

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/ft³); liquid/solid interface version, 50 g/l (3 lb/ft³) and low density option min. 5 g/l (0.3 lb/ft³)
- 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)

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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
- Version with 2 relays

Relay delay

SPDT relay
DPDT relay

- From loss of vibration:
approximately 1 second
- From resumption of vibration:
approximately 1 ... 2 seconds
- Probe uncovered to covered:
approximately 1 second
- Probe covered to
uncovered: approximately
1 ... 2 seconds

Signal delay

Relay fail-safe
Alarm output

High or low, switch selectable

- Relay 8 A at 250 V AC,
non-inductive
- Relay 5 A at 30 V DC,
non-inductive

mA output

- Resolution

8/16 mA or 4 ... 20 mA
4 ... 20 mA ± 0.1 mA

Sensitivity

High or low, switch selectable

Rated operating conditions

Installation conditions

- Location

Indoor/outdoor

Ambient conditions

- Ambient temperature
- Installation category
- Pollution degree

-40 ... +60 °C (-40 ... +140 °F)
III
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
60 °C (140 °F)

- Max. threaded bushing
temperature
- Max. enclosure surface
temperature (Category 2D)
- Max. extension surface
temperature (Category 1D)
- Pressure (vessel)

90 °C (194 °F)

150 °C (302 °F)

- Minimum material density

Max. 10 bar g (145 psi g)
European Pressure Directive
97/23/EC: Category 1

- Standard version: approx. 20 g/l
(1.2 lb/ft³)
- Liquid/solid interface version:
approx. 50 g/l (3 lb/ft³)
- Optional low density version:
approx. 5 g/l (0.3 lb/ft³)

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

Conduit entry

Weight

IP65/Type 4/NEMA 4

2 x M20x1.5 or 2 x ½" NPT

- 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

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Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS LVS200, standard SITRANS LVS200 is a vibrating point level switch for high, low, or demand level detection of bulk solids.	7ML5731- A 0	SITRANS LVS200, standard SITRANS LVS200 is a vibrating point level switch for high, low, or demand level detection of bulk solids.	7ML5731- A 0
Power supply		Stainless steel 316L (1.4404)	
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT) ¹⁾	1	Standard length, 235 mm (9.25 inch)	3 1
19 ... 230 V AC, 19 ... 55 V DC, two relay outputs (DPDT) ¹⁾	2	<u>Add Order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u>	
18 ... 50 V DC PNP ¹⁾	3	300 ... 500 mm (11.81 ... 19.69 inch)	3 2
19 ... 230 V AC/DC without contact, 2-wire loop powered ¹⁾	4	501 ... 750 mm (19.72 ... 29.53 inch)	3 3
7 ... 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire ²⁾	5	751 ... 1 000 mm (29.57 ... 39.37 inch)	3 4
8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire ³⁾	6	1 001 ... 1 250 mm (39.41 ... 49.21 inch)	3 5
19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT) basic version ⁴⁾⁵⁾	7	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
Process temperature		Material process connection/extension	
Without temperature isolator	A	Stainless steel threads 304 (1.4301), flanges 321 (1.4541), Tri-clamp 304 (1.4301) ⁸⁾	1
With temperature isolator	B	Stainless steel 316L (1.4404) ⁹⁾	2
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	Approvals	
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	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
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		
<u>Add Order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u>			
• 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		
		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.	

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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 width¹⁾³⁾

G01

Signal bulb inserted in M20 cable gland²⁾

A20

NAMUR 8/16 mA switch amplifiers available, contact factory for pricing

Operating Instructions

Multi-language

This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.

Article No.

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

7ML5732-

Vibrating point level switch for solids or solids within liquid interface applications, and high load applications with short insertion requirements

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-wire¹⁾

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 1092-1³⁾

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)

11

Add Order code Y01 and plain text:
"Insertion length ... mm"

200 ... 500 mm (7.87 ... 19.69 inch)

12

501 ... 750 mm (19.72 ... 29.53 inch)

13

751 ... 1 000 mm (29.57 ... 39.37 inch)

14

1 001 ... 1 250 mm (39.41 ... 49.21 inch)

15

1 251 ... 1 500 mm (49.25 ... 59.06 inch)

16

1 501 ... 1 750 mm (59.09 ... 68.90 inch)

