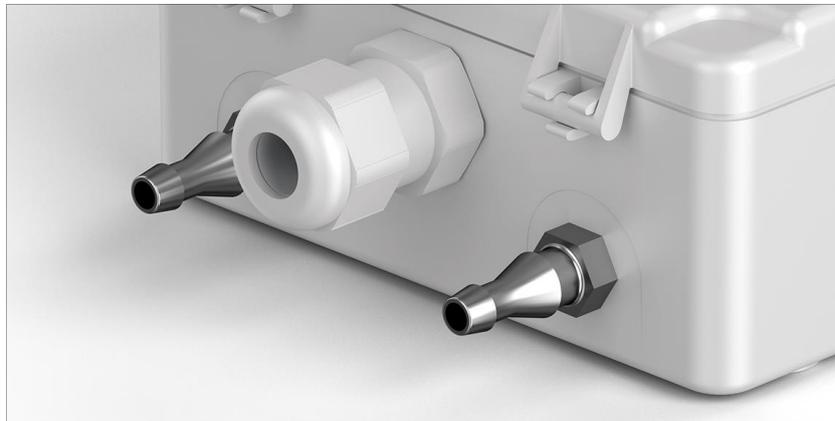


Beck.

The volume flow transmitter for air with IP65



Volume flow transmitter 985V with IP65



General description

The transmitters of the 985V series are used to measure volume flow, differential pressure, overpressure and vacuum. A jumper enables switching between volume flow and pressure measurement.

Applications

Monitoring of gaseous, non-combustible and non-aggressive media.

Possible usage areas are:

- Building automation and air conditioning systems
- Overpressure measurement in clean rooms and laboratories
- Measurement of constant pressure in VAV applications
- Dynamic filter and ventilator monitoring

Configuration of volume flow measurement

1. Select a calculation formula and enter a k-factor, both of which are dependent on the type of ventilator or measuring probe.

2. Or create a reference volume flow, which is entered directly.

A menu guide on the device is available for all settings.

Output signal selection

The output signal can be changed between 0 ... 10 Volt and 4 ... 20 mA by removing a jumper.

Switching output

To give a switch signal at a user defined pressure level the transmitter has an adjustable transistor switching output (npn NO) with a maximum switching capacity of 30 Vdc/100 mA. (npn NC or pnp NO / NC on request).

Configurable response time

The response time of the output signal can be configured using a jumper. If the jumper is in place the response time is slow (factory setting), which is useful for suppressing brief pressure peaks. If the application requires a fast response time the jumper must be removed.

Easy offset calibration

Press the left button to adjust the output signal to zero in an unpressurized state. A version with automatic zero-point adjustment is available as an option.

Reset

The transmitter can be reset to its factory setting.

Mounting position

Can be mounted in any position. The zero offset calibration eliminates any possible position error.

Technical data

Measuring method	Piezoresistive pressure transducer
Supply voltage	18...30 VAC / VDC
Output signal	0 ÷ 10 V / 4 ÷ 20 mA
LED display	red, 4 digits
Units, selectable	m ³ /h; m ³ /s; cfm; l/s
K factor	0.001 ÷ 9.9 × 10 ⁵
Switching output	Transistor, maximum switching capacity of 30 VDC / 100 mA
Maximum current draw	100 mA (DC) / 230 mA (AC)
Load for 4 ... 20 mA output	20 ... 500
Load for 0 ÷ 10 V output	~ 1k (m10mA)
Pressure medium	Air and non-combustible and non-aggressive gases
Working temperature	0 ÷ +50°C
Storage temperature	-10 ÷ +70°C
Linearity error incl. hysteresis and repetition accuracy (Pressure range)	± 1% of full scale, min. ± 1 Pa
Typical long-term stability (Pressure range)	± 1,0% vom Endwert/Jahr
Humidity	0 ... 95% rel, non-condensing
2 response times, selectable between 0.1 s and 20 s	Standard: 0.1 s und 1 s
Process connection P1 and P2	Hose connection with 4 / 6 mm outer diameter
Electrical connection	Plug-in terminals for wires and strands up to 1.5 mm ² with Cap nut conduit AF15 made of polyamide or circular connectors M12 / 4-pole
Housing material	ABS
Housing dimensions	approx. 81 x 83 x 41 mm
Weight	approx. 125 gr
Protection class acc. to EN 60529	IP65
CE Conformance acc. to EN 61326	EMC Directive 2014/30/EU RoHS Directive 2011/65/EU

