Conductive Level Switch
Multi-Stem Probe

- pmax: 10 bar
  tmax: 150 °C
- Electrodes any length
- Process connection: G 1
  hygienic mounting (EHEDG, 3-A)
  with installation system LZE
- Food compatible materials
- Coating of stems with
  HALAR (ECTFE)
- Up to 4 electrodes
- Optional head mounted
  transmiter available

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ (06192) 299-0
Fax (06192) 23398
E-mail: info.de@kobold.com
Internet: www.kobold.com

Model:
LNK-NM

Description

The conductive KOBOLD level probes type LNK-NM together with the head mounted transmitter are used for level measurement. This method is based on the evaluation of the electrical conductivity of the medium. The probes with the associated KOBOLD weld-in sleeves LZE (pp. 119-124) form a hygienic measuring point that is cavity free (confirmed by the EHEDG, 3-A report). The level probes are thus ideally suited for CIP/SIP cleaning.
The electrodes are HALAR coated. This allows foaming media to be detected reliably.
The module for level measurement (KOBOLD head mounted transmitter LNR) can be integrated in the connecting head. The output signal (24 V_{DC}) can thus be connected directly to the PLC for evaluation. This means lower installation costs, minimum wiring and a high degree of noise immunity.

Areas of application

- Level monitoring in all conductive media

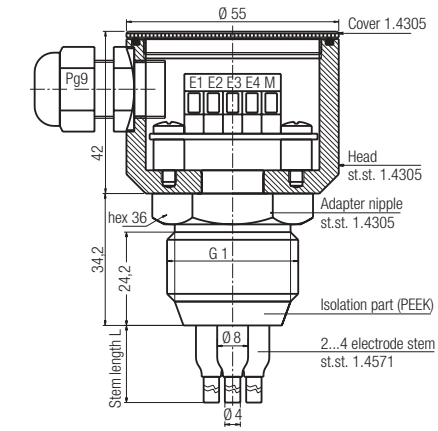
Technical details

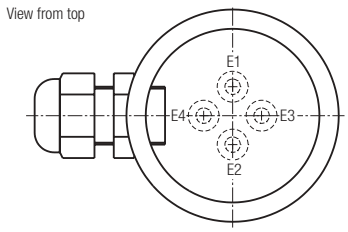
Method of measurement:	conductive
Process temperature:	0 - 150 °C
Operating pressure:	max. 10 bar
Materials	
head, screwed gland:	stainless steel 1.4305 (V2A)
insulating section:	PEEK
electrode stem:	stainless steel 1.4571 (V4A)
stem coating:	Halar (ECTFE), Coating 0.3 mm
Electrodes:	2 - 4 stems
Electrode lengths:	200, 500, 850, and 1000 mm
Process connection:	G1, hygienic weld-in sleeve LZE (pp. 119 - 124)
Connection:	cable gland Pg 9 optional M12 x1 terminal 2-5-pole, depending on the number of stems
Minimum conductivity:	10 µS/cm

Level module

Input:	electrode voltage 1.5 - 2 V_{AC} / 300 Hz
Sensitivity (adjustable):	4 steps 0.1 / 1 / 10 / 100 kΩ
Function:	full / empty signal (switchable by jumper)
Output:	active output, 24 V, auxiliary voltage -10 %, 50 mA, short-circuit-proof
Delay (fixed):	0.5 s
Auxiliary voltage:	18 - 36 V_{DC}
Protection:	IP 67
Noise immunity:	according to EN 50082-2 (industrial)
Weight:	> 0.6 kg

Dimensions





Order Details (Example: **LNK-NM X L P 2 AAXX**)

Model	Description	Broken wire supervision	Transmitter for head mounting LNR	Electrical connection	Number of stems
LNK-NM...	Conductive level multi-stem probe	**X** = without wire break monitoring **D** = with wire break monitoring	**L** = with head mounted transmitter (for 2 stems only) **X** = without head mounted transmitter	**P** = Pg 9 gland **M** = M12 plug connector	**2**=2 stems **3**=3 stems **4**=4 stems

Stem lengths
(please append to the order number)

1. Stem	2. Stem	3. Stem	4. Stem
A = 200	**A** = 200	**A** = 200	**A** = 200
B = 500	**B** = 500	**B** = 500	**B** = 500
C = 850	**C** = 850	**C** = 850	**C** = 850
D = 1000	**D** = 1000	**D** = 1000	**D** = 1000
E = 1500	**E** = 1500	**E** = 1500	**E** = 1500
F = 2000	**F** = 2000	**F** = 200	**F** = 200
		X = no other stem	**X** = no other stem

