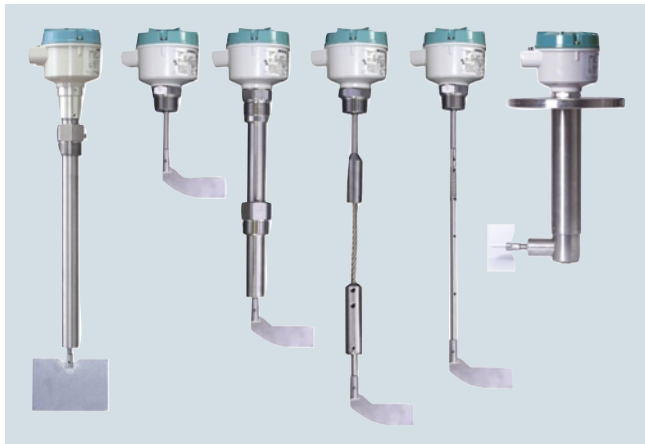


Level Measurement

Point level measurement - Rotation paddle switches

SITRANS LPS200

Overview



SITRANS LPS200 is a rotary paddle switch for point level and material 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/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	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 seconds
Sensitivity	
Adjustable via reset force of spring or geometry of measuring vane	
Rated operating conditions	
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	Higher temperature version available. Contact PVC for pricing.
• Pressure (vessel)	Max. 0.5 bar g (7.25 psi g) Max. 10 bar g (145 psi g)
- Standard	
- Optional	• Can detect down to 100 g/l (6.25 lb/ft ³) • Can detect down to 15 g/l (2.19 lb/ft ³)
• Minimum material density	
- Standard measuring vane	
- Optional measuring vane	
Design	
Material	Epoxy coated aluminum Stainless steel or aluminum
• Enclosure	
• Process connection, measuring shaft and vane	
Process connection	Thread NPT, BSP, and flange options
Degree of protection	IP65/Type 4/NEMA 4
Conduit entry	2 x M20 x 1.5 or 2 x ½" NPT
Power supply	
Jumper selectable	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
Universal voltage (DPDT replay)	24 V DC ± 15 % 50 ... 60 Hz, 22 ... 230 V, ± 10 %, max. 10 VA
Certificates and approvals	
<ul style="list-style-type: none"> • CSA/FM General Purpose • CE • CSA/FM Dust Ignition Proof • ATEX II 1/2 D • RCM • IECex 	

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, compact Rotary paddle switch for level and material detection in bulk solids. Compact design for side or top mounted applications.	7ML5725-	- - - - 0	SITRANS LPS200, compact Rotary paddle switch for level and material detection in bulk solids. Compact design for side or top mounted applications.	7ML5725-	- - - - 0
➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.					
Process temperature			Process pressure		
Up to 80 °C (176 °F)	1		Up to 0.5 bar (7.25 psi)	1	
Up to 150 °C (302 °F)	2		Up to 5 bar (72.5 psi)	2	
Up to 250 °C (482 °F)	3		Up to 10 bar (145 psi)	3	
Up to 600 °C (1 112 °F) ¹⁾²⁾	4		Process connection material		
Up to 80 °C (176 °F) basic version aluminum ³⁾	5		Aluminum ⁷⁾	1	
Up to 80 °C (176 °F) basic version stainless steel ⁴⁾	6		Stainless steel, threads 303 (1.4305), flanges 321 (1.4541), Tri-clamp 304 (1.4301)	2	
			Stainless steel 316L (1.4404) ⁸⁾	3	
Power supply			Extension length		
230 V AC, 1 rev/min.	A		100 mm (3.94 inch) ⁹⁾	1	
230 V AC, 1 rev/min., fail-safe	B		150 mm (5.91 inch)	2	
230 V AC, 5 rev/min.	C		200 mm (7.87 inch)	3	
230 V AC, 5 rev/min., fail-safe	D		250 mm (9.84 inch)	4	
115 V AC, 1 rev/min.	E		300 mm (11.81 inch)	5	
115 V AC, 1 rev/min., fail-safe	F		Measuring vane		
115 V AC, 5 rev/min.	G		Boot shaped, 35 x 106 mm (1.38 x 4.17 inch) ¹⁰⁾	A	
115 V AC, 5 rev/min., fail-safe	H		Hinged vane, 98 x 200 mm (3.86 x 7.87 inch) ¹⁰⁾¹¹⁾	B	
48 V AC, 1 rev/min.	J		Boot shaped, 28 x 98 mm (1.10 x 3.86 inch)	C	
24 V AC, 1 rev/min.	K		Rectangular 50 x 150 mm (1.97 x 5.91 inch) ¹²⁾	D	
24 V DC, 1 rev/min.	L		Rectangular 50 x 250 mm (1.97 x 9.84 inch) ¹²⁾	E	
24 V DC, 1 rev/min., fail-safe	M		Rectangular 98 x 150 mm (3.86 x 5.91 inch) ¹¹⁾¹²⁾	F	
24 V DC, 5 rev/min.	N		Rectangular 98 x 250 mm (3.86 x 9.84 inch) ¹¹⁾¹²⁾	G	
24 V DC, 5 rev/min., fail-safe	P		Rectangular 50 x 98 mm (1.97 x 3.86 inch) ¹²⁾	H	
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 1 rev/min.	Q		Approvals		
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 5 rev/min.	R		CSA/FM Dust Ignition Proof, RCM	A	
48 V AC, 1 rev/min., fail-safe	Z	J 1 A	ATEX II 1/2 D, RCM	B	
48 V AC, 5 rev/min.	Z	J 1 B	CSA/FM General Purpose, RCM, CE	C	
48 V AC, 5 rev/min., fail-safe	Z	J 1 C	CE, RCM	D	
24 V AC, 1 rev/min., fail-safe	Z	J 1 D	IEC Ex ta/tb IIIC	E	
24 V AC, 5 rev/min.	Z	J 1 E			
24 V AC, 5 rev/min., fail-safe	Z	J 1 F			
Universal Voltage, 1 rev/min. ¹³⁾	Z	J 2 A			
Universal Voltage, 1 rev/min, fail-safe ¹³⁾	Z	J 2 B			
Universal Voltage, 5 rev/min. ¹³⁾	Z	J 2 C			
Universal Voltage, 5 rev/min, fail-safe ¹³⁾	Z	J 2 D			
Process connection					
Threaded					
G 1¼" [(BSPP), EN ISO 228-1]	A				
G 1" [(BSPP), EN ISO 228-1]	B				
G 1½" [(BSPP), EN ISO 228-1]	C				
1" NPT [(Taper), ANSI/ASME B1.20.1]	D				
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	E				
1½" NPT [(Taper), ANSI/ASME B1.20.1]	F				
Flanged					
DN 32 PN 6, EN 1092-1 ⁵⁾	G				
DN 100 PN 6, EN 1092-1 ⁵⁾	H				
DN 100 PN 16, EN 1092-1	J				
2" ASME 150 lb B16.5	K				
3" ASME 150 lb B16.5	L				
4" ASME 150 lb B16.5	M				
2" Tri-clamp (DN 50) ISO 2852 ⁶⁾	N				

