

► Read and follow these safety instructions first and take notice of the operating instructions.

Safety instructions

1. The installation, initial operation and maintenance may be done by a qualified expert with electrical know-how only.
2. Comply with the local and statutory rules and regulations and/or the VDE 0100.
3. Take notice of the temperature specifications at the data plate.
4. A fuse (with max. 4A) has to be connected in series to the voltage supply.
5. Protect the signal contact from voltage peaks when inductive loads are connected.
6. The device may put into operation if it is closed, only.
7. Switch off the power supply, before opening the device. (touchdangerous voltage)

Operating instructions

1. Description

1.1 Intended use

The level indicator observes the filling level as a limit switch in silos and vessels. It can be used as full, demand and empty indicator for dusty and powdery, granulated and grainy bulk goods with a max. grain size up to 30 mm and with a bulk density of 0.3 t/m³ ... 2.5 t/m³.

1.2 Function

The bulk goods presses with its weight against the membrane. A tappet directly transfers the pressure from the membrane to the switch. When the bulk goods are decreasing, pressure is taken off the membrane and the switch will be interconnected.

1.3 Technical data

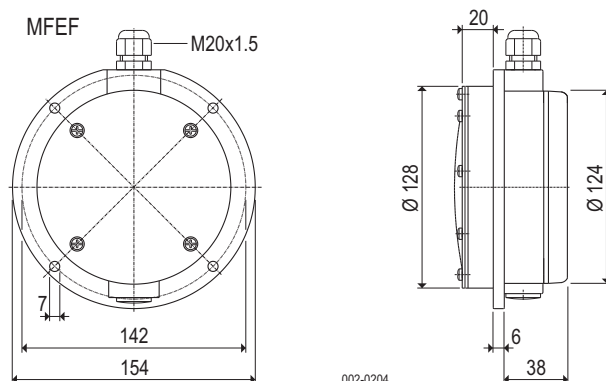
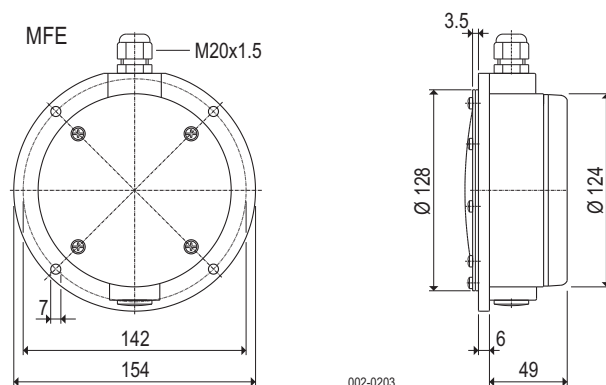
Manufacturer	MOLLET Füllstandtechnik GmbH
Address	Industriepark RIO 103 74706 Osterburken
Name	Membrane level indicator
Type	MFE (GFK) and MFE-A (Alu) MFEF (GFK) and MFEF-A (Alu)
Temperature range	GFK Aluminium Ta -20 °C ... +60 °C -25 °C ... +80 °C
Signal contact	change-over contact, potentialfree
Capacity of the contact	contact 4 A / 250 V AC
Switching voltage	24 V ... 250 V AC or 12 V ... 125 V DC
Sensitivity	60 g ... 200 g adjustable
Response delay	none
Cable connection	Scrwe M4
Cable entry	Cable gland M20x1.5
Type of protection acc. to DIN EN 60529	IP IP40 IP53 if cable gland is upwards IP65 with stainless steel membrane IP66 with aluminium housing
Overpressure safety	up to 1 bar
Weight	MFE 0.48 kg MFE-A 0.95 kg MFEF 0.49 kg MFEF-A 1.00 kg
Maintenance	none
Mounting position	any position

1.4 Materials

Type	Housing
MFE(F)- . .	= GFK (glass-fibre reinforced plastics)
MFE(F)-A . .	= Aluminium

Type	Membrane	Mounting ring
MFE(F)- . NN	= NBR	Steel, galvanized
MFE(F)- . VN	= VITON	Steel, galvanized
MFE(F)- . NE	= NBR	Stainless steel 1.4301 / 304
MFE(F)- . VE	= VITON	Stainless steel 1.4301 / 304
MFE(F)- . EE	= 304	Stainless steel 1.4301 / 304

1.5 Dimensions



2. Installation

2.1 Preparation

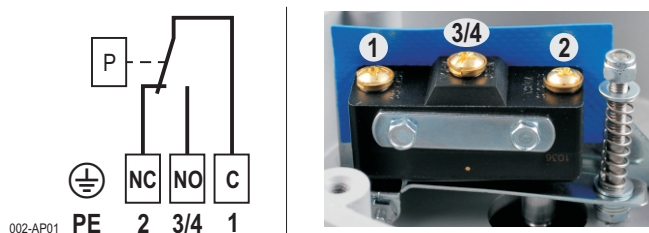
- Check the membrane of visual transport damage.
- Read and follow the safety instructions and the operating instructions, before handling with the device !

