

# Digital measurement procedure - Float switch PSN

Float switches which turns ON or OFF depending on the cable length.

## Type Designations

### PSN-O

Float switches for emptying. On reaching the upper switching threshold the switching mechanism activates the pump. On reaching the lower switching threshold the pump is switched off. This float switch can also be used as run dry protection.

### PSN-F

Float switches for filling. On reaching the lower switching threshold the switching mechanism activates the pump. On reaching the upper switching threshold the pump is switched off.

### PSN-X

Float switches for filling and emptying.

### PSN-.. + ST

Float switch with plug and socket for pump connection.

### PSN-O DB

Float switches for emptying with integrated cable breakage and short-circuit monitoring, with gold flashed contacts.

### PSN-X-SP

Float switches for filling and emptying for PLC application and for intrinsically safe circuits, with gold flashed contacts.

## Neoprene Insulated Lead

Highly flexible lead acc. to VDE 282 Part 4 resp. HD 22.4 S3 guarantees a long service life.

## Protective Conductor Connection acc. to VDE 0631 Part 1 protection class 1 resp. EN 60730-1

A metal shield connected to the protective conductor of the lead ensures additional protection against electrical shock.

## Perfect Casing

The inner chamber with the switch mechanism and lead are seamlessly enclosed by isolating polypropylene.

## Contact Rating

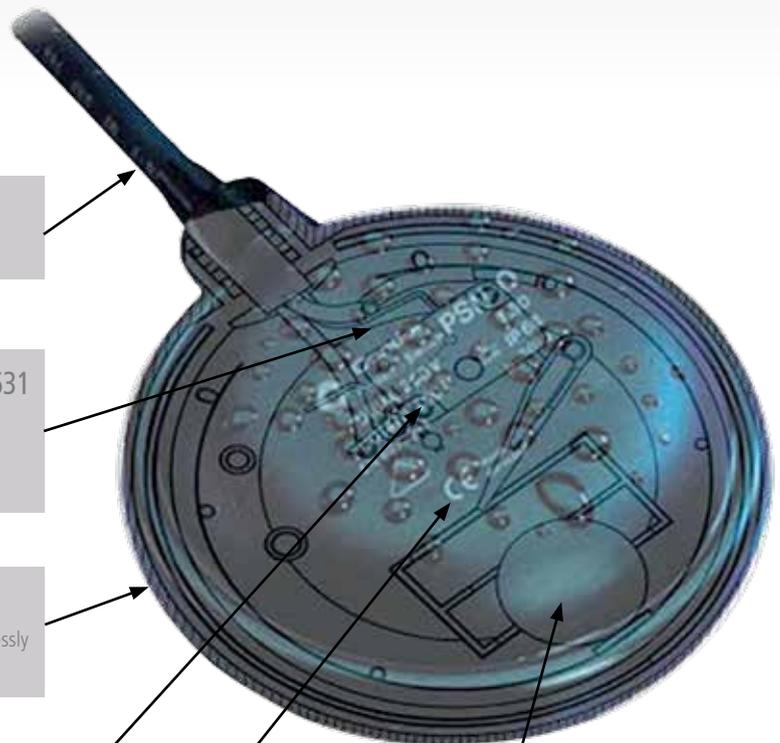
Motors with a switching capacity of up to 1.1 kW (at 250 V~) may be switched directly.

## High Quality HR-Foam Floating Body

Physical properties and chemical resistance of the polypropylene body are extraordinarily high, so that damages due to mechanical impact or chemical influence may be ruled out.

## KLS Ball Guiding System

The new ball guiding system KLS ensures an even higher switching accuracy within the tolerance range.