1) Available with approval option C and D only, up to 0.5 bar

2) Not available with process connection A, B, D, E, and G

3) Only available with the following configurations 7ML5725-5AC11-2AD0 or 7ML5725-5EE11-2AC0

4) Only available with the following configurations 7ML5725-6QC12-2AB0 or 7ML5725-6QE12-2AA0

5) Available with process pressure 1 and 2 only

6) Available with process temperature 1 only

7) Available with process connections A ... F only, process pressure option 1 and process temperature 1 and 5 only

8) Available with process connection C, F, H ... N and Measuring vane A

9) Available with measuring vane option A, C, D, E, H only

10) Add 16 mm (0.63 inch) to extension length

11) Available with extension lengths 2, 3, 4, 5

12) Available with process connections H ... M only

13) Available with approval option B, D, and E only

➤ 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. For details see page 9/5 in the appendix.

Level Measurement

Point level measurement - Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Order code	Selection and Ordering data	Article No.
Further Designs		Available ex stock	
Please add "-Z" to Article No. and specify Order code(s).		For details see page 9/5 in the appendix.	
Heating of enclosure ¹⁾²⁾	A35	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
Signal bulb inserted in M20 cable gland ¹⁾	A20		
Food grade materials (in contact with process), according to 1935/2004/EC, with FDA conform shaft sealing ³⁾	K01	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
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		
Additional Operating Instructions	Article No.	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
Multi-language This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Quick Start and Operating Instructions library.	A5E34210883		
Spare Parts		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
Motor gear /PLC, multi-voltage	7ML1830-1KG		
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	7ML1830-1KH		
Hinged vane, 98 x 200 mm (3.86 x 7.87 inch)	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 inch)	7ML5711-0AA		
Extension: 1 000, 900, 800, 700, 600 mm (39.4, 35.4, 31.5, 27.6, 23.6 inch)	7ML5711-1AA		
Extension: 1 500, 1 400, 1 300, 1 200, 1 100 mm (59.1, 55.1, 51.2, 47.2, 43.3 inch)	7ML5711-2AA		
Rope extension kit, 2 m (6.56 ft)	7ML1830-1KK		

¹⁾ Available with approval option D only

²⁾ Available with power supply options A ,C, E, G, J, K, L, N, J1B, J1D, J1E, J2A, J2C only

³⁾ Available up to 250 °C (482 °F). This option does not automatically implement a food conform design.

