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You can download all instructions, catalogs and certificates for SITRANS L free of charge: www.usa.siemens.com/level

Level measurement

Product overview

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Overview

	Application	Device description	Page	Programming Software
Point level measurement - RF Capacitance switches				
	Powerful range of level switches suitable for a variety of industries.	Pointek CLS100/CLS200/CLS300 <ul style="list-style-type: none"> CLS100: compact 2-wire inverse frequency shift capacitance level switch for level detection in constricted spaces, interfaces, solids, liquids, slurries, and foam. 	4/11	-
		<ul style="list-style-type: none"> CLS200: a versatile inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output, ideal for detection of liquids, solids, slurries, foam, and interfaces; digital version (with PROFIBUS PA) includes a display and provides additional diagnostic features. Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511. 	4/17	SIMATIC PDM
		<ul style="list-style-type: none"> CLS300: inverse frequency shift capacitance level switch with optional rod/cable choices and configurable output. It is ideal for detecting liquids, solids, slurries, foam and interfaces in demanding conditions where high pressure and temperatures are present; digital version (with PROFIBUS PA) includes a display and provides additional diagnostic features. 	4/49	SIMATIC PDM
Point level measurement - Vibrating switches				
	Reliable vibrating point level switches for liquid and slurry applications across all industries.	SITRANS LVL100/LVL200 <ul style="list-style-type: none"> LVL100: compact vibrating level switch for use in liquid and slurry applications such as overflow, high, low, and demand level applications. Also ideal for dry run protection. 	4/78	-
		<ul style="list-style-type: none"> LVL200: advanced vibrating level switch for use in liquid and slurry applications. Suited for most hazardous area applications such as: overflow, high, low, demand, and dry run protection. Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511. 	4/85	-
	Reliable vibrating point level switches for bulk solids in a wide variety of applications.	SITRANS LVS100/LVS200/LVS300 <ul style="list-style-type: none"> LVS100: vibrating point level switch designed to be impervious to external vibrations and to provide reliable performance in demanding bulk solids applications. 	4/111	-
		<ul style="list-style-type: none"> LVS200: vibrating point level switch designed to be impervious to external vibrations and to provide reliable performance in demanding bulk solids applications. 	4/115	-
		<ul style="list-style-type: none"> LVS300: vibrating rod point level switch for high, low, or demand level detection of bulk solids. Durable probe, ideal for larger granule sizes. 	4/125	-
Point level measurement - Rotating paddle switches				
	Reliable rotating point level switches for bulk solids in a wide variety of applications.	SITRANS LPS200 <ul style="list-style-type: none"> Rotating paddle switch for detection of high, low, and demand levels in a wide variety of bulk solids industries. Unique engineering provides long-lasting, reliable performance. Functional Safety (SIL 2). Device suitable for use in accordance with IEC 61508 and IEC 61511. 	4/133	-
Point level measurement - Ultrasonic switch				
	Ultrasonic non-contacting switch with two switch points for level detection of bulk solids, liquids and slurries in a wide variety of industries.	Pointek ULS200 <ul style="list-style-type: none"> Rugged design, no moving parts, and virtually maintenance-free. Transducer available in ETFE or PVDF copolymer and therefore inert to most chemicals. 	4/145	-

