Pointek CLS200 (standard 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.

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
- Suitable for API 2350

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

Pointek CLS200 installation, dimensions in mm (inch)

Avoid areas where material build up occurs.

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

**Mode of operation**

**Measuring principle**
Inverse frequency shift capacitive level detection

**Input**

**Measured variable**
Change in picoFarad (pF)

**Output**

**Output signal**
1 SPDT Form C relay

**Relay output**
- **Max. contact voltage**
  - 30 V DC
  - 250 V AC
- **Max. contact current**
  - 5 A DC
  - 8 A AC
- **Max. switching capacity**
  - 150 W DC
  - 2,000 VA AC
- **Time delay (ON and/or OFF)**
  - 1 ... 60 s

**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 (pre or post switching)**
  - 1 ... 60 s

**Rated operating conditions**

**Installation conditions**
- **Location**
  - Indoor/outdoor
- **Ambient conditions**
  - **Ambient temperature**
    - -40 ... +85 °C (-40 ... +185 °F)
  - **Installation category**
    - II
  - **Pollution degree**
    - 4
- **Medium conditions**
  - Liquids, bulk solids, slurries and interfaces
  - **Relative dielectric constant $\varepsilon_r$**
    - Min. 1.5
  - **Process temperature**
    - **Without thermal isolator**
      - -40 ... +85 °C (-40 ... +185 °F)
    - **With thermal isolator**
      - -40 ... +125 °C (-40 ... +257 °F)
  - **Process pressure (rod version)**
    - -1 ... +25 bar g (-14.6 ... +365 psi g)
  - **Process pressure (cable version)**
    - -1 ... +10 bar g (-14.6 ... +150 psi g)
  - **Process pressure (sliding coupling version)**
    - -1 ... +10 bar g (-14.6 ... +150 psi g)

**Electromagnetic compatibility**
To comply with CE EMC regulations (where applicable); the CLS200 should be installed per the instruction manual.

**Design**

**Material**
- **Enclosure**
  - Epoxy-coated aluminum with gasket
  - 316L stainless steel
- **Optional thermal isolator**
  - 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)

**Power supply**
- **12 ... 250 V AC/DC, 0 ... 60 Hz max. 2 W**

**Certificates and approvals**

**General Purpose**
- CSA, FM, CE, RCM
- Dust Ignition Proof
- ATEX II 1/2 D T100 °C
- Flameproof Enclosure With IS Probe
- ATEX II 1 G Ex 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 II, Div. 1,
  - Groups A, B, C, D
- CSA/FM Class II, Div. 1,
  - Groups E, F, G
- CSA/FM Class III T4
- Marine
  - Lloyds Register of Shipping, Categories ENV1, ENV2, and ENV5
- Overfill Protection
  - WHG (Germany)
  - VLAREM II
- Others
  - Pattern Approval (China), SIL

1. When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/Temperature curves on page 4/33.
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 4/33.
## Level Measurement

### Point level measurement

#### RF Capacitance switches

#### Pointek CLS200 - Standard

<table>
<thead>
<tr>
<th>Design: Probe</th>
<th>Rod version</th>
<th>Sanitary version</th>
<th>Cable version</th>
<th>Sliding Coupling version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. length</td>
<td>5 500 mm (216.53 inch)</td>
<td>5 500 mm (216.53 inch)</td>
<td>• 30 000 mm (1181.1 inch) liquids and slurries • 5 000 mm (196.85 inch) solids (under loads)</td>
<td>5 500 mm (216.53 inch)</td>
</tr>
<tr>
<td>Process connection</td>
<td>R ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPT], EN 10226/PT (JIS-T), JIS B 0203</td>
<td>1½&quot;, 2&quot; sanitary fitting clamp 316L stainless steel</td>
<td>R ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPT], EN 10226/PT (JIS-T), JIS B 0203</td>
<td>R ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPT], EN 10226/PT (JIS-T), JIS B 0203</td>
</tr>
<tr>
<td></td>
<td>G ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPP], EN ISO 228-1/PF (JIS-P), JIS B 0202</td>
<td>316L stainless steel ASME/EN flange</td>
<td>G ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPP], EN ISO 228-1/PF (JIS-P), JIS B 0202</td>
<td>G ¾&quot;, 1&quot;, 1¼&quot;, 1½&quot; [BSPP], EN ISO 228-1/PF (JIS-P), JIS B 0202</td>
</tr>
<tr>
<td>Extension material</td>
<td>316L stainless steel optional PFA coated¹</td>
<td>316L stainless steel</td>
<td>Fluoroethylene propylene (FEP) cable with stainless steel core</td>
<td>316L stainless steel</td>
</tr>
<tr>
<td>Sensor wetted parts</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
</tr>
<tr>
<td>O-ring seal material</td>
<td>FKM (optional FFKM)²</td>
<td>FKM (optional FFKM)²</td>
<td>FKM (optional FFKM)²</td>
<td>FKM (optional FFKM)²</td>
</tr>
<tr>
<td>Thermal isolator ³</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Extension</td>
<td>User selected length</td>
<td>User selected length</td>
<td>Cable extension</td>
<td>User selected length</td>
</tr>
</tbody>
</table>

---

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](http://www.automation.siemens.com/aspa_app).

3) Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F)
## Level Measurement
### Point level measurement
#### RF Capacitance switches

**Pointek CLS200 - Standard**

**Selection and Ordering data**

**Pointek CLS200 - Standard - Rod Version with Threaded or Flanged process connection**

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.

