED-THROUGH

NOTE
The module is equipped with 1N4007 diodes







CODE	XCDM08CC	XCDM16CC	XCDM24CC
TYPE	CDM08CC	CDM16CC	CDM24CC
GENERAL TECHNICAL DATA			
Number of poles	8	16	24
Version	common cathode	common cathode	common cathode
Input rated voltage	0...220 V ±10%	0...220 V ±10%	0...220 V ±10%
Input rated current	1 A channel / 15 A on common	1 A channel / 15 A on common	1 A channel / 15 A on common
Operating temperature range	-20...+60°C	-20...+60°C	-20...+60°C
Overvoltage category / pollution degree	II / 2	II / 2	II / 2
Protection degree	IP 00	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw	2.5 mm² screw
Status indication			
Dimensions (LxHxD)	45x65x93 mm	92x65x93 mm	137x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE	CE
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR948	PR003, PR903, PR005, PR949	PR003, PR903, PR005, PR950
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR949	PR007, PR907, PR006, PR950	PR007, PR907, PR006, PR951

LED TESTING MODULES WITH NEGATIVE COMMAND

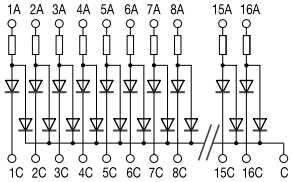
- **Integrated limit resistors**
- **Suitable only for LEDs without limitation resistors or internal adapter circuit**
- **Compact dimensions**

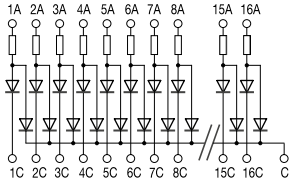
NOTE

(1) LEDs light up, with a negative command on the common terminal

The module is suitable only for simple LEDs, not for LED lamps, which are equipped with its own internal electronic circuit to adjust the nominal voltage.

The module is equipped with 1N4007 diodes and 4.7 kΩ 1/4 W resistors





CODE	XCLT08AC	XCLT16AC
TYPE	CLT08AC	CLT16AC
GENERAL TECHNICAL DATA		
Number of poles	8	16
Version	common negative (1)	common negative (1)
Input rated voltage	24 Vdc max 30 Vdc	24 Vdc max 30 Vdc
Input rated current	5 mA (24 Vdc)	5 mA (24 Vdc)
Operating temperature range	-20...+45°C	-20...+45°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	45x65x93 mm	92x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR951	PR003, PR903, PR005, PR952
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR952	PR007, PR907, PR006, PR953

LED TESTING MODULES WITH NEGATIVE COMMAND

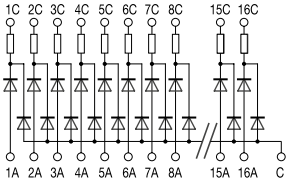
- **Integrated limit resistors**
- **Suitable only for LEDs without limitation resistors or internal adapter circuit**
- **Compact dimensions**

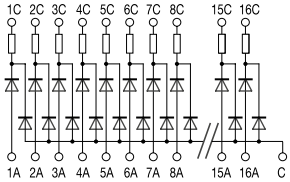
NOTE

(1) LEDs light up, with a negative command on the common terminal

The module is suitable only for simple LEDs, not for LED lamps, which are equipped with its own internal electronic circuit to adjust the nominal voltage.

The module is equipped with 1N4007 diodes and 4.7 kΩ 1/4 W resistors

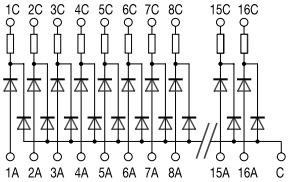


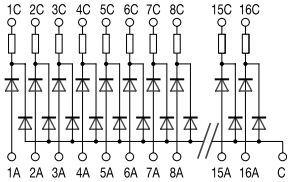


CODE	XCLT08CC	XCLT16CC
TYPE	CLT08CC	CLT16CC
GENERAL TECHNICAL DATA		
Number of poles	8	16
Version	common positive (1)	common positive (1)
Input rated voltage	24 Vdc max 30 Vdc	24 Vdc max 30 Vdc
Input rated current	5 mA (24 Vdc)	5 mA (24 Vdc)
Operating temperature range	-20...+45°C	-20...+45°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	45x65x93 mm	92x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR953	PR003, PR903, PR005, PR954
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR954	PR007, PR907, PR006, PR955

