Level measurement

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 for convenient wiring
- Suitable for low density material: standard version, 20 g/l (1.3 lb/ft^3); liquid/solid interface version, 50 g/l (3 lb/ft^3) and low density option min. 5 g/l (0.3 lb/ft^3)
- Customer desired extensions up to 20 000 mm (787 inch)
- Optional detection of solids within liquid
- Durable short fork option with 165 mm (6.5 inch) 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 inch pipe.

SITRANS LVS200 has an optional 4 ... 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)

SITRANS LVS200

Technical specifications

Mode of operation	
Measuring principle	Vibrating point level switch
Input	
Measured variable	High, low and demand
Measuring frequency	
• Standard	125 Hz
• Liquid/solid interface and short fork version	350 Hz
Output	
PNP	Open collector: Permanent load max. 0.4 A, short-circuit and overload protected Turn-on voltage: max. 50 V (reverse protection)
2-wire without contact	Load current: • Min. 10 mA • Max. 500 mA permanent • Max. 2A < 200 ms • Max. 5A < 50 ms Voltage drop on the electronic module: max. 7 V with closed electric circuit Cutoff current with open electric circuit: max. 5 mA
Relays	
• Version with 1 relay	SPDT relay
• Version with 2 relays	DPDT relay
Relay delay	• From loss of vibration: approximately 1 second • From resumption of vibration: approximately 1 ... 2 seconds
Signal delay	• Probe uncovered to covered: approximately 1 second • Probe covered to uncovered: approximately 1 ... 2 seconds
Relay fail-safe	High or low, switch selectable
Alarm output	• Relay 8 A at 250 V AC, non-inductive • Relay 5 A at 30 V DC, non-inductive
mA output	8/16 mA or 4 ... 20 mA
• Resolution	4 ... 20 mA ± 0.1 mA
Sensitivity	High or low, switch selectable
Rated operating conditions	
Installation conditions	
• Location	Indoor/outdoor
Ambient conditions	
• Ambient temperature	-40 ... +60 °C (-40 ... +140 °F)
• Installation category	III
• Pollution degree	2

Medium conditions	
• Process temperature	• All except CSA Class II, Group G: -40 ... +150 °C (-40 ... +302 °F) • CSA Class II, Group G: -40 ... +140 °C (-40 ... +284 °F), CSA temperature code T3B
• Max. threaded bushing temperature	60 °C (140 °F)
• Max. enclosure surface temperature (Category 2D)	90 °C (194 °F)
• Max. extension surface temperature (Category 1D)	150 °C (302 °F)
• Pressure (vessel)	Max. 10 bar g (145 psi g) European Pressure Directive 97/23/EC: Category 1
• Minimum material density	• Standard version: approx. 20 g/l (1.2 lb/ft^3) • Liquid/solid interface version: approx. 50 g/l (3 lb/ft^3) • Optional low density version: approx. 5 g/l (0.3 lb/ft^3)
Design	
Material	
• Enclosure	Epoxy coated aluminum
Process connection	• Thread 1½" NPT [(Taper), ANSI/ASME B1.20.1], R ½" [(BSPT), EN 10226] and flange options • Optional sliding bushing with 2" NPT [(Taper), ANSI/ASME B1.20.1] or BSP thread • Thread material: stainless steel 303 (1.4301)
Tine material	Stainless steel 316TI (1.4571), PTFE-coated tines are available upon special request
Degree of protection	IP65/Type 4/NEMA 4
Conduit entry	2 x M20x1.5 or 2 x ½" NPT
Weight	• Standard version, no extensions: approx 2.0 kg (4.4 lb) • Solids/liquids version, no extensions: approx. 1.9 kg (4.2 lb)
Power supply	• 19 ... 230 V AC, +10 %, 50 ... 60 Hz, 8 VA • 19 ... 55 V DC, +10 %, 1.5 W
Certificates and approvals	• CSA/FM General Purpose • CE • CSA/FM Dust Ignition Proof • C-TICK • ATEX II 1/2 D • 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 • ATEX II 1G and 1/2 G Eex ia IIC; ATEX II 1D and 1/2 D, available only with power supply option 5

