

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard

Overview



Pointek CLS200 (standard version) is a versatile inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output, ideal for detection of liquids, solids, slurries, foam and interfaces.

Benefits

- Potted construction protects signal circuit from shock, vibration, humidity and/or condensation
- High chemical resistance
- Level detection independent of tank or pipe earth reference
- Insensitive to product buildup due to high frequency oscillation
- 3 LED indicators for sensor status, output status, and power

Application

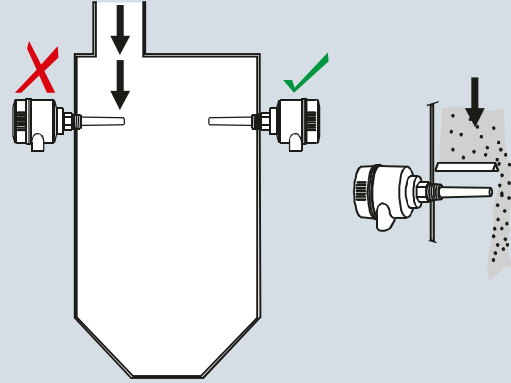
Pointek CLS200 standard version has 3 LED indicators with basic relay and solid-state switch alarms. Universal switch for solids/liquids and interface.

The power supply is galvanically isolated and accepts a wide range of voltages (12 to 250 V AC/DC). When used with thermal isolator, the stainless steel and PPS (PVDF optional) materials used in the probe construction provide a temperature rating up to 125 °C (257 °F) on the process wetted portion of the probe. The switch responds to any material with a dielectric constant of 1.5 or more by detecting a change in oscillating frequency, and it can be set to detect before contact or on contact with the probe. The CLS200 operates independently of the tank wall or pipe so it does not require an external reference electrode for level detection in a non-conductive vessel such as concrete or plastic (EMC regulations applicable in some regions).

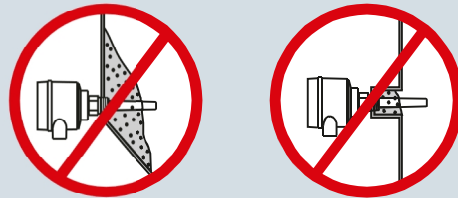
- Key Applications: liquids, slurries, powders, granules, pressurized applications, hazardous areas

Configuration

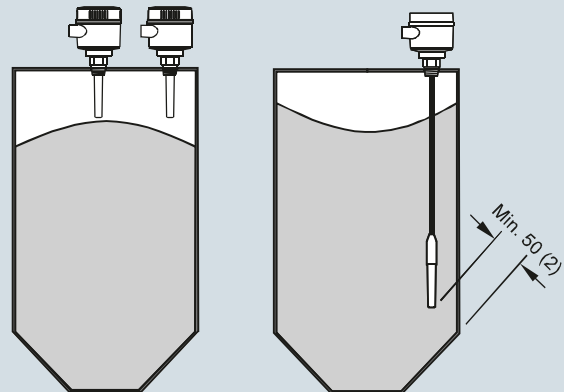
Installation



Keep unit out of path of falling material, or protect probe from falling material.



Avoid areas where material build up occurs.



Install probe at least 50 (2) from tank wall.

Pointek CLS200 installation, dimensions in mm (inch)

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Technical specifications

Mode of operation		Design	
Measuring principle	Inverse frequency shift capacitive level detection	Material	Epoxy-coated aluminum with gasket
Input		• Enclosure	316L stainless steel
Measured variable	Change in picoFarad (pF)	• Optional thermal isolator	Removable terminal block, max. 2.5 mm ²
Output		Connection	IP65/Type 4/NEMA 4 (optional IP68)
Output signal		Degree of protection	IP65/Type 4/NEMA 4 (optional IP68)
• Relay output	1 SPDT Form C relay	Cable inlet	2 x M20x1.5 thread (option: 2 x ½" NPT conduit entry including 1 plugged entry)
- Max. contact voltage	• 30 V DC • 250 V AC	Power supply	12 ... 250 V AC/DC, 0 ... 60 Hz max. 2 W
- Max. contact current	• 5 A DC • 8 A AC	Certificates and approvals	
- Max. switching capacity	150 W DC 2 000 VA AC	General Purpose	CSA, FM, CE, C-TICK
- Time delay (ON and/or OFF)	1 ... 60 s	Dust Ignition Proof	ATEX II 1/2 D T100 °C
• Solid-state output		Flameproof Enclosure With IS Probe	ATEX II 1 G EEx d[ia] IIC T6...T4 ATEX II 1/2 D T100 °C
- Output	Galvanically isolated	Dust Ignition Proof with IS Probe	CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4
- Protection	Against reversed polarity (bipolar)	Explosion Proof Enclosure With IS Probe	CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4
- Max. switching voltage	• 30 V DC • 30 V peak AC	Marine	Lloyds Register of Shipping, Categories ENV1, ENV2 and ENV5
- Max. load current	82 mA	Overfill Protection	WHG (Germany) VLAREM II
- Voltage drop	< 1 V, typical at 50 mA	Others	Pattern Approval (China)
- Time delay (pre or post switching)	1 ... 60 s		
Rated operating conditions¹⁾			
Installation conditions			
• Location	Indoor/outdoor		
Ambient conditions			
• Ambient temperature	-40 ... +85 °C (-40 ... +185 °F) ²⁾		
• Installation category	II		
• Pollution degree	4		
Medium conditions			
	Liquids, bulk solids, slurries and interfaces		
• Relative dielectric constant ϵ_r	Min. 1.5		
• Process temperature			
- Without thermal isolator	-40 ... +85 °C (-40 ... +185 °F) ²⁾		
- With thermal isolator	-40 ... +125 °C (-40 ... +257 °F)		
• Process pressure (rod version)	-1 ... +25 bar g (-14.6 ... +365 psi g) (nominal)		
• Process pressure (cable version) ³⁾	-1 ... +10 bar g (-14.6 ... +150 psi g) (nominal)		
• Process pressure (sliding coupling version)	-1 ... +10 bar g (-14.6 ... +150 psi g) (nominal)		
Electromagnetic Compatibility	To comply with CE EMC regulations (where applicable); the CLS200 should be installed per the instruction manual.		

¹⁾ When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/Temperature curves on page 4/38.

²⁾ Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F)

³⁾ Pressure rating of process seal is temperature dependent. See Pressure/Temperature curves on page 4/38.

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Design: Probe

	Rod version	Sanitary version	Cable version	Sliding Coupling version
Max. length	5 500 mm (216.53 inch)	5 500 mm (216.53 inch)	30 000 mm (1 181.1 inch) liquids and slurries 5 000 mm (196.85 inch) solids (under loads)	5 500 mm (216.53 inch)
Process connection	R ¾", 1", 1¼", 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] ¾", 1", 1¼", 1½" NPT [(Taper), ANSI/ASME B1.20.1] G ¾", 1", 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] 316L stainless steel ASME/EN flange	1½", 2" sanitary fitting clamp 316L stainless steel	R ¾", 1", 1¼", 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] ¾", 1", 1¼", 1½" NPT [(Taper), ANSI/ASME B1.20.1] G ¾", 1", 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] 316L stainless steel ASME/EN flange	R ¾", 1", 1¼", 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] ¾", 1", 1¼", 1½" NPT [(Taper), ANSI/ASME B1.20.1] G ¾", 1", 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]
Extension material	316L stainless steel optional PFA coated ¹⁾	316L stainless steel	Fluoroethylene propylene (FEP) cable with stainless steel core	316L stainless steel
Sensor wetted parts	PPS (optional PVDF)	PPS (optional PVDF)	PPS (optional PVDF)	PPS (optional PVDF)
O-ring seal material	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾
Thermal isolator ³⁾	Optional	Optional	Optional	Optional
Extension	User selected length	User selected length	Cable extension	User selected length

¹⁾ PFA coating (7ML5634 and 7ML5644) has 120 micron thickness.

²⁾ For Caustic Materials please contact ceg.smpi@siemens.com for alternative O-Rings

³⁾ Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F).

Level Measurement

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Selection and Ordering data	Article No.
Pointek CLS200 - Standard - Rod Version with Threaded or Flanged process connection	7ML5630- - - - - - 0
Versatile inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Process connection <u>Threaded, 316L stainless steel</u>	
¾" NPT [(Taper), ANSI/ASME B1.20.1]	0 A
1" NPT [(Taper), ANSI/ASME B1.20.1]	0 B
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	0 C
1½" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 A
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 B
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 A
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 B
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
<u>Welded flange, 316L stainless steel, raised face</u>	
1" ASME, 150 lb	5 A
1" ASME, 300 lb	5 B
1" ASME, 600 lb	5 C
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced</u>	
DN 25, PN 16	6 A
DN 25, PN 40	6 B
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)	
Probe length (length from flange face) (threaded lengths include process thread) <u>Note: No Y01 needed in Order code for standard lengths</u>	
Compact [threaded 120 mm (4.72 inch), Flanged 98 mm (3.86 inch)]	A
Extended rod, 250 mm (9.84 inch)	B
Extended rod, 350 mm (13.78 inch)	C
Extended rod, 500 mm (19.69 inch)	D
Extended rod, 750 mm (29.53 inch)	E
Extended rod, 1 000 mm (39.37 inch)	F
Extended rod, 1 250 mm (49.21 inch)	G
Extended rod, 1 350 mm (53.15 inch)	H
Extended rod, 1 500 mm (59.06 inch)	J
Extended rod, 1 750 mm (68.90 inch)	K
Extended rod, 2 000 mm (78.74 inch)	L

Selection and Ordering data	Article No.
Pointek CLS200 - Standard - Rod Version with Threaded or Flanged process connection	7ML5630- - - - - - 0
Versatile inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
<u>Add Order code Y01 and plain text: "Insertion length ... mm"</u>	
Extended rod, 210 ... 1 000 mm (8.27 ... 39.37 inch)	M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	S
Thermal isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1
Remote mount electronics and mounting bracket	
With 2 m (79 inch) of cable ¹⁾	2
With 5 m (197 inch) of cable ¹⁾	3
Wetted seals	
FKM	0
FFKM [for process temperatures above -20 °C (-4 °F)]	1
Probe material	
316L stainless steel with PPS probe body	0
316L stainless steel with PVDF probe body	1
Approvals	
Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C	C
Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	D
Flameproof Enclosure with IS Probe, with WHG approval: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	E
Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	F
Explosion Proof Enclosure with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	G
General Purpose (CSA, FM)	H
General Purpose (CE, C-TICK)	J
General Purpose (CSA, FM, CE, C-TICK) with WHG approval	K
Enclosure and lid	
Aluminum epoxy coated	
2 x ½" NPT via adapter - cable inlet, IP65	A
2 x M20 x 1.5 cable inlet IP65	B
2 x ½" NPT via adapter - cable inlet, IP68	C
2 x M20 x 1.5 cable inlet IP68	D

¹⁾ Available with Approvals options F ... H

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



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Selection and Ordering data

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 **Y01**

Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text **Y15**

Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000 **C11**

Inspection Certificate Type 3.1 per EN 10204 **C12**

Operating Instructions

Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.

