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 (water)	13mm from tip (vertical) / from edge (horizontal) of fork
Hysteresis (water)	+/- 1mm nom.
Switching delay	1 sec dry to wet / wet to dry.

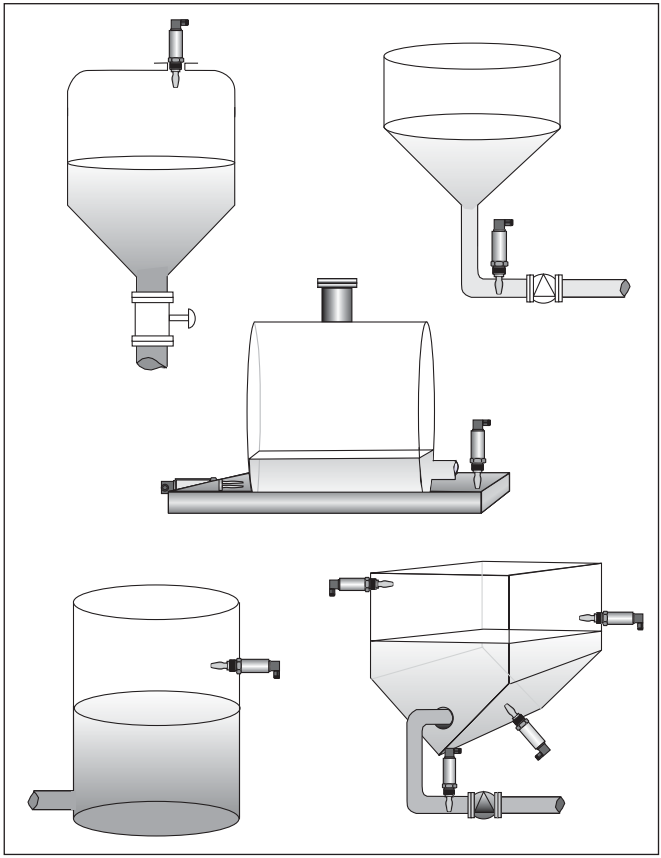
Electrical

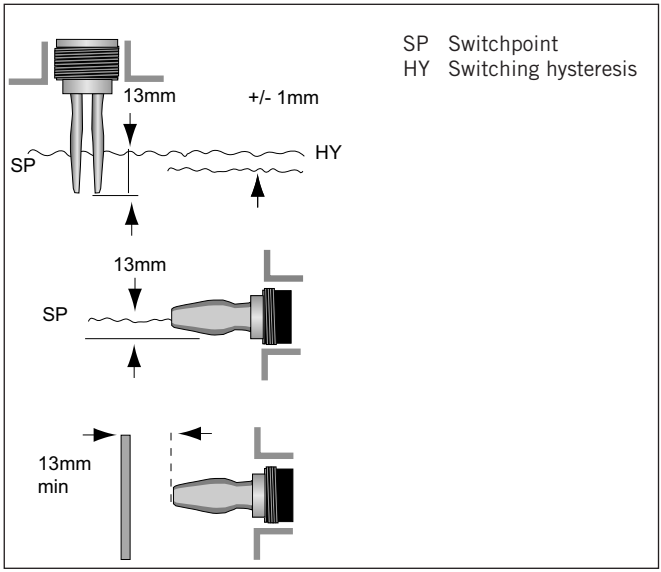
Switching mode	User selectable (Dry = on *or* Wet = on) by selection wiring in plug
Protection	Reverse polarity protected. Missing load / short circuit protection.
Cable connection	Via 4 way plug provided – DIN43650 Orientation – 4 position (90/180/270/360 deg.)

Max. conductor size – 1.5mm^2
PG9 Cable gland provided – cable dia. 6mm to 8mm.
Earthing Through cable plug or using external earth conn.

