

DSU, DSI: Pressure transmitter

How energy efficiency is improved

Simple conversion of pressure to proportional standard signal

Features

- For measuring pressure in liquids, gases and vapours
- Sturdy device with ceramic diaphragm
- High precision
- High positive pressure protection
- High vibration resistance
- Low hysteresis
- Standard signal 2...10 V or 4...20 mA
- Pressure sensor made of stainless steel for aggressive media
- With standard plug as per DIN EN 175301-803-A

Technical data

Power supply

Power supply	See type list
Electrical connection	DSI: Two-wire DSU: Three-wire

Parameters

Temperature dependence	Zero point 0.07% FS/K Measuring range 0.05% FS/K
Admissible load	DSU: $U_b \geq 15 \text{ V} \geq 5 \text{ k}\Omega$ $U_b \geq 20 \text{ V} \geq 2 \text{ k}\Omega$ DSI: $(U_b - 6 \text{ V}) / 0.02 \text{ A}$

Ambient conditions

Admissible ambient temperature	0...60 °C
Admissible temperature of medium	0...85 °C

Inputs/outputs

Hysteresis	< 0.5% FS
Linearity	< 1% FS

Construction

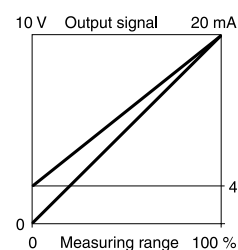
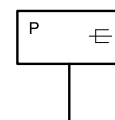
Housing material	Chromium-nickel steel 1.4305
Device plug	Plug connection 4-pin, standard plug DIN EN 175 01-803-A, cable gland M16
Cable cross-section	Max. 1.5 mm ²
Pressure connection	G 1/2"
Weight	0.2 kg

Standards and directives

Type of protection	IP65 (EN 60529)
Protection class	III (EN 61140)
CE conformity according to	EMC Directive 2014/30/EU EN 61000-6-1 / EN 61000-6-2 EN 61000-6-3 / EN 61000-6-4 EN 60730
PED 2014/68/EU	Subject to Art. 3.3 of PED without safety function



DS*2**F002



Overview of types

Type	Measuring range (bar)	Output signal	Power supply	Maximum pressure	Power consumption
DSU203F002	0...2.5 bar	0...10 V	24 V=/~	8 bar	24 V=/~, 0.5 W (VA)
DSU206F002	0...6 bar	0...10 V	24 V=/~	20 bar	24 V=/~, 0.5 W (VA)
DSU210F002	0...10 bar	0...10 V	24 V=/~	32 bar	24 V=/~, 0.5 W (VA)
DSU216F002	0...16 bar	0...10 V	24 V=/~	50 bar	24 V=/~, 0.5 W (VA)
DSU225F002	0...25 bar	0...10 V	24 V=/~	80 bar	24 V=/~, 0.5 W (VA)
DSI203F002	0...2.5 bar	4...20 mA	24 V=	8 bar	24 V=, 0.7 W
DSI206F002	0...6 bar	4...20 mA	24 V=	30 bar	24 V=, 0.7 W
DSI210F002	0...10 bar	4...20 mA	24 V=	32 bar	24 V=, 0.7 W
DSI216F002	0...16 bar	4...20 mA	24 V=	50 bar	24 V=, 0.7 W
DSI225F002	0...25 bar	4...20 mA	24 V=	80 bar	24 V=, 0.7 W

Accessories

Type	Description
0300360007	Capillary throttle, stainless steel, length 1 m, G $\frac{1}{2}$ "-G $\frac{1}{2}$ "
0300360015	Wall holder for DSU/DSI

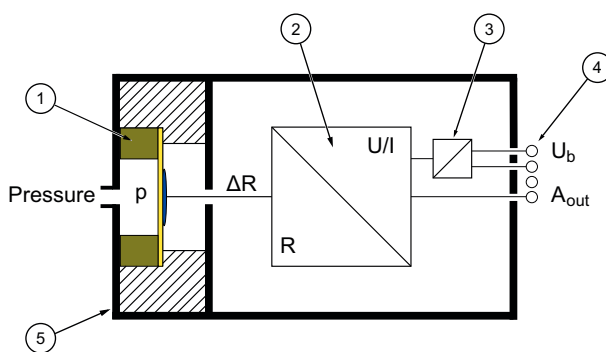
Description of operation



Intended use

The DSU, DSI pressure transmitter is suitable for measuring positive and negative pressures in non-aggressive, liquid and gaseous media. This product is only suitable for the purpose intended by the manufacturer. All related product regulations must also be adhered to. Modifying or converting the product is not admissible.

The pressure to be measured is exerted directly onto a ceramic diaphragm that deforms when pressure is applied. A strain gauge with a measuring bridge is fitted to the ceramic diaphragm. The deformation of the ceramic changes the output signal of the strain gauge. Electronics integrated into the device convert the bridge signals of the strain gauge into electric standard signals 4...20 mA or 0...10 V=.