17

1 751 ... 2 000 mm (68.94 ... 78.74 inch)

18

2 001 ... 2 250 mm (78.78 ... 88.58 inch)

21

2 251 ... 2 500 mm (88.62 ... 98.43 inch)

22

2 501 ... 2 750 mm (98.46 ... 108.27 inch)

23

2 751 ... 3 000 mm (108.31 ... 118.11 inch)

24

3 001 ... 3 250 mm (118.15 ... 127.95 inch)

25

3 251 ... 3 500 mm (127.99 ... 137.80 inch)

26

3 501 ... 3 750 mm (137.83 ... 147.64 inch)

27

3 751 ... 4 000 mm (147.68 ... 157.48 inch)

28

Stainless steel 316L (1.4404)

Standard length, 165 mm (6.50 inch)

31

Add Order code Y01 and plain text:
"Insertion length ... mm"

200 ... 500 mm (7.87 ... 19.69 inch)

32

501 ... 750 mm (19.72 ... 29.53 inch)

33

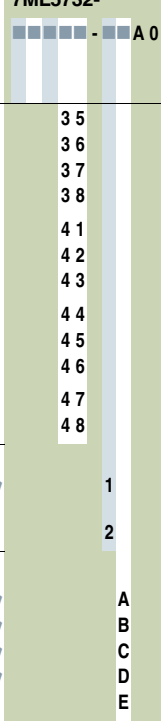
751 ... 1 000 mm (29.57 ... 39.37 inch)

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Selection and Ordering data	Article No.	Selection and Ordering data	Order code
SITRANS LVS200, short fork for liquids/solids interface Vibrating point level switch for solids or liquids within liquid interface applications, and high load applications with short insertion requirements	7ML5732-  A 0	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) Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text Signal bulb inserted in M20 cable gland ¹⁾ Adjustable sensitivity (by potentiometer) for solids/liquids interface detection ¹⁾²⁾	 Y01 Y14 A20 G02
1 001 ... 1 250 mm (39.41 ... 49.21 inch) 1 251 ... 1 500 mm (49.25 ... 59.06 inch) 1 501 ... 1 750 mm (59.09 ... 68.90 inch) 1 751 ... 2 000 mm (68.94 ... 78.74 inch) 2 001 ... 2 250 mm (78.78 ... 88.58 inch) 2 251 ... 2 500 mm (88.62 ... 98.43 inch) 2 501 ... 2 750 mm (98.46 ... 108.27 inch) 2 751 ... 3 000 mm (108.31 ... 118.11 inch) 3 001 ... 3 250 mm (118.15 ... 127.95 inch) 3 251 ... 3 500 mm (127.99 ... 137.80 inch) 3 501 ... 3 750 mm (137.83 ... 147.64 inch) 3 751 ... 4 000 mm (147.68 ... 157.48 inch)	3 5 3 6 3 7 3 8 4 1 4 2 4 3 4 4 4 5 4 6 4 7 4 8	Operating Instructions Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	Article No. 7ML1998-5FT63
Material process connection/extension Stainless steel threads 304 (1.4301), flanges 321(1.4541), Tri-clamp 304 (1.4301) ⁴⁾ Stainless steel 316L (1.4404) ⁵⁾	1 2	Spare Parts Replacement Electronics Module (350 Hz) [19 ... 230 V AC, 19 ... 55 V DC, one relay output (SPDT)] Sliding sleeve, 2" BSP (ISO 228) Sliding sleeve, 2" NPT (ASME B1.20.1)	7ML1830-1KM 7ML1830-1JM 7ML1830-1JN
Approvals CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK CE, C-TICK IEC-Ex t IIIC Da/Db	A B C D E	¹⁾ Available with Approval option D only ²⁾ Available with power supply option 1 only	

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

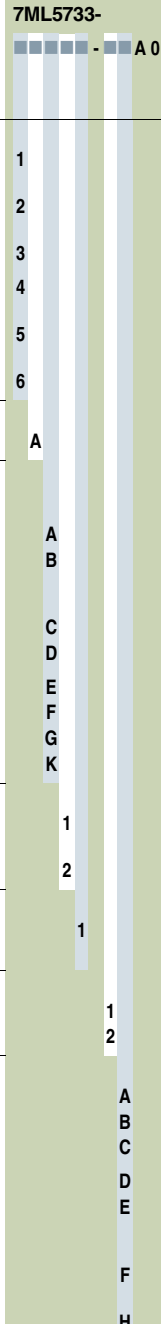
◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆. For details see page 9/5 in the appendix.

