

SOLITEL

Vibrating rod level switches for solids

DESCRIPTION

SOLITEL, vibrating rod level switches are integral units, providing a low cost and reliable level detection of bulk solids in tanks or silos. The SOLITEL is ideally suited for level control on powders, granulars or lump materials up to a minimum density of 0,05 kg/dm³.

FEATURES

- 2 position density adjustment (media with SG < 0,1 and > 0,1)
- SG as low as 0,05 kg/dm³ – granular size 10 mm (0.39")
- Status LED – built into cover
- Electro polished 316 TI (1.4571) vibrating rod
- Self-cleaning sensor
- Output options:
8A SPDT relay (1A @ 24 V DC)
Solid state output 350 mA / 50V
- Process Temperature: -40 °C to 160 °C (-40 °F to 320 °F)
- Max Pressure: 25 bar abs. (360 psia)

APPLICATIONS

- Pulverised coal
- Cement
- Lime
- Cereals
- Synthetic granulates
- Perlite

PRINCIPLE OF OPERATION

An invasive rod vibrates at 350 Hz frequency. When in contact with the medium, the vibration will be dampened.

The attenuation of the vibration will be detected by the integral mount electronics, thus changing the status of the output.

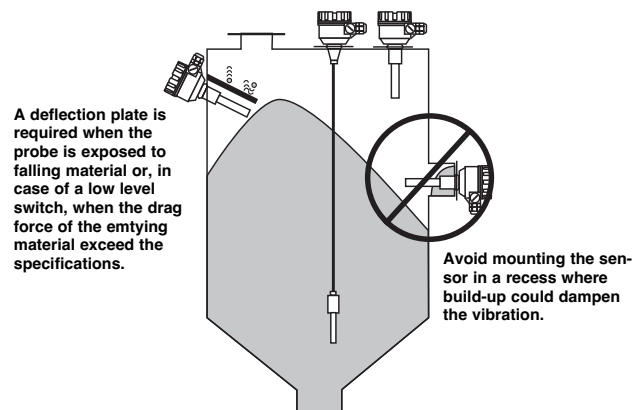
AGENCY APPROVAL

Agency	Approval
DMT	ATEX II 1/2 D IP 65 (Dust Ex)

From 235 mm up to 20 m insertion length (9.25" up to 65.62')



MOUNTING



EXPEDITE SHIP PLAN (ESP)

Several SOLITEL devices are available for quick shipment, within max. 3 weeks after factory receipt of purchase order, through the Expedite Ship Plan (ESP).

Models covered by ESP service are conveniently colour coded in the selection data charts.

To take advantage of ESP, simply match the colour coded model number codes (standard dimensions apply).

ESP service may not apply to orders of ten units or more. Contact your local representative for lead times on larger volume orders, as well as other products and options.

SELECTION DATA

A complete sensor consists of one order code:

1. One order code for electronics and sensor
2. Optional: threaded mounting flanges – consult factory

1. One order code for electronics and sensor

BASIC MODEL NUMBER

Standard electronics - max process temperature 110 °C (230 °F) - 95 °C (200 °F) for flexible version

V S H	Solitel with STANDARD sensor	- 235 mm (9.2") insertion length
V S R	Solitel with EXTENDED RIGID sensor	- selectable insertion length / 10 cm (3.9") increments
V S K	Solitel with FLEXIBLE sensor	- selectable insertion length / 1 m (3.3') increments

High temperature electronics - max process temperature 160 °C (320 °F)

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V H R	Solitel with EXTENDED RIGID sensor	- selectable insertion length / 10 cm (3.9") increments

HOUSING MATERIAL / CABLE ENTRY / APPROVAL – IP 67

S	Aluminium, 2 x PG 16 (cable glands included)	General purpose
A	Aluminium, 2 x PG 16 (cable glands included)	ATEX II 1/2 D IP 65 (Dust Ex)