Selection and Ordering data		Article No. 7ML5731-
SITRANS LVS200, standard SITRANS LVS200 is a vibrating point level switch for high, low, or demand level detection of bulk solids.		■■■■■ - ■■ A 0
Power supply		
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)[1]	⬟	1
19 ... 230 V AC, 19 ... 55 V DC, two relay outputs (DPDT)[1]		2
18 ... 50 V DC PNP[1]	⬟	3
19 ... 230 V AC/DC without contact, 2-wire loop powered[1]		4
7 ... 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire[2]		5
8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire[3]		6
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT) basic version[4][5]	▶⬟	7
Process temperature		
Without temperature isolator	▶⬟	A
With temperature isolator		B
Separated enclosure - cable length 1.5 m (4.92 ft) [max. temperature process 150 °C (302 °F)/ max. temperature electronics 60 °C (140 °F)]		C
Separated enclosure - cable length 4.0 m (13.12 ft) [max. temperature process150 °C (302 °F)/ max. temperature electronics 60 °C (140 °F)]		D
Process connection		
Threaded		
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 inch)][6]		C
2" NPT [(Taper), ANSI/ASME B1.20.1], sliding sleeve [min. length 500 mm (19.69 inch)][6]		D
Flanged		
DN 100 PN 6, EN 1092-1[7]		E
DN 100 PN 16, EN 1092-1		F
2" ASME 150 lb B16.5		G
3" ASME 150 lb B16.5		H
4" ASME 150 lb B16.5		J
2" Tri-clamp (DN 50) ISO 2852		K
Extension length		
Stainless steel 304 (1.4301)		
Standard length, 235 mm (9.25 inch)	▶⬟	1 1
Add Order code Y01 and plain text: "Insertion length ... mm"		
• 300 ... 500 mm (11.81 ... 19.69 inch)	⬟	1 2
• 501 ... 750 mm (19.72 ... 29.53 inch)	⬟	1 3
• 751 ... 1 000 mm (29.57 ... 39.37 inch)	⬟	1 4
• 1 001 ... 1 250 mm (39.41 ... 49.21 inch)	⬟	1 5
• 1 251 ... 1 500 mm (49.25 ... 59.06 inch)	⬟	1 6
• 1 501 ... 1 750 mm (59.09 ... 68.90 inch)	⬟	1 7
• 1 751 ... 2 000 mm (68.94 ... 78.74 inch)	⬟	1 8
• 2 001 ... 2 250 mm (78.78 ... 88.58 inch)	⬟	2 1
• 2 251 ... 2 500 mm (88.62 ... 98.43 inch)	⬟	2 2
• 2 501 ... 2 750 mm (98.46 ... 108.27 inch)	⬟	2 3
• 2 751 ... 3 000 mm (108.31 ... 118.11 inch)	⬟	2 4
• 3 001 ... 3 250 mm (118.15 ... 127.95 inch)	⬟	2 5
• 3 251 ... 3 500 mm (127.99 ... 137.80 inch)	⬟	2 6
• 3 501 ... 3 750 mm (137.83 ... 147.64 inch)	⬟	2 7
• 3 751 ... 4 000 mm (147.68 ... 157.48 inch)	⬟	2 8

