



### 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 prevents damage from falling material
- Rotatable enclosure for convenient wiring
- Optional paddles for use with low density materials
- Small paddle makes for simple installation through existing process connection
- High temperature model and optional extension kit available
- Optional fail-safe configuration detects loss of rotation

#### 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/ft<sup>3</sup>) with the optional rectangular vane or 100 g/l (6.25 lb/ft<sup>3</sup>) 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

<b>Mode of operation</b>	
Measuring principle	Rotating point level switch
<b>Input</b>	
Measured variable	High and low and demand
<b>Output</b>	
Output signal	Microswitch 5 A at 250 V AC, non inductive Microswitch SPDT contact 4 A at 30 V DC, non-inductive
• Alarm output	
• Pickup delay	Standard (1 rpm model): approx 1.3 seconds Optional process applications (5 rpm model): approx. 0.26 s
<b>Sensitivity</b>	Adjustable via reset force of spring or geometry of measuring vane
<b>Rated operating conditions</b>	
Installation conditions	Indoor/outdoor
• Location	
Ambient conditions	-25 ... +60 °C (-13 ... +140 °F) III 2
• Ambient temperature	
• Installation category	
• Pollution degree	Bulk solids
Medium conditions	
• Temperature	-25 ... +80 °C (-13 ... +176 °F) -25 ... +600°C (-13 ... +1 112 °F)
- Standard	
- Optional	Max. 0.5 bar g (7.25 psi g) Max. 10 bar g (145 psi g)
• Pressure (vessel)	
- Standard	• Can detect down to 100 g/l (6.25 lb/ft <sup>3</sup> ) • Can detect down to 15 g/l (2.19 lb/ft <sup>3</sup> )
- Optional	
• Minimum material density	- Optional measuring vane
- Standard measuring vane	
<b>Design</b>	
Material	Epoxy coated aluminum Stainless steel or aluminum
• Enclosure	
• Process connection, measuring shaft and vane	Thread NPT, BSP, and flange options
Process connection	
Degree of protection	IP65/Type 4/NEMA 4 2 x M20x1.5 or 2 x ½" NPT
Conduit entry	
<b>Power supply</b>	
• Jumper selectable	• 115 V AC, ± 15 %, 50 to 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
<b>Certificates and approvals</b>	
• CSA/FM General Purpose • CE • CSA/FM Dust Ignition Proof • ATEX II 1/2 D • C-TICK • IECex	

# Level measurement

## Point level measurement – Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Order No.
<b>SITRANS LPS200, compact</b> Rotary paddle switch for level detection in bulk solids. Compact design for side or top mounted applications.	<b>7ML5725-</b> - - - - - 0
<b>Process temperature</b> Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F) Up to 600 °C (1 112 °F) <sup>1) 10)</sup> Up to 80 °C (176 °F) basic version aluminum <sup>2) 3)</sup> Up to 80 °C (176 °F) basic version stainless steel <sup>2) 4)</sup>	1 2 3 4 ▶ 5 ▶ 6
<b>Power supply</b> 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
<b>Process connection</b> <u>Threaded</u> G 1¼" [(BSPP), EN ISO 228-1] G 1" [(BSPP), EN ISO 228-1] G 1½" [(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, EN 1092-1 (1.4541/321) DN 100 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 16, EN 1092-1 (1.4541/321) 2" ASME 150 lb B16.5 (1.4541/321) 3" ASME 150 lb B16.5 (1.4541/321) 4" ASME 150 lb B16.5 (1.4541/321)	A B ▶ C D ▶ E F G H J K L M
<b>Process pressure</b> Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	▶ 1 2 3
<b>Process connection material</b> Aluminum <sup>5)</sup> Stainless steel 303 (1.4305)	▶ 1 ▶ 2
<b>Extension length</b> 100 mm (3.94 inch) <sup>6)</sup> 150 mm (5.91 inch) 200 mm (7.87 inch) 250 mm (9.84 inch) 300 mm (11.81 inch)	1 ▶ 2 3 4 5

