# Operating Instructions
# for
# Level Switch for Liquids

## Model: NAB / NEC

# 1. Contents

1. Contents....2
2. Note....3
3. Instrument Inspection....3
4. Regulation Use....3
5. Operating Principle....4
   5.1 NAB....4
   5.2 NEC....4
6. Mechanical Connection....4
7. Electrical Connection....5
   7.1 Connection figure NAB....5
   7.2 Connection figure NEC....5
8. Maintenance....6
9. Technical Information....6
10. Order Codes....6
11. Dimensions....6
12. Disposal....7
13. EU Declaration of Conformance....8

**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: NAB / NEC

# 4. Regulation Use

Any use of the Level Switch, model: NAB/NEC, 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.

# 5. Operating Principle

## 5.1 NAB

The KOBOLD level switch model NAB is ideally suited for the level monitoring of liquids and for direct pump control by means of a mechanical switch with very high switch capacity 20 (8) A at 250 $V_{AC}$.
The NAB comprises a stable plastic housing made of polypropylene (PP) with neoprene cable of optional 3 or 10 m of length.

## 5.2 NEC

The KOBOLD level switches of model NEC have been developed for level monitoring of liquids and for direct pump control for all industrial applications.
The float is supplied with a mechanical microswitch with very large switching capacity.
The NEC comprises a stable plastic housing made of polypropylene with a total of five cavities sealed back-to-back. The instruments are thus practically unsinkable even when physically damaged.

The level switches are available in following basic designs:

- NEC-930: polypropylene float, with mechanical contact, 5 m Hypalon cable
- NEC-HY930: float Hypalon coated for aggressive media, with mechanical contact, 5 m Hypalon cable
- NEC-930 N10: polypropylene float, with mechanical contact, 10 m Hypalon cable

# 6. Mechanical Connection

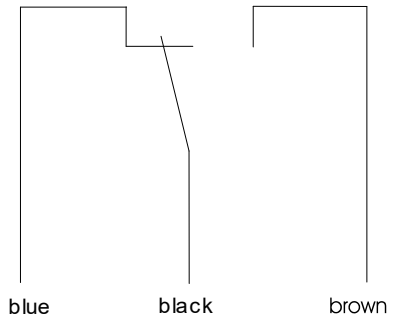
**Make sure that the maximum allowed operating pressures and service temperatures of the devices are not exceeded (see section** Fehler! Verweisquelle konnte nicht gefunden werden.**.** Fehler! Verweisquelle konnte nicht gefunden werden.**).**
**Take care that the cable-ends are not immersed in water at any time, because there is a danger of water leakage into the device through the cable.**

# 7. Electrical Connection

- Make sure that the supply wires are de-energised.
- Make sure that the voltage values of your system correspond with the voltage values of the measuring unit. Do not exceed at any time the switching capacity specified in the technical details.
- Connect the supply wires to the cable of the float switch according to the desired switching function.
- The cable joint should be protected by an adequate terminal box against touch and humidity.

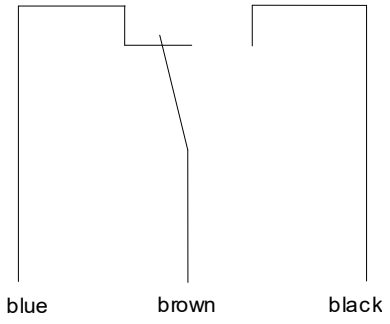
## 7.1 Connection figure NAB

Electrical connection




## 7.2 Connection figure NEC

Electrical connection



## 8. Maintenance

The float switch is almost maintenance-free.
Occasionally the cables should be checked for damages. A float switch with a damaged cable should be replaced immediately.

## 9. Technical Information

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

## 10. Order Codes

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

## 11. Dimensions

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

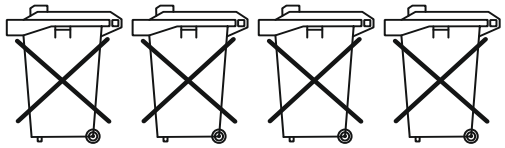
# 12. Disposal

**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**

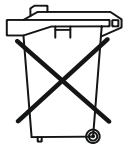
Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



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**



# 13. EU Declaration of Conformance

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

**Level Switch for Liquids model: NAB/NEC**

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

**2014/35/EU** **Low Voltage Directive**
**2014/30/EU** **EMC Directive**
**2011/65/EU** **RoHS** (category 9)
**2015/863/EU** Delegated Directive (RoHS III)

Also, the following standards are fulfilled:

**EN 60730-2-15:2010** Automatic electrical controls for household and similar use - Part 2-15: Particular requirements for automatic electrical air flow, water flow and water level sensing controls

Hofheim, 10 October 2023

H. Volz
General Manager

J. Burke
Compliance Manager