Selection and Ordering data		Article No. 7ML5731-
SITRANS LVS200, standard SITRANS LVS200 is a vibrating point level switch for high, low, or demand level detection of bulk solids.		■■■■■ - ■■ A 0
Stainless steel 316L (1.4404)		
Standard length, 235 mm (9.25 inch)		3 1
Add Order code Y01 and plain text: "Insertion length ... mm"		
300 ... 500 mm (11.81 ... 19.69 inch)		3 2
501 ... 750 mm (19.72 ... 29.53 inch)		3 3
751 ... 1 000 mm (29.57 ... 39.37 inch)		3 4
1 001 ... 1 250 mm (39.41 ... 49.21 inch)		3 5
1 251 ... 1 500 mm (49.25 ... 59.06 inch)		3 6
1 501 ... 1 750 mm (59.09 ... 68.90 inch)		3 7
1 751 ... 2 000 mm (68.94 ... 78.74 inch)		3 8
2 001 ... 2 250 mm (78.78 ... 88.58 inch)		4 1
2 251 ... 2 500 mm (88.62 ... 98.43 inch)		4 2
2 501 ... 2 750 mm (98.46 ... 108.27 inch)		4 3
2 751 ... 3 000 mm (108.31 ... 118.11 inch)		4 4
3 001 ... 3 250 mm (118.15 ... 127.95 inch)		4 5
3 251 ... 3 500 mm (127.99 ... 137.80 inch)		4 6
3 501 ... 3 750 mm (137.83 ... 147.64 inch)		4 7
3 751 ... 4 000 mm (147.68 ... 157.48 inch)		4 8
Material process connection/extension		
Stainless steel threads 304 (1.4301), flanges 321 (1.4541), Tri-clamp 304 (1.4301)[8]	▶⬟	1
Stainless steel 316L (1.4404)[9]		2
Approvals		
CSA/FM Dust Ignition Proof, C-TICK	▶⬟	A
ATEX II 1/2 D, C-TICK	▶⬟	B
CSA/FM General Purpose, C-TICK	⬟	C
CE, C-TICK	⬟	D
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		E
ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK		F
IEC-Ex t IIIC Da/Db		G

1) Available with Approval options A ... D, G only
2) Available with Approval options D, E, F only
3) Available with Approval options B, D, G only
4) Available with configurations 7ML5731-7AA11-1BA0 or 7ML5731-7AB11-1AA0 only
5) Basic version is cost effective and offers fast delivery
6) Not available with extension length options 11, 12, 31, 32
7) Max. 6 bar (87 psi)
8) Available with option extension length 11 ... 28
9) Available with option extension length 31 … 48

⬟ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ⬟. For details see page 9/5 in the appendix.

▶ Available ex stock.

Point level measurement – Vibrating switches

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Selection and Ordering data	Order code
Further Designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Total insertion length: Enter the total insertion length in plain text description, max. 4 000 mm (157.48 inch)	**Y01**
Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text	**Y14**
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68 inch)[3]	**K05**
Enhanced sensitivity < 5 g/l via electronics, increased fork length to 195 mm (7.68 inch), and increased aluminum fork width [1)3)]	**G01**
Signal bulb inserted in M20 cable gland[2]	**A20**
NAMUR 8/16 mA switch amplifiers available, contact factory for pricing	
Operating Instructions	Article No.
Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	**7ML1998-5FT63**
Spare Parts	
Replacement Electronics Module (125 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KL**
Sliding sleeve, 2" BSP (ISO 228)	**7ML1830-1JM**
Sliding sleeve, 2" NPT (ASME B1.20.1)	**7ML1830-1JN**
Namur Isolator switch amplifier relay output KFD2-SR2-Ex1.W	**A5E03496569**
Available ex stock	
SITRANS LVS200, standard, power supply 7, process temperature A, process connection A, extension length 11, material process connection/ extension 1, and approval B	**7ML5731-7AA11-1BA0**
SITRANS LVS200, standard, power supply 7, process temperature A, process connection B, extension length 11, material process connection/ extension 1, and approval A	**7ML5731-7AB11-1AA0**

1) Available only with power supply 1 and Approval C, D and with Process connection flange E ... J