Selection and Ordering data	Order No.
<b>SITRANS LPS200, compact</b> Rotary paddle switch for level detection in bulk solids. Compact design for side or top mounted applications.	<b>7ML5725-</b> - - - - - 0
<b>Measuring vane</b> Boot shaped, 35 x 106 mm (1.38 x 4.17 inch) <sup>7)</sup> Hinged vane, 65 x 200 mm (2.56 x 7.87 inch) <sup>7)8)</sup> Boot shaped, 28 x 98 mm (1.10 x 3.86 inch) Rectangular 50 x 150 mm (1.97 x 5.91 inch) <sup>9)</sup> Rectangular 50 x 250 mm (1.97 x 9.84 inch) <sup>9)</sup> Rectangular 98 x 150 mm (3.86 x 5.91 inch) <sup>9)</sup> Rectangular 98 x 250 mm (3.86 x 9.84 inch) <sup>9)</sup> Rectangular 50 x 98 mm (1.97 x 3.86 inch)	▶ A B C D E F G H
<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 IEC Ex ta/tb IIIC	▶ A ▶ B ▶ C ▶ D E
1) Available with approval option C and D only, up to max. 0.8 bar 2) Basic version is cost effective and offers fast delivery. 3) Available only with power supply option A and with process connection C, and approval D, or power supply E with process connection E, and approval C, and then process pressure 1, process connection material 1, extension length 2, measuring vane A 4) Available only with power supply option Q, process connection C with approval B, or process connection E with approval A, and then process pressure 1, process connection material 2, extension length 2 and measuring vane A 5) Available with process connections A ... F, process pressure option 1, and process temperature options 1 and 5 only 6) Available with measuring vane options A, C ... H, only 7) Add 16 mm (0.63 inch) to extension length 8) Available with extension length options 2 ... 5 only 9) Available with process connections G, H, J ... M, only 10) Not available with process connections B, D, and G	
▶ Available ex stock	

# Level measurement

## Point level measurement – Rotation paddle switches

### SITRANS LPS200

Selection and Ordering data	Order code	Selection and Ordering data	Order No.
<b>Further Designs</b> Please add <b>"-Z"</b> to Order No. and specify Order code(s).		<b>SITRANS LPS200, shaft protected</b> 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	<b>7ML5726-</b> 
Heating of enclosure <sup>1) 2)</sup>	<b>A35</b>	<b>Process temperature</b> Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F)	1 2 3
Signal bulb inserted in M20 cable gland <sup>1)</sup>	<b>A20</b>	Up to 600 °C (1 112 °F) <sup>1) 2)</sup> Up to 80 °C (176 °F) basic version <sup>3)</sup>	4 5
SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards	<b>K01</b>	<b>Power supply</b> 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	A B C D E F G H J K L M N P
<b>Additional Operating Instructions</b> Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. <b>7ML1998-5FS62</b>	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.	Q R
<b>Spare Parts</b> Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch) Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	<b>7ML1830-1KG</b> <b>7ML1830-1KH</b> <b>7ML1830-1KJ</b>	<b>Process connection</b> <u>Threaded</u> 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] <u>Flanged</u> DN 32 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 16, EN 1092-1 (1.4541/321) 2" ASME 150 lb B16.5 (1.4541/321) 3" ASME 150 lb B16.5 (1.4541/321) 4" ASME 150 lb B16.5 (1.4541/321)	A B C D E F G H J K
<b>Rigid extension kit</b> (includes spring coupling, rigid tube extension and required pins) Extension: 500, 400, 300 mm (19.7, 15.8, 11.8 inch) Extension: 1 000, 900, 800, 700, 600 (39.4, 35.4, 31.5, 27.6, 23.6 inch) Extension: 1 500, 1 400, 1 300, 1 200, 1 100 mm (59.1, 55.1, 51.2, 47.2, 43.3 inch)	<b>7ML5711-0AA</b> <b>7ML5711-1AA</b> <b>7ML5711-2AA</b>	<b>Process pressure</b> Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	1 2 3
<b>Available ex stock</b> 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 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 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 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	<b>7ML1830-1KG</b>  <b>7ML5725-5EE11-2AC0</b>  <b>7ML5725-6QC12-2AB0</b>  <b>7ML5725-6QE12-2AA0</b>	<b>Process connection material</b> Aluminum <sup>4) 5)</sup> Stainless steel 303 (1.4305)	1 2
		<b>Extension length</b> 150 mm (5.91 inch) <sup>6)</sup> 200 mm (7.87 inch) 250 mm (9.84 inch) 300 mm (11.81 inch)	1 2 3 4
		<b>Extension material (protection tube)</b> Aluminum <sup>4)</sup> Stainless steel 303 (1.4305)	A B