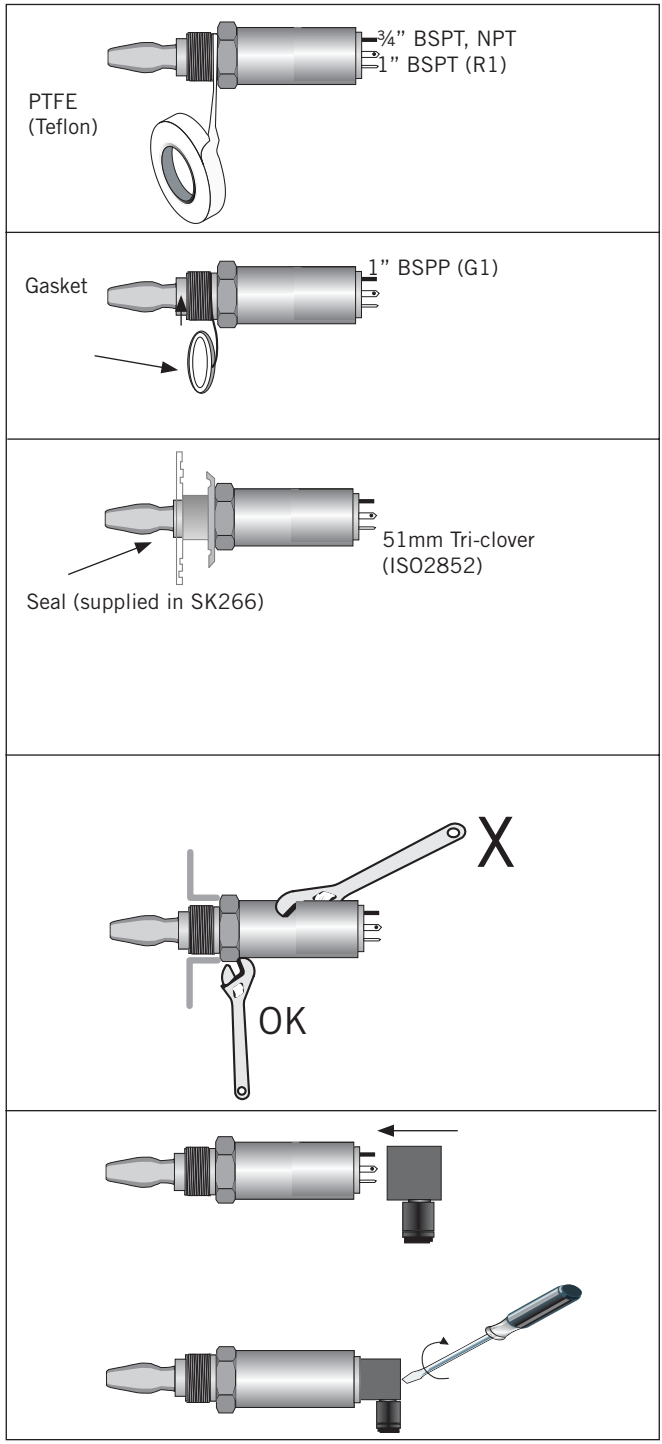
CE

Mounting examples

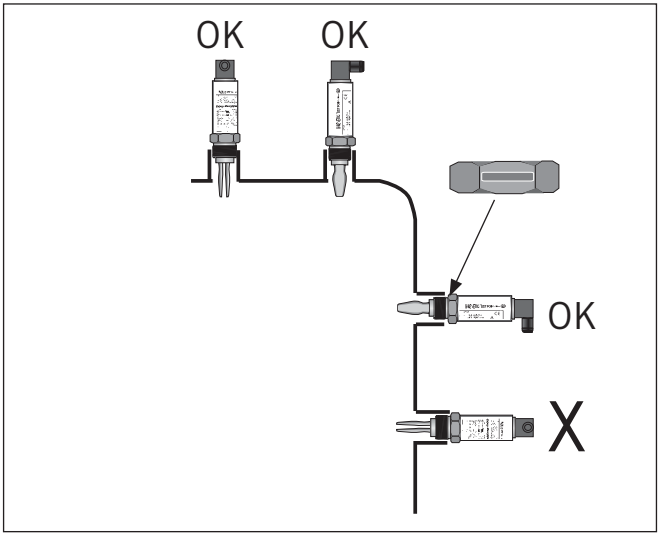


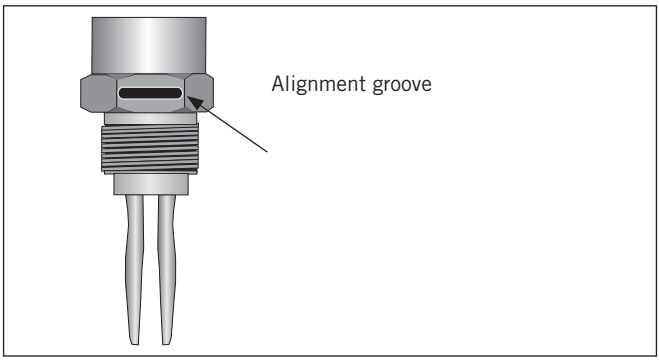


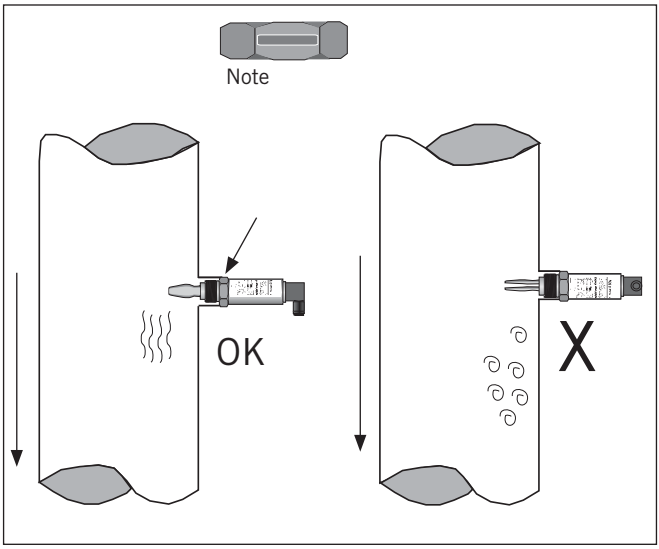
Installation



Correct fork alignment





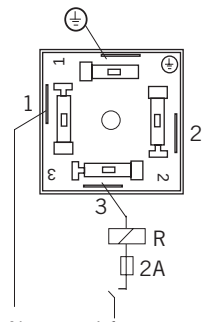
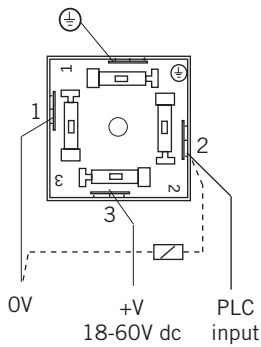
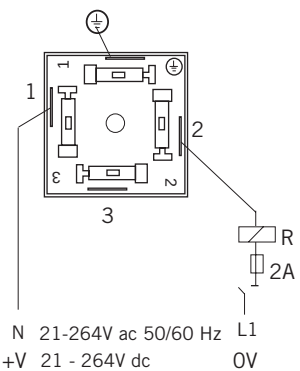
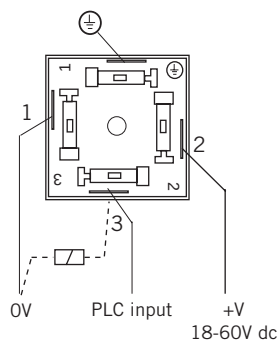


Load switching: ac/dc

Direct load switching: ac/dc

PNP output: dc

PNP for PLC/SPS connection: dc

	VT0*	**VT1***
DRY = ON: High level alarm	PE (Ground) 	PE (Ground) 
WET = ON: Low level alarm	PE (Ground) 	PE (Ground) 

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 racordée: <3mA
I Mini: 20mA	I Maxi continu: 500mA I Charge non racordée: <3mA

D

R = externe Last (muss angeschlossen werden.)	= externe Last
