

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Overview



SITRANS LPS200 is a rotary paddle switch for point level detection in bulk solids.

Benefits

- Proven paddle switch technology for bulk solids
- High integrity mechanical seal
- Optional switch selectable power supply
- Unique friction clutch mechanism
- Rotatable enclosure
- Optional paddle for use with low density materials
- Simple installation through existing process connection
- High temperature model and optional extension kit available
- Optional fail-safe configuration

Application

The paddle switch technology detects full, empty or demand conditions on materials such as grain, feed, cement, plastic granulate and wood chips. The paddle switch can handle bulk densities as low as 15 g/l (2,19 lb/ft³) with the optional rectangular vane or 100 g/l (6.25 lb/ft³) with the standard measuring vane.

A low revolution geared motor with slip clutch drives a rotating measuring vane which senses the presence of material at the mounted level of the LPS200. As material comes into contact with the rotating paddle, rotation stops, which changes the microswitch state. When the paddle is no longer covered by material, rotation resumes and the relay reverts to its normal condition.

The LPS200 has a rugged design for use in harsh conditions in the solids industry. The sensitivity of the paddle can be adjusted for varying material properties like buildup on the vane.

The LPS200 comes in a variety of configurations including compact, extended and cable extension. It is equipped with a standard vane which is effective in most applications, but can be configured with a hinged or rectangular vane for increased sensitivity for light materials.

- Key Applications: bulk solids such as grain, feed, cement, plastic granulate, wood chips

Technical specifications

Mode of operation	
Measuring principle	Rotating point level switch
Input	
Measured variable	High and low and demand
Output	
Output signal	
• Alarm output	<ul style="list-style-type: none"> • Microswitch 5 A at 250 V AC, non inductive • Microswitch SPDT contact 4 A at 30 V DC, non-inductive
• Pickup delay	<ul style="list-style-type: none"> • Standard (1 rpm model): approx. 1.3 seconds • Optional process applications (5 rpm model): approx. 0.26 seconds
Sensitivity	Adjustable via reset force of spring or geometry of measuring vane
Rated operating conditions	
Installation conditions	
• Location	Indoor/outdoor
Ambient conditions	
• Ambient temperature	-25 ... +60 °C (-13 ... +140 °F)
• Installation category	III
• Pollution degree	2
Medium conditions	Bulk solids
• Temperature	
- Standard	-25 ... +80 °C (-13 ... +176 °F)
- Optional	-25 ... +350 °C (-13 ... +662 °F)
• Pressure (vessel)	
- Standard	Max. 0.5 bar g (7.25 psi g)
- Optional	Max. 10 bar g (145 psi g)
• Minimum material density	
- Standard measuring vane	<ul style="list-style-type: none"> • Can detect down to 100 g/l (6.25 lb/ft³)
- Optional measuring vane	<ul style="list-style-type: none"> • Can detect down to 15 g/l (2.19 lb/ft³)
Design	
Material	
• Enclosure	Epoxy coated aluminum
• Process connection, measuring shaft and vane	Stainless steel or aluminum
Process connection	Thread NPT, BSP, and flange options
Degree of protection	IP65/Type 4/NEMA 4
Conduit entry	2 x M20x1.5 or 2 x ½" NPT
Power supply	
Jumper selectable	<ul style="list-style-type: none"> • 115 V AC, ±15 %, 50 ... 60 Hz, 4 VA or 230 V AC, ±15 %, 50 Hz, 6 VA, or 48 V AC, or 24 V AC or 24 V DC, ±15 %, 2.5 W
Certificates and approvals	
<ul style="list-style-type: none"> • CSA/FM General Purpose • CE • CSA/FM Dust Ignition Proof • ATEX II 1/2 D • C-TICK 	