1) Ceramic sensor	2) Electronics
3) Auxiliary energy	4) Electrical connection
5) Process connection	

Intended use

This product is only suitable for the purpose intended by the manufacturer, as described in the "Description of operation" section.

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Materials

Materials that come into contact with the medium:

Pressure sensor: Stainless steel (1.4305)

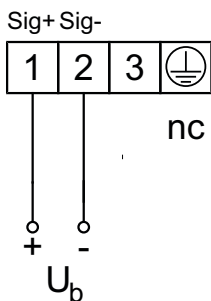
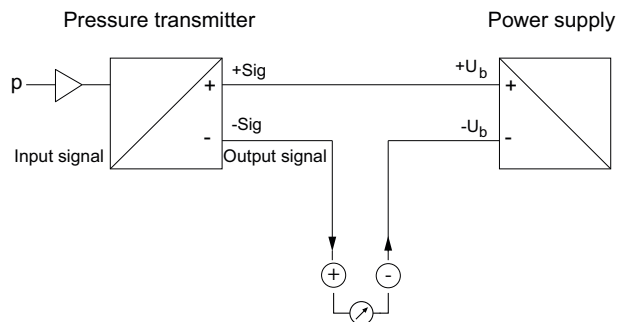
Ceramic: Aluminium oxide
 Seal: Fluorelastomer

Disposal

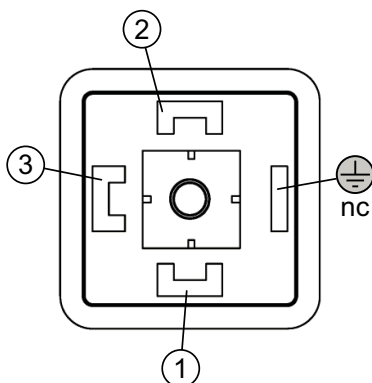
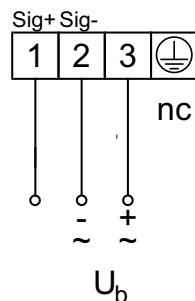
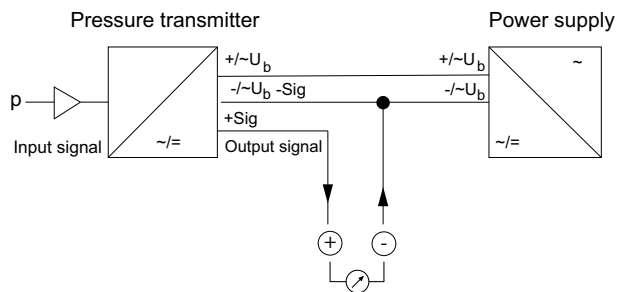
When disposing of the product, observe the currently applicable local laws.
 More information on materials can be found in the Declaration on materials and the environment for this product.

Connection diagram

DSI2**F002

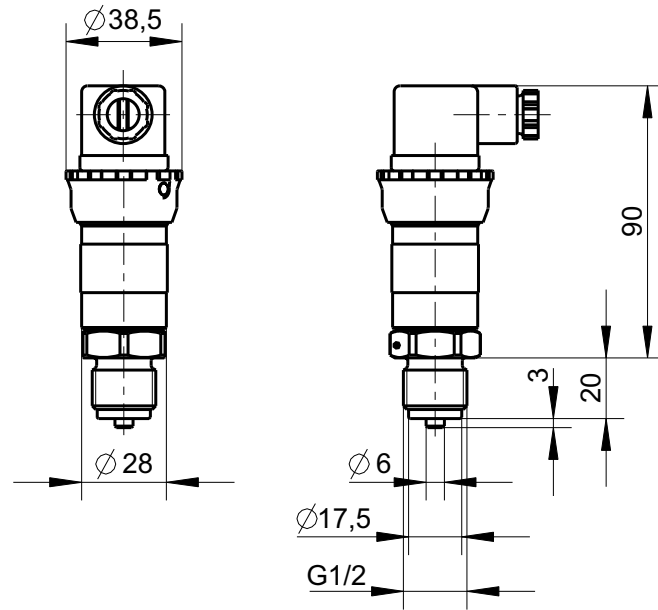


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Dimension drawing

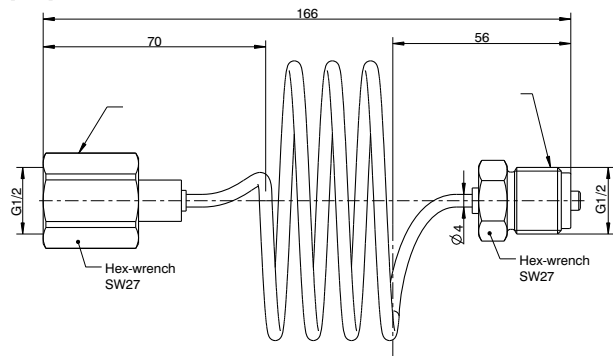
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Accessories

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