

Overview



SITRANS LC300 is an inverse frequency shift capacitance continuous level transmitter for liquids and solids applications. It is ideal for standard industrial applications in chemical, hydrocarbon processing, food and beverage, water, wastewater, and mining, aggregate, and cement industries.

Benefits

- Patented Active-Shield technology so measurement is unaffected by material buildup in active shield section
- Highly accurate and reliable PFA-lined probes
- Integrated local LCD display
- 2-wire (4 to 20 mA) current loop design
- Current signalling according to NAMUR NE 43
- Push-button calibration and programming
- Stilling well (ground tube) version for low dielectric media and non-metallic vessels

Application

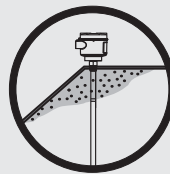
SITRANS LC300 is a 2-wire level measurement instrument combining a sophisticated, yet easy-to-adjust microprocessor with field-proven probes. It is available in four versions: rod, rod with stilling well, cable with PFA insulation, and cable without PFA insulation.

Materials with low or high dielectric properties are accurately measured and patented Active-Shield technology helps in ignoring the effects of buildup or condensation near vessel nozzle.

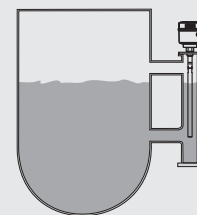
- Key Applications: Conductive and non-conductive media including: liquids and solids in standard industrial processes, bulk solids applications involving dust, and chemical processes involving vapour

Configuration

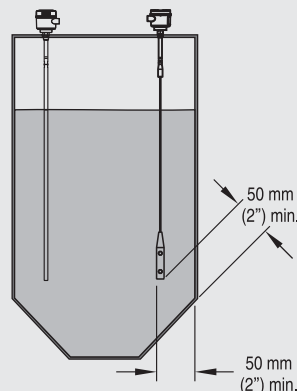
Installation



Build up of material or condensation in active shield area does not affect operation.



Mounting on a bypass



Install probe at least 50 mm (2") from tank wall. Note angle of repose and adjust accordingly.

SITRANS LC300 installation

Technical specifications

Input

Measuring range	1.66 to 3300 pF
Span	Min. 3.3 pF

Output

Loop current	Continuous signal 4 to 20 mA/20 to 4 mA according to NAMUR 43
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Accuracy (transmitter)

Temperature stability	0.25% of actual capacitance value
Non-linearity and repeatability	< 0.4% of full scale and actual measurement value
Accuracy	Deviation < 0.5% of actual measurement value

Rated operating conditions¹⁾

Ambient conditions

• Ambient temperature	-40 to +85 °C (-40 to +185 °F) ²⁾
• Installation category	I
• Pollution degree	4
• Ingress protection	Type 4/NEMA 4/IP65 (optional IP68)

Installation conditions

• Location	Indoor/outdoor
Process pressure	-1 to +35 bar g (-14.6 to +511 psi g)
Process temperature	-40 to +200 °C (-40 to +392 °F) ³⁾
Min. dielectric constant ϵ_r	1.5

Design

Material	Aluminum, epoxy-coated
• Enclosure	
Probe diameter	
• Rod version	19 mm (0.75") with PFA jacket
• Cable version	9 mm (0.35") with PFA jacket, 6 mm (0.24") without PFA jacket
Active shield length	
• Rod version	threaded: 120 mm (4.72") flanged: 100 mm (3.94")
• Cable version	threaded: 125 mm (4.92") flanged: 105 mm (4.13")
Process connection of probe	
• Threaded rod mounting	$\frac{3}{4}$ ", 1", 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " NPT [(Taper), ANSI/ASME B1.20.1] R $\frac{3}{4}$ ", 1", 1 $\frac{1}{2}$ " [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] G $\frac{3}{4}$ ", 1", 1 $\frac{1}{2}$ " [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]
• Threaded cable mounting	1 $\frac{1}{2}$ " NPT [(Taper), ANSI/ASME B1.20.1] R 1 $\frac{1}{2}$ " [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] G 1 $\frac{1}{2}$ " [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]
• Flange mounting	1 to 4" ASME, DN 25 to 100
Enclosure cable inlet	2 x $\frac{1}{2}$ " NPT or 2 x M20x1.5
Power supply	12 to 30 V DC any polarity, 2-wire current loop circuit