See page 4/36

Accessories

See page 4/36

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Selection and Ordering data

Article No.

Pointek CLS200 - Standard - Cable Version with Threaded or Flanged process connection

7ML5631-
- - - - - 0

Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces

Process connection

Threaded, 316L stainless steel

¾" NPT [(Taper), ANSI/ASME B1.20.1] **0 A**

1" NPT [(Taper), ANSI/ASME B1.20.1] **0 B**

1¼" NPT [(Taper), ANSI/ASME B1.20.1] **0 C**

1½" NPT [(Taper), ANSI/ASME B1.20.1] **0 D**

R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] **1 A**

R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] **1 B**

R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] **1 D**

G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] **3 A**

G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] **3 B**

G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] **3 D**

Welded flange, 316L stainless steel, raised face

1" ASME, 150 lb **5 A**

1" ASME, 300 lb **5 B**

1" ASME, 600 lb **5 C**

1½" ASME, 150 lb **5 D**

1½" ASME, 300 lb **5 E**

1½" ASME, 600 lb **5 F**

2" ASME, 150 lb **5 G**

2" ASME, 300 lb **5 H**

2" ASME, 600 lb **5 J**

3" ASME, 150 lb **5 K**

3" ASME, 300 lb **5 L**

3" ASME, 600 lb **5 M**

4" ASME, 150 lb **5 N**

4" ASME, 300 lb **5 P**

4" ASME, 600 lb **5 Q**

Welded flange, 316L stainless steel,

Type A flat faced

DN 25, PN 16 **6 A**

DN 25, PN 40 **6 B**

DN 40, PN 16 **6 C**

DN 40, PN 40 **6 D**

DN 50, PN 16 **6 E**

DN 50, PN 40 **6 F**

DN 80, PN 16 **6 G**

DN 80, PN 40 **6 H**

DN 100, PN 16 **6 J**

DN 100, PN 40 **6 K**

(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)

Probe length (length from flange face)

(threaded lengths include process thread)

Note: No Y01 needed in Order code for

standard lengths

Extended cable, 3 000 mm (118.11 inch), length can **A**

be determined by customer on assembly¹⁾

Extended cable, 6 000 mm (236.22 inch), length can **B**

be determined by customer on assembly¹⁾

Add Order code Y01 and plain text:

"Insertion length ... mm"

Extended cable, 500 ... 5 000 mm **C**

(19.69 ... 196.85 inch)

Extended cable, 5 001 ... 10 000 mm **D**

(196.89 ... 393.70 inch)

Extended cable, 10 001 ... 15 000 mm **E**

(393.74 ... 590.55 inch)

Extended cable, 15 001 ... 20 000 mm **F**

(590.59 ... 787.4 inch)

Extended cable, 20 001 ... 25 000 mm **G**

(787.44 ... 984.25 inch)

Extended cable, 25 001 ... 30 000 mm **H**

(984.29 ... 1 181.1 inch)

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Selection and Ordering data	Article No.	Selection and Ordering data	Order code
Pointek CLS200 - Standard - Cable Version with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	7ML5631- - - - - - 0	Further designs Please add "-Z" to Article No. and specify Order code(s).	
Thermal isolator Without thermal isolator	0	Total insertion length: enter the total insertion length in plain text description	Y01
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1	Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
Remote mount electronics and mounting bracket With 2 m (79 inch) of cable ²⁾	2	Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
With 5 m (197 inch) of cable ²⁾	3	Inspection Certificate Type 3.1 per EN 10204	C12
Wetted seals FKM and PTFE	0	Operating Instructions Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
FFKM and PTFE [for process temperatures above -20 °C (-4 °F)]	1	Accessories	See page 4/36
Probe material FEP jacketed cable with PPS probe body	0	We can offer shorter delivery times for configurations designated with the Quick Ship Symbol . For details see page 9/5 in the appendix.	
FEP jacketed cable with PVDF probe body	1		
Approvals Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C			C
Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C			D
Flameproof Enclosure with IS Probe, with WHG approval: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C			E
Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4			F
Explosion Proof Enclosure with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4			G
General Purpose (CSA, FM)			H
General Purpose (CE, C-TICK)			J
General Purpose (CSA, FM, CE, C-TICK) with WHG approval			K
Enclosure and lid Aluminum epoxy coated			
2 x 1/2" NPT via adapter - cable inlet, IP65			A
2 x M20 x1.5 cable inlet, IP65			B
2 x 1/2" NPT via adapter - cable inlet, IP68			C
2 x M20 x1.5 cable inlet, IP68			D

1) Sensor detached to allow customer to set desired cable length

2) Available with Approvals options F ... H

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Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard

Selection and Ordering data

Article No.

Pointek CLS200 - Standard - Rod with Sanitary process connection

7ML5632-

- - - - - 0

Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces

Process connection

Sanitary 316L stainless steel

- 1" sanitary fitting clamp
- 1½" sanitary fitting clamp
- 2" sanitary fitting clamp
- 2½" sanitary fitting clamp
- 3" sanitary fitting clamp

(Note: Sanitary connection dimensionally corresponds to the applicable ISO 2852 standard)

Probe length (length from process connection face)

Note: No Y01 needed in Order code for standard lengths

- Compact 98 mm (3.86 inch)
- Extended rod, 250 mm (9.84 inch)
- Extended rod, 350 mm (13.78 inch)

- Extended rod, 500 mm (19.69 inch)
- Extended rod, 750 mm (29.53 inch)
- Extended rod, 1 000 mm (39.37 inch)

- Extended rod, 1 250 mm (49.21 inch)
- Extended rod, 1 350 mm (53.15 inch)
- Extended rod, 1 500 mm (59.06 inch)

- Extended rod, 1 750 mm (68.90 inch)
- Extended rod, 2 000 mm (78.74 inch)

Add Order code Y01 and plain text:

"Insertion length ... mm"

- Extended rod, 110 ... 350 mm (4.3 ... 13.78 inch)
- Extended rod, 351 ... 1 000 mm (13.78 ... 39.37 inch)
- Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)

- Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)

- Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)

- Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)

- Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)

Thermal isolator

- Without thermal isolator
- With thermal isolator [for process connection temperatures over 85 °C (185 °F)]

Remote mount electronics and mounting bracket

- Remote mount electronics with 2 m (79 inch) of cable¹⁾
- Remote mount electronics with 5 m (197 inch) of cable¹⁾

Wetted seals

- FKM
 - FFKM
- [for process temperatures above -20 °C (-4 °F)]

Probe material

- 316L stainless steel with PPS probe body
- 316L stainless steel with PVDF probe body

8 A
8 B
8 C
8 D
8 E

A
B
C
D
E
F
G
H
J
K

M
N
P

Q

R

S

T

0
1

2
3

0
1

0
1

Selection and Ordering data

Article No.

Pointek CLS200 - Standard - Rod with Sanitary process connection

7ML5632-

- - - - - 0

Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces

Approvals

- Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C
- Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C
- Flameproof Enclosure with IS Probe, with WHG approval: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C
- Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4

- Explosion Proof Enclosure with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4

- General Purpose (CSA, FM)
- General Purpose (CE, C-TICK)
- General Purpose (CSA, FM, CE, C-TICK) with WHG approval

Enclosure and lid

Aluminum epoxy coated

- 2 x ½" NPT via adapter - cable inlet, IP65
- 2 x M20x1.5 cable inlet, IP65
- 2 x ½" NPT via adapter - cable inlet, IP68
- 2 x M20x1.5 cable inlet, IP68

¹⁾ Available with Approvals options F ... H

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Selection and Ordering data

Order code

Further designs

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

Total insertion length: enter the total insertion length in plain text description ◆ **Y01**

Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text ◆ **Y15**

Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000 ◆ **C11**

Inspection Certificate Type 3.1 per EN 10204 ◆ **C12**

Operating Instructions

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Accessories

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Selection and Ordering data	Article No.
Pointek CLS200 - Standard - Sliding Coupling with Threaded process connection	7ML5633-
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	0
Process connection <u>Threaded, 316L stainless steel</u>	
3/4" NPT [(Taper), ANSI/ASME B1.20.1]	0 A
1" NPT [(Taper), ANSI/ASME B1.20.1]	0 B
1 1/4" NPT [(Taper), ANSI/ASME B1.20.1]	0 C
1 1/2" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R 3/4" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 A
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 B
R 1 1/2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G 3/4" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 A
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 B
G 1 1/2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
Probe length (length from flange face) (threaded lengths include process thread)	
<u>Note: No Y01 needed in Order code for standard lengths</u>	
Extended rod, 350 mm (13.78 inch)	C
Extended rod, 500 mm (19.69 inch)	D
Extended rod, 750 mm (29.53 inch)	E
Extended rod, 1 000 mm (39.37 inch)	F
Extended rod, 1 250 mm (49.21 inch)	G
Extended rod, 1 350 mm (53.15 inch)	H
Extended rod, 1 500 mm (59.06 inch)	J
Extended rod, 1 750 mm (68.90 inch)	K
Extended rod, 2 000 mm (78.74 inch)	L
Add Order code Y01 and plain text: <u>"Insertion length ... mm"</u>	
Extended rod, 350 ... 1 000 mm (13.78 ... 39.37 inch)	M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	S
Thermal isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1
Remote mount electronics and mounting bracket	
With 2 m (79 inch) of cable ¹⁾	2
With 5 m (197 inch) of cable ¹⁾	3
Wetted seals	
FKM and PTFE	0
FFKM and PTFE [for process temperatures above -20 °C (-4 °F)]	1
Probe material	
316L stainless steel with PPS probe body	0
316L stainless steel with PVDF probe body	1