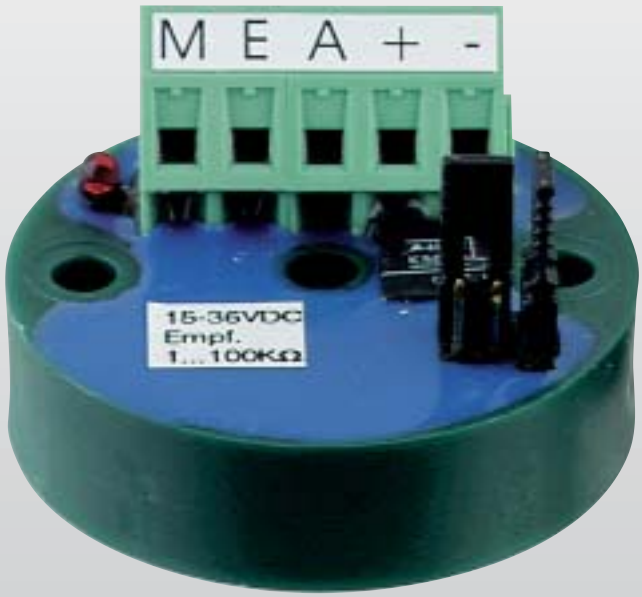
01/0202/Ko/10

Zertifiziertes QM-System
DIN EN ISO 9001
Zertifikat-Nr. 01017

Level Module (Transmitter for Head Mounting) for Conductive Level Probes

KOBOLD

measuring • monitoring • analysing



- Mounting inside the level probe
- Direct connection to the PLC
- No level device required in the control cabinet
- Completely assembled encapsulated module
- Active output 24 V_{DC}, 50 mA, short-circuit-proof
- Adjustable sensitivity
- Electrode supply: a.c. voltage
- Power supply 24 V_{DC}

KOBOLD Messring GmbH
Nordring 22-24
D-65719 Hofheim/Ts.
☎ (06192) 299-0
Fax (06192) 23398
E-mail: info.de@kobold.com
Internet: www.kobold.com

Model:
LNR

Description

The KOBOLD level module LNR evaluates levels in conductive level probes. The module can be mounted in the sensor housing of the level probe. A 3-wire connection is used and the conductive connection between probe stem and ground is converted to a 24 V_{DC} switching signal. This signal can be evaluated and processed by a PLC.
Direct mounting to the measuring point means that no additional level device is required in the control cabinet. This means lower installation costs, minimum wiring and a high degree of noise immunity. Due to the 24 V_{DC} supply and the active output the transducer for top mounting is specially designed for level measurement with a PLC.

Setting the sensitivity

1. cover probe with the medium to be measured
2. insert sensitivity jumper on position 0.1 kΩ
3. if the Probe LED does not light up, try positions 1 kΩ, 10 kΩ and 100 kΩ in succession (see drawings), until the probe LED is illuminated.

Setting the full / empty signal function

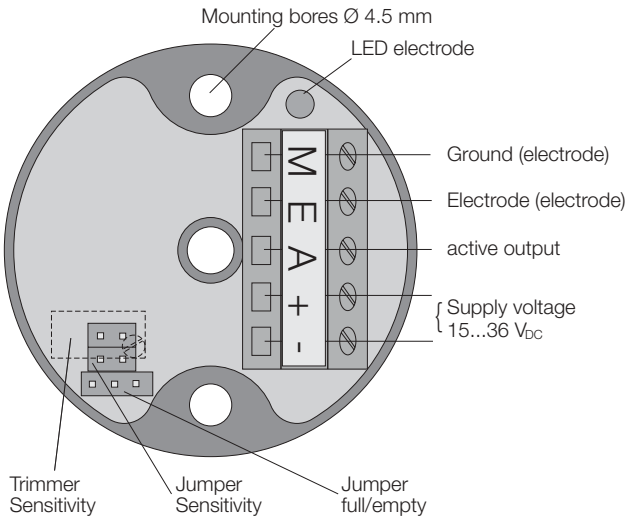
The jumper must always be plugged in for one function.

- "full": probe is covered → output enabled
- "empty": probe is free → output enabled

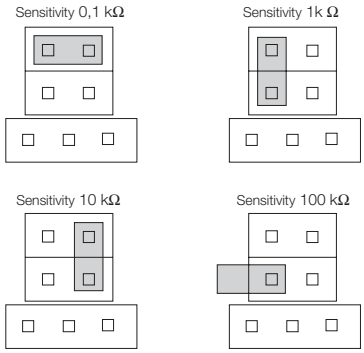
Technical details

Case:	plastic PA6GV30
Service temperature:	-10 to +80 °C
Storage temperature:	-20 to +90 °C
Humidity:	0 - 95 % non-condensing
Input:	electrode voltage 1.5 - 2 V_{AC} / 300 Hz
Sensitivity (adjustable):	4 steps 0.1 / 1 / 10 / 100 kΩ
Function:	full / empty signal (switchable by jumper)
Output:	active output, 24 V auxiliary voltage -10 %, 50 mA, short-circuit-proof
Delay (fixed):	0.5 s
Power supply:	18 - 36 V_{DC}
Dimension:	Ø 44 mm
Noise immunity:	according to EN 50082-2 (industrial)
Weight:	approximately 50 g

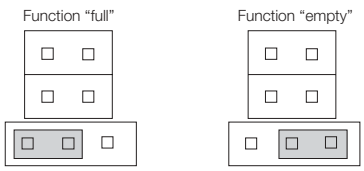
Wiring diagram



Sensitivity setting



Sensitivity setting



Order code:
LNR-N1

01/0202/Ko/10