developing solutions

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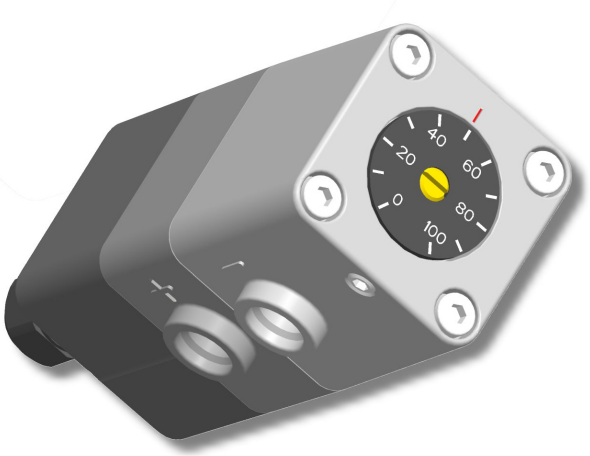


Data sheet

DS34

Differential pressure switch

09005749 • DB_EN_DS34 • Rev. ST4-D • 03/22

1 Product and functional description

1.1 Delivery scope

- DS34 Differential pressure switch
- Operating Manual

1.2 Performance characteristics

Main features

- High repeat accuracy
- Long life span
- High overload protection

Typical applications

- Filter monitoring
- Water treatment plants
- Heating systems

Areas of application

- Filter equipment
- Plant engineering
- Machine construction

1.3 Product summary

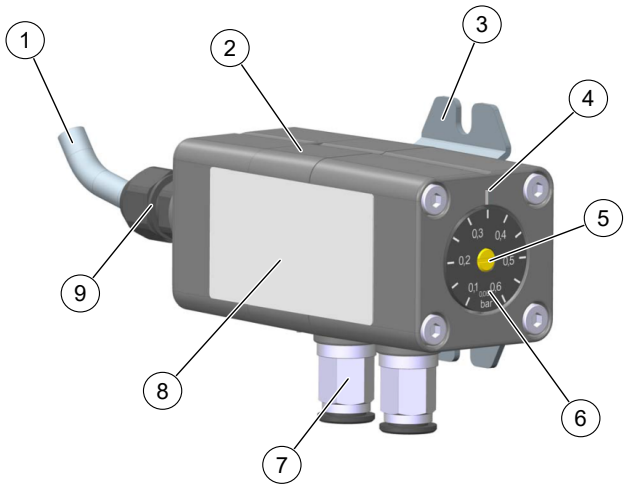


Fig. 1: Product summary

1	Connection cable	2	Housing
3	Mounting foot	4	Setting mark
5	Adjustment spindle	6	Scale plate
7	Pneumatic plug-in connection	8	Type plate
9	Cable screw connection		

1.3.1 Process connection

The device has a process connection G⅛ inch internal thread as standard. The device can also be supplied with pneumatic plug connections for 6 or 8 mm hose.

⚠ CAUTION

Maximum tightening torque

The maximum tightening torque for the G⅛ inch internal thread is 5 Nm.

1.4 Intended use

The DS34 is a differential pressure switch for overpressure, underpressure and differential pressure measurements. The uncomplicated and robust membrane measuring mechanism is suitable for all neutral media, such as service water, heating water, neutral gases and oils.

1.5 Function diagram

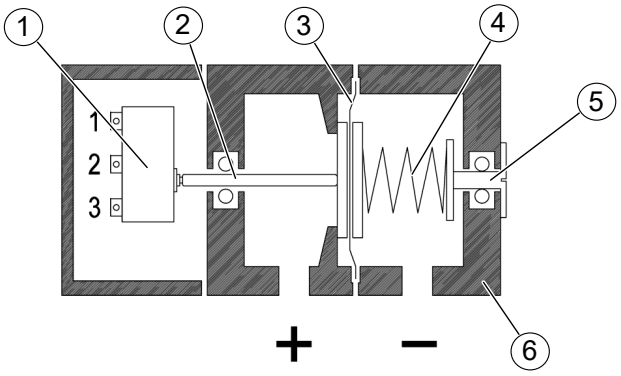


Fig. 2: Functional Schematic

1	Micro-switch	2	Switch tappet
3	Diaphragm	4	Measuring range spring
5	Adjustment spindle	6	Pressure chamber

1.6 Design and mode of operation

Due to the pressure or differential pressure to be measured, a one-sided force acts on the membrane. This force moves the membrane system against the pre-tensioned measuring range spring. A switch tappet mounted on the membrane actuates a micro switch.