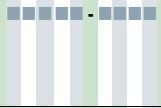
<sup>1)</sup> Available with approval option D only

<sup>2)</sup> Available with power supply options A ... H, J ... N, P only

# Level measurement

## Point level measurement – Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Order No.	Selection and Ordering data	Order code
<b>SITRANS LPS200, shaft protected</b> 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	<b>7ML5726-</b> 	<b>Further Designs</b> Please add "-Z" to Order No. and specify Order code(s).  Heating of enclosure <sup>1)2)</sup> Signal bulb inserted in M20 cable gland <sup>1)</sup>	   <b>A35</b> <b>A20</b> <b>K01</b>
<b>Measuring vane</b> Boot shaped 35 x 106 mm (1.38 x 4.17 inch) <sup>7)</sup> ▶ Hinged vane 65 x 200 mm (2.56 x 7.87 inch) <sup>7)</sup> Rectangular 50 x 150 mm (1.97 x 5.91 inch) <sup>8)</sup>  Rectangular 50 x 250 mm (1.97 x 9.84 inch) <sup>8)</sup> Rectangular 98 x 150 mm (3.86 x 5.91 inch) <sup>8)</sup> Rectangular 98 x 250 mm (3.86 x 9.84 inch) <sup>8)</sup> Rectangular 50 x 98 mm (1.97 x 3.86 inch)	         <b>A</b> <b>B</b> <b>D</b>  <b>E</b> <b>F</b> <b>G</b> <b>H</b>	SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards  <b>Additional Operating Instructions</b> Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. <b>7ML1998-5FS62</b>
<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 IEC Ex ta/tb IIIC	     <b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b>	<b>Spare Parts</b> Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch) Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	     <b>7ML1830-1KG</b> <b>7ML1830-1KH</b>  <b>7ML1830-1KJ</b>
<sup>1)</sup> Available with approval option 3 and 4 only, up to max. 0.8 bar <sup>2)</sup> Not available with process connection G <sup>3)</sup> 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 <sup>4)</sup> Available with process connections A ... D, and process temperature option 1 and 5 only <sup>5)</sup> Available with process pressure option 1 only <sup>6)</sup> Not available with measuring vane option B <sup>7)</sup> Add 16 mm (0.63 inch) to extension length <sup>8)</sup> Available with process connections E ... H, J, K, only		<b>Available ex stock</b> 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	     <b>7ML5726-5QB12-2BA2</b>    <b>7ML5726-5QC12-2BA1</b>
▶ Available ex stock.		<sup>1)</sup> Available with approval option 4 only <sup>2)</sup> Available with power supply options A ... H, J ... N, P only	

