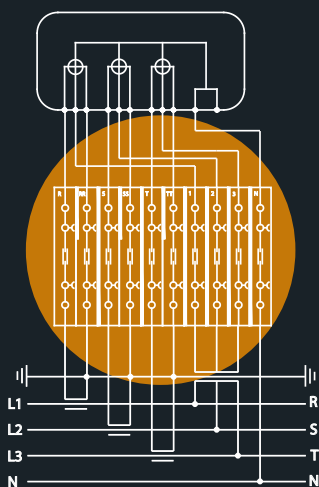
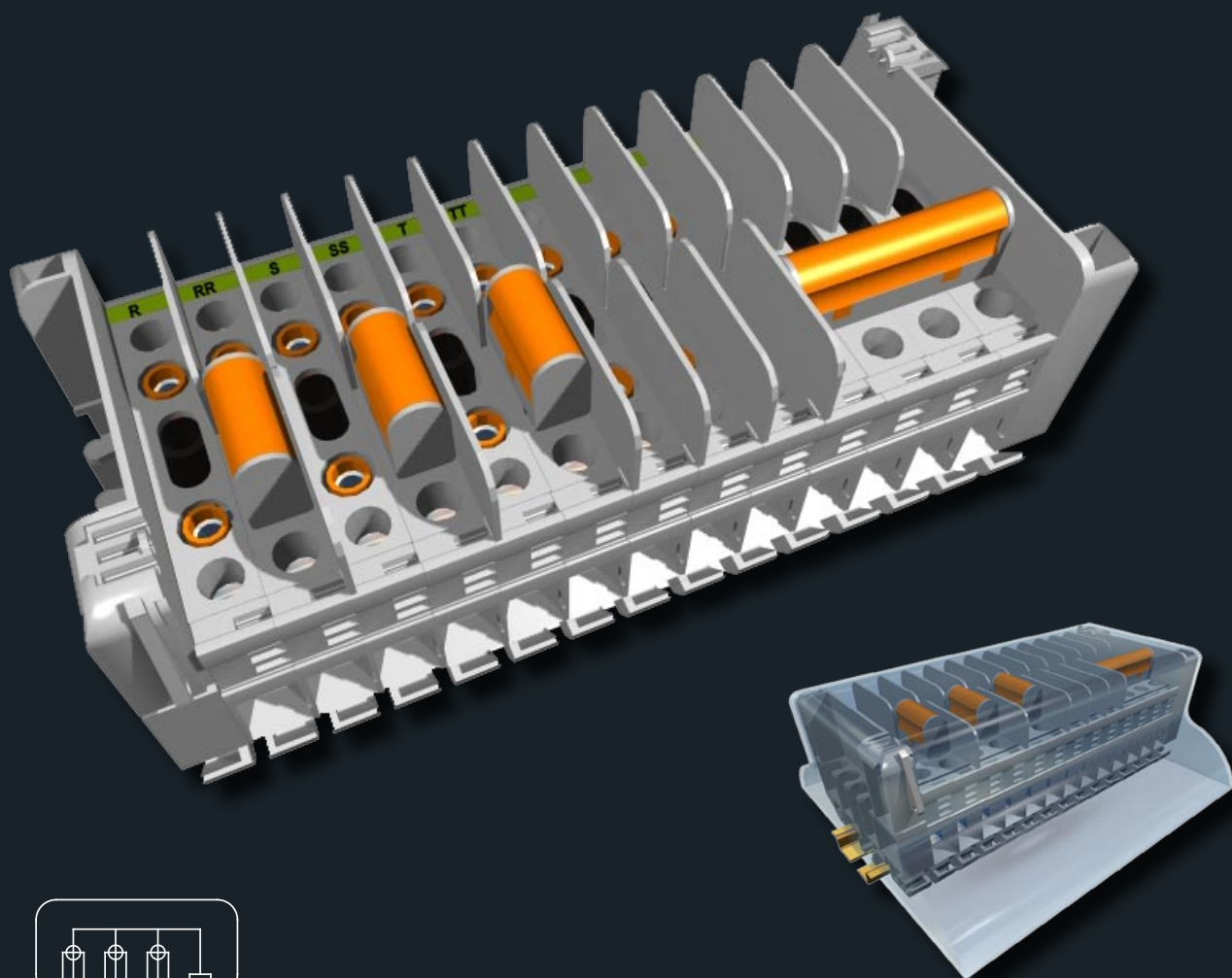


# HIGH SECURITY TEST BLOCK UNITS

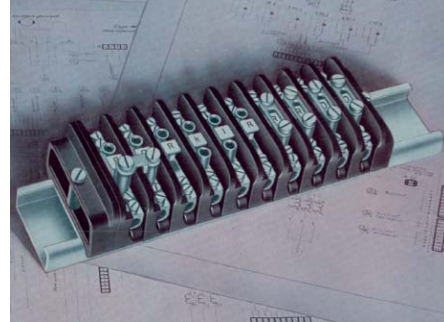
FOR KWH METER TESTINGS AT GRID OR CUSTOMER METER POINTS



The kWh-Meter Test Block Units from **Unibloc** have specially been designed in close collaboration with several Electrical Utility Companies. Thus, we have been able to get a final product which fully matches the highest needs and expectations.

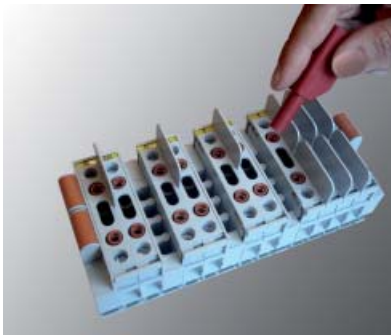
**Unibloc** (formerly CIAMA) has been working very close to different Electrical Utility Companies for more than 40 years, by innovating and developing new applications according to the new safety and security regulations.

This catalogue is about the new EPI type kWh-Meter Test Block Units. These EPI units have carefully been designed to ensure that the testing procedures comply with the legislation related to the prevention of any electric risk.



1967 Model

This is an open catalogue in which you can find the typical Test Block Units, as well as any necessary information about how to set up a kWh-Test Block Unit according to any special requirements of most of the Electrical Utility Companies.



2008 New EPI model

We would like to thank to all the people involved in the development of these products, legal literature, etc. for their shares and inputs in the present catalogue.

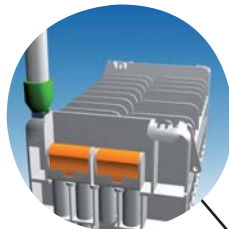
Promotora de Mercados Eléctricos, S.A.  
Unibloc

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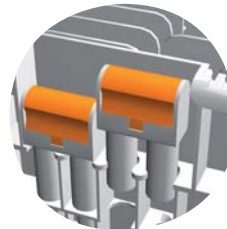
# EPI kWh-meter Test Block Units



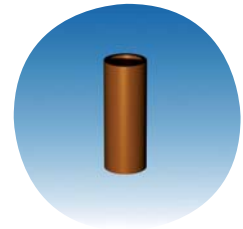
From 1,5 mm<sup>2</sup>  
up to 16 mm<sup>2</sup>



Modeller for cable  
end terminals  
patent ES 2279726 B1



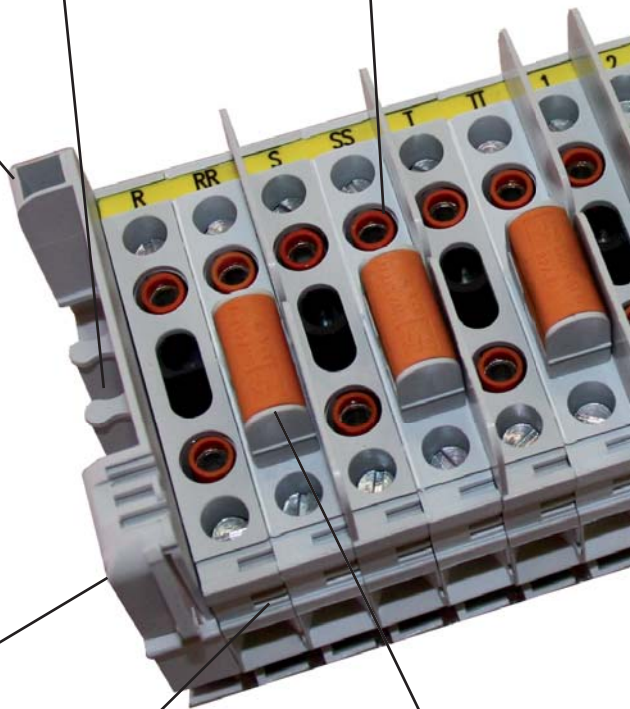
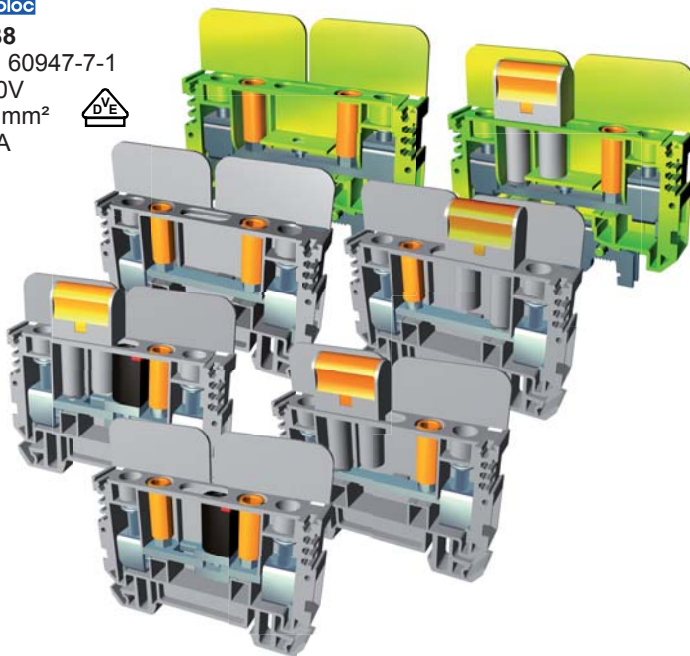
Removable  
jumper plugs  
2 x 2 poles  
1 x 4 poles



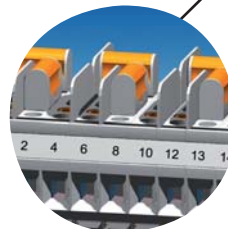
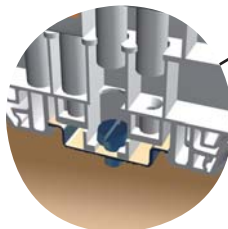
IP 20 socket  
insulation  
9 colours available



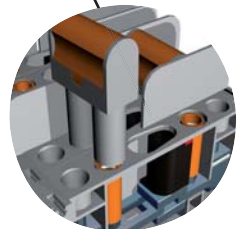
**RB8**  
EN 60947-7-1  
800V  
16 mm<sup>2</sup>  
76A



Panel self drilling  
screws (included)



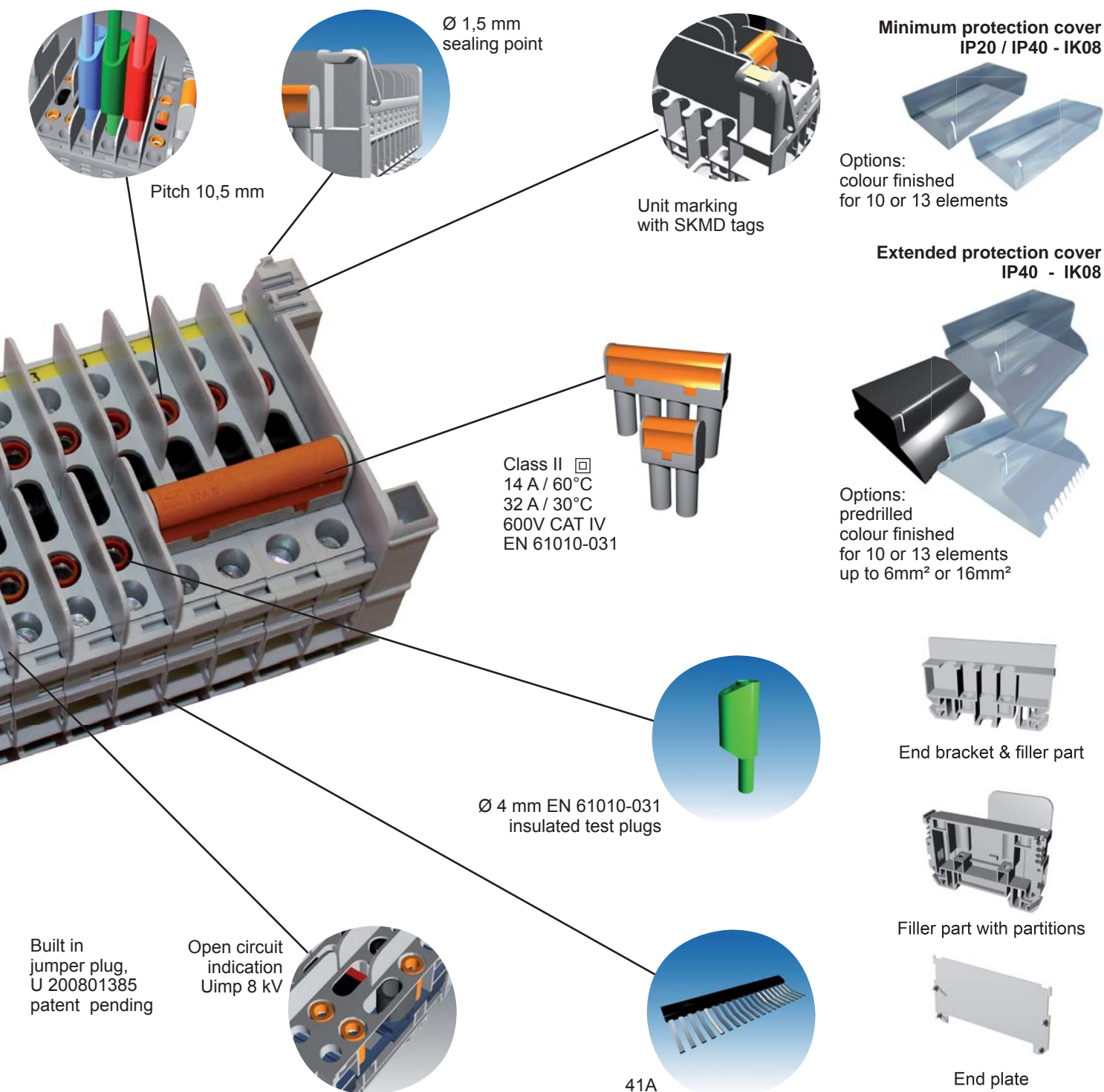
Additional  
clamping units  
marking



## APPLICATIONS

- This Test Block unit is suitable for testing kWh-meter equipment at both Grid and Industrial + Commercial metering points.
- It is fitted between measuring equipment and transformers. It allows for opening and closing any circuit, also enabling to carry out ammeter and voltmeter measuring, to provide auxiliary energy feeding for calibration and to replace and/or connect auxiliary equipment.
- It ensures that checking jobs are carried out without cutting the energy supply and grants full safety for the operators, in conformity with European Directives and with regulations governing prevention of risks at work.
- To be fitted in all places and under all conditions, even when sealing of the kWh-meter test block is mandatory and protection against tampering required.





### ADVANTAGES

- SAFETY.** The Test Block unit is fully protected against finger contact. It has been designed to take standard Ø 4 mm. insulated probes or plugs which are indispensable for checking under safety. All hand held parts fitted with suitable insulation while performing checking procedures.
- OPERATION.** Simplicity = Safety. The modular construction and the disconnect systems make it possible to set up safe, easy and intuitive operational procedures. Status is always displayed. Partition plates prevent from wrong jumpering. Marking, optionally coloured sockets if required, both make operation easier.
- CONSTRUCTIONAL.** Conductor parts are oversized so as to reduce losses. No contact pressure exerted through insulating materials. Screw fastening is safest and most dependable in the long run, where the device is to be very often operated.
- INSTALLATION.** Design of the enveloping cover and of the fastening system both allow for the need of a minimum space. Aesthetics in the design of the Test Block unit have been highly taken into consideration so as to match state-of-the art equipment fitted in today's meter panels.

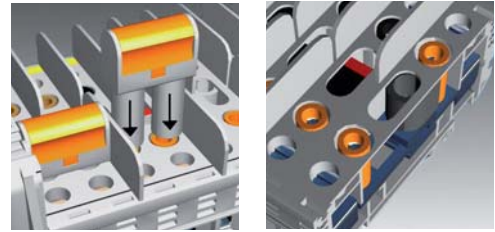
# kWh-METER TESTING UNITS

## DESIGN FEATURES

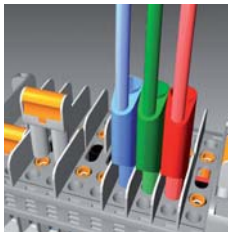


### IP 20 Protection granted

- Access to the plug sockets, to the longitudinal sliding link and to the terminal block fastening screws, all meet the fingerproof test thereby affording an IP20 protection degree accordingly to IEC 60529 standard.