User Interface

Display	Local LCD, 4 digit, each 0 to 9 and limited alpha characters
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Safety

Measurement current signalling	According to NAMUR NE 43, signal 3.8 to 20.5 mA, fault \leq 3.6 or \geq 21 mA (22 mA)
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Certificates and approvals

• General	CE, CSA _{US/C} , FM, C-TICK (Europe)
• Dust Ignition Proof (Intrinsically Safe probe circuit)	ATEX II 1/2 D T100 °C (US/Canada) FM/CSA: Class II, Div. 1, Groups E,F,G Class III T4
• Flame Proof (Intrinsically Safe probe circuit)	(Europe) ATEX II 1/2 G EEx d [ia] IIC T6...T1 ATEX II 1/2 D T100 °C (US/Canada)
• Explosion Proof (Intrinsically Safe probe circuit)	Class I, Div. 1, Groups A,B,C,D Class II, Div. 1, Groups E,F,G Class III T4
• Marine	Bureau Veritas Type Approval ABS Type Approval
• Overfill Protection	AIB-Vincotte
• Other	Pattern Approval (China)

¹⁾ When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also Pressure/Temperature curves on page 5/16.

²⁾ Thermal isolator is used if process connection temperature exceeds +85 °C (+185 °F)

³⁾ Direct steam exposure can cause PFA insulation break down

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Design: Probe			
	Rod version	Stilling well version	Cable version
Length	Min. 300 mm (12"), max. 5000 mm (197")	Min. 300 mm (12"), max. 5000 mm (197")	Min. 1000 mm (40"), max. 25000 mm (984")
Sensor wetted parts	PFA, 316L stainless steel	PFA, 316L stainless steel	316L stainless steel or 316L stainless steel with PFA insulation
O-ring seal material	FKM or FFKM	FKM or FFKM	FKM or FFKM
Thermal isolator	Optional	Optional	Optional
Options	N/A	N/A	Mounting eye for PFA insulated cable version

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

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Selection and Ordering data	Order No.
SITRANS LC300, rod version	7 ML 5 6 7 0 -
An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.	■ ■ ■ ■ ■ - ■ ■ ■ ■ 0
Process Connection	
<u>Threaded, 316L stainless steel</u>	
¾" NPT [(Taper), ANSI/ASME B1.20.1]	0 A
1" NPT [(Taper), ANSI/ASME B1.20.1]	0 B
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	0 C
1½" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 A
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 B
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 A
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 B
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
<u>Welded flange, 316L stainless steel, raised face¹⁾</u>	
1" ASME, 150 lb	5 A
1" ASME, 300 lb	5 B
1" ASME, 600 lb	5 C
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced¹⁾</u>	
DN 25, PN 16	6 A
DN 25, PN 40	6 B
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
Probe Length (from flange face or including process thread)	
<u>Add order code Y01 and plain text: "Insertion length ... mm"</u>	
300 to 1000 mm (11.81 to 39.37")	A
1001 to 2000 mm (39.41 to 78.74")	B
2001 to 3000 mm (78.78 to 118.11")	C
3001 to 4000 mm (118.15 to 157.48")	D
4001 to 5000 mm (157.52 to 196.85")	E
Thermal Isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over +85 °C (+185 °F)]	1

