Level switches ERH-xx-20

Description

Level signalling of the medium having minimum density 0,70 g/cm^3. The basic version, mounted from the top, is available with 92x92mm flange connector, head made from aluminium alloy and M20x1,5 cable gland with casing protection degree IP68. Other versions of mechanic or threaded flange connectors - according to the ordering code. There is also a possibility of ordering the level switch with connector according to the requirements, e. g. with flange acc. to DIN or ANSI standard. The level switch can also be ordered in version fully made from acidproof steel, with additional cover protecting the float, as well as with certified cable of optional length.

Technical data

Min. medium density	0,70 g/cm^3
Max. process pressure	1,0 MPa
Ambient temperature *	-25…+80°C
Medium temperature *	-25…+150°C
Switching points	1, 2 or 3
Switching rate **	230 V AC; 100VA; 1A 230 V DC; 50W; 0,5A
Hysteresis	10mm
Ingress Protection	IP68
Type of temperature sensor	Pt100
Explosion-proof	Ⓔx II 2G Ex db IIC T3÷T6 Gb
Material of *the wet part*	acidproof steel 316L
Material of *the dry part*	aluminium alloy or 316SS
Floating element	Φ40x35mm
Protection tube	Φ60
Weight of the level switch ***	0,3...8,5 kg
Weight of the cable	0,15 kg/mb

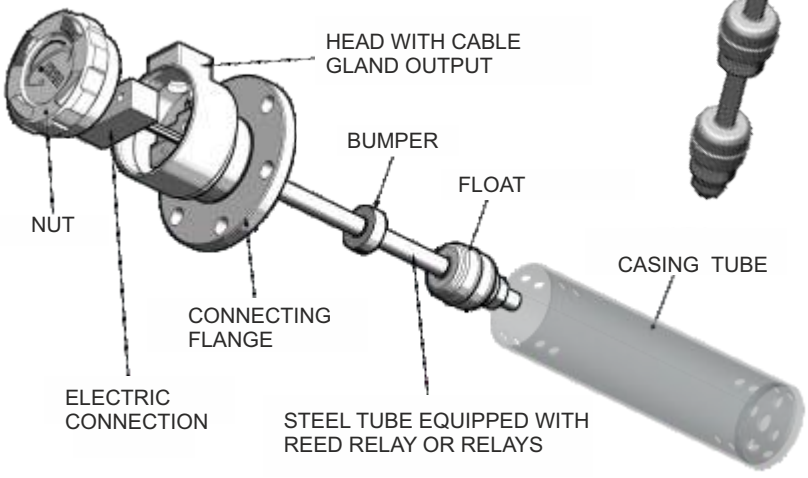
Temperatures for Ex version

Class	Ambient temp.	Medium temp.
T6	-25...+60°C	-25...+85°C
T5	-25...+65°C	-25...+100°C
T4	-25...+80°C	-25...+135°C
T3	-25...+80°C	-25...+150°C

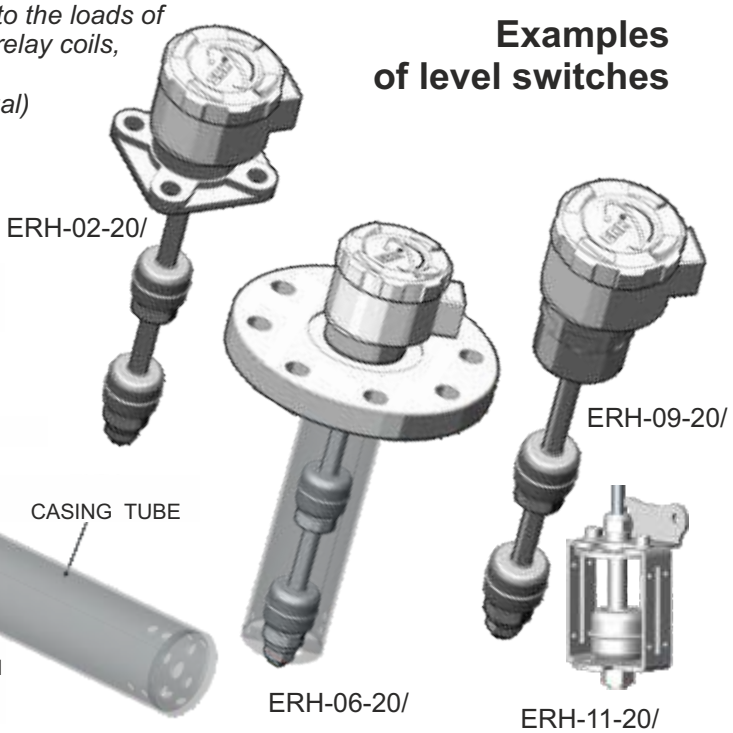
** temperatures for Ex version in the table*
*** maximum parameters of the reed relays apply to the loads of resistance character; for inductive loads such as relay coils, one should apply adequate protecting systems (detailed pieces of information in Operation Manual)*