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, shaft protected Rotary paddle switch for level and material detection in bulk solids; ideal for heavy, sticky, or high impact applications. Designed with added protection tube for enhanced shaft protection and protection against build-up on shaft (sidewall build-up).	7ML5726-		SITRANS LPS200, shaft protected Rotary paddle switch for level and material detection in bulk solids; ideal for heavy, sticky, or high impact applications. Designed with added protection tube for enhanced shaft protection and protection against build-up on shaft (sidewall build-up).	7ML5726-	
➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.					
Process temperature			Process pressure		
Up to 80 °C (176 °F) ● 1			Up to 0.5 bar (7.25 psi) ▶● 1		
Up to 150 °C (302 °F) 2			Up to 5 bar (72.5 psi) 2		
Up to 250 °C (482 °F) 3			Up to 10 bar (145 psi) 3		
Up to 600 °C (1 112 °F) ¹⁾²⁾ 4			Process connection material		
Up to 80 °C (176 °F) basic version ³⁾ ▶ 5			Aluminum ⁶⁾ ● 1		
Power supply			Stainless steel, threads 303 (1.4305), flanges 321 (1.4541), Tri-clamp 304 (1.4301) ▶● 2		
230 V AC, 1 rev/min. ● A			Stainless steel 316L (1.4404) ⁷⁾ 3		
230 V AC, 1 rev/min., fail-safe B			Extension length		
230 V AC, 5 rev/min. ● C			150 mm (5.91 inch) ⁸⁾ ● 1		
230 V AC, 5 rev/min., fail-safe D			200 mm (7.87 inch) ▶● 2		
115 V AC, 1 rev/min. ● E			250 mm (9.84 inch) ● 3		
115 V AC, 1 rev/min., fail-safe F			300 mm (11.81 inch) ● 4		
115 V AC, 5 rev/min. ● G			Extension material (protection tube)		
115 V AC, 5 rev/min., fail-safe H			Aluminum ⁹⁾ ● A		
48 V AC, 1 rev/min. ● J			Stainless steel 303 (1.4305) ▶● B		
24 V AC, 1 rev/min. ● K			Stainless steel 316L (1.4404) ¹⁰⁾ C		
24 V DC, 1 rev/min. ● L			Measuring vane		
24 V DC, 1 rev/min., fail-safe M			Boot shaped 35 x 106 mm (1.38 x 4.17 inch) ¹¹⁾ ▶● A		
24 V DC, 5 rev/min. ● N			Hinged vane, 98 x 200 mm (3.86 x 7.87 inch) ¹¹⁾¹²⁾ ● B		
24 V DC, 5 rev/min., fail-safe P			Rectangular 50 x 150 mm (1.97 x 5.91 inch) ¹³⁾ ● D		
Switch selectable 230 V AC/115 V AC/24 V DC ▶● Q			Rectangular 50 x 250 mm (1.97 x 9.84 inch) ¹³⁾ ● E		
multi-voltage, 1 rev/min.			Rectangular 98 x 150 mm (3.86 x 5.91 inch) ¹²⁾¹³⁾ ● F		
Switch selectable 230 V AC/115 V AC/24 V DC ● R			Rectangular 98 x 250 mm (3.86 x 9.84 inch) ¹²⁾¹³⁾ ● G		
multi-voltage, 5 rev/min.			Rectangular 50 x 98 mm (1.97 x 3.86 inch) ¹³⁾ ● H		
48 V AC, 1 rev/min., fail-safe Z		J 1 A	Approvals		
48 V AC, 5 rev/min. Z		J 1 B	CSA/FM Dust Ignition Proof, RCM ▶● 1		
48 V AC, 5 rev/min., fail-safe Z		J 1 C	ATEX II 1/2 D, RCM ▶● 2		
24 V AC, 1 rev/min., fail-safe Z		J 1 D	CSA/FM General Purpose, RCM, CE ● 3		
24 V AC, 5 rev/min. Z		J 1 E	CE, RCM ● 4		
24 V AC, 5 rev/min., fail-safe Z		J 1 F	IEC Ex ta/tb IIIC ● 5		
Universal Voltage, 1 rev/min. ¹⁴⁾ Z		J 2 A			
Universal Voltage, 5 rev/min. ¹⁴⁾ Z		J 2 B			
Universal Voltage, 5 rev/min, fail-safe ¹⁴⁾ Z		J 2 C			
		J 2 D			
Process connection					
Threaded					
G 1/4" [(BSPP), EN ISO 228-1] ● A					
G 1/2" [(BSPP), EN ISO 228-1] ▶● B					
1/4" NPT [(Taper), ANSI/ASME B1.20.1] ▶● C					
1/2" NPT [(Taper), ANSI/ASME B1.20.1] ● D					
Flanged					
DN 32 PN 6, EN 1092-1 ⁴⁾ E					
DN 100 PN 6, EN 1092-1 ⁴⁾ F					
DN 100 PN 16, EN 1092-1 G					
2" ASME 150 lb B16.5 H					
3" ASME 150 lb B16.5 J					
4" ASME 150 lb B16.5 K					
2" Tri-clamp (DN 50) ISO 2852 ⁵⁾ L					

- 1) Available with approval option 3 and 4 only and up to max 0.5 bar
 2) Not available with process connections A, C, E
 3) Only available with the following configurations 7ML5726-5QB12-2BA2 or 7ML5726-5QC12-2BA1

- 4) Available with process pressure 1 and 2 only
 5) Available with process temperature 1 only
 6) Available with process connections A ... E only, available with process pressure option 1 only, and process temperature 1 only
 7) Extension and vane will also change to 316L, only for process connection B, D, F ... L and vane A
 8) Available with measuring vane options A, D, E, H only
 9) Available with process pressure 1 and process temperature 1 only
 10) Available with process connections B, D, F ... L and vane A
 11) Add 16 mm (0.63 inch) to extension length
 12) Available with extension length options 2 ... 4 only
 13) Available with process connections F, G, H, J, K only
 14) Available with approval options 2, 4, and 5 only
 ● 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. For details see page 9/5 in the appendix.

