

# Strain-gauge controllers

LED strain-gauge controllers	For strain-gauge inputs (AC+DC)	Codix 566
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The process controller Codix 566 with totalizer function displays measured values from all common strain-gauge inputs in high resolution. In addition it can monitor and control 2 limit values. These fast displays set new standards when it comes to user friendliness. Their easy-to-read 14-segment LED display, easy-to-understand running help texts and a practical quick-start guide eliminate the need to wade through time-consuming full instruction manuals.

With optional analog output.

<b>DC</b> 10 ... 30 V Supply voltage	<b>AC</b> 100 ... 240 V Supply voltage	<b>A..Z*</b> LEDs 14-segment LED display	<b>Prog</b> Menu-driven programming	<b>mV</b> Display linearization	<b>Tara</b> Tare function	<b>Σ</b> Totalizer function	<b>Strain-gauge input</b>	<b>min / max</b> Min / Max value detection	<b>2</b> 2 limit values	<b>AC/DC</b> Galvanic isolation
<b>15 bit</b> Resolution	<b>-20°...+65°C</b> Temperature range	<b>DIN 96x48</b> DIN front bezel	<b>Installation in mosaic systems</b>	<b>Operation with gloves</b>	<b>mA, V</b> Analog output optional					

## User-friendly

- Practical quick-start guide for setting the parameters and operating the device.
- Help text as running text.
- Easy-to-read 14-segment LED, 6-digit display, 14 mm high.
- Simple programming via 4 keys on the front.
- One front key as well as 2 additional inputs can be programmed for specific applications.
- Customer-specific characteristic (linearization) curve via 12 control points for all measurement signal inputs.
- MIN/MAX memory function, individually resettable.

## Powerful

- Sampling rate of 10 readings per second.
- Application-specific characteristic curves via 12 measurement points.
- Manual totalizer function for totalizing the measured values. Can be reset separately.
- 2 relay outputs (changeover contacts) for limit monitoring with hysteresis and ON/OFF delay function for current measured or totalizer values.
- Analog output for the current measured value, MIN-value, MAX-value or totalizer value.
- Auxiliary sensor supply voltage 10 V DC / 30 mA for powering 350 Ω bridges.
- Inputs and outputs galvanically isolated.
- Digital filter (first-order) for smoothing display fluctuation with unstable input signals.
- Tare function.

## Order code

6.566 . 010 . X0X  
a b c d

**a** Input type  
6 = Strain-gauge inputs <sup>1)</sup>

**b** Outputs  
0 = relays <sup>1)</sup>

**c** Supply voltage  
0 = 100 ... 240 V AC, ±10 % <sup>1)</sup>  
3 = 10 ... 30 V DC <sup>1)</sup>

**d** Further outputs (optional)  
0 = none <sup>1)</sup>  
9 = analog output <sup>1)</sup> (only for DC version)

### Delivery specification:

- Process device
- Mounting clip
- Gasket
- Instruction manual, multilingual
- 1 sheet of self-adhesive symbols
- Quick-start guide

Practical quick-start guide for setting the parameters and operating the device.

The guide can be affixed directly to the front of the unit and can be removed and re-applied as required.

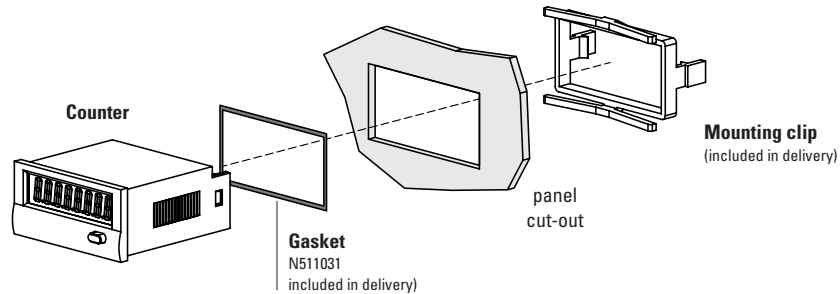


1) Stock types.

