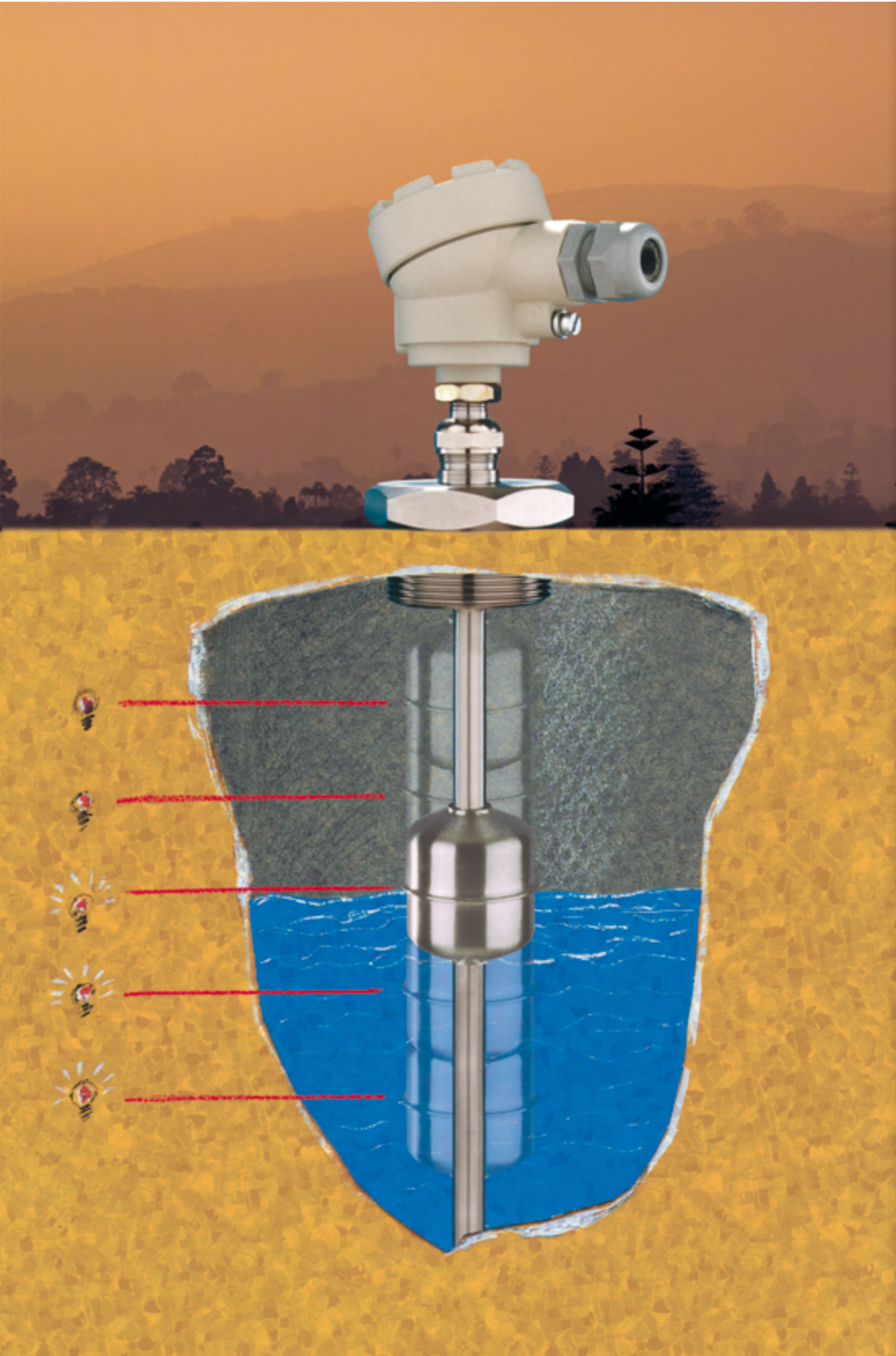


NIVOPOINT

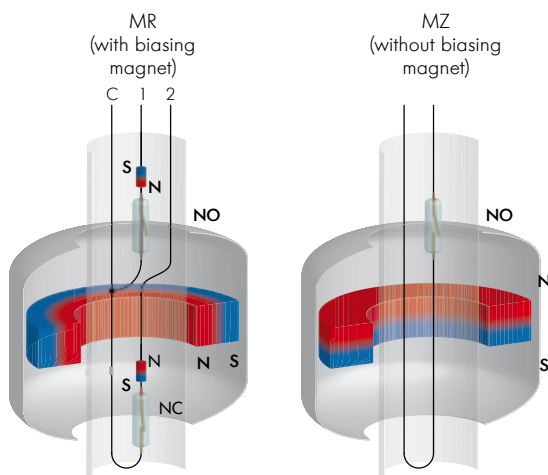
MAGNETIC TRACKING LEVEL SWITCHES

5 YEARS WARRANTY



NIVOPOINT

LEVEL SWITCHES



TECHNICAL DATA

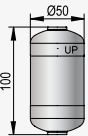
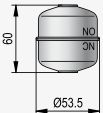
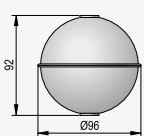
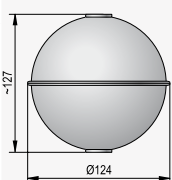
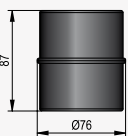
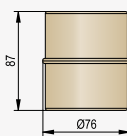
	Version			
	Standard (MR)	Plastic-coated (MP)	Explosion-proof (MR [Ex])	Mini (MZ)
Insertion length	0.25...3 m (0.85...10 ft) ⁽¹⁾			0.1...1.5 m (4...60")
Material of wetted parts	1.4404 (316L) float / 1.4571 (316Ti)	PVDF or PP float / PFA or PP-coated probe tube	Titanium / 1.4404 (316L) / 1.4435 (316L) float; 1.4571 (316Ti) probe tube	
Max. process pressure	25 bar (363 psi)	6 bar (88 psi)	25 bar (363 psi)	
Min. medium density	0.8 kg/dm ³	0.4 / 0.7 kg/dm ³	0.8 kg/dm ³	
Float sizes	See "Floats"			
Process temperature	−40...+150 °C (−40...+302 °F)	−40...+80 °C (−40...+176 °F)	See temperature data for Ex versions table	−40...+120 °C (−40...+248 °F)
Ambient temperature	−40...+95 °C (−40...+203 °F)			−20...+70 °C (−4...+158 °F)
Output	1...5 reed-switches, one connecting point of each is common NO/NC			1...3 reed-switches, NO/NC depending on float orientation
Switching rate	120 W / VA, 250 V AC/DC, 3 A Reed-relay, 9 A maximum altogether			120 W / VA; 250 V AC / DC; max. 3 A
Switching point	See auxiliary table of order codes			up to 3 (to be specified when ordering)
Switching differential	< 10 mm (< 0.4")			max. Δ8 mm (max. Δ0.315")
Distance between reed-switches	minimum 110 mm (4.33")			minimum 90 mm (3.54")