Level Measurement

Point level measurement - Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Order code
Further Designs Please add "-Z" to Article No. and specify Order code(s).	
Heating of enclosure ¹⁾²⁾	A35
Signal bulb inserted in M20 cable gland ¹⁾	A20
Food grade materials (in contact with process), according to 1935/2004/EC, with FDA conform shaft sealing ³⁾	K01
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
Additional Operating Instructions	Article No.
Multi-language This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Quick Start and Operating Instructions library.	A5E34210883
Spare Parts	
Motor gear /PLC, multi-voltage	7ML1830-1KG
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	7ML1830-1KH
Hinged vane, 98 x 200 mm (3.86 x 7.87 inch)	7ML1830-1KJ
Available ex stock	
For details see page 9/5 in the appendix. 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	7ML5726-5QB12-2BA2
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	7ML5726-5QC12-2BA1

¹⁾ Available with approval option 4 only

²⁾ Available with power supply options A ,C, E, G, J, K, L, N, J1B, J1D, J1E, J2A, J2C only

³⁾ Available up to 250 °C (482 °F). This option does not automatically implement a food conform design.

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, cable extension Rotary paddle switch for level and material detection in bulk solids. Cable extension for increased length in top-mounted applications	7ML5727-	0	SITRANS LPS200, cable extension Rotary paddle switch for level and material detection in bulk solids. Cable extension for increased length in top-mounted applications	7ML5727-	0
➤ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.					
Process temperature			Process pressure		
Up to 80 °C (176 °F)	1		Up to 0.5 bar (7.25 psi)	1	
Up to 150 °C (302 °F)	2		Up to 5 bar (72.5 psi)	2	
Up to 250 °C (482 °F)	3		Up to 10 bar (145 psi)	3	
Up to 600 °C (1 112 °F) ¹⁾²⁾	4		Process connection material		
Up to 80 °C (176 °F) basic version ³⁾	5		Aluminum ⁵⁾	1	
Power supply			Stainless steel, threads 303 (1.4305), flanges 321 (1.4541)	2	
230 V AC, 1 rev/min.	A		Cable extension length		
230 V AC, 1 rev/min., fail-safe	B		Standard cable length, 2 000 mm (78.74 inch)	0	
230 V AC, 5 rev/min.	C		Add Order code Y01 and plain text: "Insertion length ... mm"		
230 V AC, 5 rev/min., fail-safe	D		500 ... 1 000 mm (19.69 ... 39.37 inch)	1	
115 V AC, 1 rev/min.	E		Cable length 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	2	
115 V AC, 1 rev/min., fail-safe	F		Cable length 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	3	
115 V AC, 5 rev/min.	G		Cable length 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	4	
115 V AC, 5 rev/min., fail-safe	H		Cable length 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	5	
48 V AC, 1 rev/min.	J		Cable length 5 001 ... 6 000 mm (196.89 ... 236.22 inch)	6	
24 V AC, 1 rev/min.	K		Cable length 6 001 ... 7 000 mm (236.26 ... 275.59 inch)	7	
24 V DC, 1 rev/min.	L		Cable length 7 001 ... 10 000 mm (275.63 ... 393.70 inch)	8	
24 V DC, 1 rev/min., fail-safe	M		Without extension ⁹⁾	9	N 1 A
24 V DC, 5 rev/min.	N		Measuring vane		
24 V DC, 5 rev/min., fail-safe	P		Boot shaped, 35 x 106 mm (1.38 x 4.17 inch) ⁶⁾	A	
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 1 rev/min.	Q		Hinged vane, 98 x 200 mm (3.86 x 7.87 inch) ⁶⁾	B	
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 5 rev/min.	R		Boot shaped, 28 x 98 mm (1.10 x 3.86 inch) ⁷⁾	C	
48 V AC, 1 rev/min., fail-safe	Z	J 1 A	Rectangular 50 x 150 mm (1.97 x 5.91 inch) ⁷⁾	D	
48 V AC, 5 rev/min.	Z	J 1 B	Rectangular 50 x 250 mm (1.97 x 9.84 inch) ⁷⁾	E	
48 V AC, 5 rev/min., fail-safe	Z	J 1 C	Rectangular 98 x 150 mm (3.86 x 5.91 inch) ⁷⁾	F	
24 V AC, 1 rev/min., fail-safe	Z	J 1 D	Rectangular 50 x 98 mm (1.97 x 3.86 inch) ⁷⁾	G	
24 V AC, 5 rev/min.	Z	J 1 E			
24 V AC, 5 rev/min., fail-safe	Z	J 1 F			
Universal Voltage, 1 rev/min. ⁹⁾	Z	J 2 A			
Universal Voltage, 1 rev/min, fail-safe ⁹⁾	Z	J 2 B			
Universal Voltage, 5 rev/min. ⁹⁾	Z	J 2 C			
Universal Voltage, 5 rev/min, fail-safe ⁹⁾	Z	J 2 D			
Process connection			Approvals		
Threaded			CSA/FM Dust Ignition Proof, RCM	A	
G 1¼" [(BSPP), EN ISO 228-1]	A		ATEX II 1/2 D, RCM	B	
G 1½" [(BSPP), EN ISO 228-1]	B		CSA/FM General Purpose, RCM, CE	C	
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	C		CE, RCM	D	
1½" NPT [(Taper), ANSI/ASME B1.20.1]	D		IEC Ex ta/tb IIIC	E	
Flanged					
DN 32 PN 6, EN 1092-1 ⁴⁾	E				
DN 100 PN 6, EN 1092-1 ⁴⁾	F				
DN 100 PN 16, EN 1092-1	G				
2" ASME 150 lb B16.5	H				
3" ASME 150 lb B16.5	J				
4" ASME 150 lb B16.5	K				

