

# Strain-gauge controllers

LED strain-gauge controllers

For strain-gauge inputs (AC+DC)

Codix 566



The process controller Codix 566 with totaliser 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 analogue output.



<b>DC</b> 10 ... 30 V	<b>AC</b> 100 ... 240 V	<b>A.Z*</b> 6 LEDs	<b>Prog</b>	<b>mV</b>	<b>Tara</b>	<b>Σ</b>	<b>Strain-gauge input</b>	<b>min / max</b>	<b>2</b>	<b>AC/DC</b>
Power supply		14-segment LED display	Menu-driven programming	Display linearization	Tare function	Totaliser function		Min / Max value detection	2 limit values	Galvanic isolation
<b>15 bit</b>	<b>-20° + 65°</b>	<b>DIN 96 x 48</b>	<b>000000</b>	<b>000000</b>	<b>Operation with gloves</b>	<b>mA, V</b>				
Resolution	Temperature range	DIN front bezel	Installation in mosaic systems			Analogue 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 totaliser function for totalising 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 totaliser values
- Analogue output for the current measured value, MIN-value, MAX-value or totalizer value
- Auxiliary sensor power supply 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** Power supply  
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 = analogue 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.



<sup>1)</sup> Stock types

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Accessories	Dimensions in mm [inch]	Order-No.
<b>Mounting frame</b> with cut-out 92 x 45 [3.62 x 1.77]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 96 x 48 [3.74 x 1.89]	grey <b>G300005</b>

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

### Technical data

General technical data	
<b>Display</b>	6-digit, 14 segment LED
<b>Digit height</b>	14 mm [0.55"]
<b>Display range</b>	-199999 ... 999999, with leading zero blanking
<b>Data retention</b>	> 10 years, EEPROM
<b>Operation</b>	5 keys
<b>Operating temperature (non-condensing)</b>	-20°C ... +65°C [-4°F ... +149°F]
<b>Storage temperature</b>	-25°C ... +75°C [-13°F ... +167°F]
<b>Relative humidity (non-condensing)</b>	R.H. 93 % at +40°C [+104°F]
<b>Altitude</b>	up to 2000 m [6562']

Mechanical characteristics	
<b>Housing</b>	Panel mount housing to DIN 43700, RAL 7021
<b>Dimensions</b>	96 x 48 x 102 mm [3.78 x 1.89 x 4.02"]
<b>Panel cut-out</b>	92 +0.8 x 45 +0.6 mm [3.62 +0.032 x 1.77 +0.024"]
<b>Installation depth</b>	approx. 92 mm [3.62"] incl. terminals
<b>Weight</b>	approx. 180 g [6.34 oz] with analogue output 200 g [7.06 oz]
<b>Protection</b>	IP65 (front side)
<b>Housing material</b>	Polycarbonate UL94 V-2
<b>Vibration resistance</b>	acc. to EN 60068-2-6 10 - 55 Hz / 1 mm / XYZ 30 min in each direction
<b>Shock resistance</b>	acc. to EN 60068-2-27 100G / XYZ 3 times in each direction acc. to EN 60068-2-29 10G / 6 ms / XYZ 2000 times in each direction

Connections	
<b>Power supply and outputs</b>	Plug-in screw terminal, 8-pin, RM 5.00, core ø max. 2.5 mm <sup>2</sup> [AWG 13]
<b>Signal and control inputs</b>	Plug-in screw terminal, 9-pin, RM 3.50, core ø max. 1.5 mm <sup>2</sup> [AWG 15]

Electrical characteristics		
<b>Power supply</b>	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
<b>Mains hum suppression</b>		50 Hz or 60 Hz programmable
<b>Sensor power supply</b>	AC supply	24 V DC ±15 %, 30 mA
	DC supply	10 V DC ± 1%, 30 mA 10 V DC ± 1%, 30 mA
<b>EMC</b>	Emitted interference	EN 55011 class B
	Immunity to interference	EN 61000-6-2 with shielded signal and control cables
<b>Device safety</b>	Designed to	EN 61010 part 1
	Protection class	2 (front side)
	Application area	Pollution level 2
<b>UL approval</b>	Overvoltage category	II
		File No.: E128604

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

Strain-gauge measuring signal inputs	
<b>Sampling rate</b>	10 readings/sec
<b>Input resistance</b>	1 MΩ
<b>Max. measuring signal range</b>	approx. ± 35 mV
<b>Max. voltage</b>	± 10 V

