

# Level instruments

## Point level measurement - Vibrating switches

### SITRANS LVS200

#### Overview



SITRANS LVS200 is a vibrating point level switch for high, low or demand level detection of bulk solids.

#### Benefits

- High resistance to mechanical forces
- Strong vibration resistance to high bulk material loads
- Rotatable enclosure
- Suitable for low density material: standard version, 20 g/l (1.3 lb/ft<sup>3</sup>); liquid/solid interface version, 50 g/l (3 lb/ft<sup>3</sup>), and low density option min. 5 g/l (0.3 lb/ft<sup>3</sup>)
- Customer desired extensions up to 20000 mm (787")
- Optional detection of solids within liquid
- Durable short fork option with 165 mm (6.5") insertion length

#### Application

The standard LVS200 detects high, low, or demand levels of dry bulk solids in bins, silos or hoppers. The liquid/solid interface version can also detect settled solids within liquids or solids within confined spaces such as feed pipes. It is designed to ignore liquids in order to detect the interface between a solid and a liquid.

A pipe extension version is available with either the standard or liquid/solid interface electronics and fork, separated by a customer supplied 1" pipe.

SITRANS LVS200 has an optional 4 to 20 mA output for monitoring buildup on the fork to determine when preventative maintenance should be performed in sticky applications.

The LVS200 has a compact design and can be top, side or angle mounted. The vibrating fork design ensures the tines are kept clean. The unique design of the fork and crystal assembly eliminates false high level readings even if tines become damaged.

A signal from the electronic circuit excites a crystal in the probe causing the fork to vibrate. If the fork is covered by material, the change in vibration is detected by the electronic circuitry which causes the relay to change state after a one second delay. When the fork is free from material pressure, full vibration resumes and the relay reverts to its normal condition.

- Key Applications: dry bulk solids in bins, silos, hoppers or settled solids within liquids (interface version)

#### Technical specifications

<b>Mode of operation</b>	
Measuring principle	Vibrating point level switch
<b>Input</b>	
Measured variable	High, low and demand
Measuring frequency	<ul style="list-style-type: none"> <li>• Standard 125 Hz</li> <li>• Liquid/solid interface and short fork version 350 Hz</li> </ul>
<b>Output</b>	
<ul style="list-style-type: none"> <li>• PNP</li> </ul>	Open collector: Permanent load max. 0.4 A, short-circuit and overload protected Turn-on voltage: max. 50 V (reverse protection)
<ul style="list-style-type: none"> <li>• 2-wire without contact</li> </ul>	Load current: <ul style="list-style-type: none"> <li>• min. 10 mA</li> <li>• max. 500 mA permanent</li> <li>• max. 2A &lt; 200 ms</li> <li>• max. 5A &lt; 50 ms</li> </ul> Voltage drop on the electronic module: max. 7 V with closed electric circuit Cutoff current with open electric circuit: max. 5 mA
<ul style="list-style-type: none"> <li>• Relays                             <ul style="list-style-type: none"> <li>- Version with 1 relay</li> <li>- Version with 2 relays</li> </ul> </li> <li>• Relay delay</li> </ul>	SPDT relay DPDT relay <ul style="list-style-type: none"> <li>• From loss of vibration: approximately 1 second</li> <li>• From resumption of vibration: approximately 1 to 2 seconds</li> <li>• Probe uncovered to covered: approximately 1 second</li> <li>• Probe covered to uncovered: approximately 1 to 2 seconds</li> </ul> High or low, switch selectable
<ul style="list-style-type: none"> <li>• Signal delay</li> </ul>	<ul style="list-style-type: none"> <li>• Relay fail-safe</li> <li>• Alarm output</li> </ul>
<ul style="list-style-type: none"> <li>• mA output                             <ul style="list-style-type: none"> <li>- Resolution</li> </ul> </li> </ul>	8/16 mA or 4 to 20 mA 4 to 20 mA ± 0.1 mA
<b>Sensitivity</b>	
High or low, switch selectable	
<b>Rated operating conditions</b>	
<u>Installation conditions</u>	
<ul style="list-style-type: none"> <li>• Location</li> </ul>	Indoor/outdoor
<u>Ambient conditions</u>	
<ul style="list-style-type: none"> <li>• Ambient temperature</li> </ul>	-40 to +60 °C (-40 to +140 °F)
<ul style="list-style-type: none"> <li>• Installation category</li> </ul>	III
<ul style="list-style-type: none"> <li>• Pollution degree</li> </ul>	2