# Level measurement

## Point level measurement – Rotation paddle switches

### SITRANS LPS200

Selection and Ordering data	Order No.	Selection and Ordering data	Order No.
<b>SITRANS LPS200, cable extension</b> Rotary paddle switch for level detection in bulk solids Cable extension for increased length in top-mounted applications	<b>7ML5727-</b> - - - - - 0	<b>SITRANS LPS200, cable extension</b> Rotary paddle switch for level detection in bulk solids Cable extension for increased length in top-mounted applications	<b>7ML5727-</b> - - - - - 0
<b>Process temperature</b> Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F) Up to 600 °C (1 112 °F) <sup>1) 2)</sup> Up to 80 °C (176 °F) basic version <sup>3) 5)</sup>	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b>	<b>Measuring vane</b> Boot shaped, 35 x 106 mm (1.38 x 4.17 inch) <sup>5)</sup> Hinged vane, 65 x 200 mm (2.56 x 7.87 inch) <sup>5)</sup> Boot shaped, 28 x 98 mm (1.10 x 3.86 inch) Rectangular 50 x 150 mm (1.97 x 5.91 inch) <sup>6)</sup> Rectangular 50 x 250 mm (1.97 x 9.84 inch) <sup>6)</sup> Rectangular 98 x 150 mm (3.86 x 5.91 inch) <sup>6)</sup> Rectangular 50 x 98 mm (1.97 x 3.86 inch)	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b>
<b>Power supply</b> 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.	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b> <b>J</b> <b>K</b> <b>L</b> <b>M</b> <b>N</b> <b>P</b> <b>Q</b> <b>R</b>	<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 IEC Ex ta/tb IIIC	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b>
<b>Process connection</b> <u>Threaded</u> 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] <u>Flanged</u> DN 32 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 16, EN 1092-1 (1.4541/321) 2" ASME 150 lb B16.5 (1.4541/321) 3" ASME 150 lb B16.5 (1.4541/321) 4" ASME 150 lb B16.5 (1.4541/321)	<b>A</b> <b>B</b> <b>C</b> <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b> <b>J</b> <b>K</b>		
<b>Process pressure</b> Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	<b>1</b> <b>2</b> <b>3</b>		
<b>Process connection material</b> Aluminum <sup>4)</sup> Stainless steel 303 (1.4305)	<b>1</b> <b>2</b>		
<b>Cable extension length</b> Standard cable length, 2 000 mm (78.74 inch) <u>Add order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u> 500 ... 1 000 mm (19.69 ... 39.37 inch) Cable length 1 001 ... 2 000 mm (39.41 ... 78.74 inch) Cable length 2 001 ... 3 000 mm (78.78 ... 118.11 inch) Cable length 3 001 ... 4 000 mm (118.15 ... 157.48 inch) Cable length 4 001 ... 5 000 mm (157.52 ... 196.85 inch) Cable length 5 001 ... 6 000 mm (196.89 ... 236.22 inch) Cable length 6 001 ... 7 000 mm (236.26 ... 275.59 inch) Cable length 7 001 ... 10 000 mm (275.63 ... 393.70 inch)	<b>0</b> <b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b>		

- 1) Available with approval option C and D only, up to max. 0.8 bar
- 2) Not available with process connection G
- 3) 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
- 4) Available with process connections A ... D, process pressure option 1, and process temperature option 1 and 5 only
- 5) Add 16 mm (0.63 inch) to extension length
- 6) Available with process connections E ... H, J, K, only

# Level measurement

## Point level measurement – Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Order code
<b>Further Designs</b>	
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. 10 000 mm (393.70 inch)	<b>Y01</b>
Reinforced cable (max. 28 kN pulling force)	<b>P01</b>
Heating of enclosure <sup>1) 2)</sup>	<b>A35</b>
Signal bulb inserted in M20 cable gland <sup>1)</sup>	<b>A20</b>
<b>Additional Operating Instructions</b>	
Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. <b>7ML1998-5FS62</b>
<b>Spare Parts</b>	
Motor gear /PLC, multi-voltage	<b>7ML1830-1KG</b>
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	<b>7ML1830-1KH</b>
Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	<b>7ML1830-1KJ</b>
Rope extension kit, 2 m (6.56 ft)	<b>7ML1830-1KK</b>
<b>Available ex stock</b>	
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	<b>7ML5727-5QB12-0AB0</b>
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	<b>7ML5727-5QC12-0AA0</b>

