



Continuous level and interface measurement

for critical conditions



SITRANS LC500

Answers for industry.

SIEMENS



SITRANS LC500

SITRANS LC500 is an inverse frequency shift capacitance level or interface transmitter with active shield for critical applications, such as high-pressure coalescers, FPSO ships, LNG processing plants, and offshore oil and gas platforms. It performs in liquids, solids, interfacial, and foam and is unaffected by vapors, product deposits, dust, or condensation and is highly resistant to toxic and aggressive materials. SITRANS LC500 is the right solution if you're looking for high-precision level or interface measurement under extreme conditions.

- Full function diagnostics comply with NAMUR NE 43
- Integrated local display to facilitate on-site commissioning and inspection
- Standard version handles temperatures from -50 to 200 °C (-58 to 392 °F) and pressures up to 150 bar g (2175 psi g). Optional: temperatures up to 325 °C (617 °F) (pressure dependent) and pressures up to 345 bar g (5004 psi g) (temperature dependent)
- Built-in HART communications and 4 to 20 mA/20 to 4 mA current loop output
- Probe versions up to 5.5 m (18 ft) for the rod version, and up to 35 m (115 ft) for the cable version



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Power

Max. 33 V DC (30 V DC with Intrinsically Safe operation), min. 12 V DC at 3.6 mA, min. 9.5 V DC at 22 mA

Performance

Measurement range	1 to 3300 pF as standard (1 to 330 pF and 1 to 6600 pF options available*)
Span	Minimum 3.3 pF
Accuracy	Deviation < 0.1% of measured value
Non-linearity and repeatability	< 0.1% of range and actual measured value respectively
Temperature stability	0.15 pF (0 pF) or < 0.25% (typically < 0.1%) of actual measured value, whichever is greater over the full temperature range
Safety	<ul style="list-style-type: none"> • Galvanically isolated inputs/outputs • Fully potted • Polarity-insensitive current loop • Integrated safety barrier
Diagnostics with fault alarm when:	<ul style="list-style-type: none"> • Primary variable (PV) out of limits • System failure in measurement circuit • Deviation between A/D and D/A converter • Watch dog • Self-checking facility • Check sum

Interface

Output	Galvanically isolated 4 to 20 mA / 20 to 4 mA <ul style="list-style-type: none"> • Loop current 3.6 to 22 mA / 22 to 3.6 mA (2-wire current loop) • Solid state switch 30 V peak AC / 30 V DC, 82 mA
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Mechanical

Process connections	<ul style="list-style-type: none"> • Threaded: NPT [(Taper), ANSI/ASME B1.20.1], R [(BSPT), EN 10226/PT (JIS-T), JIS B 0203], G [(BSPP) EN ISO 228-1/PF (JIS-P), JIS B 0202] • Flange: ASME, EN 1092-1
Process material	• 316L (1.4435 or 1.4404) stainless steel*
Probe diameter	<ul style="list-style-type: none"> • Rod version: 16 mm (0.63"), or 24 mm (0.95)** • Cable version: 9 mm (0.35") with PFA jacket, 6 mm (0.24") without PFA jacket
Probe length	<ul style="list-style-type: none"> • Rod version: max. 3.5 m (138") with 16 mm (0.63") diameter rod, max. 5.5 m (216") with 24 mm (0.95") diameter rod • Cable version: 35 m (1378")
Probe insulation	PFA (standard), enamel

Process conditions

Pressure rating	-1 to 150 bar g (2175 psi g) standard (temperature dependent) up to 345 bar g (5004 mpsi g) (optional)
Temperature rating	Standard: -50 to 200 °C (-58 to 392 °F), up to 325 °C (617 °F) as option, -200 °C (-328 °F) as option for cryogenics (pressure dependent)
Ambient temperature	<ul style="list-style-type: none"> • General purpose: -40 to 85 °C (-40 to 185 °F) • Relative humidity: suitable for outdoors (Type 4X/NEMA 4X/IP65/68 enclosure) • Pollution degree: 4

Communications

HART® communication protocol

Approvals

General	CE, CSA/FM, C-TICK
Hazardous areas	CSA/FM, ATEX
Marine	Lloyd's Register of Shipping ENV1, ENV2, ENV3, and ENV5
Pressure	PED 97/23/EC, CSA B51

*Others may be available on request: contact your Siemens representative for more options. ** 24 mm (0.95") only available for PFA insulated. *** Enamel version available up to 1.5 m. Specifications are subject to change without notice. HART is a registered trademark of the HART Communication Foundation. SITRANS is a registered trademark of Siemens AG. © Siemens Milltronics Process Instruments Inc. 2008.