

# Magne-Sonics

## MSVT Series

Instruction leaflet  
US104

MSVT is a liquid level switch designed for use in non-hazardous areas. It must be installed, connected, commissioned, operated and maintained by suitably qualified personnel only, observing any national and local requirements which may apply.

### Application & mounting

Most liquids, including coating and aerated liquids, slurries. For use in safe area only. Mount in any position in tank or pipe. Mounting is by ¾" or 1" thread or hygienic fitting.

### Construction

Wetside material 316L Stainless steel (1.4404)  
Gasket (1" BSPP model only) Non-asbestos  
BS7531 Grade X carbon fibre  
with rubber binder

### Dryside materials

Body 304 Stainless steel with polyester label  
LED window Flame retardent Polyamide  
(Pa12) UL94 V2  
Plug Polyamide glass re-inforced  
Plug seal Nitrile butadiene rubber  
Ingress of protection  
rating IP66/67 to EN60529

### Operating conditions

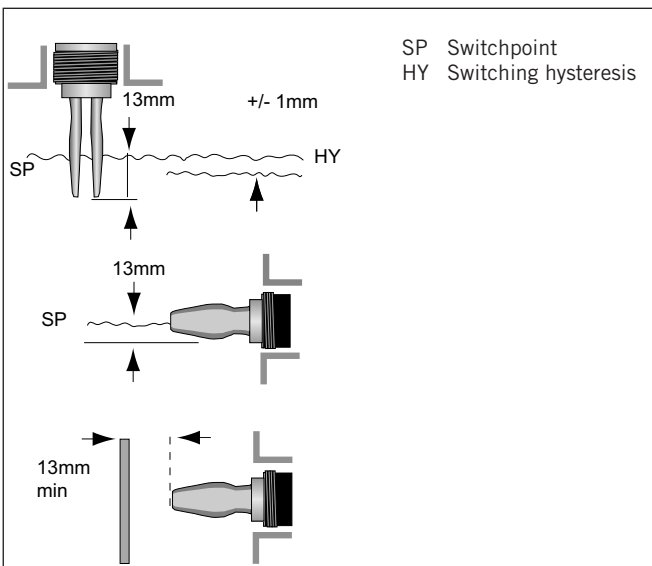
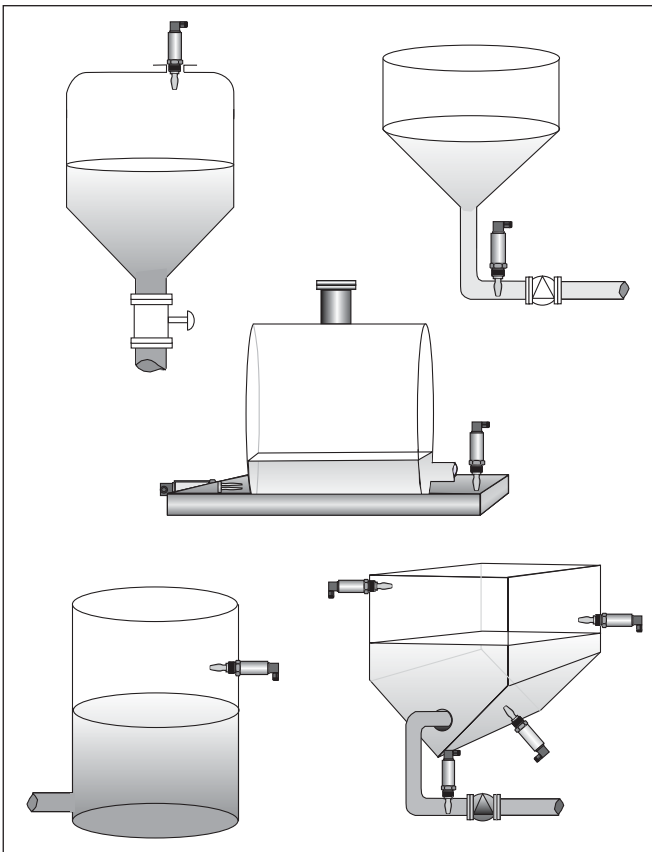
Wetside temp. -40°C to +150°C  
Ambient temp. -40°C to +80°C  
(derated to 50°C at 150°C wetside)  
Wetside pressure -0.25 bar g to +100 bar g at 50°C  
(30 bar for hygienic fittings)  
Liquid sg 0.6 to 2.0  
Liquid viscosity 0.2 to 10,000 cps  
Switching point 13mm from tip (vertical) / from edge  
(water) (horizontal) of fork  
Hysteresis (water) +/- 1mm nom.  
Switching delay 1 sec dry to wet / wet to dry.

