FuehlerSysteme eNET International
Die Marke für Sensorik

EN **DATA SHEET**

MM/E

Average temperature transducer

Measuring size: temperature
Output: 0-10 V, 4-20 mA, 2 Relay
Highlights: 1 freely programmable measurement range

MADE IN GERMANY

Description

The MM/E average temperature transducer registers the average temperature value 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.
Using the installation flange, included in the scope of delivery, the temperature transducer is fastened, for example, directly to the duct, and the copper rod can be mounted meander formed in air ventilation ducts using the mounting clamps. This determines the average temperature for the total cross-section or over a specified length. For improved quality the rod sensor is fitted with a copper rod.

Technical Specifications

Measurement range temp.	-30...+80°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 (Ubmin = 15 V + Rload*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. RLoad(Ohm) = (+Ub - 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 mm²
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	Rod: copper (oxidation protective coating, black)
Dimensions	Housing: L 89 x W 80 x H 47 mm, Rod length: 0,4 m, 3 m and 6 m (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...+80°C, Electronic: -20...+70°C
Storage temperature	-20...+70°C
Installation	housing by mounting flange (in scope of delivery), rod by mounting clamps (in scope of delivery), max. bending radius 35 mm (beware of loading by vibration)
Approvals	CE, EAC, RoHS

Variants

Article Number			
MR temp. preset	Output temperature	Rod length	Version
MM/E-I04			
0...+100°C	4-20 mA	0,4 m	without display
MM/E-I04-2R			
0...+100°C	4-20 mA, 2 changer	0,4 m	without display
MM/E-I04D			
0...+100°C	4-20 mA	0,4 m	with display
MM/E-I04D-2R			
0...+100°C	4-20 mA, 2 changer	0,4 m	with display
MM/E-I3			
0...+100°C	4-20 mA	3 m	without display
MM/E-I3-2R			
0...+100°C	4-20 mA, 2 changer	3 m	without display
MM/E-I3D			
0...+100°C	4-20 mA	3 m	with display
MM/E-I3D-2R			
0...+100°C	4-20 mA, 2 changer	3 m	with display
MM/E-I6			
0...+100°C	4-20 mA	6 m	without display
MM/E-I6-2R			
0...+100°C	4-20 mA, 2 changer	6 m	without display
MM/E-I6D			
0...+100°C	4-20 mA	6 m	with display
MM/E-I6D-2R			
0...+100°C	4-20 mA, 2 changer	6 m	with display
MM/E-U04			
0...+100°C	0-10 V	0,4 m	without display
MM/E-U04-2R			
0...+100°C	0-10 V, 2 changer	0,4 m	without display
MM/E-U04D			
0...+100°C	0-10 V	0,4 m	with display
MM/E-U04D-2R			
0...+100°C	0-10 V, 2 changer	0,4 m	with display

Article Number			
MR temp. preset	Output temperature	Rod length	Version
MM/E-U3			
0...+100°C	0-10 V	3 m	without display
MM/E-U3-2R			
0...+100°C	0-10 V, 2 changer	3 m	without display
MM/E-U3D			
0...+100°C	0-10 V	3 m	with display
MM/E-U3D-2R			
0...+100°C	0-10 V, 2 changer	3 m	with display
MM/E-U6			
0...+100°C	0-10 V	6 m	without display
MM/E-U6-2R			
0...+100°C	0-10 V, 2 changer	6 m	without display
MM/E-U6D			
0...+100°C	0-10 V	6 m	with display
MM/E-U6D-2R			
0...+100°C	0-10 V, 2 changer	6 m	with display

Accessories

MFL/E

Mounting flange

motrona AX350

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

motrona AX020

AX020: Process Indicator for Analog Signals

Dimensional Drawing