Overview

	Application	Device description	Page	Programming Software
Continuous level measurement - Controllers				
	SITRANS LT500 is a versatile, single and multi-vessel level monitor/controller for virtually any application in a wide range of industries.	SITRANS LT500 <ul style="list-style-type: none"> • Level, volume, and flow measurements in open channels, differential control, extended pump control, and alarm functions. • Easy to use HMI display with local four-button programming, menu-driven parameters, and wizard support for key applications. 	4/150	-
	The SITRANS LUT400 series controllers are compact, single point, long-range ultrasonic controllers for continuous level or volume measurement of liquids, slurries, and solids, and high accuracy monitoring of open channel flow.	SITRANS LUT420/430/440 <p>In addition to industry leading 1 mm (0.04 inch) accuracy, each of the three models in the series are compatible with our full range of EchoMax transducers and offer varying degrees of pump, alarm, and other control functionality, all from a very compact and easy-to-use interface.</p> <ul style="list-style-type: none"> • 1 mm accuracy. • HART communications. • Next Generation Sonic Intelligence. 	4/155	SIMATIC PDM
	Versatile short- to medium-range ultrasonic single- and dual-vessel level controller for virtually any application in a wide range of industries.	MultiRanger 100/200 <ul style="list-style-type: none"> • Using non-contacting ultrasonic technology, the controller measures the level in short to medium range applications up to 15 m (50 ft) of solids, liquids, or slurries • Auto False-Echo Suppression of false echoes 	4/168	SIMATIC PDM
	Ultrasonic level controller for up to six pumps - control, differential control, and open channel flow monitoring.	HydroRanger 200 <ul style="list-style-type: none"> • An economical, low-maintenance solution delivering control efficiency and productivity needed to meet today's exacting standards • Auto False-Echo Suppression of false echoes 	4/172	SIMATIC PDM

Level measurement

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	Application	Device description	Page	Programming Software	
Continuous level measurement - Ultrasonic transmitters					
	SITRANS LU150 and LU180 are short-range integrated ultrasonic level transmitters. These 2-wire, 4 to 20 mA loop powered transmitter are ideal for liquids, slurries, and bulk materials in open or closed vessels to 5 m (16.4 ft).	SITRANS LU150 <ul style="list-style-type: none"> • LU150 is approved for general purpose applications. • Easy to install, program, and maintain. • Patented Sonic Intelligence echo processing. 	4/182	-	
		SITRANS LU180 <ul style="list-style-type: none"> • LU180 is approved for intrinsically safe applications. • Easy to install, program, and maintain. • Patented Sonic Intelligence echo processing. 	4/187	-	
4		2-wire loop powered ultrasonic transmitter for level, volume, and flow monitoring of liquids in open channels, storage vessels and simple process vessels.	SITRANS Probe LU <ul style="list-style-type: none"> • Continuous level measurement up to 12 m (40 ft) range. • Sonic Intelligence signal processing. • Auto False-Echo Suppression. 	4/192	SIMATIC PDM
			Ultrasonic level transmitter with HART, 4 to 20 mA is ideal for level, volume, and volume flow measurements. It works with liquids, slurries, and bulk materials up to 12 meters (40 feet).	SITRANS Probe LU240 <ul style="list-style-type: none"> • Continuous level measurement up to 12 m (40 ft) range. • Next generation Process Intelligence signal processing. • Auto False-Echo Suppression for fixed obstruction avoidance. • Fast and easy configuration with quick start wizards. 	4/197
		Compact level transmitter with integrated transducer for accurate level measurement of liquid applications.	The Probe <ul style="list-style-type: none"> • A short-range integrated ultrasonic level transmitter, ideal for liquids and slurries in open or closed vessels. • 3 wire system with mA output and alarm relay. 	4/203	-
Continuous level measurement - Ultrasonic transducers					
	ST-H: ETFE or PVDF transducer for chemicals XRS-5: Standard transducer for applications to 8 m (26 ft)	ST-H/EchoMax XRS-5 <ul style="list-style-type: none"> • ST-H: the narrow design of the ST-H allows the sensor to be mounted using a 2 inch connection 	4/207	-	
		<ul style="list-style-type: none"> • XRS-5: narrow beam angle of only 10°, measuring range maximum 8 m (26 ft) for measurement of liquids, solids, and slurries 	4/210	-	
	Transducers for liquids and bulk solids XPS series: Hermetically sealed PVDF enclosure for chemical immunity	EchoMax XPS <ul style="list-style-type: none"> • XPS series offers versions for various distances up to 30 m (100 ft) and up to a maximum temperature of 95 °C (203 °F) 	4/214	-	

