



High Frequency, high precision high performance

Radar level transmitter for liquid applications



SITRANS LR400

Answers for industry.

SIEMENS



SITRANS LR400

SITRANS LR400 is the ideal continuous radar level transmitter for liquid applications up to 50 m (164 ft). Its high frequency operation and strong signal ensures reliable measurement in low dielectric liquids like liquified gases, solvents, petrochemicals, and oils. It is virtually unaffected by high temperatures, vapor, or pressure.

- 24 GHz FMCW radar transmitter
- Advanced echo processing with Auto False-Echo Suppression
- High frequency operation allows for narrow beam and small antenna
- Extremely high signal-to-noise ratio yields high performance
- For long range continuous measurement of liquids and slurries to 50 m (164 ft)
- Virtually unaffected by temperature, vapor and pressure
- Quick and simple setup
- Infrared handheld programmer for local operation

SITRANS LR400

Power

- 100 to 230 V AC \pm 15%, 50/60 Hz, 6W (12 VA) or
- 24 V DC, +25/-20%, 6W (optional)

Performance

Measurement Range	0.35 to 50 m (1.15 to 164 ft)
Accuracy	\leq 5 mm from 1 to 10 m (3.3 to 33 ft), \leq 15 mm from 10 to 50 m (33 to 164 ft)
Repeatability	\leq 1 mm (0.04")
Frequency	24 to 25 GHz FMCW
Dielectric constant	>1.4

Interface

Analog output	Optically isolated 4 to 20 mA, 600 Ω max. (330 Ω for [ia] version)
Relay	NC or NO, max. 50 V DC, max. 200 mA
Display (local)	Alphanumeric LCD for readout and entry
Communication / programming	<ul style="list-style-type: none"> • HART® (PROFIBUS PA optional) • SIMATIC PDM • Intrinsically Safe infrared handheld programmer (local operation)

Mechanical

Enclosure	<ul style="list-style-type: none"> • Construction: die-cast aluminum, polyester powder-coated • Ingress protection: Type 4X/NEMA 4X/IP67, Type 6/NEMA 6 • Cable inlet: M20x1.5 or 1/2" NPT (qty 2)
Process connections**	<ul style="list-style-type: none"> • Flat-faced flanges: 316L stainless steel, 80, 100, 150 mm; bolt holes matching EN 1092-1 and JIS B 2238 • Raised face flanges: 316L stainless steel, 3, 4, 6"; bolt holes matching ASME B 16.5
Horn antenna (stainless steel, PTFE emitter)	<ul style="list-style-type: none"> • 3" or 4" diameter horn • Purge 1/8" NPT connection (optional) • PTFE dust cover (optional)

Process Conditions***

Ambient temperature	-40 to 65 °C (-40 to 149 °F)
Process temperature	-40 to 200 °C (-40 to 392 °F), optional to 250 °C (482 °F)
Pressure (vessel)	up to 40 bar g (600 psi g) process connection dependent

Approvals

General	CSAus/c, CE, FM, C-TICK
Marine	Lloyd's Register of Shipping, ABS
Radio	European Radio (R&TTE, CETECOM), Industry Canada, FCC, C-TICK
Explosion protection	CSA/FM, ATEX, IEC Ex, INMETRO

* Reference conditions according to IEC 60770-1

** Other process connections are available by special request.

*** For applications beyond these specifications, custom configured units are available: contact your local representative. Specifications are subject to change without notice. HART is a registered trademark of the HART Communication Foundation. SIMATIC PDM and SITRANS are registered trademarks of Siemens AG.

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