2) Available with Approval option D only

3) K05 and G01 are not available together

Selection and Ordering data	Article No.
SITRANS LVS200, short fork for liquids/ solids interface Vibrating point level switch for solids or solids within liquid interface applications, and high load applications with short insertion requirements	**7ML5732-** ■■■■■ - ■■ **A 0**
Power supply	
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)	**1**
19 ... 230 V AC, 19 ... 55 V DC, two relay outputs (DPDT)	**2**
18 ... 50 V DC PNP	**3**
19 ... 230 V AC/DC without contact, 2-wire loop powered	**4**
8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire[1]	**5**
Process temperature	
Without temperature isolator	**A**
With temperature isolator	**B**
Separated enclosure - cable length 1.5 m (4.92 ft) [max. temperature process 150 °C (302 °F)/ max. temperature electronics 60 °C (140 °F)]	**C**
Separated enclosure - cable length 4.0 m (13.12 ft) [max. temperature process 150 °C (302 °F)/ max. temperature electronics 60 °C (140 °F)]	**D**
Process connection	
Threaded	
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 inch)][2]	**C**
2" NPT [(Taper), ANSI/ASME B1.20.1], sliding sleeve [min. length 500 mm (19.69 inch)][2]	**D**
Flanged	
DN 100 PN 6, EN 1092-1[3]	**E**
DN 100 PN 16, EN 1092-1	**F**
2" ASME 150 lb B16.5	**G**
3" ASME 150 lb B16.5	**H**
4" ASME 150 lb B16.5	**J**
2" Tri-clamp (DN 50) ISO 2852	**K**
Extension length	
Stainless steel 304 (1.4301)	
Standard length, 165 mm (6.50 inch)	**1 1**
Add Order code Y01 and plain text: "Insertion length ... mm"	
200 ... 500 mm (7.87 ... 19.69 inch)	**1 2**
501 ... 750 mm (19.72 ... 29.53 inch)	**1 3**
751 ... 1 000 mm (29.57 ... 39.37 inch)	**1 4**
1 001 ... 1 250 mm (39.41 ... 49.21 inch)	**1 5**
1 251 ... 1 500 mm (49.25 ... 59.06 inch)	**1 6**
1 501 ... 1 750 mm (59.09 ... 68.90 inch)	**1 7**
1 751 ... 2 000 mm (68.94 ... 78.74 inch)	**1 8**
2 001 ... 2 250 mm (78.78 ... 88.58 inch)	**2 1**
2 251 ... 2 500 mm (88.62 ... 98.43 inch)	**2 2**
2 501 ... 2 750 mm (98.46 ... 108.27 inch)	**2 3**
2 751 ... 3 000 mm (108.31 ... 118.11 inch)	**2 4**
3 001 ... 3 250 mm (118.15 ... 127.95 inch)	**2 5**
3 251 ... 3 500 mm (127.99 ... 137.80 inch)	**2 6**
3 501 ... 3 750 mm (137.83 ... 147.64 inch)	**2 7**
3 751 ... 4 000 mm (147.68 ... 157.48 inch)	**2 8**
Stainless steel 316L (1.4404)	
Standard length, 165 mm (6.50 inch)	**3 1**
Add Order code Y01 and plain text: "Insertion length ... mm"	
200 ... 500 mm (7.87 ... 19.69 inch)	**3 2**
501 ... 750 mm (19.72 ... 29.53 inch)	**3 3**
751 ... 1 000 mm (29.57 ... 39.37 inch)	**3 4**

Selection and Ordering data		Article No.
SITRANS LVS200, short fork for liquids/ solids interface Vibrating point level switch for solids or solids within liquid interface applications, and high load applications with short insertion requirements		**7ML5732-** ■■■■-■■ **A 0**
1 001 ... 1 250 mm (39.41 ... 49.21 inch)		**3 5**
1 251 ... 1 500 mm (49.25 ... 59.06 inch)		**3 6**
1 501 ... 1 750 mm (59.09 ... 68.90 inch)		**3 7**
1 751 ... 2 000 mm (68.94 ... 78.74 inch)		**3 8**
2 001 ... 2 250 mm (78.78 ... 88.58 inch)		**4 1**
2 251 ... 2 500 mm (88.62 ... 98.43 inch)		**4 2**
2 501 ... 2 750 mm (98.46 ... 108.27 inch)		**4 3**
2 751 ... 3 000 mm (108.31 ... 118.11 inch)		**4 4**
3 001 ... 3 250 mm (118.15 ... 127.95 inch)		**4 5**
3 251 ... 3 500 mm (127.99 ... 137.80 inch)		**4 6**
3 501 ... 3 750 mm (137.83 ... 147.64 inch)		**4 7**
3 751 ... 4 000 mm (147.68 ... 157.48 inch)		**4 8**
Material process connection/extension		
Stainless steel threads 304 (1.4301), flanges 321(1.4541), Tri-clamp 304 (1.4301)[4]	⬟	**1**
Stainless steel 316L (1.4404)[5]		**2**
Approvals		
CSA/FM Dust Ignition Proof, C-TICK	⬟	**A**
ATEX II 1/2 D, C-TICK	⬟	**B**
CSA/FM General Purpose, C-TICK	⬟	**C**
CE, C-TICK	⬟	**D**
IEC-Ex t IIIC Da/Db		**E**

1) Available with Approval option B, D, E only
2) Not available with extension length options 11,12, 31, 32
3) Max. 6 bar (87psi)
4) Available with option extension length 11 ... 28
5) Available with option extension length 31 … 48

⬟ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ⬟. For details see page 9/5 in the appendix.