2.2 Mounting in the vessel

Position the level indicator with the gasket at the provided flange and fix it with 4 washers and screws M6.

2.3 Electrical connection

Circuit diagram

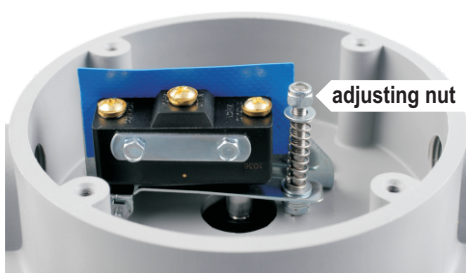


2.4 Cable gland

- After electrical connection, tighten the cable gland.
- Screw the cap nut, until the cable entry is closed tightly.

3. Commissioning

- Put the level indicator into operation only, if the installation and the electrical connection have been done correctly.
- The level indicator is presetted at sensitive.
- With the adjusting nut the device can be adjustable insensitive. Clockwise insensitive.



4. Utilization

4.1 Normal operation

- Use the level indicator in its intended application only.
- The level indicator is provided for use in silos or vessels with pressureless operation.
- Comply with the specifications on the data plate. Check the membrane of the level indicator, when the permissible temperature of bulk goods was exceeded or was fallen short off.
- Damaged devices have to put out of operation immediately.

4.2 Inexpert handling

- Ignoring of the safety instructions and the operating instructions.
- Not intended use.
- Mounting of spare parts which are no original parts.
- Violation against applicable law and standards.

5. Maintenance and servicing

5.1 General informations

- Do maintenance work only, if the silo or the vessel is empty and if there is no overpressure or vacuum.
- Use original spare parts only.

5.2 Maintenance

- Inspect in regular intervals if there is any wear or abrasion at the membrane. Define the control intervals, depending on the characteristics of the bulk goods.
- In case of damage or abrasion, replace the membrane immediately with a new membrane.

5.3 Servicing

- Damaged parts have immediately replaced with similar.
- Until the complete reconstruction of the proper function, the level indicator must not be used any more.

6. Storage

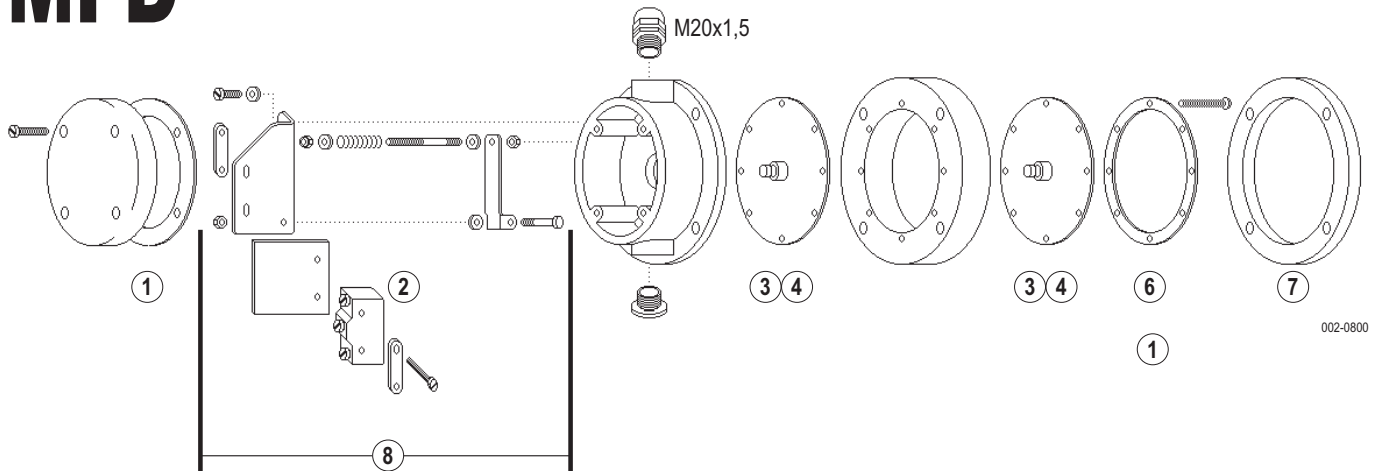
- Store the level indicator dry and dust-free.
- Protect the membrane against pointed objects and ultraviolet radiation.

7. Disposal

- The level indicator can be recycled.
- The disposal applies to the valid environmental guidelines according to the location of the carrier and the local manufacturing conditions.