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

### Process connection

<table>
<thead>
<tr>
<th>Threaded, 316L stainless steel</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>¼&quot; NPT (Taper), ANSI/ASME B1.20.1</td>
<td>7ML5630-0</td>
</tr>
<tr>
<td>1&quot; NPT (Taper), ANSI/ASME B1.20.1</td>
<td>0 B</td>
</tr>
<tr>
<td>1¼&quot; NPT (Taper), ANSI/ASME B1.20.1</td>
<td>0 C</td>
</tr>
<tr>
<td>1½&quot; NPT (Taper), ANSI/ASME B1.20.1</td>
<td>0 D</td>
</tr>
<tr>
<td>R ¾&quot; (BSPT), EN 10226/PT (JIS-T), JIS B 0203</td>
<td>1 A</td>
</tr>
<tr>
<td>R 1&quot; (BSPT), EN 10226/PT (JIS-T), JIS B 0203</td>
<td>1 B</td>
</tr>
<tr>
<td>R 1½&quot; (BSPP), EN 10226/PT (JIS-P), JIS B 0202</td>
<td>1 C</td>
</tr>
<tr>
<td>G ¾&quot; (BSPP), ISO 228-1/PF (JIS-P), JIS B 0202</td>
<td>1 D</td>
</tr>
<tr>
<td>G 1&quot; (BSPP), ISO 228-1/PF (JIS-P), JIS B 0202</td>
<td>1 E</td>
</tr>
<tr>
<td>Welded flange, 316L stainless steel, raised face</td>
<td>3 A</td>
</tr>
<tr>
<td>1&quot; ASME, 150 lb</td>
<td>3 B</td>
</tr>
<tr>
<td>1&quot; ASME, 300 lb</td>
<td>3 C</td>
</tr>
<tr>
<td>1&quot; ASME, 600 lb</td>
<td>3 D</td>
</tr>
<tr>
<td>1½&quot; ASME, 150 lb</td>
<td>3 E</td>
</tr>
<tr>
<td>1½&quot; ASME, 300 lb</td>
<td>3 F</td>
</tr>
<tr>
<td>1½&quot; ASME, 600 lb</td>
<td>3 G</td>
</tr>
<tr>
<td>2&quot; ASME, 150 lb</td>
<td>3 H</td>
</tr>
<tr>
<td>2&quot; ASME, 300 lb</td>
<td>3 I</td>
</tr>
<tr>
<td>2&quot; ASME, 600 lb</td>
<td>3 J</td>
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<tr>
<td>3&quot; ASME, 150 lb</td>
<td>3 K</td>
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<tr>
<td>3&quot; ASME, 300 lb</td>
<td>3 L</td>
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<tr>
<td>3&quot; ASME, 600 lb</td>
<td>3 M</td>
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<tr>
<td>4&quot; ASME, 150 lb</td>
<td>3 N</td>
</tr>
<tr>
<td>4&quot; ASME, 300 lb</td>
<td>3 O</td>
</tr>
<tr>
<td>4&quot; ASME, 600 lb</td>
<td>3 P</td>
</tr>
<tr>
<td>Welded flange, 316L stainless steel, type A flat faced</td>
<td>5 A</td>
</tr>
<tr>
<td>DN 25, PN 16</td>
<td>5 B</td>
</tr>
<tr>
<td>DN 25, PN 40</td>
<td>5 C</td>
</tr>
<tr>
<td>DN 40, PN 16</td>
<td>5 D</td>
</tr>
<tr>
<td>DN 40, PN 40</td>
<td>5 E</td>
</tr>
<tr>
<td>DN 50, PN 16</td>
<td>5 F</td>
</tr>
<tr>
<td>DN 50, PN 40</td>
<td>5 G</td>
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<tr>
<td>DN 80, PN 16</td>
<td>5 H</td>
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<tr>
<td>DN 80, PN 40</td>
<td>5 I</td>
</tr>
<tr>
<td>DN 100, PN 16</td>
<td>5 J</td>
</tr>
<tr>
<td>DN 100, PN 40</td>
<td>5 K</td>
</tr>
</tbody>
</table>

**Probe length**

(length from flange face)

(316L stainless steel with PPS probe body)

With 2 m (79 inch) of cable

With 5 m (197 inch) of cable

**Wetted seals**

FFKM

FKM

**Approvals**

- Dust Ignition Proof:
  - CE, RCM, ATEX II 1/2 D T100 °C
  - CSA/FM Class III T4

- Flameproof Enclosure with IS Probe:
  - CE, RCM, ATEX II 1/2 D Ex d[a] IIC T6 ... T4
  - 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 III T4

- General Purpose (CSA, FM)

- General Purpose (CE, RCM)

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

**Enclosure and lid**

- Aluminum epoxy coated

### Selection and Ordering data

**Pointek CLS200 - Standard - Rod Version with Threaded or Flanged process connection**

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.

Add Order code Y01 and plain text:

- Insertion length: mm
- Extended rod, 1001 ... 2000 mm (39.41 ... 78.74 inch)
- Extended rod, 2001 ... 4000 mm (78.78 ... 157.48 inch)
- Extended rod, 4001 ... 5000 mm (157.52 ... 196.85 inch)
- Extended rod, 5001 ... 6000 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**

- With 2 m (79 inch) of cable
- With 5 m (197 inch) of cable

**Probe material**

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

- High: 0
- Medium: 1
- Low: 2

### Notes

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

2) Available with Approval options F, G, and H

### Dimensions

- Extended rod, 12 mm (0.47 inch)
- Flanged 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, 600 mm (23.62 inch)
- Extended rod, 1 000 mm (39.37 inch)
- Extended rod, 1 250 mm (49.21 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)

### Notes

- Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
- Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
- Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
- Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 - Standard

Selection and Ordering data

<table>
<thead>
<tr>
<th>Order code</th>
<th>Article No.</th>
</tr>
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<tbody>
<tr>
<td>Y01</td>
<td>7ML5631-</td>
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<tr>
<td>Y15</td>
<td></td>
</tr>
<tr>
<td>C11</td>
<td></td>
</tr>
<tr>
<td>C12</td>
<td></td>
</tr>
<tr>
<td>C20</td>
<td></td>
</tr>
</tbody>
</table>

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

Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]:
Measuring-point number/identification (max. 27 characters) specify in plain text

Manufacturer’s test certificate: M to DIN 55350, Part 18 and ISO 9000

Material inspection Certificate Type 3.1 per EN 10204

SIL/IEC 61508 Declaration of Conformity [SIL 2 (overspill)]

Selection and Ordering data

Order code

Process connection

Threaded, 316L stainless steel

- 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 C
R 2” [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] 1 D

G 3/4” [(BSPP), EN ISO 228-1/FP (JIS-P), JIS B 0202] 3 A
G 1” [(BSPP), EN ISO 228-1/FP (JIS-P), JIS B 0202] 3 B
G 1 1/2” [(BSPP), EN ISO 228-1/FP (JIS-P), JIS B 0202] 3 C

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
- 1 1/4” ASME, 150 lb 5 D
- 1 1/4” ASME, 300 lb 5 E
- 1 1/4” ASME, 600 lb 5 F
- 2” ASME, 150 lb 5 G
- 2” ASME, 300 lb 5 H
- 2” ASME, 600 lb 5 I
- 3” ASME, 150 lb 5 J
- 3” ASME, 300 lb 5 K
- 3” ASME, 600 lb 5 L
- 4” ASME, 150 lb 5 M
- 4” ASME, 300 lb 5 N
- 4” ASME, 600 lb 5 O

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, 3000 mm (118.11 inch), length can be determined by customer on assembly 1
Extended cable, 6000 mm (236.22 inch), length can be determined by customer on assembly 1

Add Order code Y01 and plain text:

<table>
<thead>
<tr>
<th>Insertion length ... mm</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>500 ... 5000 mm (19.69 ... 196.85 inch)</td>
<td>A</td>
</tr>
<tr>
<td>5001 ... 10000 mm (196.89 ... 393.70 inch)</td>
<td>B</td>
</tr>
<tr>
<td>10001 ... 15000 mm (393.74 ... 590.55 inch)</td>
<td>C</td>
</tr>
<tr>
<td>15001 ... 20000 mm (590.59 ... 787.4 inch)</td>
<td>D</td>
</tr>
<tr>
<td>20001 ... 25000 mm (787.44 ... 984.25 inch)</td>
<td>E</td>
</tr>
<tr>
<td>25001 ... 30000 mm (984.29 ... 1181.1 inch)</td>
<td>F</td>
</tr>
</tbody>
</table>

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 4/32

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### Selection and Ordering data

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Order code</th>
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</thead>
<tbody>
<tr>
<td>7ML5631-</td>
<td></td>
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</tbody>
</table>

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

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.