SIGNAL OUTPUT

2 B	8 A SPDT relay
2 E	Solid state output 350 mA / 50 V

POWER SUPPLY

A	85 .. 265 V AC / 120 .. 375 V DC
D	19 .. 55 V DC / 16 .. 40 V AC

INSERTION LENGTH

0 0 0	VSH/VHH:	235 mm (9.2")
0 5 0	VSR/VHR:	min 50 cm (19.7")
3 0 0		max 300 cm (9.8'), Specify length in 10 cm (3.9") increments
0 0 1	VSK:	min 1 m (3.3')
0 2 0		max 20 m (65.60'), Specify length in 1 m (3.3') increments



complete order code for SOLITEL electronics and sensor

PERFORMANCE

Description	Specification
Response time	< 1,8 s (when covered) – 2 s (when free) or with time delay: 5 s + 1,5 s (field selectable)
Electromagnetic compatibility	Meets CE requirements (EN 50081-1, EN 50082-1)

PHYSICAL/FUNCTIONAL SPECIFICATIONS

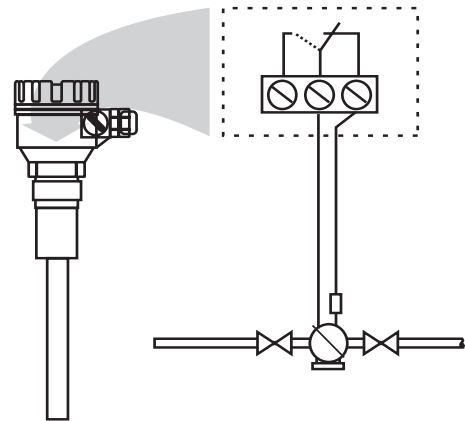
Description	Specification
Input voltage	85 ... 265 V AC / 120 ... 375 V DC or 19 ... 55 V DC / 16 ... 40 V AC
Power consumption	1.3 VA
Signal output	8 A SPDT relay @ 250 V AC (1A @ 24 V DC) Solid state output - 350 mA / 50 V peak
Indication	Output status LED (green/red) – visual indication on cover
Housing material	IP 67, Aluminium with 2 x PG 16 cable entries (cable glands incl.)
Approvals	ATEX II 1/2 D IP 65
Sensor material	All wetted parts of polished 316 Ti SST (1.4571) (except VSK) PE coated cable (VSK)
Mounting	Threaded: 1 1/2" BSP (G 1 1/2)
Actuation length	VSH/VHH: 235 mm (9.2") VSR/VHR: from 500 mm up to 3000 mm (19.7" up to 9.8') VSK: from 1 m up to 20 m (3.3' up to 65.6')
Max pressure	25 bar abs. (360 psia) Flexible version VSK: 6 bar abs. (87 psia)
Min density	0,05 kg/dm ³ - max granular size: 10 mm (0,39")
Max mechanical load on sensor	VSH/VHH: 85 Nm
Weight of unit	2,5 kg (VSH/VHH) + 1,4 kg/m for VSR/VHR + 0,6 kg/m for VSK

Description		Process temp.	Ambient temp.	temp. at process conn.
Max temperature	VSH/VSR	-30 °C to +110 °C (-20 °F to +230 °F)	-30 °C to +50 °C (-20 °F to +120 °F)	max +90 °C (+195 °F)
	VHH/VHR	-30 °C to +160 °C (-20 °F to +320 °F)	-30 °C to +35 °C (-20 °F to +95 °F)	max +135 °C (+275 °F)
	VSK	-35 °C to +95 °C (-30 °F to +200 °F)	-30 °C to +60 °C (-20 °F to +140 °F)	max +85 °C (+185 °F)

ELECTRICAL CONNECTION

SPDT Relay (8 A @ 250 V AC / 1 A @ 24 V DC)

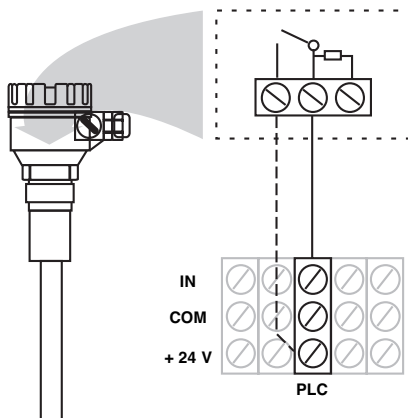
85 ... 265 V AC / 120 ... 375 V DC or 19 ... 55 V DC / 16 ... 40 V AC



