

Overview



SITRANS LR150 is a compact radar transmitter for continuous level measurement of liquids, slurries, and solids to a range of 15 m (49.2 ft).

Benefits

- Bluetooth connectivity for easy setup with SITRANS mobile IQ.
- Optional HMI with pushbutton programming and local diagnostic data.
- Chemically resistant PVDF sensor.
- HART 7.0 communication for intelligent integration into your application.
- W band FMCW radar yields narrow beam with small antenna for superior performance in short range applications.
- Approved for open air applications outside of a tank.
- 2 mm accuracy and zero near range distance yields optimum inventory management capability.
- Compact design fits in limited space installations.
- Hazardous area variants available for safe use in explosive gas or dust environments (pending).

Application

SITRANS LR150 is a W band FMCW radar level transmitter, with a chemically resistant PVDF sensor, for years of trouble-free, reliable measurement service.

4 to 20 mA loop powered with HART, providing accurate level measurement to ranges of 15 m (49.2 ft). Measurement is possible, non-intrusively, through plastic vessel tops for easy installation. Programming is convenient using the Bluetooth connection and SITRANS mobile IQ application on your smart device or locally with an optional HMI.

Technical specifications

Mode of operation	
Measuring principle	W band FMCW radar
Measuring range	0 ... 15 m (0 ... 49.2 ft)
Frequency	80 GHz nominal
Beam angle	8°
Power Supply	
HART	
• Voltage	12 ... 35 V DC
• Current	4 ... 20 mA
Communications	
4 ... 20 mA	HART 7.0
Accuracy	
	± 2 mm
Rated operating conditions	
Vessel pressure	-1 ... +3 bar (14.50 ... 43.51 psi g)
Ambient temperature	-40 ... +70 °C (-40 ... +158 °F)
Process temperature	-40 ... +70 °C (-40 ... +158 °F)
Storage temperature	-40 ... +80 °C (-40 ... +176 °F)
Design	
Weight	0.5 kg (1.1 lb)
Material (sensor)	PVDF
Material (enclosure)	PBT
Process connection	1-½" NPT, 1-½" BSPT or 1-½" BSPP
Degree of protection	IP66/IP67
Cable inlet	M20 or ½" NPT
Certificates and approvals	
	CE
Programming	
SITRANS mobile IQ App	SITRANS mobile IQ is a Bluetooth app that provides an intuitive interface to quickly configure, set up and monitor SITRANS LR100 series (available for Android, Apple and Windows devices). For more information: http://www.siemens.com/mobileIQ
Optional HMI	4 button with display of variables and diagnostic data
SIMATIC PDM	SIMATIC PDM allows for remote PC configuration and diagnostics (for installation on a network).

Level Measurement

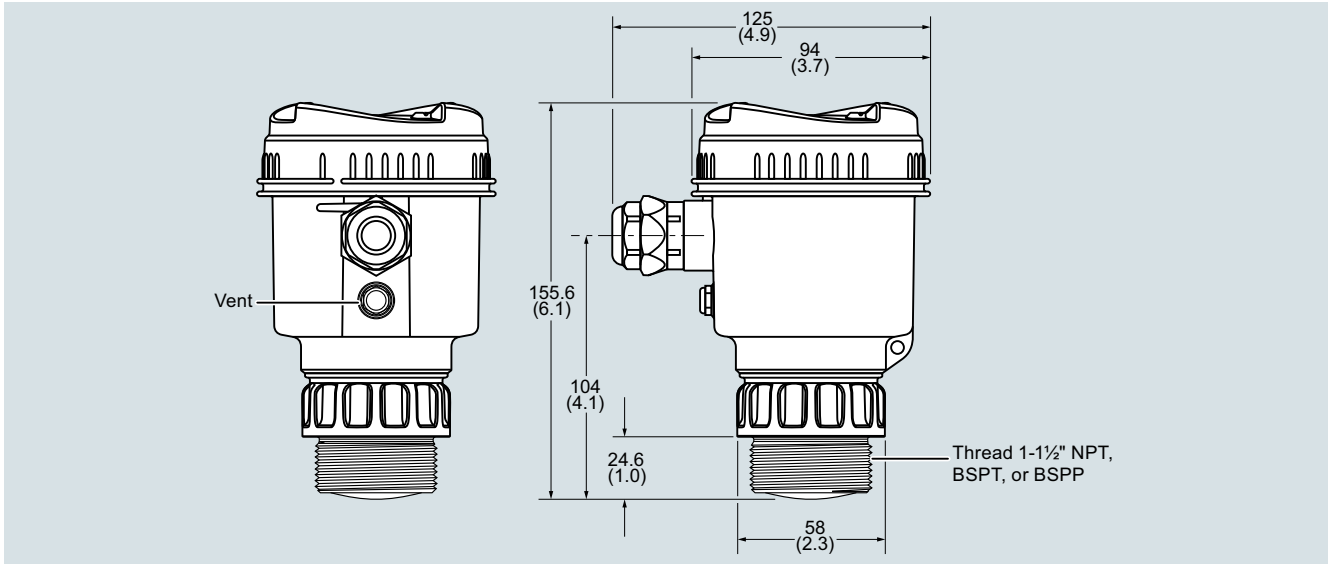
Continuous level measurement
Radar level transmitters

SITRANS LR150

Selection and Ordering data	Article No.
SITRANS LR150 Radar level transmitter Non-contact, 15 m (49.2 ft) range, for liquids and solids. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7ML534 0 - A 0 7 - 4
Bluetooth function Disabled Enabled	0 1
Process connection 1-½" NPT R 1-½" (BSPT) G 1-½" (BSPP)	A B C
Type of protection Non Ex (ordinary locations)	A
Electrical connections/cable entry M20 ½" NPT	F K
Local HMI Without display (closed lid of PBT/PC material) With display (closed lid of PBT/PC material) With display (clear lid with plastic window of PC material)	0 1 3

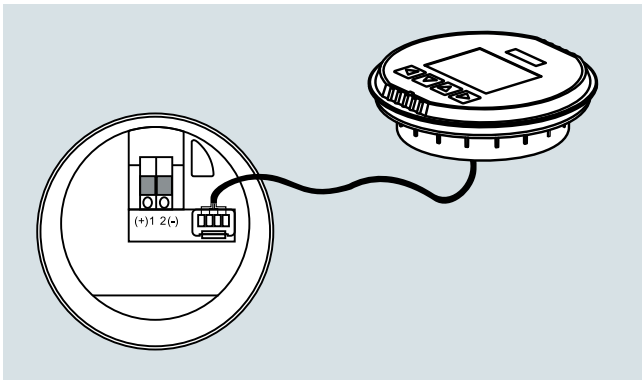
Selection and Ordering data	Order code
Further designs Please add "-Z" to Article No. and specify Order code(s).	
Tag (device parameter, max. 32 characters) plate stainless steel 304/1.4301	Y15
Operating Instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	Article No.
SIMATIC RTU3030C compact, remote data manager with alarming	6NH3112-3BA00-0XX0
Intrinsically Safe barrier	7NG4124-1AA00
SITRANS RD100, loop powered display - see Chapter 7	7ML5741-.....-
SITRANS RD150, remote digital display for 4 to 20 mA and HART devices - see Chapter 7	7ML5742-.....-....
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	7ML5740-.....-..
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion- see Chapter 7	7ML5744-.....-..
For applicable back up point level switch -see point level measurement section	

Dimensional drawings



SITRANS LR150, dimensions in mm (inch)

Circuit diagrams



SITRANS LR150 connections