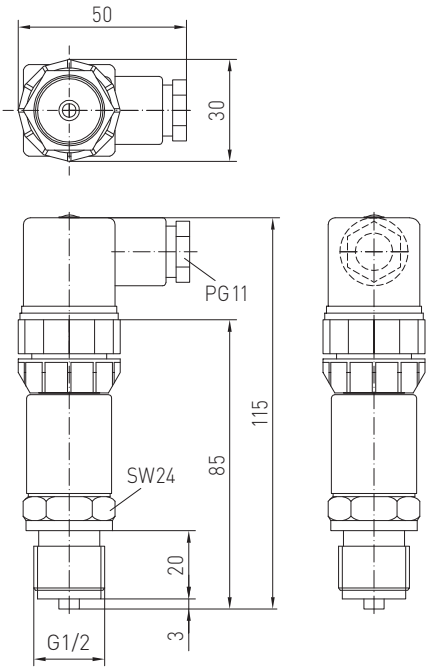
SHD
SHD-SD

Operating Instructions, Mounting & Installation Pressure measuring transducers, incl. DIN plug-in connectors, with active output

SHD
SHD-SD

Dimensional drawing

SHD
SHD-SD



The pressure measuring transducer **SHD** measures relative pressures in the bar range. It converts the measurand pressure into standard signals of 0-10 V or 4...20 mA. Process connection is G ½" straight external pipe thread. SHD is used for pressure measurement in gaseous and liquid media. Applications of this pressure transmitter are in hydraulics, pneumatics, process technology, in mechanical and plant engineering. The pressure measuring cell is gasketless welded together with the pressure pick-up.

TECHNICAL DATA

Power supply:	24 V AC / DC for output 0 –10 V 7-33 V DC for output 4 ... 20 mA
Measuring ranges:	see table (other ranges upon request)
Output signal:	0-10 V, 3-wire, (working resistance > 10 kOhm) or 4 ... 20 mA, 2-wire, (working resistance < (UB (V)-7 V) / 0.02 A ; R_L depending on working resistance
Electrical connection:	0.25 - 1.5 mm², via plug-in connector DIN EN 175301-803-A (included in the scope of delivery)
Pressure connection:	G ½" sealing at the back, and manometer (combined) with profile gasket FPM, special WW G ¼" DIN 3852
Type of pressure:	relative
Measuring principle:	**steel measuring cell**
Temperature of medium:	–40...+135 °C
Mounting:	directly on pressure line
Enclosure:	stainless steel **V2A** (1.4305)
Connecting head:	plastic, approx. 98 x 50 x 34 mm
Medium contacting parts:	stainless steel **V2A** (1.4305)
Response time:	2 ms (1 ms typical)
Characteristic line:	± 0.3 %
Overload range:	< 6 bar: 5 x of final value > 6 bar: 3 x of final value (max. 1500 bar)
Bursting pressure:	< 6 bar: 10 x of final value > 6 bar: 6 x of final value (max. 2500 bar)
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
Tests:	Drinking water approval according to NSF/ANSI 61/372, UL-certified according to ANSI/UL 61010-1
Optional:	**Display module**, 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 Pressure measuring transducers, *Premium*

Type / WG01	Measuring Range	Item No.
SHD-U		**U-variant**
SHD-U 1	0...1 bar	1301-2111-0520-220
SHD-U 2,5	0...2.5 bar	1301-2111-0530-220
SHD-U 6	0...6 bar	1301-2111-0550-220
SHD-U 10	0...10 bar	1301-2111-0560-220
SHD-U 16	0...16 bar	1301-2111-0570-220
SHD-U 25	0...25 bar	1301-2111-0580-220
SHD-U 40	0...40 bar	1301-2111-0590-220

