FS5020

Flow transmitter duct for laminar airflow, volume flow and temperature, active output (0-10V or 4-20mA)

Measuring size: temperature, flow, volume flow
Output: 2 x 0-10 V, 2 x 4-20 mA, Relay
Highlights: volume calculation without k-factor

MADE IN GERMANY

Description

The flow transmitter FS5020 detects the laminar air flow and the temperature in air ventilation ducts. The transmitter converts the measurement values into a linear 0-10V or 4-20mA output for further processing.
As an option, a potential-free changeover contact and / or a backlit LCD display are available.
In the case of display devices, the DIP switch can be used to switch to volumetric flow. For this the channel cross-sectional area must be specified in the menu. The volume flow is then calculated from the flow velocity.
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 airflow sensor works according to the calorimetric measuring principle and has 5 freely selectable scalings, which can simply be switched over as required by innovative DIP-switch technology.
In addition, the switching threshold, hysteresis etc. can be specified.

Technical Specifications

Measuring principle	calorimetric measuring method
Measurement range flow	0-5 m/s
Scales	0-1 m/s, 0-2 m/s, 0-3 m/s, 0-4 m/s, 0-5 m/s
Measurement range volume flow (calculated)	0-65.000 m³/h
Measurement range temp.	0...+50°C
Accuracy	±0,3 m/s + max. ±4% FS (@ 20°C, 45% r.H., 1013 mbar), ±0,5 K (@ 20°C, > 1 m/s)
Temperature dependency	±1% FS / 10 K
Long term stability	±1% FS/year, ±0,2 K/year
Response time (t90)	< 4 s @ 10 m/s
Running-in time	< 30 s at initial operation because of tempering
Output attentuation	5 s
Supply voltage	24 V AC/DC
Current consumption at 0-10 V	Ø 100 mA
Current consumption at 4-20 mA	< 140 mA
Current consumption at relay	< 120 mA
Analogue output 0-10 V	3-wire connection, min. load resistance 100 kOhm
Analogue output 4-20 mA	3-wire connection, max. RLoad(Ohm) = 300 Ohm
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)
Dimensions	Housing: L 89 x W 80 x H 47 mm, Immersion depth max.: 205 mm, Protection tube: Ø 16 mm
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
Protection type	Housing/electronic: IP65, Sensor: IP30
Protection class	III
Working range	0,3-5 m/s, 0...98% r.H. in contaminant-free, non-condensing air
Working temperature	-20...+50°C
Storage temperature	-20...+50°C
Installation	mounting flange (in scope of delivery)
Approvals	CE, EAC, RoHS

Variants

Article Number				
Flow	Volume flow	Temperature	Output	Equipment
FS5020-I-F1-D				
0-5 m/s	-	-	4-20 mA	Display
FS5020-I-F1-DR				
0-5 m/s	-	-	4-20 mA	Display, Relay
FS5020-I-F1-R				
0-5 m/s	-	-	4-20 mA	Relay
FS5020-I-F1-X				
0-5 m/s	-	-	4-20 mA	-
FS5020-I-F1T1-R				
0-5 m/s	-	0...+50°C	4-20 mA	Relay
FS5020-I-F1T1-X				
0-5 m/s	-	0...+50°C	4-20 mA	-
FS5020-I-F1T1V1-D				
0-5 m/s	0-65.000 m³/h	0...+50°C	4-20 mA	Display
FS5020-I-F1T1V1-DR				
0-5 m/s	0-65.000 m³/h	0...+50°C	4-20 mA	Display, Relay
FS5020-U-F1-D				
0-5 m/s	-	-	0-10 V	Display
FS5020-U-F1-DR				
0-5 m/s	-	-	0-10 V	Display, Relay
FS5020-U-F1-R				
0-5 m/s	-	-	0-10 V	Relay
FS5020-U-F1-X				
0-5 m/s	-	-	0-10 V	-
FS5020-U-F1T1-R				
0-5 m/s	-	0...+50°C	0-10 V	Relay
FS5020-U-F1T1-X				
0-5 m/s	-	0...+50°C	0-10 V	-
FS5020-U-F1T1V1-D				
0-5 m/s	0-65.000 m³/h	0...+50°C	0-10 V	Display
FS5020-U-F1T1V1-DR				
0-5 m/s	0-65.000 m³/h	0...+50°C	0-10 V	Display, Relay

Article Number				
Flow	Volume flow	Temperature	Output	Equipment
FS5020-X-F1-R				
0-5 m/s	-	-	-	Relay

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