



## Capacitive Level Monitors for Liquids



measuring  
•  
monitoring  
•  
analysing



- Probe length up to 4000 mm
- $t_{max}$ : 90/125°C ·  $p_{max}$ : 10 bar
- Mech. connection:  
G 1 male, G 2 male (PVDF version),  
thread adapter
- Contact max. 250 V<sub>AC</sub>, 1 A
- Four designs for different applications



KOBOLD companies worldwide:

ARGENTINA, AUSTRIA, BELGIUM, CANADA, CHILE, CHINA, COLOMBIA,  
CZECHIA, FRANCE, GERMANY, GREAT BRITAIN, INDIA, IRAN, INDONESIA,  
ITALY, MALAYSIA, MEXICO, NETHERLANDS, PERU, POLAND, SINGAPORE,  
SLOVAKIA, SPAIN, SWITZERLAND, THAILAND, USA, VENEZUELA, VIETNAM

KOBOLD Messring GmbH  
Nordring 22-24  
D-65719 Hofheim/Ts.  
☎ +49(0)6192 299-0  
Fax +49(0)6192 23398  
E-Mail: info.de@kobold.com  
Internet: www.kobold.com

**Model:**  
NCW



### Technical Details

Measuring principle:	capacitive
Probe length:	265...4000 mm (shorter versions on request)
Medium temperature:	max. 90°C, up to max. 125°C for model NCW-H
Ambient temperature:	-10...+60°C
Max. pressure:	PN 10
Media DC-value:	$\epsilon_r = \text{min. } 1.5$
Materials:	Housing: Polycarbonate Connection: stainless steel 1.4305 (model NCW-N, NCW-H, NCW-T) PVDF (model NCW-S) Probe: stainless steel with PTFE coating for model NCW-N and NCW-H PVDF coating (model NCW-S) stainless steel probe 1.4305 with internal sensor (st. steel with PTFE coating) model NCW-T
Mechanical connection:	at NCW-N, NCW-H, NCW-T: G 1 male at NCW-S: G 2 male
Adapter	at NCW-N, NCW-H, NCW-T: thread G 1 1/4, G 1 1/2 weld-in sleeve external $\varnothing$ 40 mm
Supply voltage:	18...36 V <sub>DC</sub> , 24 V <sub>AC</sub> , 110 V <sub>AC</sub> , 230 V <sub>AC</sub> , 50/60 Hz
Electr. connection:	via 1 (2) cable gland M20
Contacts:	relais output
Electr. switching values:	max. 250 V <sub>AC</sub> , 1 A
Protection:	IP 65

### Description

The KOBOLD capacitive level indicators type NCW serve to monitor liquid levels in tanks. They consist of a measuring probe and a connecting head with a plug-in evaluation module. Depending on the operating conditions, different probes are available:

- single probe for standard applications
- double probe with PVDF connection for non metallic tanks and at the same time aggressive medias
- single probe with external reference tube for non metallic tanks or media with very low dielectric constant  
and
- single probe with a split connecting head for liquid temperatures of up to 125°C.

The devices do not have any mechanically moving parts and therefore hardly any mechanical wear. The plug-in evaluation modules can be changed easily so that the devices are really easy to maintain.

### Working principle

The measuring system is based on the capacitive measuring method. The measuring probe and the tank wall or the second electrode respectively form the plates of a capacitor, the medium in the tank is the dielectric fluid. The capacity depends on the medium. It is low if the measuring probe is not covered (empty tank) and it increases when the medium touches the measuring probe. This change is detected by the plug-in evaluation module and is being given out as a limit value signal.