<table>
<thead>
<tr>
<th>Thermal isolator</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without thermal isolator</td>
<td>0</td>
</tr>
<tr>
<td>With thermal isolator (for process connection temperatures over 85 °C (185 °F))</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Remote mount electronics and mounting bracket</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>With 2 m (79 inch) of cable</td>
<td>2</td>
</tr>
<tr>
<td>With 5 m (197 inch) of cable</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Wetted seals</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>FKM and PTFE</td>
<td>0</td>
</tr>
<tr>
<td>FFKM and PTFE (for process temperatures above -20 °C (-4 °F))</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Probe material</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>FEP jacketed cable with PPS probe body</td>
<td>0</td>
</tr>
<tr>
<td>FEP jacketed cable with PVDF probe body</td>
<td>1</td>
</tr>
</tbody>
</table>

**Approvals**

- **Dust Ignition Proof:**
  - CE, RCM, ATEX II 1/2 D T100 °C
- **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
  - Flameproof Enclosure with IS Probe, with WHG approval:
    - CE, RCM, 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):**
  - H
- **General Purpose (CE, RCM):**
  - J
- **General Purpose (CSA, FM, CE, RCM) with WHG approval:**
  - K

**Enclosure and lid**

- Aluminum epoxy coated
  - 2 x ½" NPT via adapter - cable inlet, IP65
  - 2 x M20 x 1.5 cable inlet, IP65
  - 2 x ½" NPT via adapter - cable inlet, IP68
  - 2 x M20 x 1.5 cable inlet, IP68

1) Sensor detached to allow customer to set desired cable length
2) Available with Approvals options F ... H
Pointek CLS200 - Standard

Selection and Ordering data

**Pointek CLS200 - Standard - Rod with Sanitary process connection**

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.

Click on the Article No. for the online configuration in the PIAC Life Cycle Portal.

**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: enter the total insertion length (Note: Sanitary connection dimensionally corresponds to the applicable ISO 2852 standard)

Extended rod, 110 ... 350 mm (4.3 ... 13.78 inch)
Extended rod, 1 001 ... 3 000 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 cable
Remote mount electronics with 5 m (197 inch) of cable
Add Order code Z to Article No. and specify Order code(s).

**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

Selection and Ordering data

**Pointek CLS200 - Standard - Rod with Sanitary process connection**

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.

**Approvals**

Dust Ignition Proof:
CE, RCM, ATEX II 1/2 D T100 °C

Flameproof Enclosure with IS Probe:
CE, RCM, ATEX II 1 G Ex d [ia] IIC T6 ... T4,
ATEX II 1/2 D T100 °C

Flameproof Enclosure with IS Probe,
with WHG approval:
CE, RCM, ATEX II 1/2 G Ex d [ia] IIC T6 ... T4,
ATEX II 1/2 D T100 °C

Dust Ignition Proof with IS Probe:
CSA/FM Class I, 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, RCM)

General Purpose (CSA, FM, CE, RCM)

with WHG approval:

**Enclosure and lid**

Aluminum epoxy coated

2 x ½" NPT via adapter - cable inlet, IP65
2 x M20 x 1.5 cable inlet, IP65
2 x ½" NPT via adapter - cable inlet, IP68
2 x M20 x 1.5 cable inlet, IP68

**Operating Instructions**

All literature is available to download for free, in a range of languages, at [http://www.siemens.com/processinstrumentation/documentation](http://www.siemens.com/processinstrumentation/documentation)

**Accessories**

See page 4/32
Level Measurement
Point level measurement
RF Capacitance switches

**Selection and Ordering data**

**Pointek CLS200 - Standard - Sliding Coupling**

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.

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
- 1" NPT (Taper), ANSI/ASME B1.20.1
- 1¾" NPT (Taper), ANSI/ASME B1.20.1
- R ¾" (BSPT), EN 10226/PT (JIS-T), JIS B 0203
- R 1" (BSPT), EN 10226/PT (JIS-T), JIS B 0203
- R 1½" (BSPT), EN 10226/PT (JIS-T), JIS B 0203
- G ¾" (BSPP), EN ISO 228-1/IF (JIS-P), JIS B 0202
- G 1" (BSPP), EN ISO 228-1/IF (JIS-P), JIS B 0202
- G 1¼" (BSPP), EN ISO 228-1/IF (JIS-P), JIS B 0202

**Probe length**

(legend from flange face)

- Threaded lengths include process thread

**Critical product configuration**

- No Y01 needed in Order code for standard lengths
- Order code(s).

**Additional options**

- Available with Approvals options:

<table>
<thead>
<tr>
<th>Option</th>
<th>Code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel</td>
<td>Y15</td>
</tr>
<tr>
<td>Aluminum epoxy</td>
<td>C11</td>
</tr>
</tbody>
</table>

**Appendix**

- See page 4/32
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 - Digital

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. Menu-driven setup allows precise control of the switch point signal damping and alarm functions.

When connected to the PROFIBUS network, advanced diagnostics and setup 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

Avoid areas where material build up occurs.

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

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

### Mode of operation

<table>
<thead>
<tr>
<th>Measuring principle</th>
<th>Inverse frequency shift capacitive level detection</th>
</tr>
</thead>
</table>

### Input

<table>
<thead>
<tr>
<th>Measured variable</th>
<th>Change in picoFarad (pF)</th>
</tr>
</thead>
</table>

### Output

<table>
<thead>
<tr>
<th>Output signal</th>
<th>Galvanically isolated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid-state output</td>
<td>Against reversed polarity (bipolar)</td>
</tr>
</tbody>
</table>

- Output
- Protection
- 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

<table>
<thead>
<tr>
<th>Installation conditions</th>
<th>Indoor/outdoor</th>
</tr>
</thead>
</table>

### Ambient conditions

- Ambient temperature
  - -40 ... +85 °C (-40 ... +185 °F)
- Pollution degree
  - 4

### Medium conditions

- Liquids, bulk solids, slurries, and interfaces
- Relative dielectric constant \( \varepsilon_r \) Min. 1.5
- Process temperature
  - Without thermal isolator
    - -40 ... +85 °C (-40 ... +185 °F)
  - 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)
  - -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

<table>
<thead>
<tr>
<th>Material</th>
<th>Epoxy-coated aluminum with gasket 316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enclosure</td>
<td>Removable terminal block, max. 2.5 mm²</td>
</tr>
<tr>
<td>Optional thermal isolator</td>
<td></td>
</tr>
</tbody>
</table>

### Connection

<table>
<thead>
<tr>
<th>Degree of protection</th>
<th>IP65/Type 4/NEMA 4 (optional IP68)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cable inlet</td>
<td>2 x M20 x 1.5 thread (option: 2 x ( \frac{1}{2} ) NPT conduit entry including 1 plugged entry)</td>
</tr>
</tbody>
</table>

### Electromagnetic compatibility

To comply with CE EMC regulations (where applicable), the CLS200 should be installed per the instruction manual.