1) Available with approval option C and D up to max. 0.5 bar

2) Not available with process connections A, C, E

3) Only available with the following configurations 7ML5727-5QC12-0AA0 or 7ML5727-5QB12-0AB0

4) Available with process pressure 1 and 2 only

5) Available with process connections A ... E only, process pressure option 1 only and process temperature options 1 and 5 only

6) Add 16 mm (0.63 inch) to extension length

7) Available with process connections F ... K only

8) Not available with P01 and available with Approval D, mounting kit for rope extension included

9) Available with approval options B, D, and E only

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

Level Measurement

Point level measurement - Rotation paddle switches

SITRANS LPS200


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. 10 000 mm (393.70 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
Reinforced cable (max. 28 kN pulling force) ¹⁾	P01
Heating of enclosure ²⁾³⁾	A35
Signal bulb inserted in M20 cable gland ²⁾	A20
Food grade materials (in contact with process), according to 1935/2004/EC, with FDA conform shaft sealing ⁴⁾	K01
Additional Operating Instructions	
Article No.	
Multi-language This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Quick Start and Operating Instructions library.	A5E34210883
Spare Parts	
Motor gear /PLC, multi-voltage	7ML1830-1KG
Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	7ML1830-1KH
Hinged vane, 98 x 200 mm (3.86 x 7.87 inch)	7ML1830-1KJ
Available ex stock	
For details see page 9/5 in the appendix.	
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 only for process temperature up to 80 °C (176 °F) and process connection material 2

²⁾ Available with approval option D only

³⁾ Available with power supply options A ,C, E, G, J, K, L, N, J1B, J1D, J1E, J2A, J2C only

⁴⁾ Available up to 250 °C (482 °F). This option does not automatically implement a food conform design

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, angled extension Rotary paddle switch with robust design for level and material detection in bulk solids; ideal for heavy or sticky applications. Angled extension is designed to avoid falling material and rotates horizontally in side mount applications to continue working even with heavy build-up.  ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7ML5728-		SITRANS LPS200, angled extension Rotary paddle switch with robust design for level and material detection in bulk solids; ideal for heavy or sticky applications. Angled extension is designed to avoid falling material and rotates horizontally in side mount applications to continue working even with heavy build-up.	7ML5728-	
Process temperature Up to 80 °C (176 °F) Up to 150 °C (302 °F) Up to 250 °C (482 °F)	1 2 3		Measuring vane 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, 98 x 200 mm (3.86 x 7.87 inch)	A B C D E F	
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 multi-voltage, 1 rev/min. Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 5 rev/min. 48 V AC, 1 rev/min., fail-safe 48 V AC, 5 rev/min. 48 V AC, 5 rev/min., fail-safe 24 V AC, 1 rev/min., fail-safe 24 V AC, 5 rev/min. 24 V AC, 5 rev/min., fail-safe Universal Voltage, 1 rev/min. ²⁾ Universal Voltage, 1 rev/min, fail-safe ²⁾ Universal Voltage, 5 rev/min. ²⁾ Universal Voltage, 5 rev/min, fail-safe ²⁾	A B C D E F G H J K L M N P Q R Z Z Z Z Z Z Z Z Z Z	J 1 A J 1 B J 1 C J 1 D J 1 E J 1 F J 2 A J 2 B J 2 C J 2 D	Approvals CSA/FM Dust Ignition Proof, RCM ATEX II 1/2 D, RCM CSA/FM General Purpose, RCM, CE CE, RCM IEC Ex ta/tb IIIC 1) Available with process pressure 1 and 2 only 2) Available with approval option B,D, and E only	A B C D E	
Process connection Flanged DN 100 PN 6, EN 1092-1 ¹⁾ DN 100 PN 16, EN 1092-1 4" ASME 150 lb B16.5	A B C		Selection and Ordering data		Order code
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		Further Designs Please add "-Z" to Article No. and specify Order code(s). Heating of enclosure ¹⁾²⁾ Signal bulb inserted in M20 cable gland ¹⁾ Food grade materials (in contact with process), according to 1935/2004/EC, with FDA conform shaft sealing ³⁾ Stainless steel tag [100 x 45 mm (3.94 x 1.77 inch)]: Measuring-point number/identification (max. 27 characters); specify in plain text		A35 A20 K01 Y14
Process connection material Stainless steel 303/321 (1.4305/1.4541)	1		Additional Operating Instructions Multi-language This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Quick Start and Operating Instructions library.		Article No. A5E34210883
Extension length 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		Spare Parts Motor gear /PLC, multi-voltage Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch) Hinged vane, 98 x 200 mm (3.86 x 7.87 inch)		7ML1830-1KG 7ML1830-1KH 7ML1830-1KJ
			1) Available with approval option D only 2) Available with power supply options A, C, E, G, J, K, L, N, J1B, J1D, J1E, J2A, J2C only 3) This option does not automatically implement a food conform design		

