Measurement and monitoring solution

Flow Check Inline

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Pure air . Pure gas

The Pneumatech Flow Check Inline is a compressed air and industrial gas measurement and monitoring solution. Delivered plug-and-play, the compact and easy-to-use device works quickly, accurately and efficiently, thanks to its thermal mass flow technology. It can be connected via analog or Modbus interface.

The power of data
Pneumatech flow meters deliver accurate compressed air and industrial gas usage data and insights, enabling proactive leak detection, energy savings, and correct system sizing. They support compressor performance optimization, reduce pressure losses, and ensure a stable air and gas supply for critical applications.

Accessories

Sensor cable M12

Features & benefits

- Thermal mass flow technology
  - » Covers a wide measuring range with high accuracy
  - » Fast response time
  - » Measuring section for accurate and reliable reading
- No need to compensate pressure and temperature
- Totalizer function calculates the consumption
- Integrated display for live reading and total consumption
- Different output options
  - » 4...20 mA output for actual flow readings
  - » Modbus/RTU to read digitally
  - » Modbus/TCP with PoE support to connect meters to local network and power them via ethernet
- Suitable for DN15, DN20, DN32, DN40, DN50, DN65, DN80
- Change in configuration possible via display or remotely via the app
- Measurement of different process gases including N_2, CO_2, O_2 and other industrial gases

Technical data

Measurement	
Flow	
Accuracy	1.5% of reading ± 0.3% FS (optional 1% of reading)
Selectable units	m³/h, m³/min, l/min, l/s, cfm, kg/h, kg/min, kg/s
Repeatability	0.25% of reading
Sensor	Thermal mass flow sensor
Sampling rate	10 samples / sec
Turndown ratio	200:1
Response time(t90)	0.1 sec
Consumption	
Selectable unit	m³, ft³, l
Reference conditions	
Selectable conditions	20°C 1000 mbar (ISO1217)
	0°C 1013 mbar (DIN1343) freely adjustable

Signal/Interface & supply	
Analog output	
Signal	4 ... 20 mA (4-wire), isolated
Scaling	0 ... max flow, freely adjustable
Load	Max. 250 Ohm
Update rate	Value updated every 1 sec
Pulse output	
Signal	Switch output, normally open, max. 30 VDC, 20 mA
Scaling	1 pulse per consumption unit (selectable)
Field bus	
Protocol	Modbus/RTU, Modbus/TCP
Update rate	Value updated every 1 sec
Supply	
Voltage supply	15 ... 30 VDC
Current consumption	Max. 200 mA

General data	
Configuration	
Wireless	S4C-FS app for mobile phones
PC software	USB service kit + software
Others	Display with 2 touch buttons
Display	
Integrated	2.4” color graphic display with 3 touch buttons
Material	
Process connection	Stainless steel 1.4404 (SUS 316L)
Housing	PC + ABS
Sensor	Ceramic, glass coated
Metal parts	Stainless steel 1.4404 (SUS 316L)
Miscellaneous	
Electrical connection	2 x M12 (5 pole); 1 x M12 (8-pole x-coded) for TCP
Protection class	IP65
Approvals	CE, RoHS, FCC
Process connection	Measuring sections with threads
Weight	0.4 kg (without measuring section)
Operating conditions	
Medium	Air, N_2, O_2, CO_2 and other gases
Medium quality	ISO 8573-1:2010: 4:4:3 or better
Medium temperature	-30 ... +140°C
Medium humidity	< 90% rH, no condensation
Operating pressure	Max. 5.0 MPa (> 1.6 MPa need installation device)
Ambient temp	-30 ... +70°C, -10 ... +50°C
Ambient humidity	< 99% rH
Storage temp	-30 ... +70°C
Transport temp	-30 ... +70°C
Pipe sizes	½” ... 3”

Measuring ranges Flow Check Inline for compressed air (ISO 1217: 1000 mbar, 20°C)

Inch	DN	DI (mm)	Measuring range from to
½"	DN15		0.5 ... 90 m³/h
¾"	DN20		0.9 ... 170 m³/h
1"	DN25	27.3	1.5 ... 290 m³/h
1¼"	DN32	36.0	2 ... 500 m³/h
1½"	DN40	41.9	3 ... 700 m³/h
2"	DN50	53.1	4 ... 1000 m³/h
2½"	DN65	68.9	6 ... 1500 m³/h
3"	DN80	80.9	8 ... 2500 m³/h