### Power supply

<table>
<thead>
<tr>
<th>Bus voltage</th>
<th>Standard: 12 ... 30 V DC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current consumption</td>
<td>Intrinsically Safe: 12 ... 24 V DC</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Certificates and approvals</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Purpose</td>
</tr>
<tr>
<td>Dust Ignition Proof</td>
</tr>
<tr>
<td>Dust Ignition Proof with IS Probe</td>
</tr>
<tr>
<td>Flameproof Enclosure with IS Probe</td>
</tr>
<tr>
<td>Explosion Proof with IS Probe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-incendive</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Non-Sparking</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATEX II 3 G Ex nA II T6 ... T4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Marine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lloyds Register of Shipping, Categories ENV1, ENV2, and ENV5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern Approval (China)</td>
</tr>
</tbody>
</table>

### 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

### Notes

1. When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/temperature curves on page 4/33.
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 4/33.
4. Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection.
## Level Measurement

### Point level measurement

#### RF Capacitance switches

**Pointek CLS200 - Digital**

<table>
<thead>
<tr>
<th>Design: Probe</th>
<th>Rod version</th>
<th>Sanitary version</th>
<th>Cable version</th>
<th>Sliding Coupling version</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. length</td>
<td>5 500 mm (216.53 inch)</td>
<td>5 500 mm (216.53 inch)</td>
<td>30 000 mm (1 181.1 inch) liquids and slurries, 5 000 mm (196.85 inch) solids (under loads)</td>
<td>5 500 mm (216.53 inch)</td>
</tr>
<tr>
<td>Extension material</td>
<td>316L stainless steel</td>
<td>316L stainless steel</td>
<td>Fluoroethylene propylene (FEP) cable with stainless steel core</td>
<td>316L stainless steel</td>
</tr>
<tr>
<td>Sensor wetted parts</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
<td>PPS (optional PVDF)</td>
</tr>
<tr>
<td>O-ring seal material</td>
<td>FKM (optional FFKM)</td>
<td>FKM (optional FFKM)</td>
<td>FKM (optional FFKM)</td>
<td>FKM (optional FFKM)</td>
</tr>
<tr>
<td>Thermal isolator</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
<td>Optional</td>
</tr>
<tr>
<td>Extension</td>
<td>User selected length</td>
<td>User selected length</td>
<td>Cable extension</td>
<td>User selected length</td>
</tr>
</tbody>
</table>

1) PFA coating (7ML5634 and 7ML644) 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](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

**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.

Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

<table>
<thead>
<tr>
<th>Process connection</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threaded, 316L stainless steel</td>
<td>7ML5640-0A</td>
</tr>
<tr>
<td>½&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
<td>7ML5640-0B</td>
</tr>
<tr>
<td>1&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
<td>7ML5640-0C</td>
</tr>
<tr>
<td>1¼&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
<td>7ML5640-0D</td>
</tr>
<tr>
<td>1½&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
<td>7ML5640-0E</td>
</tr>
<tr>
<td>R ¼&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
<td>7ML5640-0F</td>
</tr>
<tr>
<td>R ½&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
<td>7ML5640-0G</td>
</tr>
<tr>
<td>R 1¼&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
<td>7ML5640-0H</td>
</tr>
<tr>
<td>1&quot; [(BSPP), EN ISO 228-1/PT (JIS-P), JIS B 0202]</td>
<td>7ML5640-0I</td>
</tr>
<tr>
<td>1½&quot; [(BSPP), EN ISO 228-1/PT (JIS-P), JIS B 0202]</td>
<td>7ML5640-0J</td>
</tr>
<tr>
<td>2&quot; [(BSPP), EN ISO 228-1/PT (JIS-P), JIS B 0202]</td>
<td>7ML5640-0K</td>
</tr>
<tr>
<td>3&quot; [(BSPP), EN ISO 228-1/PT (JIS-P), JIS B 0202]</td>
<td>7ML5640-0L</td>
</tr>
<tr>
<td>4&quot; [(BSPP), EN ISO 228-1/PT (JIS-P), JIS B 0202]</td>
<td>7ML5640-0M</td>
</tr>
<tr>
<td>Welded flange, 316L stainless steel, raised face</td>
<td>7ML5640-0N</td>
</tr>
<tr>
<td>1&quot; ASME, 150 lb</td>
<td>7ML5640-0O</td>
</tr>
<tr>
<td>1&quot; ASME, 300 lb</td>
<td>7ML5640-0P</td>
</tr>
<tr>
<td>1&quot; ASME, 600 lb</td>
<td>7ML5640-0Q</td>
</tr>
<tr>
<td>1¼&quot; ASME, 150 lb</td>
<td>7ML5640-0R</td>
</tr>
<tr>
<td>1¼&quot; ASME, 300 lb</td>
<td>7ML5640-0S</td>
</tr>
<tr>
<td>1¼&quot; ASME, 600 lb</td>
<td>7ML5640-0T</td>
</tr>
<tr>
<td>2&quot; ASME, 150 lb</td>
<td>7ML5640-0U</td>
</tr>
<tr>
<td>2&quot; ASME, 300 lb</td>
<td>7ML5640-0V</td>
</tr>
<tr>
<td>2&quot; ASME, 600 lb</td>
<td>7ML5640-0W</td>
</tr>
<tr>
<td>3&quot; ASME, 150 lb</td>
<td>7ML5640-0X</td>
</tr>
<tr>
<td>3&quot; ASME, 300 lb</td>
<td>7ML5640-0Y</td>
</tr>
<tr>
<td>3&quot; ASME, 600 lb</td>
<td>7ML5640-0Z</td>
</tr>
<tr>
<td>4&quot; ASME, 150 lb</td>
<td>7ML5640-0A</td>
</tr>
<tr>
<td>4&quot; ASME, 300 lb</td>
<td>7ML5640-0B</td>
</tr>
<tr>
<td>4&quot; ASME, 600 lb</td>
<td>7ML5640-0C</td>
</tr>
<tr>
<td>Welded flange, 316L stainless steel, Type A flat faced</td>
<td>7ML5640-0D</td>
</tr>
<tr>
<td>DN 25, PN 16</td>
<td>7ML5640-0E</td>
</tr>
<tr>
<td>DN 25, PN 40</td>
<td>7ML5640-0F</td>
</tr>
<tr>
<td>DN 40, PN 16</td>
<td>7ML5640-0G</td>
</tr>
<tr>
<td>DN 40, PN 40</td>
<td>7ML5640-0H</td>
</tr>
<tr>
<td>DN 50, PN 16</td>
<td>7ML5640-0I</td>
</tr>
<tr>
<td>DN 50, PN 40</td>
<td>7ML5640-0J</td>
</tr>
<tr>
<td>DN 80, PN 16</td>
<td>7ML5640-0K</td>
</tr>
<tr>
<td>DN 80, PN 40</td>
<td>7ML5640-0L</td>
</tr>
<tr>
<td>DN 100, PN 16</td>
<td>7ML5640-0M</td>
</tr>
<tr>
<td>DN 100, PN 40</td>
<td>7ML5640-0N</td>
</tr>
</tbody>
</table>