The switch point can be set with an adjustment spindle. A scale plate and a setting mark attached to the housing indicate the respective set switch point.

2 Technical data

2.1 General

Reference conditions (acc. to IEC 61298-1)		
Temperature	+15 to +25 °C	
Relative humidity	45 … 75 %	
Air pressure	86 to 106 kPa	860 to 1060 mbar
Installation position	User-defined	

2.2 Input variables

Pressure range	Adjustment range		Nominal pressure	Bursting pressure
	10 … 100%	*SI unit*		
0 to 0.6 bar	0.06 to 0.6 bar	6 to 60 kPa	PN16	64 bar
0 to 1 bar	0.10 to 1.0 bar	10 to 100 kPa		
0 to 1.6 bar	0.16 to 1.6 bar	16 to 160 kPa		
0 to 2.5 bar	0.25 to 2.5 bar	25 to 250 kPa		
0 to 4 bar	0.40 to 4.0 bar	40 to 400 kPa		
0 to 6 bar	0.60 to 6.0 bar	60 to 600 kPa		

2.3 Output parameters

Micro-switch	AC	DC
Max. switching voltage	250 V	30 V
Max. switching current	3 A	0.4 A
Min. switching current	0.1A	0.1A
Max. switching output	250 VA	10 W
Mech. life span	10^6 switching cycles	

2.4 Measuring accuracy

Switch point adjustment range	10 … 100 % of the adjustment range
Switch point accuracy	3% of the adjustment range
Hysteresis	5% or 12% of the adjustment range (see order codes)

2.5 Electrical connection

Hard-wired, silicone and halogen-free number cable

Core number	3
Conductor nominal cross-section	0,5 mm^2
AWG	21
Outer diameter	6,8 mm

2.6 Operating conditions

Ambient temperature range	-10 to +70 °C
Storage temperature range	-10 to +80 °C
Medium temperature range (for non-freezing media)	-10 to +80 °C
Low-Voltage Directive	EN 61010-1:2010
RoHS	EN 50581:2012
Protection class	IP 65 acc. to EN 60529

Materials of the parts that come into contact with the surroundings	
Housing	Grivory® GV
Cable screw connection	Polyamide
Connection cable	Silicone and halogen-free polymer
Mounting foot	Stainless steel 1.4301

Materials of the parts that come into contact with the measuring medium	
Pressure chamber	Grivory® GV
Diaphragm, measuring range spring	Stainless steel 1.4310
Adjustment spindle, switch tappet, etc.	Brass CW614N (formerly 2.0402)
Seals	EPDM
Other parts	PTFE