Level Measurement

Point level measurement - Rotation paddle switches

SITRANS LPS200

Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, rigid extension Rotary paddle switch for top mount point level and material detection in bulk solids	7ML5730-	
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Process temperature		
Up to 80 °C (176 °F)	1	
Up to 150 °C (302 °F)	2	
Up to 250 °C (482 °F)	3	
Up to 600 °C (1 112 °F) ¹⁾²⁾	4	
Power supply		
230 V AC, 1 rev/min.	A	
230 V AC, 1 rev/min., fail-safe	B	
230 V AC, 5 rev/min.	C	
230 V AC, 5 rev/min., fail-safe	D	
115 V AC, 1 rev/min.	E	
115 V AC, 1 rev/min., fail-safe	F	
115 V AC, 5 rev/min.	G	
115 V AC, 5 rev/min., fail-safe	H	
48 V AC, 1 rev/min.	J	
24 V AC, 1 rev/min.	K	
24 V DC, 1 rev/min.	L	
24 V DC, 1 rev/min., fail-safe	M	
24 V DC, 5 rev/min.	N	
24 V DC, 5 rev/min., fail-safe	P	
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 1 rev/min.	Q	
Switch selectable 230 V AC/115 V AC/24 V DC multi-voltage, 5 rev/min.	R	
48 V AC, 1 rev/min., fail-safe	Z	J 1 A
48 V AC, 5 rev/min.	Z	J 1 B
48 V AC, 5 rev/min., fail-safe	Z	J 1 C
24 V AC, 1 rev/min., fail-safe	Z	J 1 D
24 V AC, 5 rev/min.	Z	J 1 E
24 V AC, 5 rev/min., fail-safe	Z	J 1 F
Universal Voltage, 1 rev/min. ¹⁴⁾	Z	J 2 A
Universal Voltage, 1 rev/min, fail-safe ¹⁴⁾	Z	J 2 B
Universal Voltage, 5 rev/min. ¹⁴⁾	Z	J 2 C
Universal Voltage, 5 rev/min, fail-safe ¹⁴⁾	Z	J 2 D
Process connection		
Threaded		
G 1¼" [(BSPP), EN ISO 228-1]	A	
G 1½" [(BSPP), EN ISO 228-1]	B	
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	C	
1½" NPT [(Taper), ANSI/ASME B1.20.1]	D	
Flanged		
DN 32 PN 6, EN 1092-1 ³⁾	E	
DN 100 PN 6, EN 1092-1 ³⁾	F	
DN 100 PN 16, EN 1092-1	G	
2" ASME 150 lb B16.5	H	
3" ASME 150 lb B16.5	J	
4" ASME 150 lb B16.5	K	
2" Tri-clamp 2" (DN 50) ISO 2852 ⁴⁾	L	

Selection and Ordering data	Article No.	Ord. code
SITRANS LPS200, rigid extension Rotary paddle switch for top mount point level and material detection in bulk solids	7ML5730-	
Process pressure		
Up to 0.5 bar (7.25 psi)	1	
Up to 5 bar (72.5 psi)	2	
Up to 10 bar (145 psi)	3	
Process connection material		
Aluminum ⁵⁾	1	
Stainless steel, threads 303 (1.4305), flanges 321 (1.4541), Tri-clamp 304 (1.4301)	2	
Stainless steel 316L (1.4404) ⁶⁾	3	
Extension material (protection tube)		
Aluminum ⁷⁾⁸⁾	0	
Stainless steel 303 (1.4305) ⁹⁾	1	
Stainless steel 316L (1.4404) ¹⁰⁾¹¹⁾	2	
Extension length		
Aluminum		
250 ... 500 mm (9.84 ... 19.69 inch)		A
501 ... 750 mm (19.72 ... 29.53 inch)		B
751 ... 1 000 mm (29.57 ... 39.37 inch)		C
1 001 ... 1 250 mm (39.41 ... 42.21 inch)		D
1 251 ... 1 500 mm (49.25 ... 59.06 inch)		E
1 501 ... 1 750 mm (59.09 ... 68.90 inch)		F
1 751 ... 2 000 mm (68.94 ... 78.74 inch)		G
2 001 ... 2 250 mm (78.78 ... 88.58 inch)		H
2 251 ... 2 500 mm (88.62 ... 98.43 inch)		J
2 501 ... 2 750 mm (98.46 ... 108.27 inch)		K
2 751 ... 3 000 mm (108.31 ... 118.11 inch)		L
3 001 ... 3 250 mm (118.15 ... 127.95 inch)		M
3 251 ... 3 500 mm (127.99 ... 137.80 inch)		N
3 501 ... 3 750 mm (137.83 ... 147.64 inch)		P
3 751 ... 4 000 mm (147.67 ... 157.48 inch)		Q
Stainless steel 303 (1.4305)		
250 ... 500 mm (9.84 ... 19.69 inch)		R
501 ... 750 mm (19.72 ... 29.53 inch)		S
751 ... 1 000 mm (29.57 ... 39.37 inch)		T
1 001 ... 1 500 mm (39.41 ... 59.05 inch)		U
1 501 ... 2 000 mm (59.09 ... 78.74 inch)		V
2 001 ... 2 500 mm (78.78 ... 98.42 inch)		W
2 501 ... 3 000 mm (98.46 ... 118.11 inch)		X
3 001 ... 4 000 mm (118.15 ... 157.48 inch)		Y
Stainless steel 316L (1.4404)		
250 ... 500 mm (9.84 ... 19.69 inch)	Z	P 1 A
501 ... 750 mm (19.72 ... 29.53 inch)	Z	P 1 B
751 ... 1 000 mm (29.57 ... 39.37 inch)	Z	P 1 C
1 001 ... 1 500 mm (39.41 ... 59.05 inch)	Z	P 1 D
1 501 ... 2 000 mm (59.09 ... 78.74 inch)	Z	P 1 E
2 001 ... 2 500 mm (78.78 ... 98.42 inch)	Z	P 1 F
2 501 ... 3 000 mm (98.46 ... 118.11 inch)	Z	P 1 G
3 001 ... 4 000 mm (118.5 ... 157.48 inch)	Z	P 1 H