LAMP TESTING MODULES WITH POSITIVE COMMAND

- **Suitable for LED lamps with limit resistors**
- **Not suitable for LED lamps fitted with an integrated limitation circuit**
- **Compact dimensions**





NOTE

(1) LEDs light up, with a positive command on the common terminal

The module is suitable only for filament lamps. Some LED lamps are equipped with its own internal electronic circuit, that do not allow to function with the lamp tester.

The lamps powered by alternating current, will have a brightness reduced by the presence of the rectifier diode.

CODE	XCLP08CC	XCLP16CC
TYPE	CLP08CC	CLP16CC
GENERAL TECHNICAL DATA		
Number of poles	8	16
Version	common positive (1)	common positive (1)
Input rated voltage	12...230 Vac/dc	12...230 Vac/dc
Input rated current	100 mA (120 V) / 50 mA (230 V)	100 mA (120 V) / 50 mA (230 V)
Operating temperature range	-20...+45°C	-20...+45°C
Overvoltage category / pollution degree	II / 2	II / 2
Protection degree	IP 00	IP 00
Connection terminal	2.5 mm² screw	2.5 mm² screw
Status indication		
Dimensions (LxHxD)	45x65x93 mm	92x65x93 mm
Housing material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	vertical on rails, side by side	vertical on rails, side by side
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)	PR003, PR903, PR005, PR955	PR003, PR903, PR005, PR956
Mounting rail (IEC60715/TH35-15)	PR007, PR907, PR006, PR956	PR007, PR907, PR006, PR957

PANEL MOUNTABLE SOCKETS

- 22 mm diameter
- Versions with rear connector or with cable
- IP65 protection degree assured by rubber cap
- Robust aluminium case

CODE TYPE	XPSPRJ45M00AA PSP-RJ45/M00/AA	XPSPRJ45M60AA PSP-RJ45/M60/AA
GENERAL TECHNICAL DATA		
Type of connection outside	RJ45 connector	RJ45 connector
Type of connection inside	RJ45 connector	60 mm cable with RJ45 connector
Contact surface	Gold over nickel	Gold over nickel
Plugging cycles	>750	>750
Operating temperature range	-25...+55°C	-25...+55°C
Standard / approvals	IEC 62321-5:2013	IEC 62321-5:2013
Category	RJ45 Cat.5	RJ45 Cat.5
Protection degree	IP65 with rubber cap closed	IP65 with rubber cap closed
Housing material	Aluminium	Aluminium
Dimension	38.2mm M22	36.2mm M22
Approximate weight	22 g	50 g
Mounting information	On panel with hole diameter 22mm, thickness 1...10 mm	On panel with hole diameter 22mm, thickness 1...10 mm
Fixing	Fixing with threaded ring on the back (without screws)	Fixing with threaded ring on the back (without screws)
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Spare parts	Rubber cap code XPSPCAP1	Rubber cap code XPSPCAP1

PANEL MOUNTABLE SOCKETS

- 22 mm diameter
- Versions with rear connector or with cable
- IP65 protection degree assured by rubber cap
- Robust aluminium case

CODE TYPE	XPSPUSB2M00AA PSP-USB2/M00/AA	XPSPUSB2M60AA PSP-USB2/M60/AA
GENERAL TECHNICAL DATA		
Type of connection outside	USB 2.0 type A connector	USB 2.0 type A connector
Type of connection inside	USB 2.0 type A connector	60 mm cable with USB 2.0 type A connector
Contact surface	Gold over nickel	Gold over nickel
Plugging cycles	5000	5000
Operating temperature range	-25...+55°C	-25...+55°C
Standard / approvals	IEC 62321-5:2013	IEC 62321-5:2013
Category	USB 2.0 Type A	USB 2.0 Type A
Protection degree	IP65 with rubber cap closed	IP65 with rubber cap closed
Housing material	Aluminium	Aluminium
Dimension	31mm M22	21.2 mm M22
Approximate weight	20 g	45 g
Mounting information	On panel with hole diameter 22mm, thickness 1...10 mm	On panel with hole diameter 22mm, thickness 1...10 mm
Fixing	Fixing with threaded ring on the back (without screws)	Fixing with threaded ring on the back (without screws)
APPROVALS AND MARKINGS	CE	CE
ACCESSORIES		
Spare parts	Rubber cap code XPSPCAP1	Rubber cap code XPSPCAP1