2.7 Construction design

All dimensions in mm unless otherwise stated

Dimension drawing

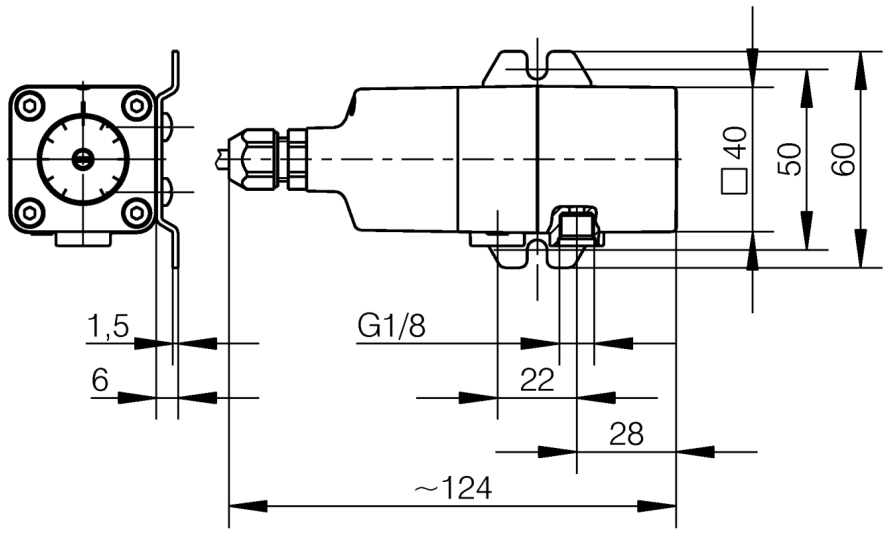


Fig. 3: Dimension drawing

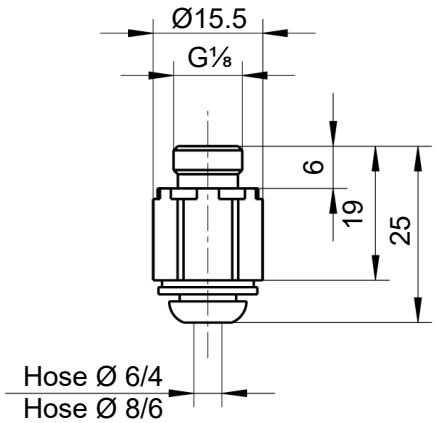


Fig. 4: Pneumatic plug-in connection

Accessories

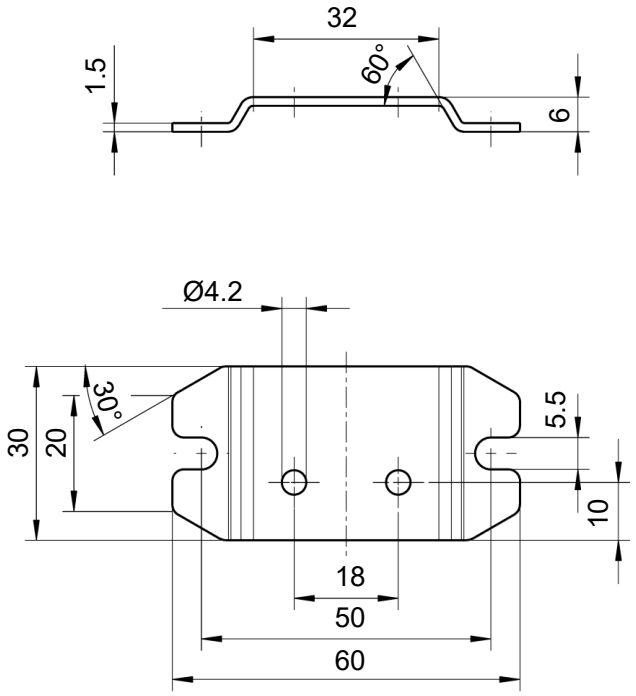
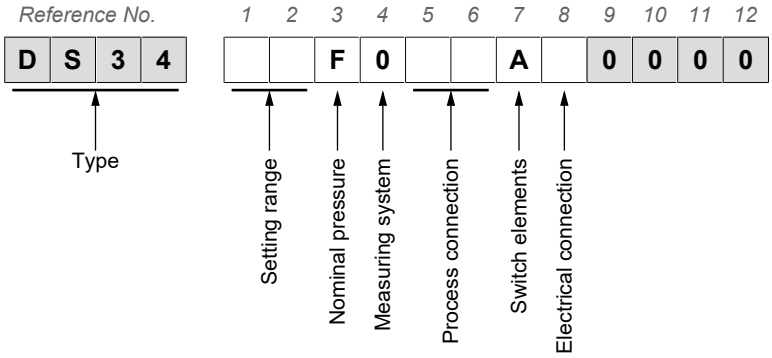


Fig. 5: Mounting foot

3 Order codes



[1,2]	Setting range	Measuring range
AA	0,06 … 0,6 bar	0 … 0,6 bar
AB	0,10 … 1,0 bar	0 … 1 bar
AC	0,16 … 1,6 bar	0 … 1,6 bar
AD	0,25 … 2,5 bar	0 … 2,5 bar
AE	0,40 … 4,0 bar	0 … 4 bar
AF	0,60 … 6,0 bar	0 … 6 bar

[3]	Nominal pressure
F	PN16

[4]	Measuring system
0	Standard

[5.6]	Process connection
00	Inner thread G⅛
43	Pneumatic plug connector for 6/4 mm hose
44	Pneumatic plug connector for 8/4 mm hose

[7]	Switching Elements
A	1 adjustable micro-switch
Z	1 adjustable micro-switch with increased switching hysteresis (12%)

[8]	Electrical connection
1	1.0 m long number cable, hard-wired
2	2.5 m long number cable, hard-wired
5	5.0 m long number cable, hard-wired

3.1 Accessories

Art. No.	Designation
02006023	Assembly foot

3.2 Information about the document

This document contains all technical data about the device. Great care was taken when compiling the texts and illustrations. nevertheless, errors cannot be ruled out.

Subject to technical amendments.

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