**** it depends on the version*

Design



Examples of level switches



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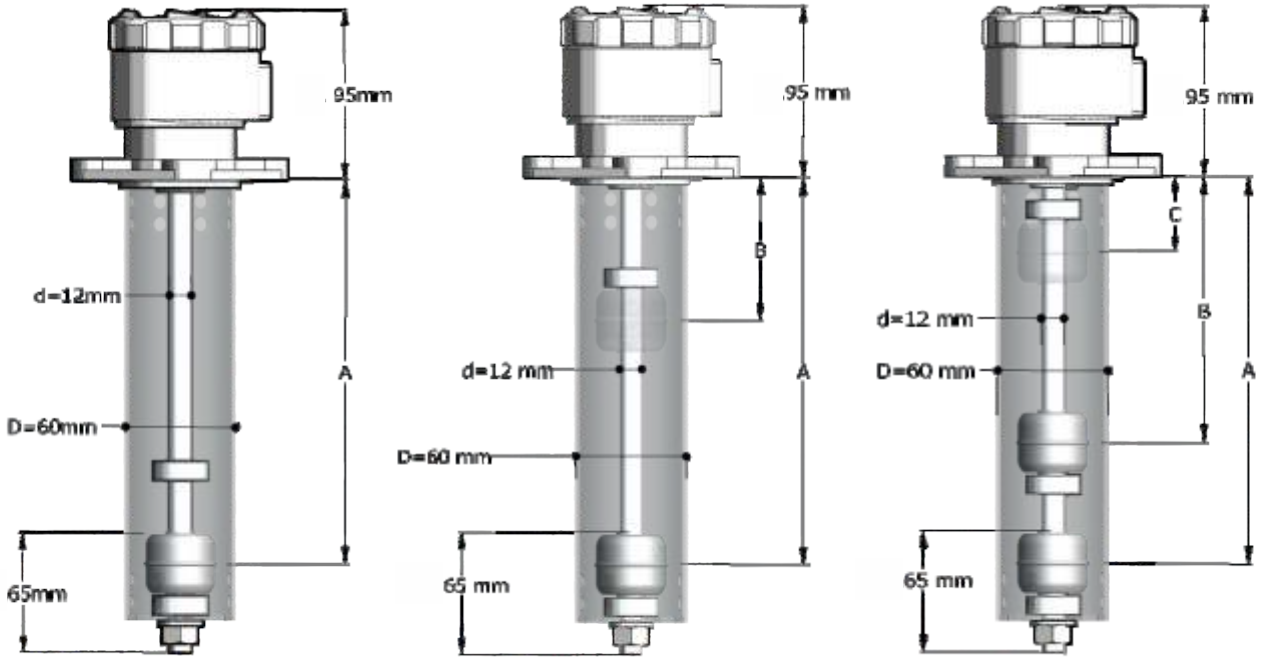
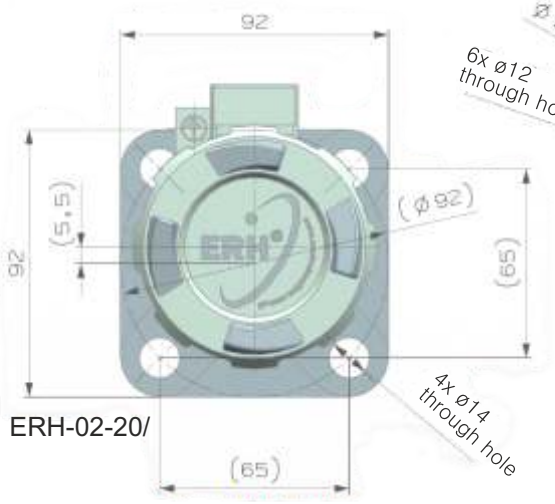
Dimensions



The dimensions A, B and C depend on the ordered version. For one signalling point: A min. 50mm, A max. 1000mm. For two signalling points: A min. 150mm, A max 1000mm; B min. 50mm, B max 900mm; (A – B) min. 100mm. For three signalling points: A min. 250mm, A max 1000mm; B min. 150mm, B max 900mm; C min. 50mm, C max 800mm; (A – B) min. 100mm, (B – C) min. 100mm.