Accuracy specifications according to EN 60770

Volume flow transmitter 985V

Pressure ranges

Baureihe	Pressure range	Overload capacity	Bursting pressure	Temperature error*
985V.31A**	0 ÷ 50 Pa	60 kPa	100 kPa	m± 3.0 % of full scale
985V.32A**	0 ÷ 100 Pa	60 kPa	100 kPa	m± 2.0 % of full scale
985V.33A	0 ÷ 250 Pa	60 kPa	100 kPa	m± 2.5 % of full scale
985V.34A	0 ÷ 500 Pa	75 kPa	125 kPa	m± 2.5 % of full scale
985V.35A	0 ÷ 1 kPa	85 kPa	135 kPa	m± 1.5 % of full scale
985V.37A	0 ÷ 5 kPa	85 kPa	135 kPa	m± 1.0 % of full scale
985V.38A	0 ÷ 10 kPa	85 kPa	135 kPa	m± 1.0 % of full scale

Further pressure ranges on request.

* Pressure range, ** Version only with automated offset compensation

Order matrix

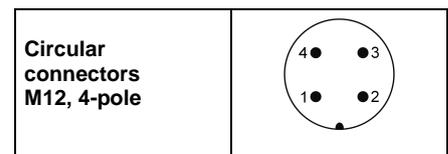
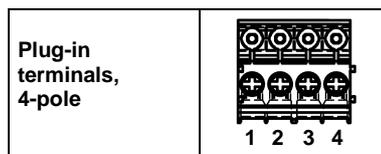
Configurable pressure range	0 ... 50 Pa	(0.5 mbar)	985V.3	1				
	0 ... 100 Pa	(1.0 mbar)		2				
	0 ... 250 Pa	(2.5 mbar)		3				
	0 ... 500 Pa	(5.0 mbar)		4				
	0 ... 1 kPa	(10 mbar)		5				
	0 ... 5 kPa	(50 mbar)		7				
	0 ... 10 kPa	(100 mbar)		8				
	Volume flow unit	m ³ /h; m ³ /s; cfm; l/s				A		
Output signal and supply voltage	0 ... 10 V or 4 ... 20 mA , 3-wire, 24 VAC / VDC, with switching output					1		
	4 ... 20 mA or 0 ÷ 10 V , 3-wire, 24 VAC / VDC, with switching output					3		
Display	with LED-display						1	
Electrical connection	via plug-in terminals with cap nut conduit AF15							4b
	via circular connectors M12 / 4-pole							8b

Factory settings printed in bold type.

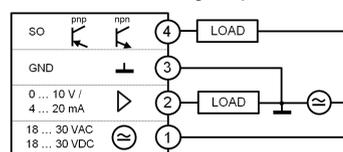
Accessories

Climaset® consisting of 2m PVC hose and 2 plastic pipes	Article No. 6555
Climaset® consisting of 2m Silicone hose and 2 plastic pipes	Article No. 6557
Climaset® consisting of 2m PVC hose and 2 angled metal pipes	Article No. 6550
Climaset® consisting of 2m Silicone hose and 2 angled metal pipes	Article No. 6556
Duct connecting pipe for Climaset® 6555	Article No. 6551
Angled metal pipe for Climaset® 6550	Article No. 6552
Rubber grommet for Climaset® 6550	Article No. 6553
Roll with 100 m PVC hose	Article No. 6424
Roll with 100 m Silicone hose	Article No. 6425

Terminal assignments



3-wire with switching output

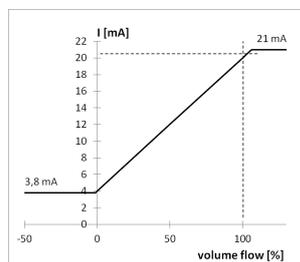
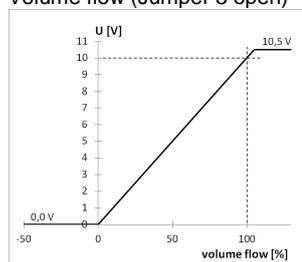


