

SHD 692

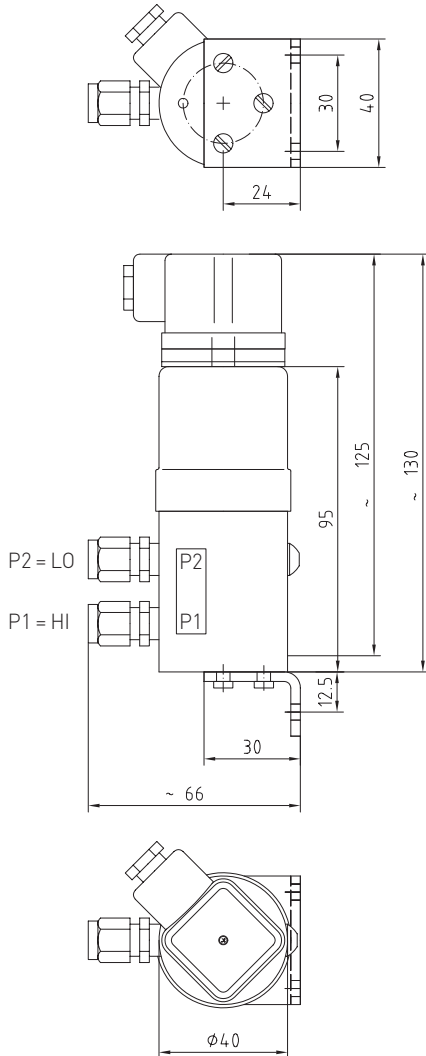
Ⓞ **Operating Instructions, Mounting & Installation** Differential pressure transmitters, incl. DIN plug-in connectors and mounting angle, with active output



SHD 692
with display

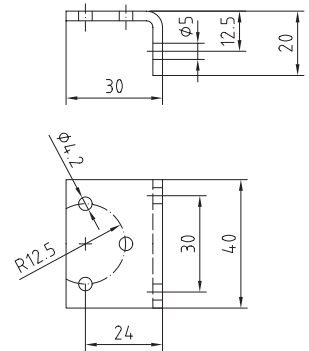
Dimensional drawing

SHD 692



Dimensional drawing

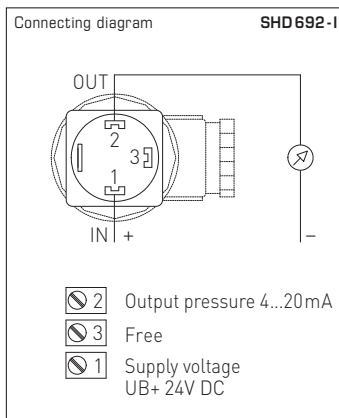
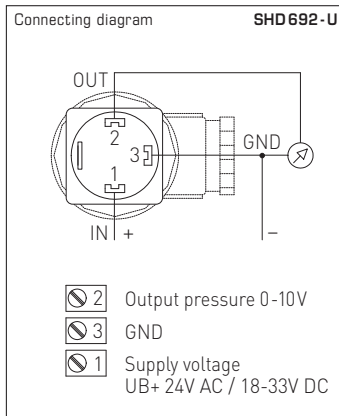
Montagewinkel
Mounting angle
Équerre de montage
Монтажный уголок



The pressure sensor / differential pressure sensor **SHD-692** is used for pressure measurement in gaseous and liquid media. It converts the measurand into stand-ard signals of 0-10 V or 4...20 mA. Process connection is 2 x G 1/8" - 27 NPT internal thread. SHD -692 differential pressure transmitters are used in piping and hydraulic systems, in mechanical and plant engineering as well as in building automation.

Not applicable for ammonia and Freon!

TECHNICAL DATA	
Power supply:	24 V AC (+15% / -10%), 18 -33V DC for U-variant 24 V DC (±20%) for I-variant
Measuring ranges:	see table
Output signal:	0-10V (3-wire connection) or 4...20 mA (2-wire connection)
Permissible working resistance: (at nominal voltage)	$R_L > 10\text{ k}\Omega$ for U-variant $R_L < 600\Omega$ for I-variant
Electrical connection:	0.25 - 1.5 mm ² , via plug-in connector DIN EN 175301-803-A (included in the scope of delivery)
Pressure connection:	screw pipe connection for 6 mm pipe (G 1/8" - 27 NPT internal thread)
Type of pressure:	differential pressure
Measuring principle:	ceramic measuring cell
Medium:	liquid or gaseous
Temperature of medium:	-15...+80 °C
Mounting:	installation arbitrary
Housing:	stainless steel V2A (1.4305)
Medium contacting parts:	INOX (1.4305), ceramics, sealing material EPDM
Response time:	< 5 ms
Class:	0.5%
Total error:	< 1.3%
Overload range:	see table (one-sided max. pressure)
System pressure:	max. 25 bar (P1 + P2)
Bursting pressure:	1.5x system pressure
Insulating resistance:	≥ 100 MΩhm, at +20 °C (500V DC)
Protection class:	III (according to EN 60730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity, electromagnetic compatibility according to EN 61326, EMC directive 2014 / 30 / EU
Optional:	Display-Modul , made of plastic, polyamide material, black colour, extra height: approx. 73 mm, pluggable, factory-calibrated and configured , for displaying the differential pressure (in bar, other units available upon request)