# Level instruments

## Point level measurement - Vibrating switches

**SITRANS LVS200**


		Order No.
<b>Medium conditions</b>		
<ul style="list-style-type: none"> <li>• Process temperature</li> <li>• Max. threaded bushing temperature</li> <li>• Max. enclosure surface temperature (Category 2D)</li> <li>• Max. extension surface temperature (Category 1D)</li> <li>• Pressure (vessel)</li> <li>• Minimum material density</li> </ul>	<ul style="list-style-type: none"> <li>• All except CSA Class II, Group G: -40 to +150 °C (-40 to +302 °F)</li> <li>• CSA Class II, Group G: -40 to +140 °C (-40 to +284 °F), CSA temperature code T3B</li> <li>+80 °C (+176 °F)</li> <li>+90 °C (+194 °F)</li> <li>+150 °C (+302 °F)</li> <li>Max. 10 bar g (145 psi g) European Pressure Directive 97/23/EC: Category 1</li> <li>• Standard version: approx. 20 g/l (1.2 lb/ft<sup>3</sup>)</li> <li>• liquid/solid interface version: approx. 50 g/l (3 lb/ft<sup>3</sup>)</li> <li>• optional low density version: approx. 5 g/l (0.3 lb/ft<sup>3</sup>)</li> </ul>	
<b>Design</b>		
<ul style="list-style-type: none"> <li>• Material</li> <li>- Enclosure</li> <li>• Process connection</li> <li>• Tine material</li> <li>• Degree of protection</li> <li>• Conduit entry</li> <li>• Weight</li> </ul>	<p>Epoxy coated aluminum</p> <ul style="list-style-type: none"> <li>• Thread 1½" NPT [(Taper), ANSI/ASME B1.20.1], R ½" [(BSPT), EN 10226] and flange options</li> <li>• Optional sliding bushing with 2" NPT [(Taper), ANSI/ASME B1.20.1] or BSP thread</li> <li>• Thread material: stainless steel 303 (1.4301)</li> </ul> <p>Stainless steel 316TI (1.4571), PTFE-coated tines are available upon special request</p> <p>IP65/Type 4/NEMA 4</p> <p>2 x M20x1.5 or 2 x ½" NPT</p> <ul style="list-style-type: none"> <li>• Standard version, no extensions: approx. 2.0 kg (4.4 lbs)</li> <li>• Solids/liquids version, no extensions: approx. 1.9 kg (4.2 lbs)</li> </ul>	
<b>Power supply</b>	<ul style="list-style-type: none"> <li>• 19 to 230 V AC, +10%, 50 to 60 Hz, 8 VA</li> <li>• 19 to 55 V DC, +10%, 1.5 W</li> </ul>	
<b>Certificates and approvals</b>	<ul style="list-style-type: none"> <li>• CSA/FM General Purpose</li> <li>• CE</li> <li>• CSA/FM Dust Ignition Proof</li> <li>• C-TICK</li> <li>• ATEX II 1/2 D</li> <li>• CSA/FM IS Class I, II, III Div. 1, Groups A, B, C, D, E, F, G, FM Class 1, Aex ia IIC, CSA Class 1, Ex ia IIC, available only with power supply option 5 and 6</li> <li>• ATEX II 1G and 1/2 G Eex ia IIC; ATEX II 1D and 1/2 D, available only with power supply option 5</li> </ul>	
	<b>Selection and Ordering data</b>	
	<b>SITRANS LVS200, standard</b>	<b>7ML5731-</b>
	SITRANS LVS200 is a vibrating point level switch for high, low or demand level detection of bulk solids.	A 0
	<b>Power supply</b>	
	19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)	1
	19 to 230 V AC, 19 to 55 V DC, two relay outputs (DPDT)	2
	18 to 50 V DC PNP	3
	19 to 230 V AC/DC without contact, 2-wire loop powered <sup>1)</sup>	4
	7 to 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire <sup>2)</sup>	5
	8/16 mA or 4 to 20 mA; 12.5 to 35 V DC, 2-wire (SPDT) basic version <sup>3) 4)</sup>	6
	19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)	7
	<b>Process temperature</b>	
	Without temperature isolator	▶ A
	With temperature isolator	B
	Separated enclosure - cable length 1.5 m (4.92 ft) [max. temperature process +180 °C (+356 °F)/ max. temperature electronics +80 °C (+176 °F)]	C
	Separated enclosure - cable length 4.0 m (13.12 ft) [max. temperature process +180 °C (+356 °F)/ max. temperature electronics +80 °C (+176 °F)]	D
	<b>Process connection</b>	
	<u>Threaded</u>	
	R 1½" [(BSPT), EN 10226]	▶ A
	1½" NPT [(Taper), ANSI/ASME B1.20.1]	▶ B
	G 2" [(BSPP), EN ISO 228-1], sliding sleeve [min. length 500 mm (19.69") <sup>5)</sup>	C
	2" NPT [(Taper), ANSI/ASME B1.20.1], sliding sleeve [min. length 500 mm (19.69") <sup>5)</sup>	D
	<u>Flanged</u>	
	DN 100 PN 6, EN1092-1 (1.4541/321)	E
	DN 100 PN 16, EN1092-1 (1.4541/321)	F
	2" ASME 150 lbs B16.5 (1.4541/321)	G
	3" ASME 150 lbs B16.5 (1.4541/321)	H
	4" ASME 150 lbs B16.5 (1.4541/321)	J
	<b>Extension length</b>	
	<u>Stainless steel 304 (1.4301)</u>	
	Standard length, 230 mm (9.06") <sup>6)</sup>	▶ 11
	<u>Add order code Y01 and plain text: "Insertion length ... mm"</u>	
	• 300 to 500 mm (11.81 to 19.69") <sup>6)</sup>	12
	• 501 to 750 mm (19.72 to 29.53") <sup>6)</sup>	13
	• 751 to 1000 mm (29.57 to 39.37") <sup>6)</sup>	14
	• 1001 to 1250 mm (39.41 to 49.21") <sup>6)</sup>	15
	• 1251 to 1500 mm (49.25 to 59.06") <sup>6)</sup>	16
	• 1501 to 1750 mm (59.09 to 68.90") <sup>6)</sup>	17
	• 1751 to 2000 mm (68.94 to 78.74") <sup>6)</sup>	18
	• 2001 to 2250 mm (78.78 to 88.58") <sup>6)</sup>	21
	• 2251 to 2500 mm (88.62 to 98.43") <sup>6)</sup>	22
	• 2501 to 2750 mm (98.46 to 108.27") <sup>6)</sup>	23
	• 2751 to 3000 mm (108.31 to 118.11") <sup>6)</sup>	24
	• 3001 to 3250 mm (118.15 to 127.95") <sup>6)</sup>	25
	• 3251 to 3500 mm (127.99 to 137.80") <sup>6)</sup>	26
	• 3501 to 3750 mm (137.83 to 147.64") <sup>6)</sup>	27
	• 3751 to 4000 mm (147.68 to 157.48") <sup>6)</sup>	28




