Installation and Operating Instructions for Rod-Type Level Probe NT

360B22EN01

Original operating manual

The rod-type level probe NT measures the temperature of the liquid with a Pt 100 temperature sensor (DIN EN 60751) and the level of the liquid by means of conductive level measurements.

The level probes NT are only designed for commercial and industrial use.

Do not use them in inflammable or explosive fluids.

In order to ensure correct and reliable operation, the following must be observed:

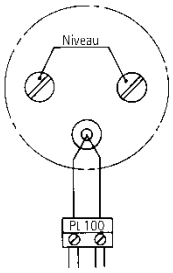
1. Electrical Safety

The probe may be connected only by a suitably trained electrician!

The probes may be used only together with a suitable electronic controller.
Maximum probe voltage: 20 V ~ (AC).

In the case of inductively or capacitively coupled interference on the control cable, we recommend that you use screened cables. The screen may be connected to ground only at one end of the cable.

Connection diagram



Types NT…/BC-…

The terminal casing BC is opened and closed with the mounting wrench SB. For terminal casing BC, ensure that the pull relief, the pressure screw for the cable gland and the cover screws are correctly tightened upon assembly. Tighten the terminal casing cover until the cover makes a positive connection with the cable gland. This ensures optimum sealing of the casing.

Types NT…/LC-…

The mounting wrench SL (accessory) is used for opening and closing the terminal casing LC. Take care that the pull-relief, the pressure screw and the cover are tightened securely. Tighten the terminal casing cover until the cover makes a positive connection with the cable gland. This ensures optimum sealing of the casing.

If you install your own cables, you must remove the white plastic insert below the pull-relief clamp when installing cables with a diameter of > 8 mm (maximum cable diameter: 9.5 mm).
The sealing insert for the cable gland must be selected from the following table. If replacement inserts are needed, they can be ordered as accessories.

Cable entry	Cable-∅ [mm]	Sealing insert Colour	Article number (accessory)
Terminal casing BC	4 – 6,5 6,5 – 9,5	yellow black	1702200001 1702500001
Terminal casing LC	4 – 6,5 6,5 – 9,5	yellow black	4921000053 4921000050

2. Operating Conditions

The materials of the rod-type level probe and the temperature sensor must be chemically resistant to the liquid to be monitored and must be able to withstand the temperature of the liquid.
The ambient temperature at the terminal housing may not exceed 50 °C. Neither the terminal housing nor the cable may be immersed in the liquid.

The probe may be used with reservations in liquids with a tendency to form crystals or encrustation.

Rod-type level probes made of metal may, if necessary, be cut to the required length by the user.
Universal rod-type probes made of PTFE may not be shortened.

Operating temperatures

- For metallic probe rods with PTFE sheath (translucent): 90 °C
- For probe rods sheathed with PTFE (white): 100 °C

3. Installation Conditions

When installing the probe, ensure that the rods do not touch each other. The probe is installed in vertical position.

The rod level-probe can also be mounted on the edge of a tank with the aid of the special support HB (Article No 1700020001) or HL (Article No. 4921000071) or with a cross-beam. Both the rod terminal casing and the support have holes through which a cable tie can be inserted in order to prevent inadvertent removal of the rod level-probe from the support. The following sleeves (accessories) are also available for mounting the level-probe.

	Support	Sleeve (accessory)	Article number (accessory)
Terminal casing BC	HB	Support sleeve HM Mounting sleeve EM	1700010001 1700011001
Terminal casing LC	HL	Mounting sleeve ML	4921000074

4. Principle of Operation

The Pt 100 temperature sensor measures the temperature of the liquid and this value is processed by the temperature limiter ETB.
The level probe receives a low AC voltage from the signalling device ETS or the temperature controller ENR. The circuit is completed by the electrically conductive liquid between the rods of the probe.

5. Commissioning and Maintenance

The signalling unit is a safety device and must therefore be tested for correct operation after installation and at suitable intervals thereafter. This test must also include testing that the desired effect (e.g. protection against excessive temperatures) is achieved.
Remove any encrustation which is deposited on the rods.

Particularly in the case of conductive liquids, there is a risk of incorrect operation due to the formation of a conductive path between the probe rods.
In order to avoid this, the sensitivity of the signalling device ETS or the temperature controller ENR can be adjusted to match the conductivity of the liquid. Please refer to the installation and operating instructions for the respective devices.

Non-compliance with these instructions, disassembly of the switch or other manipulations will invalidate the warranty.

If you wish to make a claim under the warranty or required repairs, return the **cleaned** and **neutralized** level probe to the manufacturer postage paid with details of the defect.

These installation instructions form an integral part of the device and must be kept available throughout the service life of the device.