Operating Instructions
for
Membrane Level Monitor
for Bulk Goods

Model: NMF

1. Contents

Manufactured and sold by:

Kobold Messring GmbH
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2. Note

Please read these operating instructions before unpacking and putting the unit into operation. Follow the instructions precisely as described herein.
The instruction manuals on our website www.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that corresponds to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

3. Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.
Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:
The standard delivery includes:

- Membrane Level Monitor model: NMF

4. Regulation Use

Any use of the Membrane Level Monitor, model: NMF, which exceeds the manufacturer's specifications, may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5. Operating Principle

Membrane level monitors allow economic level monitoring of bulk goods in storage vessels. They may be used to indicate full and empty states and load demand for dusty, powdery, granulated and grainy bulk goods. They are suitable for use with bulk materials (0.3 to 2.5 t/m_3) and particle sizes up to 30 mm. The devices will operate faultlessly provided the bulk goods flow easily at not too small an angle. Only such materials exert sufficient operating pressure on the detector fitted in the wall of the silo.

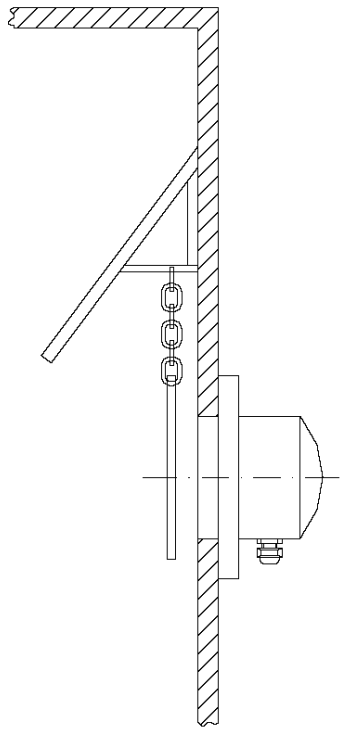
The housing made of cast aluminium or glass-fibre reinforced plastic carries the membrane retained by a screwed-on ring. With its own weight the bulk material presses against the membrane which is prestressed with a spring through to the support. A plunger fixed to the membrane transfers the pressure directly to a microswitch with changeover contact. If the bulk material subsides, the membrane is relieved and the contact is switched back. The sensitivity can be adjusted with a spring. The monitor can thus be optimised for the type of fill and the installation conditions.

6. Mechanical Connection

6.1 Installation with very coarse-grained and sharp-edged bulk goods

The installation of guards is recommended for very large grained and sharp-edged materials with high specific weight.

A proposal for such a guard is shown in the sketch. The guard mounted over the level monitor protects sensor and membrane against damage from dropping bulk material. The curtain (made of rubber or plastic, for instance) protects the membrane from excessive wear by hanging against the membrane as the amount of bulk material increases. Make sure that the monitor is not in the path of the inflowing material, as otherwise monitor and membrane would be destroyed very quickly.



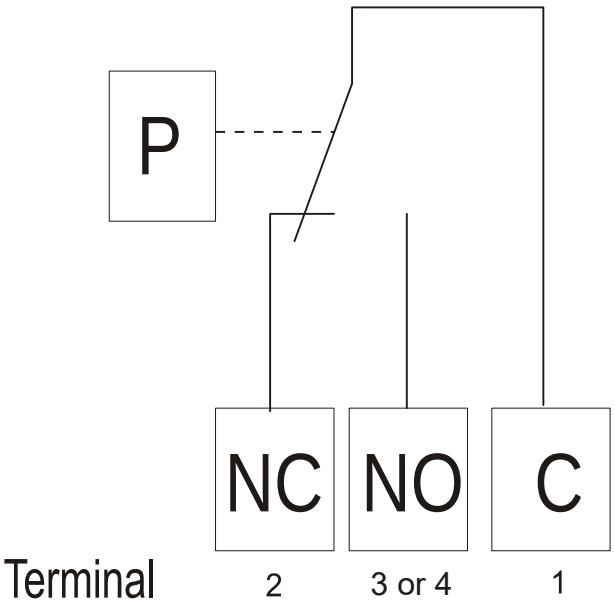
7. Electrical Connection

7.1 Connection diagram

Attention! Make sure that the voltage values of your system correspond with the voltage values of the measuring unit.

- Make sure that the supply wires are de-energised.
- Plug in the system according to the connecting diagrams.

Attention! Incorrect wiring will lead to damage of the unit's electronics.



8. Technical Information / Configuration

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

9. Order Codes

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

10. Dimensions

Operating instructions, data sheet, approvals and further information via the QR code on the device or via www.kobold.com

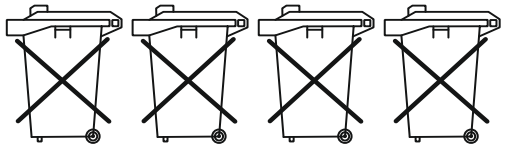
11. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

Batteries

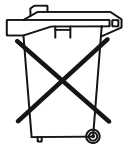
Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



Cd[1] Hg[2] Pb[3] Li[4]

1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



12. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Hofheim-Ts, Germany, declare under our sole responsibility that the product:

Membrane Level Monitor **Model: NMF-...**

to which this declaration relates is in conformity with the standards noted below:

EN 61010-1:2010 Safety requirements for electrical equipment for measurement, control and laboratory use - Part 1: General requirements

EN 60529:2013 Degrees of protection provided by enclosures (IP Code)

EN 50581:2012 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Also the following EC guidelines are fulfilled:

2014/35/EU Low Voltage Directive
2011/65/EU **RoHS** (category 9)
2015/863/EU Delegated Directive (RoHS III)

Hofheim, 30 July 2019

H. Peters
General Manager

M. Wenzel
Proxy Holder