# Level instruments

## Point level measurement - Vibrating switches

### SITRANS LVS200

Selection and Ordering data	Order No.
<b>SITRANS LVS200, standard</b> SITRANS LVS200 is a vibrating point level switch for high, low or demand level detection of bulk solids.	<b>7 ML 5 7 3 1 -</b>  <b>A 0</b>
<u>Stainless Steel 316TI (1.4571)</u> Standard length, 230 mm (9.06") <sup>7)</sup>	<b>3 1</b>
Add order code Y01 and plain text: <u>"Insertion length ...mm"</u>	
• 300 to 500 mm (11.81 to 19.69") <sup>7)</sup>	<b>3 2</b>
• 501 to 750 mm (19.72 to 29.53") <sup>7)</sup>	<b>3 3</b>
• 751 to 1000 mm (29.57 to 39.37") <sup>7)</sup>	<b>3 4</b>
• 1001 to 1250 mm (39.41 to 49.21") <sup>7)</sup>	<b>3 5</b>
• 1251 to 1500 mm (49.25 to 59.06") <sup>7)</sup>	<b>3 6</b>
• 1501 to 1750 mm (59.09 to 68.90") <sup>7)</sup>	<b>3 7</b>
• 1751 to 2000 mm (68.94 to 78.74") <sup>7)</sup>	<b>3 8</b>
• 2001 to 2250 mm (78.78 to 88.58") <sup>7)</sup>	<b>4 1</b>
• 2251 to 2500 mm (88.62 to 98.43") <sup>7)</sup>	<b>4 2</b>
• 2501 to 2750 mm (98.46 to 108.27") <sup>7)</sup>	<b>4 3</b>
• 2751 to 3000 mm (108.31 to 118.11") <sup>7)</sup>	<b>4 4</b>
• 3001 to 3250 mm (118.15 to 127.95") <sup>7)</sup>	<b>4 5</b>
• 3251 to 3500 mm (127.99 to 137.80") <sup>7)</sup>	<b>4 6</b>
• 3501 to 3750 mm (137.83 to 147.64") <sup>7)</sup>	<b>4 7</b>
• 3751 to 4000 mm (147.68 to 157.48") <sup>7)</sup>	<b>4 8</b>
<b>Material process connection/extension</b>	
Stainless steel 304 (1.4301) ▶	<b>1</b>
Stainless steel 316 TI (1.4571)	<b>2</b>
<b>Approvals</b>	
CSA/FM Dust Ignition Proof, C-TICK ▶	<b>A</b>
ATEX II 1/2 D, C-TICK ▶	<b>B</b>
CSA/FM General Purpose, C-TICK	<b>C</b>
CE, C-TICK	<b>D</b>
CSA/FM IS Class I, II, III Div. 1, Groups A, B, C, D, E, F, G, FM Class 1, Aex ia IIC, CSA Class 1, Ex ia IIC, C-TICK <sup>8)</sup>	<b>E</b>
ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK	<b>F</b>
<b>Further designs</b>	Order code
Please add <b>"-Z"</b> to Order No. and specify Order code(s).	
Total insertion length: Enter the total insertion length in plain text description, max. 4000 mm (157.48")	<b>Y01</b>
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68")	<b>K05</b>
Enhanced sensitivity < 5 g/l via electronics, increased fork length to 195 mm (7.68"), and increased aluminum fork width (available only with universal voltage, SPDT, CE/FM and CSA General Purpose approvals)	<b>G01</b>
Signal bulb inserted in M20 cable gland <sup>9)</sup>	<b>A20</b>
NAMUR 8/16 mA switch amplifiers	<b>A15</b>
<b>Instruction manual</b>	Order No.
Multi-language	<b>7ML1998-5FT62</b>
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and instruction manual library.	
<b>Spare parts</b>	
Replacement Electronics Module (125 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	<b>7ML1830-1KL</b>
Sliding sleeve, 2" BSP (ISO 228)	<b>7ML1830-1JM</b>
Sliding sleeve, 2" NPT [(Taper), ANSI/ASME B1.20.1]	<b>7ML1830-1JN</b>