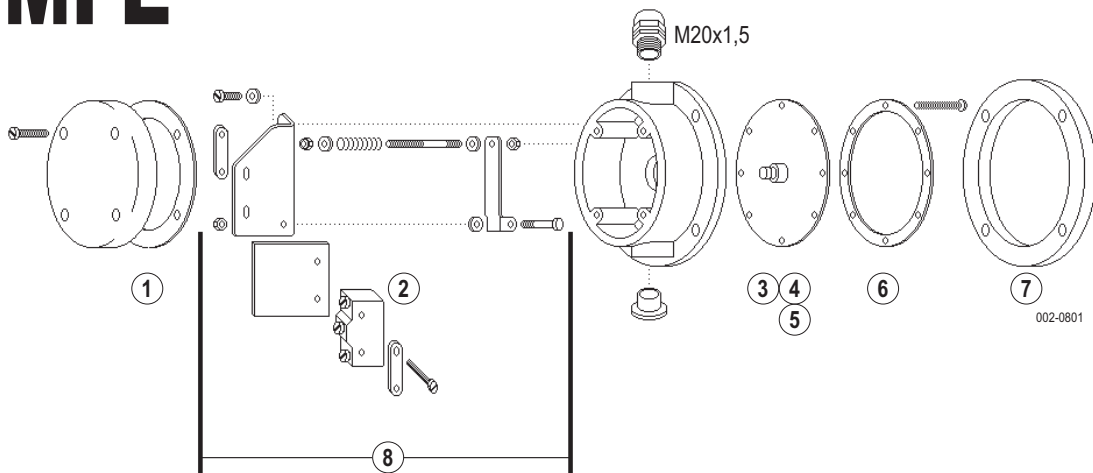
 Ersatzteile / Spare parts

 **MFD**



Ersatzteile / Spare parts

MFE



Pos. Item	Benennung Reference	Bestellcode Order code	Werkstoff Material
1	Deckeldichtung / Cap seal	MF-DS001	NBR
2	Schalter / Switch	BZ-2R-A2	
3	Stößel / Tappet	MF-WE001	Aluminium
4	Membrane / Membrane N . Membrane / Membrane V .	MF-MB-NR MF-MB-VI	NBR VITON
5	Membrane / Membrane E .	MF-MB-VA	Edelstahl 1.4301 / Stainless steel 304
6	Haltering / Mounting ring . N Haltering / Mounting ring . E	MF-HR-ST MF-HR-VA	Stahl, verzinkt / Steel, galvanized Edelstahl 1.4301 / Stainless steel 304
7	Flanschdichtung / Gasket	MF-FD-NR	NBR-Schaumstoff / NBR foam
8	Ersatzteilpaket inkl. Schalter Spare part kit incl. switch	MF-EP001 MF-EP001	



EU-Konformitätserklärung EU-Declaration of Conformity

Wir/We

MOLLET Füllstandtechnik GmbH

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Tel. 06291 64400 Fax 06291 9846

erklären in alleiniger Verantwortung, dass das Produkt:
declares under our sole responsibility, that the product:

Membran-Füllstand-Grenzscharter / Membrane limit switch
Membran-Füllstandanzeiger / Membrane level indicator



Typ/Type **MFE ...**

den folgenden Europäischen Richtlinien entspricht:
conforms with the following European directives:

Niederspannungsrichtlinie Low voltage directive 2014/35/EU

Angewandte harmonisierte Normen oder normative Dokumente:
Applied harmonized standards or normative documents:

EN 61010-1:2010 EN 60529:1991 + A1:2000 + A2:2013

Und die Geräte mit  - Kennzeichnung entsprechen zusätzlich der folgenden Europäischen Richtlinie:
And the devices with  - marking conform additional with the following European directive:

ATEX-Richtlinie ATEX directive 2014/34/EU

Je nach Ausführungsvariante angewandte harmonisierte Normen oder normative Dokumente:
Depending on the design applied harmonized standards or normative documents:

EN 60079-0:2012 + A11:2013 EN 60079-11:2012 EN 60079-31:2014

EG-Baumusterprüfbescheinigungsnummer:
EU-Type Examination Certificate:

IBExU06ATEX1068

Ausgestellt von:
Issued by:

IBExU Institut für Sicherheitstechnik GmbH, 09599 Freiberg (0637)

Qualitätssicherung:
Quality assurance:

TÜV NORD CERT GmbH, 30159 Hannover (0044)

Osterburken, den 10.05.2016



Wolfgang Hageleit
Geschäftsführer / managing director

Diese Erklärung darf nur unverändert weiterverbreitet werden.
This declaration is only allowed to hand out in unchanged form.

