

Thank you for choosing a NIVELCO instrument.
We are sure that you will be satisfied throughout its use.



NIVOPOINT
MR
MAGNETIC FLOAT LEVEL SWITCH

1. APPLICATION

The NIVOPOINT MR series of magnetic float level switches are applicable for point level switching (high or low) or for alarm (overflow, empty) in liquids.

In case of liquids containing metal particles protect the device by using a magnetic filter.

A magnetic float moving alongside the protection tube tracking the level, is activating the reed relays incorporated in the tube. After passing of the float, the reed relays will retain their output state.

The device is capable of direct switching a load within its specification.

2. TECHNICAL DATA

MODEL	MR □ - □□□	MP□ - □□□	MRO - □□□ Ex
Probe length	0.25 m ... 3 m		
Material of wetted parts	Stainless steel (DIN 1.4571 / BS 316Ti)	PVDF float / PFA coated guiding tube	Stainless steel (DIN 1.4571 / BS 316Ti)
Max. process pressure	2.5 MPa (25 bar) at +20 °C	0.3 MPa (3 bar) at +20 °C	2.5 MPa (25 bar) at +20 °C
Medium density	min.0.8g/cm ³ min.0.5g/cm ³	min.0.6g/cm ³	min.0.8g/cm ³
Úszó mérete	∅52x59mm* ∅ 96 mm*	∅ 76 x 87 mm	∅ 52 x 59 mm
Medium temp. range	-40 °C ... +150 °C	-40 °C ... +80 °C	See table of temperature classes
Ambient temp. range	-40 °C ... +100 °C	-40 °C ... +100 °C	
Output	1 ... 5 pcs reed-switch, connecting one side of each, NO/NC		
Switching rate	120 W / VA, 250 V AC, 3 A /reed relay, max. 9 A		
Switch differential	< 10 mm		
Distance	between switch points min. 110 mm		
Electrical connection	Pg 16 for cables ∅7 to ∅14 mm		Pg 16 for cabl. ∅9.5 to ∅10
	Wire cross section: 0.5 to 2.5 mm ²		
Process connection	1" BSP, 2" BSP 1" NPT, 2" NPT	PP flange DN 80, DN 100	1" BSP, 2" BSP 1" NPT, 2" NPT
Sealing material	Klingerit 400	—	Klingerit 400
Electrical protection	Class I Protecting cable 4 mm ²		
Mechanical protection	IP 65 according to EN 60529:2001		
Certificate for Ex versions	—		Ex II 2 G EEx d IIC T3 ...T6
Dimension of the hous.	116 x 80 x 65 mm		124 x 80 x 65 mm
Weight	0.4 kg + 0.3 kg/fm		0.45 kg + 0.3 kg/fm

* float depending on order

2.2 ADDITIONAL DATA FOR EX APPROVED MODELLS

CLASS	TEMPERATURE CLASS			
	T6	T5	T4	T3
Max. ambient temperature	80 °C	95 °C	85 °C	70 °C
Max. medium temperature	85 °C	100 °C	135 °C	150 °C

2.4 ORDER CODE

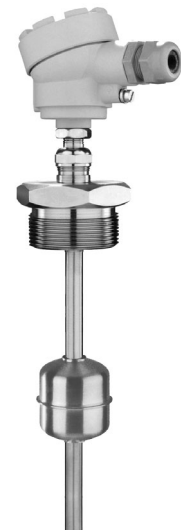
NIVOPOINT M □ □ - □ □ □ - □ □ □ **

TYPE	CODE	CONNECTION	CODE	SWITCH POINT	CODE	LENGTH	CODE	LENGTH	CODE	FLOAT / EX	CODE
Standard	R	1" BSP	A	1 db NO/NC	1	0 m	0	0 m	0	*** / normal	3
Standard / plastic coating and float	P	2" BSP	C	2 db NO/NC	2	1 m	1	0,1 m	1	∅ 52 1.4571 / Ex	7
		1" NPT	D	3 db NO/NC	3	2 m	2	:	:		
		2" NPT	G	4 db NO/NC	4	3 m	3	0,8 m	8		
		DN 80 PN 16 PP	P	5 db NO/NC	5			0,9 m	9		
		DN 100 PN 16 PP	R								

Notes:

** Ex versions have the Ex marking in the order code *** Depends on the order ∅52/1.4571 MP version: ∅76/PVDF, ∅96/1.4571

USER'S MANUAL



Manufacturer:

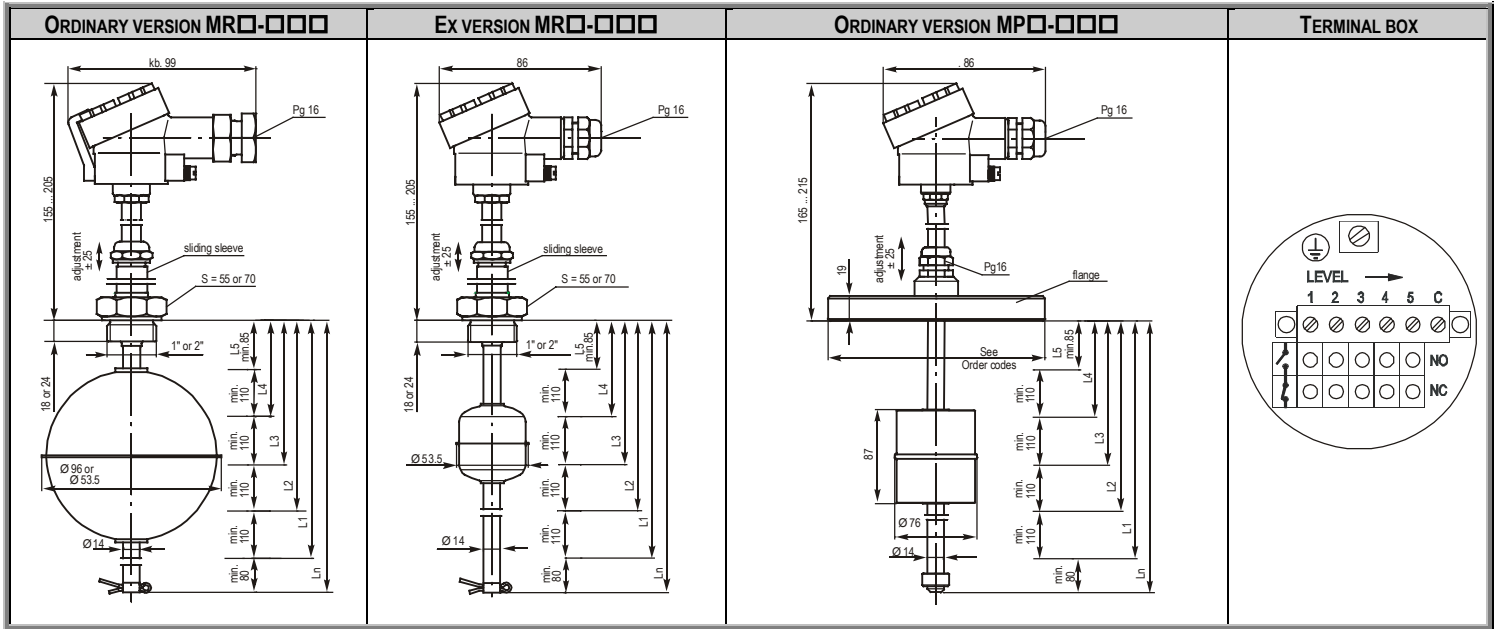
NIVELCO Process Control Co.
H-1043 Budapest, Dugonics u. 11.

Phone.: (36-1)-369-7575 ♦ Fax: (36-1)-369-8585
e-mail: sales@nivelco.com ♦ www.nivelco.com

2.3 ACCESSORIES

- User's Manual
- 1 Warranty card
- Declaration of conformity
- 1 pc Gasket

2.4 DIMENSIONS



3. INSTALLATION

WARNING!

The switch point adjustment gland must not be loosened in tanks under pressure. The unit should be mounted in vertical position via its process connection and handled with care to avoid any damage or bend of the protection tube during transportation or installation.

For the mechanical connections 1", 2" BSP or NPT thread can be used. The switching points can be adjusted with help of the sliding sleeve by ± 25 mm. Only the version with 2" (BSP or NPT) process connection can be installed without removing the float from the shaft and reassembling it from the inside of the tank.

4. WIRING

STANDARD MODEL

Remove the cover, pass the wires through the cable gland and connect them in accordance with the sketch on the cover where the (NO/NC) state of the relays is marked. The terminal of the lowest switch point has to be number by 1.

„C” is common terminal.

The cross section of the connecting cable has to be between 0.5 and 2.5 mm².

Connect grounding screw with the grounding system.

EX VERSION

Remove the cover fixing clamp and screw down the cover. Pass the wires through the cable gland and connect them in accordance with the sketch on the cover where the (NO/NC) state of the relays is marked.

Connect grounding screw with the grounding system. After replacing and fixing the cover fasten retainer clamp by setting it into one of the notch of the cover.

5. SET UP, ADJUSTMENT

After screwing in and before tightening of the unit direction of the cable gland and vertical position of the switching points can be adjusted.

When loosening or screwing tight the sliding sleeve open-end wrench should be used for gripping the unit.

5.1 CONDITIONS OF THE EX APPLICATION

The apparatus met requirements specified for mechanical strength with reduced impact energy (4 J; 1 kg; 0.4 m).

On the basis of the above the place and way of installation should guarantee the protection of the unit against external mechanical effects during service.

6. MAINTENANCE, REPAIR

The instrument does not require regular maintenance. In some instances, however, the sensor probe may need occasional cleaning to remove surface deposits. This must be carried out gently, without harming the sensor probe.

Repairs during or beyond the guarantee period are carried out solely by the manufacturer. Equipment sent back for repair should be cleaned or sterilised by the User. The User must declare that the above has been carried out.

7. STORAGE CONDITIONS

Environment temperature range: -25 °C to +60 °C

Relative humidity: max. 98 %

8. WARRANTY

All NIVELCO products are warranted to be free from defects according to the Warranty Card, within two (2) years from the date of purchase.