Selection and Ordering data	Article No.
Pointek CLS200 - Standard - Sliding Coupling with Threaded process connection	7ML5633-
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	0
Approvals	
Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C	C
Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	D
Flameproof Enclosure with IS Probe, with WHG approval: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	E
Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	F
Explosion Proof Enclosure with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	G
General Purpose (CSA, FM)	H
General Purpose (CE, C-TICK)	J
General Purpose (CSA, FM, CE, C-TICK) with WHG approval	K
Enclosure and lid	
Aluminum epoxy coated	
2 x 1/2" NPT via adapter - cable inlet, IP65	A
2 x M20x1.5 cable inlet, IP65	B
2 x 1/2" NPT via adapter - cable inlet, IP68	C
2 x M20x1.5 cable inlet, IP68	D
1) Available with Approvals options F ... H	
• We can offer shorter delivery times for configurations designated with the Quick Ship Symbol •. For details see page 9/5 in the appendix.	
Selection and Ordering data	Order code
Further designs	
Please add "-Z" to Article No. and specify Order code(s).	
Total insertion length: enter the total insertion length in plain text description	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]; Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions	
Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
Accessories	
• We can offer shorter delivery times for configurations designated with the Quick Ship Symbol •. For details see page 9/5 in the appendix.	See page 4/36

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard

4

Selection and Ordering data	Article No.
Pointek CLS200 - Standard - PFA Coated Rod with PFA Coated Flanged process connection	7ML5634- ■■■■■ - ■■■■ 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Process connection	
<u>Welded flange, 316L stainless steel, raised face</u>	
1" ASME, 150 lb	5 A
1" ASME, 300 lb	5 B
1" ASME, 600 lb	5 C
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced</u>	
DN 25, PN 16	6 A
DN 25, PN 40	6 B
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)	
Probe length (length from flange face) (threaded lengths include process thread)	
<u>Note: No Y01 needed in Order code for standard lengths</u>	
Compact 98 mm (3.86 inch)	A
Extended rod, 250 mm (9.84 inch)	B
Extended rod, 350 mm (13.78 inch)	C
Extended rod, 500 mm (19.69 inch)	D
Extended rod, 750 mm (29.53 inch)	E
Extended rod, 1 000 mm (39.37 inch)	F
Extended rod, 1 250 mm (49.21 inch)	G
Extended rod, 1 350 mm (53.15 inch)	H
Extended rod, 1 500 mm (59.06 inch)	J
Extended rod, 1 750 mm (68.90 inch)	K
Extended rod, 2 000 mm (78.74 inch)	L
<u>Add Order code Y01 and plain text: "Insertion length ... mm"</u>	
Extended rod, 200 ... 1 000 mm (7.87 ... 39.37 inch)	M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	S

Selection and Ordering data	Article No.
Pointek CLS200 - Standard - PFA Coated Rod with PFA Coated Flanged process connection	7ML5634- ■■■■■ - ■■■■ 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Thermal isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1
Remote mount electronics and mounting bracket	
With 2 m (79 inch) of cable	2
With 5 m (197 inch) of cable	3
Wetted seals	
FKM	0
FFKM [for process temperatures above -20 °C (-4 °F)]	1
Probe material	
PFA Coated 316L stainless steel with PPS probe body	0
PFA Coated 316L stainless steel with PVDF probe body	1
Approvals	
Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	F
Explosion Proof Enclosure with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	G
General Purpose (CSA, FM)	H
Enclosure and lid	
Aluminum epoxy coated	
2 x ½" NPT via adapter - cable inlet, IP65	A
2 x M20x1.5 cable inlet, IP65	B
2 x ½" NPT via adapter - cable inlet, IP68	C
2 x M20x1.5 cable inlet, IP68	D

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	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions	
Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
Accessories	
	See page 4/36

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Overview



Pointek CLS200 (digital version) is a versatile inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output, ideal for detection of liquids, solids, slurries, foam and interfaces. The digital version includes PROFIBUS PA, an LCD display, and advanced diagnostic features.

Benefits

- Potted construction protects signal circuit from shock, vibration, humidity and/or condensation
- High chemical resistance
- Level detection independent of tank or pipe earth reference
- Insensitive to product buildup due to high frequency oscillation
- High sensitivity allows installation in a wide range of liquids, solids or slurry applications
- Integral LCD display allows for easy menu-driven setup
- PROFIBUS PA communication (SIMATIC PDM compatible)

Application

Pointek CLS200 digital version provides an integral LCD display for stand-alone use, and also provides PROFIBUS PA communication (Profile version 3.0, Class B) for connection to a network.

The power supply is galvanically isolated and accepts a wide range of voltages (12 to 30 V DC). When used with thermal isolator, the stainless steel and PPS (PVDF optional) materials used in the probe construction provide a temperature rating up to 125 °C (257 °F) on the process wetted portion of the probe. The switch responds to any material with a dielectric constant of 1.5 or more by detecting a change in oscillating frequency, and it can be set to detect before contact or on contact with the probe. The menu-driven setup allows precise control of the switch point signal damping and alarm functions.

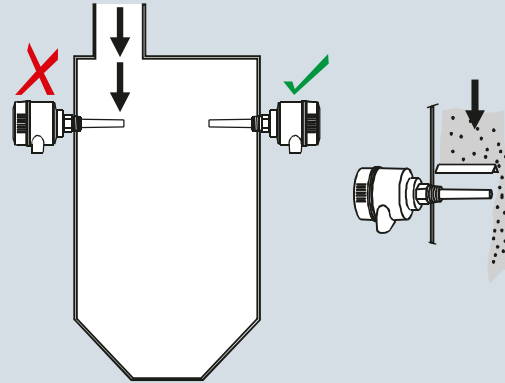
When connected to the PROFIBUS network, advanced diagnostics and set up using SIMATIC PDM are possible.

The CLS200 operates independently of the tank wall or pipe so it does not require an external reference electrode for level detection in a non-conductive vessel such as concrete or plastic (EMC regulations applicable in some regions).

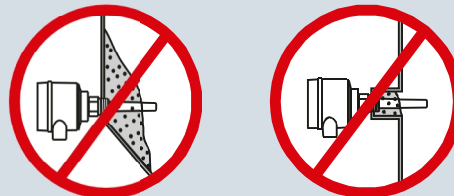
- Key Applications: liquids, slurries, powders, granules, pressurized applications, hazardous areas

Configuration

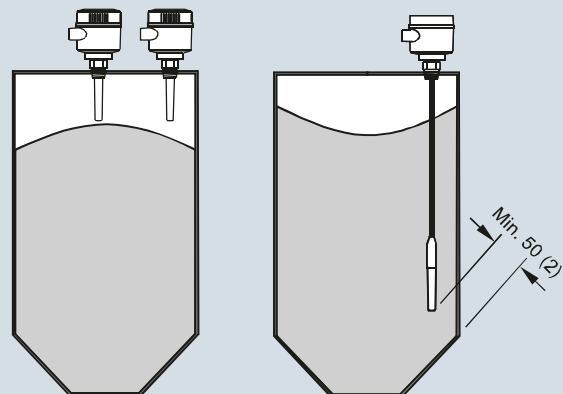
Installation



Keep unit out of path of falling material, or protect probe from falling material.



Avoid areas where material build up occurs.



Install probe at least 50 (2) from tank wall.

Pointek CLS200 installation, dimensions in mm (inch)

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Technical specifications

Mode of operation		Power supply	
Measuring principle	Inverse frequency shift capacitive level detection	Bus voltage	Standard: 12 ... 30 V DC Intrinsically Safe: 12 ... 24 V DC 12.5 mA
Input		Current consumption	
Measured variable	Change in picoFarad (pF)	Certificates and approvals	
Output		General Purpose	CSA, FM, CE, C-TICK ATEX II 1/2 D T100 °C
Output signal		Dust Ignition Proof	CSA/FM Class II, Div. 1, Groups E, F, G
• Solid-state output		Dust Ignition Proof with IS Probe	CSA/FM Class III T4 ATEX II 1/2 D T100 °C
- Output	Galvanically isolated	Flameproof Enclosure with IS Probe	ATEX II 1/2 G EEx d[ia] IIC T6...T4 ATEX II 1/2 D T100 °C
- Protection	Against reversed polarity (bipolar)	Explosion Proof with IS Probe	CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4
- Max. switching voltage	• 30 V DC • 30 V peak AC	Intrinsically Safe ⁴⁾	ATEX II 1 G EEx ia IIC T6 ... T4 ATEX II 1/2 D IP6X T100 °C CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4
- Max. load current	82 mA	Non-incendive	CSA/FM Class I, Div. 2, Groups A, B, C, D CSA/FM Class II, Div. 2, Groups F, G CSA/FM Class III T4 or T6
- Voltage drop	< 1 V, typical at 50 mA	Non-Sparking	ATEX II 3 G Ex nA II T6...T4 ATEX II 2 D IP6X T100 °C
- Time delay (ON and/or OFF)	Programmable by user (0 ... 100 s)	Marine	Lloyds Register of Shipping, Categories ENV1, ENV2 and ENV5
• Fail-safe mode	Min. or max.	Others	Pattern Approval (China)
• Connection	Removable terminal block	Communication	PROFIBUS PA (IEC 61158 CPF3 CP3/2) Bus physical layer: IEC 61158-2 MBP (IS) Device profile: PROFIBUS PA profile for Process Control Devices Version 3.0, Class B FISCO field device
Rated operating conditions¹⁾			
Installation conditions			
• Location	Indoor/outdoor		
Ambient conditions			
• Ambient temperature	-40 ... +85 °C (-40 ... +185 °F) ²⁾		
• Installation category	II		
• Pollution degree	4		
Medium conditions			
	Liquids, bulk solids, slurries and interfaces		
• Relative dielectric constant ϵ_r	Min. 1.5		
• Process temperature			
- Without thermal isolator	-40 ... +85 °C (-40 ... +185 °F) ²⁾		
- With thermal isolator	-40 ... +125 °C (-40 ... +257 °F)		
• Process pressure (rod version)	-1 ... +25 bar g (-14.6 ... +365 psi g) (nominal)		
• Process pressure (cable version) ³⁾	-1 ... +10 bar g (-14.6 ... +150 psi g) (nominal)		
• Process pressure (sliding coupling version)	-1 ... +10 bar g (-14.6 ... +150 psi g) (nominal)		
Design			
• Material			
- Enclosure	Epoxy-coated aluminum with gasket		
- Optional thermal isolator	316L stainless steel		
• Connection	Removable terminal block, max. 2.5 mm ²		
• Degree of protection	IP65/Type 4/NEMA 4 (optional IP68)		
• Cable inlet	2 x M20x1.5 thread (option: 2 x 1/2" NPT conduit entry including 1 plugged entry)		
Electromagnetic Compatibility	To comply with CE EMC regulations (where applicable); the CLS200 should be installed per the instruction manual.		