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data	Order No.	Selection and Ordering data	Order No.
SITRANS LPS200, compact Rotary paddle switch for level detection in bulk solids. Compact design for side or top mounted applications.	7 ML 5 7 2 5 - - - - - - 0	SITRANS LPS200, compact Rotary paddle switch for level detection in bulk solids. Compact design for side or top mounted applications.	7 ML 5 7 2 5 - - - - - - 0
Process temperature Up to +80 °C (+176 °F) Up to +150 °C (+302 °F) Up to +250 °C (+482 °F) Up to +350 °C (+662 °F) ¹⁾ Up to +80 °C (+176 °F) basic version aluminum ^{2) 3)} Up to +80 °C (+176 °F) basic version stainless steel ^{2) 4)}	1 2 3 4 ▶ 5 ▶ 6	Measuring vane Boot shaped, 35 x 106 mm (1.38 x 4.17") ⁷⁾ Hinged vane, 65 x 210 mm (2.56 x 8.27") ^{7) 8)} Boot shaped, 28 x 98 mm (1.10 x 3.86") Rectangular 50 x 150 mm (1.97 x 5.91") ⁹⁾ Rectangular 50 x 250 mm (1.97 x 9.84") ⁹⁾ Rectangular 98 x 150 mm (3.86 x 5.91") ⁹⁾ Rectangular 98 x 250 mm (3.86 x 9.84") ⁹⁾	▶ A B C D E F G
Power supply 230 V AC, 1 rev/min. 230 V AC, 1 rev/min., fail-safe 230 V AC, 5 rev/min. 230 V AC, 5 rev/min., fail-safe 115 V AC, 1 rev/min. 115 V AC, 1 rev/min., fail-safe 115 V AC, 5 rev/min. 115 V AC, 5 rev/min., fail-safe 48 V AC, 1 rev/min. 24 V AC, 1 rev/min. 24 V DC, 1 rev/min. 24 V DC, 1 rev/min., fail-safe 24 V DC, 5 rev/min. 24 V DC, 5 rev/min., fail-safe Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 1 rev/min. Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 5 rev/min.	▶ A B C D ▶ E F G H J K L M N P ▶ Q R	Approvals CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK CE, C-TICK	▶ A B C D
Process connection <u>Threaded</u> G 1¼" [(BSPP), EN ISO 228-1] G 1" [(BSPP), EN ISO 228-1] G ½" [(BSPP), EN ISO 228-1] 1" NPT [(Taper), ANSI/ASME B1.20.1] 1¼" NPT [(Taper), ANSI/ASME B1.20.1] 1½" NPT [(Taper), ANSI/ASME B1.20.1] <u>Flanged</u> DN 32 PN 6, EN1092-1 (1.4541/321) 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)	▶ A B C D ▶ E F G H J K L M	1) 2) 3) 4) 5) 6) 7) 8) 9) ▶ Available ex stock.	
Process pressure Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	▶ 1 2 3		
Process connection material Aluminum ⁵⁾ Stainless steel 303 (1.4305)	▶ 1 ▶ 2		
Extension length 100 mm (3.94") ⁶⁾ 150 mm (5.91") 200 mm (7.87") 250 mm (9.84") 300 mm (11.81")	1 ▶ 2 3 4 5		
Selection and Ordering data	Order code	Further Designs Please add "-Z" to Order No. and specify Order code(s). Heating of enclosure ^{1) 2)} Signal bulb inserted in M20 cable gland ¹⁾ SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards	A35 A20 K01
	Order No.	Additional Operating Instructions Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	7ML1998-5FS62
		Spare Parts Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17") Hinged vane, 65 x 210 mm (2.56 x 8.27")	7ML1830-1KG 7ML1830-1KH 7ML1830-1KJ
		Rigid extension kit (includes spring coupling, rigid tube extension and required pins) Extension: 500, 400, 300 mm (19.7, 15.8, 11.8") Extension: 1000, 900, 800, 700, 600 (39.4, 35.4, 31.5, 27.6, 23.6") Extension: 1500, 1400, 1300, 1200, 1100 mm (59.1, 55.1, 51.2, 47.2, 43.3")	7ML5711-0AA 7ML5711-1AA 7ML5711-2AA

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Available ex stock

SITRANS LPS200, compact for up to +80 °C (+176 °F), aluminum, with power supply A, process connection C, process pressure 1, process connection material 1, extension length 2, measuring vane A, and approval D

7ML1830-1KG

SITRANS LPS200, compact for up to +80 °C (+176 °F), aluminum, with power supply E, process connection E, process pressure 1, process connection material 1, extension length 2, measuring vane A, and approval C

**7ML5725-
5EE11-2AC0**

SITRANS LPS200, compact for up to +80 °C (+176 °F), stainless steel, with power supply Q, process connection C, process pressure 1, process connection material 2, extension length 2, measuring vane A, and approval B

**7ML5725-
6QC12-2AB0**

SITRANS LPS200, compact for up to +80 °C (+176 °F), stainless steel, with power supply Q, process connection E, process pressure 1, process connection material 2, extension length 2, measuring vane A, and approval A

**7ML5725-
6QE12-2AA0**

- 1) Available with approval option D only
- 2) Available with power supply options A to H, J to N, P only