### Fully protected plugs used

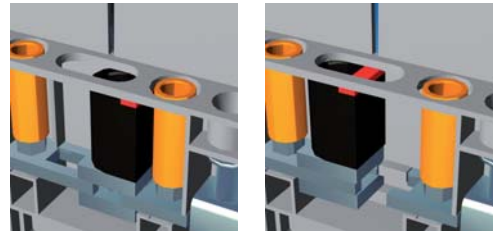


- The sockets of each element are so designed as to take protected plugs fitted with fixed sleeve, for a working insulation voltage higher than 33 V r.m.s. according to IEC 61010-031 standard.
- The 10,5 mm. pitch of the RB8 series terminal blocks also allows for simultaneous insertion of standard  $\varnothing$  4 mm. plugs in adjacent terminal blocks.

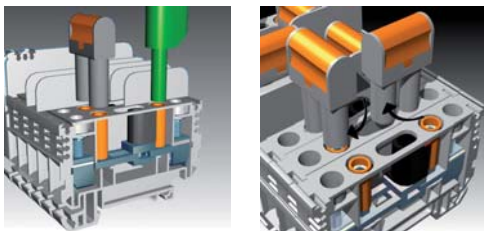
Note: IEC 61010-031 considers that voltage level above 33 V r.m.s, 46,7 V peak or 70 V d.c. is deemed to be HAZARDOUS LIVE

### Open circuit indication

- The longitudinal disconnect system is designed so the open status of the sleeve is easily viewed by a red colour indication.
- Fitted with a rugged M4 screw operated by means of one only insulated 5 mm x 1 mm. width screwdriver.
- Meets the IEC 60947-1 and IEC 60947-7-1 principle "NON CONTACT PRESURE SHALL BE TRANSMITTED THROUGH THE INSULATING MATERIALS". This principle applies to all contacts of **Unibloc** test block units.



### Two options for perpendicular disconnection

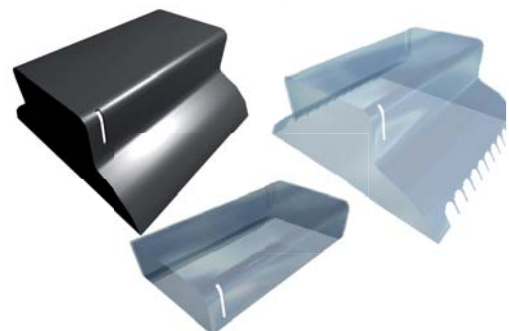


1. By means of 2-poles or 4-poles removable jumper plugs. The jumper plugs might be housed on both side end brackets.
2. By means of 2-poles non-removable jumper plugs, which stay in their element. When not being used, the non-removable jumper plugs stay in the same place, in one of the sockets.

- Filler parts are placed for avoiding any undesired short-circuit connection.

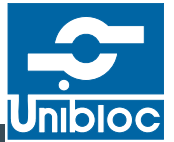
### Cover options

- Made of fire resistant transparent polycarbonate, offering an IP 40 degree of protection and an IK08 impact strength as per IEC 50102 standard in two protection levels.
  1. **Basic or minimum protection:** protects from access to functional elements against non authorized operations.
  2. **Extended protection:** protects from access to any live part with wires higher than 1 mm  $\varnothing$  from malicious purposes.
- Optional non-transparent covers are available. Additionally, extended protection covers can be drilled on one or both of top/bottom sides providing an easier connection of incoming cables atop the base plate.



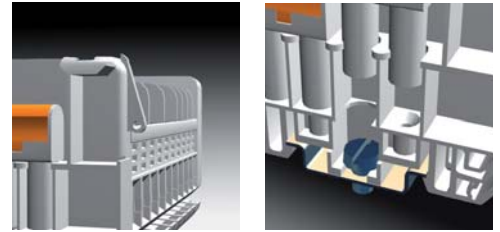
# kWh-METER TESTING UNITS

## DESIGN FEATURES

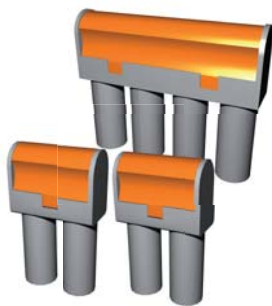
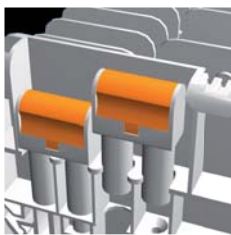


### Fastening and sealing

- The protection cover is fastened and sealed on both end brackets by means of an ergonomic clip latch system. Sealing wire to be used,  $\varnothing$  1,5 mm. max.
- Fixing of both test block unit to panel and end brackets to Din rail is carried out by the same fastening screw. The sealed enveloping cover offers safe protection and prevents removal of the screw.



### Recess for the jumper plugs

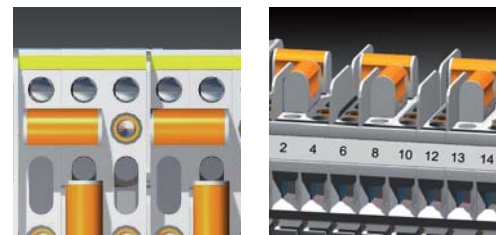


- The removable jumper plugs are housed on both side end brackets and remain always protected by the sealable enveloping cover.
- Each end bracket can house either one 4-pole or two 2-pole plugs.

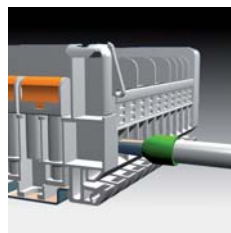
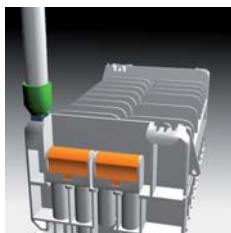
### Dual marking system

Unibloc test block units use two marking possibilities :

1. On the front, showing the circuit being operated to the controller.
2. On both bottom sides, showing connection points to the panel builder.



### Connections up to 16 mm<sup>2</sup>

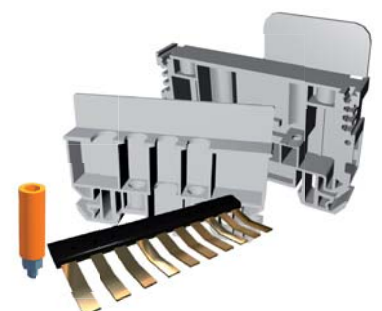


- Whenever transformers lie at some distance and the use of a larger cable section is therefore required, **Unibloc** test block units make the task of using 16 mm<sup>2</sup> stranded wire cable much easier by means of a modeller for cable end terminals built in at both end brackets, which enables to set on the spot such terminals with no extra tools.

### Other accessories

Unibloc test block units can be delivered in different configurations.

- Insulated colour coded plug sockets can be fitted for an easier identification of circuits, as well as special colour for the terminal blocks is available.
- Jumper comb bars for neutral connections are available when cross-connection + earthing is necessary, also in combination with RBT8 earthing terminal block accordingly to IEC 60947-7-2 standard.
- Stoppers or filling elements can be used to complete free space to meet protection cover sizes.



# kWh-METER TESTING UNITS

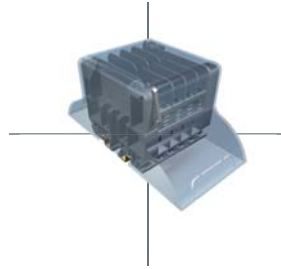
with 1 current terminals per phase for 4 mm Ø insulated test plugs



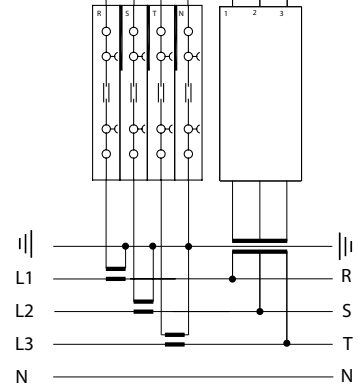
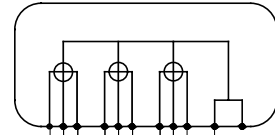
## 4E 4I EPI



Test Block Unit only for current transformers with one current circuit element per phase. Neutral is common to the three phases .



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

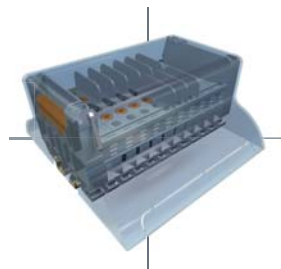


Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549385	UNB 4E 4I EPI	4e Extended protection plus filler parts	100	1-20	600	6	32
549364	UNB 4E 4I-M EPI	Minimum protection cover	80	1-20	600	16	32
549268	REG 4E 4I EPI	Set without rail and without cover	80	1-24	600	16	32

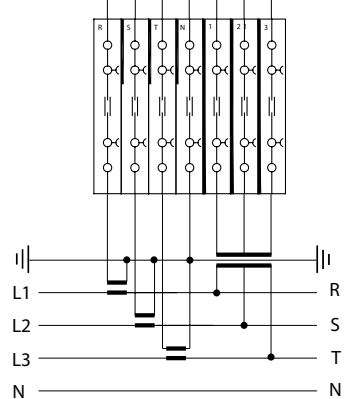
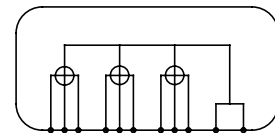
## 7E 4I-3T EPI



Test Block Unit for current circuits with one element per phase and voltage circuits. One common element.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1



Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549333	CSE AT 7E 4I-3T EPI	10e Extended protection cover	400	1-20	600	6	32



# kWh-METER TESTING UNITS

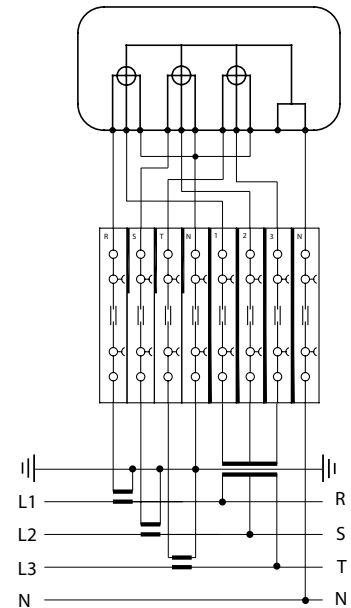
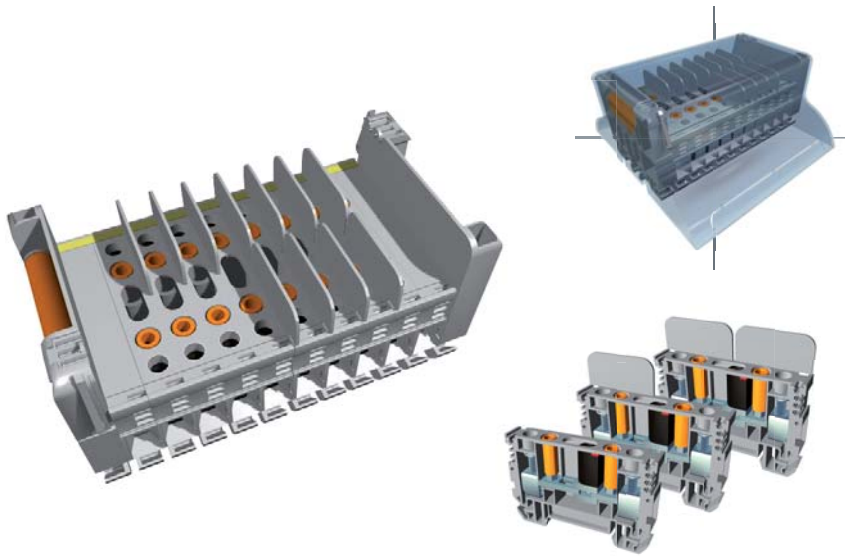
with 1 current terminals per phase for 4 mm Ø insulated test plugs



## UNB 8E 4I-4T-S EPI



Test Block Unit for current circuits with one element per phase and for voltage circuits. Two different neutral elements for current and voltage circuits.



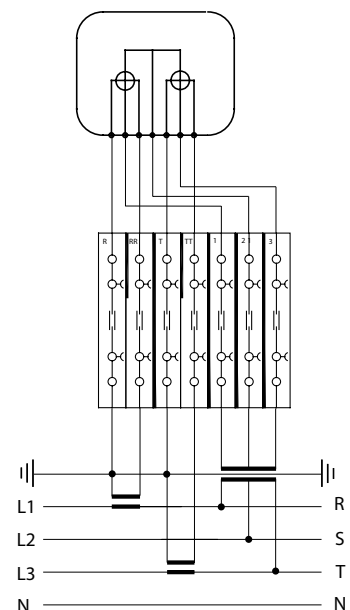
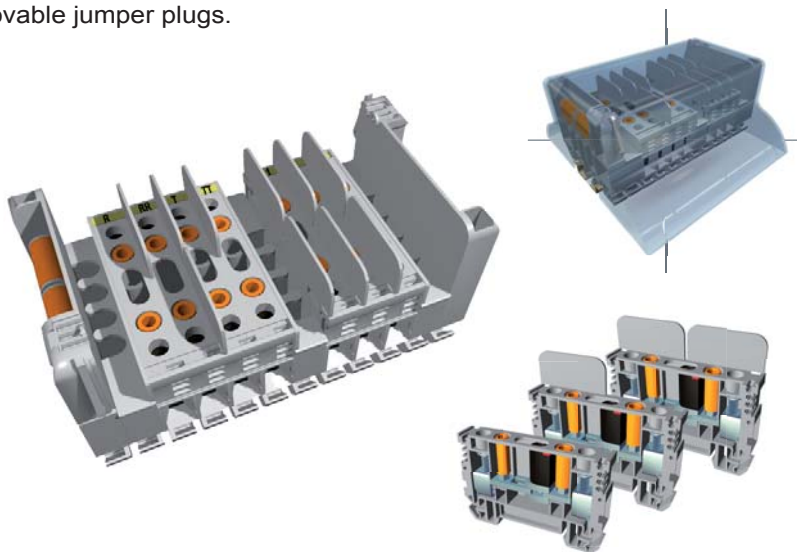
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549217	EEI 8E EPI	10e Extended protection cover plus filler parts	400	1-20	600	6	32
549358	UNB 8E 4I-4T-M EPI	10e Minimum protection cover	380	1-40	600	16	32

## 7E 4I-3T-AT EPI



Test Block Unit for HV measuring meters, two phases reading. Current circuits with two elements per phase. No neutral element. Two pole removable jumper plugs.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549000	ID 7E 4I-3T-AT EPI	10e Extended protection cover	400	1-20	600	6	32
549334	UNB 7E 4I-3T EPI	Without cover	380	1-40	600	16	32
549376	UNB 7E 4I-3T-AT EPI	10e Extended protection cover	400	1-20	600	6	32

# kWh-METER TESTING UNITS

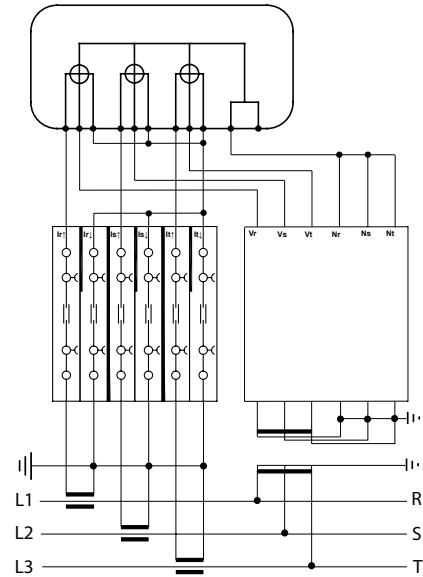
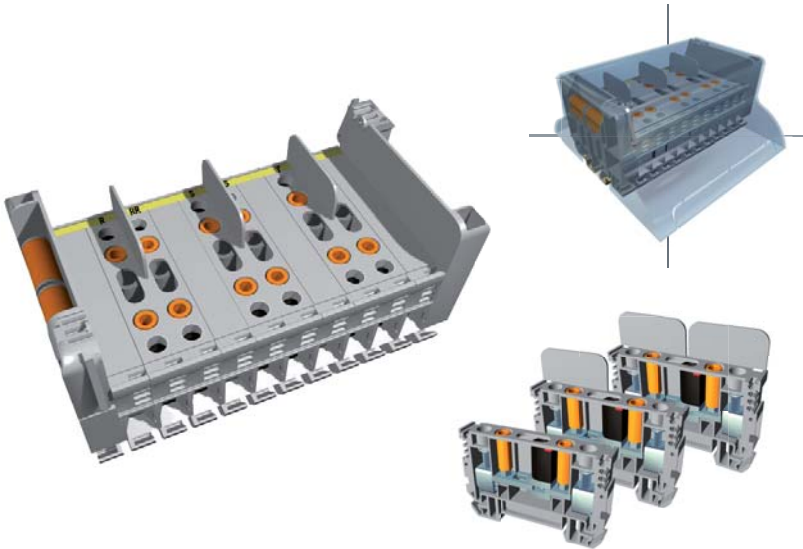
with 2 current terminals per phase for 4 mm Ø insulated test plugs



## 6E 6I EPI



Test Block Unit only for current circuits, with two elements per phase and removable jumper plugs.