Electrical connection	M20×1.5 cable gland, cable diameter: Ø6...12 mm (Ø0.25...0.5")		M20×1.5 cable gland ⁽²⁾ , cable diameter: Ø7...12 mm (0.28...0.47")	0.5 m (1.65 ft) long ⁽³⁾ cable with silicon insulation
	Terminal, 0.5...2.5 mm ² (AWG20...14) wire cross section			
Process connection	As per order code			
Seal	Klingerit (only for BSP)	–	Klingerit (only for BSP)	
Electrical protection	Class I (protective cable 4 mm ² [AWG12])			Class II (reinforced insulation)
Ingress protection	IP67			IP68 (20 m [65.6 ft])
Certification	–		ATEX: ⚡ II 1/2G Ex db IIC T6...T3 Ga/Gb	Bureau Veritas (BV)
Housing dimensions	116 × 80 × 65 mm (4.55 × 3.15 × 2.55")		124 × 80 × 65 mm (4.88 × 3.15 × 2.55")	–
Weight	0.4 kg + 0.3 kg/m (0.88 lb + 0.2 lb/ft)		0.45 kg + 0.3 kg/m (1 lb + 0.2 lb/ft)	~0.15...2.5 kg (0.33...5.5 lb) (depending on order) + cable: 0.03 kg/m (0.02 lb/ft)

⁽¹⁾ 3...4 m (9.8...13.1 ft) as per special offer, Ex version not available.

⁽²⁾ The type MR□-□□□-8 Ex devices are shipped without cable glands

⁽³⁾ Available with different cable length.

FLOATS

	MRC-106-7M-900-00	MRC-105-7M-900-00	MRC-105-7M-600-00 ⁽¹⁾	MRC-105-7M-700-00 ⁽¹⁾	MRC-105-7M-800-00	MPP-105-3M-200-00 ⁽¹⁾	MPP-105-3M-900-00
		MZS-101-3M-900-00 ⁽²⁾	MZS-101-3M-700-00 ⁽²⁾	MZS-101-3M-800-00 ⁽²⁾			
Dimensions							
Medium density (min.)	0.45 kg/dm ³	0.55 kg/dm ³	0.8 kg/dm ³	0.55 kg/dm ³	0.4 kg/dm ³	0.7 kg/dm ³	0.4 kg/dm ³
Material	Titanium		1.4404 (316L)	1.4435 (316L)	1.4401 (316)	PVDF	PP
Medium pressure	20 bar (290 psi)	25 bar (362.5 psi)				6 bar (87 psi)	3 bar (43.5 psi)
Device type	Standard (MR)	■	■	■	■		
	Plastic-coated (MP)					■	■
	[Ex] (MR)	■	■	■	■		
	Mini (MZ)		■	■			