- 1) When operation is in areas classified as hazardous, observe restrictions according to relevant certificate.
See also Pressure/Temperature curves on page 4/38.
- 2) Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F)
- 3) Pressure rating of process seal is temperature dependent.
See Pressure/Temperature curves on page 4/38.
- 4) Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Design: Probe				
	Rod version	Sanitary version	Cable version	Sliding Coupling version
Max. length	5 500 mm (216.53 inch)	5 500 mm (216.53 inch)	30 000 mm (1 181.1 inch) liquids and slurries 5 000 mm (196.85 inch) solids (under loads)	5 500 mm (216.53 inch)
Process connection	R 3/4", 1", 1 1/4", 1 1/2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] 3/4", 1", 1 1/4", 1 1/2" NPT [(Taper), ANSI/ASME B1.20.1] G 3/4", 1", 1 1/2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] 316L stainless steel ASME/EN flange	1 1/2", 2" sanitary fitting clamp 316L stainless steel	R 3/4", 1", 1 1/4", 1 1/2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] 3/4", 1", 1 1/4", 1 1/2" NPT [(Taper), ANSI/ASME B1.20.1] G 3/4", 1", 1 1/2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202] 316L stainless steel ASME/EN flange	R 3/4", 1", 1 1/4", 1 1/2" inch [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] 3/4", 1", 1 1/4", 1 1/2" NPT [(Taper), ANSI/ASME B1.20.1] G 3/4", 1", 1 1/2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]
Extension material	316L stainless steel optional PFA coated ¹⁾	316L stainless steel	Fluoroethylene propylene (FEP) cable with stainless steel core	316L stainless steel
Sensor wetted parts	PPS (optional PVDF)	PPS (optional PVDF)	PPS (optional PVDF)	PPS (optional PVDF)
O-ring seal material	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾	FKM (optional FFKM) ²⁾
Thermal isolator ³⁾	Optional	Optional	Optional	Optional
Extension	User selected length	User selected length	Cable extension	User selected length

¹⁾ PFA coating (7ML5634 and 7ML5644) has 120 micron thickness

²⁾ For Caustic Materials, please contact ceg.smpi@siemens.com for alternative O-Rings

³⁾ Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F).

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Threaded or Flanged process connection	7ML5640- ■■■■■ - ■■■■ 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Process connection	
<u>Threaded, 316L stainless steel</u>	
¾" NPT [(Taper), ANSI/ASME B1.20.1]	● 0 A
1" NPT [(Taper), ANSI/ASME B1.20.1]	● 0 B
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	● 0 C
1½" NPT [(Taper), ANSI/ASME B1.20.1]	● 0 D
R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	● 1 A
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	● 1 B
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	● 1 D
G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	● 3 A
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	● 3 B
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	● 3 D
<u>Welded flange, 316L stainless steel, raised face</u>	
1" ASME, 150 lb	● 5 A
1" ASME, 300 lb	● 5 B
1" ASME, 600 lb	● 5 C
1½" ASME, 150 lb	● 5 D
1½" ASME, 300 lb	● 5 E
1½" ASME, 600 lb	● 5 F
2" ASME, 150 lb	● 5 G
2" ASME, 300 lb	● 5 H
2" ASME, 600 lb	● 5 J
3" ASME, 150 lb	● 5 K
3" ASME, 300 lb	● 5 L
3" ASME, 600 lb	● 5 M
4" ASME, 150 lb	● 5 N
4" ASME, 300 lb	● 5 P
4" ASME, 600 lb	● 5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced</u>	
DN 25, PN 16	● 6 A
DN 25, PN 40	● 6 B
DN 40, PN 16	● 6 C
DN 40, PN 40	● 6 D
DN 50, PN 16	● 6 E
DN 50, PN 40	● 6 F
DN 80, PN 16	● 6 G
DN 80, PN 40	● 6 H
DN 100, PN 16	● 6 J
DN 100, PN 40	● 6 K
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)	
Probe length (length from flange face) (threaded lengths include process thread)	
<u>Note: No Y01 needed in Order code for standard lengths</u>	
Compact [threaded 120 mm (4.72 inch), Flanged 98 mm (3.86 inch)]	● A
Extended rod, 250 mm (9.84 inch)	● B
Extended rod, 350 mm (13.78 inch)	● C
Extended rod, 500 mm (19.69 inch)	● D
Extended rod, 750 mm (29.53 inch)	● E
Extended rod, 1 000 mm (39.37 inch)	● F
Extended rod, 1 250 mm (49.21 inch)	● G
Extended rod, 1 350 mm (53.15 inch)	● H
Extended rod, 1 500 mm (59.06 inch)	● J
Extended rod, 1 750 mm (68.90 inch)	● K
Extended rod, 2 000 mm (78.74 inch)	● L

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Threaded or Flanged process connection	7ML5640- ■■■■■ - ■■■■ 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Add Order code Y01 and plain text: "Insertion length ... mm"	
Extended rod, 210 ... 1 000 mm (8.27 ... 39.37 inch)	● M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	● N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	● P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	● Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	● R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	● S
Thermal isolator	
Without thermal isolator	● 0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	● 1
Remote mount electronics and mounting bracket	
With 2 m (79 inch) of cable	● 2
With 5 m (197 inch) of cable	● 3
Wetted seals	
FKM	● 0
FFKM [for process temperatures above -20 °C (-4 °F)]	● 1
Probe material	
316L stainless steel with PPS probe body	● 0
316L stainless steel with PVDF probe body	● 1
Approvals	
Non-Sparking:	● B
CE, C-TICK, ATEX II 3 G Ex nA II T6...T4, ATEX II 2 D IP6X T100 °C	
Dust Ignition Proof:	● C
CE, C-TICK, ATEX II 1/2 D T100 °C	
Intrinsically Safe: ¹⁾	● D
CE, C-TICK, ATEX II 1 G EEx ia IIC T6...T4, ATEX II 1/2 D IP6X T100 °C	
Flameproof Enclosure with IS Probe:	● E
CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	
Non-incendive:	● F
CSA/FM Class I, Div. 2, Groups A, B, C, D CSA/FM Class II, Div. 2, Groups F, G CSA/FM Class III T4 or T6	
Dust Ignition Proof with IS Probe:	● G
CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	
Intrinsically Safe: ¹⁾	● H
CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	
Explosion Proof with IS Probe:	● J
CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	
General Purpose (CSA, FM)	● K
General Purpose (CE, C-TICK)	● L
Enclosure and lid	
<u>Aluminum epoxy coated</u>	
2 x ½" NPT via adapter - cable inlet, IP65	● A
2 x M20x1.5 cable inlet, IP65	● B
2 x ½" NPT via adapter - cable inlet, IP68	● C
2 x M20x1.5 cable inlet, IP68	● D

¹⁾ Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

● 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 – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Order code	Selection and Ordering data	Article No.
Further designs		Pointek CLS200 - Digital - Cable with Threaded or Flanged process connection	7ML5641-
Please add "-Z" to Article No. and specify Order code(s).		Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	0
Total insertion length: enter the total insertion length in plain text description	Y01	Process connection	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15	<u>Threaded, 316L stainless steel</u>	
Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11	¾" NPT [(Taper), ANSI/ASME B1.20.1]	0 A
Inspection Certificate Type 3.1 per EN 10204	C12	1" NPT [(Taper), ANSI/ASME B1.20.1]	0 B
Operating Instructions		1¼" NPT [(Taper), ANSI/ASME B1.20.1]	0 C
Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36	1½" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
Accessories	See page 4/36	R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 A
◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆. For details see page 9/5 in the appendix.		R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 B
		R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
		G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 A
		G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 B
		G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
		<u>Welded flange, 316L stainless steel, raised face</u>	
		1" ASME, 150 lb	5 A
		1" ASME, 300 lb	5 B
		1" ASME, 600 lb	5 C
		1½" ASME, 150 lb	5 D
		1½" ASME, 300 lb	5 E
		1½" ASME, 600 lb	5 F
		2" ASME, 150 lb	5 G
		2" ASME, 300 lb	5 H
		2" ASME, 600 lb	5 J
		3" ASME, 150 lb	5 K
		3" ASME, 300 lb	5 L
		3" ASME, 600 lb	5 M
		4" ASME, 150 lb	5 N
		4" ASME, 300 lb	5 P
		4" ASME, 600 lb	5 Q
		<u>Welded flange, 316L stainless steel, Type A flat faced</u>	
		DN 25, PN 16	6 A
		DN 25, PN 40	6 B
		DN 40, PN 16	6 C
		DN 40, PN 40	6 D
		DN 50, PN 16	6 E
		DN 50, PN 40	6 F
		DN 80, PN 16	6 G
		DN 80, PN 40	6 H
		DN 100, PN 16	6 J
		DN 100, PN 40	6 K
		(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)	
		Probe length (length from flange face) (threaded lengths include process thread)	
		<u>Note: No Y01 needed in Order code for standard lengths</u>	
		Extended cable, 3 000 mm (118.11 inch), length can be determined by customer on assembly	A
		Extended cable, 6 000 mm (236.22 inch), length can be determined by customer on assembly	B
		<u>Add Order code Y01 and plain text: "Insertion length ... mm"</u>	
		Extended cable, 500 ... 5 000 mm (19.69 ... 196.85 inch)	C
		Extended cable, 5 001 ... 10 000 mm (196.89 ... 393.70 inch)	D
		Extended cable, 10 001 ... 15 000 mm (393.74 ... 590.55 inch)	E
		Extended cable, 15 001 ... 20 000 mm (590.59 ... 787.40 inch)	F
		Extended cable, 20 001 ... 25 000 mm (787.44 ... 984.25 inch)	G
		Extended cable, 25 001 ... 30 000 mm (984.29 ... 1 181.10 inch)	H