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data	Order No.
SITRANS LPS200, Extended Rotary paddle switch for level detection in bulk solids; ideal for heavy, sticky, or high impact applications. Designed with added protection tube for enhanced shaft protection	7 M L 5 7 2 6 - - - - - -
Process temperature Up to +80 °C (+176 °F) Up to +150 °C (+302 °F) Up to +250 °C (+482 °F) Up to +350 °C (+662 °F) ¹⁾ Up to +80 °C (+176 °F) basic version ²⁾	1 2 3 4 ▶ 5
Power supply 230 V AC, 1 rev/min. 230 V AC, 1 rev/min., fail-safe 230 V AC, 5 rev/min. 230 V AC, 5 rev/min., fail-safe 115 V AC, 1 rev/min. 115 V AC, 1 rev/min., fail-safe 115 V AC, 5 rev/min. 115 V AC, 5 rev/min., fail-safe 48 V AC, 1 rev/min. 24 V AC, 1 rev/min. 24 V DC, 1 rev/min. 24 V DC, 1 rev/min., fail-safe 24 V DC, 5 rev/min. 24 V DC, 5 rev/min., fail-safe Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 1 rev/min. Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 5 rev/min.	A B C D E F G H J K L M N P ▶ Q R
Process connection Threaded G 1¼" [(BSPP), EN ISO 228-1] G 1½" [(BSPP), EN ISO 228-1] 1¼" NPT [(Taper), ANSI/ASME B1.20.1] 1½" NPT [(Taper), ANSI/ASME B1.20.1] Flanged DN 32 PN 6, EN1092-1 (1.4541/321) 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)	A B ▶ C ▶ D E F G H J K
Process pressure Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	▶ 1 2 3
Process connection material Aluminum ^{3) 4)} Stainless steel 303 (1.4305)	1 ▶ 2
Extension length 150 mm (5.91") ⁵⁾ 200 mm (7.87") 250 mm (9.84") 300 mm (11.81")	1 ▶ 2 3 4
Extension material (protection tube) Aluminum ³⁾ Stainless steel 303 (1.4305)	A ▶ B

Selection and Ordering data	Order No.
SITRANS LPS200, Extended Rotary paddle switch for level detection in bulk solids; ideal for heavy, sticky, or high impact applications. Designed with added protection tube for enhanced shaft protection	7 M L 5 7 2 6 - - - - - -
Measuring vane Boot shaped 35 x 106 mm (1.38 x 4.17") ⁶⁾ Hinged vane 65 x 210 mm (2.56 x 8.27") ⁶⁾ Rectangular 50 x 150 mm (1.97 x 5.91") ⁷⁾ Rectangular 50 x 250 mm (1.97 x 9.84") ⁷⁾ Rectangular 98 x 150 mm (3.86 x 5.91") ⁷⁾ Rectangular 98 x 250 mm (3.86 x 9.84") ⁷⁾	A B D E F G
Approvals CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK CE, C-TICK	▶ 1 ▶ 2 3 4
<ol style="list-style-type: none"> 1) Available with approval option 3 and 4 only, up to max. 0.8 bar 2) Available with power supply option Q (process connection B with approval 2 or process connection C with approval 1), process pressure 1, process connection material 2, extension length 2, protection tube B and measuring vane A only 3) Available with process connections A to D, and process temperature option 1 only 4) Available with process pressure option 1 only 5) Not available with measuring vane option B 6) Add 16 mm (0.63") to extension length 7) Available with process connections E to H, J, K, only 	
▶ Available ex stock.	

Selection and Ordering data	Order code
Further Designs Please add "-Z" to Order No. and specify Order code(s).	
Heating of enclosure ^{1) 2)} Signal bulb inserted in M20 cable gland ¹⁾	A35 A20 K01
SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards	
Additional Operating Instructions Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. 7ML1998-5FS62
Spare Parts Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17") Hinged vane, 65 x 210 mm (2.56 x 8.27")	7ML1830-1KG 7ML1830-1KH 7ML1830-1KJ
Available ex stock SITRANS LPS200, extended for up to +80 °C (+176 °F), power supply Q, process connection B, process pressure 1, process connection material 2, extension length 2, extension material B, measuring vane A, and approval 2 SITRANS LPS200, extended for up to +80 °C (+176 °F), power supply Q, process connection C, process pressure 1, process connection material 2, extension length 2, extension material B, measuring vane A, and approval 1	7ML5726-5QB12-2BA2 7ML5726-5QC12-2BA1

- 1) Available with approval options 4 only
- 2) Available with power supply options A to H, J to N, P only

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data

SITRANS LPS200, cable extension

Rotary paddle switch for level detection in bulk solids
Cable extension for increased length in top-mounted applications

Order No.

7 ML 5 7 2 7 -

Process temperature

Up to +80 °C (+176 °F)

Up to +150 °C (+302 °F)

Up to +250 °C (+482 °F)

Up to +350 °C (+662 °F)¹⁾Up to +80 °C (+176 °F) basic version^{2) 5)}1
2
3
4
5

Power supply

230 V AC, 1 rev/min.

230 V AC, 1 rev/min., fail-safe

230 V AC, 5 rev/min.

230 V AC, 5 rev/min., fail-safe

115 V AC, 1 rev/min.

115 V AC, 1 rev/min., fail-safe

115 V AC, 5 rev/min.

115 V AC, 5 rev/min., fail-safe

48 V AC, 1 rev/min.

24 V AC, 1 rev/min.

24 V DC, 1 rev/min.

24 V DC, 1 rev/min., fail-safe

24 V DC, 5 rev/min.

24 V DC, 5 rev/min., fail-safe

Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 1 rev/min.

Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 5 rev/min.

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q
R

Process connection

Threaded

G 1¼" [(BSPP), EN ISO 228-1]

G 1½" [(BSPP), EN ISO 228-1]

1¼" NPT [(Taper), ANSI/ASME B1.20.1]

1½" NPT [(Taper), ANSI/ASME B1.20.1]

Flanged

DN 32 PN 6, EN1092-1 (1.4541/321)

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)

A
B
C
D
E
F
G
H
J
K

Process pressure

Up to 0.5 bar (7.25 psi)

Up to 5 bar (72.5 psi)

Up to 10 bar (145 psi)

1
2
3

Process connection material

Aluminum³⁾

Stainless steel 303 (1.4305)

1
2

Cable extension length

Standard cable length, 2000 mm (78.74")

0

Add order code Y01 and plain text:

"Insertion length ... mm"

500 ... 1000 mm (19.69 ... 39.37")

Cable length 1001 ... 2000 mm (39.41 ... 78.74")

Cable length 2001 ... 3000 mm (78.78 ... 118.11")

Cable length 3001 ... 4000 mm (118.15 ... 157.48")

Cable length 4001 ... 5000 mm (157.52 ... 196.85")

Cable length 5001 ... 6000 mm (196.89 ... 236.22")

Cable length 6001 ... 7000 mm (236.26 ... 275.59")

Cable length 7001 ... 10000 mm

(275.63 ... 393.70")

7
8

Selection and Ordering data

SITRANS LPS200, cable extension

Rotary paddle switch for level detection in bulk solids
Cable extension for increased length in top-mounted applications

Order No.

7 ML 5 7 2 7 -

Measuring vane

Boot shaped, 35 x 106 mm (1.38 x 4.17")⁴⁾Hinged vane, 65 x 210 mm (2.56 x 8.27")⁴⁾

Boot shaped, 28 x 98 mm (1.10 x 3.86")

Rectangular 50 x 150 mm (1.97 x 5.91")⁵⁾Rectangular 50 x 250 mm (1.97 x 9.84")⁵⁾Rectangular 98 x 150 mm (3.86 x 5.91")⁵⁾A
B
C
D
E
F

Approvals

CSA/FM Dust Ignition Proof, C-TICK

ATEX II 1/2 D, C-TICK

CSA/FM General Purpose, C-TICK

CE, C-TICK

A
B
C
D

¹⁾ Available with approval option C and D only, up to max. 0.8 bar

²⁾ Available only with Power supply Q, (Process connection B with Approvals B or Process connection C with Approvals A), Process pressure 1, Process connection material 2, Cable Extension length 0 and Measuring Vane A

³⁾ Available with process connections A to D, process pressure option 1, and process temperature option 1 only

⁴⁾ Add 16 mm (0.63") to extension length

⁵⁾ Available with process connections E to H, J, K, only

Selection and Ordering data

Order code

Further Designs

Please add "-Z" to Order No. and specify Order code(s).

Total insertion length:

Enter the total insertion length in plain text description, max. 10000 mm (393.70")

Reinforced cable (max. 28 kN pulling force)

Heating of enclosure ^{1) 2)}Signal bulb inserted in M20 cable gland¹⁾Y01
P01
A35
A20

Additional Operating Instructions

Multi-language

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

Order No.

7ML1998-5FS62

Spare Parts

Motor gear /PLC, multi-voltage

Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17")

Hinged vane, 65 x 210 mm (2.56 x 8.27")

Rope extension kit, 2 m (6.56 ft)

7ML1830-1KG
7ML1830-1KH
7ML1830-1KJ
7ML1830-1KK

Available ex stock

SITRANS LPS200, cable extension for up to +80 °C (+176 °F), power supply Q, process connection B, process pressure 1, process connection material 2, extension length 0, measuring vane A, and approval B

7ML5727-5QB12-0AB0

SITRANS LPS200, cable extension for up to +80 °C (+176 °F), power supply Q, process connection C, process pressure 1, process connection material 2, extension length 0, measuring vane A, and approval A