Dimensions of flange connectors



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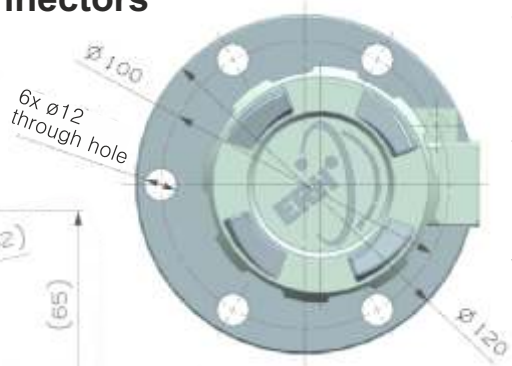
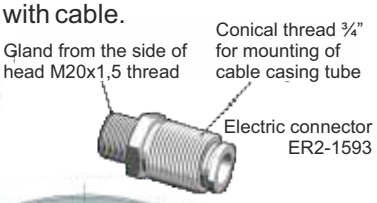
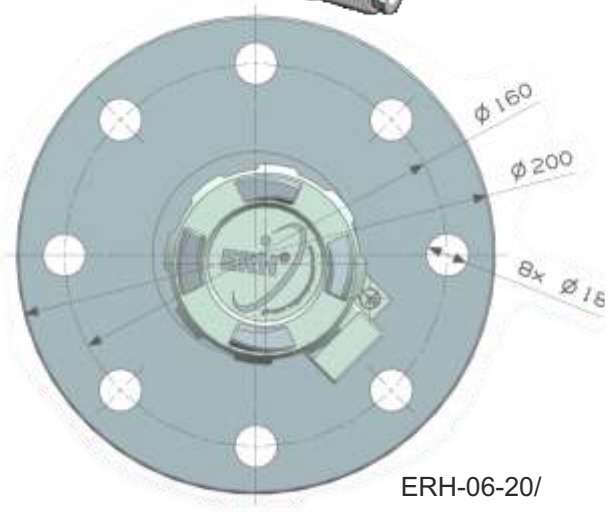


ERH-04-20/

Electric connectors

The level switch can be equipped with special gland, marked ER2-1593, which gives possibility of mounting the casing tube of cable (it is not the equipment element). In such version the controller can be ordered exclusively with cable.





ERH-06-20/

Flanges for special version *

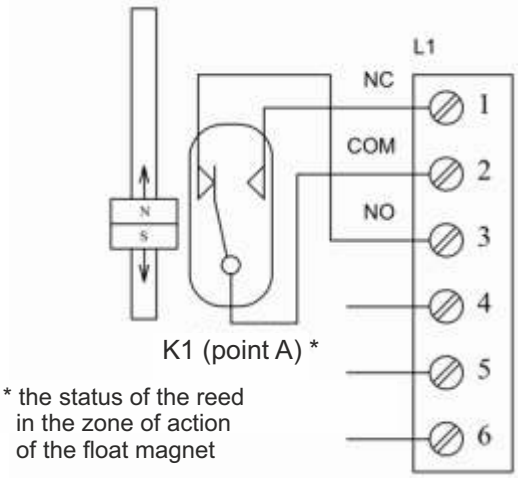
Flange marking	Outside diameter	Number of holes	Hole diameter	Spacing of holes
CON-14/340	Ô 130mm	4	Ô 15mm	Ô 105mm
CON-14/346	Ô 160mm	4	Ô 14mm	Ô 130mm
CON-14/290	Ô 170mm	8	Ô 14mm	Ô 138mm
CON-14/347	Ô 190mm	4	Ô 18mm	Ô 150mm
CON-14/348	Ô 220mm	8	Ô 18mm	Ô 180mm

** other versions of flanges after mutual agreement*

Electric diagram

One switching point (one float)