Selection and Ordering data	Order code
Further Designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Total insertion length: Enter the total insertion length in plain text description, max. 4 000 mm (147.48 inch)	**Y01**
Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text	**Y14**
Signal bulb inserted in M20 cable gland[1]	**A20**
Adjustable sensitivity (by potentiometer) for solids/ liquids interface detection[1)2)]	**G02**
Operating Instructions	Article No.
Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	**7ML1998-5FT63**
Spare Parts	
Replacement Electronics Module (350 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KM**
Sliding sleeve, 2" BSP (ISO 228)	**7ML1830-1JM**
Sliding sleeve, 2" NPT (ASME B1.20.1)	**7ML1830-1JN**

1) Available with Approval option D only
2) Available with power supply option 1 only

Point level measurement – Vibrating switches

SITRANS LVS200

Selection and Ordering data	Article No.
SITRANS LVS200, pipe extension Vibrating point level switch for high or low levels of bulk solids Extended using 1" pipe extension (customer supplied)	**7ML5733-** ■■■■■ - ■■ **A 0**
Power supply	
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)[1]	**1**
19 ... 230 V AC, 19 ... 55 V DC, two relay outputs (DPDT)[1]	**2**
18 ... 50 V DC PNP[1]	**3**
19 ... 230 V AC/DC without contact, 2-wire loop powered[1]	**4**
7 ... 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire[2]	**5**
8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire[3]	**6**
Process temperature	
Up to 150 °C (302 °F)	**A**
Process connection	
Threaded	
R 1½" [(BSPT), EN 10226]	**A**
1½" NPT [(Taper), ANSI/ASME B1.20.1]	**B**
Flanged	
DN 100 PN 6, EN 1092-1 [4]	**C**
DN 100 PN 16, EN 1092-1	**D**
2" ASME 150 lb B16.5	**E**
3" ASME 150 lb B16.5	**F**
4" ASME 150 lb B16.5	**G**
2" Tri-clamp (DN 50) ISO 2852	**K**
Process connection material	
Stainless steel threads 304 (1.4301), flanges 321 (1.4541), Tri-clamp 304 (1.4301)	**1**
Stainless steel 316L (1.4404)	**2**
Extension length	
Customer supplied 1" pipe extension Length: 300 ... 3 800 mm (11.81 ... 149.61 inch)	**1**
Application type	
Dry bulk solids (125 Hz)	**1**
Liquids/solids interface (350 Hz)	**2**
Approvals	
CSA/FM Dust Ignition Proof, C-TICK	**A**
ATEX II 1/2 D, C-TICK	**B**
CSA/FM General Purpose, C-TICK	**C**
CE, C-TICK	**D**
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	**E**
ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK	**F**
IEC-Ex t IIIC Da/Db	**H**

1) Available with Approval options A, B, C, D, G only

2) Available with Approval options D, E and F only. Not available for application type 2 "Liquids/solids interface".

3) Available with Approval options B, D, G only

4) Max. 6 bar (87 psi)

Selection and Ordering data	Order code
Further Designs	
Please add "**-Z**"to Article No. and specify Order code(s).	
Total insertion length: Enter the total insertion length in plain text description, max. 3 800 mm (149.61 inch)	**Y01**
Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text	**Y14**
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68 inch)[5]	**K05**
Enhanced sensitivity < 5 g/l via electronics, increased fork length to 195 mm (7.68 inch) and increased aluminum fork width[1][4][5]	**G01**
Adjustable sensitivity (by potentiometer) for solids/liquids interface detection[2][3][4]	**G02**
Signal bulb inserted in M20 cable gland[2]	**A20**
Operating Instructions	Article No.
Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	**7ML1998-5FT63**
Spare Parts	
Replacement Electronics Module (125 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KL**
Replacement Electronis Module (350 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KM**
Isolated switch amplifier relay output KFD2-SR2-Ex1.W	**A5E03496569**

