Overview

Pointek CLS200 (digital version) is a versatile inverse frequency shift capacitance level and material detection switch with optional rod/cable choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces and has the ability to tune out buildup on the probe. 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.

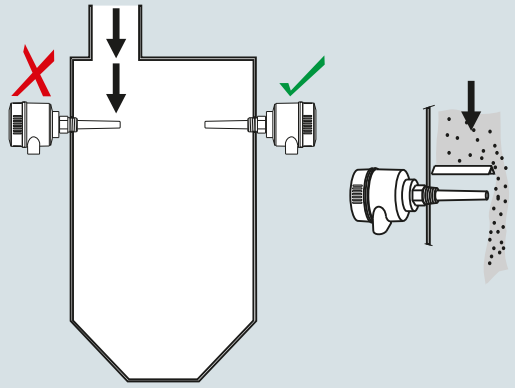
When connected to the PROFIBUS network, advanced diagnostics and set up using SIMATIC PDM are possible.

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

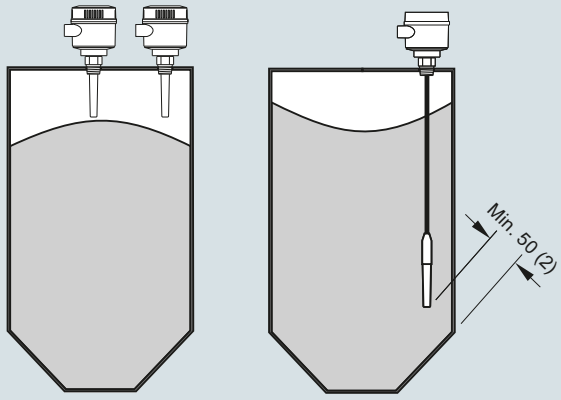
Configuration

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)

Technical specifications

Mode of operation	
Measuring principle	Inverse frequency shift capacitive level detection
Input	
Measured variable	Change in picoFarad (pF)
Output	
Output signal	
• Solid-state output	
- Output	Galvanically isolated
- Protection	Against reversed polarity (bipolar)
- Max. switching voltage	• 30 V (DC) • 30 V peak (AC)
- Max. load current	82 mA
- Voltage drop	< 1 V, typical at 50 mA
- Time delay (ON and/or OFF)	Programmable by user (0 ... 100 s)
• Fail-safe mode	Min. or max.
• Connection	Removable terminal block
Rated operating conditions[1]	
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 mm²
Degree of protection	IP65/Type 4/NEMA 4 (optional IP68)
Cable inlet	2 x M20 x 1.5 thread (option: 2 x ½" 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.

Power supply	
Bus voltage	Standard: 12 ... 30 V DC Intrinsically Safe: 12 ... 24 V DC
Current consumption	12.5 mA
Certificates and approvals	
General Purpose	CSA, FM, CE, RCM
Dust Ignition Proof	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
Flameproof Enclosure with IS Probe	ATEX II 1/2 G EEx d[ia] IIC T6 ... T4 ATEX II 1/2 D T100 °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
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
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
Non-Sparking	ATEX II 3 G Ex nA II T6 ... T4 ATEX II 2 D IP6X T100 °C
Marine	Lloyds Register of Shipping, Categories ENV1, ENV2, and ENV5
Others	Pattern Approval (China)
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

1) When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/Temperature curves on page 4/34.

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 4/34.

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

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, consult a local sales person for alternative O-rings. For more information, please visit http://www.automation.siemens.com/aspa_app.

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

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 and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
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	
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 and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	
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)]	**2**
With 5 m (197 inch) of cable[2)]	**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: CE, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T100 °C	**B**
Dust Ignition Proof: CE, RCM, ATEX II 1/2 D T100 °C	**C**
Intrinsically Safe:[1)] CE, RCM, ATEX II 1 G EEx ia IIC T6 ... T4, ATEX II 1/2 D IP6X T100 °C	**D**
Flameproof Enclosure with IS Probe: CE, RCM, 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, RCM)	**L**

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	**7ML5640-** ■■■■■ - ■■■ **0**
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] Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

[2] Available with Approvals options F, G, H, J, and K

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 [70 x 13 mm (2.75 x 0.5 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**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
Operating Instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	**See page 4/33**

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Cable with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	↗ **7ML5641-** ■■■■■ - ■■■ **0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
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.)	