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**Accessories / Mounting examples**



		Type / size	Description		Order no.	
<b>Gasket counter</b>			96 x 49 mm [3.78 x 1.93"]		<b>N511031</b>	
<b>Mounting frame</b>		<b>cut-out</b> 92 x 45 mm [3.62 x 1.77"]	for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	grey	<b>G300005</b>	–
<b>Screw terminal</b> (Replacement part)			1 ... 7, pitch 3.81 1 ... 2, pitch 5.08	7 pin 2 pin	<b>N100387</b> <b>N100133</b>	
					incl. in delivery	

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### Technical data

General technical data	
Display	6-digit, 14 segment LED
Digit height	14 mm [0.55"]
Display range	-199999 ... 999999, with leading zero blanking
Data retention	> 10 years, EEPROM
Operation	5 keys
Operating temperature	-20 °C ... +65 °C [-4°F ... +149°F] (non-condensing)
Storage temperature	-25 °C ... +75 °C [-13°F ... +167°F]
Relative humidity	93 % (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics		
Supply voltage	AC supply	100 ... 240 V AC / max. 9 VA 50 / 60 Hz, tolerance ±10 % ext. fuse protection: T 0.1 A
	DC supply	10 ... 30 V DC / max. 3.8 W with galvanic isolation and reverse polarity protection ext. fuse protection: T 0.4 A
Mains hum suppression		50 Hz or 60 Hz programmable
Sensor supply voltage	AC supply	24 V DC ±15 %, 30 mA 10 V DC ±1 %, 30 mA
	DC supply	10 V DC ±1 %, 30 mA
EMC standard		EN 55011 class B EN 61000-6-2, EN 61000-6-3 with shielded signal and control cables
Device safety	designed to protection class application area overvoltage category	EN 61010 part 1 2 (front side) pollution level 2 II
UL approval		file E128604

Mechanical characteristics	
Housing	Panel mount housing to DIN 43700 RAL 7021
Dimensions	96 x 48 x 102 mm [3.78 x 1.89 x 4.02"]
Panel cut-out	92 +0.8 x 45 +0.6 mm [3.62 +0.032 x 1.77 +0.024"]
Installation depth	approx. 92 mm [3.62"] incl. terminals
Weight	approx. 180 g [6.34 oz] 200 g [7.06 oz] with analog output
Protection	IP65 (front side)
Housing material	Polycarbonate UL94 V-2
Vibration resistance acc. to EN 60068-2-6	10 - 55 Hz / 1 mm / XYZ 30 min in each direction
Shock resistance acc. to EN 60068-2-27	100 G / 2 ms / XYZ 3 times in each direction
	acc. to EN 60068-2-29 10 G / 6 ms / XYZ 2000 times in each direction
Connections supply voltage and output	Plug-in screw terminal, 8-pin, RM 5.00, core ø max. 2.5 mm <sup>2</sup> [AWG 13]
Connections signal and control inputs	Plug-in screw terminal, 9-pin, RM 3.50, core ø max. 1.5 mm <sup>2</sup> [AWG 15]

Control inputs MPI 1 / MPI 2		
Quantity	2 optocouplers	
Function	programmable	
Switching levels	LOW	< 2 V
	HIGH	> 4 V (max. 30 V)
Pulse length	> 100 ms	

Measuring signal inputs	
Sampling rate	10 readings/sec
Input resistance	1 MΩ
Max. measuring signal range	approx. ±35 mV
Max. voltage	±10 V

Sensitivity ranges: 3.3 – 3.0 – 2.0 mV / V	
Resolution	±15 bit
Measuring accuracy at 23 °C (% of range)	typ. 0.05 % / max. ≤ 0.1 %
Temperature drift	< 100 ppm/K <sub>Ambient</sub>

Sensitivity ranges: 1.5 – 1.0 mV / V	
Resolution	±14 bit
Measuring accuracy at 23 °C (% of range)	typ. 0.1 % / max. ≤ 0.2 %
Temperature drift	< 100 ppm/K <sub>Ambient</sub>

