

DSDU, DSDI: Differential pressure transmitter

How energy efficiency is improved

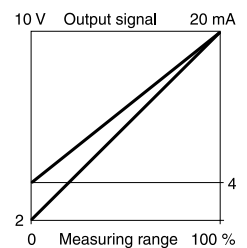
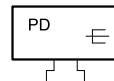
Simple conversion of pressure differences to proportional standard signal

Features

- For measuring pressure differences in liquids, gases and vapours
- Pressure measuring in non-aggressive fluids or gaseous media
- 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 \pm supply voltage
- With fitting bracket
- Standard plug as per DIN EN 175301-803-A



DSD*10*F021



Technical data

Power supply		
Power supply		24 V \pm , \pm 20%, (50...60 Hz)
Electrical connection		Three-wire
Power consumption		< 1.5 W (VA)

Parameters		
Output signal		0...10 V Load: > 2 k Ω 4...20 mA Load: \leq 700 Ω (V \approx), \leq 400 Ω (V \sim)
Accuracy ¹⁾		\leq 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 1/8" (female thread)
Device plug		Plug connection 4-pin, standard plug DIN EN 175 01-803-A, cable gland M16
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
	PED 2014/68/EU	Fluid group II, article 4.3

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



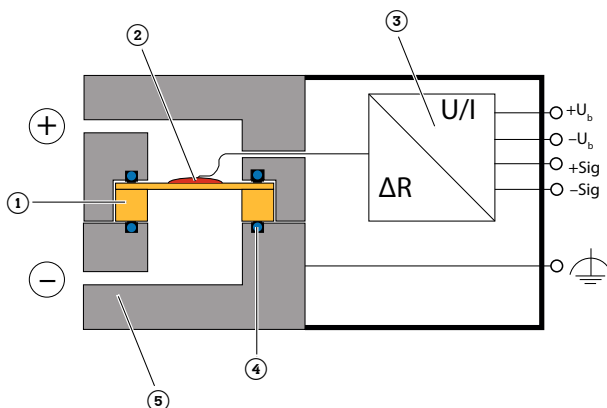
Accessories

Type	Description
0300360005	Cutting ring fitting G $\frac{1}{8}$ " to 6 mm pipe (2 pcs)
0300360006	Pneumatic fitting G $\frac{1}{8}$ " to 6 mm hose (2 pcs)
0300360016	Throttle screws G $\frac{1}{8}$ ", G $\frac{1}{16}$ " (2 pcs)

Description of functions

The differential pressure transmitter measures the pressure differences in non-aggressive fluids or gaseous media and is only intended for this purpose. The device is not fail-safe and therefore not suitable for safety applications. The differential pressure transmitter must not be used in potentially explosive atmospheres.

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 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.

Engineering and fitting notes

Please note that the device may not be installed outdoors. Make sure that the device is correctly fastened and cannot fall down.

Prevent the device from being exposed to strong vibrations, since these can falsify the measurement results.

Only operate the device with safety extra low voltage (SELV).

Select the suitable accessory (connection nipple) for the nominal pressure. The hose lines could otherwise disconnect themselves from the device.



Damage to property

The device could be damaged or fail completely!

- ▶ Ensure that the device is not subjected to pressure surges and that the device is not overloaded.



Damage to property

The device or parts of the system could be damaged!

- ▶ Take damaged devices out of operation immediately.

Additional version information

Materials that come into contact with the medium:

Housing: Brass 2.0401

Sensor diaphragm: Ceramic (Al_2O_3)

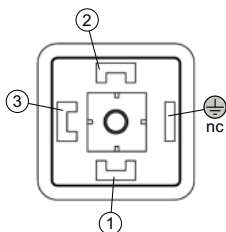
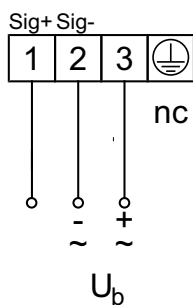
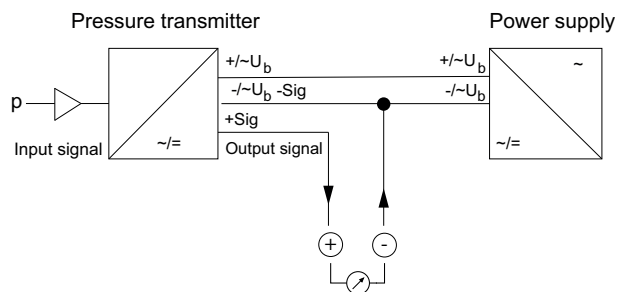
O-ring: EPDM

Disposal

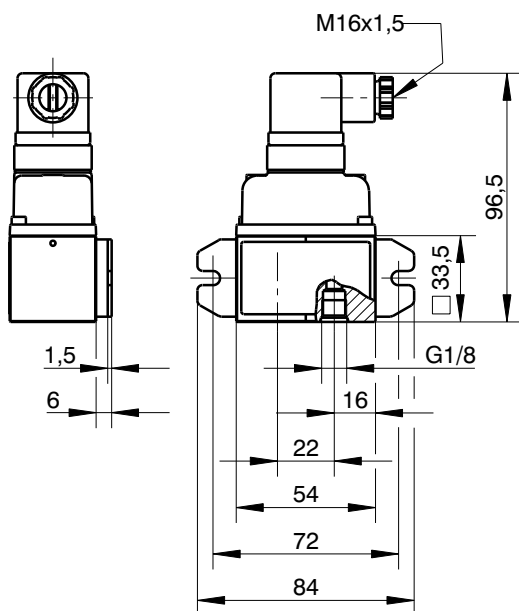
When disposing of the product, observe the currently applicable local laws.

More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram



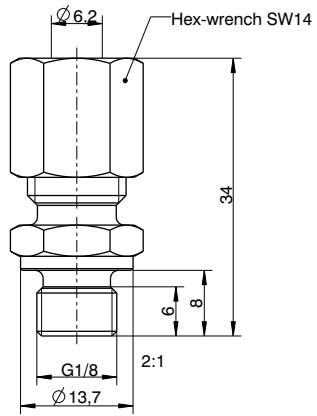
Dimension drawing



Accessories

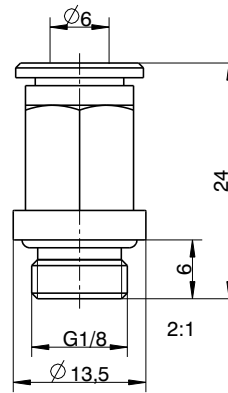
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