<sup>1)</sup> Available with approval option D only

<sup>2)</sup> Available with power supply options A ... H, J ... N and P only

# Level measurement

## Point level measurement – Rotation paddle switches

### SITRANS LPS200

Selection and Ordering data	Order No.	Selection and Ordering data	Order code
<b>SITRANS LPS200, angled extension</b> 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 and rotate horizontally in side mount applications	<b>7ML5728-</b> 	<b>Further Designs</b> Please add "-Z" to Order No. and specify Order code(s).	
<b>Process temperature</b> Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F)	1 2 3	<b>Additional Operating Instructions</b> Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Heating of enclosure <sup>1) 2)</sup> <b>A35</b> Signal bulb inserted in M20 cable gland <sup>1)</sup> <b>A20</b>
<b>Power supply</b> 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	<b>Spare Parts</b> Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch) Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	Order No. <b>7ML1998-5FS62</b> <b>7ML1830-1KG</b> <b>7ML1830-1KH</b> <b>7ML1830-1KJ</b>
<b>Process connection</b> <u>Flanged</u> DN 100 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 16, EN 1092-1 (1.4541/321) 4" ASME 150 lb B16.5 (1.4541/321)	A B C	1) Available with approval option D only 2) Available with power supply options A ... H, J ... N and P only	
<b>Process pressure</b> Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	1 2 3		
<b>Process connection material</b> Stainless steel 303 (1.4305)	1		
<b>Extension length</b> 125 mm (4.92 inch) 150 mm (5.91 inch) 200 mm (7.87 inch) 250 mm (9.84 inch) 300 mm (11.81 inch)	1 2 3 4 5		
<b>Measuring vane</b> Rectangular vane, 50 x 98 mm (1.97 x 3.86 inch) Rectangular vane, 50 x 150 mm (1.97 x 5.91 inch) Rectangular vane, 50 x 250 mm (1.97 x 9.84 inch) Rectangular vane 98 x 150 mm (3.86 x 5.91 inch) Rectangular vane 98 x 250 mm (3.86 x 9.84 inch) Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	A B C D E F		
<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 IEC Ex ta/tb IIIC	A B C D E		

# Level measurement

## Point level measurement – Rotation paddle switches

**SITRANS LPS200**

Selection and Ordering data	Order No.
<b>SITRANS LPS200, rigid extension</b> Rotary paddle switch for top mount point level detection in bulk solids	<b>7ML5730-</b> ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■
<b>Process temperature</b> Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F) Up to 600 °C (1 112 °F) <sup>1) 2)</sup>	<b>1</b> <b>2</b> <b>3</b> <b>4</b>
<b>Power supply</b> 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.	<b>A</b> <b>B</b> <b>C</b>  <b>D</b> <b>E</b> <b>F</b> <b>G</b> <b>H</b> <b>J</b> <b>K</b> <b>L</b> <b>M</b> <b>N</b> <b>P</b> <b>Q</b> <b>R</b>
<b>Process connection</b> <u>Threaded</u> 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] <u>Flanged</u> DN 32 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 6, EN 1092-1 (1.4541/321) DN 100 PN 16, EN 1092-1 (1.4541/321)  2" ASME 150 lb B16.5 (1.4541/321) 3" ASME 150 lb B16.5 (1.4541/321) 4" ASME 150 lb B16.5 (1.4541/321)	<b>A</b> <b>B</b> <b>C</b> <b>D</b>  <b>E</b> <b>F</b> <b>G</b>  <b>H</b> <b>J</b> <b>K</b>
<b>Process pressure</b> Up to 0.5 bar (7.25 psi) Up to 5 bar (72.5 psi) Up to 10 bar (145 psi)	<b>1</b> <b>2</b> <b>3</b>
<b>Process connection material</b> Aluminum <sup>3) 4) 5)</sup> Stainless steel 303 (1.4305) <sup>6)</sup>	<b>1</b> <b>2</b>
<b>Extension material (protection tube)</b> Aluminum <sup>3) 5) 7) 8)</sup> Stainless steel 303 (1.4305) <sup>6)</sup>	<b>0</b> <b>1</b>
<b>Extension length</b> Aluminum 250 ... 500 mm (9.84 ... 19.69 inch) 501 ... 750 mm (19.72 ... 29.53 inch) 751 ... 1 000 mm (29.57 ... 39.37 inch)  1 001 ... 1 250 mm (39.41 ... 42.21 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 (147.67 ... 157.48 inch)	<b>A</b> <b>B</b> <b>C</b>  <b>D</b> <b>E</b> <b>F</b>  <b>G</b> <b>H</b> <b>J</b>  <b>K</b> <b>L</b> <b>M</b>  <b>N</b> <b>P</b> <b>Q</b>

