



## FS1421

Flow transducer duct for airflow, volume flow and temperature, digital output

Measuring size: temperature, flow, volume flow

Output: Modbus RTU, Relay

Highlights: volume calculation without k-factor



### Description

Flow transducer FS1421 registers the airflow, volume flow and temperature. The measuring transducer converts the measured values into a digital output signal.

In the register the output attenuation, switching threshold, hysteresis, offset value etc can be specified.

As special equipment a potential-free alternating contact and/or a backlit display are available. The contents of the display can be rotated in steps of 90° by using a command.

As special functions a series of defined measured values from other bus-participants (also cross-manufacturers) can be shown in the display. To display measured values from other bus-participants these are entered into the corresponding register by the bus-Master. The optional alternating contact can be configured for measured values from other bus-participants.

The configuration of address, transmission mode/speed, terminating resistor and master/slave function of the bus-devices can easily be done using the innovative DIP switch technology. Thus devices can quickly and easily be integrated into the system and later parameterised via the master.

The bus-devices can even be reset to the works settings during operation of the master. Thus the basic functionality of the device is recreated in a matter of seconds. This can be necessary in the event of incorrect parameterisations of, e.g. offset, switching threshold, display modes etc..

By means of the FS master/slave topology autarkic nodes without additional SPS master can be installed within the device series. Hereby a bus-device assumes the master function in the node. This requests the measured values from other bus-participants, automatically enters these into the corresponding register and shows them in the internal display. Furthermore the master can evaluate and operate additional actuators in the device series (analogue in- and outputs, relay station).



## Technical Specifications

Measuring principle	calorimetric measuring method
Measurement range flow	0-20 m/s
Measurement range volume flow (calculated)	0-200.000 m <sup>3</sup> /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
Supply voltage	24 V DC (±5%)
Current consumption	max. 100-200 mA, depending on the selected measurand and equipment
Digital output	Modbus RTU
Alarm output	1 x potential-free change-over contact, 48 V, 1 A
Switching Hysteresis Relay	can be entered in the register
Dimensions	Housing: L 89 x W 80 x H 47 mm, Immersion depth max.: 205 mm, Protection tube: Ø 16 mm
Electrical connection	push-in terminal, no tools required, time-saving
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	0,3-20 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
<b>FS1421-MBR-F1T1V1-D</b>				
0-20 m/s	0-200.000 m³/h	0...+50°C	Modbus RTU	Display
<b>FS1421-MBR-F1T1V1-DR</b>				
0-20 m/s	0-200.000 m³/h	0...+50°C	Modbus RTU	Display, Relay
<b>FS1421-MBR-F1T1V1-R</b>				
0-20 m/s	0-200.000 m³/h	0...+50°C	Modbus RTU	Relay
<b>FS1421-MBR-F1T1V1-X</b>				
0-20 m/s	0-200.000 m³/h	0...+50°C	Modbus RTU	-
<b>FS1421-MBR-F1V1-D</b>				
0-20 m/s	0-200.000 m³/h	-	Modbus RTU	Display
<b>FS1421-MBR-F1V1-DR</b>				
0-20 m/s	0-200.000 m³/h	-	Modbus RTU	Display, Relay
<b>FS1421-MBR-F1V1-R</b>				
0-20 m/s	0-200.000 m³/h	-	Modbus RTU	Relay
<b>FS1421-MBR-F1V1-X</b>				
0-20 m/s	0-200.000 m³/h	-	Modbus RTU	-

## Accessories



MFL/E  
Mounting flange



### Dimensional Drawing