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

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

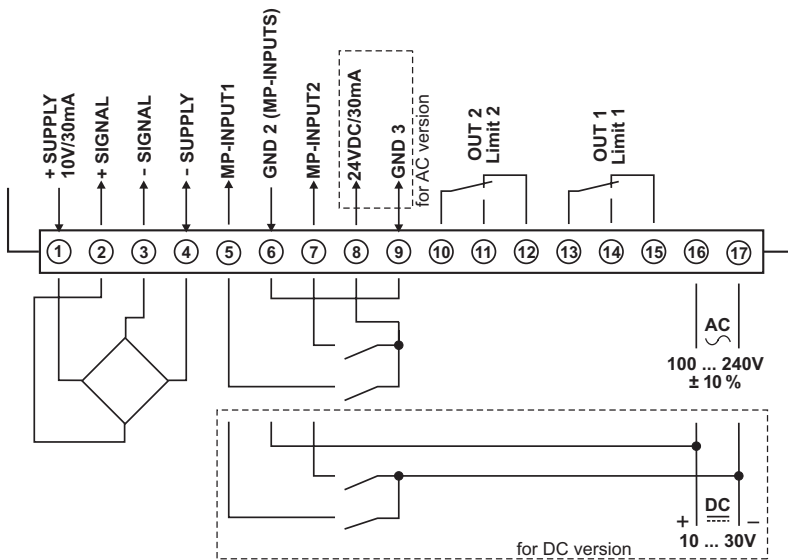
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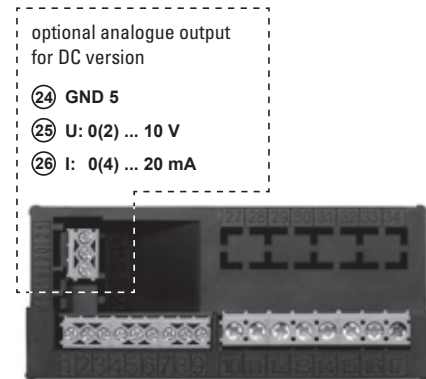
Alarm outputs	
Relays	changeover contacts
Switching voltage	max. 250 V AC / 125 V DC min. 5 V AC / 5 V DC
Switching current	max. 5 A AC / 5 A DC min. 10 mA DC
Switching capacity	max. 1250 VA / 150 W
Pull-in time	approx. 10 ms

Analogue output (optional - only for DC version)	
Output ranges	0 (4) ... 20 mA / 0 (2) ... 10 V
Load	current output $\leq 500 \Omega$ voltage output $\geq 2000 \Omega$
Resolution	15 bit
Update time (basic device measuring rate)	100 ms
Temperature drift	$\leq 100 \text{ ppm/K}_{\text{Ambient}}$
Accuracy	$\pm 0.1\%$ of the output range high value
Output ripple	$\leq 10 \text{ mV}$
Isolation voltage	500 V AC for 1 minute or 1 kV DC for 1 second

### Terminal assignment



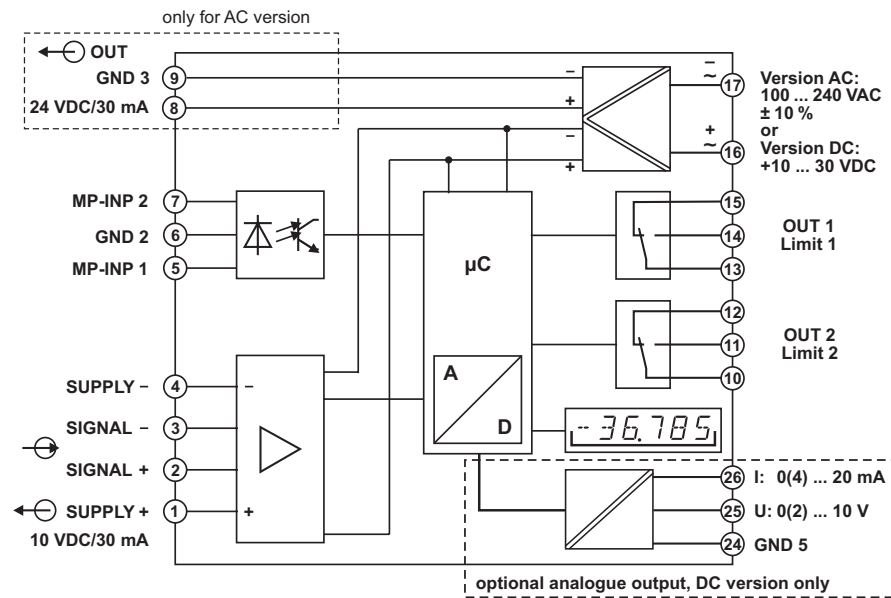
### Rear side view



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## Block diagram



## Dimensions

Dimensions in mm [inch]

Panel cut-out  
 $92^{+0.8} \times 45^{+0.6}$   
 $[3.62^{+0.032} \times 1.77^{+0.024}]$