Pointek CLS200 - Digital

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Cable with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	**7ML5641-** ■■■■■ - ■■■ **0**
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 be determined by customer on assembly	**A**
Extended cable, 6 000 mm (236.22 inch), length can be determined by customer on assembly	**B**
Add Order code Y01 and plain text: "Insertion length ... mm"	
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**
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]	**2**
With 5 m (197 inch) of cable[2]	**3**
Wetted seals FKM and PTFE	**0**
FFKM and PTFE [for process temperatures above -20 °C (-4 °F)]	**1**
Probe material FEP jacketed cable with PPS probe body	**0**
FEP jacketed cable with PVDF probe body	**1**
Approvals Non-Sparking: CE, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T100 °C	**B**
Dust Ignition Proof: CE, RCM, ATEX II 1/2 D T100 °C	**C**
Intrinsically Safe:[1] CE, RCM, ATEX II 1 G EEx ia IIC T6 ... T4, ATEX II 1/2 D IP6X T100 °C	**D**
Flameproof Enclosure with IS Probe: CE, RCM, 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, RCM)	**L**

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Cable with Threaded or Flanged process connection Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	**7ML5641-** ■■■■■ - ■■■ **0**
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] Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

[2] Available with Approvals options F, G, H, J, and K

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 [70 x 13 mm (2.75 x 0.5 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**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	**See page 4/33**

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Sanitary process connection ↗ Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	**7ML5642-** ■■■■■ - ■■■ **0**
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Process connection	
Sanitary 316L stainless steel	
1" sanitary fitting clamp	**8 A**
1½" sanitary fitting clamp	**8 B**
2" sanitary fitting clamp	**8 C**
2½" sanitary fitting clamp	**8 D**
3" sanitary fitting clamp	**8 E**
(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)	**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**
Add Order code Y01 and plain text: "Insertion length ... mm"	
Extended rod, 110 ... 350 mm (4.3 ... 13.78 inch)	**M**
Extended rod, 351 ... 1 000 mm (13.82 ... 39.37 inch)	**N**
Extended rod, 1 001 ... 2 000 mm (39.41 ... 78.74 inch)	**P**
Extended rod, 2 001 ... 3 000 mm (78.78 ... 118.11 inch)	**Q**
Extended rod, 3 001 ... 4 000 mm (118.15 ... 157.48 inch)	**R**
Extended rod, 4 001 ... 5 000 mm (157.52 ... 196.85 inch)	**S**
Extended rod, 5 001 ... 5 500 mm (196.89 ... 216.53 inch)	**T**
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]	**2**
With 5 m (197 inch) of cable[2]	**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: CE, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T100 °C	**B**
Dust Ignition Proof: CE, RCM, ATEX II 1/2 D T100 °C	**C**
Intrinsically Safe:[1] CE, RCM, ATEX II 1 G EEx ia IIC T6 ... T4, ATEX II 1/2 D IP6X T100 °C	**D**
Flameproof Enclosure with IS Probe: CE, RCM, ATEX II 1/2 G EEx d[ia] IIC T6 ... T4, ATEX II 1/2 D T100 °C	**E**

Selection and Ordering data	Article No.
Pointek CLS200 - Digital - Rod with Sanitary process connection Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	**7ML5642-** ■■■■■ - ■■■ **0**
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, RCM)	**L**
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] Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

[2] Available with Approvals options F, G, H, J, and K

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 [70 x 13 mm (2.75 x 0.5 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**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	**See page 4/33**

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 and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
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**
Probe length (length from flange face) (threaded lengths include process thread)	
Note: No Y01 needed in Order code for standard lengths	
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]	**2**
With 5 m (197 inch) of cable[2]	**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, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T100 °C	**B**
Dust Ignition Proof: CE, RCM, ATEX II 1/2 D T100 °C	**C**
Intrinsically Safe:[1] CE, RCM, 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 and material detection switch with optional process connection choices and configurable output. CLS200 is ideal for detection of liquids, solids, slurries, foam, and interfaces, and has the ability to tune out buildup on the probe.	
Flameproof Enclosure with IS Probe: CE, RCM, 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, RCM)	**L**
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] Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection

[2] Available with Approvals options F, G, H, J, and K

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 [70 x 13 mm (2.75 x 0.5 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**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
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Accessories	**See page 4/33**