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Selection and Ordering data	Article No.	Selection and Ordering data	Order code
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	Further Designs Please add "-Z" to Article No. and specify Order code(s).	
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) ¹⁾ 18 ... 50 V DC PNP ¹⁾ 19 ... 230 V AC/DC without contact, 2-wire loop powered ¹⁾ 7 ... 9 V DC (requires NAMUR switch amplifier) NAMUR IEC 60947-5-6, 2-wire ²⁾ 8/16 mA or 4 ... 20 mA; 12.5 ... 35 V DC, 2-wire ³⁾	1 2 3 4 5 6	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	
Process temperature Up to 150 °C (302 °F)	A	Operating Instructions Multi-language This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	Article No. 7ML1998-5FT63
Process connection <u>Threaded</u> R 1½" [(BSPT), EN 10226] 1½" NPT [(Taper), ANSI/ASME B1.20.1] <u>Flanged</u> DN 100 PN 6, EN 1092-1 ⁴⁾ DN 100 PN 16, EN 1092-1 2" ASME 150 lb B16.5 3" ASME 150 lb B16.5 4" ASME 150 lb B16.5 2" Tri-clamp (DN 50) ISO 2852	A B C D E F G K	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	
Process connection material Stainless steel threads 304 (1.4301), flanges 321 (1.4541), Tri-clamp 304 (1.4301) Stainless steel 316L (1.4404)	1 2	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	
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) Liquids/solids interface (350 Hz)	1 2		
Approvals 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 ATEX II 1G and 1/2G Eex ia IIC; ATEX II 1D and 1/2D, C-TICK IEC-Ex t IIIC Da/Db	A B C D E F 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)

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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 ... 11 000 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).	

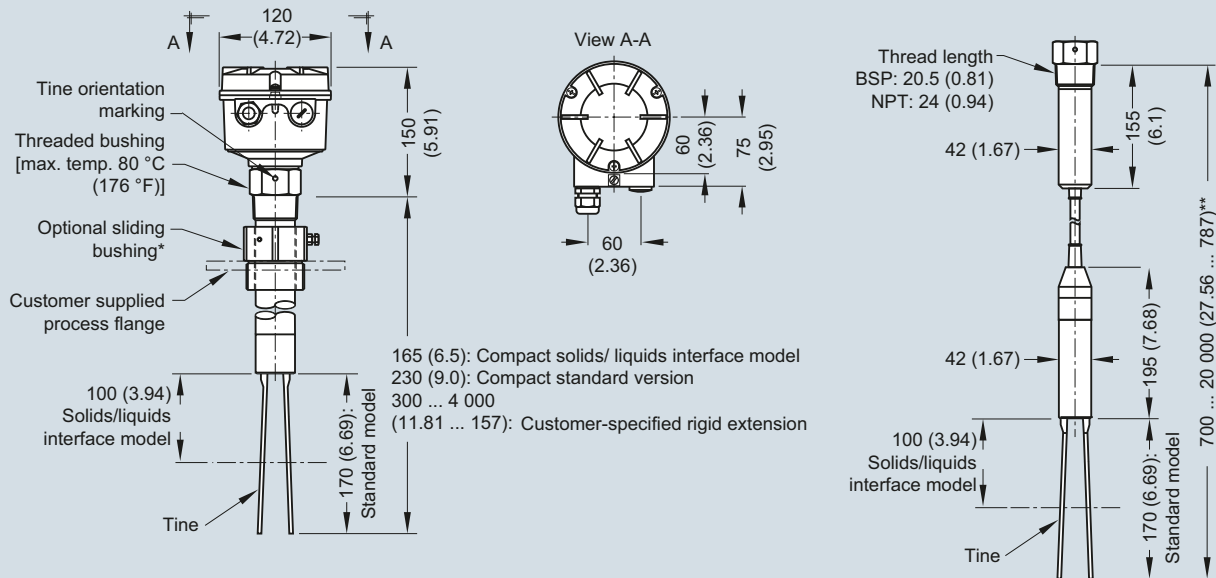
Selection and Ordering data	Order code
Further Designs	
Please add "-Z" to Article No. and specify Order code(s).	
Enter the total insertion length in plain text description, max. 20 000 mm (787.40 inch)	Y01
Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 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	

Level measurement

Point level measurement – Vibrating switches

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.)