7ML5727-5QC12-0AA0

¹⁾ Available with approval options D only

²⁾ Available with power supply options A to H, J to N, and P, only

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data	Order No.	Selection and Ordering data	Order code
SITRANS LPS200, angled extension Rotary paddle switch with robust design for level detection in bulk solids; ideal for heavy or sticky applications. Angled extension designed to avoid falling material in side mount applications	7ML5728- 	Further Designs Please add "-Z" to Order No. and specify Order code(s).	
Process temperature Up to +80 °C (+176 °F) Up to +150 °C (+302 °F) Up to +250 °C (+482 °F)	1 2 3	Heating of enclosure ^{1) 2)} Signal bulb inserted in M20 cable gland ¹⁾	A35 A20
Power supply 230 V AC, 1 rev/min. 230 V AC, 1 rev/min., fail-safe 230 V AC, 5 rev/min. 230 V AC, 5 rev/min., fail-safe 115 V AC, 1 rev/min. 115 V AC, 1 rev/min., fail-safe 115 V AC, 5 rev/min. 115 V AC, 5 rev/min., fail-safe 48 V AC, 1 rev/min. 24 V AC, 1 rev/min. 24 V DC, 1 rev/min. 24 V DC, 1 rev/min., fail-safe 24 V DC, 5 rev/min. 24 V DC, 5 rev/min., fail-safe Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 1 rev/min. Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 5 rev/min.	A B C D E F G H J K L M N P Q R	Additional Operating Instructions Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. 7ML1998-5FS62
Process connection <u>Flanged</u> DN 100 PN 6, EN1092-1 (1.4541/321) DN 100 PN 16, EN1092-1 (1.4541/321) 4" ASME 150 lbs B16.5 (1.4541/321)	A B C	Spare Parts Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17") Hinged vane, 65 x 210 mm (2.56 x 8.27")	7ML1830-1KG 7ML1830-1KH 7ML1830-1KJ
Process pressure Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	1 2 3	¹⁾ Available with approval options D only ²⁾ Available with power supply options A to H, J to N, P only	
Process connection material Stainless steel 303 (1.4305)	1		
Extension length 125 mm (4.92") 150 mm (5.91") 200 mm (7.87") 250 mm (9.84") 300 mm (11.81")	1 2 3 4 5		
Measuring vane Rectangular vane, 50 x 98 mm (1.97 x 3.86") Rectangular vane, 50 x 150 mm (1.97 x 5.91") Rectangular vane, 50 x 250 mm (1.97 x 9.84") Rectangular vane 98 x 150 mm (3.86 x 5.91") Rectangular vane 98 x 250 mm (3.86 x 9.84") Hinged vane, 65 x 210 mm (2.56 x 8.27")	A B C D E F		
Approvals CSA/FM Dust Ignition Proof, C-TICK ATEX II 1/2 D, C-TICK CSA/FM General Purpose, C-TICK CE, C-TICK	A B C D		

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data

Order No.

SITRANS LPS200, rigid extension

Rotary paddle switch for top mount point level detection in bulk solids

7 ML 5 7 3 0 -

Process temperature

Up to +80 °C (+176 °F)

Up to +150 °C (+302 °F)

Up to +250 °C (+482 °F)

Up to +350 °C (+662 °F)¹⁾1
2
3
4

Power supply

230 V AC, 1 rev/min.

230 V AC, 1 rev/min., fail-safe

230 V AC, 5 rev/min.

A
B
C

230 V AC, 5 rev/min., fail-safe

115 V AC, 1 rev/min.

115 V AC, 1 rev/min., fail-safe

115 V AC, 5 rev/min.

115 V AC, 5 rev/min., fail-safe

48 V AC, 1 rev/min.

24 V AC, 1 rev/min.

D
E
F
G
H

24 V DC, 1 rev/min.

24 V DC, 1 rev/min., fail-safe

24 V DC, 5 rev/min.

24 V DC, 5 rev/min., fail-safe

J
K
L
M
N

Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 1 rev/min.

Switch selectable 230 V AC/115 V AC/24 V DC multivoltage, 5 rev/min.

P
Q
R

Process connection

Threaded

G 1¼" [(BSPP), EN ISO 228-1]

G 1½" [(BSPP), EN ISO 228-1]

1¼" NPT [(Taper), ANSI/ASME B1.20.1]

1½" NPT [(Taper), ANSI/ASME B1.20.1]

A
B
C
D

Flanged

DN 32 PN 6, EN1092-1 (1.4541/321)

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)

E
F
G
H
J
K

Process pressure

Up to 0.5 bar (7.25 psi)

Up to 5 bar (72.5 psi)

Up to 10 bar (145 psi)

1
2
3

Process connection material

Aluminum^{2) 3) 4)}Stainless steel 303 (1.4305)⁵⁾1
2

Extension material (protection tube)

Aluminum^{2) 4) 6) 7)}Stainless steel 303 (1.4305)⁵⁾0
1

Extension length

Aluminum

250 ... 500 mm (9.84 ... 19.69")