1) Available only with power supply 1 and Approvals C, D and with Process connection flange C … G

2) Available with approval options D only

3) Available with power supply option 1 only and application type 2

4) Not available with option K05

5) Available with Application type 1 only

Selection and Ordering data	Article No.
SITRANS LVS200, cable extended Vibrating point level switch for high or low level detection of bulk solids materials	**7ML5734-** ■■■■■ - ■■ **A 0**
Power supply	
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)[1]	**1**
19 ... 230 V AC, 19 ... 55 V DC, two relay outputs (DPDT)[1]	**2**
18 ... 50 V DC PNP[1]	**3**
19 ... 230 V AC/DC without contact, 2-wire loop powered[1]	**4**
7 ... 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire[2]	**5**
8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire[3]	**6**
Process temperature	
Up to 80 °C (176 °F)	**A**
Process connection	
Threaded	
R 1½" [(BSPT), EN 10226] (1.4301/304)	**A**
1½" NPT [(Taper), ANSI/ASME B1.20.1] (1.4301/304)	**B**
Flanged	
DN 100 PN 6, EN 1092-1 (1.4541/321)[4]	**C**
DN 100 PN 16, EN 1092-1 (1.4541/321)	**D**
2" ASME 150 lb B16.5 (1.4541/321)	**E**
3" ASME 150 lb B16.5 (1.4541/321)	**F**
4" ASME 150 lb B16.5 (1.4541/321)	**G**
Extension length	
750 ... 1 000 mm (29.5 ... 39.4 inch) [max. length 20 000 mm (787.4 inch), not with Power supply option 5 (max. 10 000 mm, 393.7 inch)]	**1 0**
Add Order code Y01 and plain text: "Insertion length ... mm"	
1 001 ... 2 000 mm (39.41 ... 78.74 inch)	**1 1**
2 001 ... 3 000 mm (78.78 ... 118.11 inch)	**1 2**
3 001 ... 4 000 mm (118.15 ... 157.48 inch)	**1 3**
4 001 ... 5 000 mm (157.52 ... 196.85 inch)	**1 4**
5 001 ... 6 000 mm (196.89 ... 236.22 inch)	**1 5**
6 001 ... 7 000 mm (236.26 ... 275.59 inch)	**1 6**
7 001 ... 8 000 mm (275.63 ... 314.96 inch)[5]	**1 7**
8 001 ... 9 000 mm (315 ... 354.33 inch)[5]	**1 8**
9 001 ... 10 000 mm (354.37 ... 393.70 inch)[5]	**2 0**
10 001 ... 11000 mm (393.74 ... 433.07 inch)[5][6]	**2 1**
11 001 ... 12 000 mm (433.11 ... 472.44 inch)[5][6]	**2 2**
12 001 ... 13 000 mm (472.48 ... 511.81 inch)[5][6]	**2 3**
13 001 ... 14 000 mm (511.85 ... 551.18 inch)[5][6]	**2 4**
14 001 ... 15 000 mm (551.22 ... 590.55 inch)[5][6]	**2 5**
15 001 ... 16 000 mm (590.59 ... 629.92 inch)[5][6]	**2 6**
16 001 ... 17 000 mm (629.96 ... 669.29 inch)[5][6]	**2 7**
17 001 ... 18 000 mm (669.33 ... 708.66 inch)[5][6]	**2 8**
18 001 ... 19 000 mm (708.70 ... 748.03 inch)[5][6]	**3 0**
19 001 ... 20 000 mm (748.07 ... 787.40 inch)[5][6]	**3 1**
Application type	
Dry bulk solids (125 Hz)	**1**
Liquid/solids interface (350 Hz)[7]	**2**

