

Level Measurement

Continuous level measurement
Ultrasonic transmitters

SITRANS LU150

Overview



SITRANS LU150 is a short-range integrated ultrasonic level transmitter. This general purpose, 2-wire, 4 to 20 mA loop powered transmitter is ideal for liquids, slurries, and bulk materials in open or closed vessels to 5 m (16.4 ft).

Benefits

- Easy to install, program, and maintain
- Accurate and reliable
- Sanitary models available
- Patented Sonic Intelligence echo processing
- Integral temperature compensation

Application

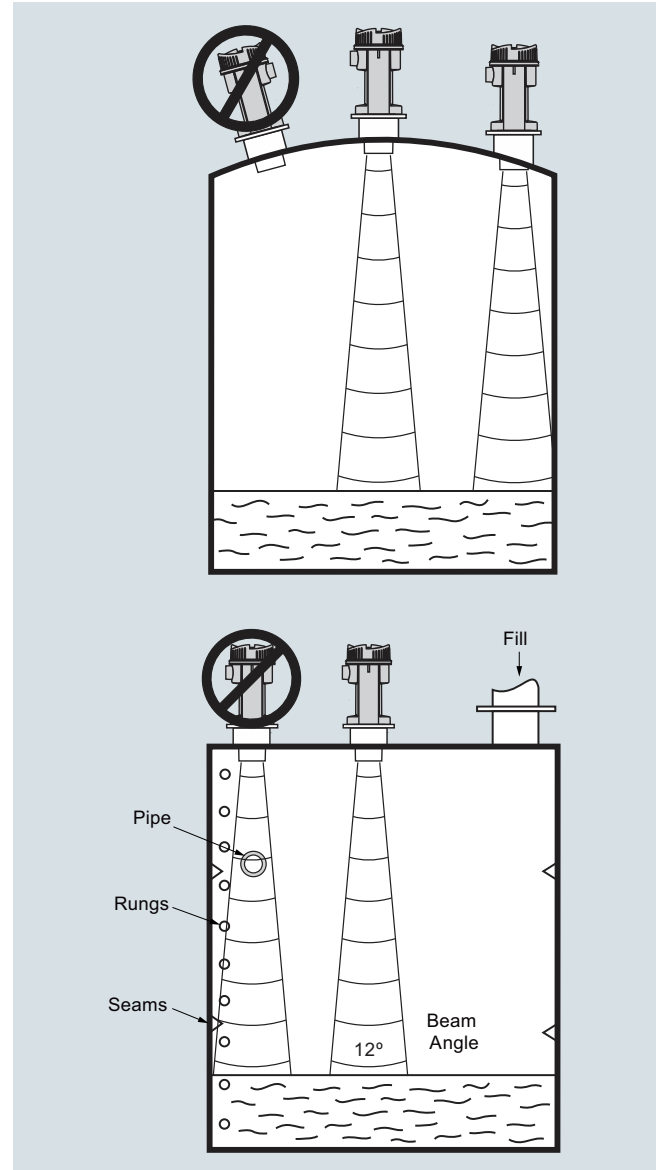
The transducer is available in PVDF copolymer, making the device suitable for use in a wide variety of applications.

SITRANS LU150 is easy to install and maintain, and can be quickly removed for cleaning as required by the food, beverage and pharmaceutical industries.

The reliability of the level data is based on the Sonic Intelligence echo processing algorithms. A filter discriminates between the true echo and false echoes from acoustic or electrical noises and agitator blades in motion. The ultrasonic pulse propagation time to the material and back is temperature-compensated and converted into distance for display, analog output.