(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)

<table>
<thead>
<tr>
<th>Standard lengths</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compact (threaded 120 mm (4.72 inch), Flanged 98 mm (3.86 inch))</td>
<td>7ML5640-0A</td>
</tr>
<tr>
<td>Extended rod, 250 mm (9.84 inch)</td>
<td>7ML5640-0B</td>
</tr>
<tr>
<td>Extended rod, 350 mm (13.78 inch)</td>
<td>7ML5640-0C</td>
</tr>
<tr>
<td>Extended rod, 500 mm (19.69 inch)</td>
<td>7ML5640-0D</td>
</tr>
<tr>
<td>Extended rod, 750 mm (29.53 inch)</td>
<td>7ML5640-0E</td>
</tr>
<tr>
<td>Extended rod, 1000 mm (39.37 inch)</td>
<td>7ML5640-0F</td>
</tr>
<tr>
<td>Extended rod, 1250 mm (49.21 inch)</td>
<td>7ML5640-0G</td>
</tr>
<tr>
<td>Extended rod, 1500 mm (59.06 inch)</td>
<td>7ML5640-0H</td>
</tr>
<tr>
<td>Extended rod, 1750 mm (68.90 inch)</td>
<td>7ML5640-0I</td>
</tr>
<tr>
<td>Extended rod, 2000 mm (78.74 inch)</td>
<td>7ML5640-0J</td>
</tr>
</tbody>
</table>

**Selection and Ordering data**

**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.

Add Order code Y01 and plain text:

Insertion length [mm]:

Extended rod, 210 ... 1 000 mm (8.27 ... 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**

With 2 m (79 inch) of cable
With 5 m (197 inch) of cable

**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

**Approvals**

Non-Sparking:
CE, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T110 °C

Dust Ignition Proof:
CE, RCM, ATEX II 1/2 D T100 °C

Intrinsically Safe: 1)
CE, RCM, ATEX II 1 G Ex d ia IIC T6 ... T4, ATEX II 1/2 D IP6X T100 °C

Flameproof Enclosure with IS Probe:
CE, RCM, ATEX II 1/2 G Ex e 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, RCM)
## Level Measurement

**Point level measurement**

**RF Capacitance switches**

### Pointek CLS200 - Digital

#### Selection and Ordering data

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Selection and Ordering data</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>7ML5640-077077-070770</td>
<td>Pointek CLS200 - Digital - Rod with Threaded or Flanged process connection</td>
<td>7ML5641-077077-070770</td>
</tr>
<tr>
<td><strong>Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output.</strong></td>
<td><strong>Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output.</strong></td>
<td></td>
</tr>
<tr>
<td>2 x ½&quot; NPT via adapter - cable inlet, IP65</td>
<td>2 x ½&quot; NPT via adapter - cable inlet, IP65</td>
<td>2 x ½&quot; NPT via adapter - cable inlet, IP65</td>
</tr>
<tr>
<td>2 x ¾&quot; NPT via adapter - cable inlet, IP65</td>
<td><strong>1) Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection</strong></td>
<td>1) Barrier or Intrinsically Safe power supply required for Intrinsically Safe protection</td>
</tr>
<tr>
<td>2 x M20 x 1.5 cable inlet, IP65</td>
<td>2 x M20 x 1.5 cable inlet, IP65</td>
<td>2 x M20 x 1.5 cable inlet, IP65</td>
</tr>
</tbody>
</table>

### Enclosure and lid

- Aluminum epoxy coated
- 2 x ½" NPT via adapter - cable inlet, IP65
- 2 x ½" NPT via adapter - cable inlet, IP68
- 2 x M20 x 1.5 cable inlet, IP65
- 2 x M20 x 1.5 cable inlet, IP68

**Click on the Article No. for the online configuration in the PIA Life Cycle Portal.**

#### Process connection

<table>
<thead>
<tr>
<th>Threaded, 316L stainless steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>¾&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
</tr>
<tr>
<td>1&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
</tr>
<tr>
<td>1¼&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
</tr>
<tr>
<td>1½&quot; NPT [(Taper), ANSI/ASME B1.20.1]</td>
</tr>
<tr>
<td>R ¾&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
</tr>
<tr>
<td>R 1&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
</tr>
<tr>
<td>R 1¼&quot; [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]</td>
</tr>
<tr>
<td>G ¾&quot; [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]</td>
</tr>
<tr>
<td>G 1&quot; [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]</td>
</tr>
<tr>
<td>G 1½&quot; [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]</td>
</tr>
</tbody>
</table>

#### Welded flange, 316L stainless steel, raised face

<table>
<thead>
<tr>
<th>Threaded flange, 316L stainless steel, raised face</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&quot; ASME, 150 lb</td>
</tr>
<tr>
<td>1&quot; ASME, 300 lb</td>
</tr>
<tr>
<td>1&quot; ASME, 600 lb</td>
</tr>
<tr>
<td>1½&quot; ASME, 150 lb</td>
</tr>
<tr>
<td>1½&quot; ASME, 300 lb</td>
</tr>
<tr>
<td>1½&quot; ASME, 600 lb</td>
</tr>
<tr>
<td>2&quot; ASME, 150 lb</td>
</tr>
<tr>
<td>2&quot; ASME, 300 lb</td>
</tr>
<tr>
<td>2&quot; ASME, 600 lb</td>
</tr>
<tr>
<td>3&quot; ASME, 150 lb</td>
</tr>
<tr>
<td>3&quot; ASME, 300 lb</td>
</tr>
<tr>
<td>3&quot; ASME, 600 lb</td>
</tr>
<tr>
<td>4&quot; ASME, 150 lb</td>
</tr>
<tr>
<td>4&quot; ASME, 300 lb</td>
</tr>
<tr>
<td>4&quot; ASME, 600 lb</td>
</tr>
</tbody>
</table>