### Electrical

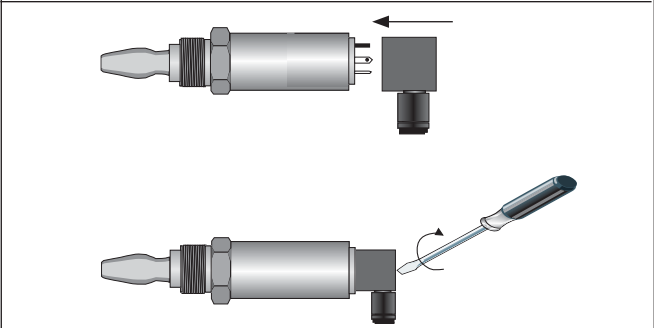
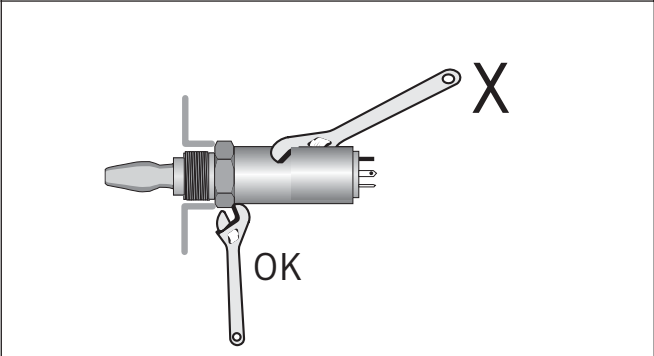
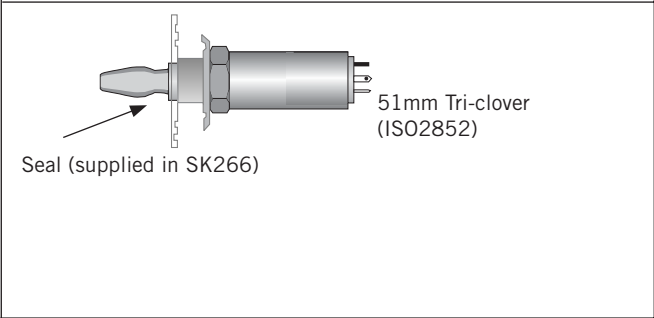
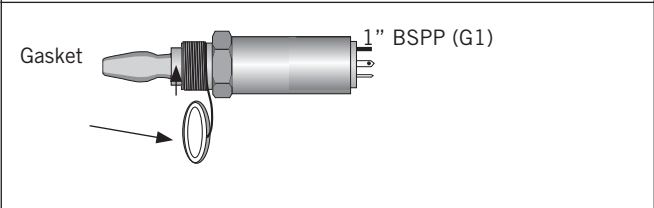
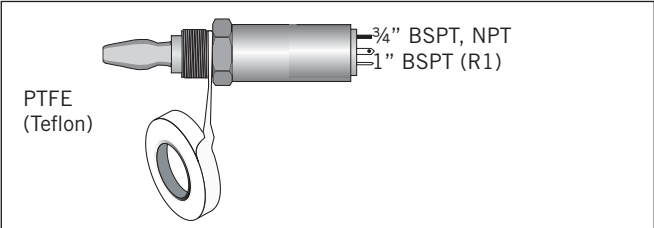
Switching mode User selectable (Dry = on or Wet = on) by  
selection wiring in plug  
Protection Reverse polarity protected. Missing load /  
short circuit protection.  
Cable connection Via 4 way plug provided – DIN43650  
Orientation – 4 position (90/180/270/360 deg.)  
Max. conductor size – 1.5mm<sup>2</sup>  
PG9 Cable gland provided – cable dia. 6mm to 8mm.  
Earthing Through cable plug or using external earth conn.