- Key Applications: chemical storage vessels, filter beds, mud pits, liquid storage vessels, food applications

Configuration



SITRANS LU150 mounting

Technical specifications		Selection and Ordering data	Article No.
Mode of Operation		SITRANS LU150	7ML5201-
Measuring principle	Ultrasonic level measurement	Short-range integrated ultrasonic level transmitter, general purpose, 2-wire, 4 to 20 mA loop powered ideal for liquids, slurries, and bulk materials in open or closed vessels to 5 meters (16.4 feet)	0 0
Input		↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Measuring range	0.25 ... 5 m (0.8 ... 16.4 ft)	Transducer/Process connection (PVDF)	E
Frequency	54 kHz	PVDF copolymer, 2" NPT [(Taper), ANSI/ASME B1.20.1]	F
Output		PVDF copolymer, R 2" [(BSPT), EN 10226]	G
mA	4 ... 20 mA	PVDF copolymer, G 2" [(BSPP), EN ISO 228-1]	J
• Span	Proportional/ inversely proportional	PVDF copolymer, 4" Sanitary mounting	
• Max. load	600 Ω in the loop at 24 V DC	Cable inlet	B
Power supply		M20 x 1.5 [General Purpose cable gland -20 ... +60 °C (-4 ... +140 °F) included]	C
Supply voltage	12 ... 30 V DC, 0.1 A surge	1/2" NPT stainless steel entry (no cable gland included)	
Max. power consumption	0.75 W (25 mA at 24 V DC)		
Certificates and approvals			
	CE, CSA _{US/C}		
Accuracy			
Error in measurement	0.25 % of measuring range (in air)		
Resolution	3 mm (0.125 inch)		
Temperature compensation	Built in		
Echo processing	Sonic Intelligence		
Rated operation conditions			
Beam angle	12°		
Ambient temperature			
• Standard	-30 ... +60 °C (-22 ... +140 °F)		
• Metallic mounting	-20 ... +60 °C (-4 ... +140 °F)		
Max. static operating pressure	Normal atmospheric pressure		
Design			
Weight	1.3 kg (2.9 lb)		
Material			
• Electronics enclosure	PBT		
• Transducer	PVDF copolymer		
Degree of protection	IP68 / NEMA 6 / TYPE 6		
Process connection			
	<ul style="list-style-type: none"> 2" NPT [(Taper), ANSI/ASME B1.20.1] R 2" [(BSPT), EN 10226] G 2" [(BSPP), EN ISO 228-1] 4" sanitary 		
Flange adapter	3" Universal, (fits DN 65, PN 10 and 3" ASME)		
Cable inlet	1 inlet for M20, optional 1/2" NPT		
		Selection and Ordering data	Order code
		Further designs	
		Please add "-Z" to Article No. and specify Order code(s).	
		Stainless steel tag [13 x 45 mm (0.5 x 1.75 inch)]; Measuring-point number/ identification (max. 20 characters) specify in plain text	Y15
		Test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and to ISO 9000	C11
		Operating Instructions	Article No.
		English	A5E34590123
		German	A5E36369862
		Note: Operating instructions should be ordered as a separate line on the order	
		All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
		Accessories	
		Tag, stainless steel, 12 x 45 mm (0.47 x 1.77 inch), one text line	7ML1930-1AC
		Universal Box Bracket Mounting kit	7ML1830-1BK
		Sanitary 4" mounting clamp	7ML1830-1BR
		3" ASME, DN 65 PN 10, JIS 10K 3B ETFE Flange adapter for 2" NPT	7ML1830-1BT
		3" ASME, DN 65 PN 10, JIS 10K 3B ETFE Flange adapter for 2" BSPT	7ML1830-1BU
		2" BSP nylon plastic locknut	7ML1830-1DQ
		2" NPT nylon plastic locknut	7ML1830-1DT
		Cable Gland - General Purpose -20 ... +60 °C (-4 ... +140 °F)	A5E34457564