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CONNECTING ENERGY
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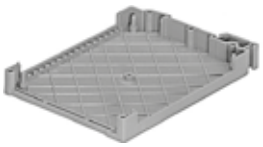
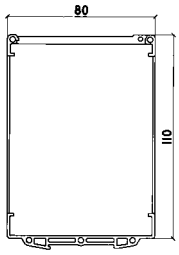
Accessories

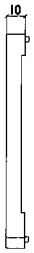
PLASTIC ENCLOSURE FOR ELECTRONIC CIRCUIT

- **3 different dimension available**
- **ventilated and not ventilated covers**




NOTE
(1) see drawing
(2) The base module CH-B12.5 must be closed with a cover to ensure IP 20 protection degree





CODE TYPE	XBB125 CH-B12.5	XBC010 CH-C10 -	XBC225 CH-C22.5 -	XBC325 CH-C32.5 -
GENERAL TECHNICAL DATA				
Version	12.5 mm DIN-rail mounting base	10 mm cover for CH-B12.5	22.5 mm cover for CH-B12.5	32.5 mm cover for CH-B12.5
Operating temperature range	max 80°C	max 80°C	max 80°C	max 80°C
Dissipation capability	7 W max.	7 W max.	7 W max.	7 W max.
Protection degree	IP 20 (2)			
Connection terminal				
Dimensions (LxHxD)	(1)	(1)	(1)	(1)
Approximate weight				
Material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side	on a rail, side by side
ACCESSORIES				
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB			
Marking tag				
Cross-connection				
End plate				

PLASTIC ENCLOSURE FOR ELECTRONIC CIRCUIT

- **3 different dimension available**
- **ventilated and not ventilated covers**

NOTE

(1) see drawing

(2) The base module CH-B12.5 must be closed with a cover to ensure IP 20 protection degree

CODE **TYPE**	**XBS000** **CH-S -**	**XBCA00** **CH-CA -**	**XBC000** **CH-C -**
GENERAL TECHNICAL DATA			
Version	openable front cover	ventilated lateral cover	not ventilated lateral cover
Operating temperature range	max 80°C	max 80°C	max 80°C
Dissipation capability	7 W max.	7 W max.	7 W max.
Protection degree			
Connection terminal			
Dimensions (LxHxD)	(1)	(1)	(1)
Approximate weight			
Material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information			
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)			
Marking tag			
Cross-connection			
End plate			

APPLICATIONS

Electronic circuit for housing CH Series

With its CH (Cabur Housing) series containers, Cabur offers a modular system for creating three different sized boxes (22.5 mm, 35 mm and 45 mm) made up of eight easily assemble parts. The circuit can measure up to 102 x 74 mm and can be inserted onto four columns in the base which hold it in place. The circuit can be additionally secured with a 2.2 x 4.5 mm self-tapping screw, to be screwed into the central column, which also enables the circuit to be smaller in size. Conductor connections are applied using 2.5 mm removable terminal blocks, which are easily available. 16 connection poles are used, with a clearance of 5.08 mm on each side and 10 mm on the front.

The CH-S front closure has an openable inspection window for access to inside the circuit for procedures on potentiometers, jumpers and microswitches. The side closures have a number of incisions which enable them to be cut off with scissors, at a clearance of 5.08 mm, avoiding the expensive grinding typical of other models on the market.

