

## 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.											
	7	M	L	5	3	0	7	0	0	A	A	0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.												
<b>Process connection</b>												
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
<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>	
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
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

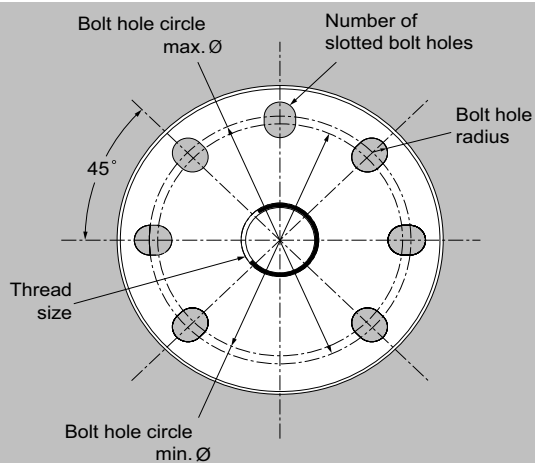
Accessories	Article No.
Plastic adapter 1" BSP - 20 mm	7ML1830-1EA
Plastic adapter 1" NPT	7ML1930-1FX
Plastic adapter 1" NPT/M20	7ML1830-1EF
Polypropylene adapter flange, 2"/DN50, universal, 1.5" NPT	A5E50868980
Polypropylene adapter flange, 2"/DN50, universal, 1.5" BSPT	A5E50868982
Polypropylene adapter flange, 3"/DN80, universal, 1.5" NPT	A5E50868988
Polypropylene adapter flange, 3"/DN80, universal, 1.5" BSPT	A5E50868998
Polypropylene adapter flange, 4"/DN100, universal, 1.5" NPT	A5E50869003
Polypropylene adapter flange, 4"/DN100, universal, 1.5" BSPT	A5E50869005
<i>Note: other polypropylene adapter flange sizes available via PVR request.</i>	
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	
<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), 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"> <li>8 m (26 ft) long, 2 conductor, twisted with shield 18 AWG, PVC jacket</li> <li>1" NPT or 1" BSPT threaded connection</li> </ul>
<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, 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
<b>Programming</b>	
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: <a href="http://www.siemens.com/mobileIQ">http://www.siemens.com/mobileIQ</a></p>

## SITRANS LR100

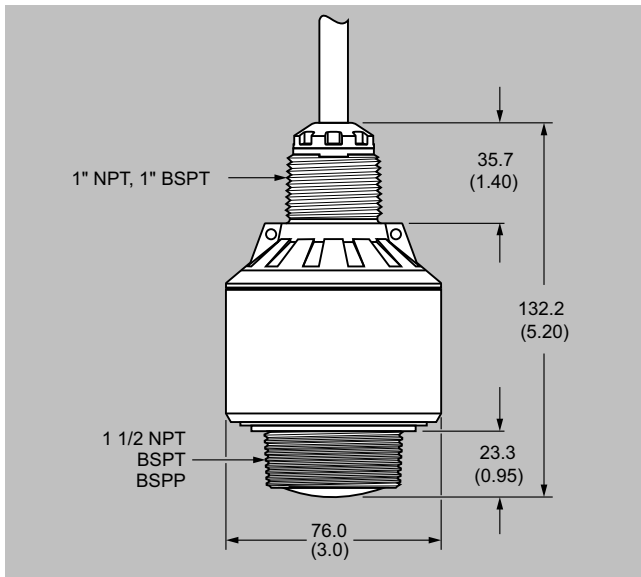
## Options



Part number	Adapter flange size	OD $\pm 1$	B.C.D. max. for slotted holes (bmax.) $\pm 0.75$	B.C.D. min. for slotted holes (bmin.) $\pm 0.75$	Bolt hole radius $\pm 0.25$	Number of slotted holes	Thread size
A5E50868980 A5E50868982 A5E50868983	2"/DN50	200	160	150	R 9.5	8	1.5" NPT, PP 1.5" BSPT, PP 1.5" BSPP, PP
A5E50868988 A5E50868998 A5E50869002	3"/DN80	200	160	150	R 9.5	8	1.5" NPT, PP 1.5" BSPT, PP 1.5" BSPP, PP
A5E50868953 A5E50868975 A5E50869003 A5E50869005 A5E50869010	4"/DN100	229	191	175	R 9.5	8	1" NPT, PP 1" BSPT, PP 1.5" NPT, PP 1.5" BSPT, PP 1.5" BSPP, PP
A5E50868976 A5E50868977 A5E50869012 A5E50869014 A5E50869015	6"/DN150	285	242	240	R 11.5	8	1" NPT, PP 1" BSPT, PP 1.5" NPT, PP 1.5" BSPT, PP 1.5" BSPP, PP

SITRANS LR100, Polypropylene adapter flange

Dimensional drawings

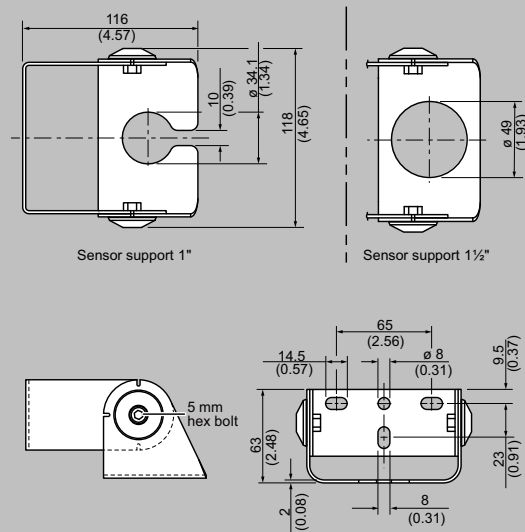


SITRANS LR100, dimensions in mm (inch)

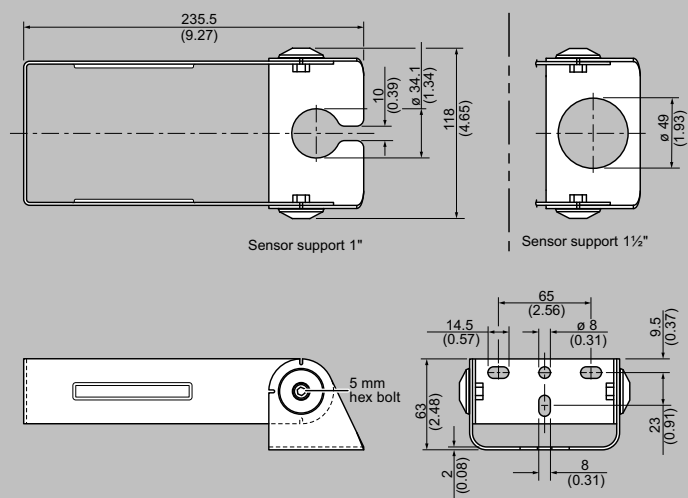
## SITRANS LR100

## Dimensional drawings (continued)

## Mounting bracket, 80 mm

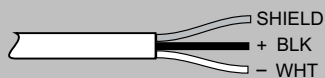


## Mounting bracket, 200 mm



SITRANS LR100 mounting brackets, dimensions in mm (inch)

## Circuit diagrams



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

SITRANS LR100 connections