Selection and Ordering data	Order No.
<b>SITRANS LVS200, standard</b> SITRANS LVS200 is a vibrating point level switch for high, low or demand level detection of bulk solids.	<b>7 ML 5 7 3 1 -</b>  <b>A 0</b>
<b>Available ex stock</b>	
SITRANS LVS200, standard, power supply 7, process temperature A, process connection A, extension length 11, material process connection/extension 1, and approval B	<b>7ML5731-7AA11-1BA0</b>
SITRANS LVS200, standard, power supply 7, process temperature A, process connection B, extension length 11, material process connection/extension 1, and approval A	<b>7ML5731-7AB11-1AA0</b>
1) Available with approval options A to D only	
2) Available with approval options E, F only	
3) Available only with process temperature option A (process connection A with approval option B, or process connection B with approval option A), extension length 11 and material process connection 1	
4) Basic version is cost effective and offers fast delivery.	
5) Not available with extension length options 11 and 12	
6) Available with Material process connection/extension option 1 only	
7) Available with Material process connection/extension option 2 only	
8) Available with power supply option 5 and 6 only	
9) Available with approval options C, D only	
▶ Available ex stock.	



# Level instruments

## Point level measurement - Vibrating switches

SITRANS LVS200

Selection and Ordering data	Order No.
<b>SITRANS LVS200, short fork for liquids/solids interface</b> Vibrating point level switch for solids or liquids within liquid interface applications, and high load applications with short insertion requirements	<b>7 ML 5 7 3 2 -</b> ■■■■■ - ■■ A 0
<b>Power supply</b> 19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)	<b>1</b>
19 to 230 V AC, 19 to 55 V DC, two relay outputs (DPDT)	<b>2</b>
18 to 50 V DC PNP	<b>3</b>
19 to 230 V AC/DC without contact, 2-wire loop powered <sup>1)</sup>	<b>4</b>
8/16 mA or 4 to 20 mA; 12.5 to 35 V DC, 2-wire	<b>5</b>
<b>Process temperature</b> Without temperature isolator	<b>A</b>
With temperature isolator	<b>B</b>
Separated enclosure - cable length 1.5 m (4.92 ft) [max. temperature process +180 °C (+356 °F)/max. temperature electronics +80 °C (+176 °F)]	<b>C</b>
Separated enclosure - cable length 4.0 m (13.12 ft) [max. temperature process +180 °C (+356 °F)/max. temperature electronics +80 °C (+176 °F)]	<b>D</b>
<b>Process connection</b> <u>Threaded</u> R 1½" [(BSPT), EN 10226]	<b>A</b>
1½" NPT [(Taper), ANSI/ASME B1.20.1]	<b>B</b>
G 2" [(BSPP), EN ISO 228-1], sliding sleeve [min. length 500 mm (19.69")]	<b>C</b>
2" NPT [(Taper), ANSI/ASME B1.20.1], sliding sleeve [min. length 500 mm (19.69")]	<b>D</b>
<u>Flanged</u> DN 100 PN 6, EN1092-1 (1.4541/321)	<b>E</b>
DN 100 PN 16, EN1092-1 (1.4541/321)	<b>F</b>
2" ASME 150 lbs B16.5 (1.4541/321)	<b>G</b>
3" ASME 150 lbs B16.5 (1.4541/321)	<b>H</b>
4" ASME 150 lbs B16.5 (1.4541/321)	<b>J</b>
<b>Extension length</b> Stainless steel 304 (1.4301) <sup>2)</sup>	
Standard length, 165 mm (6.50") <sup>2)</sup>	<b>1 1</b>
<u>Add order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u>	
200 to 500 mm (7.87 to 19.69") <sup>2)</sup>	<b>1 2</b>
501 to 750 mm (19.72 to 29.53") <sup>2)</sup>	<b>1 3</b>
751 to 1000 mm (29.57 to 39.37") <sup>2)</sup>	<b>1 4</b>
1001 to 1250 mm (39.41 to 49.21") <sup>2)</sup>	<b>1 5</b>
1251 to 1500 mm (49.25 to 59.06") <sup>2)</sup>	<b>1 6</b>
1501 to 1750 mm (59.09 to 68.90") <sup>2)</sup>	<b>1 7</b>
1751 to 2000 mm (68.94 to 78.74") <sup>2)</sup>	<b>1 8</b>
2001 to 2250 mm (78.78 to 88.58") <sup>2)</sup>	<b>2 1</b>
2251 to 2500 mm (88.62 to 98.43") <sup>2)</sup>	<b>2 2</b>
2501 to 2750 mm (98.46 to 108.27") <sup>2)</sup>	<b>2 3</b>
2751 to 3000 mm (108.31 to 118.11") <sup>2)</sup>	<b>2 4</b>
3001 to 3250 mm (118.15 to 127.95") <sup>2)</sup>	<b>2 5</b>
3251 to 3500 mm (127.99 to 137.80") <sup>2)</sup>	<b>2 6</b>
3501 to 3750 mm (137.83 to 147.64") <sup>2)</sup>	<b>2 7</b>
3751 to 4000 mm (147.68 to 157.48") <sup>2)</sup>	<b>2 8</b>
Stainless Steel 316TI (1.4571)	
Standard length, 165 mm (6.50") <sup>3)</sup>	<b>3 1</b>