**Welded flange, 316L stainless steel, Type A flat faced**

<table>
<thead>
<tr>
<th>Threaded flange, 316L stainless steel, Type A flat faced</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN 25, PN 16</td>
</tr>
<tr>
<td>DN 25, PN 40</td>
</tr>
<tr>
<td>DN 40, PN 16</td>
</tr>
<tr>
<td>DN 40, PN 40</td>
</tr>
<tr>
<td>DN 50, PN 16</td>
</tr>
<tr>
<td>DN 50, PN 40</td>
</tr>
<tr>
<td>DN 80, PN 16</td>
</tr>
<tr>
<td>DN 80, PN 40</td>
</tr>
<tr>
<td>DN 100, PN 16</td>
</tr>
<tr>
<td>DN 100, PN 40</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Probe length</th>
<th>(length from flange face)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Note: No Y01 needed in Order code for standard lengths</td>
<td></td>
</tr>
<tr>
<td>Extended cable, 3 000 mm (118.11 inch), length can be determined by customer on assembly</td>
<td></td>
</tr>
<tr>
<td>Extended cable, 6 000 mm (236.22 inch), length can be determined by customer on assembly</td>
<td></td>
</tr>
</tbody>
</table>

Add Order code Y01 and plain text:

- Insertion length ... mm

**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.

### Enclosure and lid

- Aluminum epoxy coated
- 2 x ½” NPT via adapter - cable inlet, IP65
- 2 x M20 x 1.5 cable inlet, IP65
- 2 x ½” NPT via adapter - cable inlet, IP68
- 2 x M20 x 1.5 cable inlet, IP68

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**

- Y01
- Y15
- C11
- C12

**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
- Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]
- Measuring-point number/identification (max. 27 characters)
- Manufacturer’s test certificate: M to DIN 55350, Part 18 and ISO 9000
- Material inspection Certificate Type 3.1 per EN 10204

### Operating Instructions

All literature is available to download for free, in a range of languages, at [http://www.siemens.com/processinstrumentation/documentation](http://www.siemens.com/processinstrumentation/documentation)

### Accessories

See page 4/32

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Pointek CLS200 - Digital

**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.

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

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, 1,500 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, T10 ... 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)

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**

With 2 m (79 inch) of cable

With 5 m (197 inch) of cable

**Wetted seals**

FKM

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

**Probe material**

316L stainless steel with PPS probe body

316L stainless steel with PVDF probe body

**Approvals**

Non-Sparking:

CE, RCM, ATEX II 3 G Ex nA II T6 ... T4,

ATEX II 2 D IP6X T100 °C

Dust Ignition Proof:

CE, RCM, ATEX II 1/2 D T100 °C

Intrinsically Safe:

1) CE, RCM, ATEX II 1 G EEx ia IIC T6 ... T4,

ATEX II 1/2 D IP6X 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:

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

Available with Approvals options F, G, H, J, and K

**Selection and Ordering data**

**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.

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 I, 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, RCM)

**Enclosure and lid**

Aluminum epoxy coated

2 x ½" NPT via adapter - cable inlet, IP65

2 x M20 x 1.5 cable inlet, IP65

2 x ½" NPT via adapter - cable inlet, IP68

2 x M20 x 1.5 cable inlet, IP68

**Selection and Ordering data**

**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.

Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]:

Measuring-point number/identification (max. 27 characters) specify in plain text

Manufacturer’s test certificate: M to DIN 55350,

Part 18 and ISO 9000

Material inspection Certificate Type 3.1 per EN 10204

**Accessories**

See page 4/32
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 - Digital

Selection and Ordering data

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Pointek CLS200 - Digital - Rod with Sliding coupling with Threaded process connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>7ML5643-2</td>
<td></td>
</tr>
</tbody>
</table>

Versatile inverse frequency shift capacitance level and material detection switch with optional process connection choices and configurable output.

**Process connection**
- Threaded, 316L stainless steel
  - ¾" NPT (Taper), ANSI/ASME B1.20.1
  - 1" NPT (Taper), ANSI/ASME B1.20.1
  - 1¼" NPT (Taper), ANSI/ASME B1.20.1
  - 1½" NPT (Taper), ANSI/ASME B1.20.1
  - R ¼" (BSPT), EN 10226/PT (JIS-T), JIS B 0203
  - R ½" (BSPT), EN 10226/PT (JIS-T), JIS B 0203
  - G ¼" (BSPP), EN ISO 228-1/FF (JIS-P), JIS B 0202
  - G ½" (BSPP), EN ISO 228-1/FF (JIS-P), JIS B 0202
  - G ¾" (BSPP), EN ISO 228-1/FF (JIS-P), JIS B 0202
  - G 1¼" (BSPP), EN ISO 228-1/FF (JIS-P), JIS B 0202

**Probe length**
- (length from flange face)
- (threaded lengths include process thread)

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

**Remote mount electronics and mounting bracket**
- With 2 m (79 inch) of cable
  - With 5 m (197 inch) of cable

**Wetted seals**
- FKM and PTFE
- FKM and PTFE [for process temperatures above -20 °C (-4 °F)]

**Probe material**
- 316L stainless steel with PPS probe body
- 316L stainless steel with PVDF probe body

**Approvals**
- Non-Sparking:
  - CE, RCM, ATEX II 3 G Ex nA II T6 ... T4, ATEX II 2 D IP6X T100 °C
  - Dust Ignition Proof:
  - CE, RCM, ATEX II 1/2 D T100 °C
- Intrinsically Safe:
  - CE, RCM, ATEX II 1 G Ex dia IIC T6 ... T4, ATEX II 1/2 D IP6X T100 °C

**Selection and Ordering data**

<table>
<thead>
<tr>
<th>Article No.</th>
<th>Pointek CLS200 - Digital - Rod with Sliding coupling with Threaded process connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>7ML5643-0</td>
<td></td>
</tr>
</tbody>
</table>
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 – Standard and Digital

<table>
<thead>
<tr>
<th>Selection and Ordering data</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accessories</strong></td>
<td></td>
</tr>
<tr>
<td>SensGuard, ¾&quot; NPT (PPS)</td>
<td>7ML1830-1DL</td>
</tr>
<tr>
<td>Only available for CLS200 with ¾&quot; NPT thread</td>
<td></td>
</tr>
<tr>
<td>SensGuard, R 1&quot; (BSPT) (PPS)</td>
<td>7ML1830-1DM</td>
</tr>
<tr>
<td>Only available for CLS200 with ¾&quot; NPT thread</td>
<td></td>
</tr>
<tr>
<td>One metallic cable gland M20 x 1.5, -40 ... +80 °C (-40 ... +176 °F), Dust Ignition Proof, with integrated shield connection (available for PROFIBUS PA)</td>
<td>7ML1930-1AQ</td>
</tr>
<tr>
<td><strong>General Purpose</strong></td>
<td></td>
</tr>
<tr>
<td>1/2&quot; NPT General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... +80 °C (-40 ... +176 °F), Dust Ignition Proof, cable size 6 ... 12 mm (0.236 ... 0.472 inch)</td>
<td>7ML1830-1JA</td>
</tr>
<tr>
<td>M20 x 1.5 General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... +80 °C (-40 ... +176 °F), Dust Ignition Proof, cable size 7 ... 12 mm (0.275 ... 0.472 inch)</td>
<td>7ML1830-1JC</td>
</tr>
<tr>
<td><strong>Hazardous Locations</strong></td>
<td></td>
</tr>
<tr>
<td>1/2&quot; 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)</td>
<td>7ML1830-1JB</td>
</tr>
<tr>
<td>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)</td>
<td>7ML1830-1JD</td>
</tr>
</tbody>
</table>

Blind threaded flanges are available.

