ABB MEASUREMENT & ANALYTICS | COMMISSIONING INSTRUCTION

LLT100

Laser level transmitter

Quick start instructions for LLT100 laser level transmitter

Measurement made easy

—
PInpoint accuracy using eye-safe pulsed laser beam technology

Introduction

The LLT100 is a high performance laser level transmitter that accurately measures level, distance, and position over long ranges in industrial environments. The LLT100, using an eye-safe pulsed laser beam, features advanced timing and sophisticated signal processing for pinpoint accuracy.

Features

- Range up to: 100 m (330 ft) for level of solids / 30 m (100 ft) for level of liquids / 200 m (660 ft) for positioning applications
- Narrow, easy-to-aim laser beam
- Measures solid surface even at wide angles
- Measures liquid levels even for clear liquids
- Robust aluminum or stainless steel enclosure
- Easy and intuitive setup / no calibration required
- Explosion proof class 1 / division 1 (zone 1)
- 2-wire power from the 4 to 20 mA loop
- HART communication
- Embedded HMI / Display

For more information

Further publications for LLT100 transmitters are available for free download from:
www.abb.com/laserlevel

	Search for or click on:
Product – Data Sheet	DS/LLT100-EN
Product Operating Instruction	OI/LLT100-EN

1 Health & Safety

⚠ WARNING

Bodily injury
Read the LLT100 Operating Instruction OI/LLT100-EN carefully before working with the product.
For personal and system safety, and for optimum performance, make sure that you thoroughly understand the contents before installing, using or maintaining this instrument.

NOTICE

- All servicing of the equipment is to be performed at factory by qualified service personnel only.
- No user / operator adjustments inside the LLT100 level transmitter are recommended by the manufacturer.

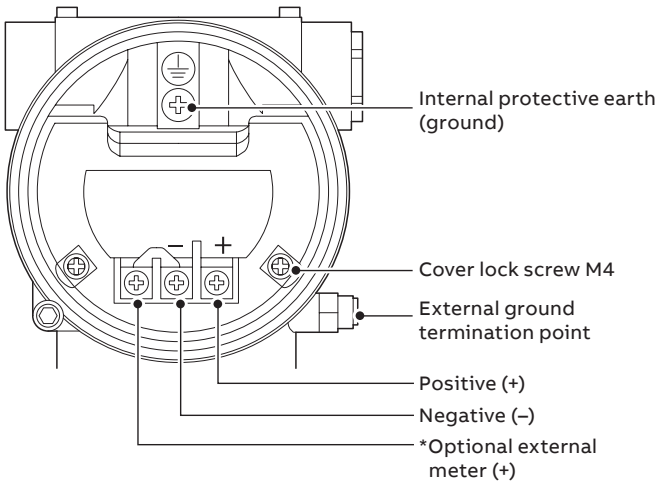
Product labels
Symbols that appear on this product are shown below::

Protective earth (ground) terminal.

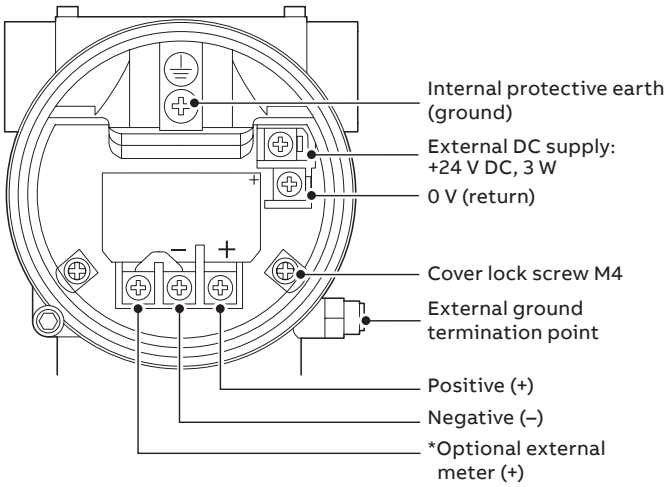
Direct current supply only.

2 Electrical connection

HART terminal – 2 wires



HART terminal with heater option – 2 + 2 wires

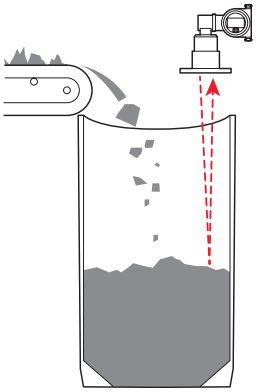


Attention – location of ground
The Ground symbols is used to identify protective earth conductor terminals.