### Fields of application

- Water or waterlike liquids
- Liquid food
- Chemical and aggressive liquids
- Oil
- Pharmaceutical liquids



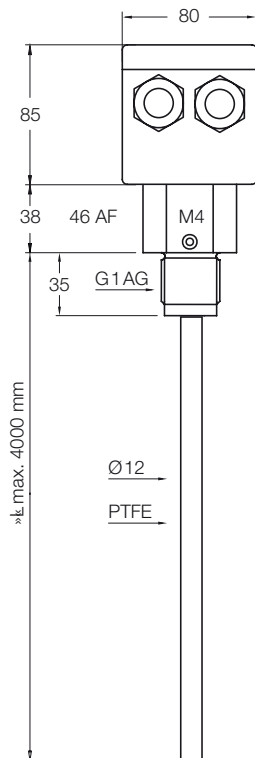
**Order Details** (Example: NCW-N ...1 ...2G6 0 2)

Version	Probe length*	Mechanical connection	ATEX	Supply
<b>NCW-N</b> (Standard) <b>NCW-H</b> (High temperature) <b>NCW-T</b> (with reference pipe)	...1 = up to 1 meter ...2 = up to 2 meter ...3 = up to 3 meter	...2G6 = G 1, st. steel	0 = without	00 = 230 V <sub>AC</sub> 04 = 110 V <sub>AC</sub> 02 = 24 V <sub>AC</sub> 03 = 18...36 V <sub>DC</sub>
<b>NCW-S</b> (two probe sensor with PVDF connection)	...4 = up to 4 meter	...9G9 = G 2, PVDF		

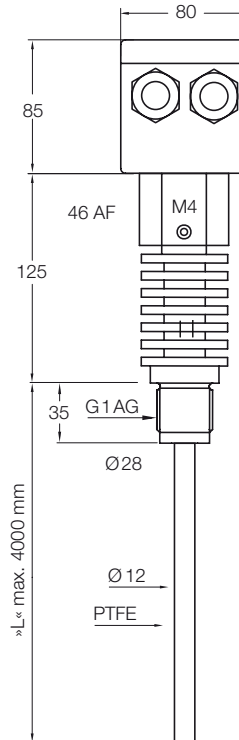
\* Please specify specific application length »L« in writing

**Dimensions**

**NCW-N**



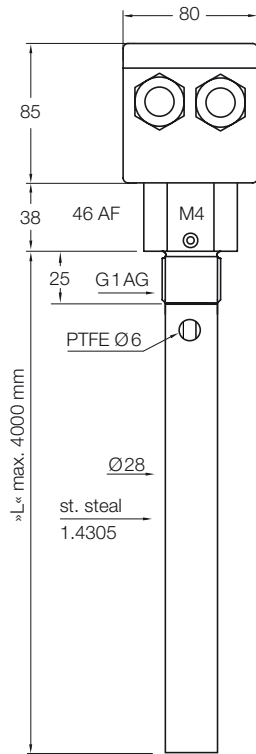
**NCW-H**



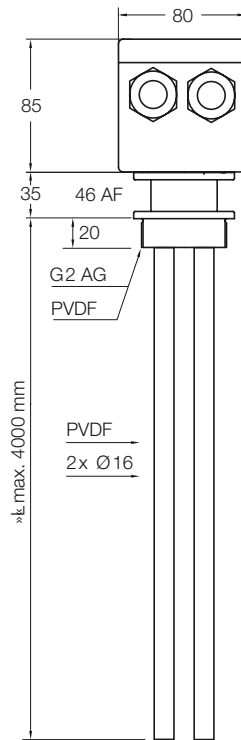
N1

**Dimensions**

**NCW-T**

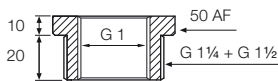


**NCW-S**

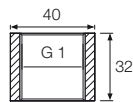


**Spare parts/Accessories**

Thread adapter  
G 1<sup>1</sup>/<sub>4</sub> and G 1<sup>1</sup>/<sub>2</sub>



Welding nipple



**Spare parts/Accessories Model NMZ for capacitive level monitors NCW-N, NCW-T, NCW-H,**

Model	Design	Adapter type	Specials
NMZ	A = Installation adapter (only for NCW-N, NCW-T, NCW-H)	G7 = stainless steel thread adapter for G 1 <sup>1</sup> / <sub>4</sub> G8 = stainless steel thread adapter for G 1 <sup>1</sup> / <sub>2</sub> S6 = st. steel welding sleeve, external Ø 40 m	0 = without Y = version according to description