Selection and Ordering data	Order No.
SITRANS LC300, rod version	7 ML 5 6 7 0 -
An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.	■ ■ ■ ■ ■ - ■ ■ ■ ■ 0
Wetted Seals	
FKM	0
FFKM [for process temperatures above -20 °C (-4 °F)]	1
Probe Material	
19 mm (0.75") diameter 316L stainless steel, PFA lined rod	0
Approvals	
General Safety (CSA, FM, CE, C-TICK)	A
Dust Ignition Proof With IS Probe CE, C-TICK, ATEX II 1/2 D T100 °C	B
Flame Proof Enclosure With IS Probe CE, C-TICK, ATEX II 1/2 G EEx d [ia] IIC T6...T1, ATEX II 1/2 D T100 °C	C
Dust Ignition Proof With IS Probe CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	D
Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Gr. A, B, C, D CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	E
Enclosure	
Aluminum epoxy coated 2 x ½" NPT via adapter - cable inlet, IP65	A
Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP65	B
Aluminum epoxy coated 2 x ½" NPT via adapter - cable inlet, IP68	C
Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP68	D
Further designs	Order code
Please add "-Z" to Order No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	Y15
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions	Order No.
English	7ML1998-5HE02
French	7ML1998-5HE11
German	7ML1998-5HE32
Spanish	7ML1998-5HE21
Note: The Operating Instructions should be ordered as a separate line item on the order.	
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Selection and Ordering data	Order No.
SITRANS LC300, rod version	7ML5670 -
An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.	0
Accessories	
Electronic transmitter kit (includes transmitter and driver)	C) 7ML1830-1KN
SITRANS RD100 Remote display - see RD100 on page 5/305	
SITRANS RD200 Remote display - see RD200 on page 5/307	
SITRANS RD500 Remote display - see RD500 on page 5/311	

¹⁾ Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.

C) Subject to export regulations AL: N, ECCN: EAR99

Selection and Ordering data	Order No.
SITRANS LC300, stilling well version	7ML5671 -
An inverse frequency shift capacitance continuous level transmitter for liquid applications.	0
Process Connection	
<u>Threaded, 316L stainless steel</u>	
1½" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
<u>Welded flange, 316L stainless steel, raised face¹⁾</u>	
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced¹⁾</u>	
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
Probe Length (from flange face or including process thread)	
<u>Add order code Y01 and plain text: "Insertion length ... mm"</u>	
300 to 1000 mm (11.81 to 39.37")	A
1001 to 2000 mm (39.41 to 78.74")	B
2001 to 3000 mm (78.78 to 118.11")	C
3001 to 4000 mm (118.15 to 157.48")	D
4001 to 5000 mm (157.52 to 196.85")	E
Thermal Isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over +85 °C (+185 °F)]	1

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Selection and Ordering data	Order No.
SITRANS LC300, stilling well version An inverse frequency shift capacitance continuous level transmitter for liquid applications.	7ML 5 6 7 1 - - - - - - 0
Wetted Seals FKM FFKM [for process temperatures above -20 °C (-4 °F)]	0 1
Probe Material 35 mm (1.38") diameter stilling well, with 19 mm (0.75") diameter 316L stainless steel, PFA lined rod with PTFE spacers	1
Approvals General Safety (CSA, FM, CE, C-TICK) Dust Ignition Proof With IS Probe CE, C-TICK, ATEX II 1/2 D T100 °C Flame Proof Enclosure With IS Probe CE, C-TICK, ATEX II 1/2 G EEx d [ia] IIC T6...T1, ATEX II 1/2 D T100 °C Dust Ignition Proof With IS Probe CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4 Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Gr. A, B, C, D CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	A B C D E
Enclosure Aluminum epoxy coated 2 x 1/2" NPT via adapter - cable inlet, IP65 Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP65 Aluminum epoxy coated 2 x 1/2" NPT via adapter - cable inlet, IP68 Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP68	A B C D
Further designs	Order code
Please add "-Z" to Order No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	Y15
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 Inspection Certificate Type 3.1 per EN 10204	C11 C12
Operating Instructions English French German Spanish Note: The Operating Instructions should be ordered as a separate line item on the order. This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. 7ML1998-5HE02 7ML1998-5HE11 7ML1998-5HE32 7ML1998-5HE21

Selection and Ordering data	Order No.
SITRANS LC300, stilling well version An inverse frequency shift capacitance continuous level transmitter for liquid applications.	7ML 5 6 7 1 - - - - - - 0
Accessories Electronic transmitter kit (includes transmitter and driver) SITRANS RD100 Remote display - see RD100 on page 5/305 SITRANS RD200 Remote display - see RD200 on page 5/307 SITRANS RD500 Remote display - see RD500 on page 5/311	C) 7ML1830-1KN

1) Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.