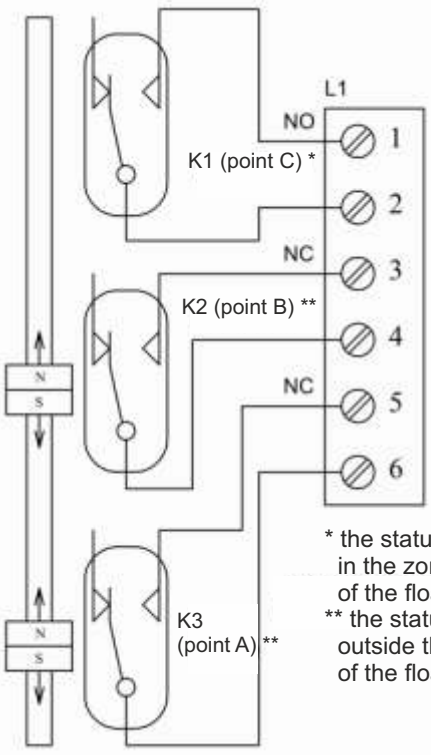
The diagram shows state of reed relay at minimum level of medium – magnetic field of the float interacts the reed relay.
Reed relay without activation of magnetic field of the float at so-called normal state is configured as normally open NO.



* the status of the reed in the zone of action of the float magnet

Three switching points (two floats) *

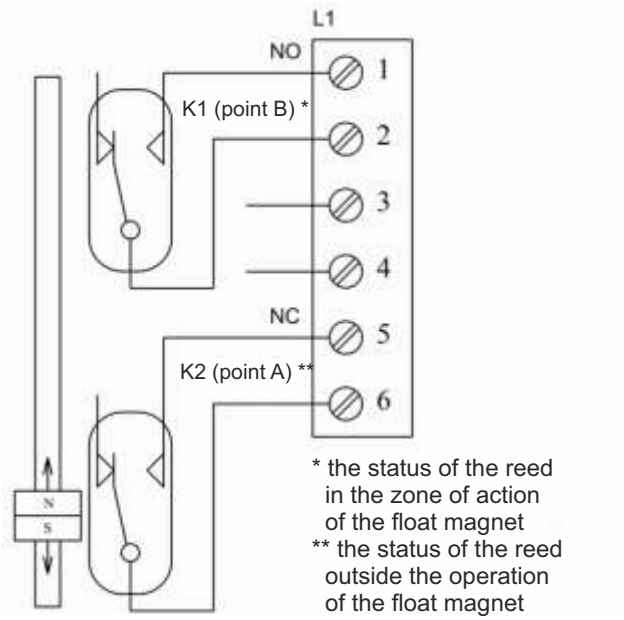
The diagram shows state of reed relays at minimum level of medium - magnetic fields of the float interact the reed relays K2 and K3.
Reed relays without activation of magnetic field of the float at so-called normal state are configured as:
K1 - normally open NO
K2 - normally closed NC
K3 - normally closed NC



* the status of the reed in the zone of action of the float magnet
** the status of the reed outside the operation of the float magnet

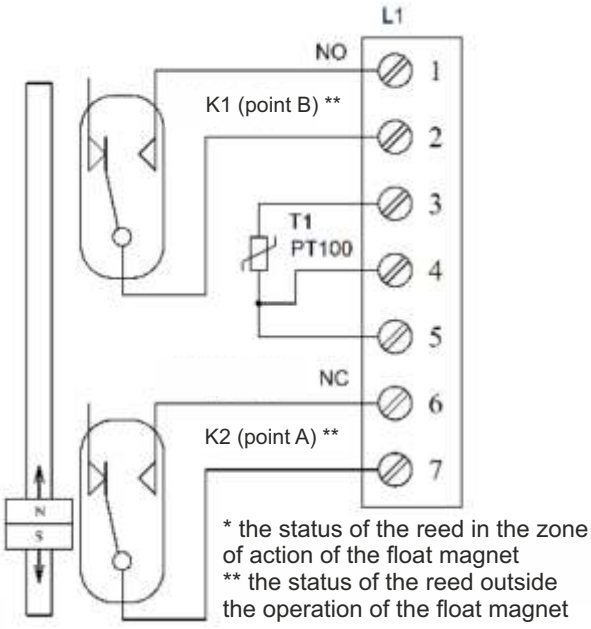
Two switching point (one float)*

The diagram shows state of reed relays at minimum level of medium - magnetic fields of the float interact the reed relay K2.
Reed relays without activation of magnetic field of the float at so-called normal state are configured as:
K1 - normally open NO
K2 - normally closed NC



* the status of the reed in the zone of action of the float magnet
** the status of the reed outside the operation of the float magnet

Option with temperature sensor Pt100



* the status of the reed in the zone of action of the float magnet
** the status of the reed outside the operation of the float magnet

