

Level Measurement

Continuous level measurement
Controllers

SITRANS LT500

Overview



SITRANS LT500 is a versatile, single and multi-vessel level monitor/controller for virtually any application in a wide range of industries.

Benefits

- Easy to use HMI display with local four-button programming, menu-driven parameters, and Wizard support for key applications.
- English, German, French, Spanish, Chinese, Italian, Portuguese, Japanese, Danish, Dutch, Swedish, Finnish, Polish, and Russian texts on the HMI.
- Removable terminal blocks for ease of wiring.
- Digital input for back-up level override from point level device.
- Communication options for HART, Modbus RTU, PROFIBUS PA, PROFIBUS DP and ProfiNet.
- Single or dual point level monitoring.
- Auto False-Echo Suppression for fixed obstruction avoidance.
- Up to 6 independent programmable relays for pump control, alarms, or remote totalization.
- Level, volume, and flow measurements in open channels, differential control, extended pump control, and alarm functions.
- Wall and panel mounting options.

Application

SITRANS LT500 can be used with SITRANS LR110, LR120, Probe LU240 or any level device generating a mA signal. SITRANS LT500 offers true dual point monitoring and digital communications. SITRANS LT500 is low maintenance and economical. With its advanced control functions, it can operate pumps during lower cost time periods and manage pump rosters for efficiency.

SITRANS LT500 will monitor open channel flow and features advanced relay alarming and pump control functions as well as volume conversion.

- Key Applications: wet wells, flumes/weirs, bar screen control, hoppers, chemical storage, liquid storage, crusher bins, dry solids storage

Design

SITRANS LT500 is available in wall or panel mounting options.

Technical specifications

Sensor input

Number of inputs	1 or 2
Terminal voltage	Max. 26 V, Min. 18 V (0 ... 22.6 mA)
Wiring	2 conductor, twisted, shielded, 0.5 ... 0.75 mm ² (22 ... 18 AWG)
Max. cable length	500 m (1 640.42 ft)
Sensor input communication	<ul style="list-style-type: none"> 4 ... 20 mA HART protocol, for supported sensors: SITRANS LR110, LR120, SITRANS Probe LU240
4 ... 20 mA sensor input	
• Resolution	0.025 % of full scale
• Accuracy	0.1 % of full scale
HART sensor input	Resolution and accuracy are dependent on connected sensor

Discrete input

Quantity	2 (1 additional available on optional HART communication card)
Switching threshold, low	0 ... 0.5 V DC
Switching threshold, high	10 ... 50 V DC
Input current	Max. 3 mA
Bias voltage	24 V

Analog output

Quantity	2
Range	0 ... 20 mA or 4 ... 20 mA
• Max. load	750 Ω
• Resolution	0.1 % of range
Accuracy	±20 μA
Wiring	2 conductor, twisted, shielded, 0.5 ... 0.75 mm ² (22 ... 18 AWG)

Relay output

Quantity	Up to 6, 4 form A and 2 form C
Rating	5 A at 250 V AC, non-inductive

Rated operating conditions

Installation conditions	
• Location	Indoor/outdoor
• Installation category	II
• Pollution degree	4
Ambient conditions	
• Ambient temperature	-20 ... +50 °C (-4 ... +122 °F)
• Storage temperature	-20 ... +50 °C (-4 ... +122 °F)

Design

Weight	
• Wall mount	1.22 kg (2.68 lb)
• Panel mount	1.35 kg (2.97 lb)
Enclosure	
• Material	Polycarbonate
• Degree of protection	
- Wall mount	IP65/Type 4X/NEMA 4X
- Wall mount	IP54/Type 3/NEMA 3

Display and control

LCD display	60 x 40 mm (2.36 x 1.57 inch) LCD, 240 x 160 pixels resolution
Menu navigation	4 push button keys

Memory card

	8 GB Industrial micro SD
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Power supply

AC version	100 ... 230 V AC, ±15 %, 50/60 Hz, 36 VA (17 W)
DC version	12 ... 30 V DC (20 W)