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

751 ... 1000 mm (29.57 ... 39.37")

1001 ... 1250 mm (39.41 ... 42.21")

1251 ... 1500 mm (49.25 ... 59.06")

1501 ... 1750 mm (59.09 ... 68.90")

1751 ... 2000 mm (68.94 ... 78.74")

2001 ... 2250 mm (78.78 ... 88.58")

2251 ... 2500 mm (88.62 ... 98.43")

2501 ... 2750 mm (98.46 ... 108.27")

2751 ... 3000 mm (108.31 ... 118.11")

3001 ... 3250 mm (118.15 ... 127.95")

3251 ... 3500 mm (127.99 ... 137.80")

3501 ... 3750 mm (137.83 ... 147.64")

3751 ... 4000 mm (147.67 ... 157.48")

A
B
C
D
E
F
G
H
J
K
L
M
N
P
Q

Selection and Ordering data

Order No.

SITRANS LPS200, rigid extension

Rotary paddle switch for top mount point level detection in bulk solids

7 ML 5 7 3 0 -

Stainless steel 303 (1.4305)

250 ... 500 mm (9.84 ... 19.69")

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

751 ... 1000 mm (29.57 ... 39.37")

1001 ... 1500 mm (39.41 ... 59.06")

1501 ... 2000 mm (59.09 ... 78.74")

2001 ... 2500 mm (78.78 ... 98.42")

2501 ... 3000 mm (98.46 ... 118.11")

3001 ... 4000 mm (118.14.78 ... 157.48")

R
S
T
U
V
W
X
Y

Measuring vane

Boot shaped, 35 x 106 mm (1.34 x 4.17")⁸⁾

Hinged vane, 60 x 200 mm (2.36 x 7.87")

Rectangular 50 x 150 mm (1.97 x 5.91")⁹⁾Rectangular 50 x 250 mm (1.97 x 9.84")⁹⁾Rectangular 98 x 150 mm (3.86 x 5.91")⁹⁾Rectangular 98 x 250 mm (3.86 x 9.84")⁹⁾A
B
C
D
E
F

Approvals

CSA/FM Dust Ignition Proof, C-TICK

ATEX II 1/2 D, C-TICK

CSA/FM General Purpose, C-TICK

CE, C-TICK

1
2
3
4

1) Available with approval option 3 and 4 only, up to max. 0.8 bar

2) Available with process connections A to D only

3) Available with process pressure option 1 only

4) Available with extension length options A to Q only

5) Available with extension length options R to Y only

6) Available with process connection material option 1 only

7) Available with process temperature option 1 only

8) Add 16 mm (0.63") to extension length

9) Available with process connections E to H, J, K, only

Level Measurement

Point level measurement - Rotating paddle switch

SITRANS LPS200

Selection and Ordering data	Order code
Further Designs	
Please add "-Z" 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")	Y01
Heating of enclosure ^{1) 2)}	A35
Signal bulb inserted in M20 cable gland ¹⁾	A20
SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards ³⁾	K01
<u>Seal at tube end for ingress protection and shaft stability</u>	
Max. temperature +80 °C (+176 °F)	P06
Max. temperature +150 °C (+302 °F)	P07
Max. temperature +250 °C (+482 °F)	P08
Max. temperature +350 °C (+662 °F)	P09
Sliding sleeve (standard, max. pressure 0.8 bar)	P12
Sliding sleeve (pressure tight, for over-pressure application starting from 1 bar max., dependent on pressure option ordered)	P13
Additional Operating Instructions	
Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. 7ML1998-5FS62
Spare Parts	
Motor gear/PLC, multi-voltage	7ML1830-1KG
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17")	7ML1830-1KH
Hinged vane, 65 x 210 mm (2.56 x 8.27")	7ML1830-1KJ