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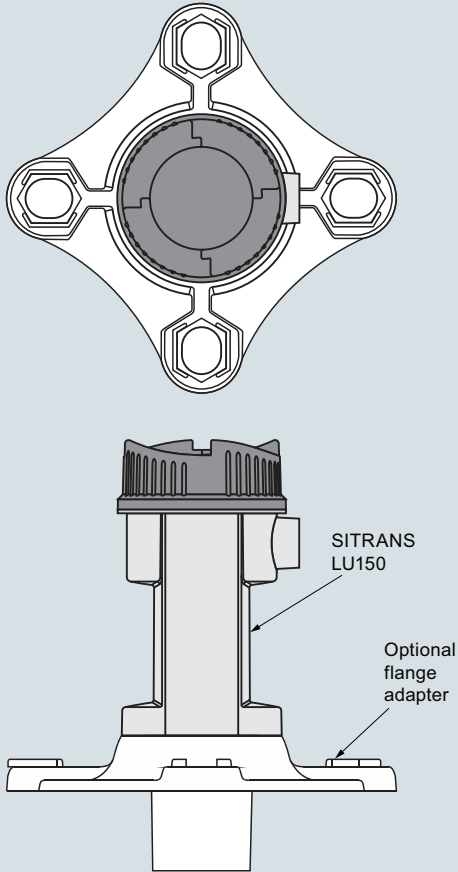
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Options

SITRANS LU150, Flange Adapter

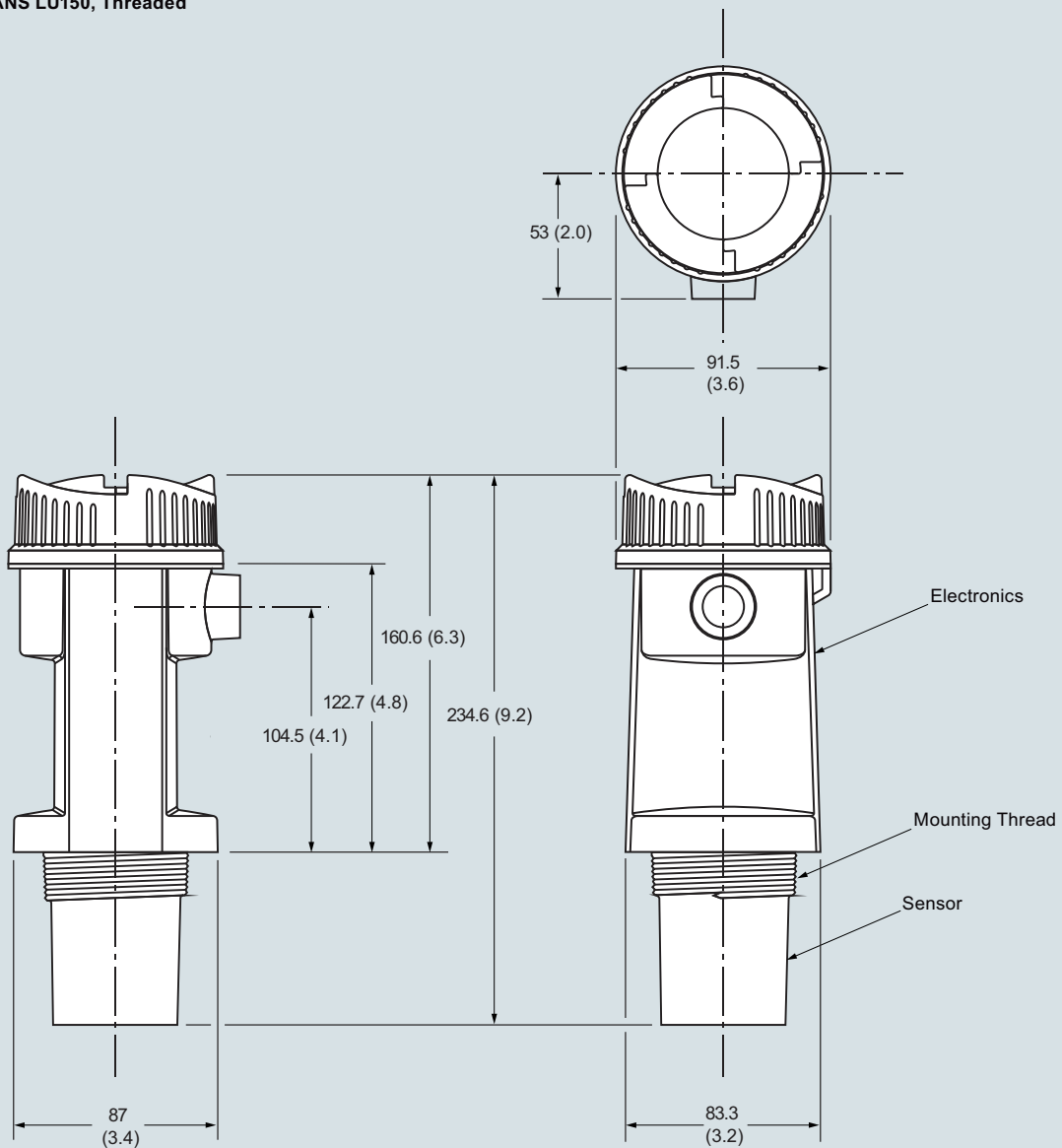
The SITRANS LU150 can be fitted with the optional 75 (3) flange adapter for mating to 3" ANSI, DIN 65 PN10 and JIS 10K3B flanges.