Customers interested in a custom designed device should consult a local sales person. For more information, please visit http://www.automation.siemens.com/aspa_app.

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Options

Optional SensGuard
Internal thread ¾" NPT

Process connection ¾" NPT

Process connection R 1" (BSPT)

Optional SensGuard, dimensions in mm (inch)
Characteristic curves

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

Permitted operating pressures \( P \)

Atmospheric
-1 bar (-14.5 psi)

-150 °C (-238 °F)
-100 °C (-148 °F)
-50 °C (-58 °F)
0 °C (32 °F)
RT 50 °C (122 °F)
100 °C (212 °F)
150 °C (302 °F)
200 °C (392 °F)

Permitted operating temperature \( T \)

-29 °C (-20 °F)
-1 bar (-14.5 psi)
30 bar (435 psi)
20 bar (290 psi)
10 bar (145 psi)
-150 °C (-238 °F)
-100 °C (-148 °F)
-50 °C (-58 °F)
0 °C (32 °F)
RT 50 °C (122 °F)
100 °C (212 °F)
150 °C (302 °F)
200 °C (392 °F)

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)

Permitted operating pressures \( P \)

Atmospheric
-1 bar (-14.5 psi)

-150 °C (-238 °F)
-100 °C (-148 °F)
-50 °C (-58 °F)
0 °C (32 °F)
RT 50 °C (122 °F)
100 °C (212 °F)
150 °C (302 °F)
200 °C (392 °F)

Permitted operating temperature \( T \)

-29 °C (-20 °F)
-1 bar (-14.5 psi)
30 bar (435 psi)
20 bar (290 psi)
10 bar (145 psi)
-150 °C (-238 °F)
-100 °C (-148 °F)
-50 °C (-58 °F)
0 °C (32 °F)
RT 50 °C (122 °F)
100 °C (212 °F)
150 °C (302 °F)
200 °C (392 °F)

Pointek CLS200 process pressure/temperature derating curves (7ML5631 and 7ML5641)
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 - Standard and Digital

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

Permitted operating pressures $P$
- 40 bar (580 psi)
- 30 bar (435 psi)
- 20 bar (290 psi)
- 10 bar (145 psi)

Atmospheric

Permitted operating temperature $T$
- $-150 \degree C$ (-238 \degree F)
- $-100 \degree C$ (-148 \degree F)
- $-50 \degree C$ (-58 \degree F)
- $0 \degree C$ (32 \degree F)
- RT (RT)
- $150 \degree C$ (302 \degree F)
- $200 \degree C$ (392 \degree F)

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)

Permitted operating pressures $P$
- 30 bar (435 psi)
- 20 bar (290 psi)
- 10 bar (145 psi)

Atmospheric

Permitted operating temperature $T$
- $-150 \degree C$ (-238 \degree F)
- $-100 \degree C$ (-148 \degree F)
- $-50 \degree C$ (-58 \degree F)
- $0 \degree C$ (32 \degree F)
- RT (RT)
- $200 \degree C$ (392 \degree F)

Pointek CLS200 process pressure/temperature derating curves (7ML5632 and 7ML5642)
Pointek CLS200 - Standard and Digital

Pointek CLS200 process pressure/temperature derating curves (7ML5631 and 7ML5641)

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

Pointek 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)

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

Pointek CLS200 process pressure/temperature derating curves (7ML5631 and 7ML5641)

1) The curve denotes the minimum allowable flange class for the shaded area below.
Level Measurement
Point level measurement
RF 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)

Extended cable version
Threaded (7ML5631 and 7ML5641)

Pointek CLS200 threaded/sanitary process connections, dimensions in mm (inch)
Level Measurement
Point level measurement
RF Capacitance switches

Pointek CLS200 - Standard and Digital

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)

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

Lid with window
2 cable entries
½" NPT or M20 x 1.5

PPS or optional PVDF probe
Electronics/enclosure

Thermal isolator
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.

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

FEP insulated cable Ø6 (0.3)
316L stainless steel sensor weight

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)