C) Subject to export regulations AL: N, ECCN: EAR99

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Selection and Ordering data	Order No.
SITRANS LC300, cable version	7 ML 5 6 7 2 -
An inverse frequency shift capacitance continuous level transmitter for non-conductive liquids and solids applications.	- - - - - 0
Process Connection	
<u>Threaded, 316L stainless steel</u>	
1½" NPT [(Taper), ANSI/ASME B1.20.1]	0 D
R 1½" [(BSP), EN 10226/PT (JIS-T), JIS B 0203]	1 D
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	3 D
<u>Welded flange, 316L stainless steel, raised face¹⁾</u>	
1½" ASME, 150 lb	5 D
1½" ASME, 300 lb	5 E
1½" ASME, 600 lb	5 F
2" ASME, 150 lb	5 G
2" ASME, 300 lb	5 H
2" ASME, 600 lb	5 J
3" ASME, 150 lb	5 K
3" ASME, 300 lb	5 L
3" ASME, 600 lb	5 M
4" ASME, 150 lb	5 N
4" ASME, 300 lb	5 P
4" ASME, 600 lb	5 Q
<u>Welded flange, 316L stainless steel, Type A flat faced¹⁾</u>	
DN 40, PN 16	6 C
DN 40, PN 40	6 D
DN 50, PN 16	6 E
DN 50, PN 40	6 F
DN 80, PN 16	6 G
DN 80, PN 40	6 H
DN 100, PN 16	6 J
DN 100, PN 40	6 K
Probe Length (from flange face or including process thread)	
<u>Add order code Y01 and plain text: "Insertion length ... mm"</u>	
1000 to 2000 mm (39.37 to 78.74")	A
2001 to 4000 mm (78.78 to 157.48")	B
4001 to 6000 mm (157.52 to 236.22")	C
6001 to 8000 mm (236.26 to 314.96")	D
8001 to 10000 mm (315.00 to 393.70")	E
10001 to 12000 mm (393.74 to 472.44")	F
12001 to 14000 mm (472.48 to 551.18")	G
14001 to 16000 mm (551.22 to 629.92") ²⁾	H
16001 to 18000 mm (629.96 to 708.66") ²⁾	J
18001 to 20000 mm (708.70 to 787.40") ²⁾	K
20001 to 22000 mm (787.44 to 866.14") ²⁾	L
22001 to 24000 mm (866.18 to 944.88") ²⁾	M
24001 to 25000 mm (944.92 to 984.25") ²⁾	N
Thermal Isolator	
Without thermal isolator	0
With thermal isolator [for process connection temperatures over +85 °C (+185 °F)]	1

Selection and Ordering data	Order No.
SITRANS LC300, cable version	7 ML 5 6 7 2 -
An inverse frequency shift capacitance continuous level transmitter for non-conductive liquids and solids applications.	- - - - - 0
Wetted Seals	
FKM	0
FFKM [for process temperatures above -20 °C (-4 °F)]	1
Probe Material	
Bare 316L stainless steel cable and 316L stainless steel cable weight, tinned copper crimp, PTFE backing ring, PEEK isolator and PFA lined active shield	0
Approvals	
General Safety (CSA, FM, CE, C-TICK)	A
Dust Ignition Proof With IS Probe CE, C-TICK, ATEX II 1/2 D T100 °C	B
Flame Proof Enclosure With IS Probe CE, C-TICK, ATEX II 1/2 G EEx d [ia] IIC T6...T1, ATEX II 1/2 D T100 °C	C
Dust Ignition Proof With IS Probe CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	D
Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Gr. A, B, C, D CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	E
Enclosure	
Aluminum epoxy coated 2 x ½" NPT via adapter - cable inlet, IP65	A
Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP65	B
Aluminum epoxy coated 2 x ½" NPT via adapter - cable inlet, IP68	C
Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP68	D
Further designs	Order code
Please add "-Z" to Order No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	Y15
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000	C11
Inspection Certificate Type 3.1 per EN 10204	C12
Operating Instructions	Order No.
English	7ML1998-5HE02
French	7ML1998-5HE11
German	7ML1998-5HE32
Spanish	7ML1998-5HE21
Note: The Operating Instructions should be ordered as a separate line item on the order.	
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Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Selection and Ordering data

Order No.

