

## 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.

## Selection and ordering data

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

Selection and Ordering data	Order code
<b>Further designs</b>	
Please add "-Z" to Article No. and specify Order code(s).	
Tag (device parameter, max. 32 characters) plate stainless steel 304/1.4301	Y15

Accessories	Article No.
<b>Operating Instructions</b>	
All literature is available to download for free, in a range of languages, at <a href="http://www.siemens.com/processinstrumentation/documentation">http://www.siemens.com/processinstrumentation/documentation</a>	
<b>Accessories</b>	
Bracket, 316L Stainless steel, 1 inch mount, 80 mm (3.1 inch) offset	A5E50507509
Bracket, 316L Stainless steel, 1 inch mount, 200 mm (7.9 inch) offset	A5E50507511

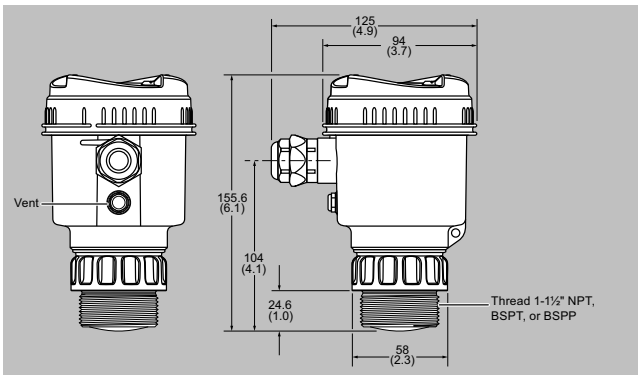
Accessories	Article No.
Bracket, 316L Stainless steel, 1.5 inch mount, 80 mm (3.1 inch) offset	A5E50507514
Bracket, 316L Stainless steel, 1.5 inch mount, 200 mm (7.9 inch) offset	A5E50507516
SITRANS LR140/LR150 Blind lid with o-ring	A5E50822955
Flat gasket, FKM, for G1.5 inch sensor	A5E50822967
1-½ BSP locknut, plastic	7ML1830-1DP
SIMATIC RTU3010C compact, remote data manager with alarming	6NH3112-0BA00-0-XX0
SIMATIC RTU3030C compact, remote data manager with alarming	6NH3112-3BA00-0-XX0
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	

## SITRANS LR140

## Technical specifications

SITRANS LR140	
<b>Mode of operation</b>	
Measuring principle	W band FMCW radar
Measuring range	0 ... 8 m (0 ... 26 ft)
Frequency	80 GHz nominal
Beam angle	8°
<b>Power Supply</b>	
Voltage	12 ... 35 V DC
Current	4 ... 20 mA
<b>Accuracy</b>	
± 5 mm	
<b>Rated operating conditions</b>	
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)
<b>Design</b>	
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
<b>Certificates and approvals</b>	
General	CE, UKCA, cFM <sub>US</sub> , cCSA <sub>US</sub> , RCM, EAC
Radio	CE, UKCA, FCC, IC, Anatel, ICASA, NCC, KC, CITC, RCM, WPC, Telec, NBTC, MCMC
Canadian Registration Number (CRN)	
British Columbia	OF22218.51
Alberta	OF20596.2
Saskatchewan	OF2002.3
Manitoba	OF7032.4
Ontario	OF22218.5
New Brunswick	OF05183.6
Nova Scotia	OF1490.07
Prince Edward Island	OF1490.08
Newfoundland and Labrador	OF1490.09
Yukon	OF1490.0
Northwest Territories	OF1490.0Y
Nunavut	OF1490.0T
<b>Programming</b>	
SITRANS mobile IQ App	OF1490.ON 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: <a href="http://www.siemens.com/mobileIQ">http://www.siemens.com/mobileIQ</a>

## Dimensional drawings

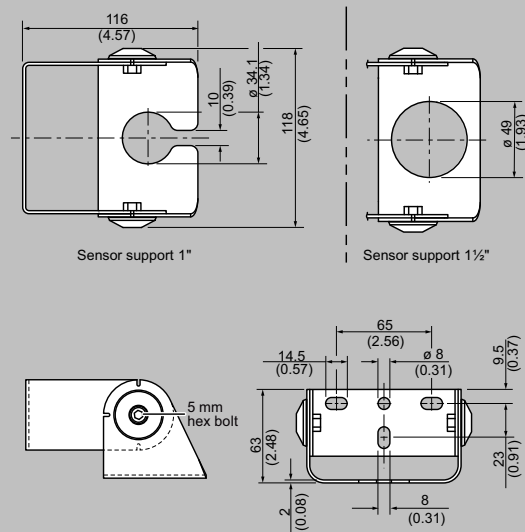


SITRANS LR140, dimensions in mm (inch)

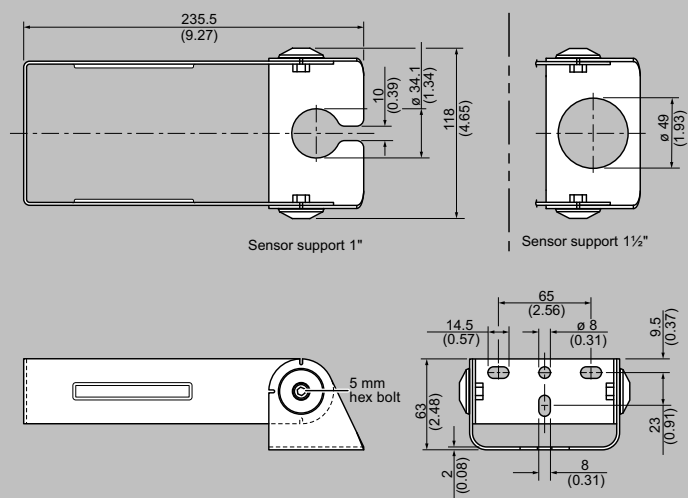
## SITRANS LR140

## Dimensional drawings (continued)

Mounting bracket, 80 mm

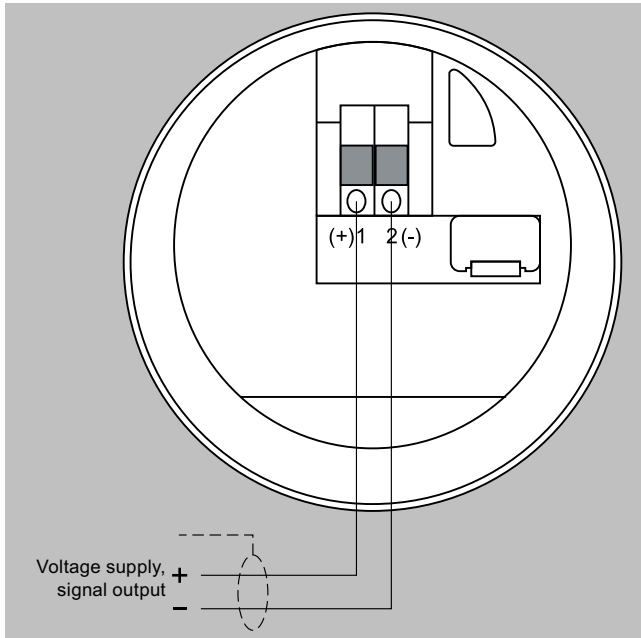


Mounting bracket, 200 mm



SITRANS LR140 mounting brackets, dimensions in mm (inch)

Circuit diagrams



SITRANS LR140 connections