

## Level measurement

Continuous level measurement

Radar level transmitters

### SITRANS LR100

#### 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.

#### Technical specifications


<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	1-1/2" NPT, 1-1/2" BSPT, or 1-1/2" 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>	
	Ordinary locations, CE, cFM <sub>US</sub> , cCSA <sub>US</sub> , RCM, FCC, Industry Canada
<b>Programming</b>	
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: <a href="http://www.siemens.com/mobileIQ">http://www.siemens.com/mobileIQ</a>

#### Selection and ordering data

#### Article No.

#### SITRANS LR100 Radar level transmitter 7ML530

Continuous, non-contact, 8 m (26 ft) range, for liquids and slurries, 8 m integrated cable connection

 Click on the Article No. for the online configuration in the PIA Life Cycle Portal.

#### Process connection

1-1/2" NPT [(Taper), ASME B1.20.1]/electrical connection 1" NPT  
 R 1-1/2" [(BSPT), EN 10226]/electrical connection 1" BSPT  
 G 1-1/2" [(BSPP), EN ISO 228-1]/electrical connection 1" BSPT

#### 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

Easy Aimer 2, aluminum, NPT with 3/4" x 1" PVC coupling

Easy Aimer 2, aluminum with M20 adapter and 1" and 1 1/2" BSPT aluminum couplings

Easy Aimer 304, NPT with 1" stainless steel coupling

Easy Aimer 304, with M20 adapter and 1" and 1 1/2" BSPT 304 stainless steel couplings

FMS-200 universal box bracket, mounting kit

FMS-210 channel bracket, wall mount

FMS-220 extended channel bracket, wall mount

FMS-310 channel bracket, floor mount

FMS-320 extended channel bracket, floor mount

FMS-350 bridge channel bracket, floor mount (see Mounting Brackets on page 4/186 for more information)

1" NPT locknut, plastic

1" BSP locknut, plastic

Plastic adapter 1" BSP - 20 mm

Plastic adapter 1" NPT

Plastic adapter 1" NPT/M20

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

7 - 1 B 7 0 6 - 0 A A 0

A

B

C

Order code

Y15

Article No.

7ML1830-1AQ

7ML1830-1AX

7ML1830-1AU

7ML1830-1GN

7ML1830-1BK

7ML1830-1BL

7ML1830-1BM

7ML1830-1BN

7ML1830-1BP

7ML1830-1BQ

7ML1830-1DS

7ML1830-1DR

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7ML1930-1FX

7ML1830-1EF

6NH3112-0BA00-0XX0

6NH3112-3BA00-0XX0

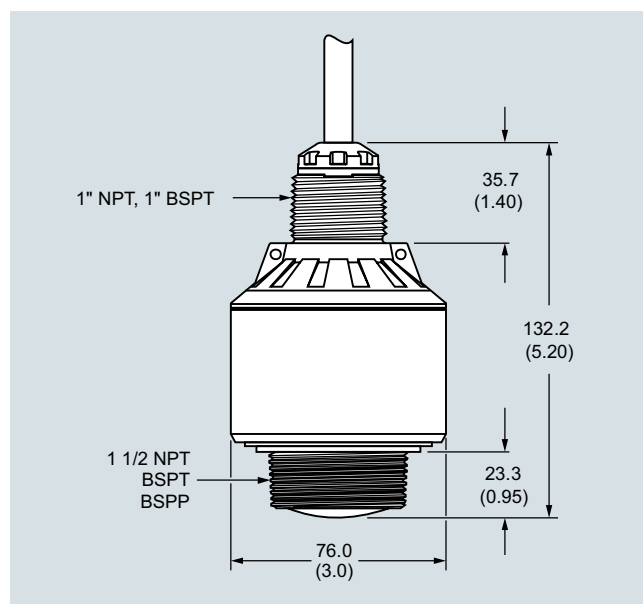
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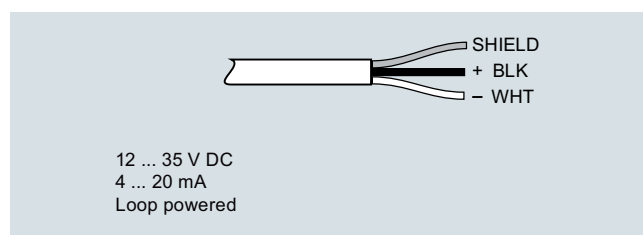
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#### Dimensional drawings



SITRANS LR100, dimensions in mm (inch)

#### Circuit diagrams



SITRANS LR100 connections