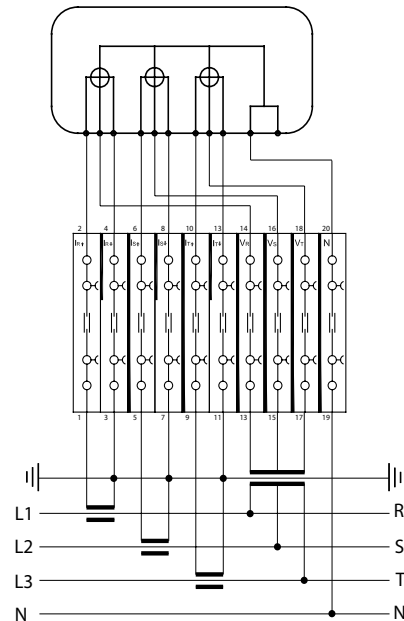
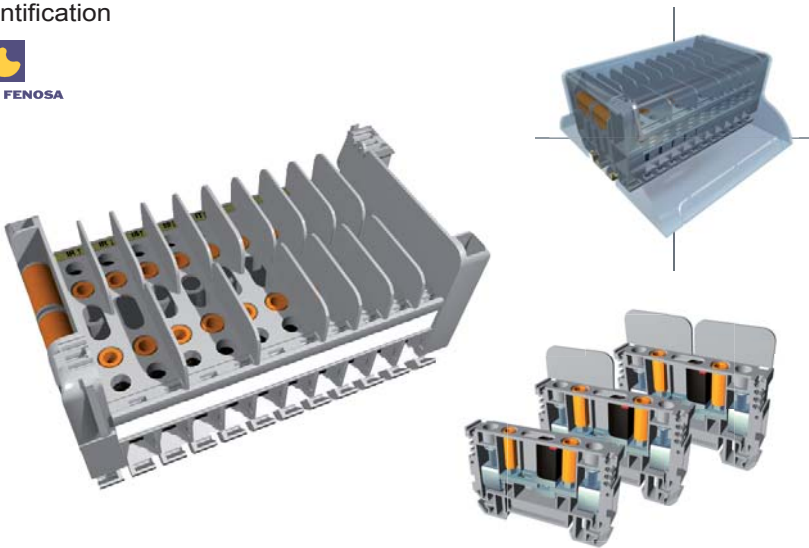
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549236	ID 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-20	600	6	32
549313	UF AT 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-24	600	6	32
549359	UNB 6E 6I-M EPI	Minimum protection cover	90	1-24	600	16	32
549386	UNB 6E 6I EPI	10e extended protection cover plus filler parts.	100	1-24	600	6	32

## UF 10E 6I-4T EPI



Test Block Unit for current and voltage circuits with 2 elements per phase on the current circuit, removable jumper plugs and double terminal identification

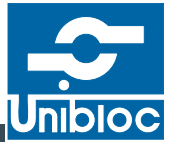


800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549206	UF 10E-6I-4T-EPI	Unión Fenosa	516	1-40	600	6	32

# kWh-METER TESTING UNITS

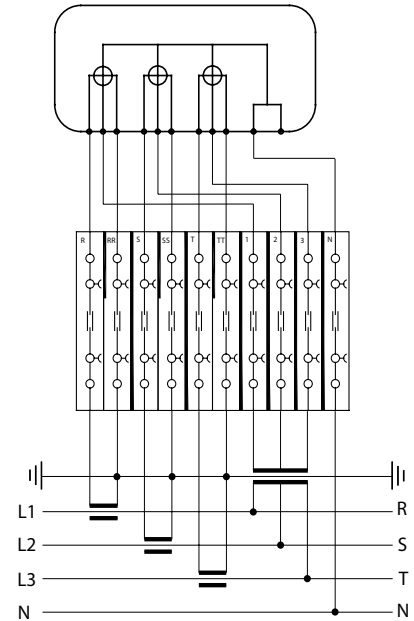
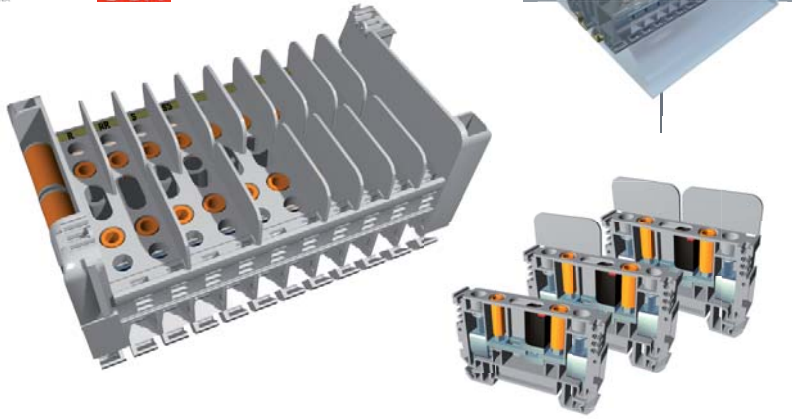
with 2 current terminals per phase for 4 mm Ø insulated test plugs



## 10E 6I-4T EPI



Test Block Unit for current and voltage circuits with 2 elements per phase on the current circuit, removable jumper plugs.



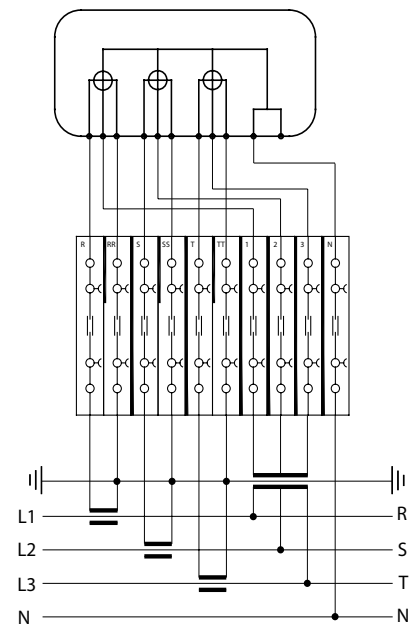
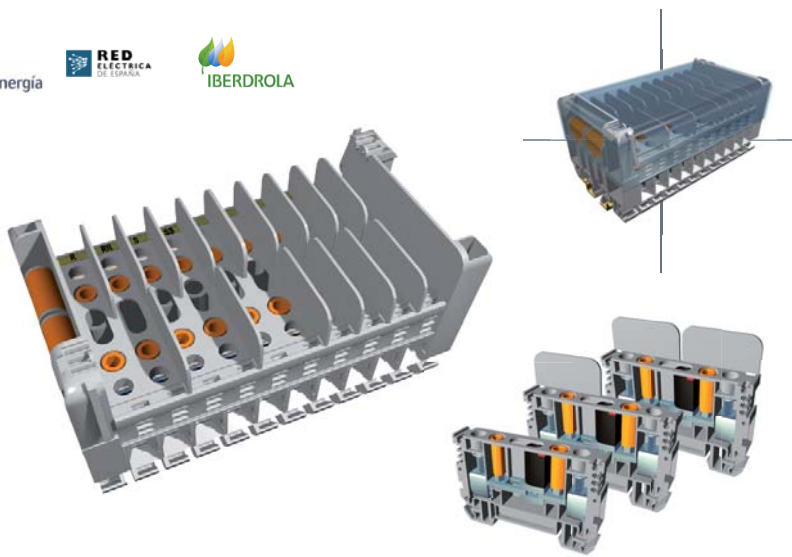
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options /Accepted by	Weight	Packing	V	mm <sup>2</sup>	A
549265	END 10E-6I-4T-EPI	Endesa	516	1-40	600	6	32
549205	ID 10E-6I-4T-EPI	Iberdrola	516	1-40	600	6	32
549207	EON 10E-6I-4T-EPI	E·ON Viesgo	516	1-40	600	6	32
549208	HC 10E-6I-4T-EPI	Hidrocantábrico	516	1-40	600	6	32
549244	REE 10E-6I-4T-EPI	Red Eléctrica de España	516	1-40	600	6	32

## 10E 6I-4T EPI



Test Block Unit with minimum protection cover for RPM boards.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549346	END 10E-6I-4T-M EPI	Endesa with minimum protection cover	516	1-40	600	16	32
549327	REE 10E-6I-4T-M EPI	Red Eléctrica de España with minimum protection cover	516	1-40	600	16	32
549349	ID 10E-6I-4T-M EPI	Iberdrola with minimum protection cover	516	1-40	600	16	32

# kWh-METER TESTING UNITS

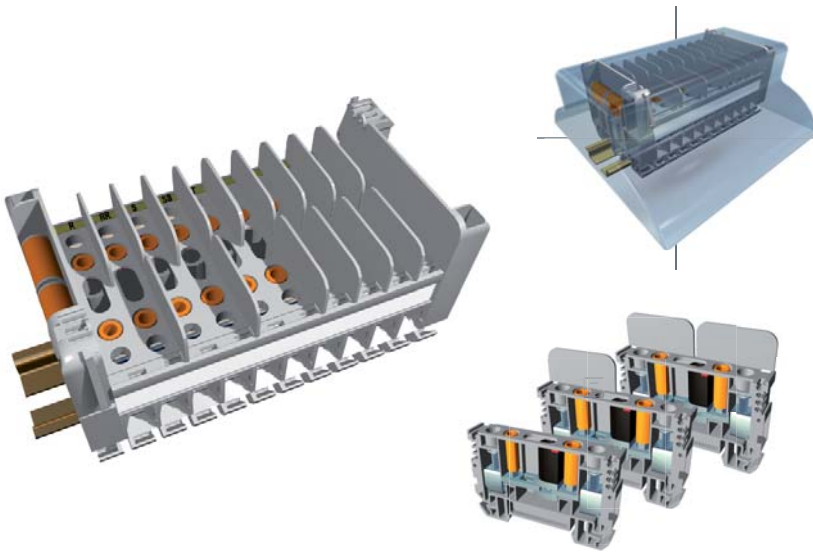
with 2 current terminals per phase for 4 mm Ø insulated test plugs



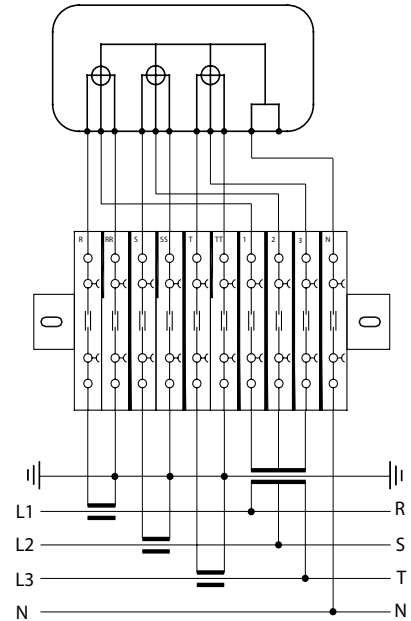
## 10E 6I-4T FR EPI



Test Block Unit with over sized extended protection cover to allow space for a rivet fixing system .



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

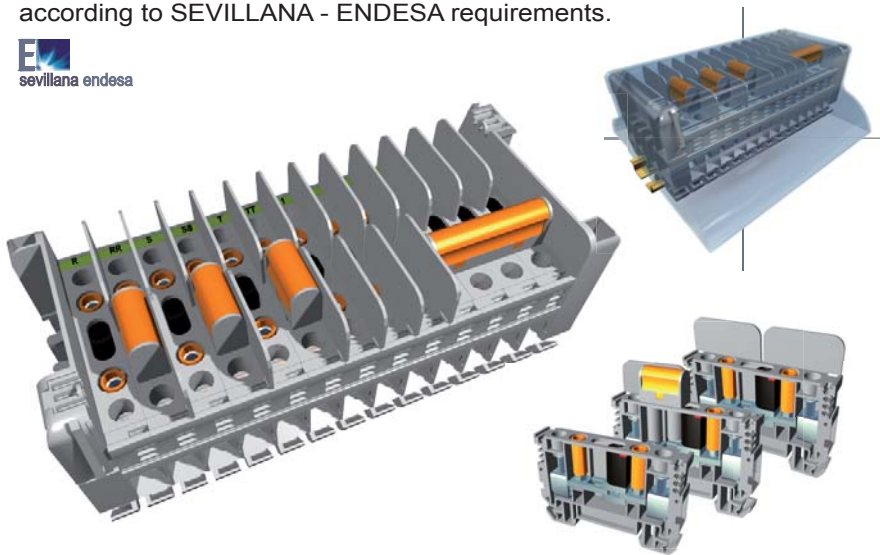


Code No.	Part No.	Applications / Options / Accepted by	Weight	Packing	V	mm <sup>2</sup>	A
547206	UF10E-6I-4T-FR EPI	Unión Fenosa	536	1-20	600	6	32
547265	END 10E-6I-4T-FR EPI	Endesa	536	1-20	600	6	32
547205	ID 10E-6I-4T-FR EPI	Iberdrola	536	1-20	600	6	32
547207	EON 10E-6I-4T-FR EPI	E·ON Viesgo	536	1-20	600	6	32
547208	HC 10E-6I-4T-FR EPI	Hidrocantábrico	536	1-20	600	6	32

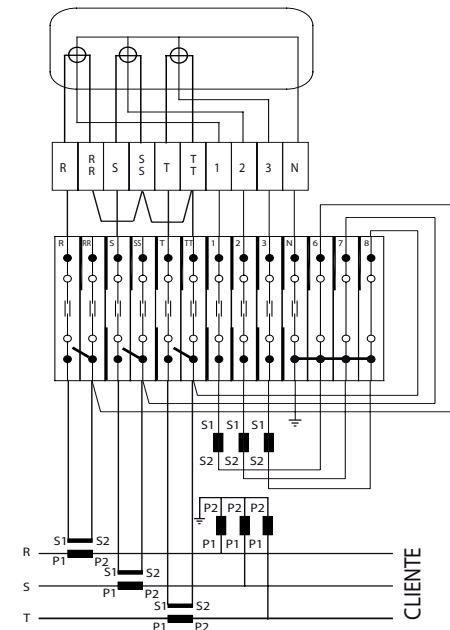
## END 13E 6I-7T-CC EPI



Classic ten elements circuit Test Block Unit with three additional elements for direct connection of grounding wires of the the secondary voltage transformer according to SEVILLANA - ENDESA requirements.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

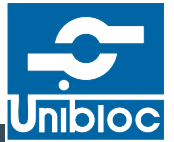


Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549310	END 13E 10I-3T-CC EPI	Sevillana-Endesa (caja centralizadora)	652	1-20	600	6	32



# kWh-METER TESTING UNITS

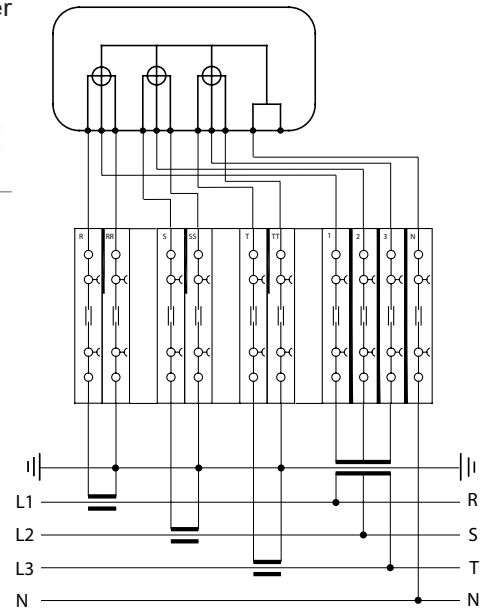
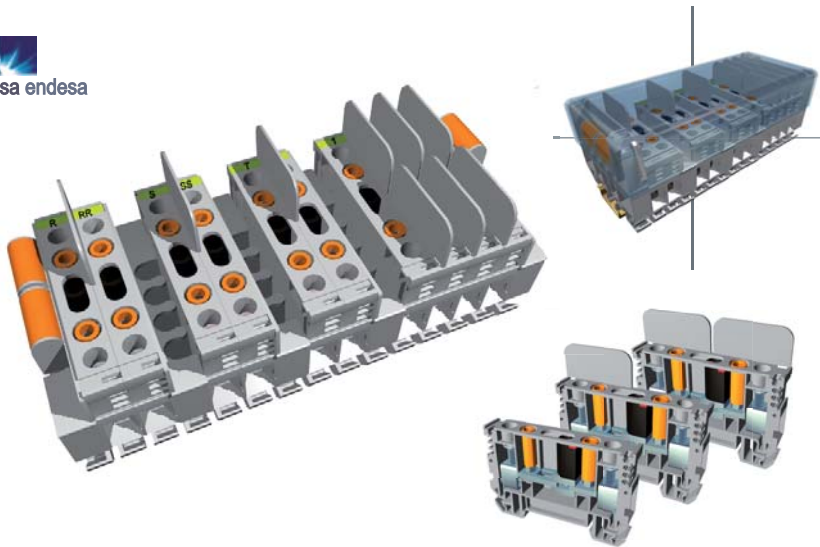
with 2 current terminals per phase for 4 mm Ø insulated test plugs



## CAT 10E 6I-4T EPI



Test Block Unit with separations between current phases, without cover according to FECSA-ENDESA.