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Article No.	Selection and Ordering data	Order code
Pointek CLS200 - Digital - Cable with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	7ML5641- - - - - - 0	Further designs Please add "-Z" to Article No. and specify Order code(s). Total insertion length: enter the total insertion length in plain text description	
Thermal isolator Without thermal isolator With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	0 1	Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y01 Y15
Remote mount electronics and mounting bracket With 2 m (79 inch) of cable With 5 m (197 inch) of cable	2 3	Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000 Inspection Certificate Type 3.1 per EN 10204	C11 C12
Wetted seals FKM and PTFE FFKM and PTFE [for process temperatures above -20 °C (-4 °F)]	0 1	Operating Instructions Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
Probe material FEP jacketed cable with PPS probe body FEP jacketed cable with PVDF probe body	0 1	Accessories We can offer shorter delivery times for configurations designated with the Quick Ship Symbol. For details see page 9/5 in the appendix.	See page 4/36
Approvals Non-Sparking: CE, C-TICK, ATEX II 3 G Ex nA II T6...T4, ATEX II 2 D IP6X T100 °C Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C Intrinsically Safe: ¹⁾ CE, C-TICK, ATEX II 1 G EEx ia IIC T6...T4, ATEX II 1/2 D IP6X T100 °C Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C Non-incendive: CSA/FM Class I, Div. 2, Groups A, B, C, D CSA/FM Class II, Div. 2, Groups F, G CSA/FM Class III T4 or T6 Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4 Intrinsically Safe: ¹⁾ CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4 Explosion Proof with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4 General Purpose (CSA, FM) General Purpose (CE, C-TICK)	B C D E F G H J K L		
Enclosure and lid <u>Aluminum epoxy coated</u> 2 x 1/2" NPT via adapter - cable inlet, IP65 2 x M20x1.5 cable inlet, IP65 2 x 1/2" NPT via adapter - cable inlet, IP68 2 x M20x1.5 cable inlet, IP68	A B C D		

¹⁾ Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

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 – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Sanitary process connection Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	7ML5642- - - - - - 0	Pointek CLS200 - Digital - Rod with Sanitary process connection Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	7ML5642- - - - - - 0
Process connection Sanitary 316L stainless steel		Non-incendive: CSA/FM Class I, Div. 2, Groups A, B, C, D CSA/FM Class II, Div. 2, Groups F, G CSA/FM Class III T4 or T6	F
1" sanitary fitting clamp 1½" sanitary fitting clamp 2" sanitary fitting clamp 2½" sanitary fitting clamp 3" sanitary fitting clamp (Note: Sanitary connection dimensionally corresponds to the applicable ISO 2852 standard.)	8 A 8 B 8 C 8 D 8 E	Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	G
Probe length (length from process connection face) <u>Note: No Y01 needed in Order code for standard lengths</u>		Intrinsically Safe: ¹⁾ CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	H
Compact 98 mm (3.86 inch) Extended rod, 250 mm (9.84 inch) Extended rod, 350 mm (13.78 inch)	A B C	Explosion Proof with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	J
Extended rod, 500 mm (19.69 inch) Extended rod, 750 mm (29.53 inch) Extended rod, 1 000 mm (39.37 inch)	D E F	General Purpose (CSA, FM) General Purpose (CE, C-TICK)	K L
Extended rod, 1 250 mm (49.21 inch) Extended rod, 1 350 mm (53.15 inch) Extended rod, 1 500 mm (59.06 inch)	G H J	Enclosure and lid Aluminum epoxy coated	
Extended rod, 1 750 mm (68.90 inch) Extended rod, 2 000 mm (78.74 inch)	K L	2 x ½" NPT via adapter - cable inlet, IP65 2 x M20x1.5 cable inlet, IP65 2 x ½" NPT via adapter - cable inlet, IP68 2 x M20x1.5 cable inlet, IP68	A B C D
Add Order code Y01 and plain text: "Insertion length ... mm"		¹⁾ Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection	
Extended rod, 110 ... 350 mm (4.3 ... 13.78 inch) Extended rod, 351 ... 1 000 mm (13.82 ... 39.37 inch) Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	M N P	We can offer shorter delivery times for configurations designated with the Quick Ship Symbol . For details see page 9/5 in the appendix.	
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch) Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch) Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	Q R S		
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	T		
Thermal isolator Without thermal isolator With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	0 1		
Remote mount electronics and mounting bracket With 2 m (79 inch) of cable With 5 m (197 inch) of cable	2 3		
Wetted seals FKM FFKM [for process temperatures above -20 °C (-4 °F)]	0 1		
Probe material 316L stainless steel with PPS probe body 316L stainless steel with PVDF probe body	0 1		
Approvals Non-Sparking: CE, C-TICK, ATEX II 3 G Ex nA II T6...T4, ATEX II 2 D IP6X T100 °C Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C Intrinsically Safe: ¹⁾ CE, C-TICK, ATEX II 1 G EEx ia IIC T6...T4, ATEX II 1/2 D IP6X T100 °C Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	B C D E		
		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	Y01
		Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
		Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
		Inspection Certificate Type 3.1 per EN 10204	C12
		Operating Instructions Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
		Accessories	See page 4/36
		¹⁾ 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 – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Sliding coupling with Threaded process connection	7ML5643- - - - - - 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Process connection <u>Threaded, 316L stainless steel</u>	
3/4" NPT [(Taper), ANSI/ASME B1.20.1]	0 A
1" NPT [(Taper), ANSI/ASME B1.20.1]	0 B
1 1/4" NPT [(Taper), ANSI/ASME B1.20.1]	0 C
1 1/2" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R 3/4" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 A
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 B
R 1 1/2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G 3/4" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 A
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 B
G 1 1/2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
Probe length (length from flange face) (threaded lengths include process thread) <u>Note: No Y01 needed in Order code for standard lengths</u>	
Extended rod, 350 mm (13.78 inch)	C
Extended rod, 500 mm (19.69 inch)	D
Extended rod, 750 mm (29.53 inch)	E
Extended rod, 1 000 mm (39.37 inch)	F
Extended rod, 1 250 mm (49.21 inch)	G
Extended rod, 1 350 mm (53.15 inch)	H
Extended rod, 1 500 mm (59.06 inch)	J
Extended rod, 1 750 mm (68.90 inch)	K
Extended rod, 2 000 mm (78.74 inch)	L
Add Order code Y01 and plain text: "Insertion length ... mm"	
Extended rod, 350 ... 1 000 mm (13.82 ... 39.37 inch)	M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	S
Thermal isolator Without thermal isolator	0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1
Remote mount electronics and mounting bracket With 2 m (79 inch) of cable	2
With 5 m (197 inch) of cable	3
Wetted seals FKM and PTFE	0
FFKM and PTFE [for process temperatures above -20 °C (-4 °F)]	1
Probe material 316L stainless steel with PPS probe body	0
316L stainless steel with PVDF probe body	1
Approvals Non-Sparking: CE, C-TICK, ATEX II 3 G Ex nA II T6...T4, ATEX II 2 D IP6X T100 °C	B
Dust Ignition Proof: CE, C-TICK, ATEX II 1/2 D T100 °C	C
Intrinsically Safe: ¹⁾ CE, C-TICK, ATEX II 1 G EEx ia IIC T6...T4, ATEX II 1/2 D IP6X T100 °C	D

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Sliding coupling with Threaded process connection	7ML5643- - - - - - 0
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	
Flameproof Enclosure with IS Probe: CE, C-TICK, ATEX II 1/2 G EEx d[ia] IIC T6...T4, ATEX II 1/2 D T100 °C	E
Non-incendive: CSA/FM Class I, Div. 2, Groups A, B, C, D CSA/FM Class II, Div. 2, Groups F, G CSA/FM Class III T4 or T6	F
Dust Ignition Proof with IS Probe: CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	G
Intrinsically Safe: ¹⁾ CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	H
Explosion Proof with IS Probe: CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups E, F, G CSA/FM Class III T4	J
General Purpose (CSA, FM)	K
General Purpose (CE, C-TICK)	L
Enclosure and lid <u>Aluminum epoxy coated</u>	
2 x 1/2" NPT via adapter - cable inlet, IP65	A
2 x M20x1.5 cable inlet, IP65	B
2 x 1/2" NPT via adapter - cable inlet, IP68	C
2 x M20x1.5 cable inlet, IP68	D
¹⁾ Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection	
• We can offer shorter delivery times for configurations designated with the Quick Snip Symbol •. For details see page 9/5 in the appendix.	

Selection and Ordering data	Order code
Further designs Please add "-Z" to Article No. and specify Order code(s).	
Total insertion length: enter the total insertion length in plain text description	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
Accessories	See page 4/36

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Digital

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - PFA Rod with PFA Flanged process connection	7ML5644-
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	0
Process connection	
<u>Welded flange, PFA coated, 316L stainless steel, raised face</u>	
1" ASME, 150 lb	5 A
1" ASME, 300 lb	5 B
1" ASME, 600 lb	5 C
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, PFA coated, 316L stainless steel, Type A flat faced</u>	
DN 25, PN 16	6 A
DN 25, PN 40	6 B
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.)	
Probe length (length from process connection face)	
<u>Note: No Y01 needed in Order code for standard lengths</u>	
Compact 98 mm (3.86 inch)	A
Extended rod, 250 mm (9.84 inch)	B
Extended rod, 350 mm (13.78 inch)	C
Extended rod, 500 mm (19.69 inch)	D
Extended rod, 750 mm (29.53 inch)	E
Extended rod, 1 000 mm (39.37 inch)	F
Extended rod, 1 250 mm (49.21 inch)	G
Extended rod, 1 350 mm (53.15 inch)	H
Extended rod, 1 500 mm (59.06 inch)	J
Extended rod, 1 750 mm (68.90 inch)	K
Extended rod, 2 000 mm (78.74 inch)	L
<u>Add Order code Y01 and plain text: "Insertion length ... mm"</u>	
Extended rod, 200 ... 1 000 mm (7.87 ... 39.37 inch)	M
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	N
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	P
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	Q
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	R
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	S
Thermal isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]	1
Remote mount electronics and mounting bracket	
With 2 m (79 inch) of cable	2
With 5 m (197 inch) of cable	3

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - PFA Rod with PFA Flanged process connection	7ML5644-
Versatile inverse frequency shift capacitance level switch with optional process connection choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces	0
Wetted seals	
FKM	0
FFKM [for process temperatures above -20 °C (-4 °F)]	1
Probe material	
PFA Coated 316L stainless steel with PPS probe body	0
PFA Coated 316L stainless steel with PVDF probe body	1
Approvals	
Non-incendive:	
CSA/FM Class I, Div. 2, Groups A, B, C, D	F
CSA/FM Class II, Div. 2, Groups F, G	
CSA/FM Class III T4 or T6	
Dust Ignition Proof with IS Probe:	
CSA/FM Class II, Div. 1, Groups E, F, G	G
CSA/FM Class III T4	
Intrinsically Safe: ¹⁾	
CSA/FM Class I, Div. 1, Groups A, B, C, D	H
CSA/FM Class II, Div. 1, Groups E, F, G	
CSA/FM Class III T4	
Explosion Proof with IS Probe:	
CSA/FM Class I, Div. 1, Groups A, B, C, D	J
CSA/FM Class II, Div. 1, Groups E, F, G	
CSA/FM Class III T4	
General Purpose (CSA, FM)	K
Enclosure and lid	
<u>Aluminum epoxy coated</u>	
2 x ½" NPT via adapter - cable inlet, IP65	A
2 x M20x1.5 cable inlet, IP65	B
2 x ½" NPT via adapter - cable inlet, IP68	C
2 x M20x1.5 cable inlet, IP68	D
¹⁾ Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection	

