Operating Instructions

for

Level Switches

Model: NV

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Manufactured and sold by:

Kobold Messring GmbH
Nordring 22-24
D-65719 Hofheim
Tel.: +49 (0)6192-2990
Fax: +49(0)6192-23398
E-Mail: info.de@kobold.com
Internet: www.kobold.com

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:
- Level Switch model: NV

4. Regulation Use

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

The units of type NV are intended to be used for monitoring of liquid-level measurement. Only use liquids which are chemically inert to the materials used in the construction of these devices.
By using at least two level monitors, where one is used for minimum level and the other for max. level, liquid level control may be accomplished.

5. Operating Principle

The Kobold Level Switch model NV is a reasonably-priced compact instrument for monitoring levels. A stainless steel cylindrical float attached to one end of a balance arm moves up and down with the liquid level.
The motion of the float is transferred to a permanent magnet fitted at the other end of the balance arm. The permanent magnet switches a reed contact that is fitted in a sliding tube outside the medium. The tube is set as a N/O contact at the factory, that is, the contact closes when the level rises. The switching function is reversed by moving the tube. The instruments are delivered in standard sleeves for side installation. PTFE tape is used to seal the switch.

6. Mechanical Connection

The float switch is to be attached in such a way that the float can move freely over its entire range and must not come in contact with the walls, bottom, or cover of the container. Positions, where turbulence may be encountered, due to agitators or intake valves, are unsuitable for proper operation.

The container should not have freely moving solids or ferrite particles, since these will deposit on float magnet- resulting in disturbance in switching process. If the liquid contains sediments or suspended materials, special care must be exercised in order to keep these materials away from the float system.

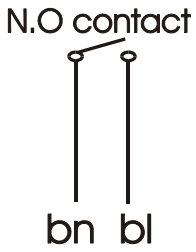
The switch should be attached to the system while keeping in mind the need for easy access for installation and maintenance.

- Ensure that the permitted max. operational pressure and temperature limits are not exceeded.
- Make sure that no remains of packing material exist inside the unit.
- The installation position must be horizontal.
- If possible, examine all the connection joints for proper sealing, just after mechanical installation.

7. Electrical Connection

- Make sure that the electric supply lines are not active.
- Connect the cable with your power supply.
- The contact box is made of fibreglass reinforced plastic. This material provides protective insulation according to VDI 0720 class II; a separate protection conductor is not required.

Connection scheme
After connections are made to the desired external devices, the unit is ready for operation.



8. Commissioning

Readjustment of switching unit

For the adjustment of switching unit, the locking disk on the upper part of housing must be loosened and the switching unit repositioned. To assist the adjustment procedure, a blue (white) or red arrow is provided on the switching unit. The leading edge of locking disk serves as adjustment mark.

N.O. contact:
The switching unit is to be set within the range of red arrow.
The contact closes on increasing liquid-level.

N.C. contact:
The switching unit is to be set within the range of blue (white) arrow.
The contact opens on increasing liquid-level.

9. Maintenance

As long as the medium to be measured is not contaminated, the device NV is maintenance-free. In particular, pay attention to ferrite particles in the medium, which tend to settle on the magnet, and can lead to problems. Larger dirt particles can cause seizure of the horizontal beam. Depending upon the degree of pollution of your medium, we recommend checking the device(s) after regular intervals.

10. Technical Information

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

11. Order Codes

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

12. Dimensions

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

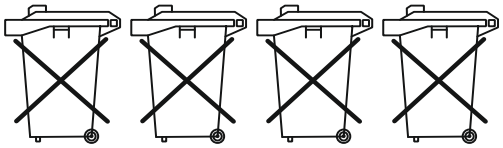
13. Disposal

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

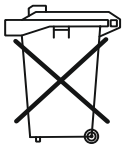
Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



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



14. EU Declaration of Conformance

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

Level Monitor **model: NV...**

to which this declaration relates is in conformity with the following EU directives stated below:

2014/35/EU	Low voltage guidelines
2011/65/EU	**RoHS**
2015/863/EU	Delegated Directive (RoHS III)

Also, the following standards are fulfilled:

EN 61010-1:2010 + A1:2019 + A1:2019/AC:2019
Safety requirements for electrical equipment for measurement, control and laboratory use

EN 60529:2014
Protection through housing (IP-Code)

EN IEC 63000:2018 Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Hofheim, 10 October 2023

H. Volz
General Manager

J. Burke
Compliance Manager

15. UK Declaration of Conformity

We, KOBOLD Messring GmbH, Nordring 22-24, 65719 Hofheim, Germany, declare under our sole responsibility that the product:

Level Monitor **model: NV...**

to which this declaration relates is in conformity with the following UK directives stated below:

S.I. 2016/1101 **Electrical Equipment (Safety) Regulations 2016**
S.I. 2012/3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

Also, the following standards are fulfilled:

BS EN 61010-1:2010+A1:2019
Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements

BS EN 60529:1992+A2:2013
Degrees of protection provided by enclosures (IP-Code)

BS EN IEC 63000:2018
Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances.

Hofheim, 10 October 2023

H. Volz
General Manager

J. Burke
Compliance Manager