

Installation and Operating Instructions for Rod-Type Level Probes NS

WG 45/09.12/

Original operating manual E-MBA 124d

Rod-type level probes are suitable for detecting the levels of liquids in vessels.

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

Do not use them in inflammable or explosive fluids.

In order to guarantee reliable operation, operational safety and a long lifetime, the following must be observed:

1. Electrical Safety

The heaters may be connected only by a qualified electrician, technician or engineer!

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.

Type NS.../BC-...

The terminal casing BC is opened and closed with the mounting wrench SB (accessory). 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.

Type NS.../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

Check that the material of the level probe is chemically and thermally resistant to the liquid to be monitored.

The terminal casing and the lead should not come into direct contact with the liquid or hot steam. The ambient temperature at the terminal casing may not exceed 50 °C.

Operating temperatures

- For metallic probe rods with PO sheath (black): 70 °C
- For metallic probe rods with PTFE sheath (translucent): 90 °C
- For probe rods sheathed with PTFE (white): 100 °C

The operating limits depend on:

- the conductivity of the liquid to be measured
- the electronic controller used

Suitable for use with restrictions in liquids which tend to form deposits or to crystallize.

3. Installation

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 probe 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

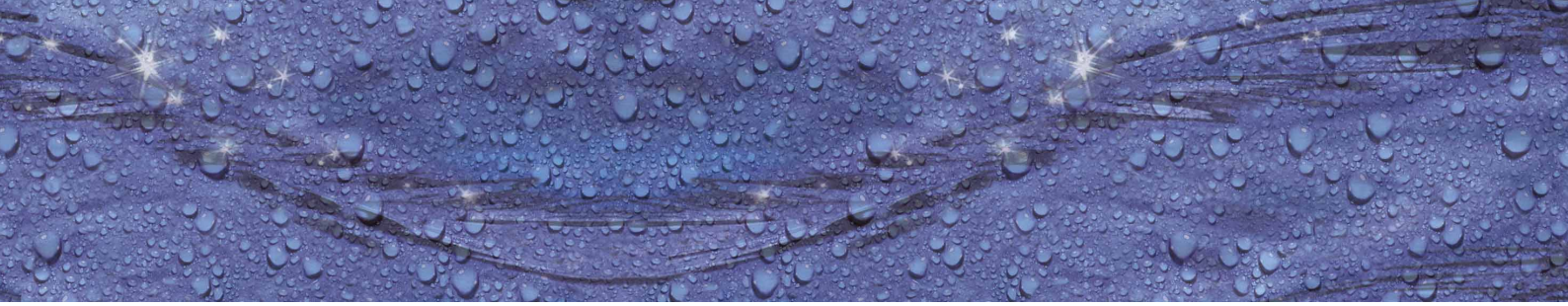
4. Principle of Operation of Conductive Level Measurement

The probes are supplied by the controller with a low AC voltage. If there is a conductive liquid between the probes, the circuit is closed and the controller actuates a contact.

Level measuring probes made of metal can be shortened by the user if necessary.

Universal rod-type probes (PTFE-Compound) cannot be shortened by the user.





5. Putting into Service and Maintenance

Level measuring probes are safety devices and should therefore be tested by the user for correct operating before they are used, and at suitable intervals during use. This check should include ensuring that they fulfil their intended purpose (e.g. dry-running protection for heaters).

Any deposits on the probes must be removed at regular intervals. A conductive connection between the probes (e.g. deposits) can lead to malfunctions.

The warranty becomes invalid if these instructions are not complied with.

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.

The distribution or reproduction of this document and the reuse or disclosure of its content is forbidden unless expressly permitted.

Infringements of this will incur penalties.

All patent, utility patent or design patent registration rights reserved.