

Overview



SITRANS LR100 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 enclosure
- 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 LR100 is a W band FMCW radar level transmitter, packaged in a hermetically sealed PVDF enclosure 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.

SITRANS LR100

Selection and ordering data

SITRANS LR100 Radar level transmitter Continuous, non-contact, 8 m (26 ft) range, for liquids and slurries, 8 m (26 ft) integrated cable connection.	Article No.
	7ML530 7 - 1 A ● 0 6 - 0 A A 0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Process connection	
1-½" NPT [(Taper), ASME B1.20.1]/electrical connection 1" NPT	A
R 1-½" [(BSPT), EN 10226]/electrical connection 1" BSPT	B
G 1-½" [(BSPP), EN ISO 228-1]/electrical connection 1" BSPT	C

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

Accessories	Article No.
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	
Easy Aimer 2, aluminum, NPT with ¾" x 1" PVC coupling	7ML1830-1AQ
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	7ML1830-1AX
Easy Aimer 304, NPT with 1" stainless steel coupling	7ML1830-1AU
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 stainless steel couplings	7ML1830-1GN
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
Bracket, 316 L stainless steel, 1.5 inch mount, 80 mm (3.1 inch) offset	A5E50507514
Bracket, 316 L stainless steel, 1.5 inch mount, 200 mm (7.9 inch) offset	A5E50507516

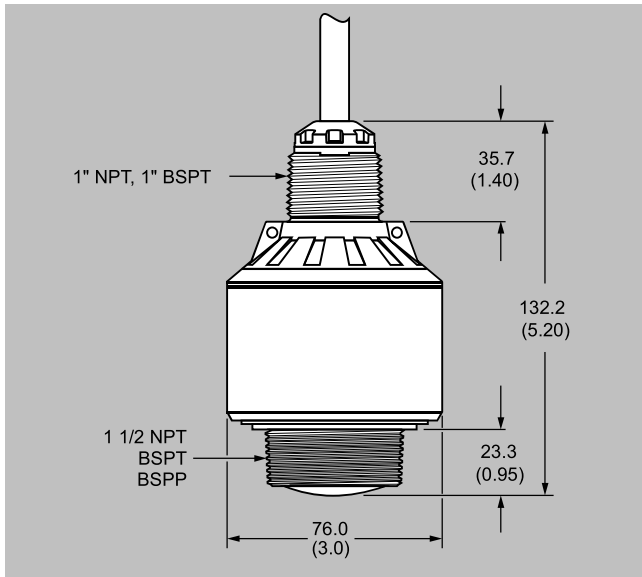
Accessories	Article No.
FMS-200 universal box bracket, mounting kit	7ML1830-1BK
FMS-210 channel bracket, wall mount	7ML1830-1BL
FMS-220 extended channel bracket, wall mount	7ML1830-1BM
FMS-310 channel bracket, floor mount	7ML1830-1BN
FMS-320 extended channel bracket, floor mount	7ML1830-1BP
FMS-350 bridge channel bracket, floor mount (see Mounting Brackets catalog page for more information)	7ML1830-1BQ
1" NPT locknut, plastic	7ML1830-1DS
1" BSP locknut, plastic	7ML1830-1DR
1-½" BSP locknut, plastic	7ML1830-1DP
Plastic adapter 1" BSP - 20 mm	7ML1830-1EA
Plastic adapter 1" NPT	7ML1930-1FX
Plastic adapter 1" NPT/M20	7ML1830-1EF
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	

Technical specifications

SITRANS LR100	
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)
Design	
Weight	0.5 kg (1.1 lb), plus 0.1 kg/m (0.2 lb/ft) cable length
Material (enclosure)	PVDF
Process connection	1-½" NPT, 1-½" BSPT, or 1-½" BSPP
Degree of protection	IP66/IP68
Cable connection	<ul style="list-style-type: none"> 8 m (26 ft) long, 2 conductor, twisted with shield 18 AWG, PVC jacket 1" NPT or 1" BSPT threaded connection
Certificates and approvals	
General	CE, UKCA, cFM _{US} , cCSA _{US} , RCM, EAC
Radio	CE, UKCA, FCC, IC, Anatel, ICASA, NCC, KC, CIRC, RCM, WPC, Telec, NBTC, MCMC
Canadian Registration Number (CRN)	
• British Columbia	0F22218.51
• Alberta	0F20596.2
• Saskatchewan	0F2002.3
• Manitoba	0F7032.4
• Ontario	0F22218.5
• Quebec	0F05183.6
• New Brunswick	0F1490.07
• Nova Scotia	0F1490.08
• Prince Edward Island	0F1490.09
• Newfoundland and Labrador	0F1490.0
• Yukon	0F1490.0Y
• Northwest Territories	0F1490.0T
• Nunavut	0F1490.0N
Programming	
SITRANS mobile IQ App	<p>SITRANS mobile IQ is a Bluetooth app that provides an intuitive interface to quickly configure, set up and monitor SITRANS LR100 series.</p> <p>For more information: http://www.siemens.com/mobileIQ</p>