Selection and Ordering data	Article No.
SITRANS LVS200, cable extended Vibrating point level switch for high or low level detection of bulk solids materials	**7ML5734-** ■■■■■ - ■■ **A 0**
Approvals	
CSA/FM Dust Ignition Proof, C-TICK	**A**
ATEX II 1/2 D, C-TICK	**B**
CSA/FM General Purpose, C-TICK	**C**
CE, C-TICK	**D**
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	**E**
ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK[6]	**F**
IEC-Ex t IIIC Da/Db	**G**

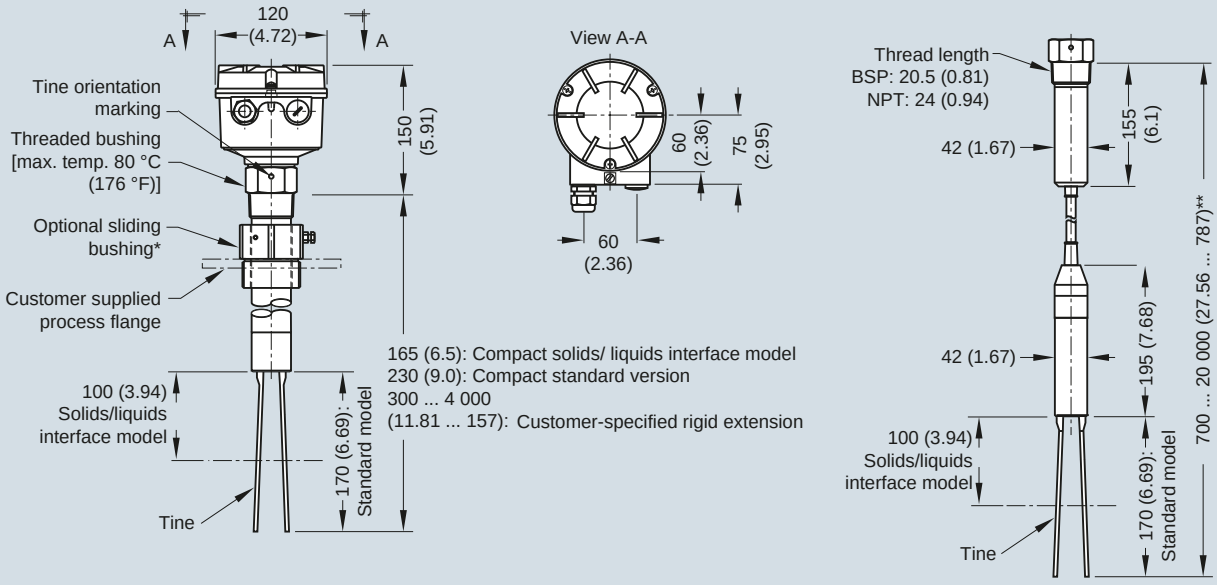
1) Available with Approval options A, B, C, D, G only
2) Available with Approval option D, E and F only. Not available for application type 2 "Liquids/solids interface".
3) Available with Approval option D only
4) Max. 6 bar (87 psi)
5) Not available with application type option 2
6) Not available with Power supply option 5
7) Cable length is limited to 7 000 mm (275.59 inch).

Selection and Ordering data	Order code
Further Designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Enter the total insertion length in plain text description, max. 20 000 mm (787.40 inch)	**Y01**
Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text	**Y14**
Enhanced sensitivity > 5 g/l via electronics and increased fork length to 195 mm (7.68 inch)	**K05**
Enhanced sensitivity < 5 g/l via electronics and increased fork length to 195 mm (7.68 inch) and increased aluminum fork width[1]	**G01**
Signal bulb inserted in M20 cable gland[2]	**A20**
Operating Instructions	Article No.
Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	**7ML1998-5FT63**
Spare Parts	
Replacement Electronics Module (125 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KL**
Replacement Electronics Module (350 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)]	**7ML1830-1KM**
Isolated switch amplifier relay output KFD2-SR2-Ex1.W	**A5E03496569**

1) Available only with power supply 1 and Approvals C, D and with process connection flange C ... G
2) Available with Approval options C and D only