## Type overview float switches PSN



Order reference	Description	Cable length	Weight in g	Part No.
PSN-O 3 m	for emptying	3 m	500	234166
PSN-O 5 m		5 m	650	234173
PSN-O 10 m		10 m	1000	234180
PSN-O 15 m		15 m	1350	234197
PSN-O 20 m		20 m	1700	234203
PSN-O 30 m		30 m	2400	237082
PSN-F 3 m	for filling	3 m	500	234210
PSN-F 5 m		5 m	650	234227
PSN-F 10 m		10 m	1000	234234
PSN-F 15 m		15 m	1350	234241
PSN-F 20 m		20 m	1700	234258
PSN-F 30 m		30 m	2400	258421



Order reference	Description	Cable length	Weight in g	Part No.
PSN-X 3 m	for filling and emptying export-version without protective conductor 1 SPDT	3 m	500	234265
PSN-X 5 m		5 m	650	234272
PSN-X 10 m		10 m	1000	234289
PSN-X 15 m		15 m	1350	234296
PSN-X 20 m		20 m	1700	234302
PSN-X 30 m		30 m	2400	237174
PSN-O + ST 5 m	Float switch with plug and socket for pump connection	5 m	750	234319
PSN-O + ST 10 m		10 m	1100	234326
PSN-F + ST 5 m		5 m	750	234333
PSN-F + ST 10 m		10 m	1100	234340
PSN-O DB 5 m	for emptying with integrated cable breakage and short-circuit monitoring, with gold flashed contacts	5 m	650	234357
PSN-O DB 10 m		10 m	1000	234364
PSN-X SP 5 m	for filling and emptying for PLC application and for intrinsically safe circuits, with gold flashed contacts, export-version without protective conductor, 1 SPDT	5 m	650	234371
PSN-X SP 10 m		10 m	1000	234388
PSN-X SP 15 m		15 m	1350	236092
PSN-X SP 20 m		20 m	1700	236115
PSN-X SP 30 m		30 m	2400	245254
PSN-X SP 40 m		40 m	3100	245261

## Accessories for Float switches PSN



Order reference	Description	Weight in g	Part No.
BG-PS	Weight for float switch, color of body blue (for free setting of the switching differences)	400	236658
IG-PS	Weight for float switch, color of body yellow (for free setting of the switching differences)	180	234401
K-PS	Cable support for float switch PSN, (fixing by means of a standard clip)	5	234418
Zener barrier MTL7778 28 V AC	Zener barrier for use e.g. of float switches in areas that are at risk of explosion	110	283072
Zener barrier MTL7787 28 V DC	Attention: The input voltage of the zener barrier mustn't exceed 28 V (AC / DC).	110	260479

# Float switch PSN - Digital measurement procedure

Technical Data PSN-O/F/X (ST/SP)			
Rated operational voltage $U_e$ (AC)	PSN-O/F/X	PSN...+ST...	PSN-X SP
		250 V ~ 400 V ~	250 V ~
Rated operational current $I_e$ (AC)	10(8) A (250 V ~)	10(8) A	max. 400 mA
	10(4) A (400 V ~)		
Contact rating		1,1 kW	
Max. cycles Cycles 50 E3		≥ 50.000	
Temperature resistance Cable VDE 282 T 4 12/95 Body		60 °C 85 °C	
Temperature resistance gem. VDE PSN-O / PSN-F *		10 A – T 45 °C	
PSN-O / PSN-F		8 A – T 50 °C	
PSN-O / PSN-F		6 A – T 60 °C	
PSN-X SP		T 60 °C	
Protection watertight, depth 10 m		IP 68	
Wire cross sections VDE 0631 T 1 01/96		3 x 1 mm <sup>2</sup>	
Lead - black		H 07 RN-F	

Technical Data PSN-O DB	
Rated operational voltage $U_e$	< 30 V-DC
Rated operational current $I_e$	11 mA (R=2,7k) 2,4 mA (R=12,7k)
Rated switching capacity* Thermal switching capacity	250 V AC, 1 mA 250 V AC, 6 A
Max. cycles Cycles 50 E3	≥ 50.000
Temperature resistance Cable VDE 282 T 4 12/95 Body	60 °C 85 °C
Protection watertight, depth 10 m	IP 68
Wire cross sections VDE 0631 T 1 01/96	3 x 1 mm <sup>2</sup>
Lead black	H 07 RN-F

\* These models were conceived so that they can be used in circuits with a low switching capacity (min. 1mA / 4V) and with a middle switching capacity (max. 5A).  
The respective product may be used only in one of these circuit types during his complete use duration.