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	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	Y15
Manufacturer's test certificate: M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions	
Note: The Operating Instructions should be ordered as a separate line on the order. This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and manual library.	See page 4/36
Accessories	
	See page 4/36

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

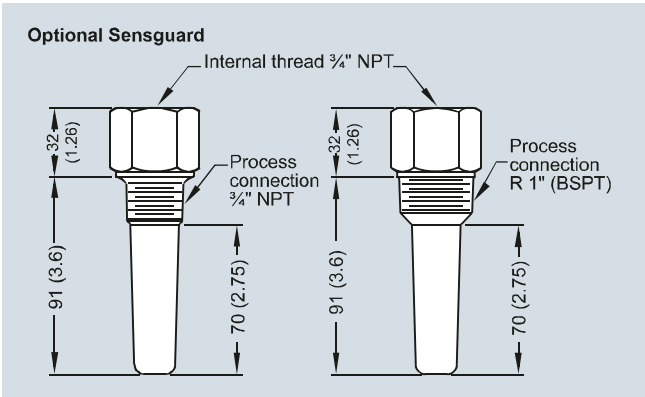
Selection and Ordering data	Article No.
Operating Instructions - Standard	
English	7ML1998-5JH04
German	7ML1998-5JH34
Note: The Operating Instructions should be ordered as a separate line on the order.	
Quick Start manual, multi-language	A5E32221251
This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	
Operating Instructions - Digital	
English	7ML1998-5JJ05
German	7ML1998-5JJ34
French	7ML1998-5JJ11
Note: The Operating Instructions should be ordered as a separate line on the order.	
Quick Start manual, multi-language	A5E32221496
This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	
Accessories	
Sensguard, ¾" NPT (PPS) Only available for CLS200 with ¾" NPT thread	7ML1830-1DL
Sensguard, R 1" (BSPT) (PPS) Only available for CLS200 with ¾" NPT thread	7ML1830-1DM
One metallic cable gland M20x1.5, -40 ... +80 °C (-40 ... +176 °F) with integrated shield connection (available for PROFIBUS PA)	7ML1930-1AQ
General Purpose	
1/2" NPT General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... -100 °C (-40 ... -212 °F), cable size 6 ... 12 mm (0.236 ... 0.472 inch)	7ML1830-1JA
M20x1.5 General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... -100 °C (-40 ... -212 °F), cable size 7 ... 12 mm (0.275 ... 0.472 inch)	7ML1830-1JC
Hazardous Locations	
1/2" NPT EMC rated Cable Gland: Dust Ignition Proof, Flameproof Exd, and Increased Safety ATEX II 2 GD ExtD A21 (Zone 1, Zone 2, Zone 21, Zone 22, and in Gas Groups IIA, IIB and IIC) -60 ... +80 °C IP66, IP67, IP68, NEMA4X, cable sizes 5.5 ... 12 mm (0.216 ... 0.472 inch)	7ML1830-1JB
M20 EMC rated Cable Gland: Dust Ignition Proof, Flameproof Exd, and Increased Safety ATEX II 2 GD ExtD A21 (Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC) -60 ... +80 °C IP66, IP67, IP68, NEMA4X, cable sizes 5.5 ... 12 mm (0.216 ... 0.472 inch)	7ML1830-1JD
Blind threaded flanges are available. Please contact ceg.smpi@siemens.com with a completed application data sheet on page 4/11	
Pointek Specials	See page 4/82

Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

Options



Optional Sensguard, dimensions in mm (inch)

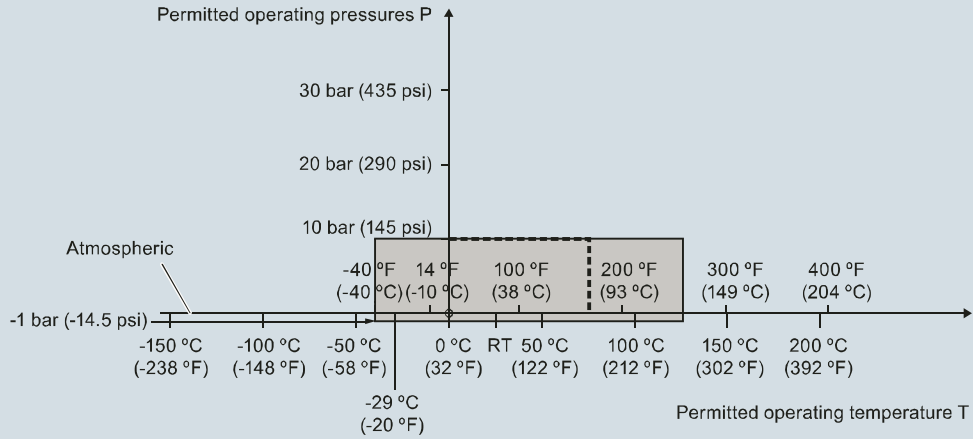
Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

Characteristic curves

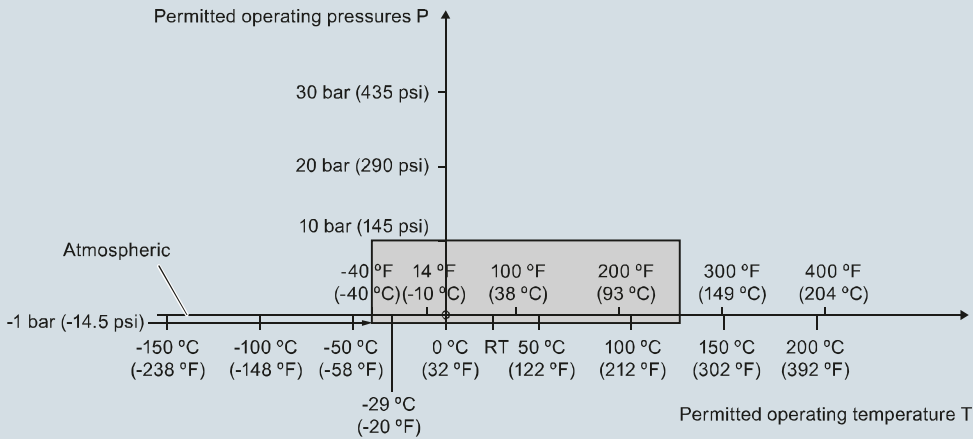
Pressure/temperature curve
CLS200 sliding coupling
threaded process connections
(7ML5633 and 7ML5643)



----- Example:
Permitted operating pressure = 10 bar (145 psi) at 75 °C

Pointek CLS200 Process Pressure/Temperature derating curves (7ML5633 and 7ML5643)

Pressure/temperature curve
CLS200 cable
Threaded process connections
(7ML5631 and 7ML5641)



Pointek CLS200 Process Pressure/Temperature derating curves (7ML5631 and 7ML5641)

4

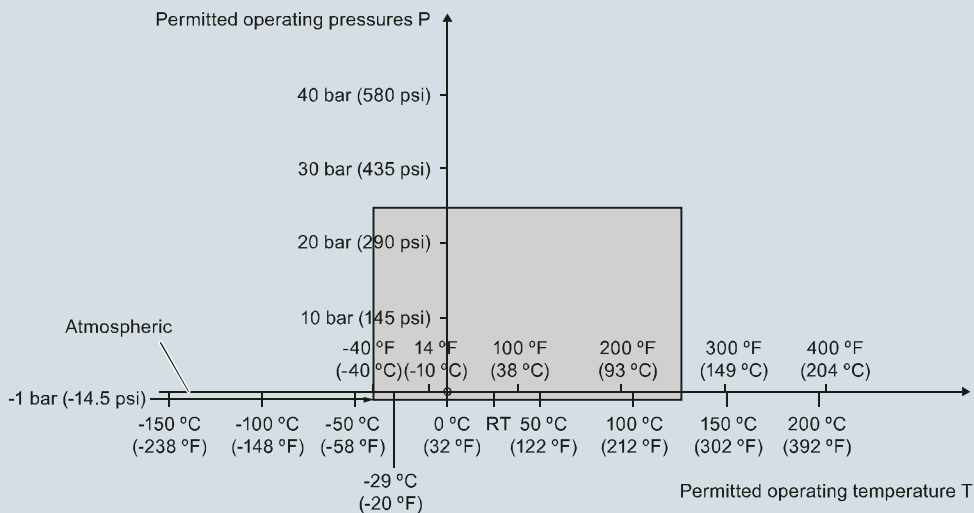
Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

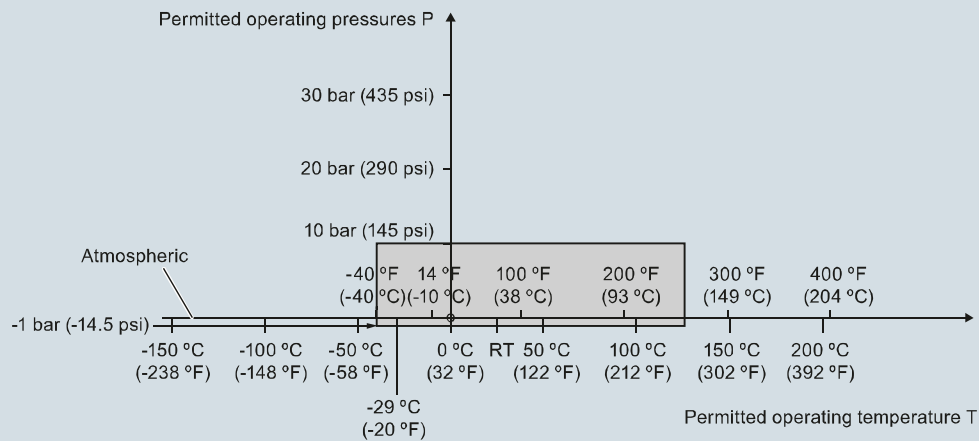
4

Pressure/temperature curve
CLS200 compact and extended rod
Threaded process connections
(7ML5630 and 7ML5640)