Max. Spitzenstrom: 5A (elecktrisch 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 (elecktroniskt avsäkrad) I Max kont.ström: 500mA	I Frånslaget läge :<3mA
Min ström: 20mA	I Max kont.ström: 500mA I Läckström : <3mA

E

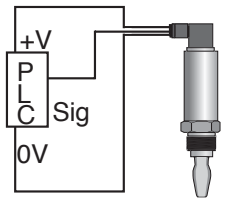
R = carga externa debe estar conectada	= Carga externa
Corriente max de entrada (protegida eléctricamente) I max continua 500mA	I carga no conectada (3mA)
I Min: 20mA	I Max continua : 500mA I carga no conectada : <3mA

NL

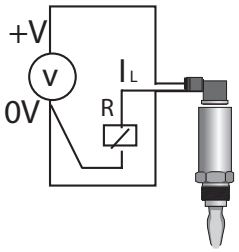
R = Uitwendige belasting (dient bedraad te worden)	= Uitwendige belasting
Max. inloopstroom : 5A (electronisch beveiligd) I Max. continue stroom : 500mA	I Zonder belasting :<3mA
I Min: 20mA	Max. continue stroom : 500mA

Function and LED indication

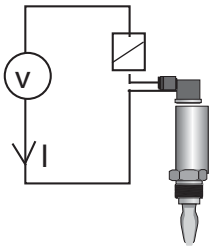
PLC (positive input)