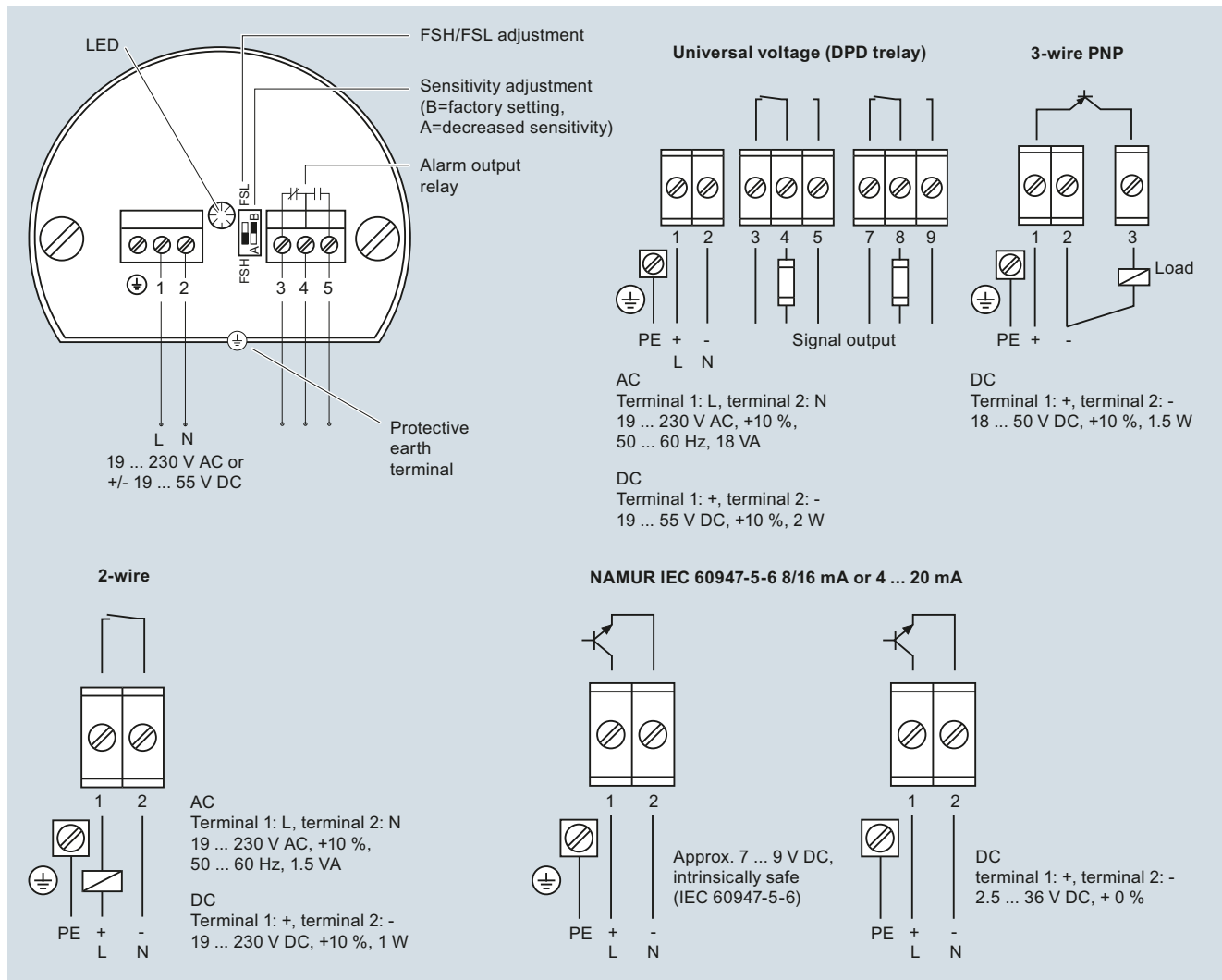
SITRANS LVS200, dimensions in mm (inch)

Level measurement

Point level measurement – Vibrating switches

SITRANS LVS200

Schematics



SITRANS LVS200 connections

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