1) Available with approval options 4 only

2) Available with power supply options A to H, J to N, P, only

3) Available when ordered with ingress protection seal P06 to P09 only

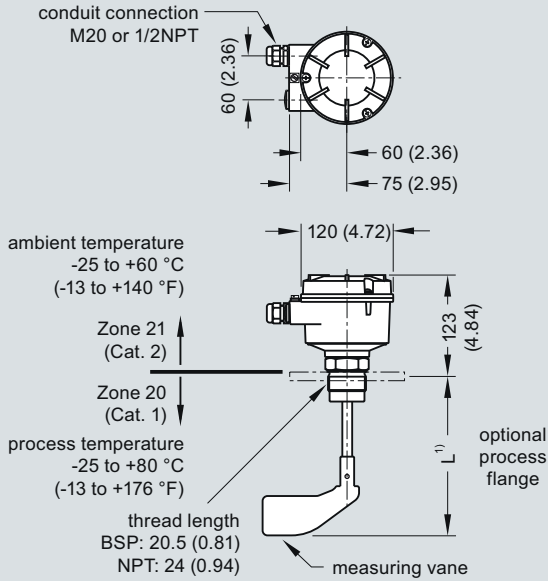
Level Measurement

Point level measurement - Rotating paddle switch

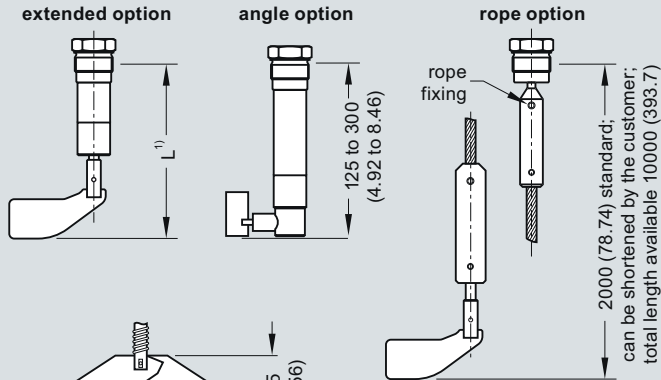
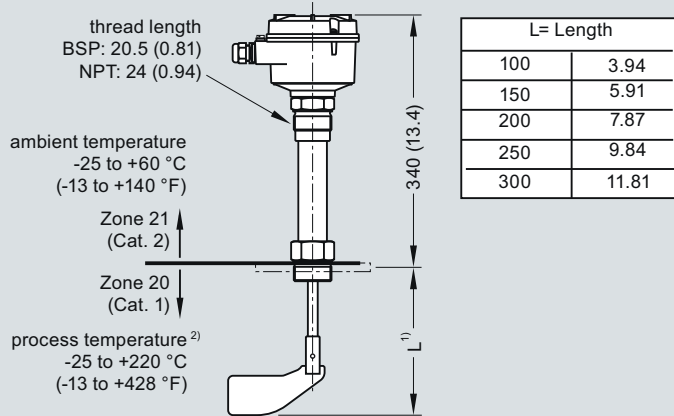
SITRANS LPS200

Dimensional drawings

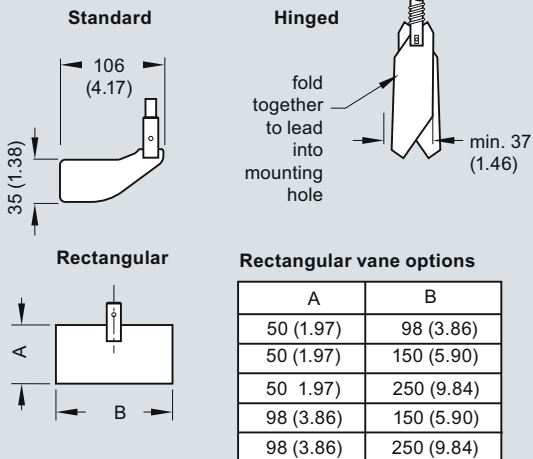
Standard model: compact version



High Temperature Model: compact version



Measuring Vanes



Vane	completely covered with material		covered up to 10 cm (3.93") with material	
	spring adjustment		spring adjustment	
	light	central (factory setting)	light	central (factory setting)
boot shaped 35 x 106 mm	200 g/l (12.5 lb/ft ³)	300 g/l (18.7 lb/ft ³)	100 g/l (6.2 lb/ft ³)	150 g/l (9.4 lb/ft ³)
boot shaped 28 x 98 mm	300 g/l (18.7 lb/ft ³)	500 g/l (31.2 lb/ft ³)	150 g/l (9.4 lb/ft ³)	150 g/l (9.4 lb/ft ³)
rectangular 50 x 98 mm	300 g/l (18.7 lb/ft ³)	500 g/l (31.2 lb/ft ³)	150 g/l (9.4 lb/ft ³)	250 g/l (15.6 lb/ft ³)
rectangular 50 x 150 mm	80 g/l (5.0 lb/ft ³)	120 g/l (7.5 lb/ft ³)	40 g/l (2.5 lb/ft ³)	60 g/l (3.7 lb/ft ³)
rectangular 50 x 250 mm	30 g/l (1.9 lb/ft ³)	50 g/l (3.1 lb/ft ³)	15 g/l (0.9 lb/ft ³)	25 g/l (1.6 lb/ft ³)
rectangular 98 x 150 mm	30 g/l (1.9 lb/ft ³)	50 g/l (3.1 lb/ft ³)	15 g/l (0.9 lb/ft ³)	25 g/l (1.6 lb/ft ³)
rectangular 98 x 250 mm	20 g/l (1.2 lb/ft ³)	30 g/l (1.9 lb/ft ³)	15 g/l (0.9 lb/ft ³)	15 g/l (0.9 lb/ft ³)
hinged 65 x 210 mm	70 g/l (4.4 lb/ft ³)	100 g/l (6.2 lb/ft ³)	35 g/l (2.2 lb/ft ³)	50 g/l (3.1 lb/ft ³)
hinged 60 x 200 mm	70 g/l (4.4 lb/ft ³)	100 g/l (6.2 lb/ft ³)	35 g/l (2.2 lb/ft ³)	50 g/l (3.1 lb/ft ³)