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Circuit diagrams

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.
<table>
<thead>
<tr>
<th><strong>Selection and ordering data</strong></th>
<th><strong>Pointek Specials</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pointek Specials</strong>&lt;sup&gt;1)&lt;/sup&gt;</td>
<td><strong>Article No.</strong></td>
</tr>
<tr>
<td><strong>CLS100 Polycarbonate Lid and Gasket, FKM</strong></td>
<td><strong>Kit, sensor for cable units, PPS, digital, FKM</strong></td>
</tr>
<tr>
<td><strong>Kit, Lid and gasket, CLS100 enclosure version</strong></td>
<td><strong>A5E01163671</strong></td>
</tr>
<tr>
<td><strong>CLS100 Miscellaneous Parts</strong></td>
<td><strong>Kit, sensor for cable units, PPS, standard, FKM</strong></td>
</tr>
<tr>
<td>Custom length of cable is available only for 7ML5501-xxx1x and 7ML5501-xxx5x&lt;sup&gt;2)&lt;/sup&gt;</td>
<td><strong>Kit, sensor for cable units, PPS, digital, FKM</strong></td>
</tr>
<tr>
<td><strong>CLS200 Gasket (IP65), Synprene</strong></td>
<td><strong>Kit, sensor for cable units, PVDF, standard, FKM</strong></td>
</tr>
<tr>
<td><strong>Spare gasket, enclosure version</strong></td>
<td><strong>Kit, sensor for cable units, PVDF, digital, FKM</strong></td>
</tr>
<tr>
<td><strong>CLS200 Gasket (IP68), Silicone</strong></td>
<td><strong>Kit, sensor for cable units, PVDF, any version</strong>&lt;sup&gt;2)&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>Spare gasket, enclosure version</strong></td>
<td><strong>Kit, sensor for cable units, PVDF, digital, FKM</strong></td>
</tr>
<tr>
<td><strong>CLS200 Blind Lid</strong></td>
<td><strong>Kit, sensor for cable units, PVDF, standard, FFKM</strong></td>
</tr>
<tr>
<td><strong>Spare aluminum blind lid</strong> (for standard versions only)</td>
<td><strong>Kit, sensor for cable units, PVDF, digital, FFMK</strong></td>
</tr>
<tr>
<td><strong>CLS200 Lid with window</strong></td>
<td><strong>CLS200 Mounting Bracket, 316L stainless steel</strong></td>
</tr>
<tr>
<td><strong>Spare aluminum lid with window</strong></td>
<td><strong>Spare mounting bracket</strong></td>
</tr>
<tr>
<td><strong>CLS200 Sensor Kit for cable units</strong></td>
<td><strong>CLS200 PROFIBUS Connector (IP65)</strong></td>
</tr>
<tr>
<td><strong>Kit, sensor for cable units, PPS, Standard, FKM</strong></td>
<td><strong>Spare, PROFIBUS connector</strong> (IP65 versions only)</td>
</tr>
<tr>
<td><strong>CLS200 Miscellaneous Parts</strong></td>
<td><strong>CLS200 with FFKM O-rings (any version)</strong>&lt;sup&gt;2)&lt;/sup&gt;</td>
</tr>
<tr>
<td><strong>CLS200 Electronics</strong></td>
<td><strong>CLS200 Cable Extensions, 316L stainless steel</strong></td>
</tr>
<tr>
<td>Test magnet, digital version</td>
<td><strong>Amplifier/power supply kit, standard version</strong></td>
</tr>
<tr>
<td>Amplifier/power supply kit, standard version</td>
<td><strong>Amplifier/power supply, digital version</strong></td>
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<tr>
<td>LCD display, digital version</td>
<td><strong>7ML1830-1JE</strong></td>
</tr>
<tr>
<td><strong>CLS300 Cable Extensions, 316L stainless steel</strong></td>
<td><strong>7ML1830-1JF</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 1 m, adjustable by customer</strong></td>
<td><strong>7ML1830-1JK</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 3 m, adjustable by customer</strong></td>
<td><strong>A5E01163688</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 5 m, adjustable by customer</strong></td>
<td><strong>A5E01163689</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 10 m, adjustable by customer</strong></td>
<td><strong>A5E01163690</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 15 m, adjustable by customer</strong></td>
<td><strong>A5E01163691</strong></td>
</tr>
<tr>
<td><strong>Kit, stainless steel cable extension, 20 m, adjustable by customer</strong></td>
<td><strong>A5E01163693</strong></td>
</tr>
</tbody>
</table>

<sup>1)</sup> Pointek Specials

<sup>2)</sup> Custom length of cable is available only for 7ML5501-xxx1x and 7ML5501-xxx5x
### Pointek Specials

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<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
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<tr>
<td>CLS300 Cable Extensions, 316 stainless steel with PFA coating</td>
<td></td>
</tr>
<tr>
<td>Kit, PFA cable extension, 1 m, adjustable by customer</td>
<td>A5E01163697</td>
</tr>
<tr>
<td>Kit, PFA cable extension, 3 m, adjustable by customer</td>
<td>A5E01163698</td>
</tr>
<tr>
<td>Kit, PFA cable extension, 5 m, adjustable by customer</td>
<td>A5E01163699</td>
</tr>
<tr>
<td>Kit, PFA cable extension, 10 m, adjustable by customer</td>
<td>A5E01163700</td>
</tr>
<tr>
<td>Kit, PFA cable extension, 15 m, adjustable by customer</td>
<td>A5E01163701</td>
</tr>
<tr>
<td>Kit, PFA cable extension, 20 m, adjustable by customer</td>
<td>A5E01163702</td>
</tr>
<tr>
<td>CLS300 Rod Kits, 316L stainless steel</td>
<td></td>
</tr>
<tr>
<td>Kit, stainless steel rod 180 mm (7.09 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 350 mm (13.78 inch).</td>
<td>A5E01163719</td>
</tr>
<tr>
<td>Kit, stainless steel rod 330 mm (12.99 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 500 mm (19.69 inch).</td>
<td>A5E01163720</td>
</tr>
<tr>
<td>Kit, stainless steel rod 580 mm (22.83 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 750 mm (29.53 inch).</td>
<td>A5E01163721</td>
</tr>
<tr>
<td>Kit, stainless steel rod 830 mm (32.68 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 1,000 mm (39.37 inch).</td>
<td>A5E01163722</td>
</tr>
<tr>
<td>Kit, stainless steel rod 1,330 mm (52.36 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 1,500 mm (59.06 inch).</td>
<td></td>
</tr>
<tr>
<td>Kit, stainless steel rod 1,830 mm (72.05 inch) to be used with CLS300 units only (with standard active shield). Insertion length after installation is 2,000 mm (78.74 inch).</td>
<td></td>
</tr>
<tr>
<td>Kit, stainless steel rod customized length up to 1 m</td>
<td></td>
</tr>
<tr>
<td>Kit, stainless steel rod customized length up to 2 m</td>
<td></td>
</tr>
</tbody>
</table>

### CLS300 Electronics Kits with drivers

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit, electronics with driver, standard CLS300. To be used in rod or cable versions with length less than 5 m.</td>
<td>A5E01163723</td>
</tr>
<tr>
<td>Kit, electronics with driver, digital CLS300. To be used in rod or cable versions with length less than 5 m.</td>
<td>A5E01163725</td>
</tr>
</tbody>
</table>

### CLS300 Electronics Kits with drivers (for cable versions)

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
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<tbody>
<tr>
<td>Kit, electronics with driver, standard CLS300. To be used in cable versions with length greater than 5 m.</td>
<td>A5E01163724</td>
</tr>
<tr>
<td>Kit, electronics with driver, digital CLS300. To be used in cable versions with length greater than 5 m.</td>
<td>A5E01163726</td>
</tr>
</tbody>
</table>

### CLS300 Electronics

<table>
<thead>
<tr>
<th>Description</th>
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<tr>
<td>Test magnet, digital version</td>
<td>7ML1830-1JE</td>
</tr>
<tr>
<td>Amplifier/power supply kit, standard version</td>
<td>A5E03251683</td>
</tr>
<tr>
<td>Amplifier/power supply, digital version</td>
<td>7ML1830-1JF</td>
</tr>
<tr>
<td>LCD display, digital version</td>
<td>7ML1830-1JK</td>
</tr>
</tbody>
</table>

### CLS300 Weight Kit, 316L stainless steel

<table>
<thead>
<tr>
<th>Description</th>
<th>Article No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kit, spare stainless steel weight. To be used in any cable version of CLS300.</td>
<td>A5E01163727</td>
</tr>
</tbody>
</table>