Selection and Ordering data	Order No.
<b>SITRANS LVS200, short fork for liquids/solids interface</b> Vibrating point level switch for solids or liquids within liquid interface applications, and high load applications with short insertion requirements	<b>7 ML 5 7 3 2 -</b> ■■■■■ - ■■ A 0
<u>Add order code Y01 and plain text:</u> <u>"Insertion length ...mm"</u>	
200 to 500 mm (7.87 to 19.69") <sup>3)</sup>	<b>3 2</b>
501 to 750 mm (19.72 to 29.53") <sup>3)</sup>	<b>3 3</b>
751 to 1000 mm (29.57 to 39.37") <sup>3)</sup>	<b>3 4</b>
1001 to 1250 mm (39.41 to 49.21") <sup>3)</sup>	<b>3 5</b>
1251 to 1500 mm (49.25 to 59.06") <sup>4)</sup>	<b>3 6</b>
1501 to 1750 mm (59.09 to 68.90") <sup>4)</sup>	<b>3 7</b>
1751 to 2000 mm (68.94 to 78.74") <sup>4)</sup>	<b>3 8</b>
2001 to 2250 mm (78.78 to 88.58") <sup>4)</sup>	<b>4 1</b>
2251 to 2500 mm (88.62 to 98.43") <sup>4)</sup>	<b>4 2</b>
2501 to 2750 mm (98.46 to 108.27") <sup>3)</sup>	<b>4 3</b>
2751 to 3000 mm (108.31 to 118.11") <sup>3)</sup>	<b>4 4</b>
3001 to 3250 mm (118.15 to 127.95") <sup>3)</sup>	<b>4 5</b>
3251 to 3500 mm (127.99 to 137.80") <sup>3)</sup>	<b>4 6</b>
3501 to 3750 mm (137.83 to 147.64") <sup>3)</sup>	<b>4 7</b>
3751 to 4000 mm (147.68 to 157.48") <sup>3)</sup>	<b>4 8</b>
<b>Material process connection/extension</b> Stainless steel 304 (1.4301)	<b>1</b>
Stainless steel 316 TI (1.4571)	<b>2</b>
<b>Approvals</b> CSA/FM Dust Ignition Proof, C-TICK	<b>A</b>
ATEX II 1/2 D, C-TICK	<b>B</b>
CSA/FM General Purpose, C-TICK	<b>C</b>
CE, C-TICK	<b>D</b>
<b>Further designs</b>	Order code
Please add <b>"-Z"</b> to Order No. and specify Order code(s).	
Total insertion length: Enter the total insertion length in plain text description, max. 4000 mm (157.48")	<b>Y01</b>
Signal bulb inserted in M20 cable gland <sup>4)</sup>	<b>A20</b>
<b>Instruction manual</b> Multi-language	Order No. <b>7ML1998-5FT62</b>
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and instruction manual library.	
<b>Spare parts</b> Replacement Electronics Module (350 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	<b>7ML1830-1KM</b>
Sliding sleeve, 2" [(BSPP), EN ISO 228-1]	<b>7ML1830-1JM</b>
Sliding sleeve, 2" NPT [(Taper), ANSI/ASME B1.20.1]	<b>7ML1830-1JN</b>

- 1) Available with approval options B, C, D only
- 2) Available with material process connection/extension option 1 only
- 3) Available with material process connection/extension option 2 only
- 4) Available with approval options C, D only



icenta CONTROLS Ltd, North Station Yard, Warminster Road, Wilton, Salisbury, SP2 0AT  
Tel: 0845 895 1020 Fax: 0845 895 1021 Email: sales@icenta.co.uk www.icenta.co.uk