Pointek CLS200 Process Pressure/Temperature derating curves (7ML5630 or 7ML5640)

Pressure/temperature curve
CLS200 compact and extended sanitary type
Sanitary process connections
(7ML5632 and 7ML5642)



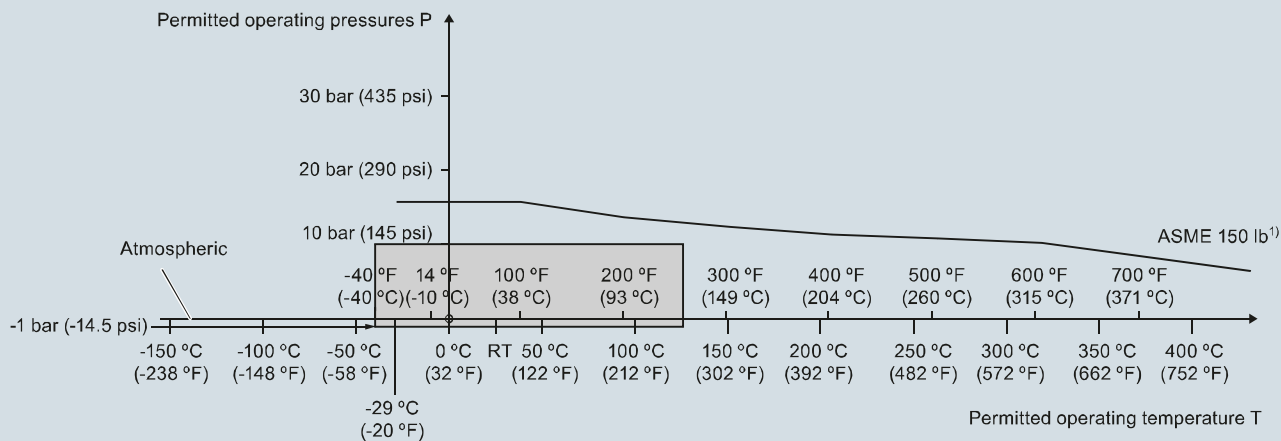
Pointek CLS200 Process Pressure/Temperature derating curves (7ML5632 and 7ML5642)

Level Measurement

Point level measurement – Capacitance switches

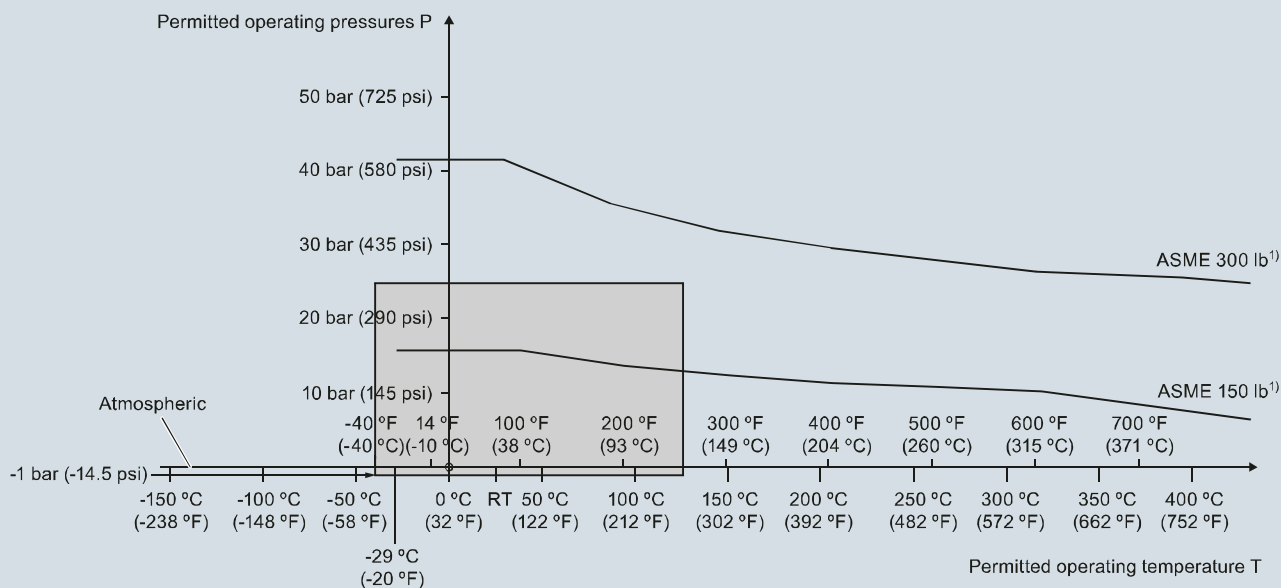
Pointek CLS200 – Standard and Digital

Pressure/temperature curve
CLS200 cable
ASME flanged process connections
(7ML5631 and 7ML5641)



Pointek CLS200 Process Pressure/Temperature derating curves (7ML5631 and 7ML5641)

Pressure/temperature curve
CLS200 compact and extended rod
ASME flanged process connections
(7ML5630 and 7ML5640)



¹⁾ The curve denotes the minimum allowable flange class for the shaded area below.

Pointek CLS200 Process Pressure/Temperature derating curves (7ML5630 and 7ML5640)

4

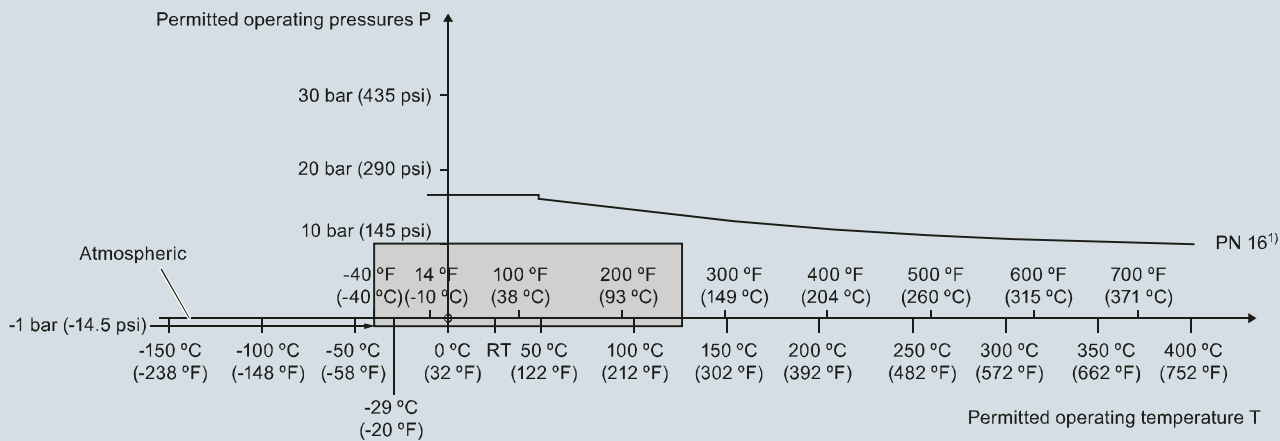
Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

4

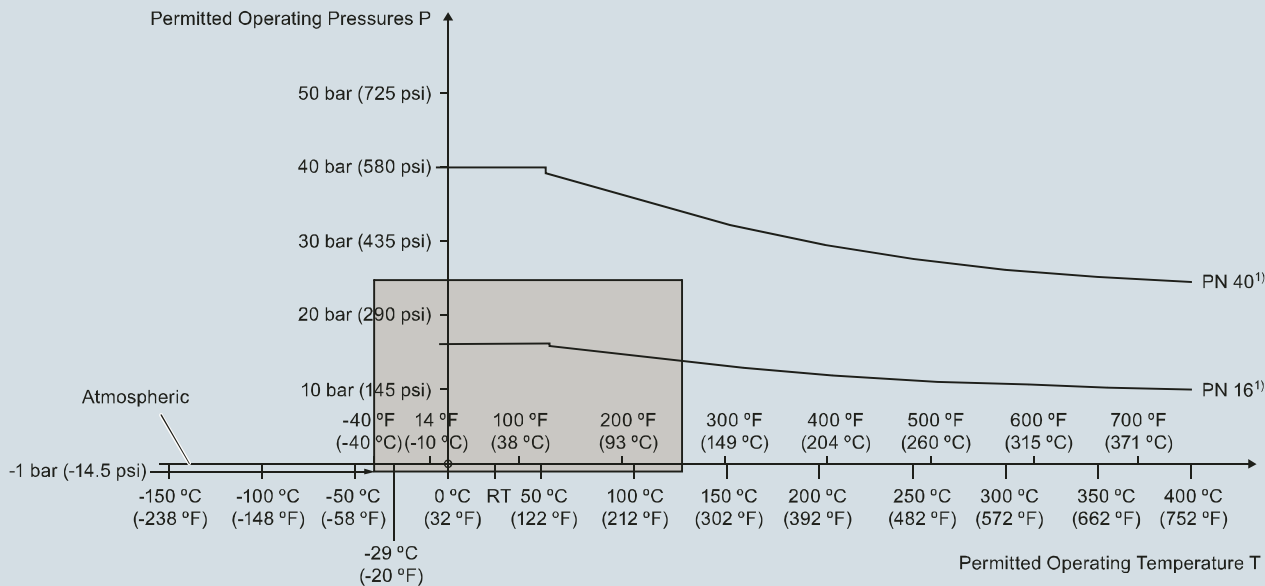
Pressure/temperature curve
CLS200 cable
EN flanged process connections
(7ML5631 and 7ML5641)



¹⁾ The curve denotes the minimum allowable flange class for the shaded area below.

Pointek CLS200 Process Pressure/Temperature derating curves (7ML5631 and 7ML5641)

Pressure/Temperature Curve
CLS200 Compact and Extended Rod
EN Flanged Process Connections
(7ML5630 and 7ML5640)



¹⁾ The curve denotes the minimum allowable flange class for the shaded area below.