Selection and Ordering data	Article No.	Ord. code	Selection and Ordering data	Order code
SITRANS LPS200, rigid extension Rotary paddle switch for top mount point level and material detection in bulk solids	7ML5730-		Further Designs Please add "-Z" to Article No. and specify Order code(s).	
Measuring vane Boot shaped, 35 x 106 mm (1.34 x 4.17 inch) ¹²⁾		A	Total insertion length: Enter the total insertion length in plain text description, max. 4 000 mm (157.48 inch)	Y01
Hinged vane, 98 x 200 mm (3.86 x 7.87 inch) ¹²⁾		B	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
Rectangular 50 x 150 mm (1.97 x 5.91 inch) ¹³⁾		C	Heating of enclosure ¹⁾²⁾	A35
Rectangular 50 x 250 mm (1.97 x 9.84 inch) ¹³⁾		D	Signal bulb inserted in M20 cable gland ¹⁾	A20
Rectangular 98 x 150 mm (3.86 x 5.91 inch) ¹³⁾		E	Food grade materials (in contact with process), according to 1935/2004/EC, with FDA conform shaft sealing ³⁾⁴⁾	K01
Rectangular 98 x 250 mm (3.86 x 9.84 inch) ¹³⁾		F	<u>Seal at tube end for ingress protection and shaft stability</u>	
Rectangular 50 x 98 mm (1.97 x 3.86 inch) ¹³⁾		G	Max. temperature 80 °C (176 °F)	P06
Approvals CSA/FM Dust Ignition Proof, RCM		1	Max. temperature 150 °C (302 °F)	P07
ATEX II 1/2 D, RCM		2	Max. temperature 250 °C (482 °F)	P08
CSA/FM General Purpose, RCM, CE		3	Max. temperature 600 °C (1 112 °F)	P09
CE, RCM		4	Sliding sleeve (standard, max. pressure 0.5 bar) ¹⁾⁵⁾	P12
IEC Ex ta/tb IIIC		5	Sliding sleeve (pressure tight, for over-pressure application starting from 1 bar max., dependent on pressure option ordered) ⁶⁾	P13
1) Available with approval option 3 and 4, up to max 0.5 bar			Additional Operating Instructions	Article No.
2) Not available with process connection A, C, E			Multi-language	A5E34210883
3) Available with process pressure 1 and 2 only			This device is shipped with the Siemens Level and Weighing manual DVD containing the ATEX Quick Start and Operating Instructions library.	
4) Available with process temperature 1 only			Spare Parts	
5) Available with process connections A ... E only, with process pressure option 1 only and process temperature 1 only			Motor gear/PLC, multi-voltage	7ML1830-1KG
6) Available with process connection B, D, F ... L and measuring vane option A			Replacement vane, boot shape, 35 x 106 mm (1.38 x 4.17 inch)	7ML1830-1KH
7) Available with process pressure 1 and process temperature 1 only			Hinged vane, 98 x 200 mm (3.86 x 7.87 inch)	7ML1830-1KJ
8) Available with extension length options A ... Q only			1) Available with approval option 4 only	
9) Available with extension length options R ... Y only			2) 15) Available with power supply options A, C, E, G, J, K, L, N, J1B, J1D, J1E, J2A, J2C only	
10) Available with process connection B, D, F ... L and measuring vane A, process connection material 3. Available only with extension length options P1A ... P1H only			3) Available when ordered with ingress protection seal P06 ... P09 only	
11) Only available with seal at tube end, option P06 ... P09			4) Available up to 250 °C (482 °F). This option does not automatically implement a food conform design	
12) Add 16 mm (0.63 inch) to extension length			5) Available with process pressure 1 only	
13) Available with process connections F, G, H, J, K only			6) Available up to 250 °C (482 °F)	
14) Available with approval options 2, 4, and 5 only				
● We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ●. For details see page 9/5 in the appendix				