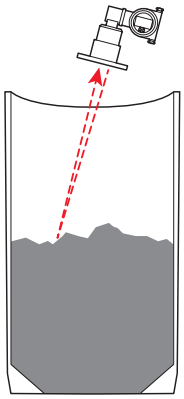
Attention – direct current

Use wires and cable glands rated 90 °C (194 °F) minimum.

3 Mounting

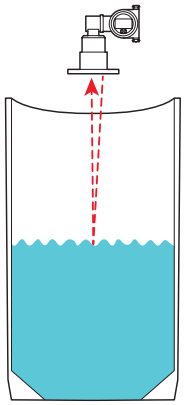


Install away from falling material for easiest configuration



For solids laser beam can be aimed at any angle

Also typically applies to other scattering surfaces such as slurries and some turbulent liquids



For typical liquid applications laser beam must be as perpendicular as possible, not exceeding 90° ± 5° to the surface

4 Easy setup

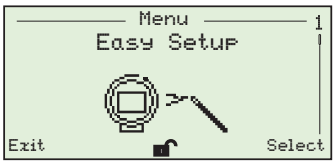
1 Rotate the housing: unscrew the stop tang-screw by approximately 1 rotation (do not pull it out) before removing the housing. When the desired position is reached, re-tighten the stop tang-screw.

2 Connect the cables (15.5 to 42 V DC) to the LLT100 laser level transmitter – if using HART the minimum input voltage is 21 V DC.

3 Power on the transmitter.

4 Press the **Right** arrow key ( ) on the display and select your access level using the **Up** and **Down** arrow keys ( ).

5 Set the main parameters at the **Easy Setup** menu:



a Select the required language.

b Select the measurement mode: standard, clear liquid, positioning or dust/vapor.

c Enter the vessel height (URP).

d Set the sensor offset from the vessel top.

e Select the primary variable (PV) for the 4 to 20 mA output: level, ullage, volume.

f Choose the unit of the primary variable (PV): m, cm, mm, ft.

g Set the value for vessel empty (LRV).

h Set the value for vessel full (URV).

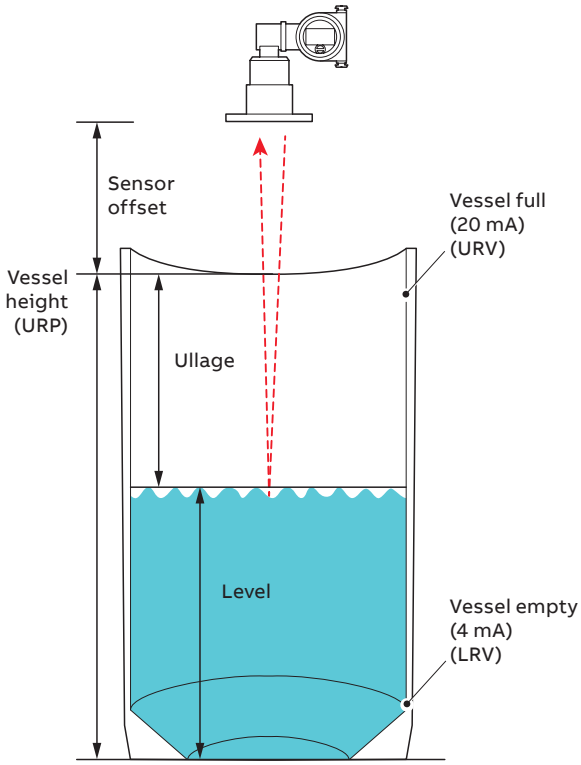
i Enable or disable the filling rate.

j Enter the Tag name.

6 Once the settings are completed, press **Exit** to return to the Distance view.

Refer to Operating Instruction OI/LLT100-EN for detailed configuration / setup information.

5 General model



6 Specification

Environmental conditions

Operating temperature

–40 to 60°C (–40 to 140°F),
up to 280°C (535°F)
with cooling tube

Altitude

Up to 2000 m (6561 ft.)

Relative humidity

0 to 100%

Electrical equipment

Class III

Pollution degree

4 (IP66 / IP67 / Type 4X)

Overvoltage

Category 1

Output

Analog

4 to 20 mA, NAMUR compliant

Digital

HART 7 (multi-variable output)

Communication

Local HMI, EDD / DTM, handheld

Power supply

Powered from the loop

4 to 20 mA, 15.5 to 42 V DC

Heated lens option

24 V DC (3W)

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