

**S**ITRANS Probe LU is a 2-wire loop powered ultrasonic transmitter for level, volume, and flow monitoring of liquids in storage vessels and simple process vessels, as well as in open channels. The SITRANS Probe LU is ideal for level monitoring in the water and wastewater industry and chemical storage vessels.

The range of SITRANS Probe LU is 6 or 12 meters (20 or 40 feet). Using Auto False-Echo suppression for fixed obstruction avoidance, as well as an improved signal-to-noise ratio, and improved accuracy of 0.15% of range or 6 mm (0.25"), the Probe LU provides unmatched reliability.

SITRANS Probe LU includes Sonic Intelligence® signal processing from the field-proven Milltronics Probe, and incorporates new echo processing features and the latest micro-processor and communications technology.

The transducer on the Probe LU is available as ETFE or PVDF to suit the chemical conditions of your application. As well, for applications with varying material and process temperatures, the Probe LU incorporates an internal temperature sensor to compensate for temperature changes.



### Product Features

- Continuous level measurement up to 12 m (40 ft) range
- Easy installation and simple startup
- Programming using infrared intrinsically safe handheld programmer, SIMATIC PDM, or HART® Communicator
- Communication using HART®
- ETFE or PVDF transducers for chemical compatibility
- Patented Sonic Intelligence signal processing
- Extremely high signal-to-noise ratio
- Auto False-Echo Suppression for fixed obstruction avoidance

## Technical Specifications

### Power

- nominal 24 V DC with max. 550 Ohm.
- maximum 30 V DC
- 4 to 20 mA

### Output

- mA
  - range: 4 to 20 mA
  - accuracy: ±0.02 mA
  - span: proportional or inversely proportional

### Performance\*

- frequency: 54 KHz
- measurement range
  - 6 m (20 ft) model: 0.25 to 6 m (10" to 20 ft.)
  - 12 m (40 ft) model: 0.25 to 12 m (10" to 40 ft.)
- blanking distance: 0.25 m (10")
- accuracy: ± the greater of 0.15% of range or ±6 mm (0.25")
- repeatability: ≤ 3 mm (0.12")
- resolution: ≤ 3 mm (0.12")
- update time at 4 mA: ≤ 5 s
- beam angle: 10° at -3 dB boundary
- temperature compensation: built-in to compensate over temperature range
- memory: non-volatile EEPROM, no battery required

### Interface

- HART: standard, integral to analog output
- configuration using Siemens SIMATIC PDM (PC) or HART handheld communicator, or Siemens Milltronics infrared hand programmer

### Programmer (optional infrared keypad)

- approval: ATEX Ex II 1 G, EEx ia IIC T4, SIRA certificate 01ATEX2147
- ambient temperature: -20 to 40 °C (-5 to 104 °F)
- interface: proprietary infrared pulse signal
- power: 3 V lithium battery (non-replaceable)

### Mechanical

#### Enclosure (electronic):

- construction: PBT (Polybutylene Terephthalate)
- conduit entry: 2 M20 conduit glands or 2 x ½" NPT thread
- ingress protection: Type 4X / NEMA 4X, Type 6 / NEMA 6, IP67

### Transducer (2 options)

- ETFE (Ethylene Tetrafluoroethylene), or
- PVDF (Polyvinylidene Fluoride)

### Process Connections:

- threaded connection: 2" NPT, BSP, or G/PF
- flange connections: 3" (80 mm) universal flange
- other connection: FMS 200 mounting bracket or customer supplied mount

### Weight

- 2.1 kg (4.6 lb)

### Environmental

- location: indoor/outdoor
- altitude: 5000 m (16404 ft.) max.
- ambient temperature: -40 to 80 °C (-40 to 176 °F)
- relative humidity: suitable for outdoor (Type 4X/NEMA 4X, Type 6 / NEMA 6 / IP67 / IP68 enclosure)
- installation category: I
- pollution degree: 4
- pressure rating: ambient

### Process

- temperature at flange or threads: -40 to 85 °C (-40 to 185 °F)
- pressure (vessel): ambient, vented to atmosphere