PLASTIC ENCLOSURE FOR ELECTRONIC CIRCUIT

- **Expandable module with 6 mm pitch**
- **6 spring clamp terminal blocks**
- **Jumper can be connected on all 4 levels**
- **Openable front inspection cover**

Ground contact on CKBG

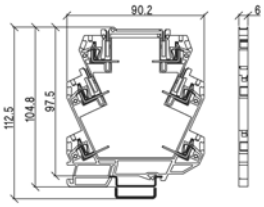
NOTE

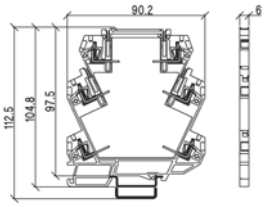
(1) see drawing

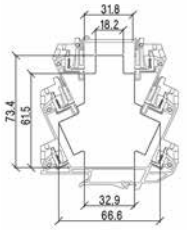
(2) The final module must be closed with the CK/PT end plate, to ensure IP 20 protection degree

(3) Includes 6 spring clapm terminal blocks

(4) PTC/4 series, see paragraph accessories for more details





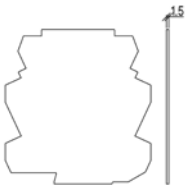


CODE TYPE	XCKB CKB (1)	XCKBG CKBG (1)	XCKX2 CKBX2 (1)
GENERAL TECHNICAL DATA			
Version	base housing	base housing with ground contact	expansion module
Operating temperature range	-40...+ 100°C	-40...+ 100°C	-40...+ 100°C
Dissipation capability			
Protection degree	IP 20 (2)	IP 20 (2)	IP 20 (2)
Connection terminal	2.5 mm² (clamp) (3)	2.5 mm² (clamp) (3)	2.5 mm² (clamp) (3)
Dimensions (LxHxD)	(1)	(1)	(1)
Approximate weight	20 g	20 g	15 g
Material	UL94V-0 plastic material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	on a rail, side by side	on a rail, side by side	on a rail, side by side
ACCESSORIES			
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB
Marking tag	CNU/8/030	CNU/8/031	CNU/8/032
Cross-connection	PTC/4/.. (4)	PTC/4/.. (4)	PTC/4/.. (4)
End plate	CK/PT	CK/PT	CK/PT

PLASTIC ENCLOSURE FOR ELECTRONIC CIRCUIT

- **Expandable module with 6 mm pitch**
- **6 spring clamp terminal blocks**
- **Jumper can be connected on all 4 levels**
- **Openable front inspection cover**

NOTE
(1) see drawing



CODE TYPE	XCKPT CK/PT	XCKS CK/S
GENERAL TECHNICAL DATA		
Version	end section	Openable inspection window for CK
Operating temperature range	-40...+ 100°C	-40...+ 100°C
Dissipation capability		
Protection degree		
Connection terminal		
Dimensions (LxHxD)	(1)	(1)
Approximate weight	15 g	1 g
Material	UL94V-0 plastic material	UL94V-0 plastic material
Mounting information	on rails	on rails
ACCESSORIES		
Mounting rail (IEC60715/TH35-7.5)		
Marking tag		
Cross-connection		
End plate		

APPLICATIONS

With its CK series housing, Cabur offers a modular system for creating terminal blocks of gradually increasing widths for housing simple components such as diodes and resistors or more complex circuits with or without the support of a printed circuit board.
Housing requires the following components:

- one base housing available in two versions: CKB and CKBG, the latter supplied with an electrical contact to the metal rail for connecting the internal circuit to ground. The rail ground contact can carry an impulse current of 5 KA (impulse 8/20). Both models have an external width of 6 mm and an internal width of 5 mm and have 6 spring connections, 4 of which are connectable to a jumper.
- one or more CKBX2 expansion cards similar to the standard model, i.e. with an external width of 6 mm and a central cavity that allows bulky components to overlap the base outline, can also be supplied with a 6-connection expansion, 4 of which connectable to a jumper;
- available with the CK/S openable inspection window for frontal closure; the opening is in any case sized to ensure protection degree IP20 even without using the inspection window;
- the final module must be provided with the CK/PT end section, which ensures protection degree IP20;
- also available with the CK/PCB printed strip board, useful for custom applications in which low volumes make it infeasible to produce a dedicated printed circuit board or for creating affordable prototypes.