SITRANS LU150 optional flange adapter, dimensions in mm (inch)

Dimensional drawings

SITRANS LU150, Threaded



SITRANS LU150, dimensions in mm (inch)

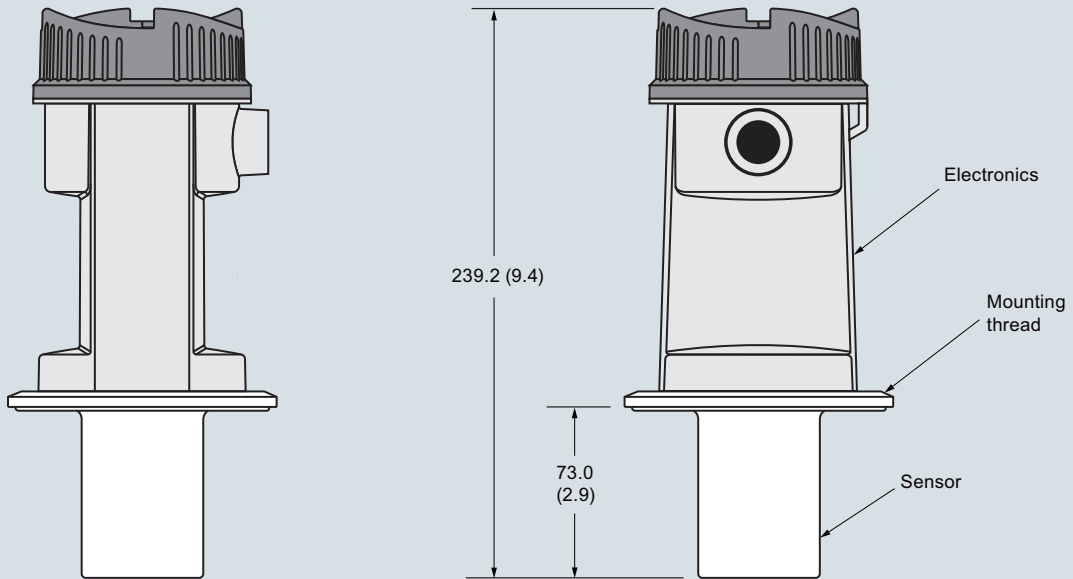
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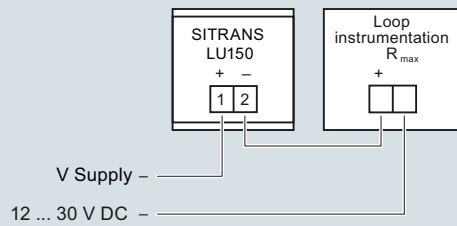
SITRANS LU150, Sanitary



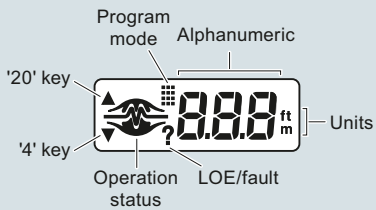
SITRANS LU150, dimensions in mm (inch)

Circuit diagrams

Threaded and Sanitary models



Display



SITRANS LU150 connections