



## TM/E

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### Immersion temperature transducer

Measuring size: temperature

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

Highlights: easy to install, 16 measuring ranges per device, 1 freely programmable measurement range



### Description

The Immersion transducer registers the temperature in gaseous 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.

With an optional mounting flange, immersion sleeve or compression clamp the temperature transducer can be mounted directly e.g. on ducts or pipes and replaced quickly and easily in case of service.



## 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
Dimensions	Housing: L 89 x W 80 x H 47 mm, Protection sleeve: Ø 6 mm
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
Approvals	CE, EAC, RoHS



## Variants

<b>Article Number</b>			
MR temp. preset	Output temperature	Installation length	Version
<b>TM/E-I100</b>			
0...+100°C	4-20 mA	100 mm	without display
<b>TM/E-I100-2R</b>			
0...+100°C	4-20 mA, 2 changer	100 mm	without display
<b>TM/E-I100D</b>			
0...+100°C	4-20 mA	100 mm	with display
<b>TM/E-I100D-2R</b>			
0...+100°C	4-20 mA, 2 changer	100 mm	with display
<b>TM/E-I200</b>			
0...+100°C	4-20 mA	200 mm	without display
<b>TM/E-I200-2R</b>			
0...+100°C	4-20 mA, 2 changer	200 mm	without display
<b>TM/E-I200D</b>			
0...+100°C	4-20 mA	200 mm	with display
<b>TM/E-I200D-2R</b>			
0...+100°C	4-20 mA, 2 changer	200 mm	with display
<b>TM/E-I300</b>			
0...+100°C	4-20 mA	300 mm	without display
<b>TM/E-I300-2R</b>			
0...+100°C	4-20 mA, 2 changer	300 mm	without display
<b>TM/E-I300D</b>			
0...+100°C	4-20 mA	300 mm	with display
<b>TM/E-I300D-2R</b>			
0...+100°C	4-20 mA, 2 changer	300 mm	with display
<b>TM/E-I400</b>			
0...+100°C	4-20 mA	400 mm	without display
<b>TM/E-I400-2R</b>			
0...+100°C	4-20 mA, 2 changer	400 mm	without display
<b>TM/E-I400D</b>			
0...+100°C	4-20 mA	400 mm	with display
<b>TM/E-I400D-2R</b>			
0...+100°C	4-20 mA, 2 changer	400 mm	with display



<b>Article Number</b>			
MR temp. preset	Output temperature	Installation length	Version
<b>TM/E-U100</b>			
0...+100°C	0-10 V	100 mm	without display
<b>TM/E-U100-2R</b>			
0...+100°C	0-10 V, 2 changer	100 mm	without display
<b>TM/E-U100D</b>			
0...+100°C	0-10 V	100 mm	with display
<b>TM/E-U100D-2R</b>			
0...+100°C	0-10 V, 2 changer	100 mm	with display
<b>TM/E-U200</b>			
0...+100°C	0-10 V	200 mm	without display
<b>TM/E-U200-2R</b>			
0...+100°C	0-10 V, 2 changer	200 mm	without display
<b>TM/E-U200D</b>			
0...+100°C	0-10 V	200 mm	with display
<b>TM/E-U200D-2R</b>			
0...+100°C	0-10 V, 2 changer	200 mm	with display
<b>TM/E-U300</b>			
0...+100°C	0-10 V	300 mm	without display
<b>TM/E-U300-2R</b>			
0...+100°C	0-10 V, 2 changer	300 mm	without display
<b>TM/E-U300D</b>			
0...+100°C	0-10 V	300 mm	with display
<b>TM/E-U300D-2R</b>			
0...+100°C	0-10 V, 2 changer	300 mm	with display
<b>TM/E-U400</b>			
0...+100°C	0-10 V	400 mm	without display
<b>TM/E-U400-2R</b>			
0...+100°C	0-10 V, 2 changer	400 mm	without display
<b>TM/E-U400D</b>			
0...+100°C	0-10 V	400 mm	with display
<b>TM/E-U400D-2R</b>			
0...+100°C	0-10 V, 2 changer	400 mm	with display



## Accessories

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MFL/E  
Mounting flange

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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

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### Dimensional Drawing