JUMPER BRIDGE

- **Suitable for "CK" series**

NOTE
Example of a jumper bridge cut into nine poles
Current capability is referred to the metal jumper, number of poles and terminals can reduce this value.

CODE	PTCCK42
TYPE	PTC/CK/42
GENERAL TECHNICAL DATA	
Version	
Number of poles	42
Pitch	6 mm
Current capability	32 A
Approximate weight	27 g (42 poles)
Material	copper-tin alloy

- **Suitable for "CWRE" series**

NOTE
Current capability is referred to the metal jumper, number of poles and terminals can reduce this value.

CODE	X766813	XCMB16B	XCMB27B
TYPE	CWBK7-0813	CMB16B	CMB27B
GENERAL TECHNICAL DATA			
Version	blue	black	black
Number of poles	20	8	8
Pitch	6.2 mm	16 mm	27 mm
Current capability	16 A	16 A	16 A
Approximate weight	6 g	3 g	3 g
Material			

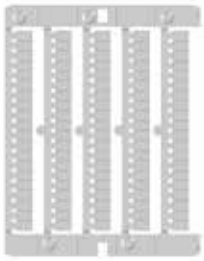
CODE	XCDIN2	XCDIN4
TYPE	CDIN-2	CDIN-4
GENERAL TECHNICAL DATA		
Material	P13-FE00	aluminium
Mounting information	screws or rivets	screws or rivets
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

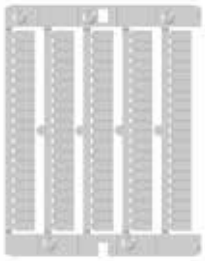
CODE	XCDIN7	XCDIN8
TYPE	CDIN-7	CDIN-8
GENERAL TECHNICAL DATA		
Material	P13-FE00	P13-FE00
Mounting information	screws or rivets	screws or rivets
Mounting rail (IEC60715/TH35-7.5)	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB	PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

MARKING TAG FOR CK SERIES

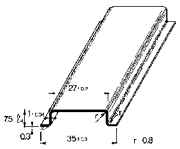
NOTE

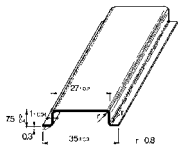
White identification tags to insert into the dedicated slot. It can be written manually or printed using an industrial marking system. In addition to blank tags, tags with alpha-numeric characters are vailable
and with the most common electrical symbols. For more information, see the Marking Systems catalog.



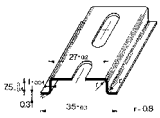


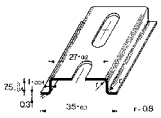
CODE	NU0851	NUPUTUK50
TYPE	CNU/8/51	NUPUTUK50
GENERAL TECHNICAL DATA		
Version	white, neutral	white, neutral
Material	policarbonate	policarbonate



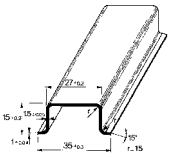


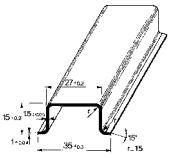
CODE	PR003	PR903
TYPE	PR/3/AC	PR/3/AC/ZB
GENERAL TECHNICAL DATA		
Version	passivated	white zinc-plated "SENDZMIR" system
Material	steel	steel



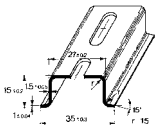


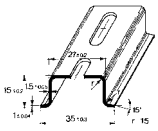
CODE	PR005	PR905
TYPE	PR/3/AS	PR/3/AS/ZB
GENERAL TECHNICAL DATA		
Version	passivated with holes	white zinc-plated "SENDZMIR" system
Material	steel	steel





CODE	PR007	PR907
TYPE	PR/3/PP	PR/3/PP/ZB
GENERAL TECHNICAL DATA		
Version	passivated	white zinc-plated "SENDZMIR" system
Material	steel	steel





CODE	PR006	PR906
TYPE	PR/3/PA	PR/3/PA/ZB
GENERAL TECHNICAL DATA		
Version	passivated	white zinc-plated "SENDZMIR" system
Material	steel	steel

INDEX BY CODE

INDEX BY TYPE

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