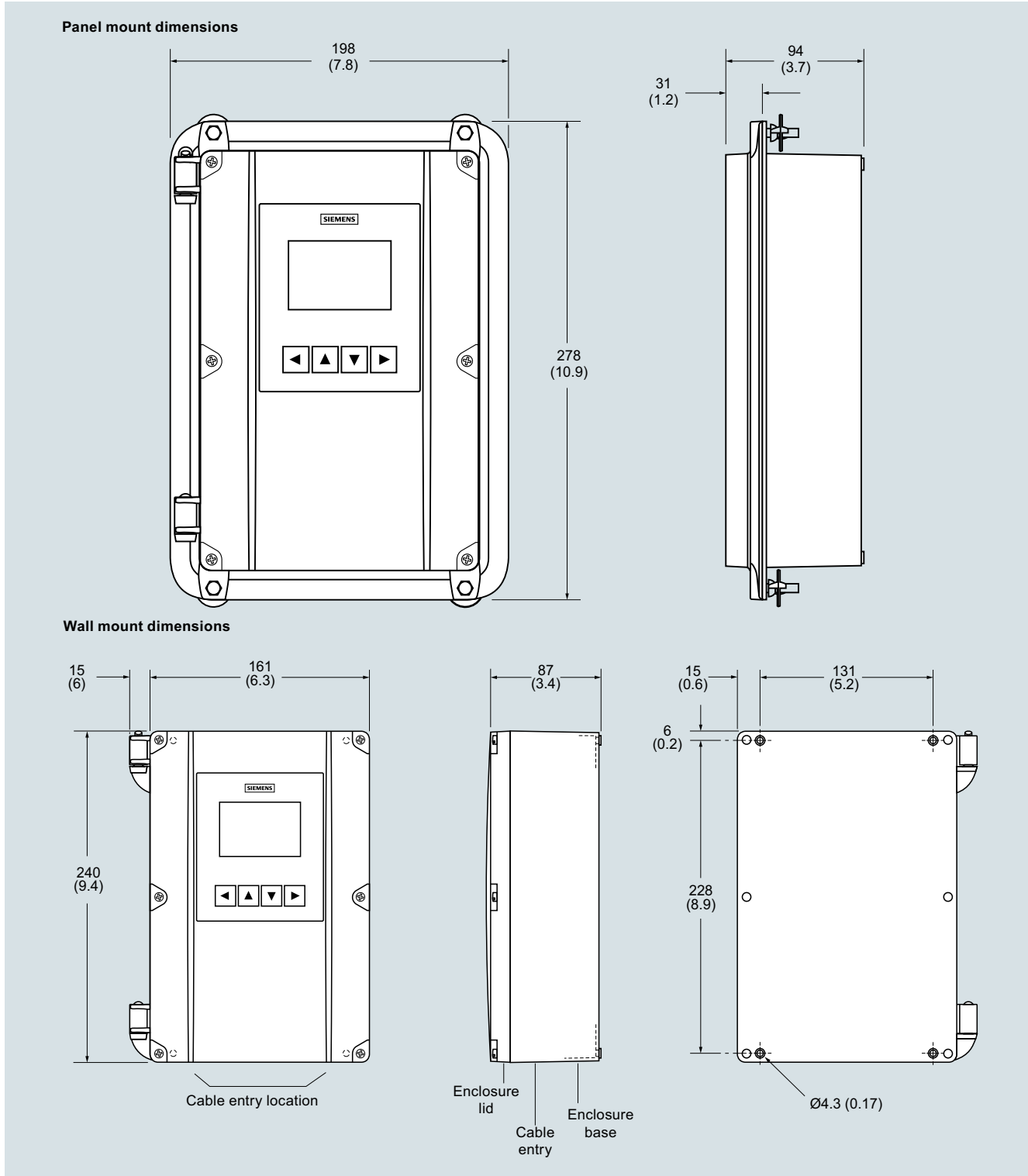
Certificates and approvals

	<ul style="list-style-type: none"> CE, RCM FM, cCSA_{US}, cUL_{US}
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Communication