SITRANS LVS200

Dimensional drawings

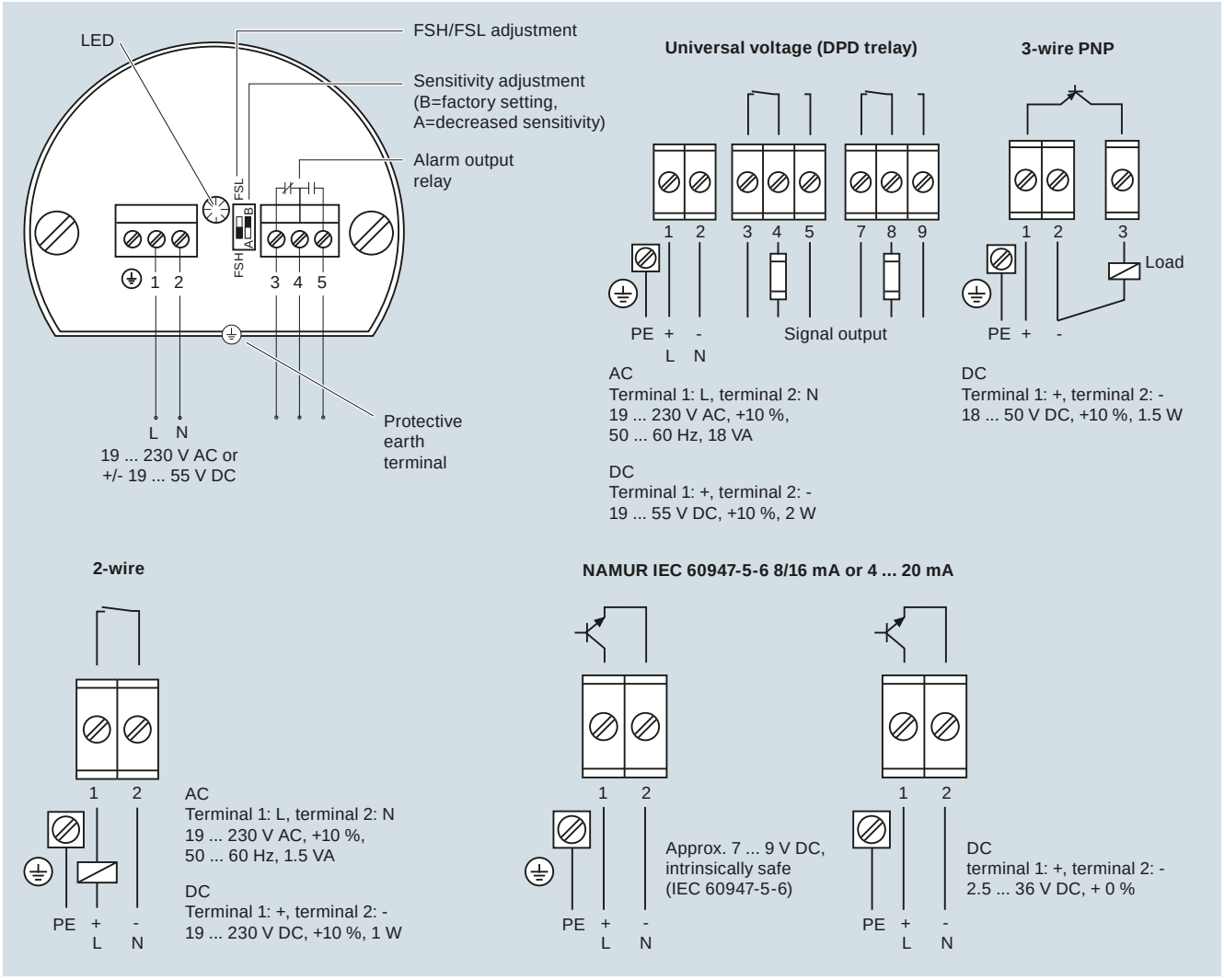


Notes:

* The clamping screws of the sliding bushing must be tightened to 10 Nm.
** Cable version with liquids/solids interface model option length to 7 000 mm (275.59 inch)
Cable version with NAMUR electronics length to 10 000 mm (393.7 inch) tightened to 10 Nm.
See drawing 23650563 for pipe extended version details. (Pipe is customer supplied.)

SITRANS LVS200, dimensions in mm (inch)

Schematics



SITRANS LVS200 connections