PNP dc

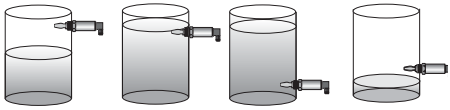
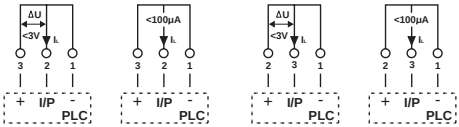
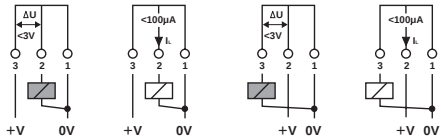
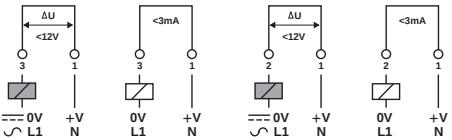


Load switching ac/dc



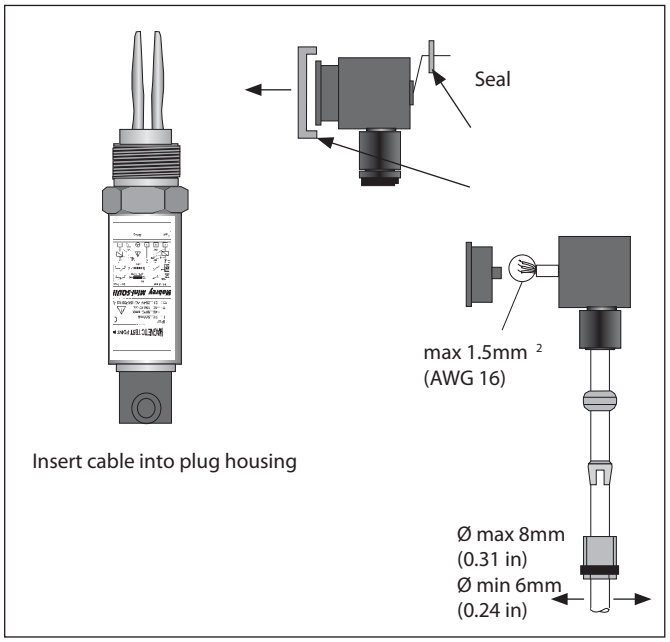
Maximum power of load

= V x 0.5A

	High level DRY = ON Low level WET = ON	L N	
		Short circuit load or I max > 500mA	Internal fault
PLC (positive input)			
PNP dc		Carga en corto circuito	Fallo interno
Load switching ac/dc		Kort-sluit-belasting of I max.> 500mA	Inwendige fout
L.E.D	☼ On ☼ 1Hz ☼ On ☼ 1Hz	☼ ¼Hz	☼ 3Hz

= Load on = Load off

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.

Magne-Sonics
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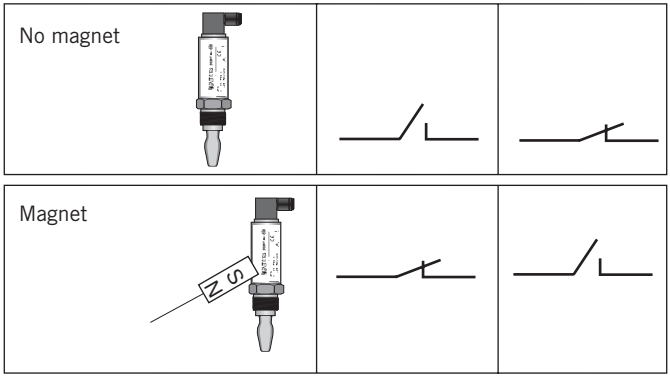
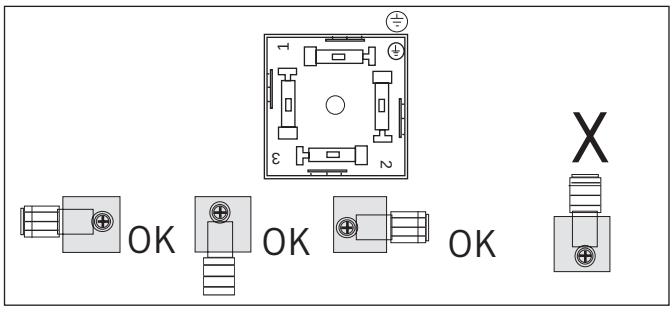
Magnetic test point





Assemble plug and tighten

Maintenance