



## EM2/E

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### Screwable temperature transducer with stainless steel immersion sleeve

Measuring size: temperature

Output: 0-10 V, 4-20 mA, 2 Relay

Highlights: Pmax 40 bar, immersion sleeve with thread G1/2 inch



### Description

The EM2/E screwable transducer registers the temperature at a maximum pressure of 40 bar in gaseous and liquid media and converts this measured value into a linear output signal 0-10 V respectively 4-20 mA.

As an option the temperature transducer has two potential-free changeover contacts and a backlit display. The display content can be rotated in 90° steps using a menu and the measured value, the switching threshold set, the state of the respective relay, the MIN/MAX measured values for the selected intervals(1 h / 6 h / 12 h / 24 h) etc. can be read out.

On the display version the user can, via the menu, specify an individual temperature range.

Using the immersion sleeve, included in the scope of delivery, the temperature sensor is screwed directly into the container or the pipeline and can during service be quickly and easily replaced.



## Technical Specifications

Measurement range temp.	-30...+150°C
Scales	-50...0°C, -50...+50°C, -50...+150°C, -30...+20°C, -30...+70°C, -20...+50°C, -20...+80°C, -20...+120°C, -20...+150°C, -10...+15°C, 0...+50°C, 0...+100°C, 0...+150°C, 0...+200°C, 0...+250°C, +10...+35°C
Measurement range configuration	1 freely programmable measuring range via the menu input in the display (span min. 25K)
Accuracy	±0,2 K + max. ±1,5% Span
Supply voltage analog 0-10 V	24 V AC/DC (±5%)
Supply voltage analog 4-20 mA	15...36 V DC, depends on liability (U <sub>bmin</sub> = 15 V + R <sub>load</sub> *0,02A)
Current consumption at 0-10 V	typ. 10 mA, 30 mA peak current consumption for 50 ms at switching moment at option relay
Current consumption at 4-20 mA	max. 20 mA / output, 40 mA peak current consumption for 50 ms at switching moment at option relay
Analogue output 0-10 V	3-wire connection, min. load resistance 100 kOhm
Analogue output 4-20 mA	2-wire connection (transmitter), max. R <sub>Load</sub> (Ohm) = (+U <sub>b</sub> - 15 V) / 0,02 A
Alarm output	2 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	Temperature: 2K (without display), 0,5...5K adjustable (with display)
Electrical connection	screw terminals max. 1,5 mm <sup>2</sup>
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color signal white similar to RAL 9003
Cable gland	PG11 high-strength cable gland with strain relief
Display	optional LCD display with backlight on/off/auto
Material	Protection sleeve: stainless steel VA 1.4571, Immersion sleeve: stainless steel VA 1.4571, P <sub>max</sub> . 40 bar
Dimensions	Housing: L 89 x W 80 x H 47 mm, Protection sleeve: Ø 6 mm, Immersion sleeve: outside Ø 9 mm / inside Ø 6,2 mm, thread G1/2 inch
Protection type	IP65
Protection class	III
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	Probe: -30...+150°C, Electronic: -20...+70°C
Storage temperature	-20...+70°C
Installation	immersion sleeve with G1/2 inch screw-in thread
Approvals	CE, EAC, RoHS



## Variants

<b>Article Number</b>			
MR temp. preset	Output temperature	Installation length	Version
<b>EM2/E-I100</b>			
0...+100°C	4-20 mA	100 mm	without display
<b>EM2/E-I100-2R</b>			
0...+100°C	4-20 mA, 2 changer	100 mm	without display
<b>EM2/E-I100D</b>			
0...+100°C	4-20 mA	100 mm	with display
<b>EM2/E-I100D-2R</b>			
0...+100°C	4-20 mA, 2 changer	100 mm	with display
<b>EM2/E-I150</b>			
0...+100°C	4-20 mA	150 mm	without display
<b>EM2/E-I150-2R</b>			
0...+100°C	4-20 mA, 2 changer	150 mm	without display
<b>EM2/E-I150D</b>			
0...+100°C	4-20 mA	150 mm	with display
<b>EM2/E-I150D-2R</b>			
0...+100°C	4-20 mA, 2 changer	150 mm	with display
<b>EM2/E-I200</b>			
0...+100°C	4-20 mA	200 mm	without display
<b>EM2/E-I200-2R</b>			
0...+100°C	4-20 mA, 2 changer	200 mm	without display
<b>EM2/E-I200D</b>			
0...+100°C	4-20 mA	200 mm	with display
<b>EM2/E-I200D-2R</b>			
0...+100°C	4-20 mA, 2 changer	200 mm	with display
<b>EM2/E-I250</b>			
0...+100°C	4-20 mA	250 mm	without display
<b>EM2/E-I250-2R</b>			
0...+100°C	4-20 mA, 2 changer	250 mm	without display
<b>EM2/E-I250D</b>			
0...+100°C	4-20 mA	250 mm	with display
<b>EM2/E-I250D-2R</b>			
0...+100°C	4-20 mA, 2 changer	250 mm	with display



