

Level measurement

Continuous level measurement
Radar level transmitters

SITRANS LR140

Overview



SITRANS LR140 is a 2 wire loop powered radar transmitter for continuous level measurement of liquids and slurries to a range of 8 m (26 ft).

Benefits

- Bluetooth connectivity for easy setup with SITRANS mobile IQ.
- Chemically resistant PVDF sensor.
- 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.
- Compact design fits in limited space installations.

Application

SITRANS LR140 is a W band FMCW radar level transmitter, packaged in a chemically resistant enclosure with PVDF sensor for years of trouble-free reliable measurement service.

4 to 20 mA loop powered, it provides accurate level measurement to ranges of 8 m (26 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.

Technical specifications

Mode of operation	
Measuring principle	W band FMCW radar
Measuring range	0 ... 8 m (0 ... 26 ft)
Frequency	80 GHz nominal
Beam angle	8°
Power Supply	
Voltage	12 ... 35 V DC
Current	4 ... 20 mA
Accuracy	
	± 5 mm
Rated operating conditions	
Vessel pressure	-1 ... +3 bar (14.50 ... 43.51 psi g)
Ambient temperature	-40 ... +60 °C (-40 ... +140 °F)
Process temperature	-40 ... +60 °C (-40 ... +140 °F)
Storage temperature	-40 ... +80 °C (-40 ... +176 °F)

Technical specifications (continued)

Design	
Weight	0.5 kg (1.1 lb), plus 0.1 kg/m (0.2 lb/ft) cable length
Material (sensor)	PVDF
Material (enclosure)	PBT
Process connection	1-½" NPT, 1-½" BSPT, or 1-½" BSPP
Degree of protection	IP66/IP67
Certificates and approvals	
General Purpose, 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. For more information: http://www.siemens.com/mobileIQ

Selection and ordering data

Article No.

SITRANS LR140 Radar level transmitter	7ML533
Non-contact, 8 m (26.2 ft) range, for liquids and solids.	7 - 1 A 0 7 - 4 A 0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Process connection	A B C
1-½" NPT R 1-½" (BSPT) G 1-½" (BSPP)	
Electrical connections/Cable entry	F K
M20 ½" NPT	

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

Operating Instructions

All literature is available to download for free, in a range of languages, at

<http://www.siemens.com/processinstrumentation/documentation>

Accessories

SIMATIC RTU3010C compact, remote data manager with alarming

SIMATIC RTU3030C compact, remote data manager with alarming

SITRANS RD100, loop powered display - see Chapter 7

SITRANS RD150, remote digital display for 4 to 20 mA and HART devices - see Chapter 7

SITRANS RD200, universal input display with Modbus conversion - see Chapter 7

SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7

For applicable back up point level switch - see point level measurement section

Order code

Y15

Article No.

6NH3112-0BA00-0XX0

6NH3112-3BA00-0XX0

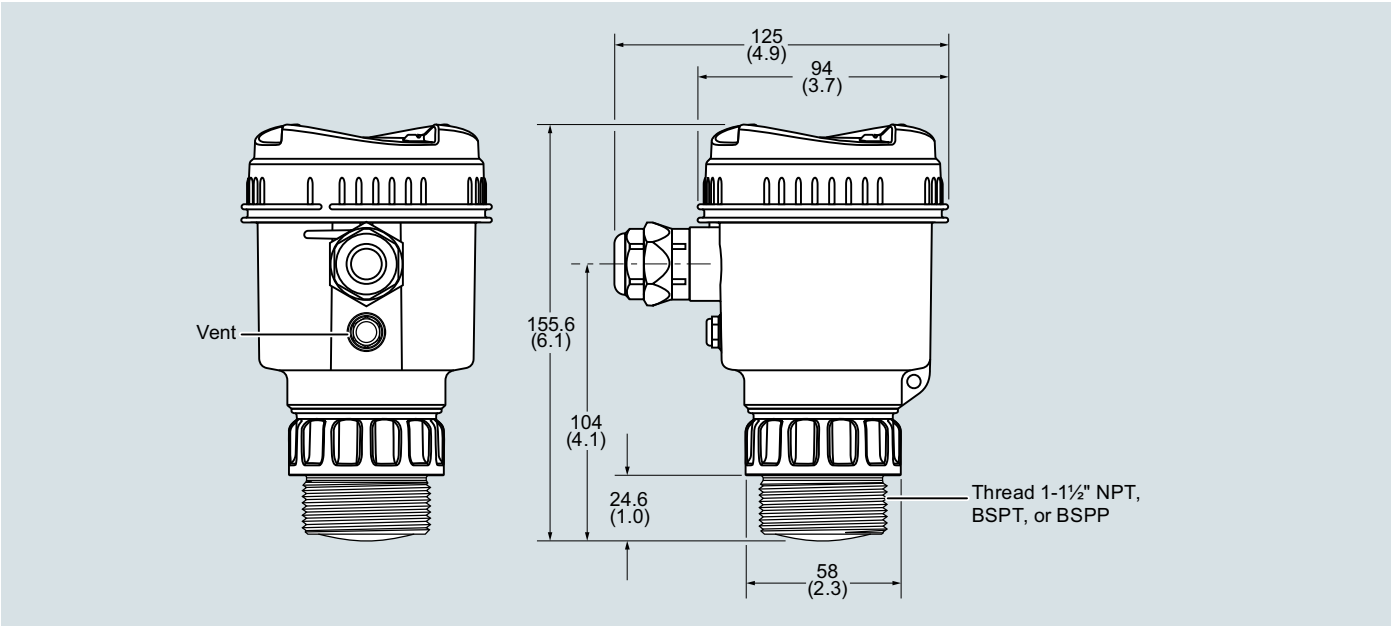
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7ML5740-.....-

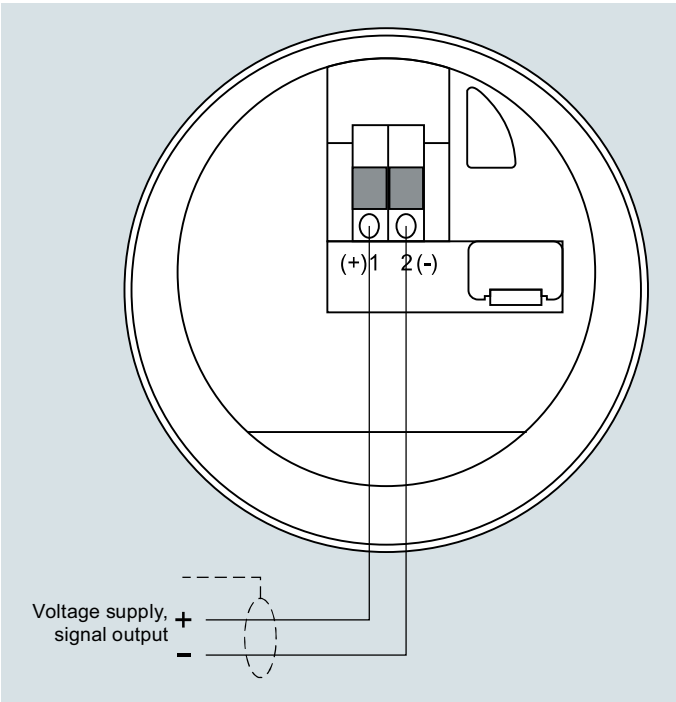
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Dimensional drawings



SITRANS LR140, dimensions in mm (inch)

Circuit diagrams



SITRANS LR140 connections