# Level instruments

## Point level measurement - Vibrating switches

### SITRANS LVS200

Selection and Ordering data	Order No.
<b>SITRANS LVS200, pipe extension</b> Vibrating point level switch for high or low levels of bulk solids Extended using 1" pipe extension (customer supplied)	7 ML 5 7 3 3 - A 0
<b>Power supply</b> 19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)	1
19 to 230 V AC, 19 to 55 V DC, two relay outputs (DPDT)	2
18 to 50 V DC PNP	3
19 to 230 V AC/DC without contact, 2-wire loop powered <sup>1)</sup>	4
7 to 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire <sup>2)</sup>	5
8/16 mA or 4 to 20 mA; 12.5 to 35 V DC, 2-wire	6
<b>Process temperature</b> Up to +150 °C (+302 °F)	A
<b>Process connection</b>	
<u>Threaded</u> R 1½" [(BSPT), EN 10226] 1½" NPT [(Taper), ANSI/ASME B1.20.1]	A B
<u>Flanged</u> DN 100 PN 6, EN1092-1 (1.4541/321) DN 100 PN 16, EN1092-1 (1.4541/321) 2" ASME 150 lbs B16.5 (1.4541/321) 3" ASME 150 lbs B16.5 (1.4541/321) 4" ASME 150 lbs B16.5 (1.4541/321)	C D E F G
<b>Process connection material</b> Stainless steel 304 (1.4301) Stainless steel 316 T1 (1.4571)	1 2
<b>Extension length</b> Customer supplied 1" pipe extension Length: 300 to 3800 mm (11.81 to 149.61")	1
<b>Application type</b> Dry bulk solids (125 Hz) Liquids/solids interface (350 Hz) Liquids/solids interface or short fork high load applications (350 Hz)	1 2 3
<b>Approvals</b> CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK CE, C-TICK CSA/FM IS Class I, II, III Div. 1, Groups A, B, C, D, E, F, G, FM Class 1, Aex ia IIC, CSA Class 1, Ex ia IIC, C-TICK <sup>3)</sup> ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK <sup>3)</sup>	A B C D E F
<b>Further designs</b>	Order code
Please add "-Z" to Order No. and specify Order code(s).	
Enter the total insertion length in plain text description, min. 300 mm (11.81") max. 3800 mm (149.61")	Y01
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68")	K05
Signal bulb inserted in M20 cable gland <sup>4)</sup>	A20
NAMUR 8 to 16 mA switch amplifiers	A15

Selection and Ordering data	Order No.
<b>SITRANS LVS200, pipe extension</b> Vibrating point level switch for high or low levels of bulk solids Extended using 1" pipe extension (customer supplied)	7 ML 5 7 3 3 - A 0
<b>Instruction manual</b> Multi-language Note: One instruction manual is shipped with this product.  This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and instruction manual library.	7ML1998-5FT62
<b>Spare parts</b> Replacement Electronics Module (125 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	7ML1830-1KL
Replacement Electronics Module (350 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	7ML1830-1KM

- 1) Available with approval options A to D only
- 2) Available with application type 1 only
- 3) Available with power supply option 5 only
- 4) Available with approval options C, D only



# Level instruments

## Point level measurement - Vibrating switches

SITRANS LVS200

Selection and Ordering data	Order No.
<b>SITRANS LVS200, cable extended</b> Vibrating point level switch for high or low level detection of bulk solids materials	<b>7 ML 5 7 3 4 -</b> ■■■■■ - ■■■■ A 0
<b>Power supply</b> 19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)	1
19 to 230 V AC, 19 to 55 V DC, two relay outputs (DPDT)	2
18 to 50 V DC PNP	3
19 to 230 V AC/DC without contact, 2-wire loop powered <sup>1)</sup>	4
7 to 9 V DC (requires NAMUR switch amplifier)	5
NAMUR IEC 60947-5-6, 2-wire <sup>2)</sup> 3)	6
8/16 mA or 4 to 20 mA; 12.5 to 35 V DC, 2-wire <sup>4)</sup>	6
<b>Process temperature</b> Up to +80 °C (+176 °F)	A
<b>Process connection</b> <u>Threaded</u> R 1½" [(BSPT), EN 10226] 1½" NPT [(Taper), ANSI/ASME B1.20.1]	A B
<u>Flanged</u> DN 100 PN 6, EN1092-1 (1.4541/321) DN 100 PN 16, EN1092-1 (1.4541/321)	C D
2" ASME 150 lbs B16.5 (1.4541/321)	E
3" ASME 150 lbs B16.5 (1.4541/321)	F
4" ASME 150 lbs B16.5 (1.4541/321)	G
<b>Extension length</b> 700 to 1000 mm (19.7 to 39.4") [max. length 20000 mm (787.4"), not with Power supply option 5 (max. 10000 mm, 393.7")]	10
<u>Add order code Y01 and plain text: "insertion length ... mm"</u>	
1001 to 2000 mm (39.41 to 78.74")	11
2001 to 3000 mm (78.78 to 118.11")	12
3001 to 4000 mm (118.15 to 157.48")	13
4001 to 5000 mm (157.52 to 196.85")	14
5001 to 6000 mm (196.89 to 236.22")	15
6001 to 7000 mm (236.26 to 275.59")	16
7001 to 8000 mm (275.63 to 314.96")	17
8001 to 9000 mm (315 to 354.33")	18
9001 to 10000 mm (354.37 to 393.70")	20
10001 to 11000 mm (393.74 to 433.07")	21
11001 to 12000 mm (433.11 to 472.44")	22
12001 to 13000 mm (472.48 to 511.81")	23
13001 to 14000 mm (511.85 to 551.18")	24
14001 to 15000 mm (551.22 to 590.55")	25
15001 to 16000 mm (590.59 to 629.92")	26
16001 to 17000 mm (629.96 to 669.29")	27
17001 to 18000 mm (669.33 to 708.66")	28
18001 to 19000 mm (708.70 to 748.03")	30
19001 to 20000 mm (748.07 to 787.40")	31
<b>Application type</b> Dry bulk solids (125 Hz)	1
Liquid/solids interface (350 Hz) <sup>5)</sup>	2

