Operating Instructions

for

Magnetostrictive Level Meter

Model: NMT/NBK-T

1. Contents

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 with the prevailing regulation applying to procedural safety and the prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC machinery directive.

3. Instrument Inspection

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

Scope of delivery NMT:
- Magnetostrictive Level Meter, model: NMT

Scope of delivery NBK-…T:
The standard scope of delivery includes:
- Sensor with transmitter type: NBK-…T

4. Regulation Use

The level meter is to be installed only in the specified applications. Any usage which exceeds the specifications is considered to be non-specified. Any damages resulting therefrom are not the responsibility of the manufacturer. The user assumes all risk for such usage. The application specifications include the installation, start-up and service requirements specified by the manufacturer.

5. Operation Principle

The Kobold level meter NMT/NBK-…T is a very accurate float-controlled sensor for the continuous measurement of levels.
The principle of measurement is based on echo time measurement. A magnetostrictive wire is tensioned in the guide tube. Current pulses are transmitted through the wire thus generating an annular magnetic field around the wire. The wire is also magnetized axially by magnets fitted in the float. Due to the superimposition of both magnetic fields, a torsional impulse is generated in the vicinity of the float magnet, which propagates with ultrasonic speed in both directions. The distance from the float magnet to a defined zero-point is measured by an echo time measurement. The integrated electronics transforms the signal to a standardized analog signal.

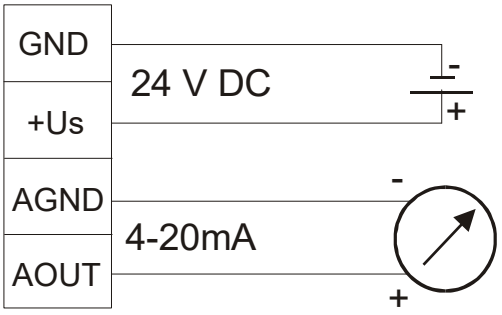
6. Mechanical Connection

NMT
Mount the level meter with guide tube on the vessel.
Use a suitable flat gasket for screwing.

NBK-…T
The measuring transducer is installed and adjusted at the factory on the level bypass tube.

7. Electrical Inspection

Connect level meter according to the following wiring diagram:



Terminal assignments

GND: 0 V supply
+U_S: 24 V_{DC} supply
AGND: analog output GND
AOUT: analog output 4-20 mA

8. Commissioning

The magnetostrictive level meter is ready for operation after mechanical and electrical connection.

9. Maintenance

The instrument needs no maintenance when the measured medium is not polluted.
Remove any dirt from guide tube and float with a suitable cleaning agent.
To dismantle the float, undo the retaining washer with the flat-head screw.
For installation after cleaning, secure the flat-head screw with a Locktite fluid to prevent loosening.

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

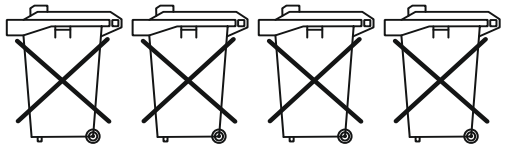
13. Disposal

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

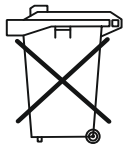
Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



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:

Magnetostrictive Level Meter **model: NMT/NBK-…T**

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

2014/30/EU **EMC Directive**
2011/65/EU **RoHS** (category 9)

Also, the following standards are fulfilled:

EN 61000-6-2:2005/AC:2005
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

EN 61000-6-3:2007/A1:2011
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

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

Hofheim, 26 Sept 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:

Magnetostrictive Level Meter model: NMT/NBK-…T

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

S.I. 2016/1091	**Electromagnetic Compatibility 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:

EN 61000-6-2:2005/AC:2005
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

EN 61000-6-3:2007/A1:2011
Electromagnetic compatibility (EMC) - Part 6-3: Generic standards - Emission standard for residential, commercial and light-industrial environments

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

Hofheim, 26 Sept 2023

H. Volz
General Manager

J. Burke
Compliance Manager