SHD 692 Differential pressure transmitters, *Deluxe*

Type / WG02	Measuring Range	One-Sided max. pressure	Output	Display	Item No.
SHD 692-U					U-variant
SHD 692-U-900	0...0.1 bar	0.6 bar	0-10V		1301-4121-0500-000
SHD 692-U-907	0...0.5 bar	3 bar	0-10V		1301-4121-0510-000
SHD 692-U-912	0...1 bar	5 bar	0-10V		1301-4121-0520-000
SHD 692-U-916	0...2.5 bar	12 bar	0-10V		1301-4121-0530-000
SHD 692-U-918	0...4 bar	12 bar	0-10V		1301-4121-0540-000
SHD 692-I					I-variant
SHD 692-I-900	0...0.1 bar	0.6 bar	4...20mA		1301-4122-0500-000
SHD 692-I-907	0...0.5 bar	3 bar	4...20mA		1301-4122-0510-000
SHD 692-I-912	0...1 bar	5 bar	4...20mA		1301-4122-0520-000
SHD 692-I-916	0...2.5 bar	12 bar	4...20mA		1301-4122-0530-000
SHD 692-I-918	0...4 bar	12 bar	4...20mA		1301-4122-0540-000
Optional:	Display module , factory-calibrated and configured			■	on request

Mounting and Installation

ATTENTION specific to
SHD 692



Carefully read the operating instructions before you put pressure monitor into operation. In case of damages arising from non-observance of these instructions, from improper handling or treatment, or due to wrongful use, warranty claims are forfeited. We do not assume any liability whatsoever for consequential damages resulting thereof. Installation and dismantling of this device must be performed by qualified personnel. The applicable country-specific harmonised safety regulations for the operation of pressure measuring instruments must be observed. Respective device-specific requirements concerning protection type must be assured in built-in condition.

CALIBRATION

Please note: Only versions showing a 1 in the fifth digit of the product number behind the dot (692.XXXX1XXXX) can be calibrated.

FACTORY SETTING

Pressure 0, output signal 0 respectively 4 mA, or 15 - 25 mV (20 mV typically) in case of voltage output.

Maximum pressure = maximum output signal.

CALIBRATING POSSIBILITIES

Zero point by potentiometer, lacquer sealed **white** (Fig. 2)

At pressure 0, the output signal can be adjusted + 10% FS.

At pressure 10% FS $\pm 10\%$, however in case of 0 - 10 V not less than 20 mV typically.

Rate-of-rise by potentiometer, lacquer sealed **red** (Fig. 2).

$\pm 10\%$ of the effective output signal can be adjusted under corresponding pressurization.

CALIBRATING PROCEDURE

- Make electric connections in accordance with diagrams Fig 1.
- Loosen 4 plug connector fastening screws, pull-off plug to make potentiometers accessible.
- For class 0.6 pressure controllers or better, connect lower pressure at P2, and higher pressure at P1.
- Adjust zero point output signal at zero point potentiometer (lacquer sealed white, Fig. 2).
- Apply desired higher pressure and adjust output signal at rate-of-rise potentiometer (lacquer sealed red, Fig. 2).
- Repeat this process two to three times until values lie within the tolerance range.
- Lacquer-seal all potentiometers again after calibration. Close electrical connection part tightly.

Fig. 1

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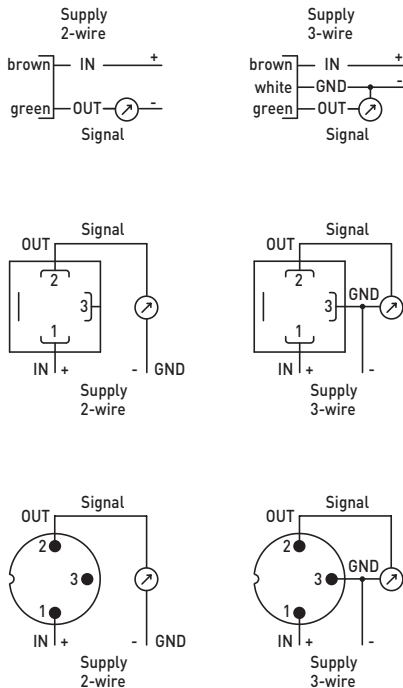
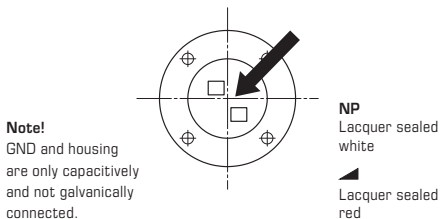


Fig. 2

SHD 692



General notes

Our "General Terms and Conditions for Business" together with the "General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry" (ZVEI conditions) including supplementary clause "Extended Retention of Title" apply as the exclusive terms and conditions.

In addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- Devices must only be connected under dead-voltage condition.
 - To avoid damages and errors at the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed and commissioned by authorised specialists.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow.
 - Direct sun irradiation or heat irradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of housing or housing accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.

Notes on commissioning:

This device was calibrated, adjusted and tested under standardised conditions. When operating under deviating conditions, we recommend performing an initial manual adjustment on-site during commissioning and subsequently at regular intervals.

Commissioning is mandatory and may only be performed by qualified personnel!

These instructions must be read before installation and commissioning and all notes provided therein are to be regarded!

SHD 692

SHD 692
without display



Display module (optional)

