

# SITRANS L Level instruments

## Point level measurement

Pointek ULS 200

### Overview



The Pointek ULS 200 is an ultrasonic non-contacting switch with two switch points for level detection of bulk solids, liquids, and slurries in a wide variety of industries.

### Benefits

- Integral temperature compensation
- AC or DC power supply
- 2 switch outputs for high-high, high, low and low-low level alarms, or pump up or pump down control
- Electronics provided with fail-safe function
- Threaded and 3A approved sanitary fitting clamp process connections
- Polycarbonate or aluminum enclosures, Type 6/NEMA 6/IP67
- Easy, two-button programming

### Application

The measuring range for bulk solids is max. 3 m (9.8 ft), and 5 m (16.4 ft) for liquids and slurries. Unlike invasive contacting devices, there is no material build-up on the sensor.

The level switch has a rugged design, combining the sensor and electronics in one durable device. It has no moving parts, and is virtually maintenance-free.

The transducer, available in ETFE or PVDF copolymer, is inert to most chemicals. This means the device can be used in the chemical, petrochemical, water and waste water industries. A sanitary version of the ULS 200, with an industry standard flange option, is easy to remove from the application for cleaning. It thus satisfies the prerequisites for use in the food, beverage and pharmaceutical industries. The Pointek ULS 200 delivers superior performance while reducing maintenance, downtime and equipment replacement costs.

### Design

#### Installation

The Pointek ULS 200 should be mounted in an area that is within the temperature range specified and that is suitable to the housing rating and materials of construction. The cover should be accessible to allow programming, wiring and display viewing.

It is advisable to keep the Pointek ULS 200 away from high voltage or current runs, contactors and SCR control drives. Locate the Pointek ULS 200 so that it has a clear sound path perpendicular to the material surface. The sound path should not intersect the fill path, rough walls, seams, rungs, etc.

### Mounting and Interconnection

The Pointek ULS 200 is available in three thread types: 2" NPT, 2" BSP or PF2 and can be fitted with the optional 75 mm (3") flange adapter for mating to 3" ANSI, DIN 65, PN10 and JIS 10K 3B flanges.

Separate cables and conduits may be required to conform to standard instrumentation wiring or electrical codes.

### Technical specifications

#### Mode of operation

- Measuring principle Ultrasonic level switch

#### Measuring range

- Measuring range in liquids 0.25 to 5 m (0.8 to 16.4 ft.)
- Measuring range in bulk solids 0.25 to 3 m (0.8 to 9.8 ft.)

#### Output

- AC Version (relay) 2 changeover contacts, rated 5 A at 250 V AC, resistive load
- DC Version (relay) 2 changeover contacts, rated 5 A at 48 V DC

or:

- Transistor 2 switches, rated max. 100 mA, 48 V DC

#### Accuracy

- AC/DC version
  - Resolution 3 mm (0.1")
  - Repeatability 0.25 % of measuring range

#### Rated operation conditions

##### Installation conditions

- Location Indoors/outdoors
- Beam angle 12°

##### Ambient conditions

- Ambient temperature -40 to +60 °C (-40 to +140 °F)
  - If mounted in metal threads -20 to +60 °C (-5 to +140 °F)

##### Medium conditions

- Process pressure normal atmospheric pressure

#### Design

- Material Polycarbonate or epoxy-coated aluminium with gasket
- Weight Approx. 1.5 kg
- Transducer material ETFE or PVDF copolymer
- Threaded mounting 2" NPT, 2" BSP or PF 2
  - Optional flange adapter For 3" ANSI, DN 65 PN 10 and JIS 10 K3B
- Sanitary mounting 4" sanitary fitting clamp according to 3A guidelines

#### Power supply

- AC version 100 to 230 V AC, ±15%, 50/60 Hz, max. 12 VA (5 W)
- DC version 18 to 30 V DC, 3 W

#### Displays and controls

- Display LCD, three digits, 9 mm (0.35") high, for display of distance between sensor face and material, multisegment graphic for operating state
- Memory EEPROM, non-volatile
- Programming 2 keys

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#### Electronics/enclosure

Connection: terminal block, max. 2.5 mm<sup>2</sup> (14 ga) solid/1.5 mm<sup>2</sup> (16 ga) stranded