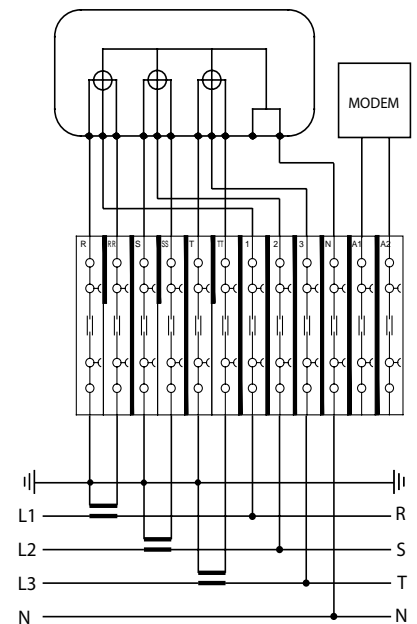
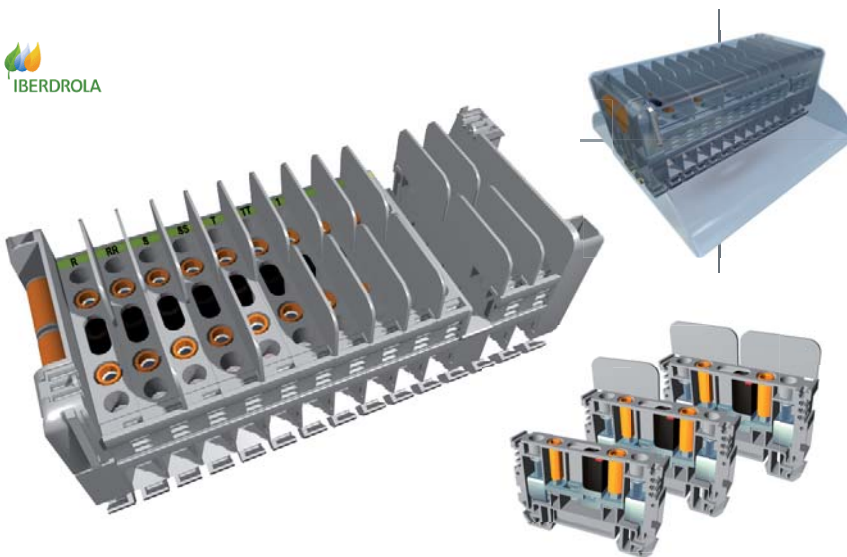
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549209	CAT 10E 6I-4T EPI	Fecsa-Endesa, without protection cover	470	1-24	600	16	32
549360	CAT 10E 6I-4T-M EPI	Fecsa-Endesa, with minimum protection cover	530	1-24	600	16	32

## 10E 6I-4T+2AUX EPI



Test Block Unit with 10 functional elements plus two additional elements to connect a "Smart metering" modem according to IBERDROLA standard.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549246	ID 10E-6I-4T+2AUX EPI	With extended protection cover	618	1-20	600	6	32
549352	UF 10E-6I-4T+2AUX EPI	With extended protection cover	618	1-20	600	6	32

# kWh-METER TESTING UNITS

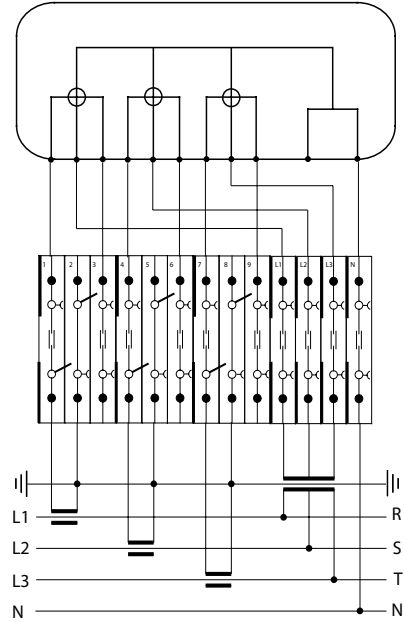
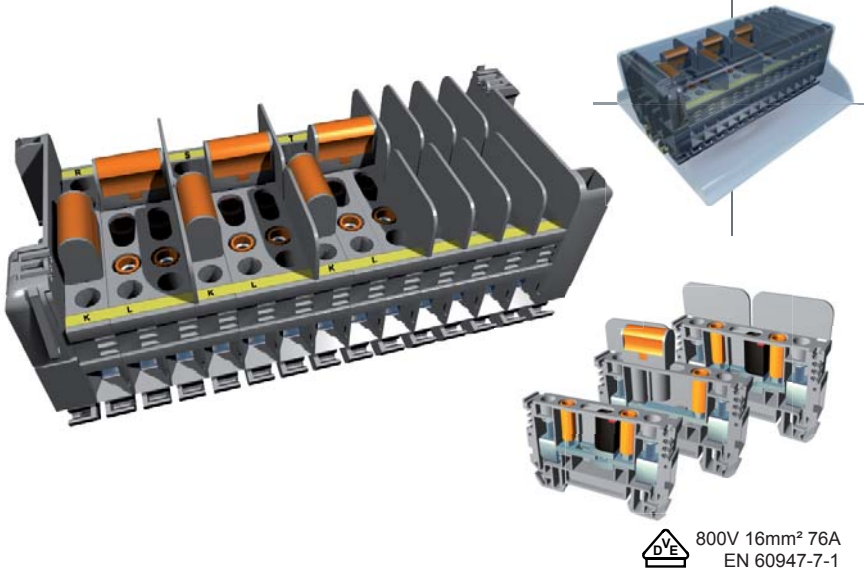
with 3 current terminals per phase for 4 mm Ø insulated test plugs



## 13E 9I-4T EPI



Test Block Unit with three current elements per phase. Current elements can have perpendicular and longitudinal disconnection. Voltage elements are on the right side of the unit.



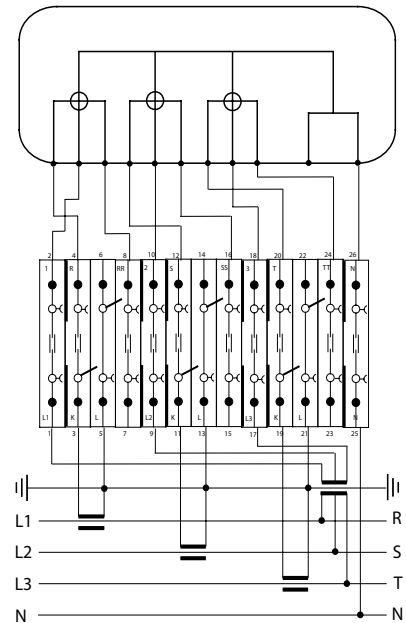
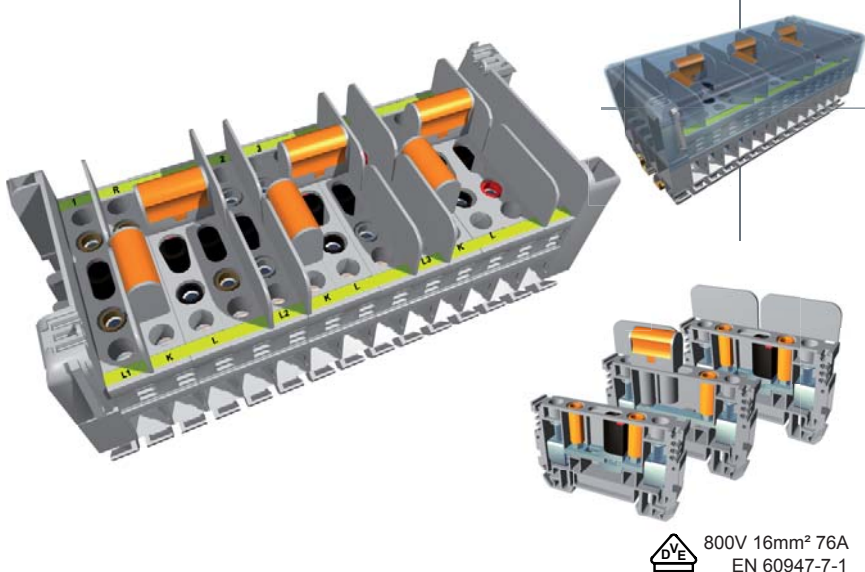
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549329	UNB 13E 9I-4T-A EPI	Extended protection cover	632	1-20	600	6	32
549362	UNB 13E 9I-4T-M EPI	Minimum protection cover	600	1-24	600	16	32

## 13E 9I-4T-TS EPI



Test Block Unit with three current elements per phase. Current elements can have perpendicular and longitudinal disconnection. Voltage elements are beside each corresponding current phase elements.

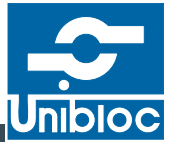


800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549319	UNB 13E 9I-4T-TSM EPI	Minimum protection cover, colour sockets	622	1-24	600	16	32
549320	UNB 13E 9I-4T-TSA EPI	Extended protection cover, colour sockets	632	1-20	600	6	32
549309	UNB 13E 9I-4T-TSA EPI	Extended protection cover, orange sockets	632	1-20	600	6	32

# kWh-METER TESTING UNITS

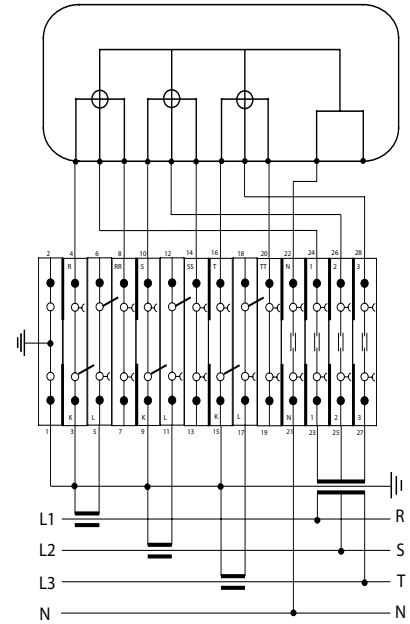
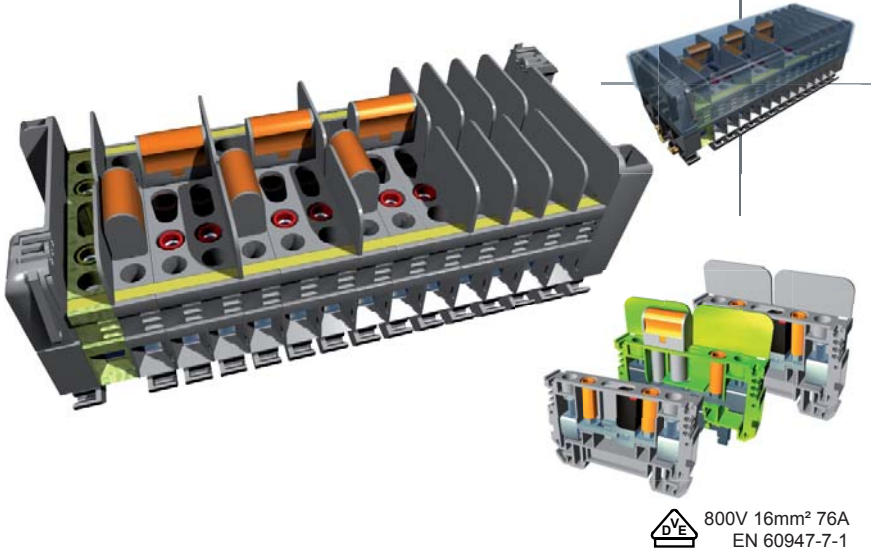
with 3 current terminals per phase for 4 mm Ø insulated test plugs



## 14E 9I-4T-1G EPI



Test Block Unit with three current elements per phase. Current elements have perpendicular disconnection only. Voltage elements are on the right side of the unit. Additional earthing terminal block for common.



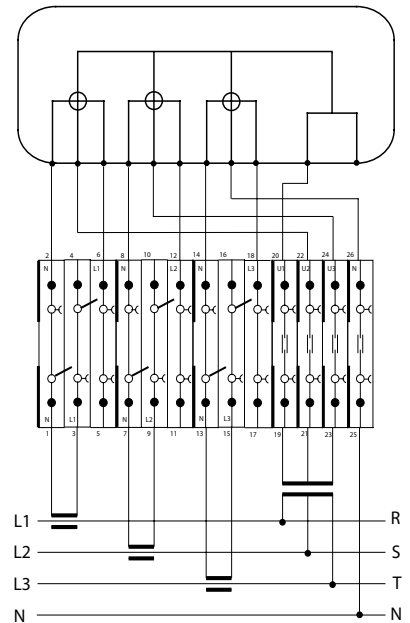
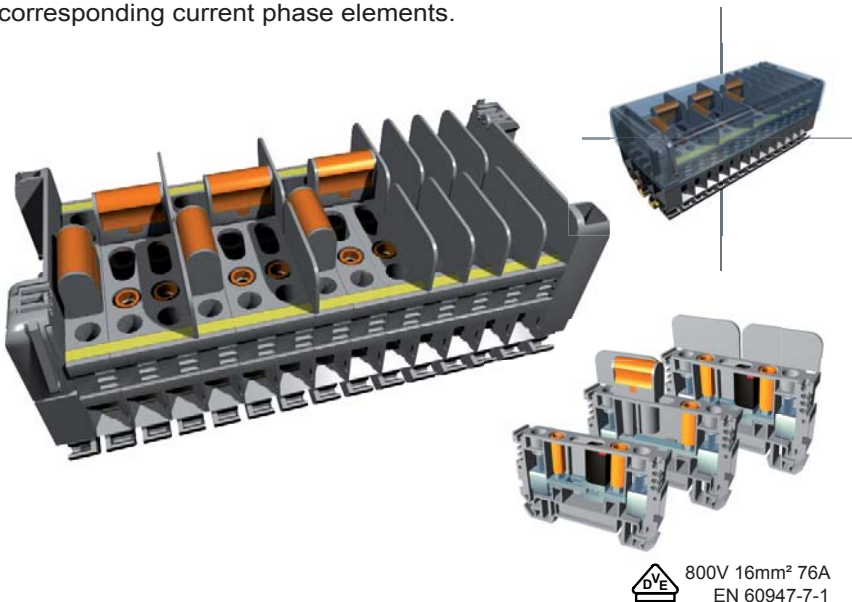
800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549321	UNB 14E 9I-4T-1GM EPI	Minimum protection cover	705	1-24	600	16	32

## 13E 9I-4T-TA EPI



Test Block Unit with three current elements per phase. Current elements have perpendicular disconnection only. Voltage elements are beside each corresponding current phase elements.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549387	UNB 13E 9I-4T-TSM EPI	Minimum protection cover, colour sockets	622	1-24	600	16	32
549363	UNB 13E 9I-4T-TSA EPI	Extended protection cover, colour sockets	632	1-20	600	6	32

# kWh-METER TESTING UNITS

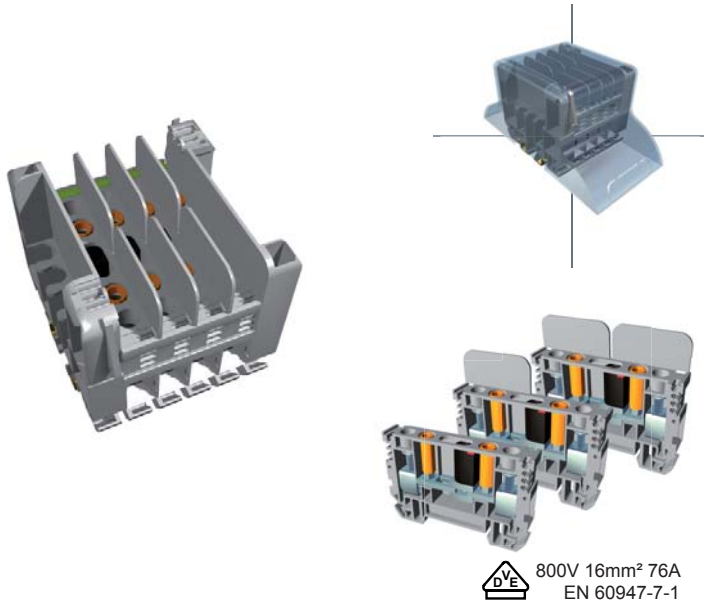
for voltage circuits only and for 4 mm Ø insulated test plugs



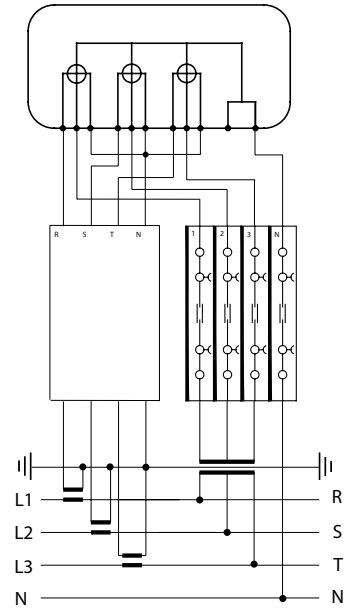
## 4E 4T EPI



Test block Unit for voltage circuits only including one terminal for neutral connection.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