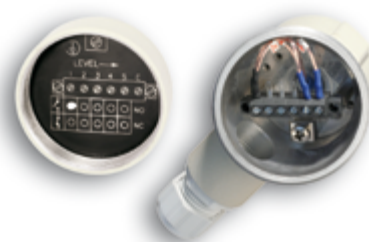
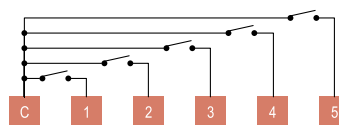
⁽¹⁾ Standard float

⁽²⁾ Mini version

INSTALLATION

A NIVOPOINT level switch equipped with Ø53.5 mm (2.1") cylindrical float can be installed into the tank through a 2" BSP process connection. Units with larger floats need to be flanged unless a mounting of the float by accessing the interior of the tank is allowed. Mini type level switches may feature ¼" BSP or 2" BSP connections. These level switches are to be mounted into a tank from inside and fixed with a nut from outside.

WIRING



ORDER CODES (NOT ALL COMBINATIONS AVAILABLE)

NIVOPOINT – magnetic float level switches

NIVOPOINT M ■ ■ ■ ■ ■ ■ (1)

Type	Code	Process connection	Code	Switching points ⁽³⁾	Code	Code	Probe length ⁽⁴⁾			Code	Ex version	Code
Standard	R	1" BSP	A	1 switch	1	0	0 m	0 m	0	None	3	
Mini	Z	2" BSP	C	2 switches	2	1	1 m	0.1 m	1	Ex d G ⁽⁵⁾	7	
		1" NPT	D	3 switches	3	2	2 m	0.2 m	2			
		2" NPT	G	4 switches	4	3	3 m	⋮	⋮			
		¼" BSP (inner thread) ⁽²⁾	S	5 switches	5		0.9 m	9				
		2½" TriClamp	O									
		3" TriClamp	P									
		4" TriClamp	R									

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⁽¹⁾ The order code of an Ex version should end in "Ex".

⁽²⁾ For mini version only.

⁽³⁾ The order should contain the positions of the switching points and the default operation mode (NO/NC) as per filling the "Additional data" table. Special versions can be ordered with multiple, independent contacts. The limit of the terminal points is up to 6 (max. 3 connection points for mini version).

⁽⁴⁾ Insertion length: for standard version: 0.3...3 m (0.98...9.85 ft) (3...4 m [9.85...13.1 ft] on request, Ex version not available); for mini version: 0.1...1.5 m (0.33...4.92 ft); for plastic-coated version: 0.5...3 m (1.64...9.85 ft).

⁽⁵⁾ Not available for Mini version.

NIVOPOINT MP – plastic-coated magnetic float level switches

NIVOPOINT MP ■ ■ ■ ■ ■ ■ -3

Process connection	Code	Switching points ⁽³⁾	Code	Code	Probe length ⁽⁴⁾		Code
DIN DN80, PN16	P	1 switch	1	0	0 m	0 m	0
DIN DN100, PN16	R	2 switches	2	1	1 m	0.1 m	1
		3 switches	3	2	2 m	0.2 m	2
		4 switches	4	3	3 m	:	:
		5 switches	5			0.9 m	9

⁽⁶⁾ Min. distance of the switching points:
110 mm (4.35")

⁽⁷⁾ Default operation mode (NO / NC)
is meant with bottom positioned float.

⁽⁶⁾ Min. distance of the switching points: 110 mm (4.35")

⁽⁷⁾ Default operation mode (NO / NC) is meant with bottom positioned float.

⁽⁸⁾ L-L1 ≥ 80 mm (3.15"), L = insertion length

⁽⁹⁾ L5 ≥ 85 mm (3.35")

Additional data

Switching point ⁽⁶⁾		Default operation mode ⁽⁷⁾	
		NO	NC
L1 ⁽⁸⁾	... mm	☐	☐
L2	... mm	☐	☐
L3	... mm	☐	☐
L4	... mm	☐	☐
L5 ⁽⁹⁾	... mm	☐	☐

Floats⁽¹⁰⁾

Type	Size / Material	Type	Size / Material
MRC-105-7M-600-00	Ø53.5 mm (2.1") / 1.4404	MZS-101-3M-700-00	Ø53.5 mm (2.1") / 1.4404
MRC-105-7M-700-00	Ø96 mm (3.78") / 1.4435	MZS-101-3M-800-00	Ø96 mm (3.78") / 1.4435
MRC-105-7M-800-00	Ø124 mm (4.88") / 1.4401	MPP-105-3M-200-00	Ø76 mm (3") / PVDF
MRC-105-7M-900-00	Ø53.5 mm (2.1") / Titanium	MPP-105-3M-900-00	Ø76 mm (3") / PP
MRC-106-7M-900-00	Ø50 mm (1.9") / Titanium		

⁽¹⁰⁾ Must be specified in the text of the order:

For type MP only Ø76 mm (3") PP / PVDF float,

For type MZ only Ø96 mm (3.78") or Ø53.5 mm (2.1") / 1.4404 float

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