Selection and Ordering data	Order No.
<b>SITRANS LPS200, rigid extension</b> Rotary paddle switch for top mount point level detection in bulk solids	<b>7ML5730-</b> ■ ■ ■ ■ ■ - ■ ■ ■ ■ ■
Stainless steel 303 (1.4305) 250 ... 500 mm (9.84 ... 19.69 inch) 501 ... 750 mm (19.72 ... 29.53 inch) 751 ... 1 000 mm (29.57 ... 39.37 inch)  1 001 ... 1 500 mm (39.41 ... 59.05 inch) 1 501 ... 2 000 mm (59.09 ... 78.74 inch) 2 001 ... 2 500 mm (78.78 ... 98.42 inch)  2 501 ... 3 000 mm (98.46 ... 118.11 inch) 3 001 ... 4 000 mm (118.14.78 ... 157.48 inch)	<b>R</b> <b>S</b> <b>T</b>  <b>U</b> <b>V</b> <b>W</b>  <b>X</b> <b>Y</b>
<b>Measuring vane</b> Boot shaped, 35 x 106 mm (1.34 x 4.17 inch) <sup>9)</sup> Hinged vane, 60 x 200 mm (2.36 x 7.87 inch) Rectangular 50 x 150 mm (1.97 x 5.91 inch) <sup>10)</sup>  Rectangular 50 x 250 mm (1.97 x 9.84 inch) <sup>10)</sup> Rectangular 98 x 150 mm (3.86 x 5.91 inch) <sup>10)</sup> Rectangular 98 x 250 mm (3.86 x 9.84 inch) <sup>10)</sup> Rectangular 50 x 98 mm (1.97 x 3.86 inch)	<b>A</b> <b>B</b> <b>C</b>  <b>D</b> <b>E</b> <b>F</b> <b>G</b>
<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 IEC Ex ta/tb IIIC	<b>1</b> <b>2</b>  <b>3</b> <b>4</b> <b>5</b>
1) Available with approval option 3 and 4 only, up to max. 0.8 bar 2) Not available with process connection G 3) Available with process connections A ... D only 4) Available with process pressure option 1 only 5) Available with extension length options A ... Q only 6) Available with extension length options R ... Y only 7) Available with process connection material option 1 only 8) Available with process temperature option 1 and 5 only 9) Add 16 mm (0.63 inch) to extension length 10) Available with process connections E ... H, J, K, only	