- For 35 x 106 mm boot shaped and 65 x 210 mm hinged measuring vanes, add 16 mm to extension length.
- For use with all approval options except CSA Class II. See manual for more details.

Notes

For heavy material, only top mounting of paddle switch is recommended.
Compact LPS200 is recommended for side mounting on bins for low or intermediate material levels.

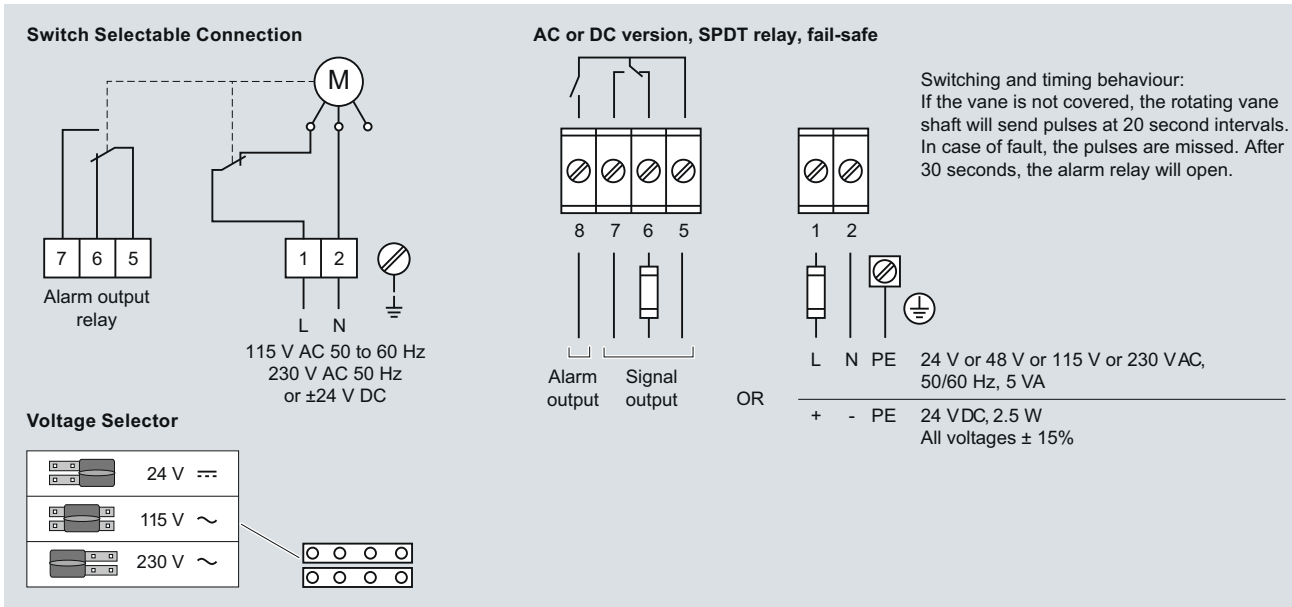
SITRANS LPS200, dimensions in mm (inch)

Level Measurement

Point level measurement - Rotating paddle switch

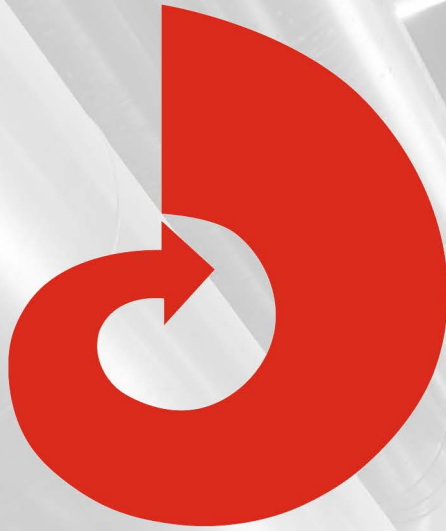
SITRANS LPS200

Schematics



SITRANS LPS200 connections

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Fine Controls (UK) LTD, Bassendale Road, Croft Business Park,
Bromborough, Wirral, CH62 3QL UK
Tel: 0151 343 9966
Email: sales@finecontrols.com