Service interface	USB 2.0 mini A cable
Optional Fieldbus	<ul style="list-style-type: none"> HART, with Active/Passive 4 ... 20 mA Modbus RTU PROFIBUS PA PROFIBUS DP ProfiNet

Dimensional drawings



SITRANS LT500, dimensions in mm (inch)

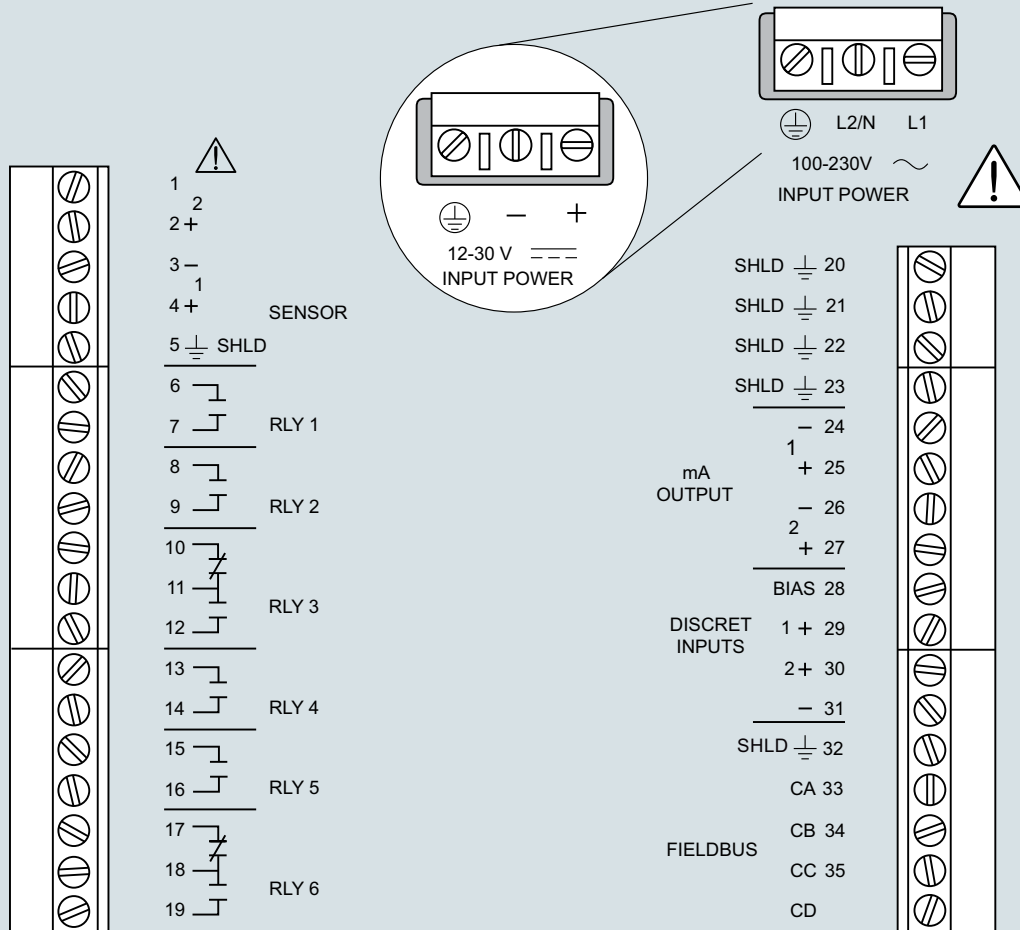
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Circuit diagrams

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Relays shown in released state

Note:

1. Use 2-core copper wire, twisted, with shield, for expansion up to 365 m (1 200 ft). Route cable in grounded metal conduit, separate from other cables.
2. Verify that all system components are installed in accordance with instructions.
3. Connect all cable shields to the SITRANS LT500 shield connections. Avoid differential ground potentials by not connecting cable shields to ground (earth) anywhere else.
4. Keep exposed conductors on shielded cables as short as possible to reduce noise on the line caused by stray transmissions and noise pickup.

SITRANS LT500 connections