Ordering

Measuring section with external R-threads

Order number	Name	Size	Output
1830177989	FC D15 A R A	DN15 - 1/2"	4 ... 20mA
1830177990	FC D15 A R M	DN15 - 1/2"	Modbus RTU
1830177991	FC D15 A R MT	DN15 - 1/2"	Modbus TCP
1830177992	FC D20 A R A	DN20 - 3/4"	4 ... 20mA
1830177993	FC D20 A R M	DN20 - 3/4"	Modbus RTU
1830177994	FC D20 A R MT	DN20 - 3/4"	Modbus TCP
1830177995	FC D25 A R A	DN25-1"	4 ... 20mA
1830177996	FC D25 A R M	DN25-1"	Modbus RTU
1830177997	FC D25 A R MT	DN25-1"	Modbus TCP
1830177998	FC D32 A R A	DN32 - 1.25"	4 ... 20mA
1830177999	FC D32 A R M	DN32 - 1.25"	Modbus RTU
1830178000	FC D32 A R MT	DN32- 1.25"	Modbus TCP
1830178001	FC D40 A R A	DN40 - 1.5"	4 ... 20mA
1830178002	FC D40 A R M	DN40 - 1.5"	Modbus RTU
1830178003	FC D40 A R MT	DN40 - 1.5"	Modbus TCP
1830178004	FC D50 A R A	DN50-2"	4 ... 20mA
1830178005	FC D50 A R M	DN50-2"	Modbus RTU
1830178006	FC D50 A R MT	DN50-2"	Modbus TCP
1830178007	FC D65 A R A	DN65- 2.5"	4 ... 20mA
1830178008	FC D65 A R M	DN65- 2.5"	Modbus RTU
1830178009	FC D65 A R MT	DN65- 2.5"	Modbus TCP
1830178010	FC D80 A R A	DN80-3"	4 ... 20mA
1830178011	FC D80 A R M	DN80-3"	Modbus RTU
1830178012	FC D80 A R MT	DN80 -3"	Modbus TCP

Measuring section with external NPT-threads

Order number	Name	Size	Output
1830177965	FC D15 A N A	DN15- 1/2"	4 ... 20mA
1830177966	FC D15 A N M	DN15- 1/2"	Modbus RTU
1830177967	FC D15 A N MT	DN15 - 1/2"	Modbus TCP
1830177968	FC D20 A N A	DN20 - 3/4"	4 ... 20mA
1830177969	FC D20 A N M	DN20- 3/4"	Modbus RTU
1830177970	FC D20 A N MT	DN20 - 3/4"	Modbus TCP
1830177971	FC D25 A N A	DN25-1"	4 ... 20mA
1830177972	FC D25 A N M	DN25-1"	Modbus RTU
1830177973	FC D25 A N MT	DN25-1"	Modbus TCP
1830177974	FC D32 A N A	DN32 - 1.25"	4 ... 20mA
1830177975	FC D32 A N M	DN32 - 1.25"	Modbus RTU
1830177976	FC D32 A N MT	DN32- 1.25"	Modbus TCP
1830177977	FC D40 A N A	DN40 - 1.5"	4 ... 20mA
1830177978	FC D40 A N M	DN40 - 1.5"	Modbus RTU
1830177979	FC D40 A N MT	DN40 - 1.5"	Modbus TCP
1830177980	FC D50 A N A	DN50-2"	4 ... 20mA
1830177981	FC D50 A N M	DN50-2"	Modbus RTU
1830177982	FC D50 A N MT	DN50-2"	Modbus TCP
1830177983	FC D65 A N A	DN65- 2.5"	4 ... 20mA
1830177984	FC D65 A N M	DN65- 2.5"	Modbus RTU
1830177985	FC D65 A N MT	DN65- 2.5"	Modbus TCP
1830177986	FC D80 A N A	DN80-3"	4 ... 20mA
1830177987	FC D80 A N M	DN80-3"	Modbus RTU
1830177988	FC D80 A N MT	DN80-3"	Modbus TCP

Order number	Accessories
1830094307	Cable 5 m, with M12 Connector
1089949219	Cable 10 m, with M12 Connector
0017225092	RS-485 cable, 4-pole twisted pairs, AWG24 (0.2 mm²), 2 x 2 x 0.22mm² 50 m reel
1089949220	M8 female to M12 male converter cable for T-Splitter
1830138049	M12 RS-485 Modbus Splitter-Set: 1 x Splitter T-piece / 2 x M12 connector
1089954646	M12 Connector, female, 5-pole for S401, S421, S430
1089026455	M12 Connector with RS-485 termination resistor, 120 Ω, for Modbus daisy chain termination

Notes

- For sensors with output type 4...20 mA, **2 cables** with M12 connector are needed.
- For sensors with output type Modbus RTU, **1 cable** with M12 connecter is needed.
- For sensors with output type Modbus TCP, a 5 m cable is delivered with sensor, which should be connected to the PoE switch.
- The sensors can be easily connected in Modbus RTU daisy chain using the M12 RS-485 splitter and placing the termination resistor as the last splitter in the bus chain. See example below:

Example