SITRANS LC300, cable version

7ML5672 -

An inverse frequency shift capacitance continuous level transmitter for non-conductive liquids and solids applications.

0

Accessories

Electronic transmitter kit (includes transmitter and driver)
SITRANS RD100 Remote display - see RD100 on page 5/305
SITRANS RD200 Remote display - see RD200 on page 5/307
SITRANS RD500 Remote display - see RD500 on page 5/311

C) 7ML1830-1KN

- 1) Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
2) Cable lengths from 15000 (590.55") to 25000 mm (984.25") can be used in non-conductive media. Contact Factory for assistance.
C) Subject to export regulations AL: N, ECCN: EAR99

Selection and Ordering data

Order No.

SITRANS LC300, PFA coated cable version

7ML5673 -

An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.

0

Process Connection

Threaded, 316L stainless steel

1½" NPT [(Taper), ANSI/ASME B1.20.1]
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]

0 D
1 D
3 D

Welded flange, 316L stainless steel, raised face¹⁾

1½" ASME, 150 lb
1½" ASME, 300 lb
1½" ASME, 600 lb

5 D
5 E
5 F

2" ASME, 150 lb
2" ASME, 300 lb
2" ASME, 600 lb

5 G
5 H
5 J

3" ASME, 150 lb
3" ASME, 300 lb
3" ASME, 600 lb

5 K
5 L
5 M

4" ASME, 150 lb
4" ASME, 300 lb
4" ASME, 600 lb

5 N
5 P
5 Q

Welded flange, 316L stainless steel, Type A flat faced¹⁾

DN 40, PN 16
DN 40, PN 40
DN 50, PN 16
DN 50, PN 40
DN 80, PN 16
DN 80, PN 40
DN 100, PN 16
DN 100, PN 40

6 C
6 D
6 E
6 F
6 G
6 H
6 J
6 K

Probe Length (from flange face or including process thread)

Add order code Y01 and plain text: "Insertion length ... mm"

1000 to 2000 mm (39.37 to 78.74")
2001 to 4000 mm (78.78 to 157.48")
4001 to 6000 mm (157.52 to 236.22")

A
B
C

6001 to 8000 mm (236.26 to 314.96")
8001 to 10000 mm (315.00 to 393.70")
10001 to 12000 mm (393.74 to 472.44")

D
E
F

12001 to 14000 mm (472.48 to 551.18")
14001 to 16000 mm (551.22 to 629.92")²⁾
16001 to 18000 mm (629.96 to 708.66")²⁾

G
H
J

18001 to 20000 mm (708.70 to 787.40")²⁾
20001 to 22000 mm (787.44 to 866.14")²⁾
22001 to 24000 mm (866.18 to 944.88")²⁾

K
L
M

24001 to 25000 mm (944.92 to 984.25")²⁾

N

Thermal Isolator

Without thermal isolator
With thermal isolator [for process connection temperatures over +85 °C (+185 °F)]