Overview

	Application	Device description	Page	Programming Software
Continuous level measurement - Radar transmitters				
	2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage vessels with nominal pressure and temperature, to a range of 20 m (66 ft).	SITRANS Probe LR <ul style="list-style-type: none"> • Uni-Construction polypropylene rod antenna standard • Process Intelligence signal processing • Auto False-Echo Suppression of false echoes 	4/232	SIMATIC PDM
	<p>SITRANS LR100: a compact radar transmitter for continuous level measurement of liquids and slurries to a range of 8 m (26 ft).</p> <p>SITRANS LR110: a compact radar transmitter for continuous level measurement of liquids, slurries, or solids to a range of 15 m (49.2 ft).</p>	SITRANS LR100 <ul style="list-style-type: none"> • 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 • 5 mm accuracy SITRANS LR110 <ul style="list-style-type: none"> • 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 • HART 7.0 or Modbus RTU communication for intelligent integration into your application • 2 mm accuracy and zero near range distance yields optimum inventory management capability 	4/236 4/238	
	Compact radar transmitter for continuous level measurement of liquids and solids to a range of 30 m (98.4 ft).	SITRANS LR120 <ul style="list-style-type: none"> • 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 • HART 7.0 or Modbus RTU (in preparation) communication for intelligent integration into your application • Submergence shield accessory prevents build up on sensor during flooding conditions • 2 mm accuracy and zero near range distance yields optimum inventory management capability 	4/241	
	<p>SITRANS LR140: a 2 wire loop powered radar transmitter for continuous level measurement of liquids and slurries to a range of 8 m (26 ft).</p> <p>SITRANS LR150: a compact radar transmitter for continuous level measurement of liquids, slurries, and solids to a range of 15 m (49.2 ft), with optional HMI.</p>	SITRANS LR140 <ul style="list-style-type: none"> • Bluetooth connectivity for easy setup with SITRANS mobile IQ. • Chemically resistant PVDF sensor. • W band FMCW radar yields narrow beam with small antenna for superior performance in short range applications. SITRANS LR150 <ul style="list-style-type: none"> • Bluetooth connectivity for easy setup with SITRANS mobile IQ. • Optional HMI with pushbutton programming and local diagnostic data. • Chemically resistant PVDF sensor. • W band FMCW radar yields narrow beam with small antenna for superior performance in short range applications. 	4/244 4/246	
	2-wire, 6 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m (66 ft).	SITRANS LR200 <ul style="list-style-type: none"> • Program without opening the lid, even in hazardous areas, using patented infrared IS handheld programmer • Special Uni-Construction hermetically sealed polypropylene rod antenna has integrated threaded connection • Built-in alphanumeric display with support in four languages 	4/249	SIMATIC PDM AMS SITRANS DTM