**** there is a possibility of other than given configurations of leadouts – after agreement***

Magnetic level switch with mounting clamp in mini version

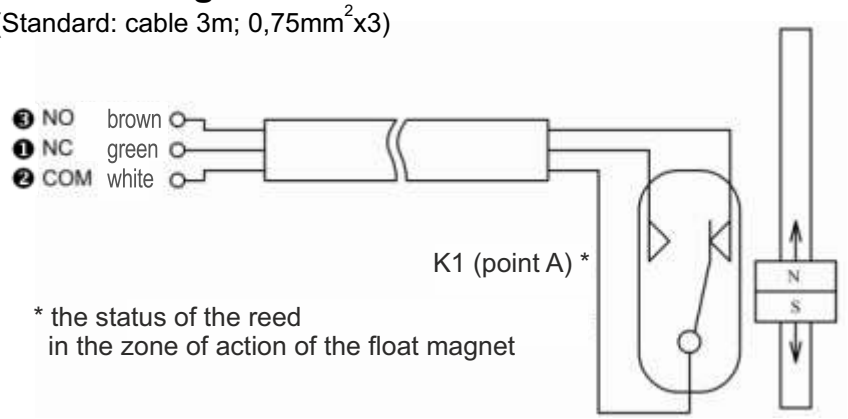
Features of level switch in mini version:

- Realized functions: close, open, switched
- Switching point - approximately in the middle of tube length
- Fully made from acidproof steel
- Possibility of easy mounting, e. g. by means of mounting clamp (2" clamp is attached to the complete set)

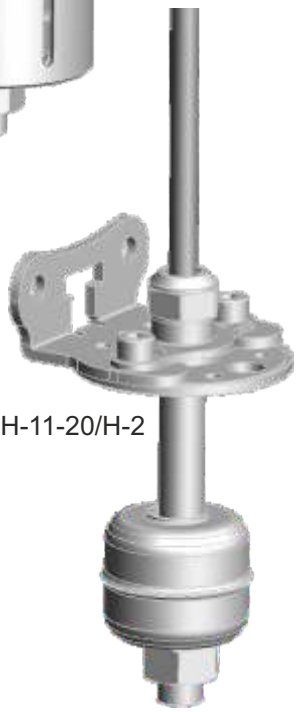
ERH-11-20/H-2-P

Electric diagram

(Standard: cable 3m; 0,75mm^{2}x3)