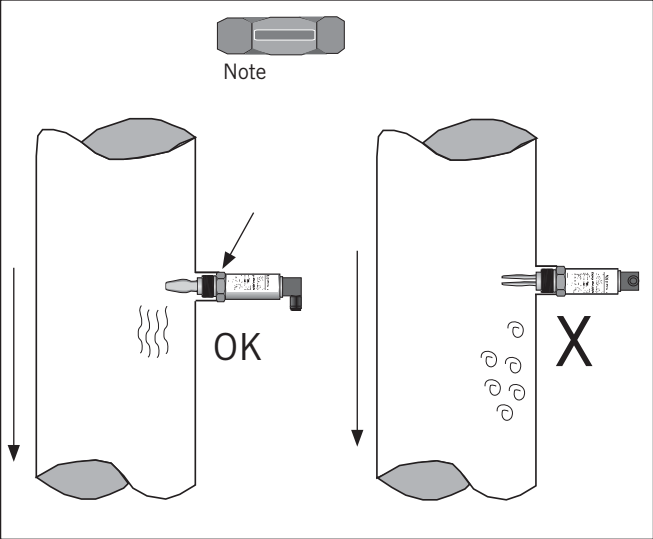
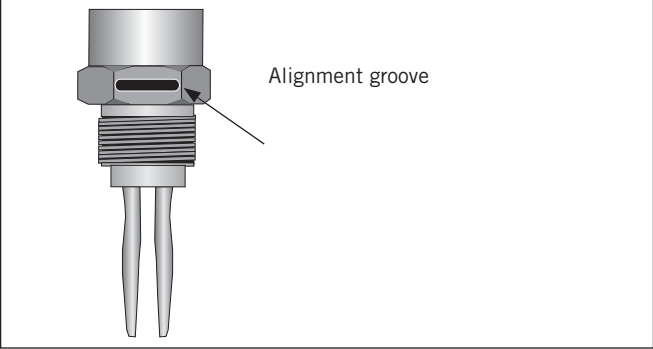
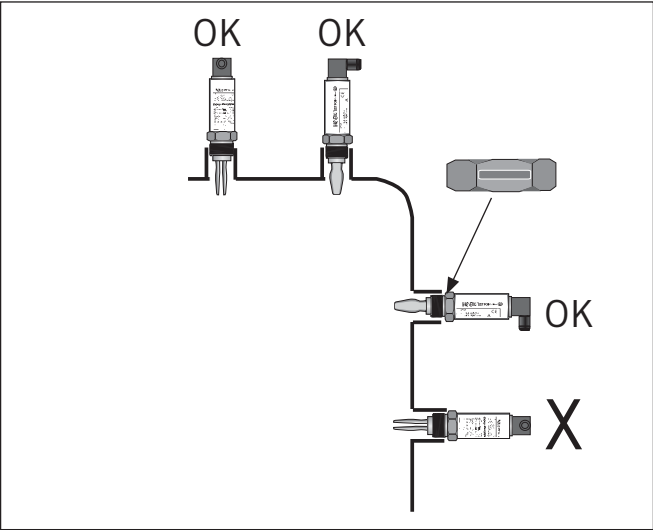
# Mounting examples



**Installation**



Correct fork alignment



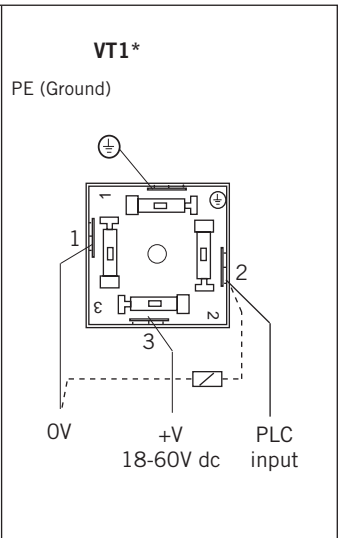
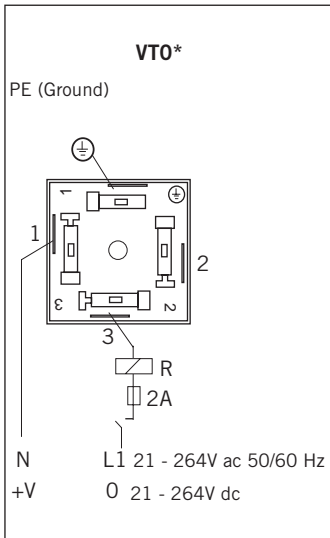
Load switching: ac/dc