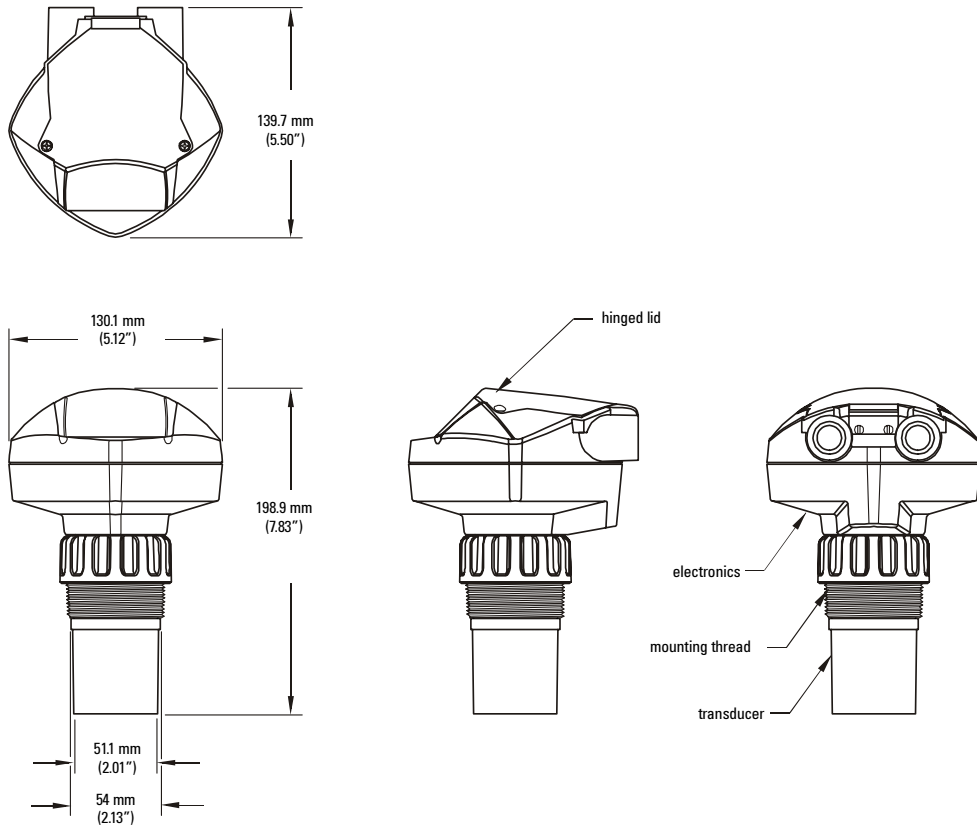
### Approvals

- general: CSA<sub>US/C</sub>, FM, CE
- hazardous:
  - Europe: ATEX II 1G EEx ia IIC T4
  - USA: FM Class 1, Div. 1, Groups A, B, C, D (barrier required); Class II, Div. 1, Groups E, F, G; Class III;
  - Canada: CSA Class I, Div. 1, Groups A, B, C, D (barrier required); Class II, Div. 1, Group G; Class III

\* Under reference conditions  
HART is a registered trademark of the Hart Communications Foundation.  
**Specifications are subject to change without notice.**

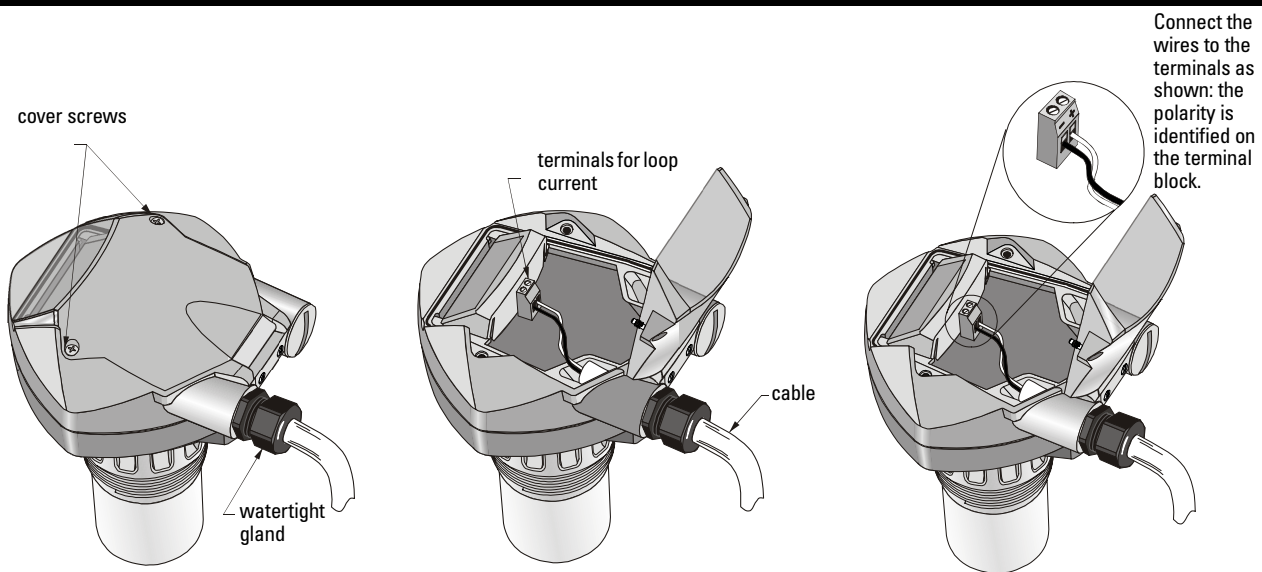
# SITRANS Probe LU

## Dimensions



Note: Above model is shown without M20 conduit glands or ½" NPT conduit connectors.

## Wiring



### Notes

- Model above is shown with M20 conduit glands. ½" NPT threaded connection is also available.
- DC terminal shall be supplied from an SELV source in accordance with IEC-1010-1 Annex H.
- all field wiring must have insulation suitable for rated input voltages.
- use shielded twisted pair cable (wire gauge 14-22)
- separate cables and conduit may be required to conform to standard instrumentation wiring practices or electrical codes.