

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 | 6 | 0 | 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 |

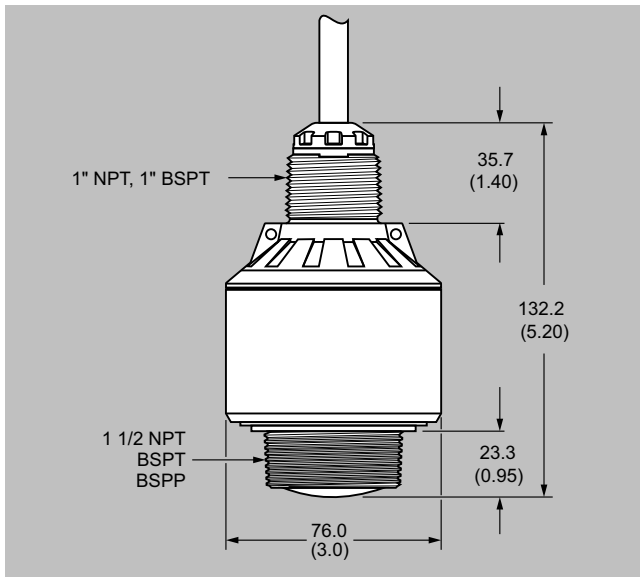
| Accessories | Article No. |
|---|---------------------|
| FMS-200 universal box bracket, mounting kit | 7ML1830-1BK |
| FMS-210 channel bracket, wall mount | 7ML1830-1BL |
| FMS-220 extended channel bracket, wall mount | 7ML1830-1BM |
| FMS-310 channel bracket, floor mount | 7ML1830-1BN |
| FMS-320 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

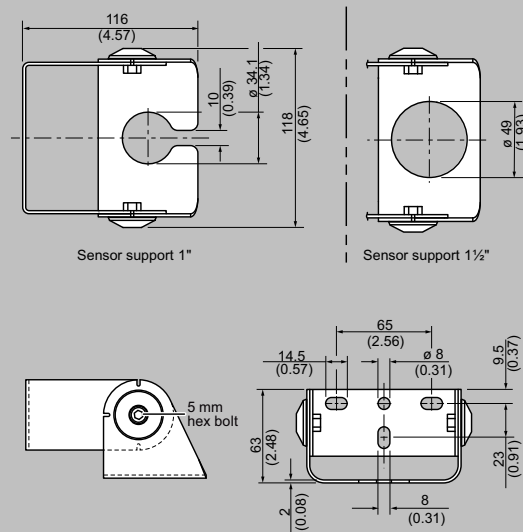
Dimensional drawings



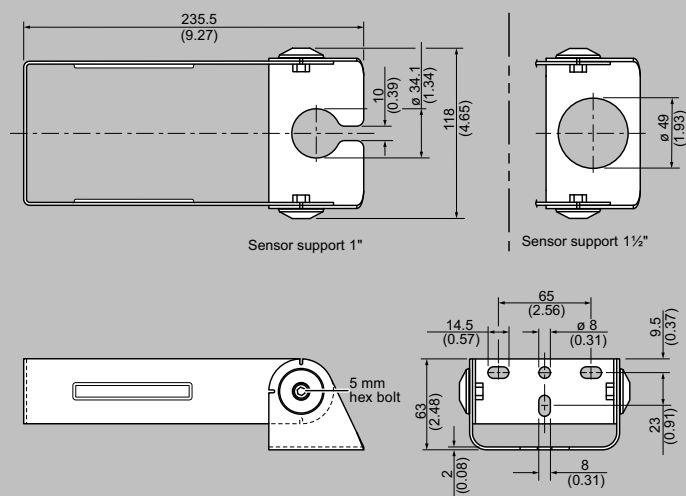
SITRANS LR100, dimensions in mm (inch)

Dimensional drawings (continued)

Mounting bracket, 80 mm

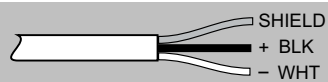


Mounting bracket, 200 mm



SITRANS LR100 mounting brackets, dimensions in mm (inch)

Circuit diagrams



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

SITRANS LR100 connections