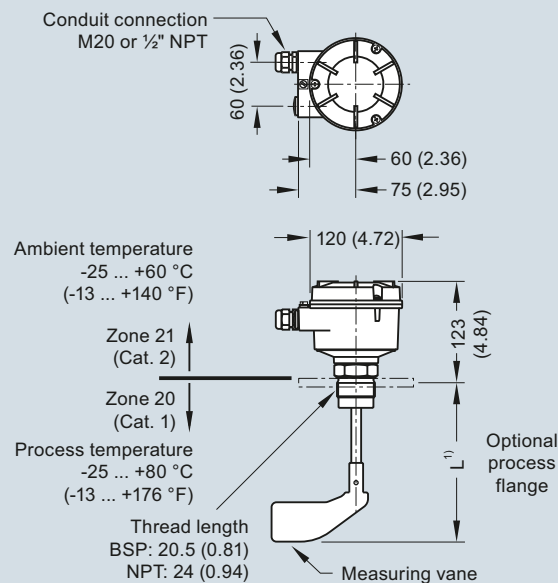
Level Measurement

Point level measurement - Rotation paddle switches

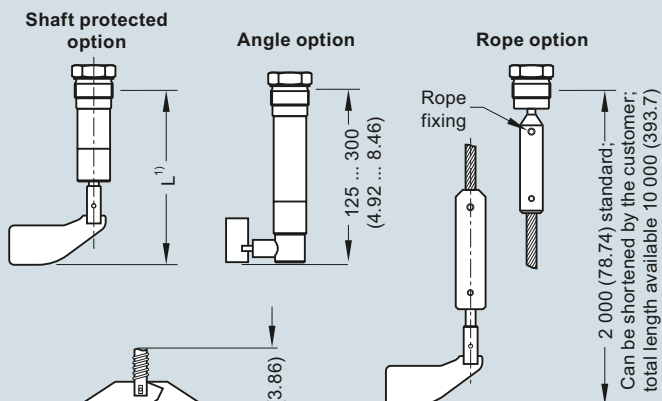
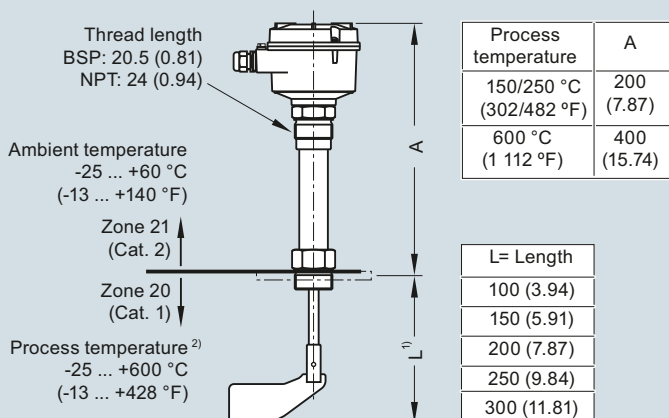
SITRANS LPS200

Dimensional drawings

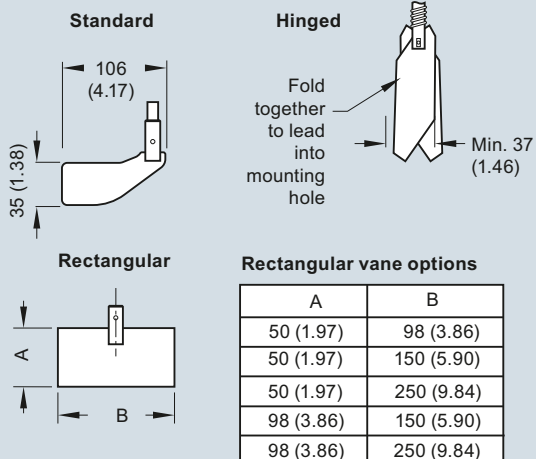
Standard model: compact version



High temperature model: compact version



Measuring vanes



- For 35 x 106 mm boot shaped and 98 x 200 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

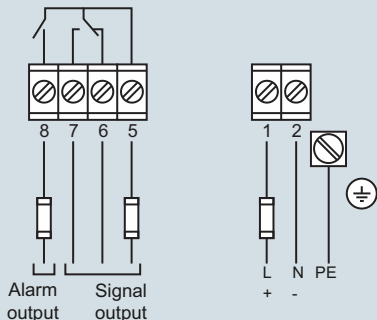
For heavy material, only top mounting of paddle switch is recommended.
Compact LPS200 is recommended for side mounting on bins for low or intermediate material levels.

Vane	Completely covered with material		Covered up to 10 cm (3.93 inch) with material	
	Spring adjustment		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 98 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)

SITRANS LPS200, dimensions in mm (inch)

Schematics

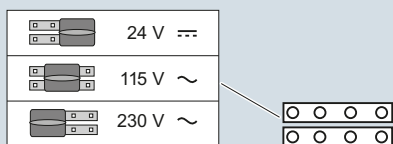
AC or DC version, SPDT, fail-safe



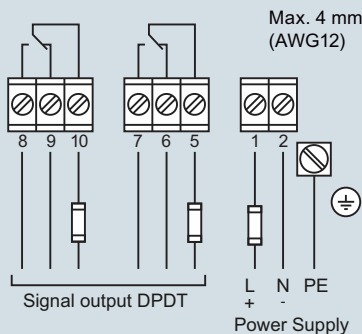
Switching and timing behaviour:
 If the vane is not covered, the rotating vane shaft will send pulses at 20 second intervals.
 In case of fault, the pulses are missed. After 30 seconds, the alarm relay will open.

24 V or 48 V or 115 V or 230 V AC, 50/60 Hz, 5 VA
 OR
 24 V DC, 2.5 W All voltages ± 15 %

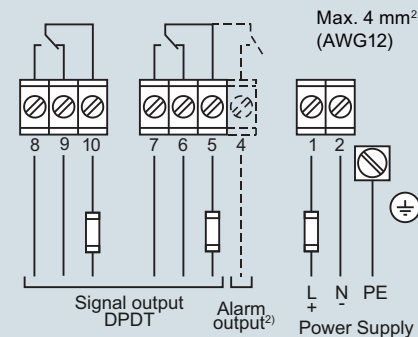
Voltage selector



AC version DPDT FSH/FSL



Universal voltage (DPDT relay)



²) With option Fail safe alarm (rotation control). Contact open when de-energised

SITRANS LPS200 connections