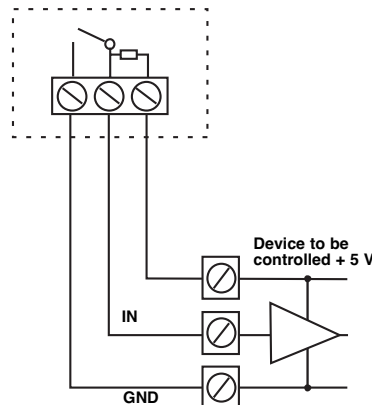
Solid State output

85 ... 265 V AC / 120 ... 375 V DC or 19 ... 55 V DC / 16 ... 40 V AC

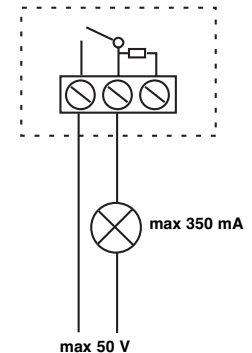
Connection to an opto-coupled input



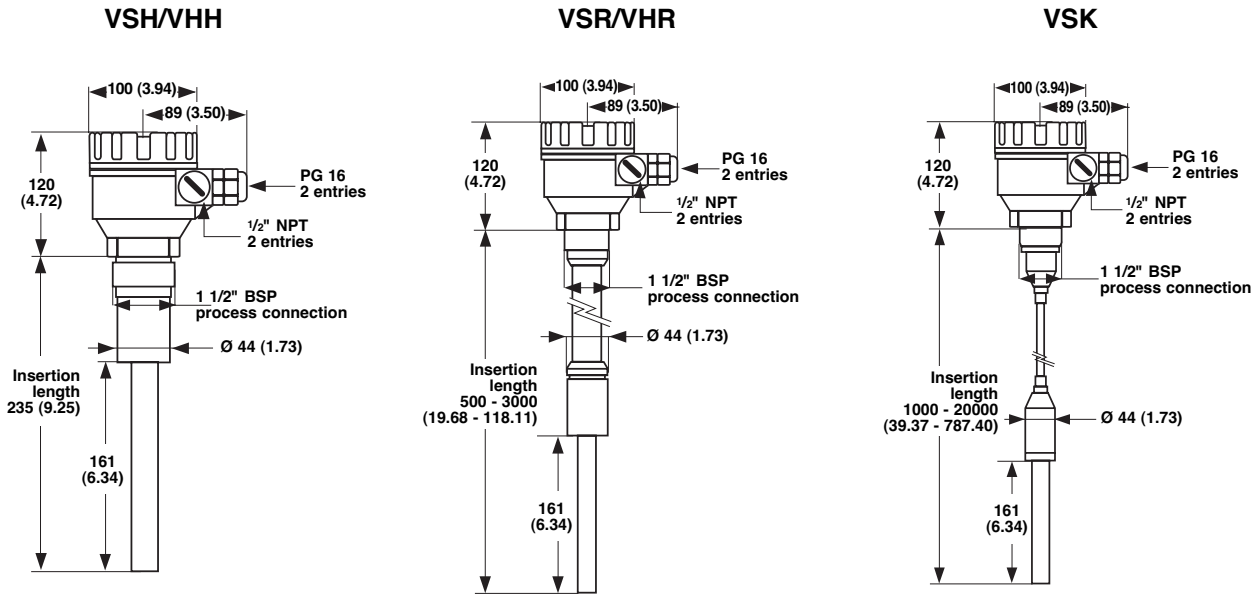
Connection to a logical voltage input



Connection to a load



DIMENSIONS in mm (inches)



QUALITY ASSURANCE - ISO 9001



THE QUALITY ASSURANCE SYSTEM IN PLACE AT MAGNETROL GUARANTEES THE HIGHEST LEVEL OF QUALITY DURING THE DESIGN, THE CONSTRUCTION AND THE SERVICE OF CONTROLS. OUR QUALITY ASSURANCE SYSTEM IS APPROVED AND CERTIFIED TO ISO 9001 AND OUR TOTAL COMPANY IS COMMITTED TO PROVIDING FULL CUSTOMER SATISFACTION BOTH IN QUALITY PRODUCTS AND QUALITY SERVICE.

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UNDER RESERVE OF MODIFICATIONS

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