Pointek CLS200 Process Pressure/Temperature derating curves (7ML5630 and 7ML5640)

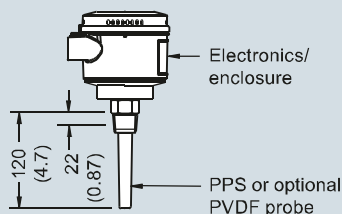
Level Measurement

Point level measurement – Capacitance switches

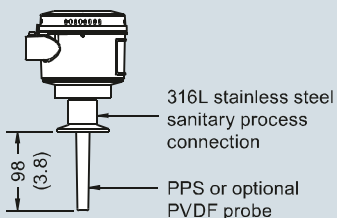
Pointek CLS200 – Standard and Digital

Dimensional drawings

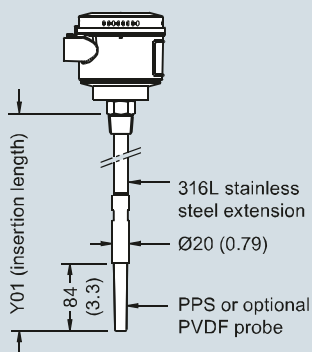
**Compact version
Threaded
(7ML5630 and 7ML5640)**



**Sanitary compact version
Sanitary fitting
(7ML5632 and 7ML5642)**

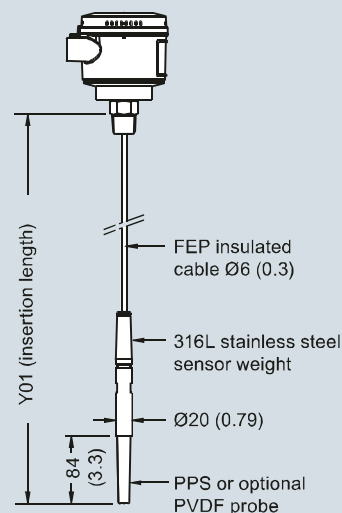


**Extended rod version
Threaded
(7ML5630 and 7ML5640)**

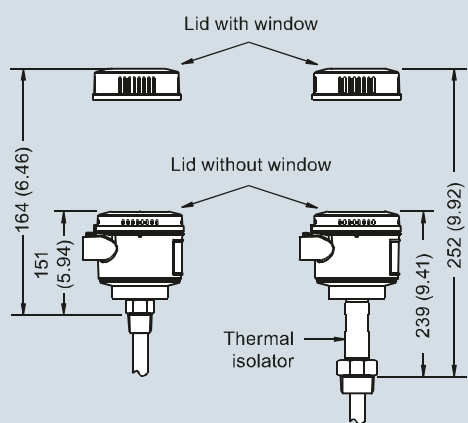
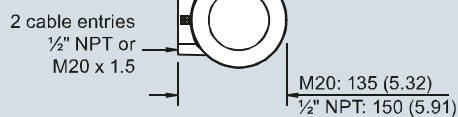


Min. insertion length = 200 (7.87)
Max. insertion length = 5 500 (216)

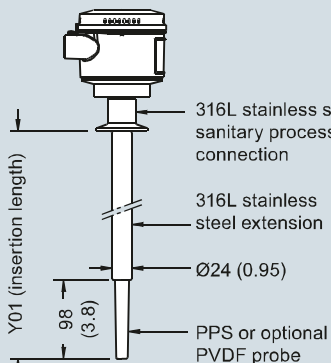
**Extended cable version
Threaded
(7ML5631 and 7ML5641)**



Min. insertion length = 500 (19.69)
Max. insertion length = 30 000 (1 181)
Applicable for liquids and solids applications. Cable can be shortened on site.

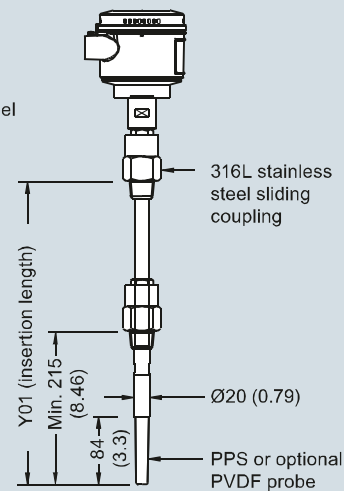


**Sanitary extended version
Sanitary fitting
(7ML5632 and 7ML5642)**



Min. insertion length = 110 (4.3)
Max. insertion length = 5 500 (216)

**Sliding coupling version
Threaded
(7ML5633 and 7ML5643)**



Min. insertion length = 350 (13.82)
Max. insertion length = 5 500 (216)

Pointek CLS200 - Threaded/sanitary process connections, dimensions in mm (inch)

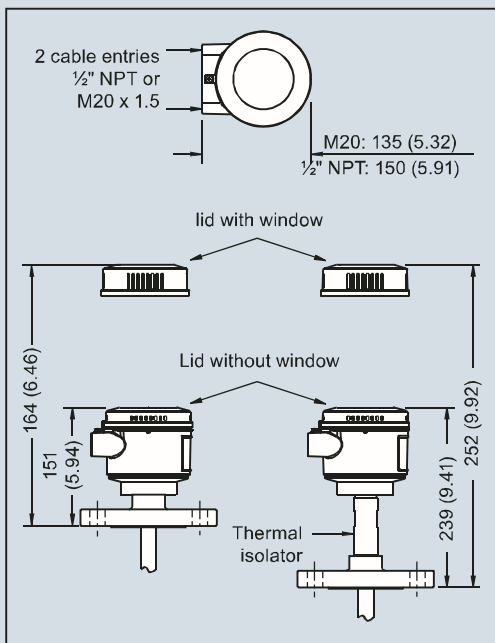
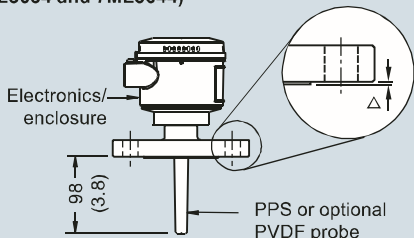
Level Measurement

Point level measurement – Capacitance switches

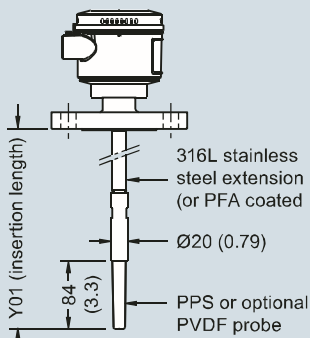
Pointek CLS200 – Standard and Digital

4

Compact version
 Welded Flange (7ML5630 and 7ML5640)
 Welded Flange, PFA coated
 (7ML5634 and 7ML5644)

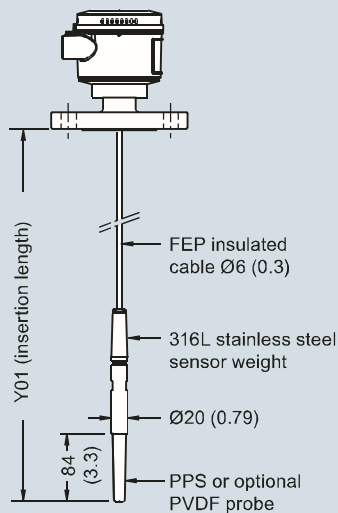


Extended rod version
 Welded Flange (7ML5630 and 7ML5640)
 Welded Flange, PFA coated
 (7ML5634 and 7ML5644)



Min. insertion length = 200 (7.87)
 Max. insertion length = 5 500 (216)

Extended cable version
 Welded Flange
 (7ML5631 and 7ML5641)



Min. insertion length = 500 (19.69)
 Max. insertion length = 30 000 (1 181)
 Applicable for liquids and solids applications.
 Cable can be shortened on site.

Flange Facing (raised face)	
Flange Class	Facing thickness
△ ASME 150/300	2 (0.08)
△ ASME 600/900	7 (0.28)
△ PN16/40	2 (0.08)

Insertion length does not include any raised face/gasket face dimension (see Flange Facing Table above)

Pointek CLS200 - Flanged Process Connections, dimensions in mm (inch)

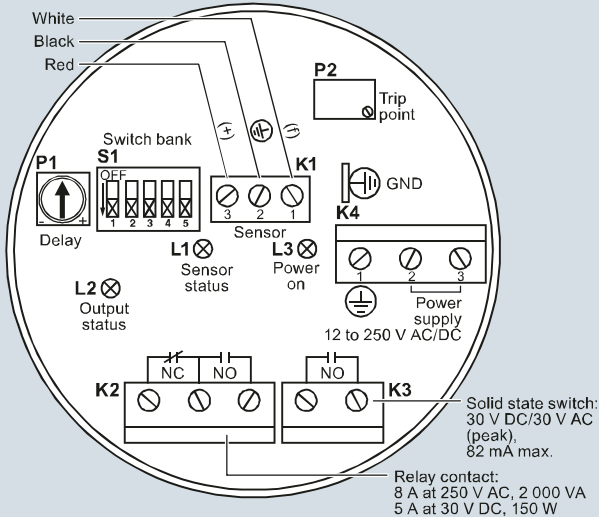
Level Measurement

Point level measurement – Capacitance switches

Pointek CLS200 – Standard and Digital

Schematics

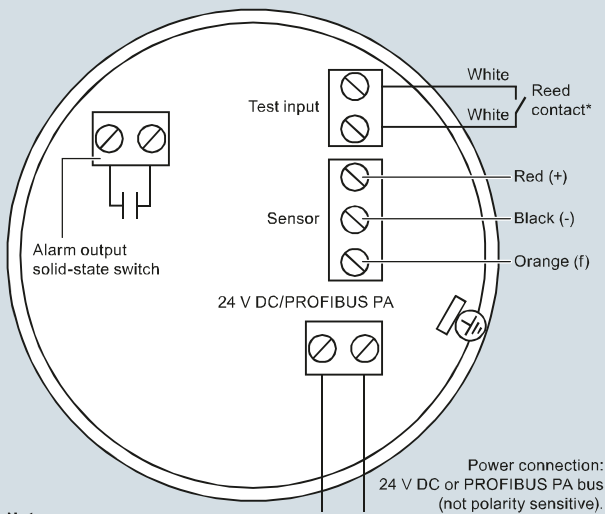
Wiring: Pointek CLS200 standard



Notes:

- Identification label is on underside of lid. Switch and potentiometer settings are for illustration purposes only (refer to operation/setup in manual).
- All field wiring must have insulation suitable for at least 250 V.
- Relay contact terminals are for use with equipment having no accessible live parts and wiring having insulation suitable for at least 250 V.
- Maximum working voltage between adjacent relay contacts shall be 250 V.
- Refer to the Instruction Manual or contact Siemens representative for detailed wiring information.

Wiring: Pointek CLS200 Digital



Notes:

Refer to the instruction manual or contact a Siemens representative for detailed wiring information.

***Magnet activated sensor Test**

A magnet can be used to test the sensor without opening the lid of the Pointek CLS200 Digital version. Bring the magnet close to the test area indicated on the enclosure. The sensor test starts and finishes automatically after 10 seconds.



4

Pointek CLS200 connections