1. General information

1.1 Information on the operating manual

This operating manual contains all the important information on proper usage of the device. Read this operating manual carefully before installing and starting up the pressure measuring device.

1.2 Symbols used

- **WARNING** – dangerous situation, which may result in death or serious injuries
- **CAUTION** – potentially dangerous situation, which could result in death or serious injuries
- **WARNING** – potentially dangerous situation, which could result in physical injury

1.3 Target group

- **Avoid** - operating avoider hazards and damages of the device, the following instructions have to be worked out by qualified technical personnel.

By non-compliance of the operating manual, inappropriate use, modification or damage, no liability is assumed and warranty claims will be excluded.

1.5 Intended use

- The pressure transmitter DMP 300 / DMP 304 has been especially designed for the overpressure measuring.
- This operating manual applies to devices with explosion protection approval and is intended for the use in IS-areas. A device has an explosion protection approval if it has been specified in the purchase order and confirmed in our order confirmation. In addition, the manufacturing label contains the -symbol.

- It is the operator’s responsibility to check and verify the suitability of the device for the intended application. If any doubt remain, please contact our sales department in order to ensure that the equipment is suitable.

- Permissible media are gases or liquids, which are compatible with the media wetted parts described in the data sheet. If the data sheet is not available, please order or download it from our homepage.

1.6 Safety technical maximum values

There are no modifications/changes to be made on the device.

- Do not throw the package/device!
- To avoid damaging the diaphragm, remove packaging and protective cap before applying pressure to the assembly. The delivered protective cap has to be used.
- Place the protective cap on the pressure port again immediately after disassembling.
- Hold the unprotected diaphragm very carefully - it is very sensitive and may be easily damaged. Do not use force when installing the device to prevent damage of the device and the plant!

- Do not mount the device in a pneumatic flow measuring device. Adhere to the safety notes and operating instructions which are given in the operating manual. In addition, installation standards and engineering rules must be complied with!

- The indicated tightening torques must not be exceeded!

- When using a galvanically insulated amplifier with linear scaling, the lowest supply voltage of e.g. 24 V will decrease like it does with a Zener barrier. Furthermore, the minimum supply voltage has been defined in the respective product-specific data sheet under “Output signal / supply”.

- The supply voltage of e.g. 24 V avoid friction on the plastic surfaces!

- Do not clean the device dry! Use, for example, a damp cloth.

- Take note that no inadmissibly high mechanical stresses occur at the pressure port as a result of the installation, since this may cause a shifting of the characteristic curve or to the damage. This is especially important for very small pressure ranges as well as devices with a pressure port made of plastic.

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- In hydraulic systems, position the device in such a way that the pressure port points upwards, so that the moisture in the medium is drained.

- Provide a cooling line when using the device in very small piping.

2. Product identification

The device can be identified by its manufacturing label. It provides the most important data. By the ordering number, the device can be identified by its locally available standard code.

Fig. 1 manufacturing label

1. For installations outdoor and in damp areas following the instructions:
- To prevent moisture admission in the plug the device should be blocked additionally, e.g. by covering the suitable protection cap. (The ingress protection in the technical data sheet is IP 65 and additional protection cap.

- Change an assembly position, which allows the flow-off of splashed water and condensation. Avoid peripheral sealing which could result in moisture.

- When using a cable gland and outlet device, turn the outgoing cable downwards. If the cable has to be turned upwards, the moisture could drain into the device so that the moisture can drain.

- Install the device in such a way that it is protected from direct solar irradiation. Direct solar irradiation can lead to a temperature increase, which could be the result of the sun is not shining and other irradiation.

- For devices with gauge reference in the housing (small hole next to the electrical connection), install the device in such a way that any condensation is protected from dirt and moisture. Should the device be exposed to fluid admission, the functionality will be blocked by the gauge reference. An exact measurement in this condition is not possible. Therefore this can lead to damages on the device.

- Take note that no inadmissibly high mechanical stresses occur at the pressure port as a result of the installation, since this may cause a shifting of the characteristic curve or to the damage. This is especially important for very small pressure ranges as well as devices with a pressure port made of plastic.

- In hydraulic systems, position the device in such a way that the pressure port points upwards, so that the moisture in the medium is drained.

- Provide a cooling line when using the device in very small piping.

2. General installation steps

- Carefully remove the pressure measuring device from the package and dispose of the package properly.

- Do as detailed in the specific instructions below.

3. Installation steps for EN 60777

- Mounting and safety instructions

WARNING! Install the device only when depressurized and standardized!

WARNING! This device may only be installed by qualified technical personnel who has read and understood the operating manual!

- C 28 V; I max. values: number of EC type-examination certificate, which stipulates special conditions for the transmitter and galvanic power supply.

- The technical data of the device will be provided according to the EN-type-examination certificate. These data can be validated by the company in the respective zone as well as the manufacturer will be old.

- Do not use any force when installing the device to prevent damage of the device and the plant!

- DANGER! The high pressure tube seals metal-to-metal in the chamfer of the pressure port. No further seal is possible after disassembling. This means, the high pressure connection will be necessary! A wrong installation can cause enormous danger!
4.7 Calculation example for the selection of the Zener barrier

The maximum value has to be the same as the maximum supply voltage of the device. If needed, voltage on 0% and 100% - an additional amount of 12.8 mA is given out and there flows a current of 16.8 mA. Please note for IS-devices that the activation of the calibration signal has to run to the same supply voltage of the signal circuit.

1. For devices with cable gland as well as cable socket, you have to make sure that the external diameter of the cable is within the allowed clamping range. Moreover you have to check that it lies in the cable gland firmly and tightly!
2. For the installation of a device with cable outlet following bending radii have to be complied with.

2.7 Calibration

During the life-time of a transmitter, the value of offset and span may shift. As a consequence, a deviating signal value in reference to the nominal pressure range starting point or point may be transmitted. If one of these two phenomena occurs after prolonged use, a recalibration is recommended to ensure forthcoming high accuracy.

5.2 Return

Before every return of your device, whether for recalibration, deactivation, modifications or repair, it has to be cleaned carefully and packed shatter-proofed. You have to enclose a notice of return with detailed defect description when sending the device. If your device came in contact with harmful substances, a declaration of decontamination is additionally required. Appropriate forms can be downloaded from our homepages www.bdensors.com. Should you dispatch a device without a declaration of decontamination and there are any doubts in our service department regarding the used medium, repair will not be started until an acceptable declaration is sent.

9. Service / Repair

The device has to be cleaned carefully and packed shatter-proofed. A false cleaning of the device can cause an irreparable damage on the diaphragm. Therefore never use pointed objects or pressured air for cleaning the diaphragm.

11. Warranty conditions

The warranty conditions are subject to the legal warranty period of 24 months from the date of delivery. In case of improper use, modifications or damages to the device, we do not accept warranty claims. Damaged diaphragms will not be accepted. Furthermore, defects due to normal wear are not subject to warranty services.