Selection and Ordering data	Order No.
<b>SITRANS LVS200, cable extended</b> Vibrating point level switch for high or low level detection of bulk solids materials	<b>7 ML 5 7 3 4 -</b> ■■■■■ - ■■■■ A 0
<b>Approvals</b> CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK  CE, C-TICK CSA/FM IS Class I, II, III Div. 1, Groups A, B, C, D, E, F, G, FM Class 1, Aex ia IIC, CSA Class 1, Ex ia IIC, C-TICK <sup>6)</sup> ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK <sup>6)</sup>	A B C D E F
<b>Further designs</b> Please add <b>"-Z"</b> to Order No. and specify Order code(s).	Order code
Enter the total insertion length in plain text description, 4000 mm (157.48")	<b>Y01</b>
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68")	<b>K05</b>
Signal bulb inserted in M20 cable gland <sup>4)</sup>	<b>A20</b>
NAMUR 8 to 16 mA switch amplifiers	<b>A15</b>
<b>Instruction manual</b> Multi-language  This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and instruction manual library.	Order No. <b>7ML1998-5FT62</b>
<b>Spare parts</b> Replacement Electronics Module (125 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	<b>7ML1830-1KL</b>
Replacement Electronics Module (350 Hz) [19 to 230 V AC, 19 to 55 V DC, one relay output (SPDT)]	<b>7ML1830-1KM</b>
1) Available with approval options A to D only 2) Available with approval options C to F only 3) Cable length is limited to 10000 mm (393.70") 4) Available with approval options C, D only 5) Cable length is limited to 7000 mm (275.59") 6) Available with power supply option 5 and application type 1 only	



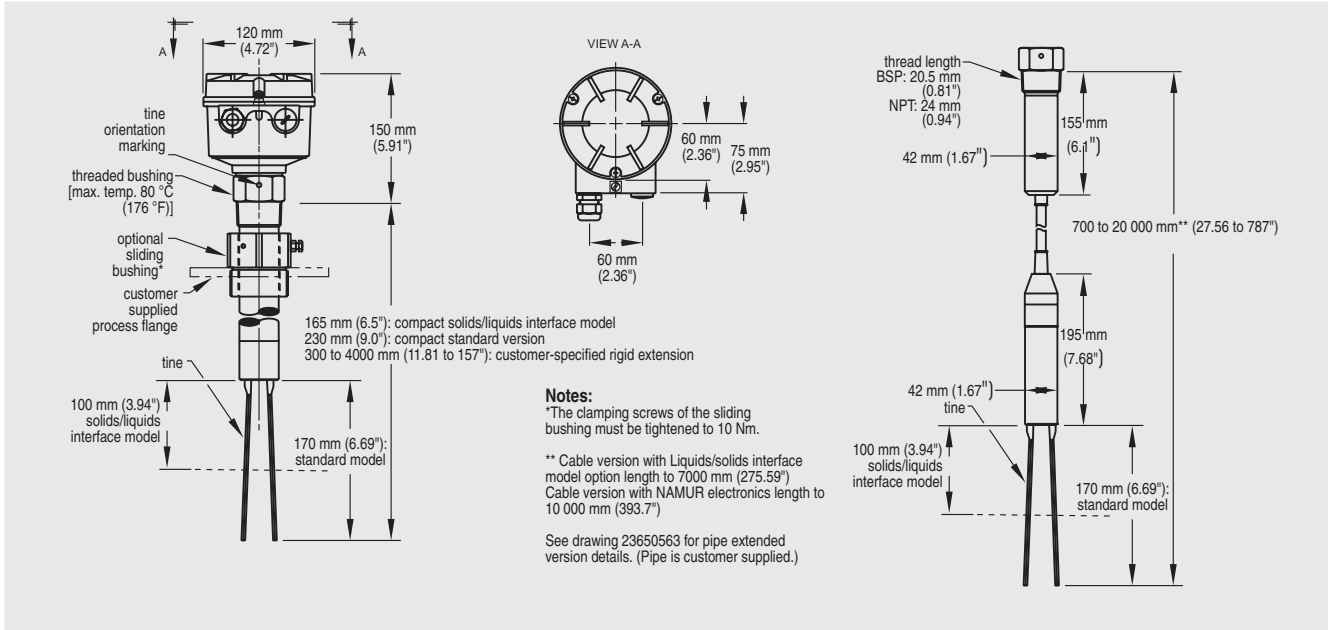
icenta CONTROLS Ltd, North Station Yard, Warminster Road, Wilton, Salisbury, SP2 0AT  
Tel: 0845 895 1020 Fax: 0845 895 1021 Email: sales@icenta.co.uk www.icenta.co.uk