# Level measurement

## Point level measurement – Rotation paddle switches

### SITRANS LPS200

Selection and Ordering data	Order code
<b>Further Designs</b>	
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. 4 000 mm (157.48 inch)	<b>Y01</b>
Heating of enclosure <sup>1)2)</sup>	<b>A35</b>
Signal bulb inserted in M20 cable gland <sup>1)</sup>	<b>A20</b>
SITRANS LPS200 designed for food applications with shaft seal conforming to FDA standards <sup>3)</sup>	<b>K01</b>
<u>Seal at tube end for ingress protection and shaft stability</u>	
Max. temperature 80 °C (176 °F)	<b>P06</b>
Max. temperature 150 °C (302 °F)	<b>P07</b>
Max. temperature 250 °C (482 °F)	<b>P08</b>
Max. temperature 600 °C (1 112 °F)	<b>P09</b>
Sliding sleeve (standard, max. pressure 0.8 bar)	<b>P12</b>
Sliding sleeve (pressure tight, for over-pressure application starting from 1 bar max., dependent on pressure option ordered)	<b>P13</b>
<b>Additional Operating Instructions</b>	Order No.
Multi-language This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	<b>7ML1998-5FS62</b>
<b>Spare Parts</b>	
Motor gear/PLC, multi-voltage	<b>7ML1830-1KG</b>
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	<b>7ML1830-1KH</b>
Hinged vane, 65 x 200 mm (2.56 x 7.87 inch)	<b>7ML1830-1KJ</b>

1) Available with approval option 4 only

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

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

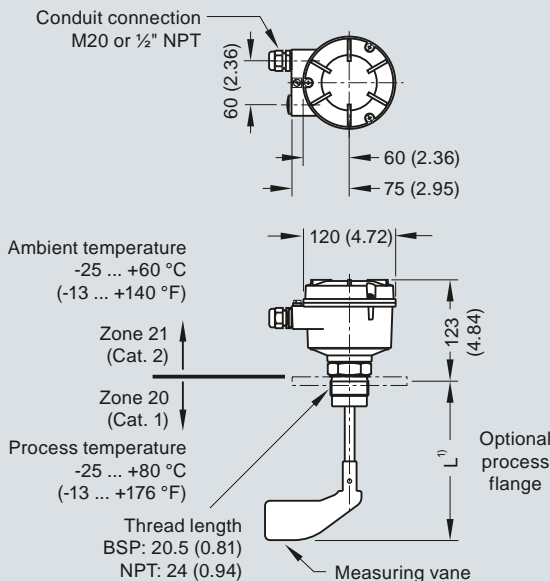
# Level measurement

## Point level measurement – Rotation paddle switches

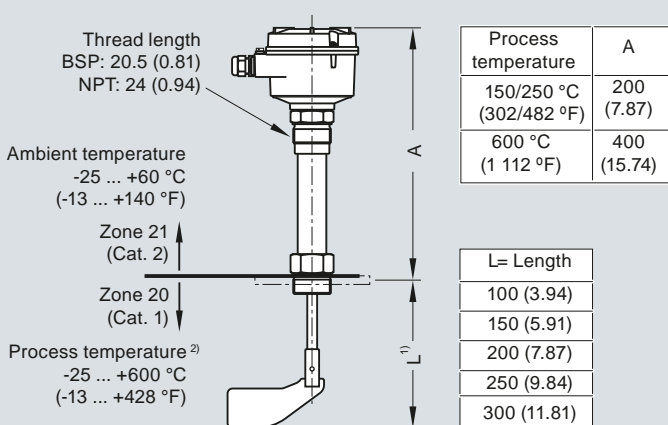
SITRANS LPS200

### Dimensional drawings

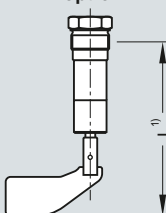
#### Standard model: compact version



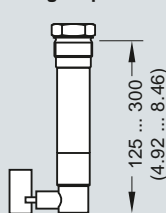
#### High temperature model: compact version