Type / WG01	Measuring Range	Item No.
SHD-I		**I-variant**
SHD-I 1	0...1 bar	1301-2112-0520-120
SHD-I 2,5	0...2.5 bar	1301-2112-0530-120
SHD-I 6	0...6 bar	1301-2112-0550-120
SHD-I 10	0...10 bar	1301-2112-0560-120
SHD-I 16	0...16 bar	1301-2112-0570-120
SHD-I 25	0...25 bar	1301-2112-0580-120
SHD-I 40	0...40 bar	1301-2112-0590-120

The pressure measuring transducer **SHD-SD** measures relative pressures in the bar range. It converts the measurand pressure into standard signals of 0 -10 V or 4...20 mA. Process connection is G ½" straight external pipe thread. SHD-SD is used for pressure measurement in gase-ous and liquid media. Applications of this pressure transmitter are in hydraulics, pneumatics, process technology, in mechanical and plant engineering. **Not applicable for ammonia and Freon!**

TECHNICAL DATA

Power supply:	24 V AC / DC for output 0-10 V 7-33 V DC for output 4 ... 20 mA
Measuring ranges:	see table (other ranges upon request)
Output signal:	0-10 V, 3-wire, (working resistance > 10 kOhm) or 4... 20 mA, 2-wire, (working resistance < (UB (V)-7 V) / 0,02 A; R_L depending on working resistance
Electrical connection:	0.25 - 1.5 mm², via plug-in connector DIN EN 175301-803-A (included in the scope of delivery)
Pressure connection:	G ½" sealing at the back, and manometer (combined) with profile gasket FPM, special WW G ¼" DIN 3852
Type of pressure:	relative
Measuring principle:	**ceramic measuring cell**
Temperature of medium:	–15...+ 125 °C
Mounting:	directly on pressure line
Enclosure:	stainless steel **V2A** (1.4305)
Connecting head:	plastic, approx. 98 x 50 x 34 mm
Medium contacting parts:	stainless steel **V2A** (1.4305); measuring element ceramic Al_2O_3 (96%); sealing material FPM (Viton)
Response time:	2 ms (1 ms typical)
Load changes:	< 100 Hz
Characteristic line:	± 0.3 %
Overload range / Bursting pressure:	< 4 bar: 3 x FS > 4 bar: 2.5 x FS
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
Tests:	Drinking water approval according to NSF/ANSI 61/372, UL-certified according to ANSI/UL 61010-1
Optional:	**Display module**, 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-SD Pressure measuring transducers, *Standard*

Type / WG01	Measuring Range	Item No.
SHD-SD-U		**U-variant**
SHD-SD-U 6	0...6 bar	1301-2121-0550-120
SHD-SD-U 10	0...10 bar	1301-2121-0560-120
SHD-SD-U 16	0...16 bar	1301-2121-0570-120

Type / WG01	Measuring Range	Item No.
SHD-SD-I		**I-variant**
SHD-SD-I 6	0...6 bar	1301-2122-0550-000
SHD-SD-I 10	0...10 bar	1301-2122-0560-000
SHD-SD-I 16	0...16 bar	1301-2122-0570-000

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 to safety extra-low voltage and 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 enclosures or enclosure 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.

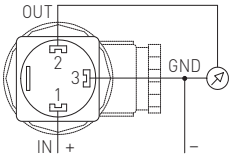
Notes on commissioning:

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!

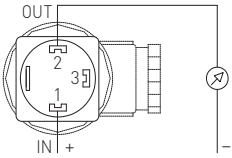
Connecting diagram **SHD-U**

2 Output pressure 0-10V
3 GND
1 Supply voltage
UB+ 24V AC/DC



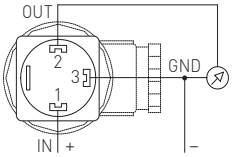
Connecting diagram **SHD-I**

2 Output pressure 4...20mA
3 Free
1 Supply voltage
UB+ 24V DC



Connecting diagram **SHD-SD-U**

2 Output pressure 0-10V
3 GND
1 Supply voltage
UB+ 24V AC/DC



Connecting diagram **SHD-SD-I**

2 Output pressure 4...20mA
3 Free
1 Supply voltage
UB+ 24V DC