# Level instruments

## Point level measurement - Vibrating switches

### SITRANS LVS200

#### Dimensional drawings



SITRANS LVS200 dimensions

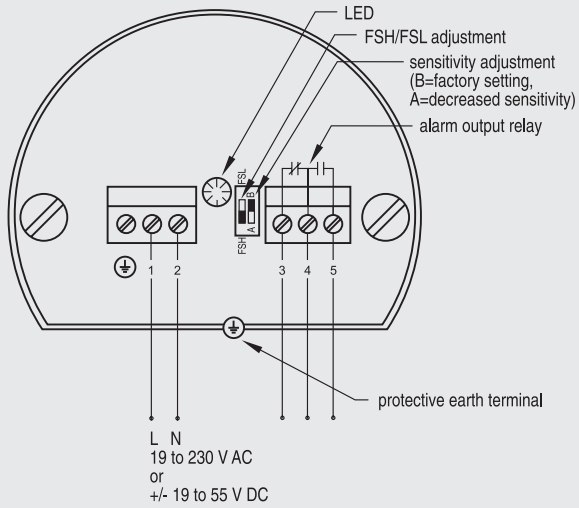


# Level instruments

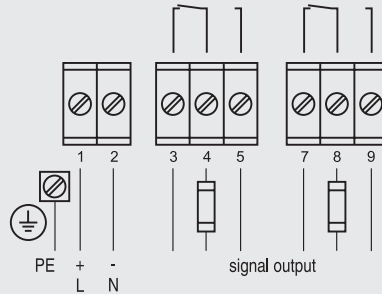
## Point level measurement - Vibrating switches

SITRANS LVS200

### Schematics



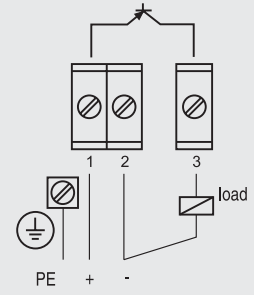
#### Universal voltage (DPDT relay)



AC  
terminal 1: L, terminal 2: N  
19 to 230 V AC, + 10 % 50 to 60 Hz, 18 VA

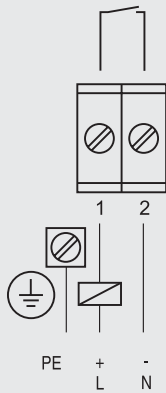
DC  
terminal 1: +, terminal 2: -  
19 to 55 V DC, + 10 %, 2 W

#### 3-wire PNP



DC  
terminal 1: +, terminal 2: -  
18 to 50 V DC, + 10 %, 1.5 W

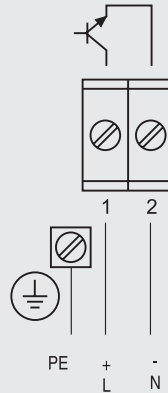
#### 2-wire



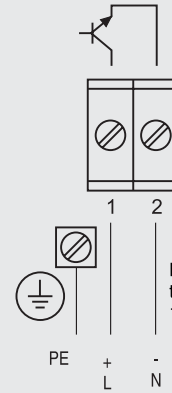
AC  
terminal 1: L, terminal 2: N  
19 to 230 V AC, + 10 %, 50 to 60 Hz, 1.5 VA

DC  
terminal 1: +, terminal 2: -  
19 to 230 V DC, + 10 %, 1 W

#### NAMUR IEC 60947-5-6 8/16 mA or 4 to 20 mA



ca. 7 to 9 V DC,  
intrinsically safe  
(IEC 60947-5-6)



DC  
terminal 1: +, terminal 2: -  
12.5 to 36 V DC, + 0 %

SITRANS LVS200 connections



icenta CONTROLS Ltd, North Station Yard, Warminster Road, Wilton, Salisbury, SP2 0AT  
Tel: 0845 895 1020 Fax: 0845 895 1021 Email: sales@icenta.co.uk www.icenta.co.uk