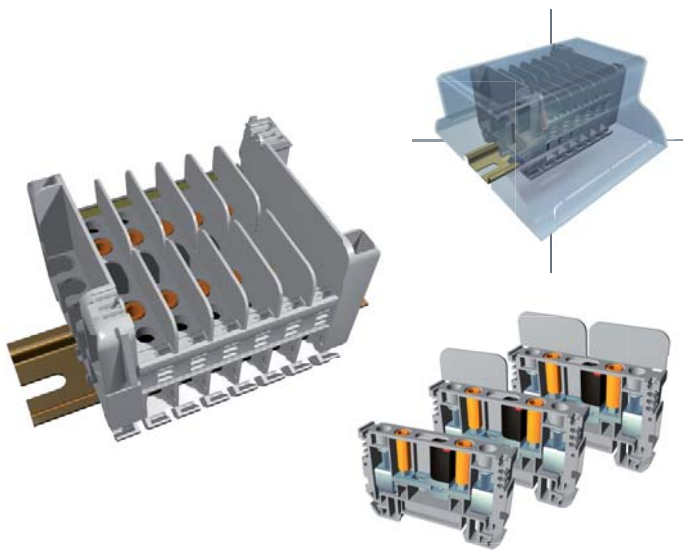


Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549388	UNB 4E 4T EPI	4e Extended protection cover	100	1-20	600	6	32
549267	UNB 4E 4T-M EPI	4e Minimum protection cover	80	1-24	600	16	32
549389	UNB 4E 4T-ST EPI	Without protection cover	65	1-24	600	16	32

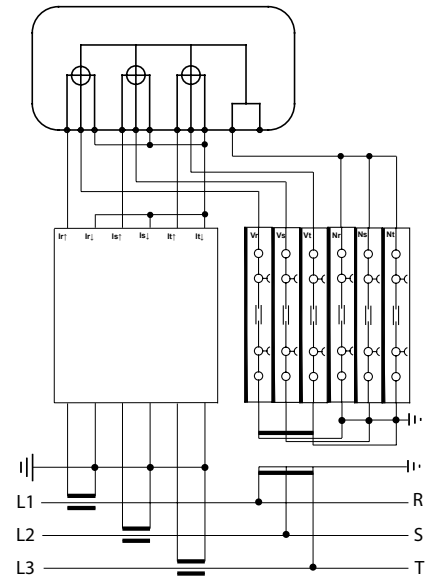
## 6E 6T EPI



Test Block Unit for three voltage circuits and three terminals for separate connection of neutral wires.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

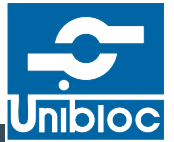


Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549307	UF 6E 6T EPI	10e Extended protection cover	100	1-20	600	6	32



# kWh-METER TESTING UNITS

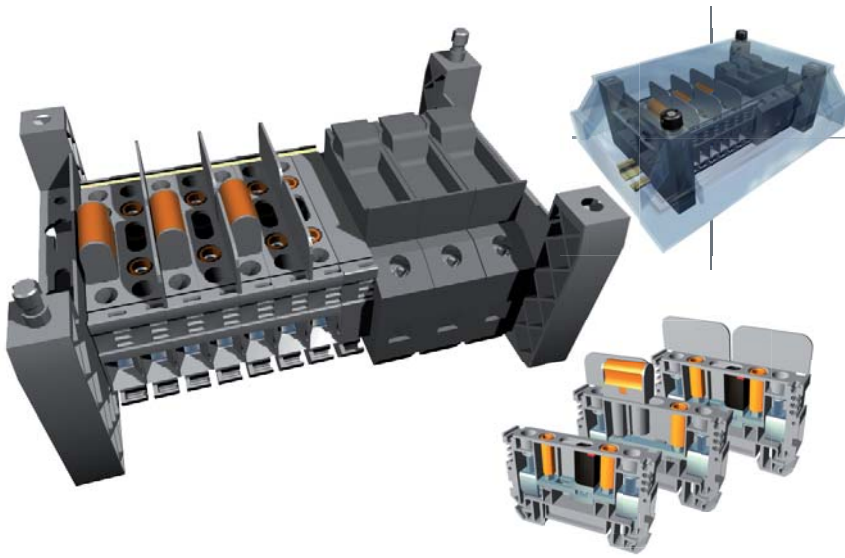
with fuse blocks and for 4 mm Ø insulated test plugs



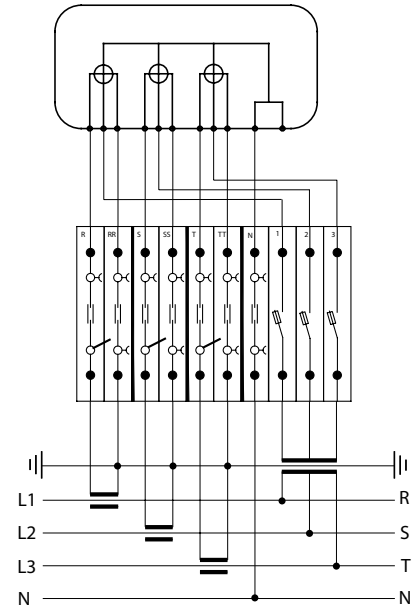
## 10E 6I-1N-3FUS EPI



Test Block Unit with 3 fuse elements for voltage circuits.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1

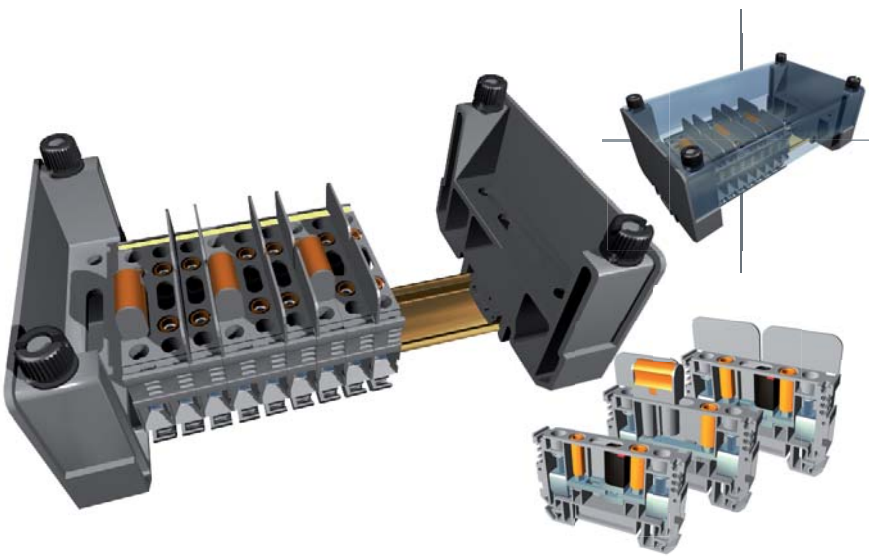


Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549302	VID 7E 6I-1T-3FUS EPI	Extended protection grey colour cover	550	1-24	600	16	32
549366	ASTAD 7E 1T-6I-3FUS EPI	Extended protection transparent cover	550	1-24	600	6	32

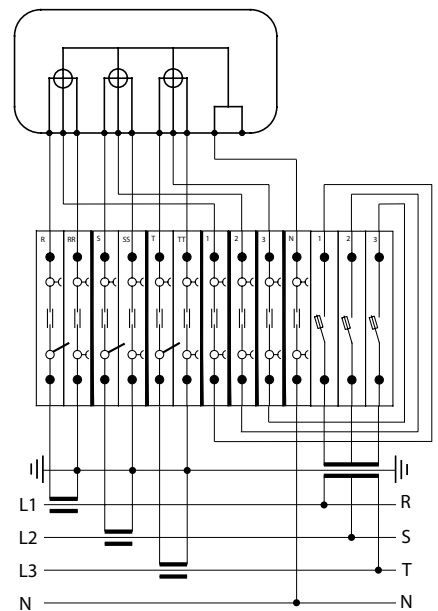
## 13E 6I-4T-3FUS EPI



Test Block Unit with 3 additional fuse elements for voltage circuits.



800V 16mm<sup>2</sup> 76A  
EN 60947-7-1



Code No.	Part No.	Applications / Options	Weight	Packing	V	mm <sup>2</sup>	A
549365	UNB 10E 6I-4T-3F-TSA EPI	Extended protection cover	650	1-24	600	16	32

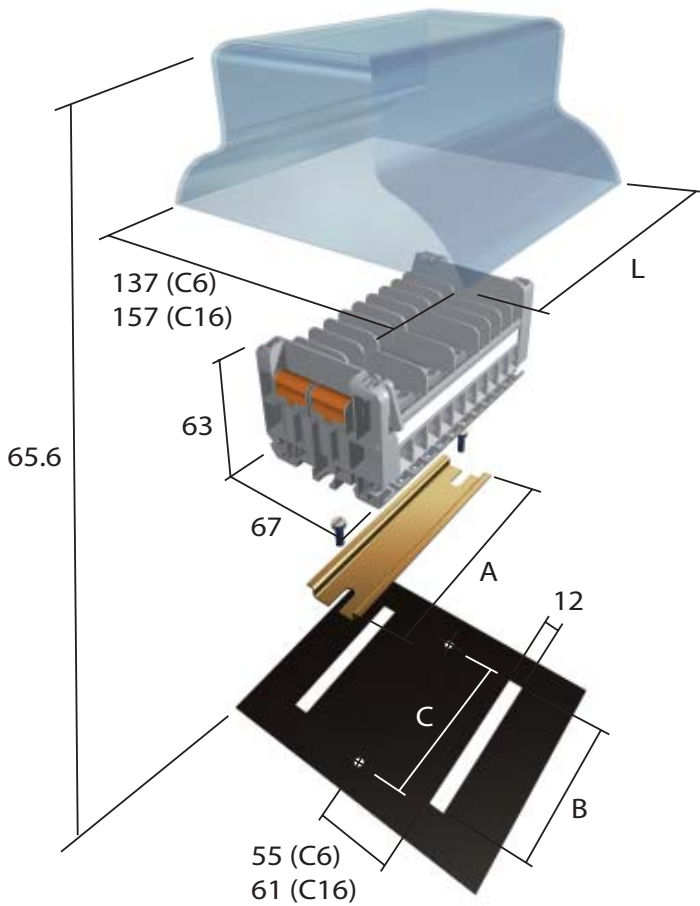
# kWh-METER TEST BLOCK UNITS

Installation Data

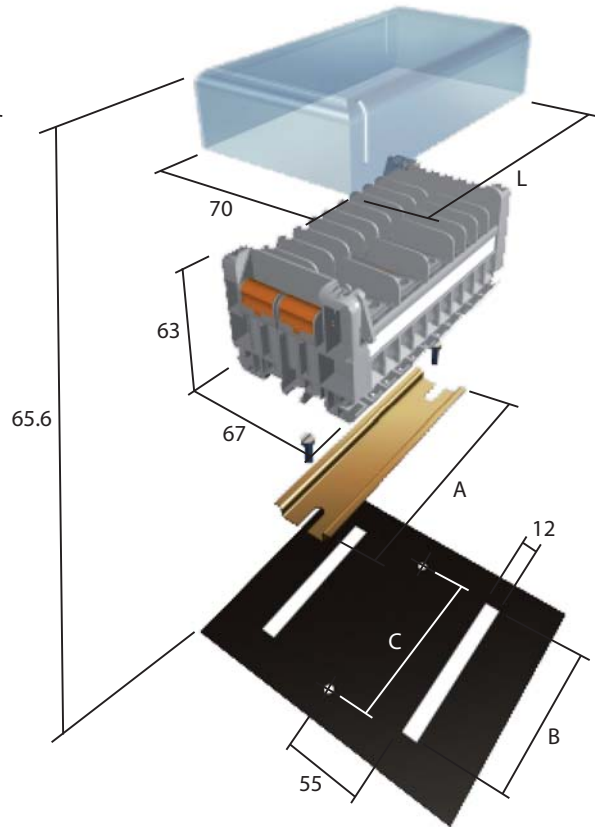


## OVERALL DIMENSIONS

### C6/C16 EXTENDED PROTECTION COVER



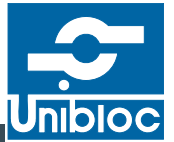
### MINIMUM PROTECTION COVER



ELEMENT	A	B	C	L
3	53,1	30,1	42,2	53,3
4	63,8	40,8	52,9	64
5	74,5	51,5	63,6	74,7
6	85,2	62,2	74,3	85,3
7	95,9	72,9	85	96
8	106,6	83,6	95,7	106,7
9	117,3	94,3	106,4	117,3
10	128	105	117,1	128
11	138,7	115,7	127,8	138,7
12	149,4	126,4	138,5	149,3
13	160,1	137,1	149,2	160
14	170,8	147,8	159,9	170,7

# kWh-METER TEST BLOCK UNITS

## Installation DATA

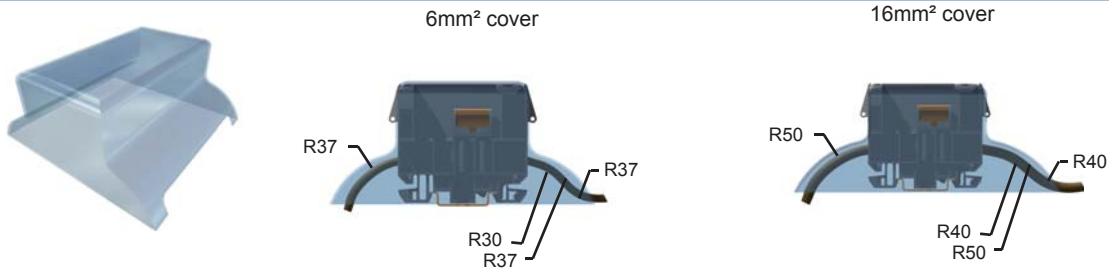


### DRILING OPTIONS FOR EXTENDED PROTECTION COVERS AND WIRE CURVES

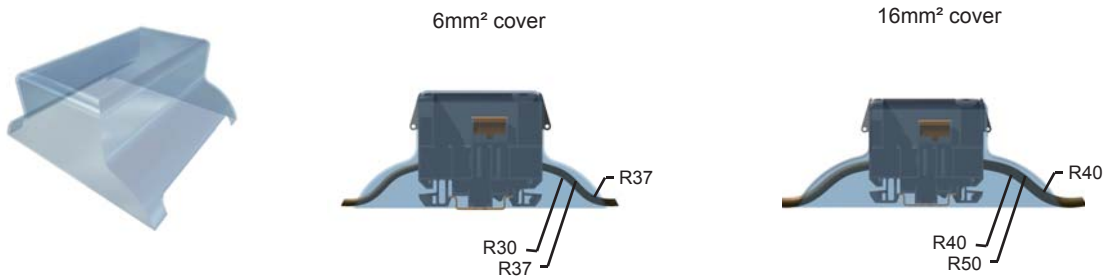
#### 1 NON DRILLED



#### 2 ONE SIDE DRILLED

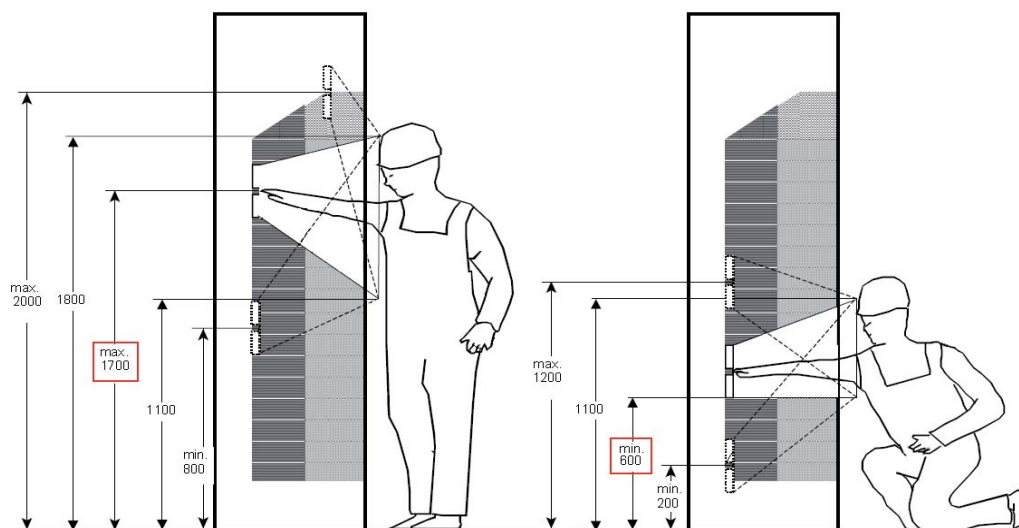


#### 3 BOTH SIDES DRILLED



Drilled covers give an IP3XD protection degree accordingly to IEC 60529

### TEST BLOCK UNIT LOCATION



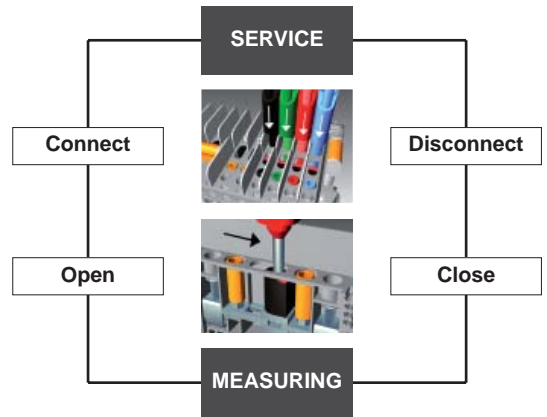
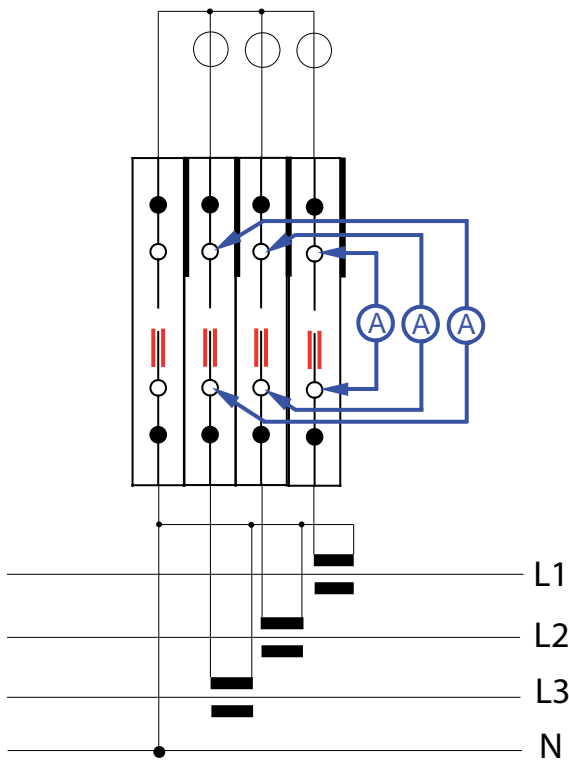
- The Test Block Unit must be placed in such a position that the gravity benefits in opening the circuits. Namely, transformers connections should be on the bottom side, and meter connections should be on the upper side.
- Vertical mounting could be required under some special circumstances. In those occasions, the disconnection system works properly, but the gravity will not affect when opening or closing the circuit.
- Unibloc recommends to place the Test Block Unit at between 600 and 1700 mm high, and at  $\leq 500$  mm deep in the cabinet. (see fig. 1 & 2 in EN50274 Standard)