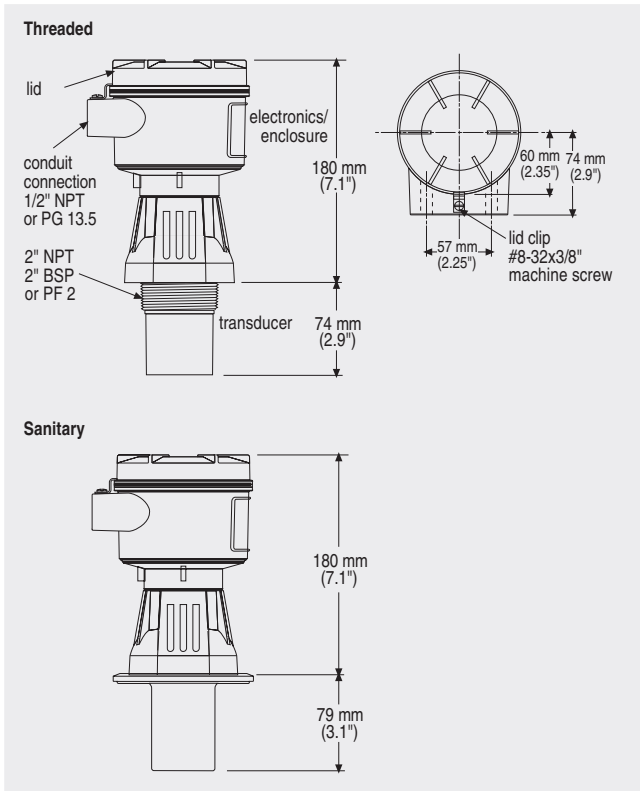
- Degree of protection
- Cable inlet

IP67/Type 6/NEMA 6  
2 x 1/2" NPT, or 2 x PG 13.5

#### Certificates and approvals

- CE (EMC certificate available on request), CSA<sub>NRTL/C</sub>, FM, 3A
- CSA/FM Class 1, Div. 1, Group A, B, C, D; Class II; Group E, F, G; Class III
- ATEX II 2G EEx md II C T5

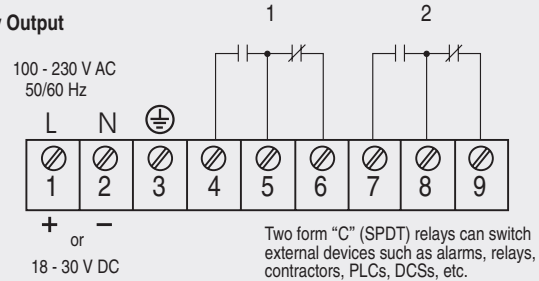
#### Dimensional drawings



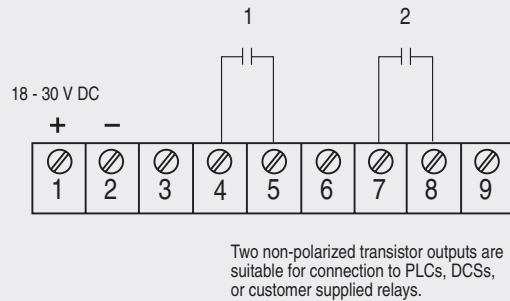
ULS 200 dimensions

#### Schematics

##### Relay Output



##### Transistor Output: DC version only



ULS 200 connections

Ordering data	Order No.
<b>Pointek ULS 200</b> Ultrasonic non-contacting switch with two switch points for level detection of bulk solids, liquids, and slurries in a wide variety of industries	C) <b>7ML1510 - 0</b>
<b>Power supply</b> 24 V DC, relay output 24 V DC, transistor output 100 to 230 V AC, relay output	1 2 3
<b>Approvals</b> ATEX II 2G EEx md IIC T5 (only with housing option 4) CE (EN 61326), CSA Class I Div. 1, Class II Div. 1, Class III (only with housing option 4 and process connection option A) CE (EN 61326), FM Class I Div. 1, Class II Div. 1, Class III (only with housing option 4) CE (EN 61326), CSANRTL/C, FM CE (EN 61326), CSA Class I Div. 2, Class II Div. 2	C F G H J
<b>Process Connection</b> ETFE, 2" NPT thread ETFE, 2" BSP thread ETFE, PF2 thread ETFE, 4" sanitary flange, with 3 A approval PVDF copolymer, 2" NPT thread PVDF copolymer, 2" BSP thread PVDF copolymer, PF2 thread	A B C D E F G
<b>Housing/cable entry</b> Polycarbonate • Cable inlet PG 13.5 • Cable inlet 1/2" NPT Aluminum • Cable inlet PG 13.5 • Cable inlet 1/2" NPT	1 2 3 4
<b>Instruction Manual</b> English French Spanish German Note: The instruction manual should be ordered as a separate line item on the order.	C) <b>7ML1998-1AS01</b> C) <b>7ML1998-1AS11</b> C) <b>7ML1998-1AS21</b> C) <b>7ML1998-1AS31</b>
<b>Accessories</b> Tag, stainless steel, 12 x 45 mm, one text line, suitable for enclosures) Universal Box Bracket Mounting Kit Universal Mounting Adapter, 2" NPT, ETFE Universal Mounting Adapter, 2" BSP, ETFE Universal Mounting Adapter, PF2, ETFE Sanitary, 4" Mounting Clamp 2" BSP Locknut, plastic	<b>PBD-45000786</b> C) <b>7ML1830-1BK</b> <b>7ML1830-1BT</b> <b>7ML1830-1BU</b> <b>7ML1830-1BV</b> <b>7ML1830-1BR</b> <b>7ML1830-1DQ</b>

C) Subject to export regulations AL: N, ECCN: EAR99.