DSDU, DSDI: Differential pressure transmitter

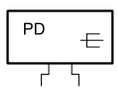
DSD*10*F021

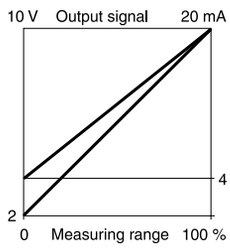
How energy efficiency is improved

Simple conversion of pressure differences to proportional standard signal

Features

- For measuring pressure differences in liquids, gases and vapours
- Sturdy device with ceramic diaphragm
- For use in filter technology, heating systems etc.
- Differential pressure measuring range from 0...6 bar
- Analogue signal 0...10 V or 4...20 mA
- 24 V~/= supply voltage
- With fitting bracket
- Standard plug as per DIN EN 175301-803-A





Technical data

Power supply		
	Power supply	24 V=/~, ±20%, (50...60 Hz)
	Electrical connection	Three-wire
	Power consumption	< 1.5 W (VA)
Parameters		
	Output signal	0...10 V Load: > 2 kΩ 4...20 mA Load: ≤ 700 Ω (V=), ≤ 400 Ω (V~)
	Accuracy[1)]	≤ 1%
Ambient conditions		
	Admissible ambient temperature	-20...80 °C
	Admissible temperature of medium	0...80 °C (non-freezing media)
	Admissible ambient humidity	45...75% rh
	Burst pressure	64 bar (both sides)
Construction		
	Housing material	Brass
	Diaphragms	Ceramic
	Connecting thread	G ⅛" (female thread)
	Device plug	Plug connection 4-pin, standard plug DIN EN 175 01-803-A, cable gland M12
	Weight	0.62 kg
Standards and directives		
	Type of protection	IP65 (EN 60529)
CE conformity according to	EMC Directive 2014/30/EU	EN 61326-1, EN 61326-2-3

Overview of types

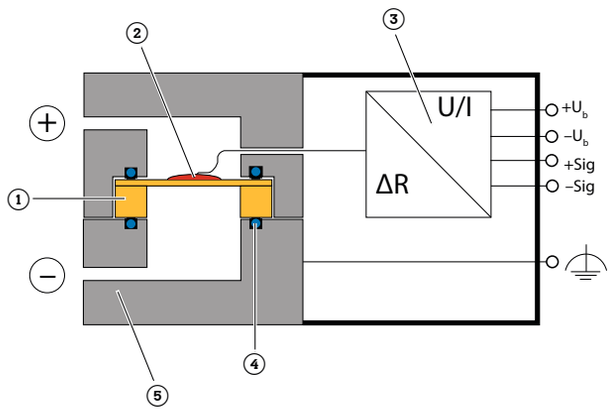
Type	Measuring range Δp	Output signal	Max. pressure (connection +)	Max. pressure (connection -)
DSDI101F021	0...1 bar	4...20 mA	10 bar	5 bar
DSDI103F021	0...2.5 bar	4...20 mA	21 bar	15 bar
DSDI106F021	0...6 bar	4...20 mA	21 bar	15 bar
DSDU101F021	0...1 bar	0...10 V	10 bar	5 bar
DSDU103F021	0...2.5 bar	0...10 V	21 bar	15 bar
DSDU106F021	0...6 bar	0...10 V	21 bar	15 bar

[1)] *Including non-linearity and hysteresis in compensated temperature range 10...70 °C*

Accessories	
Type	Description
0300360005	Cutting ring fitting G⅛" to 6 mm pipe (2 pcs)
0300360006	Pneumatic fitting G⅛" to 6 mm hose (2 pcs)
0300360016	Throttle screws G⅛", G⅛" (2 pcs)

Description of operation

The pressure to be measured is exerted onto the ceramic diaphragm that deforms as a result. A strain gauge bridge is fitted to the diaphragm and its resistance value adjusts in proportion to the degree of deformation. Electronics integrated into the housing convert this change in resistance into electric standard signals 0...10 V or 4...20 mA.