# kWh-METER TEST BLOCK UNITS

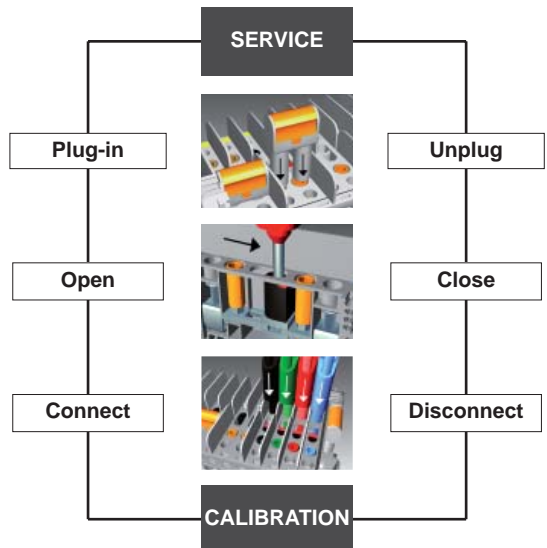
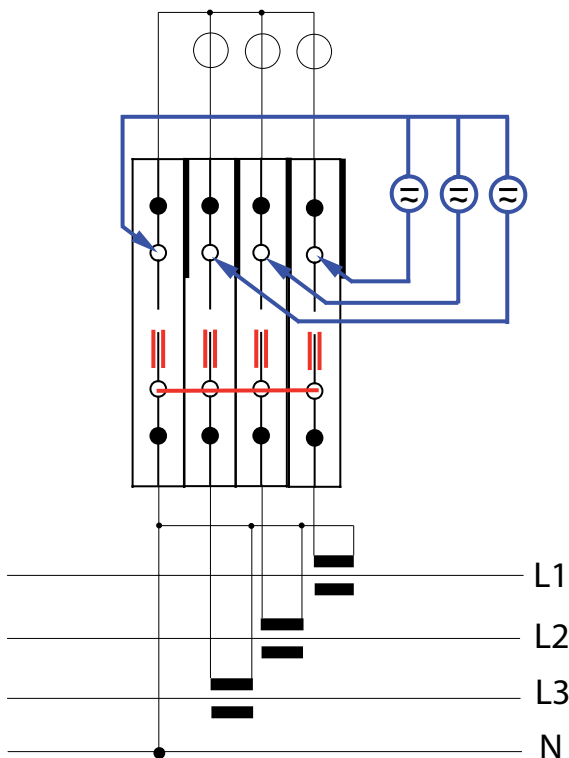
Application examples



## MEASURING in current circuits with one single element per phase



## CALIBRATION in current circuits with one single element per phase



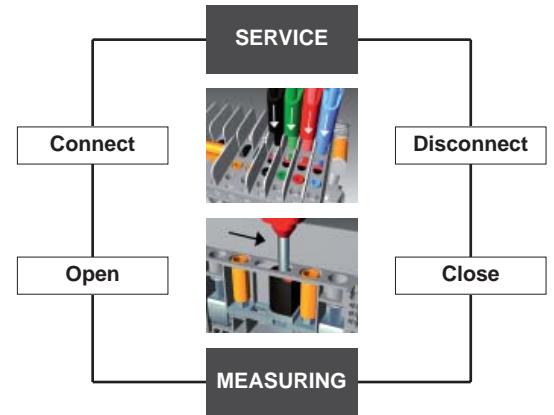
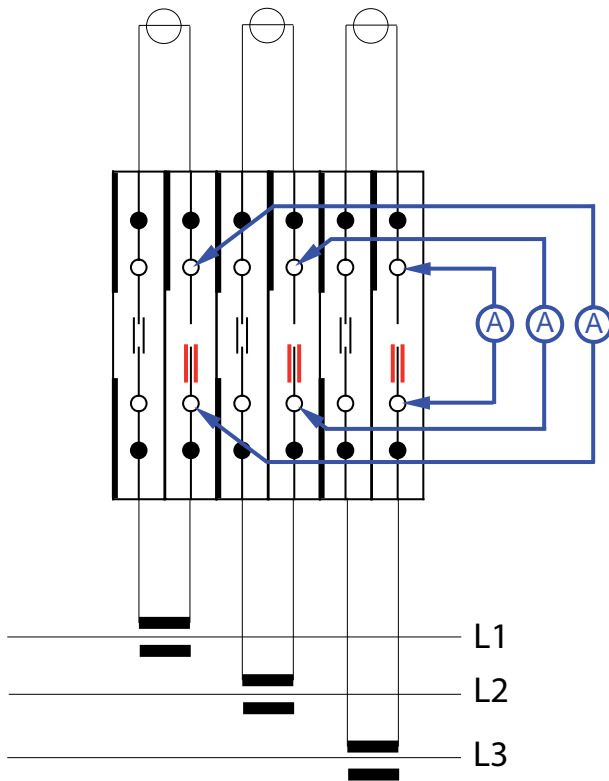


# kWh-METER TEST BLOCK UNITS

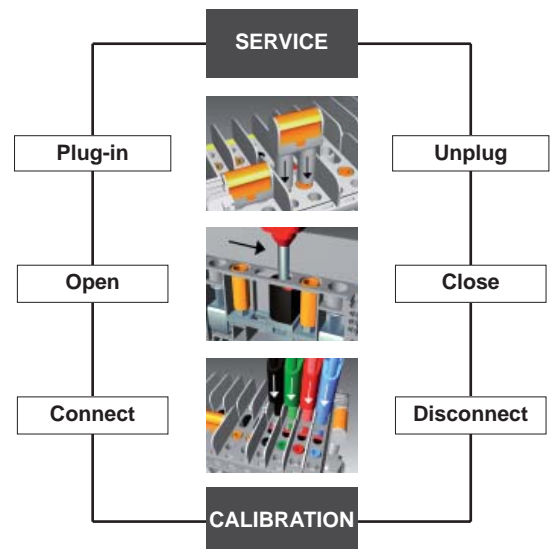
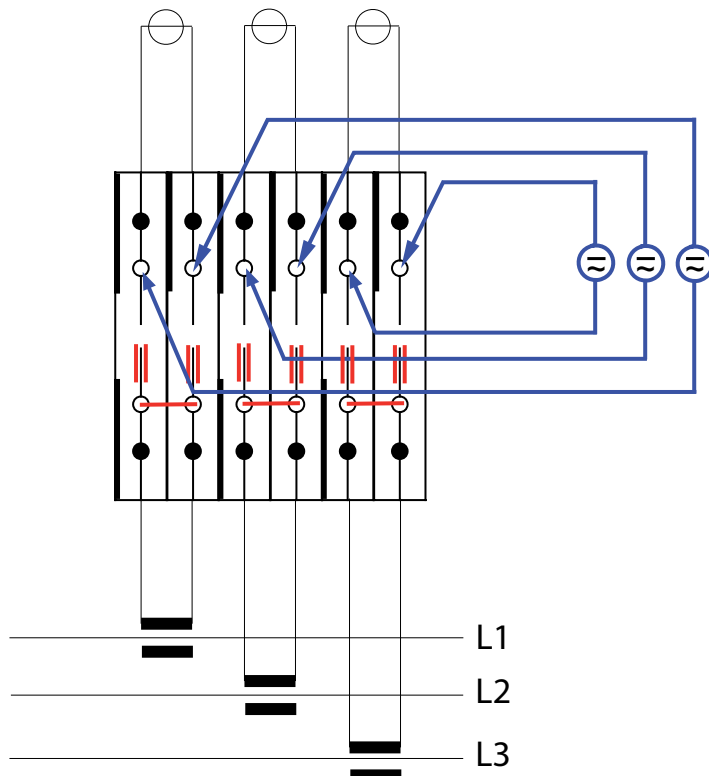
Application examples



## MEASURING in current circuits with two elements per phase



## CALIBRATION in current circuits with two elements per phase

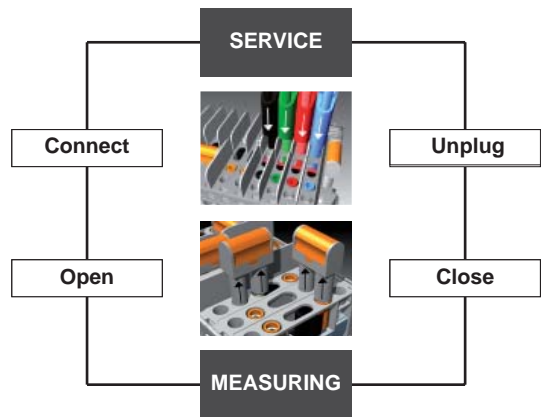
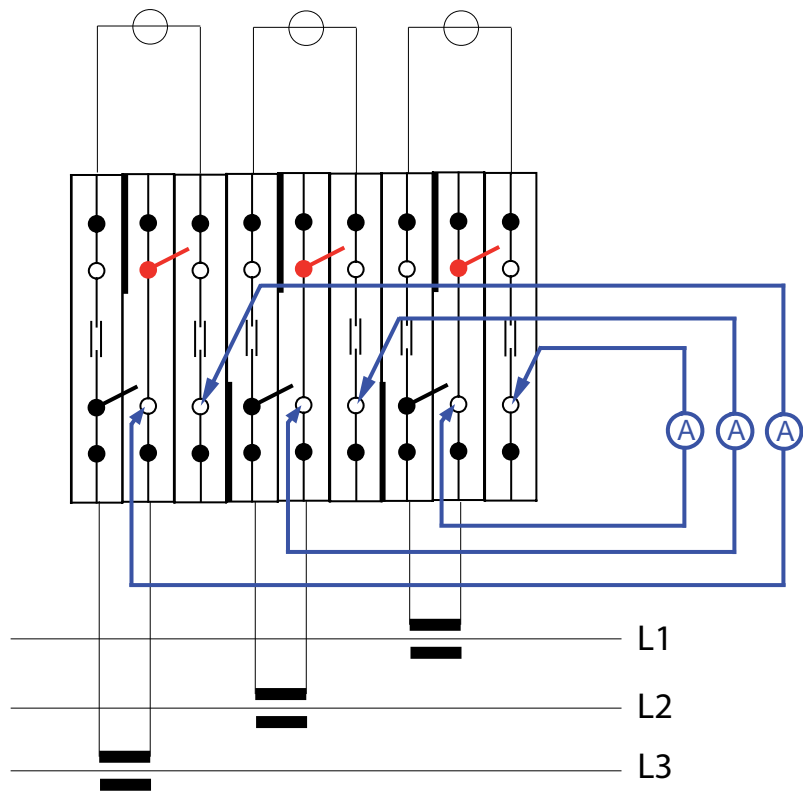


# kWh-METER TESTING UNITS

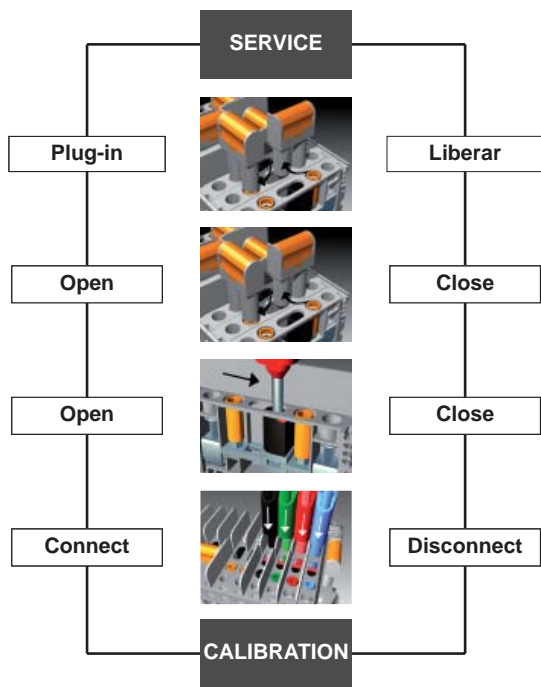
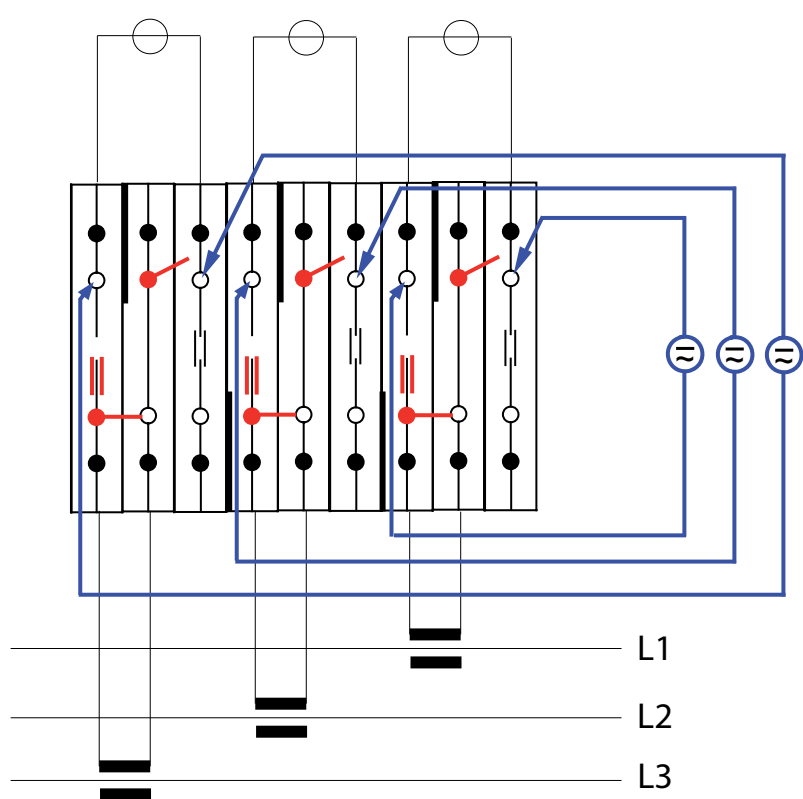
## OPERATION PROCEDURES



### MEASURING in current circuits with three elements per phase



### MEASURING in current circuits with three elements per phase

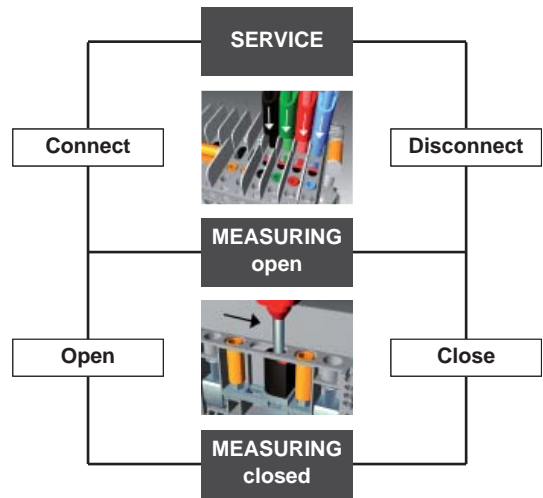
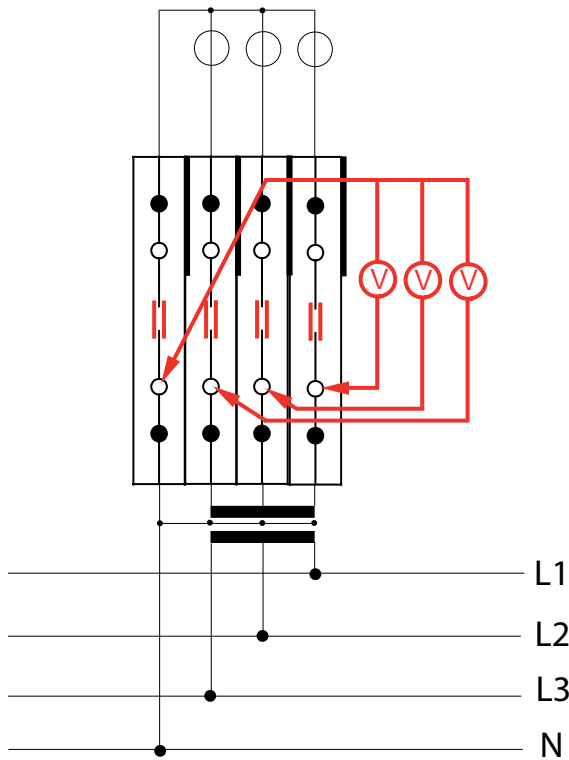


