FS3135

Humidity transmitter with screw-in thread, active output (0-10 V or 4-20 mA)

Measuring size: temperature, dew point temperature, rel. humidity, abs. humidity, mixing ratio

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

Highlights: pressure resistance max. 10 bar, G1/2 inch thread

MADE IN GERMANY   EAC   CE   RoHS COMPLIANT

Description

The humidity transmitter FS3135 detects the temperature and relative humidity in compressed air lines up to max. 10 bar and converts the measured values ??into an active 0-10 V or 4-20 mA output signal. The additional measured value for the temperature can be simply selected via the DIP switch from the 4 measured values% r.h., g / m³, g / kg, TP.

As an option, a potential-free changeover contact and / or a backlit LCD display are available.

The changeover contact can be defined for one or both measured values.

The content of the backlit display can be rotated by the menu in 90 ° increments. The actual value, the set switching threshold, the relay status, the MIN / MAX measured values ??of the selected interval, etc. can be read off.

The switching threshold, hysteresis, offset value, etc. can be set directly on the device.

In addition, the moisture meter has a heating function for sensor protection in the high humidity range of 95 ... 99% rh. If the relative humidity exceeds the threshold value set ex-works for a certain period of time the heating function is activated. The sensor is heated for a limited time, thus dried or protected against condensation. During the heating and subsequent temperature compensation phase, the output signal is kept stable to the last measured value before activation of the protective function.

The sensor technology is optimally protected against contamination by a screwable sintered filter.

Technical Specifications

Measurement range r.H.	0-100% r.H.
Measurement range abs. humidity	0-50 g/m³, 0-80 g/m³ (calculated) selectable by DIP switch
Measurement range air fuel ratio	0-50 g/kg, 0-80 g/kg (calculated) selectable by DIP switch
Measurement range dew point	-20...+50°C DP, -20...+80°C DP, 0...+50°C DP (calculated) selectable by DIP switch
Measurement range temp.	-20...+80°C
Scales	-20...+80°C, -0...+50°C, -50...+50°C, 0...+100°C selectable by DIP switch
Accuracy humidity	±3% r.H. (30-70% r.H., else ±5% r.H., at 20°C)
Accuracy temperature	±0,5 K
Temperature dependency	±0,02% r.H. / K (voltage output), ±0,04% r.H. / K (current version); ±0,05°C / 10 K (voltage version), ±0,07°C / 10 K (current output)
Response time (t90)	< 90 s
Running-in time	< 5 min (U-Version), < 10 min (I-Version)
Long term stability	±1%/year
Sensor	Combined electronic humidity and temperature sensor
Sensor protection	screwable stainless steel sinter filter, condensation protection by heating function in the range of 95...99% r.H.
Flow rate	< 2 m/s
Supply voltage analog 0-10 V	24 V AC/DC (±5%)
Supply voltage analog 4-20 mA	15...36 V DC (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, load current < 0,1 mA
Analogue output 4-20 mA	2-wire connection (transmitter), max. RLoad(Ohm) = (+Ub - 15 V) / 0,02 A
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	2% of the selected scaling (without display), 0,5...5% of the selected scaling 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	Protection tube: stainless steel V2A
Dimensions	Housing: L 89 x W 80 x H 47 mm, Protection tube: Ø 20 x 115 mm, SW 24, immersion depth 25 mm, G1/2 inch thread
Protection type	Housing/electronic: IP65, Sensor: IP30
Protection class	III
Pressure resistance	max. 10 bar
Working range r.H.	0...98% r.H. in contaminant-free, non-condensing air
Working temperature	-20...+50°C
Storage temperature	-20...+50°C
Installation	screw-in thread
Approvals	CE, EAC, RoHS

Variants

Article Number			
Humidity	Temperature	Output	Equipment
FS3135-I-H1T1-D			
0-100% r.H.	-20...+80°C	2 x 4-20 mA	Display
FS3135-I-H1T1-DR			
0-100% r.H.	-20...+80°C	2 x 4-20 mA	Display, Relay
FS3135-I-H1T1-R			
0-100% r.H.	-20...+80°C	2 x 4-20 mA, changer	Relay
FS3135-I-H1T1-X			
0-100% r.H.	-20...+80°C	2 x 4-20 mA	-
FS3135-U-H1T1-D			
0-100% r.H.	-20...+80°C	2 x 0-10 V	Display
FS3135-U-H1T1-DR			
0-100% r.H.	-20...+80°C	2 x 0-10 V	Display, Relay
FS3135-U-H1T1-R			
0-100% r.H.	-20...+80°C	2 x 0-10 V	Relay
FS3135-U-H1T1-X			
0-100% r.H.	-20...+80°C	2 x 0-10 V	-

Accessories

motrona AX350

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

motrona AX020

AX020: Process Indicator for Analog Signals

Dimensional Drawing

80

80

65

PG11 / SW22

16,5

63

Ø 4,25

80

89

47

14,5

Ø 20

115

SW 24