1) Measuring element
2) Strain gauge bridge
3) Electronics
4) O-ring
5) Housing

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the “Description of operation” section.
All related product regulations must also be adhered to. Changing or converting the product is not admissible.

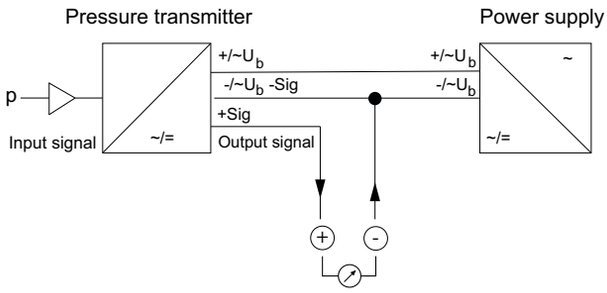
Additional version information

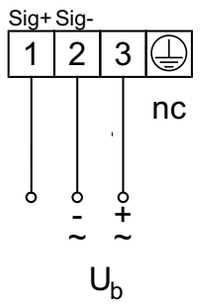
Materials that come into contact with the medium:
Housing: Brass 2.0401
Sensor diaphragm: Ceramic (Al_2O_3)
O-ring: EPDM

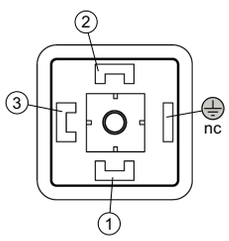
Disposal

When disposing of the product, observe the currently applicable local laws.
More information on materials can be found in the Declaration on materials and the environment for this product.

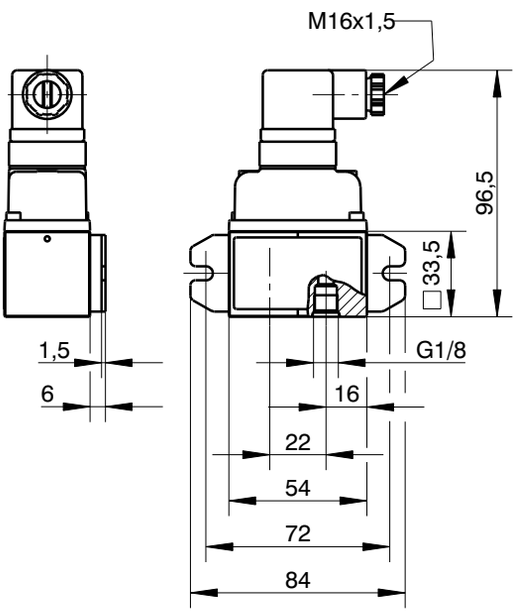
Connection diagram







Dimension drawing



Accessories

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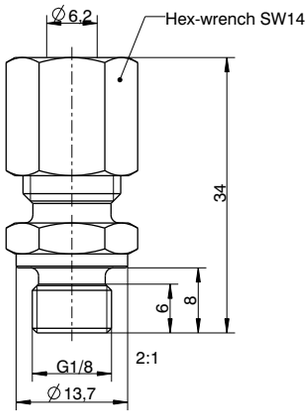

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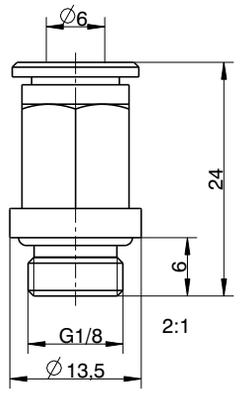

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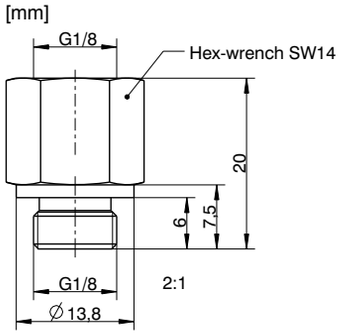

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