# kWh-METER TESTING UNITS

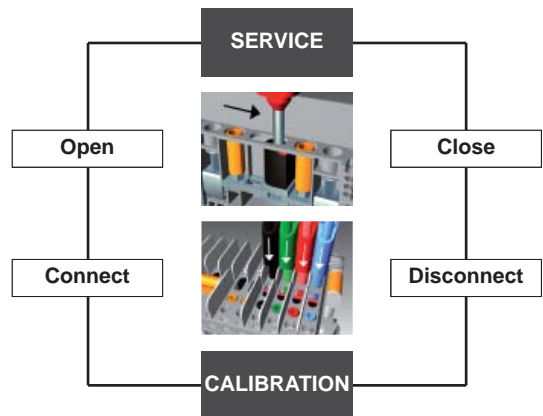
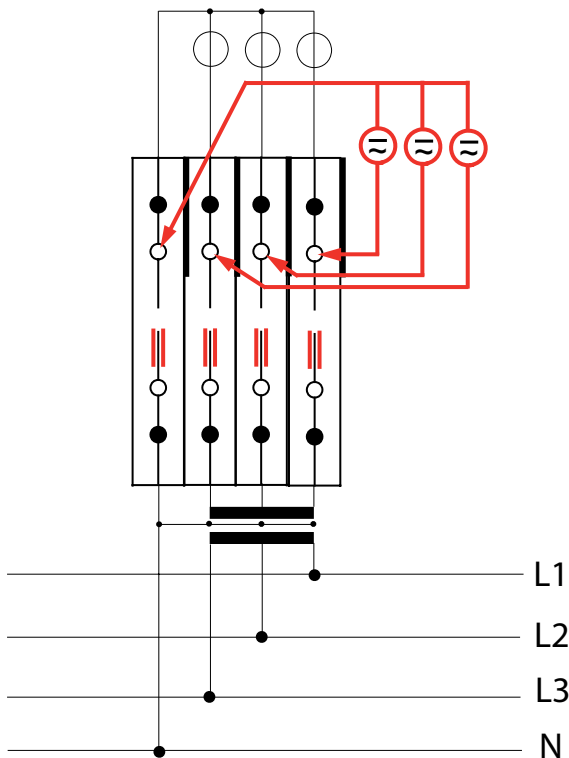
## OPERATION PROCEDURES



### MEASURING in voltage circuits



### CALIBRATION in voltage circuits



# TECHNICAL DATA

## kWh-METER TEST BLOCK UNITS



The main purpose of **Unibloc EPI kWh-meter Test Block Units** is to “**PREVENT RISK**”. A prior step to prevent any risk is to identify and acknowledge it. Whereby a Test Block unit is to be regarded as an item of electrical equipment to be fitted to a switchgear assembly, the access to such test block unit and its operation being carried out in a routine way and without cutting the energy supply.

**IEC 50274** “*Low voltage switchgear assemblies. Protection against electric shock. Protection against unintentional direct contact with hazardous live parts*” contemplates using (EPI) Individual Safety Equipment to protect health and safety of persons as a last resource, therefore not suitable for switchgear assemblies.

Furthermore, to keep people away from risk by means of screens, barriers or other obstacles would in no case be considered acceptable when checking kWh-meters.

**IEC 61140** “*Protection against electric shock. Common facts related to installation and equipment*”, regards as satisfactorily safe the switchgear assemblies that have all accessible devices offering a degree of protection not less than IPxxB accordingly to IEC 60529.

**IEC 60947-7-1** “*Terminal blocks for copper conductors*” sets requirements that are all met by the elements from which our EPI kWh-meter test block units are built. The design of such elements affords additionally the degree of protection IPxxB. However, this is not enough to ensure that “all risk is being avoided” in any given checking job, because the operator may

be using miscellaneous types of probing units to switch his test equipment to the test block unit.

**IEC 61010-031** “*Safety requirements for hand-held probe assemblies for electrical measurement and test*”. It sets out that a sufficient insulation can only be obtained when using probes fitted with fixed sleeves, or else that these latter cannot be removed unless using a tool.

**Unibloc EPI kWh-meter Test Block Units** are so designed as to take insulated test plugs fitted with fixed sleeves, any unintentional contact with live parts during the checking job being thereby prevented. That is of application whether the probes are connected or disconnected, even at their connection or disconnection stages.

Our design is completed with a number of extra features, i.e. easier identification of the connected or disconnected position of any circuit, which also increases safety at all checking operations.

These three suitably combined characteristics (installation, equipment and procedures) make it easier to attain a “**safe working environment**”, as stipulated by the **89/391/CEE Directive** concerning the “*introduction of measures to encourage improvements in the safety and health of workers at work*”, as well as by the **89/655/CEE Directive** concerning the “*minimum safety and health requirements for the use of work equipment by workers at work*”.

## TECHNICAL DATA

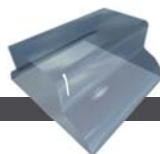
### TEST BLOCK UNITS



<b>RATED VOLTAGE</b>	<b>600V</b>
<b>RATED CONNECTING CAPACITY</b>	
with extended protection cover C6	1,5..6 mm <sup>2</sup> / 2x6 mm <sup>2</sup>
with extended protection cover C16	1,5..16 mm <sup>2</sup> / 2x6 mm <sup>2</sup>
with basic or without protection cover	1,5..16 mm <sup>2</sup> / 2x6 mm <sup>2</sup>
<b>CURRENT LIMITS</b>	
with standard jumper plugs (T=-5°C..30°C)	<b>32 A</b>
with premium jumper plugs (T=-5°C..30°C)	<b>41 A</b>
without jumper plugs	<b>76 A</b>

**APPLICABLE STANDARD:** At present is not available an international standard for quality requirements of test block units. Nevertheless IEC is evaluating a proposal submitted by **Unibloc** to its national subcommittee.

### COVERS



<b>Impact resistance EN 50102</b>	<b>IK08</b>
<b>Cover protection under IEC 60529</b>	
- <b>Extended protection covering:</b> functional parts, external wires, jumper plugs and unit fixing	<b>IP40</b>
- <b>Extended protection with wire openings</b>	<b>IP3XD</b>
- <b>Basic protection covering:</b> functional parts and jumper plugs	<b>IP40</b>
<b>Sun radiation resistance under</b>	EN 60068-2-5 and EN 60068-2-9
<b>Resistance to hot wire ignition</b>	<b>850°C</b>
<b>Material</b>	<b>Polycarbonate</b>

### JUMPER PLUGS



<b>Rated voltage</b>	<b>600V CAT IV</b>
Measuring category IV is for measurements made at the origin of a low voltage installation.	
<b>Dielectric strength test voltage</b>	<b>4,12 kV</b>
<b>Rated impulse withstand voltage</b>	<b>8 kV</b>
<b>Double Insulation fully protected plugs</b>	Class II <input type="checkbox"/>
<b>Maximal current limits</b>	<b>Standard Premium</b>
- environment temperature -5 °C ..+30 °C	32A 41A
- environment temperature -5 °C ..+40 °C	24A 32A
- environment temperature -5 °C ..+60 °C	14A 20A

• Environment testing conditions: relative humidity 80%, sea level elevation 2000 m, pollution degree 2.

**Applicable standard:** IEC 61010-031

### MATERIALS

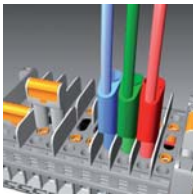
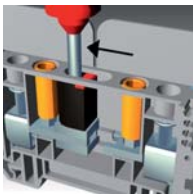
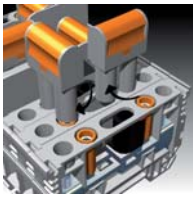
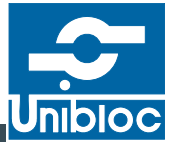


<b>Polymeric materials</b>	
Insulation:	Co-Polyamide 6/6.6
Flame resistant as per UL94	V0
Resistance to hot wire ignition - EN 60695-2-11:	960°C
Temperature at continuous operation - UL 746B:	115°C
Minimum working temperature:	-20°C
Tracking index UL 746A:	>600V / Gado 0
Dielectric strength:	17 kV/mm
Chemical resistant to:	
solvents, lubricants, fuels, refrigerants, salts and alkalis.	
<b>Metalic materials</b>	
Contacts, conductor bar:	Electrolytic copper, tin plated
Contacts, disconnect device:	Electrolytic copper, tin plated
Sockets for inserting plugs:	58 % copper alloy, tin plated
Screws:	Steel with Cr III coating
Clamping units:	Hardened steel with Cr III coating



# TECHNICAL DATA

## TERMINAL BLOCKS



### IEC 60947-7-1:2009 is the applicable version of the standard for test disconnect terminal blocks

- RB8 Series has been designed to meet the requirements of this new version of IEC 60947-7-1.
- Such new version of the Standard includes a complete annex with the additional requirements for test disconnect terminal blocks, which cover terminal blocks with longitudinal disconnection (between input and output) and/or perpendicular disconnection (between one terminal block and its adjoining blocks), also make it possible to configure or freely introduce some of the features that are already established by the standard specification for the feed through terminal blocks.
- IEC 60947-7-1:2009 Standard covers three disconnection methods, i.e. plug in, knife type and sliding link.
- Additionally the RB8 Series incorporates Earthing terminal blocks accordingly to IEC 60947-7-2 standard.

### Ultra compact design affording maximum heat efficiency ( $I_{th}$ ):

- Its 10,5 mm. pitch allows for a 16 mm<sup>2</sup> rated connecting capacity (single core, stranded or stranded fitted with cable terminal) and a 76 A test current accordingly to IEC 60947-7-1 standard. Voltage drop is lower than 0,8 mV with a 5 Amp current.

### FULL PROTECTION:

- Insulated sockets for 4 mm Ø test plugs afford an IP20 degree of protection. They also take sleeve insulated test rods to be used under operating voltages up to 600V, accordingly to IEC 61010-031 standard, which makes easier checking or testing procedures under tension. Strict fulfillment of European rules and regulations covering Precautions against Worker's Risk is thereby ensured.


### Easy handling:

- The 10,5 mm. pitch enables insertion of standard insulated test plugs easily found at the market. No interference when inserted at the same time in adjoining terminal blocks.

## TECHNICAL DATA



## TERMINAL BLOCKS

	RB8	RB8-P	RB8-SS	RBT8
Aplicable standard	IEC 60947-7-1 (D)	IEC 60947-7-1 (D)	IEC 60947-7-1	IEC 60947-7-2
<b>Rated insulation Voltage (<math>U_i</math>)</b>	<b>800 V</b>	<b>800 V</b>	<b>800 V</b>	<b>800 V</b>
Rated Impulse withstand & Cat. Voltage	8 kV CAT IV	8 kV CAT IV	8 kV CAT IV	8 kV CAT IV
Dielectric strength test voltage	2,2 kV	2,2 kV	2,2 kV	2,2 kV
Pollution degree / Material group	3 / I	3 / I	3 / I	3 / I
Connecting range with 1 wire	0,75..16 mm <sup>2</sup>	0,75..16 mm <sup>2</sup>	0,75..16 mm <sup>2</sup>	0,75..16 mm <sup>2</sup>
Connecting range with 2 wire	1,5..6 mm <sup>2</sup>	1,5..6 mm <sup>2</sup>	1,5..6 mm <sup>2</sup>	1,5..6 mm <sup>2</sup>
Stripping length	12 mm	12 mm	12 mm	12 mm
<b>Rated cross-section</b>	<b>16 mm<sup>2</sup></b>	<b>6 mm<sup>2</sup></b>	<b>16 mm<sup>2</sup></b>	<b>10 mm<sup>2</sup></b>
Test current on longitudinal current line	76 Amp	41 Amp	76 Amp	57 Amp
Perpendicular test / free air thermal current ( $I_{th}$ )	-	32 / 41 Amp	-	-
Short time withstand test current	1920 Amp	720 Amp	1920 Amp	1200 Amp
Tightening torque	1,2...1,5 Nm	1,2...1,5 Nm	1,2...1,5 Nm	1,2...1,5 Nm
Screwdriver head size	5 x 1 mm	5 x 1 mm	-	-
Service life testing cycles	100	100	100	100
Normal service temperature	-5..+60°C	-5..+60°C	-5..+60°C	-5..+60°C
<b>OTHER TECHNICAL FEATURES</b>				
<b>Pitch (A)</b>	<b>10,5 mm</b>	<b>10,5 mm</b>	<b>10,5 mm</b>	<b>10,5 mm</b>
<b>Width (B)</b>	<b>67 mm</b>	<b>67 mm</b>	<b>67 mm</b>	<b>67 mm</b>
Height on TH 35x7,5 rail without separators (C)	46 mm	46 mm	46 mm	46 mm
Height on TH 35x7,5 rail with separators (C)	61,2 mm	61,2 mm	61,2 mm	61,2 mm
Wire gauge EN 60947-1	A6/B6	A6/B6	A6/B6	A6/B6
Protection degree EN 60947-1	IP20	IP20	IP20	IP20
Voltage drop for $I_m = 5$ Amp	< 0,8 mV	< 0,8 mV	< 0,8 mV	< 0,8 mV
Dielectric strength special test	> 4 kV	> 4 kV	> 4 kV	> 4 kV

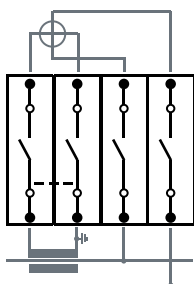
- NOTE 1 - "Rated cross section" refers to the selected conductor cross section used for the the evaluation test accordingly to IEC 60947-7-1, setting up the operating limits of the terminal block.
- NOTE 2 - "Connection Capacity or Connecting range" refers to the range of size of the conductors, according to its type and quantity, for which the Rated Insulation Voltage of the terminal block is valid.
- NOTE 3 - Voltage indicated in the Earthing Terminal Blocks means the voltage in respect of the adjacent RB8 terminal blocks.

# ASSEMBLING COMPONENTS

## IEC 60947-7-1 RB8 SERIES TERMINAL BLOCKS



### RB8



- Test disconnect terminal block with longitudinal disconnection by means of one only M4 screw slide link.
- The type without the socket protection is IP10. Protection should be completed by means of the socket insulators indicated in page 28.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.

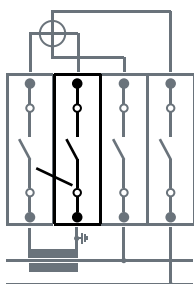


#### ORDERING DATA

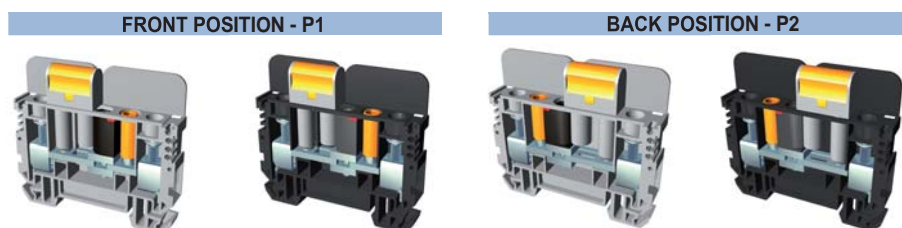
Weight  
Packing  
Without partition wall  
With 2 LR partition walls  
With L left partition wall  
With R right partition wall

GREY	COLOUR	UNPROTECTED SOCKET
20g	20g	20g
50	50	50
585315	585365	585319
585335	585375	585339
585345	585385	585349
585325	585395	585329

### RB8-P



- Test disconnect terminal block with both longitudinal and perpendicular disconnections. The perpendicular link (built-in plug) might be placed before the longitudinal disconnection (sliding link) on model RB8-P1, or it might be placed after it on model RB8-P2.
- This model is protected by the Utility Model patent U200801385.

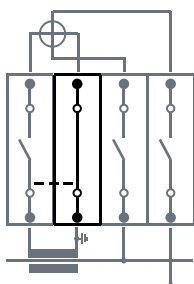


#### ORDERING DATA

Weight  
Packing  
Without partition wall  
With 2 LR partition walls  
With L left partition wall  
With R right partition wall

GREY	COLOUR	GREY	COLOUR
26g	26g	26g	26g
50	50	50	50
585314	585364	585313	585363
585334	585374	585333	585373
585344	585384	585343	585383
585324	585394	585323	585393

### RB8-SS



- Feed through terminal block to combine with RB8 test disconnect terminal blocks.
- The type without the socket protection is IP10. Protection should be completed by means of the socket insulators indicated in page 28.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.