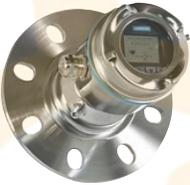
Level measurement

Product overview

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Overview

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	Application	Device description	Page	Programming Software
	2-wire, 25 GHz pulse radar level transmitter for continuous monitoring of liquids and slurries in storage and process vessels including high temperature and pressure, to a range of 20 m (66 ft); antenna designs ideal for small vessels, low dielectric media, food & beverages and corrosive/aggressive media.	SITRANS LR250 <ul style="list-style-type: none"> • Simple operation using the graphical local user interface (LUI) • Plug-and-play setup using the intuitive Quick Start Wizard • 25 GHz high frequency allows for small horn antennas and easy mounting in nozzles • Process Intelligence signal processing for improved measurement reliability and Auto False-Echo Suppression of fixed obstructions 	4/263	SIMATIC PDM AMS SITRANS DTM
	4-wire, 24 GHz FMCW radar level transmitter with extremely high signal-to-noise ratio and advanced signal processing for continuous monitoring of solids up to 100 m (328 ft); ideal for measurement in extreme dust and high temperature applications	SITRANS LR460 <ul style="list-style-type: none"> • Process Intelligence for advanced signal processing and quick and easy adjustment • Self-guided Quick Start Wizard for plug and play startup • 100 m (328 ft) range for long-range and difficult applications 	4/319	SIMATIC PDM
	2-wire, 78 GHz FMCW radar level transmitter for continuous monitoring of solids and liquids to a range of 100 m (328 ft); easy to install, plug and play, virtually no maintenance	SITRANS LR560 <ul style="list-style-type: none"> • Rugged stainless steel design • 78 GHz high frequency provides very narrow beam, virtually no mounting nozzle noise, and optimal reflection from sloped solids • Aimer option to direct beam to area of interest, such as draw point of cone • Air purge connection is included for self-cleaning of extremely sticky solids • Lens antenna is highly resistant to product buildup • Local display interface (LDI) allows local programming and diagnostics 	4/325	SIMATIC PDM AMS SITRANS DTM
Continuous level measurement - Guided wave radar transmitters				
	Guided wave radar transmitters for short- and medium-range level, level/interface, and volume measurement of liquids, slurries, and solids. The four LG models are unaffected by changes in process conditions, high temperatures and pressures, and provide a wide range of hygienic options.	SITRANS LG240/250/260/270 <ul style="list-style-type: none"> • Measures accurately on materials with dielectric (dK) as low as 1.4 • Guided wave radar measurement for up to 2 mm (0.08 inch) accuracy • Measures level, level/interface, and volume of solids, slurries, and liquids • 4 button programming for quick setup • Reliable level measurement on harsh applications with pressure up to 400 bar g (40 000 kPa) and temperatures as high as 450 °C (842 °F) 	4/332	SIMATIC PDM SITRANS DTM
Continuous level measurement - Capacitance transmitters				
	For liquids and solids applications, ideal for standard industrial applications in chemical, hydrocarbon processing, food and beverage, and mining, aggregate and cement industries.	SITRANS LC300 <ul style="list-style-type: none"> • Sophisticated, but easy-to-adjust microprocessor combined with field-proven probes • Active shield technology ensures measurements are unaffected by vapors, product deposits, dust, and condensation 	4/375	-
Communications				
		SmartLinX Module <ul style="list-style-type: none"> • Optional communication modules, SmartLinX, provide direct digital connection to popular industrial fieldbus systems 	4/390	-

Overview

Continuous Level						
Conditions	Ultrasonic	Radar	Guided Wave Radar	Capacitance	Gravimetric	Hydrostatic pressure
Measurement						
Level	■	■	■	■	◆	■
Interface (liquid/liquid)			■	◆		■
Interface (liquid/solid)	◆			◆		
Volume	■	■	■	◆	◆	■
Mass					■	■
Flow (open channel)	■	◆				
Level Applications						
Changing density	■	■	■	■		
Changing dielectric	■	■	■	◆	■	■
Aggressive chemicals	■	■	■	■	■	■
Pressure/vacuum		■	■	■	■	■
High temperature		■	■	■	■	■
Cryogenic			■		■	
Turbulence	■	■	◆	◆	■	■
Steam		◆	■	◆	■	■
Hydrocarbon vapors/solvents		■	■	■	■	■
Foam	◆	◆	◆	◆	■	■
Buildup	◆	◆	◆	◆	■	◆
High viscosity	■	■	◆	◆	■	■
Dust	◆	■	■	■	■	■
Solids powders	◆	■	◆	◆	■	■
Solids granules/pellets < 25 mm (1 inch)	■	■	◆	◆	■	■
Solids > 25 mm (1 inch)	■	■			■	■
High angle of repose	◆	■	■	◆	■	
■ preferred ◆ condition dependent						

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Level measurement

Product overview

Level Measurement Selector

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Point Level				
Conditions	Vibration	Capacitance	Paddle	Ultrasonic
Measurement				
Level	■	■	■	■
Interface (liquid/liquid)		■		
Interface (liquid/solid)	◆			
Volume				
Mass				
Flow (open channel)				
Level Applications				
Changing density	■	■	■	■
Changing dielectric	■	◆	■	■
Aggressive chemicals	■	■	◆	■
Pressure/vacuum	■	■	■	
High temperature	■	■	■	
Cryogenic	■			
Turbulence	◆	◆		■
Steam	■	◆	■	
Hydrocarbon vapors/solvents	■	◆		
Foam	◆	◆		◆
Buildup	◆	◆	■	◆
High viscosity	◆	◆	◆	■
Dust	■	■	■	◆
Solids powders	■	◆	■	◆
Solids granules/pellets < 25 mm (1 inch)	■	◆	■	■
Solids > 25 mm (1 inch)	◆	◆	■	■
High angle of repose	■	■	■	◆

- preferred
- ◆ condition dependent

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