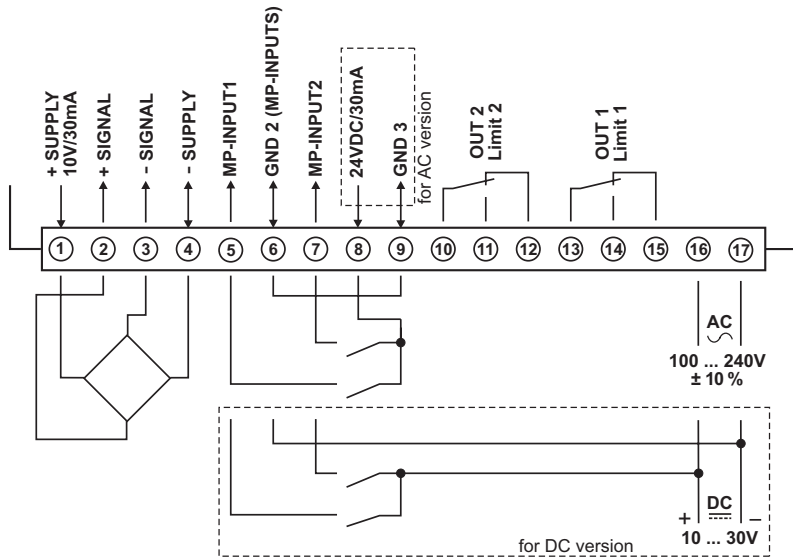
Analog output (optional - only for DC version)		
Output ranges	0 (4) ... 20 mA / 0 (2) ... 10 V	
Load	current output	≤ 500 Ω
	voltage output	≥ 2000 Ω
Resolution	15 bit	
Update time (basic device measuring rate)	100 ms	
Temperature drift	≤ 100 ppm/K <sub>Ambient</sub>	
Accuracy	±0.1 % of the output range high value	
Output ripple	≤ 10 mV	
Isolation voltage	500 V AC for 1 minute or 1 kV DC for 1 second	

Alarm outputs		
Relays	changeover contacts	
Switching voltage	max.	250 V AC / 125 V DC
	min.	5 V AC / 5 V DC
Switching current	max.	5 A AC / 5 A DC
	min.	10 mA DC
Switching capacity	max.	1250 VA / 150 W
Pull-in time		approx. 10 ms

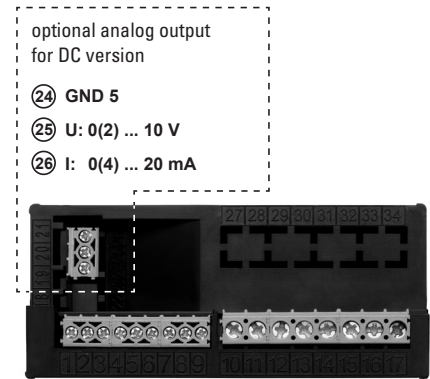
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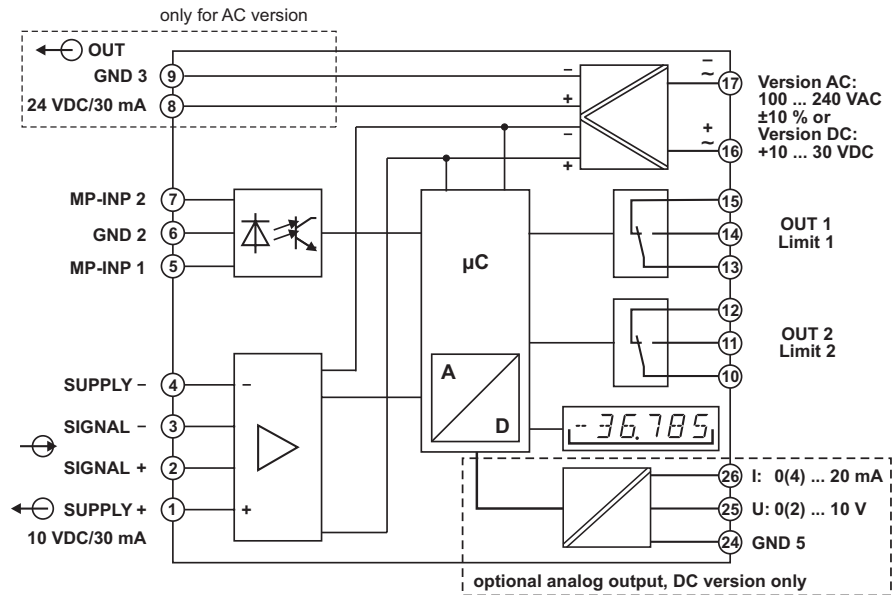
### Terminal assignment



### Rear side view



### Block diagram



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## Dimensions

Dimensions in mm [inch]