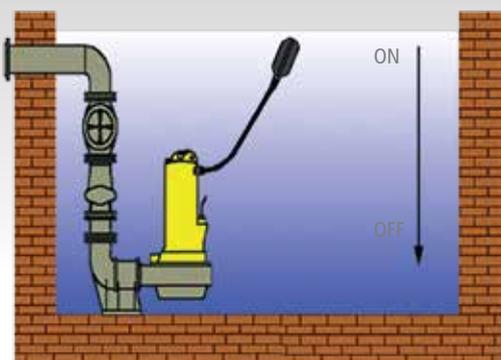
## Resistance Body / Cable

Resistance
Formic acid (hydrous 10%), Gasoline (normal), Diesel, Formaldehyde (hydrous 40%), Glycerine, Fuel oil, Lactic acid (hydrous 10%), Phosphoric acid (hydrous 10%), Nitric acid (hydrous 10%), Sulfuric acid (hydrous 35%), Washing powder

Limited resistance
Acetic acid (hydrous 10%), Nitric acid (hydrous 10%), Chlorinated water, Hydrogen peroxide *

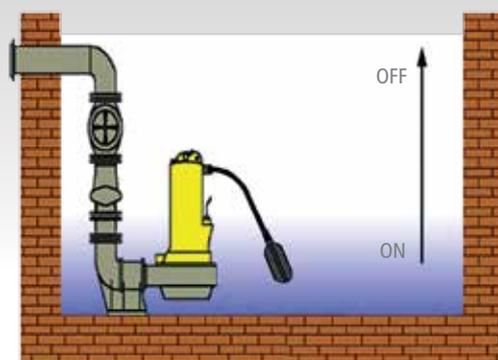
\*No approval for use in drinking water...

## Types



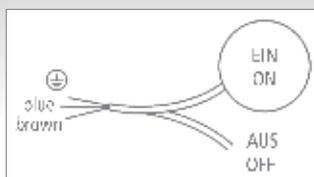
PSN-O Float switch for emptying  
Contact closes in upper position and switches the pump on.

PSN-X Float switch for filling and emptying  
Export-version with 1 SPDT without protective conductor and VDE-Approval mark.

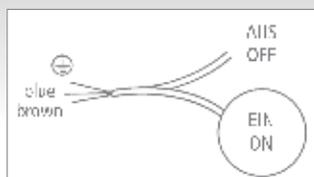


PSN-F Float switch for filling  
Contact opens in upper position and switches the pump off.

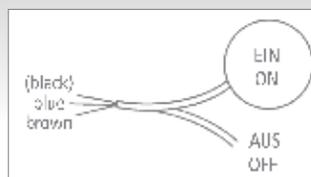
## Circuit Diagrams Float switch PSN



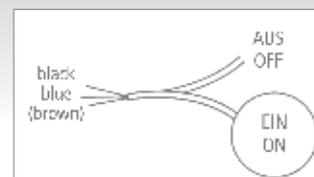
Float switch PSN-O  
for emptying



Float switch PSN-F  
for filling



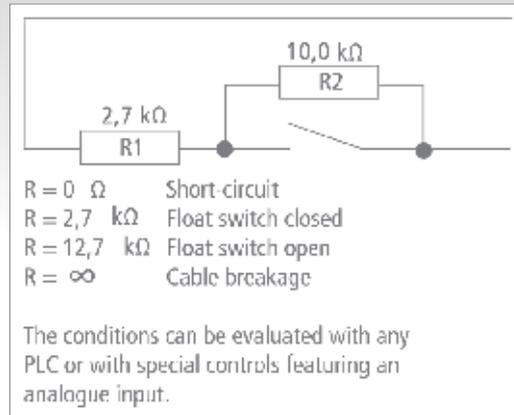
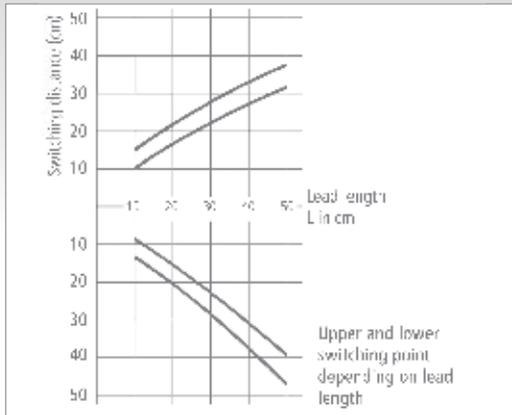
Float switch PSN-X  
here in function for emptying



