



# 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

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

#### Interface

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

#### Mechanical

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

#### Process Conditions\*\*\*

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

#### Approvals

<b>General</b>	CSAus/c, CE, FM, C-TICK
<b>Marine</b>	Lloyd's Register of Shipping, ABS
<b>Radio</b>	European Radio (R&TTE, CETECOM), Industry Canada, FCC, C-TICK
<b>Explosion protection</b>	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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