PNP output: dc

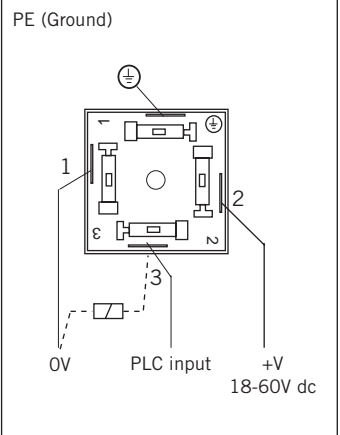
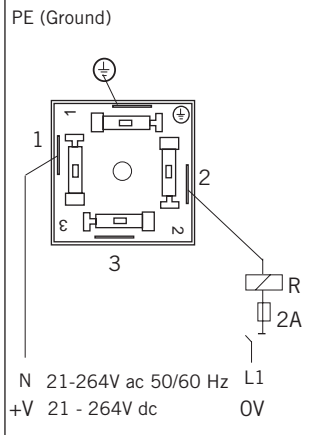
Direct load switching: ac/dc

PNP for PLC/SPS connection: dc

DRY = ON: High level alarm



WET = ON: Low level alarm





**Load switching: ac/dc**

Direct load switching: ac/dc



**PNP output: dc**

Solid state PNP output: dc



**Mode selection** **GB****Choix de commutation** **F****Funktionswahl** **D****Funktionsval** **S****Selección modo commutación** **E****Functieselectie** **NL****GB**

 R = external load (must be wired)	 = external load
Max. inrush current: 5A (electrically protected)	
I Max continuous: 500mA	I Load off: <3mA
I Min: 20mA	I Max continuous: 500mA I Load off: <3mA



**F**

 R = Charge externe (doit être raccordée.)	 = Charge externe
Courant d'entrée maxi: 5A (protégé électriquement)	
I Maxi continu: 500mA	I Charge non raccordée: <3mA
I Mini: 20mA	I Maxi continu: 500mA I Charge non raccordée: <3mA



**D**

 R = externe Last (muss angeschlossen werden.)	 = externe Last
Max. Spitzenstrom: 5A (elektrisch geschützt)	
I Max Dauerstrom: 500mA	I Zonder belasting :<3mA
I Min: 20mA	I Max Dauerstrom: 500mA I Leckstrom (aus): <3mA



**S**

 R = extern last (måste finnas ansluten)	 = extern last
Max. stötström: 5A (elektroniskt avsäkrad)	
I Max kont.ström: 500mA	I Frånslaget läge :<3mA
Min ström: 20mA	I Max kont.ström: 500mA I Läckström : <3mA

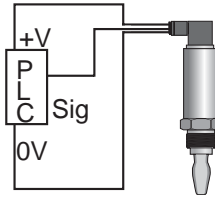
**E**

 R = carga externa debe estar conectada	 = Carga externa
Corriente max de entrada (protegida eléctricamente)	
I max continua 500mA	I carga no conectada (3mA)
I Min: 20mA	I Max continua : 500mA I carga no conectada : <3mA

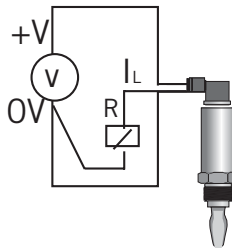
**NL**

 R = Uitwendige belasting (dient bedraad te worden)	 = Uitwendige belasting
Max. inloopstroom : 5A (electronisch beveiligd)	
I Max. continue stroom : 500mA	I Zonder belasting :<3mA
I Min: 20mA	Max. continue stroom : 500mA

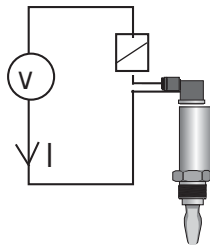
PLC (positive input)