<b>Article Number</b>			
MR temp. preset	Output temperature	Installation length	Version
<b>EM2/E-I300</b>			
0...+100°C	4-20 mA	300 mm	without display
<b>EM2/E-I300-2R</b>			
0...+100°C	4-20 mA, 2 changer	300 mm	without display
<b>EM2/E-I300D</b>			
0...+100°C	4-20 mA	300 mm	with display
<b>EM2/E-I300D-2R</b>			
0...+100°C	4-20 mA, 2 changer	300 mm	with display
<b>EM2/E-I350</b>			
0...+100°C	4-20 mA	350 mm	without display
<b>EM2/E-I350-2R</b>			
0...+100°C	4-20 mA, 2 changer	350 mm	without display
<b>EM2/E-I350D</b>			
0...+100°C	4-20 mA	350 mm	with display
<b>EM2/E-I350D-2R</b>			
0...+100°C	4-20 mA, 2 changer	350 mm	with display
<b>EM2/E-I400</b>			
0...+100°C	4-20 mA	400 mm	without display
<b>EM2/E-I400-2R</b>			
0...+100°C	4-20 mA, 2 changer	400 mm	without display
<b>EM2/E-I400D</b>			
0...+100°C	4-20 mA	400 mm	with display
<b>EM2/E-I400D-2R</b>			
0...+100°C	4-20 mA, 2 changer	400 mm	with display
<b>EM2/E-U100</b>			
0...+100°C	0-10 V	100 mm	without display
<b>EM2/E-U100-2R</b>			
0...+100°C	0-10 V, 2 changer	100 mm	without display
<b>EM2/E-U100D</b>			
0...+100°C	0-10 V	100 mm	with display
<b>EM2/E-U100D-2R</b>			
0...+100°C	0-10 V, 2 changer	100 mm	with display
<b>EM2/E-U150</b>			
0...+100°C	0-10 V	150 mm	without display



<b>Article Number</b>			
MR temp. preset	Output temperature	Installation length	Version
<b>EM2/E-U150-2R</b>			
0...+100°C	0-10 V, 2 changer	150 mm	without display
<b>EM2/E-U150D</b>			
0...+100°C	0-10 V	150 mm	with display
<b>EM2/E-U150D-2R</b>			
0...+100°C	0-10 V, 2 changer	150 mm	with display
<b>EM2/E-U200</b>			
0...+100°C	0-10 V	200 mm	without display
<b>EM2/E-U200-2R</b>			
0...+100°C	0-10 V, 2 changer	200 mm	without display
<b>EM2/E-U200D</b>			
0...+100°C	0-10 V	200 mm	with display
<b>EM2/E-U200D-2R</b>			
0...+100°C	0-10 V, 2 changer	200 mm	with display
<b>EM2/E-U250</b>			
0...+100°C	0-10 V	250 mm	without display
<b>EM2/E-U250-2R</b>			
0...+100°C	0-10 V, 2 changer	250 mm	without display
<b>EM2/E-U250D</b>			
0...+100°C	0-10 V	250 mm	with display
<b>EM2/E-U250D-2R</b>			
0...+100°C	0-10 V, 2 changer	250 mm	with display
<b>EM2/E-U300</b>			
0...+100°C	0-10 V	300 mm	without display
<b>EM2/E-U300-2R</b>			
0...+100°C	0-10 V, 2 changer	300 mm	without display
<b>EM2/E-U300D</b>			
0...+100°C	0-10 V	300 mm	with display
<b>EM2/E-U300D-2R</b>			
0...+100°C	0-10 V, 2 changer	300 mm	with display
<b>EM2/E-U350</b>			
0...+100°C	0-10 V	350 mm	without display
<b>EM2/E-U350-2R</b>			
0...+100°C	0-10 V, 2 changer	350 mm	without display



Article Number			
MR temp. preset	Output temperature	Installation length	Version
<b>EM2/E-U350D</b>			
0...+100°C	0-10 V	350 mm	with display
<b>EM2/E-U350D-2R</b>			
0...+100°C	0-10 V, 2 changer	350 mm	with display
<b>EM2/E-U400</b>			
0...+100°C	0-10 V	400 mm	without display
<b>EM2/E-U400-2R</b>			
0...+100°C	0-10 V, 2 changer	400 mm	without display
<b>EM2/E-U400D</b>			
0...+100°C	0-10 V	400 mm	with display
<b>EM2/E-U400D-2R</b>			
0...+100°C	0-10 V, 2 changer	400 mm	with display

## Accessories

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motrona AX350

AX350: touchMATRIX® Process Indicator with two 16 bit Analog Inputs



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motrona AX020

AX020: Process Indicator for Analog Signals





### Dimensional Drawing