4	Switching output (SO)
3	Ground (GND)
2	Output signal (0÷ 10 V / 4÷ 20 mA)
1	Supply voltage (18...30 VAC / VDC)

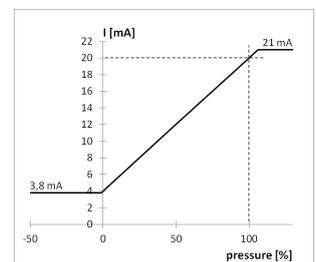
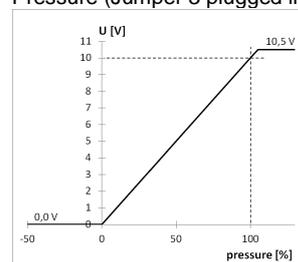
2	White	Switching output (SO)
3	Blue	Ground (GND)
4	Black	Output signal (0÷ 10 V / 4÷ 20 mA)
1	Brown	Supply voltage (18...30 VAC / VDC)

Analog output signal

Volume flow (Jumper 3 open)

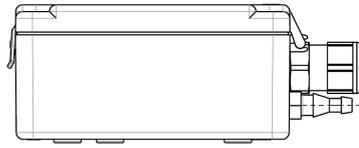
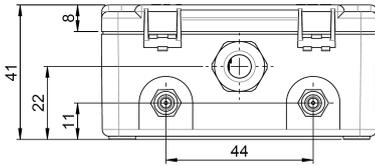


Pressure (Jumper 3 plugged in)

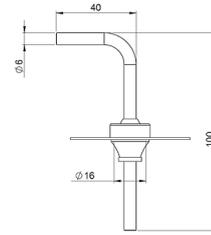


Dimensional Drawings

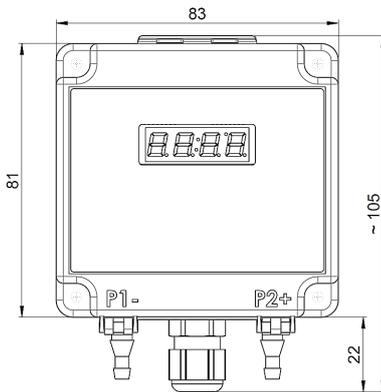
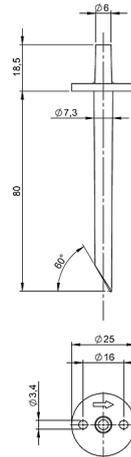
985V with cap nut conduit AF15



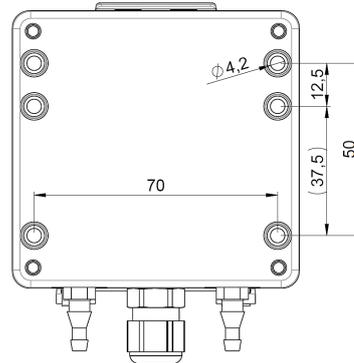
Climaset® 6550 / 6556



Climaset® 6555 / 6557



Drilling template



Configuration of volume flow

1. Select a calculation formula and enter the k-factor (jumper 1 open):
This procedure is used when the k-factor is known. The k-factor can be found, for example, in documentation provided by the manufacturer of the ventilator or the probe. Use the menu guide on the device for configuration.

2. Creating reference volume flow (jumper 1 plugged in):
Create a reference volume flow to configure the device.
Use **FL** in the menu guide for entry - see description in the operating instructions.

Selection on device	Manufacturer, e.g.	Formula in data sheet of manufacturer
F 1	Ebm-Papst, Ziehl-Abegg	$q = k \cdot \sqrt{\Delta p}$
F 2	Ziehl-Abegg	$q = \sqrt{\frac{\rho_{20}}{\rho}} \cdot k \cdot \sqrt{\Delta p}$
F 3	Nicotra-Gebhardt, Rosenberg	$q = k \cdot \sqrt{\frac{2}{\rho} \cdot \Delta p}$
F 4	Fläkt Woods	$q = \frac{1}{k} \cdot \sqrt{\Delta p}$