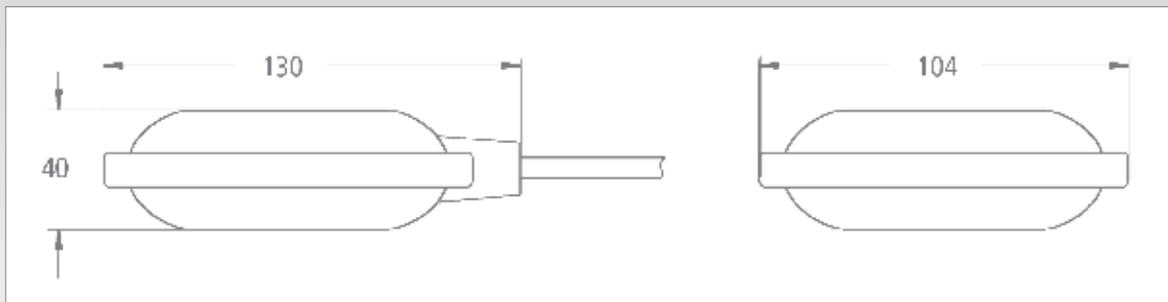
Float switch PSN-X  
here in function for filling

## Switching Diagram PSN

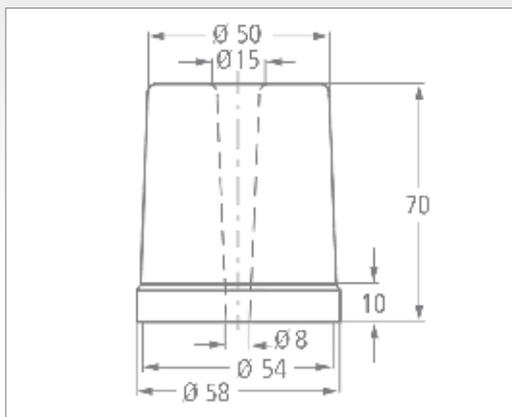
## Inner wiring PSN-O DB



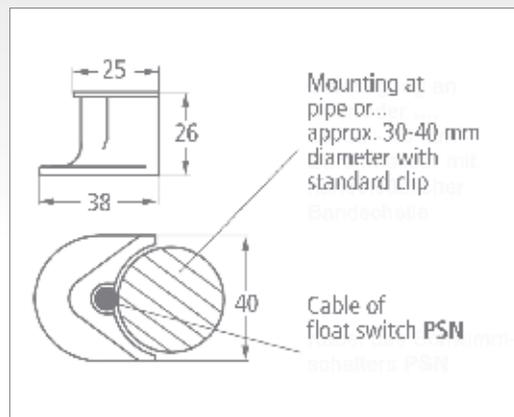
## Dimensions PSN / Accessories



Float switch PSN

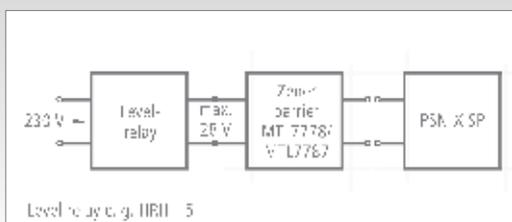


Weight BG-PS / IG-PS



Cable support K-PS

## Atex-connecting of the PSN with the zener barrier MTL 7778 / MTL 7787



Technical Data MTL 7778 / MTL 7787	
Max. input voltage U	28 V AC (MTL7778) 28 V DC (MTL7787)
Contact resistance R	600 $\Omega$ (MTL7778) 300 $\Omega$ (MTL7787)
Operating current	47 mA (MTL7778) 93 mA (MTL7787)

A exceeding the input voltage at the zener barrier leads to the destruction