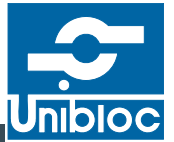
#### ORDERING DATA

Weight  
Packing  
Without partition wall  
With 2 LR partition walls  
With L left partition wall  
With R right partition wall

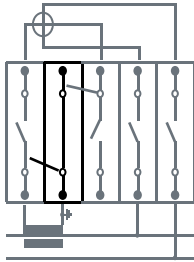
GREY	COLOUR	UNPROTECTED SOCKET
18g	18g	17g
50	50	50
585317	585367	585360
585337	585377	585370
585347	585387	585380
585327	585397	585390

# ASSEMBLING COMPONENTS

## IEC 60947-7-1 RB8 SERIES TERMINAL BLOCKS

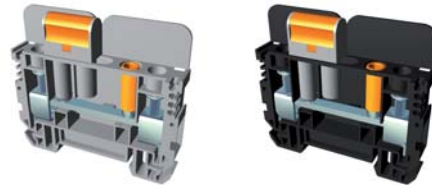


### RB8-SS-P

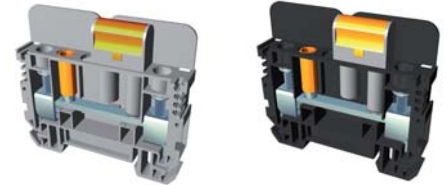


- Test disconnect terminal block with built-in perpendicular disconnection. In combination with an adjacent RB8 or RB8-SS of the same polarity the disconnection becomes in longitudinal type.
- The disconnection link (built-in plug) might be placed at any side of the terminal block.

FRONT POSITION - P1



BACK POSITION - P2

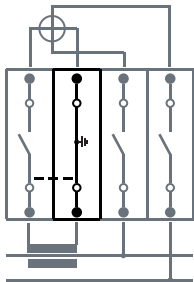


#### ORDERING DATA

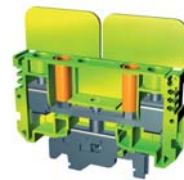
Weight 24g  
 Packing 50  
 Without partition wall 585312  
 With 2 LR partition walls 585332  
 With L left partition wall 585342  
 With R right partition wall 585322

GREY	COLOUR	GREY	COLOUR
24g	24g	24g	24g
50	50	50	50
585312	585362	585316	585366
585332	585372	585336	585376
585342	585382	585346	585386
585322	585392	585326	585396

### RBT8



- Earthing terminal block, according to EN 60947-7-2 standard.
- Perpendicular disconnection is done by means of short-circuit jumper plugs indicated in page 28.
- To be fixed to the TH 35x7,5 rail, according to the EN 60715 standard, with any type of material (steel, copper or aluminium)

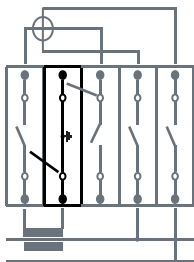


#### ORDERING DATA

Weight g  
 Packing 50  
 Without partition wall -  
 With 2 LR partition walls 585355  
 With L left partition wall -  
 With R right partition wall -

Yellow/Green			
g			
50			
-			
585355			
-			
-			

### RBT8-P



- Hybrid terminal block, for earthing purpose according to the EN 60947-7-2 and test disconnecting according to the EN 60947-7-1 standard, annex D, by means of the built-in perpendicular link.
- To be fixed to the TH 35x7,5 rail, according to the EN 60715 standard, with any type of material (steel, copper or aluminium)



#### ORDERING DATA

Weight g  
 Packing 50  
 Without partition wall -  
 With 2 LR partition walls 585352  
 With L left partition wall -  
 With R right partition wall -

FRONT POSITION - P1	BACK POSITION - P2		
g	g		
50	50		
-	-		
585352	585356		
-	-		
-	-		

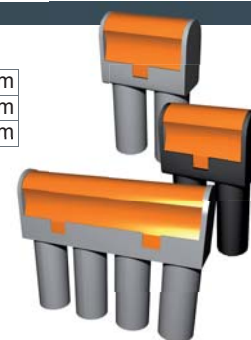
# ASSEMBLING COMPONENTS

## IEC 61010-031 JUMPER PLUGS & TEST PLUGS



### JUMPER PLUGS IEC 61010-031

Code No.	Part No.	Weight	Packing	Poles	Voltage	Current	Pitch
542473	ECD600-2P	6 g	10	2	600V CAT IV	32 A	10.5 mm
542474	ECD600-41	6 g	10	2	600V CAT IV	41 A	10.5 mm
542475	ECD600-4P	15 g	10	4	600V CAT IV	32 A	10.5 mm



### ONE POLE TEST PLUGS IEC 61010-031

Code No.	Part No.	Weight	Packing	Cross section	Size	Current	Pitch
522220	UMF/2.5 BG	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522221	UMF/2.5 BL	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522222	UMF/2.5 YG	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522223	UMF/2.5 GN	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522224	UMF/2.5 YW	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522225	UMF/2.5 GR	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522226	UMF/2.5 OG	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522227	UMF/2.5 BK	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522228	UMF/2.5 RD	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm
522229	UMF/2.5 PL	6 g	10	2.5 mm <sup>2</sup>	Ø 4 mm	32 A	10 mm



### TEST PLUG COMBS IEC 61010-031

Code No.	Part No.	Weight	Packing	Cross section	Current	Width	Length
522051	UMF/2.5 L0.5 BL	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522101	UMF/2.5 L1.0 BL	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522151	UMF/2.5 L1.5 BL	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522201	UMF/2.5 L2.0 BL	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m
522053	UMF/2.5 L0.5 GN	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522103	UMF/2.5 L1.0 GN	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522153	UMF/2.5 L1.5 GN	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522203	UMF/2.5 L2.0 GN	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m
522054	UMF/2.5 L0.5 YW	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522104	UMF/2.5 L1.0 YW	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522154	UMF/2.5 L1.5 YW	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522204	UMF/2.5 L2.0 YW	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m
522055	UMF/2.5 L0.5 GY	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522105	UMF/2.5 L1.0 GY	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522155	UMF/2.5 L1.5 GY	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522205	UMF/2.5 L2.0 GY	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m
522057	UMF/2.5 L0.5 BK	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522107	UMF/2.5 L1.0 BK	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522157	UMF/2.5 L1.5 BK	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522207	UMF/2.5 L2.0 BK	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m
522058	UMF/2.5 L0.5 RD	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	0.5 m
522108	UMF/2.5 L1.0 RD	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.0 m
522158	UMF/2.5 L1.5 RD	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	1.5 m
522208	UMF/2.5 L2.0 RD	-	1	2.5 mm <sup>2</sup>	32 A	10 mm	2.0 m



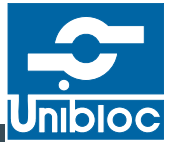
### SOCKET INSULATION

Code No.	Part No.	Weight	Packaging	Colour code	Colour	Internal Ø	External Ø
5853080	A4 BG	0.5 g	100	0	Beige	4 mm	6.5 mm
5853081	A4 BL	0.5 g	100	1	Blue	4 mm	6.5 mm
5853082	A4 YG	0.5 g	100	2	Yellow/Green	4 mm	6.5 mm
5853083	A4 GN	0.5 g	100	3	Green	4 mm	6.5 mm
5853084	A4 YW	0.5 g	100	4	Yellow	4 mm	6.5 mm
5853085	A4 GY	0.5 g	100	5	Grey	4 mm	6.5 mm
5853086	A4 OG	0.5 g	100	6	Orange	4 mm	6.5 mm
5853087	A4 BK	0.5 g	100	7	Black	4 mm	6.5 mm
5853088	A4 RD	0.5 g	100	8	Red	4 mm	6.5 mm
5853089	A4 PL	0.5 g	100	9	Purple	4 mm	6.5 mm



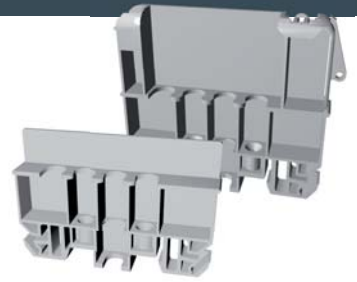
# ASSEMBLING COMPONENTS

## OTHER ACCESSORIES AND MARKINGS



### END BRACKET

Code No.	Part No.	Peso	Embalaje	Espesor	Ancho	Alto
■ 585300	BFRB8	9.5 g	50	10.5 mm	67.0 mm	62.2 mm
■ 585399	BFRB8-SP	8.5 g	50	10.5 mm	67.0 mm	46.0 mm



### BLANK TERMINAL

Code No.	Part No.	Peso	Embalaje	Espesor	Ancho	Alto
■ 585320	BFRB8 ciega	9.5 g	50	10.5 mm	67.0 mm	62.2 mm

- This part is used as separator between different groups of terminal blocks, for completing the total number of elements in a test block unit for making it suitable for a protection cover with no empty spaces.



### END PLATE

Code No.	Part No.	Weight	Packaging	Thickness	Width	Height
■ 585350	FRB8	3.4 g	20	1.4 mm	67.0 mm	45 mm

- The end plates are for closing and isolating a group of RB8 series elements.
- When being placed between 2 RB8 series elements, the Pitch becomes 12 mm. This is suitable for using the 30 V insulation CLJ jumper plugs from **Unibloc**.



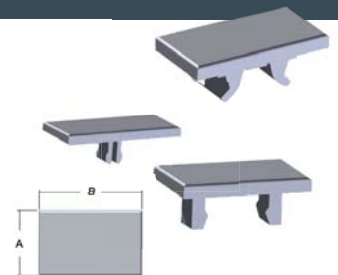
### SIDE JUMPER COMBS

Code No.	Part No.	Weight	Packaging	Poles	Section	Current	Pitch
■ 634312	PA RB8/2	3 g	10	2	5.1 mm <sup>2</sup>	41 A	10.5 mm
■ 634314	PA RB8/4	6 g	10	4	5.1 mm <sup>2</sup>	41 A	10.5 mm
■ 634323	PA RB8/3	5 g	10	3	5.1 mm <sup>2</sup>	41 A	21.0 mm
■ 634324	PA RB8/4	6 g	10	4	5.1 mm <sup>2</sup>	41 A	21.0 mm



### MARKING TAGS

Code No.	Part No.	Weight	Packaging	Size AXB	Printed code no.	Printed pack.
□ 86402004	KAB 5/5.4-5		1430	5.4x5 mm	552001	440
□ 86402006	KAB 5/9-5		1408	9x5 mm	552002	352
□ 86401026	KMR 5/7.5-5		1408	5x7.5 mm	553001	352
□ 86401036	KMR 5/7.5-5		1408	5x7.5 mm	553002	359
□ 551400	KMD 6/9		100	6x9 mm	551490	100



- High quality identification marking tags, halogen free, to be placed by fitting them in each point of the terminal block.
- Large surface for labelling.
- Temperature resistance from -40°C to +140°C
- PC V0 material, white colour.
- They can be delivered already printed by using the Printed code no.

### PRINTABLE STRIPS

Code No.	Part No.	Weight	Packaging	Size width	Printed code no.	Printed pack.
□ 5853916	PTR 9.6		150	9.6 mm	585390	150
■ 5853616	PTR 4.9		320	4.5 mm	585360	320



- High quality identification strips, halogen free, to be simultaneously placed in a group of terminal blocks.
- Available in sheets or plates for plotter.
- Very easy and well organised printing by using our "StripLable" software.
- Temperature resistance from -40°C to +140°C
- PVC material, white or yellow colour.
- They can be delivered already printed by using the Printed code no.



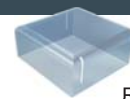
# ASSEMBLING COMPONENTS

## PROTECTION COVERS



### BASIC OR MINIMUM PROTECTION SEALABLE COVERS

	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
<input type="checkbox"/>	538004	ERB8 4E R	4	15 g	1	-	-	80	32	66.5
<input type="checkbox"/>	538010	ERB8 10E R	10	23 g	1	-	-	80	32	130
<input type="checkbox"/>	538013	ERB8 13E R	13	31 g	1	-	-	80	32	164
<input type="checkbox"/>	538014	ERB8 14E R	14	37 g	1	-	-	80	32	175

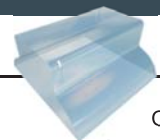


R

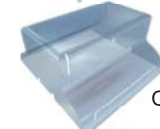
### EXTENDED PROTECTION WIRING SEALABLE COVERS

For 6mm<sup>2</sup>

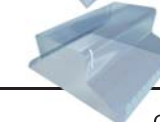
	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
<input type="checkbox"/>	538110	ERB8 10E CP	10	67 g	1	Non drilled	6 mm <sup>2</sup>	138	64	130
<input type="checkbox"/>	538210	ERB8 10E CP-C	10	67 g	1	Cut	6 mm <sup>2</sup>	138	64	130
<input type="checkbox"/>	538710	ERB8 10E CP-PT	10	67 g	1	Pre-drilled	6 mm <sup>2</sup>	138	64	130
<input type="checkbox"/>	538610	ERB8 10E CP-T	10	65 g	1	Drilled	6 mm <sup>2</sup>	138	64	130
<input type="checkbox"/>	538713	ERB8 13E CP-PT	13	76 g	1	Pre-drilled	6 mm <sup>2</sup>	138	64	130



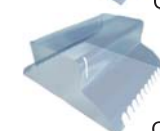
CP



CP-C



CP-PT



CP-T

For 16mm<sup>2</sup>

	Code No.	Part No.	Elements	Weight	Packing	Drilling	Wire size	Width	Height	Length
<input type="checkbox"/>	538310	ERB8 10E CP C16	10	70 g	1	Non drilled	16 mm <sup>2</sup>	157	64	164
<input type="checkbox"/>	538810	ERB8 10E CP-PT C16	10	70 g	1	Pre-drilled	16 mm <sup>2</sup>	157	64	164
<input type="checkbox"/>	538313	ERB8 13E CP C16	13	80 g	1	Non drilled	16 mm <sup>2</sup>	157	64	164

Under request, non transparent material



- Dimensions: Width, Height and Length, are in mm.
- Under request, holes might be done for sealing, adapted to any distance for different sizes of the test block units (less than 10 elements). Other drillings and colours might also be supplied under request.
- Different sizes to cover up to 25 terminal blocks can be manufactured under request. Ask for delivery time and minimum order quantity.

Standards and legislation that appears on this catalogue:

Directive 89/391/CEE	concerning to "introduction of measures to encourage improvements in the safety and health of workers at work"
Directive 89/655/CEE	concerning to "minimum safety and health requirements for the use of work equipment by workers at work".
Directive 2006/95/CEE	of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits
Spanish R.D. 614/2001	sobre disposiciones mínimas para la protección de la salud y seguridad de los trabajadores frente al riesgo eléctrico.
IEC 60947-7-1	Low-voltage switchgear and controlgear - Part 7-1: Ancillary equipment - Terminal blocks for copper conductors
IEC 60947-7-2	Low-voltage switchgear and controlgear - Part 7-2: Ancillary equipment - Protective conductor terminal blocks for copper conductors.
IEC 61010-031	Safety requirements for electrical equipment for measurement, control and laboratory use - Part 031: Safety requirements for hand-held probe assemblies for electrical measurement and test.
IEC 61140	Protection against electric shock - Common aspects for installation and equipment.
EN 50274	Low voltage switchgear assemblies. Protection against electric shock. Protection against unintentional direct contact with hazardous live parts.
IEC 60715	Dimensions of low-voltage switchgear and controlgear. Standardized mounting on rails for mechanical support of electrical devices in switchgear and controlgear installations.
IEC 60068-2-5	Environmental testing - Part 2-5: Tests - Test Sa: Simulated solar radiation at ground level and guidance for solar radiation testing.
IEC 60068-2-9	Environmental testing - Part 2: Tests. Guidance for solar radiation testing .
IEC 60529	Degrees of protection provided by enclosures (IP Code).
EN 50102	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK code). (IEC 62262).
IEC 60695-2-13	Fire hazard testing - Part 2-13: Glowing/hot-wire based test methods - Glow-wire ignitability test method for materials.
UL 94	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances.
UL 746A	Polymeric Materials - Short Term Property Evaluations.
UL 746B	Polymeric Materials - Long Term Property Evaluations.

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**BLOQUES DE CONEXIÓN**  
**TERMINAL BLOCKS**

**PROMOTORA DE MERCADOS ELECTRICOS, S.A.**  
Apartado de correos 284. Pol. Ind. Polizur, zona A, nave 30.  
C/ Can Mitjans, 50. 08290 Cerdanyola del Vallés, Barcelona (Spain)  
Tel. Dpto. Comercial: 93 580 71 86 Tel. Administración: 93 580 78 19  
Fax Dpto. Comercial: 93 580 70 61 Fax Administración: 93 592 21 85  
E-mail: [info@unibloc.com](mailto:info@unibloc.com) [www.unibloc.com](http://www.unibloc.com)