PNP dc



Load switching ac/dc



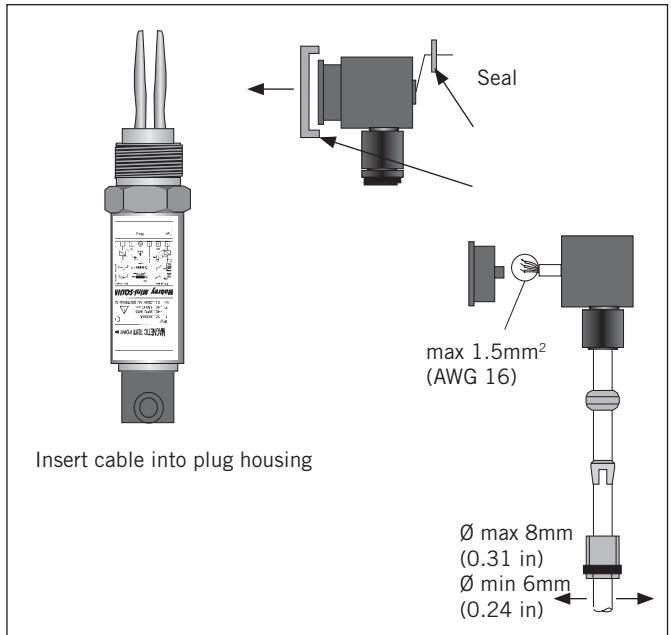
Maximum power of load

$$= V \times 0.5A$$

	<p>High level DRY = ON    Low level WET = ON</p>		
		<p>Short circuit load or I max &gt; 500mA</p>	<p>Internal fault</p>
PLC (positive input)			
PNP dc		<p>Carga en corto circuito</p>	<p>Fallo interno</p>
Load switching ac/dc		<p>Kort-sluitbelasting of I max. &gt; 500mA</p>	<p>Inwendige fout</p>
L.E.D			
<p>  = Load on       = Load off </p>			

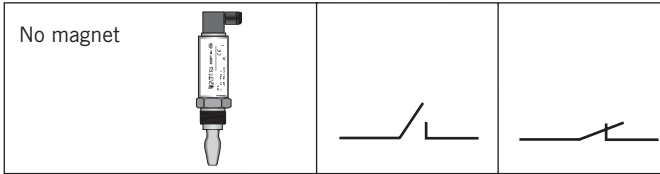


## Wiring

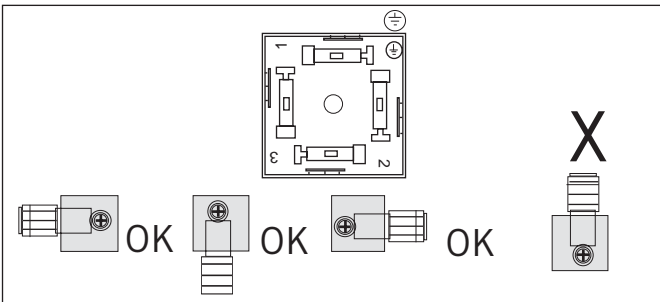
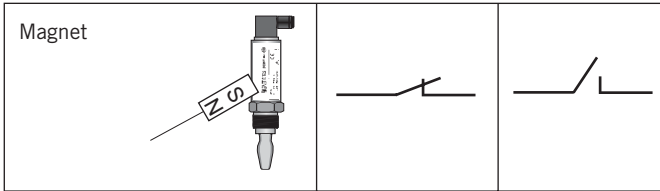


Relay connection warning:-

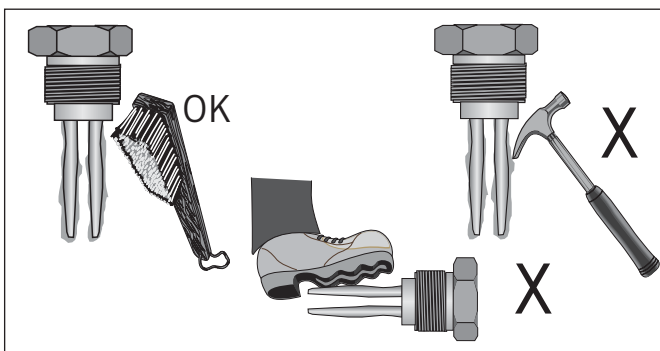
The MSVT Series requires a minimum current of 3mA, which continues to flow when the unit is 'off'. If selecting a relay to wire in series with MSVT Series, the user must ensure that the drop-out voltage of the relay is greater than the voltage which will be generated across the relay coil when 3mA flows through it.



Magnetic test point



Assemble plug and tighten



Maintenance