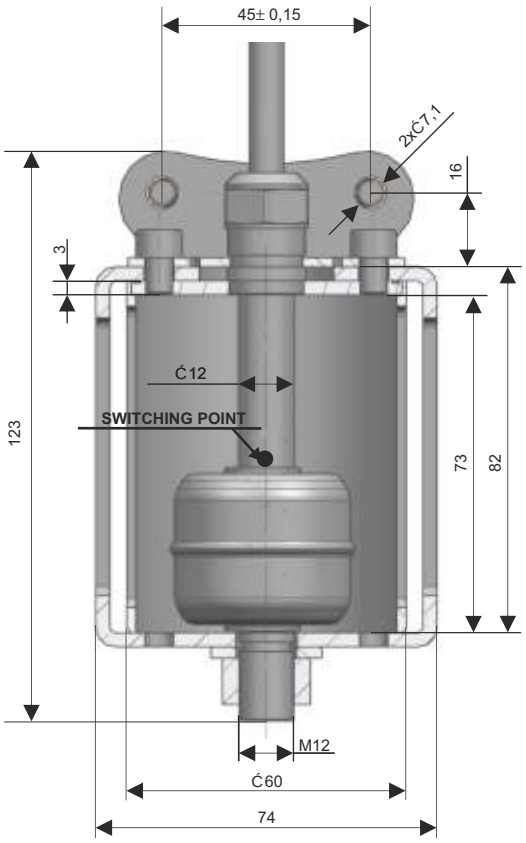


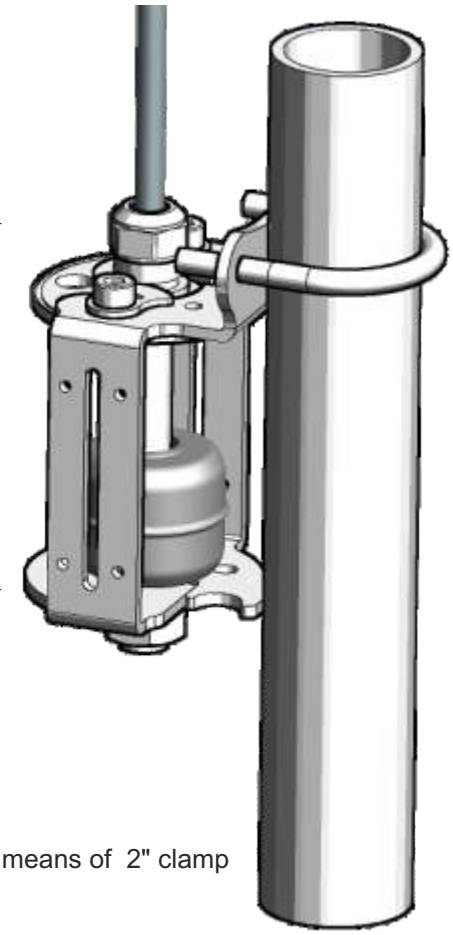
* the status of the reed in the zone of action of the float magnet



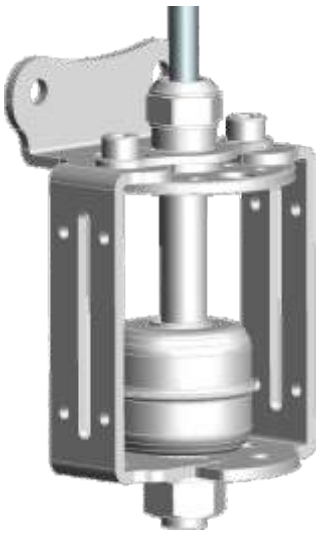
ERH-11-20/H-2

Dimensions





Fixing by means of 2" clamp



ERH-11-20/H-2-Y

Ordering

ERH-02-20	Level switch with flange connector □92mm (4 holes Ô14/Ô92mm)			
ERH-04-20	Level switch with flange connector Ô120 (6 holes Ô12/Ô100mm)			
ERH-06-20	Level switch with flange connector DN80 PN40 (8 holes Ô18/Ô160mm)			
ERH-09-20	Level switch with threaded connector 2" NPT			
ERH-XX-20	Level switch with connector according to the order			
	/A/0/0	1 switching point (give value A in mm) *		
	/A/B/0	2 switching points (give values A and B in mm) *		
	/A/B/C	3 switching points (give values A, B and C in mm) *		
		-1	Electric connector cable gland IP68 ***- not available for Ex***	
		-2	Electric connector cable gland IP68 with cable 3m length ** ***- not available for Ex***	
		-3	Electric connector ER2-1593 with cable 3m length ** ***- not available for Ex***	
		-4	Electric connector cable gland IP68 ATEX Ex D IIC	
		-5	Electric connector without cable gland (thread M20x1,5)	
			Additional options of version	
			-K	Fully acidproof steel version ***
			-P	With protection of float ***- not available for Ex***
			-T	With Pt100 sensor ***- not available for Ex***
			-PT	With Pt100 sensor and protection of float ***- not available for Ex***
			-KP	Fully acidproof steel version with protection of float ***
			-KT	Fully acidproof steel version with Pt100 sensor ***
			-KPT	Fully acidproof steel version with protection of float and Pt100 sensor ***
			/Ex	Explosion-proof version ⟨Ex⟩ II 2G Ex db IIC T3÷T6 Gb

ERH-11-20	Level switch with mounting clamp (mini version - fully acidproof steel)			
	/H	1 switching point approximately in the middle of tube length		
		-2	Electric connector with cable 3m **	
			Additional options of version	
			-Y	With yoke / shackle
			-P	With protection of float
			-YP/Tester	With protection of float and test device

** the dimensions A, B and C depend on the ordered version; for one signalling point: A min. 50mm, A max. 1000mm; for two signalling points: A min. 150mm, A max 1000mm; B min. 50mm, B max 900mm; (A – B) min. 100mm; for three signalling points: A min. 250mm, A max 1000mm; B min. 150mm, B max 900mm; C min. 50mm, C max 800mm; (A – B) min. 100mm, (B – C) min. 100mm;* ***range above 1000mm and 4 switching points on request***

*** other lengths of cable upon the order*

**** for controllers designed for operation in full submersion - we recommend fully acidproof steel versions*

Example of the level switch denotation

Magnetic level switch with flange connector Ô120 (6 holes Ô12/Ô100mm), one switch point A=200mm, electric connector IP68 with cable 3m length, fully acidproof steel version with protection tube of float

ERH-04-20/200/0/0-2-KP