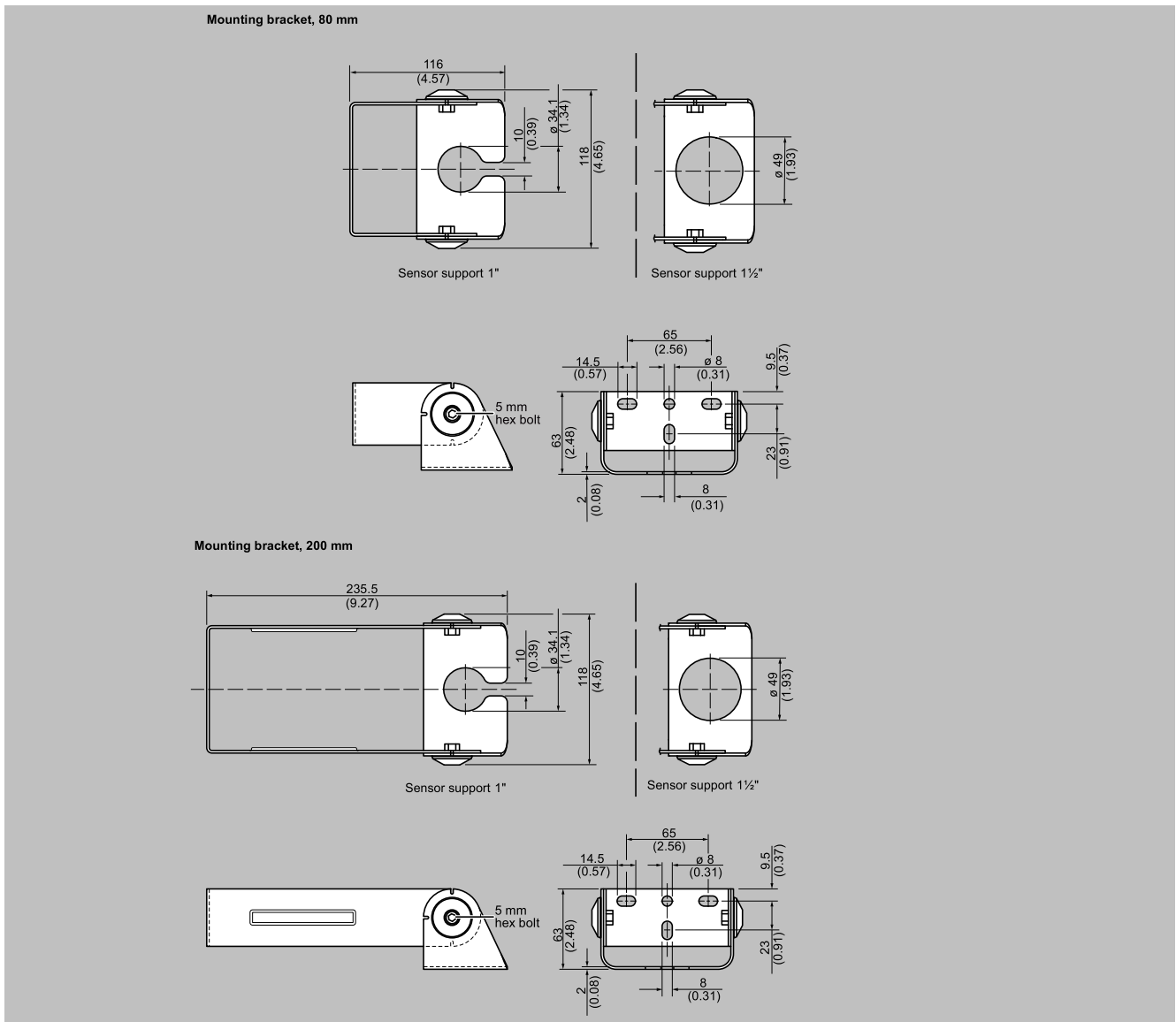
SITRANS LR100

Dimensional drawings



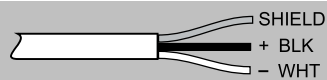
SITRANS LR100, dimensions in mm (inch)

Dimensional drawings (continued)



SITRANS LR100 mounting brackets, dimensions in mm (inch)

Circuit diagrams



12 ... 35 V DC
4 ... 20 mA
Loop powered

SITRANS LR100 connections