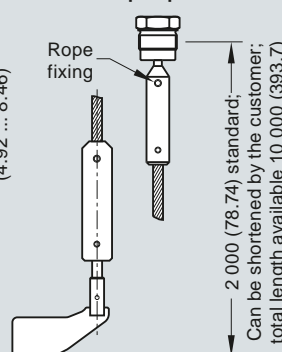
#### Shaft protected option



#### Angle option

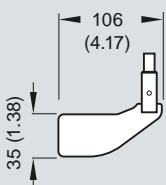


#### Rope option

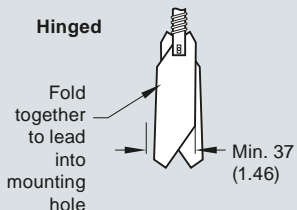


#### Measuring vanes

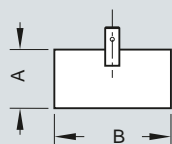
##### Standard



##### Hinged



##### Rectangular



##### Rectangular vane options

	A	B
50 (1.97)	98 (3.86)	
50 (1.97)	150 (5.90)	
50 (1.97)	250 (9.84)	
98 (3.86)	150 (5.90)	
98 (3.86)	250 (9.84)	

- 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.

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

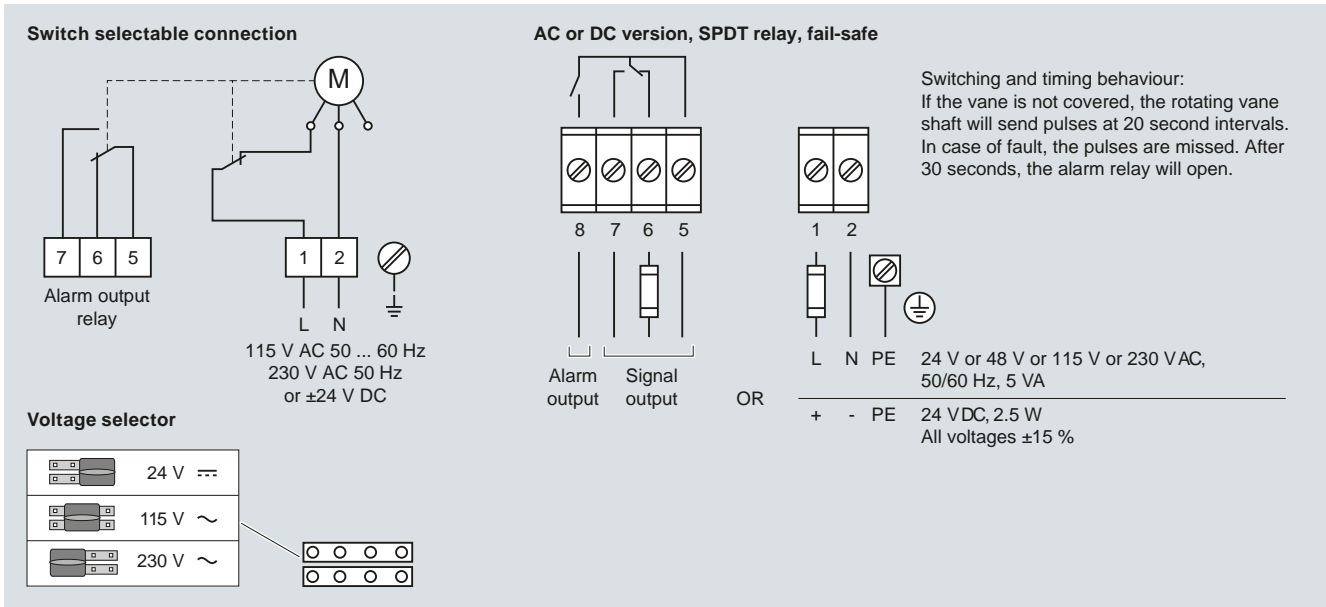
SITRANS LPS200, dimensions in mm (inch)

# Level measurement

## Point level measurement – Rotation paddle switches

### SITRANS LPS200

#### Schematics



SITRANS LPS200 connections