0
1

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Selection and Ordering data	Order No.
SITRANS LC300, PFA coated cable version An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.	7 ML 5 6 7 3 -
Wetted Seals FKM FFKM [for process temperatures above -20 °C (-4 °F)]	0 1
Probe Material PFA coated cable and 316L stainless steel cable weight, PEEK isolator and PFA lined active shield	1
Approvals General Safety (CSA, FM, CE, C-TICK) Dust Ignition Proof With IS Probe CE, C-TICK, ATEX II 1/2 D T100 °C Flame Proof Enclosure With IS Probe CE, C-TICK, ATEX II 1/2 G EEx d [Ia] IIC T6...T1, ATEX II 1/2 D T100 °C Dust Ignition Proof With IS Probe CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4 Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Gr. A, B, C, D CSA/FM Class II, Div. 1, Gr. E, F, G CSA/FM Class III T4	A B C D E
Enclosure Aluminum epoxy coated 2 x 1/2" NPT via adapter - cable inlet, IP65 Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP65 Aluminum epoxy coated 2 x 1/2" NPT via adapter - cable inlet, IP68 Aluminum epoxy coated 2 x M20 x 1.5 cable inlet, IP68	A B C D
Mounting eye Without Mounting eye With mounting eye	0 1
Further designs	Order code
Please add "-Z" to Order No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	Y01
Stainless steel tag [69 x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	Y15
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 Inspection Certificate Type 3.1 per EN 10204	C11 C12
Operating Instructions English French German Spanish Note: The Operating Instructions should be ordered as a separate line item on the order. This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	Order No. 7ML1998-5HE02 7ML1998-5HE11 7ML1998-5HE32 7ML1998-5HE21

Selection and Ordering data	Order No.
SITRANS LC300, PFA coated cable version An inverse frequency shift capacitance continuous level transmitter for liquids and solids applications.	7 ML 5 6 7 3 -
Accessories Electronic transmitter kit (includes transmitter and driver) SITRANS RD100 Remote display - see RD100 on page 5/305 SITRANS RD200 Remote display - see RD200 on page 5/307 SITRANS RD500 Remote display - see RD500 on page 5/311	C) 7ML1830-1KN

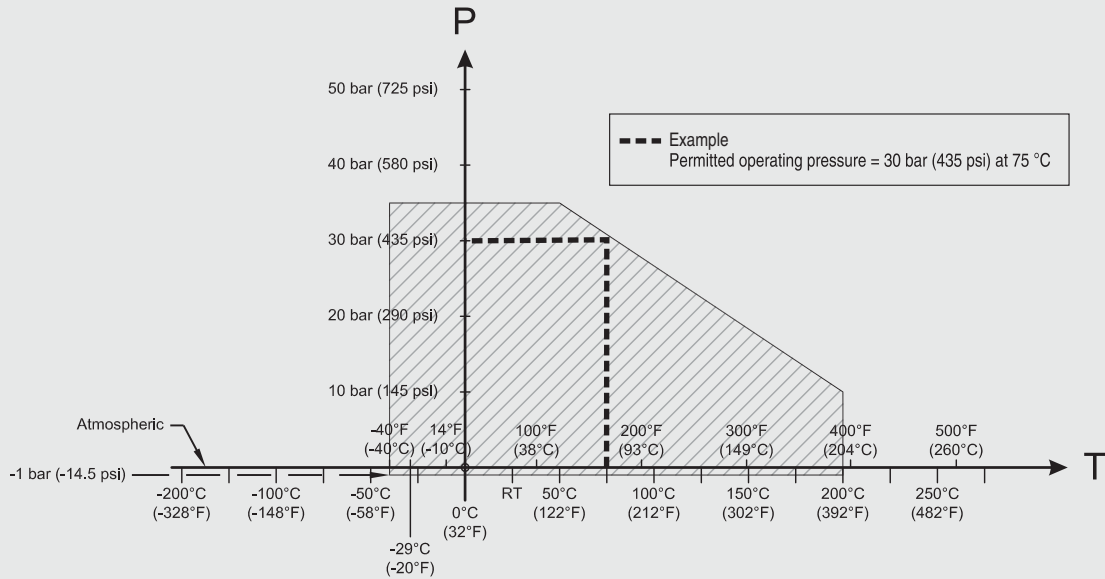
- 1) Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
 - 2) Cable lengths from 15000 (590.55') to 25000 mm (984.25') can be used in non-conductive media. Contact Factory for assistance.
- C) Subject to export regulations AL: N, ECCN: EAR99

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Characteristic curves

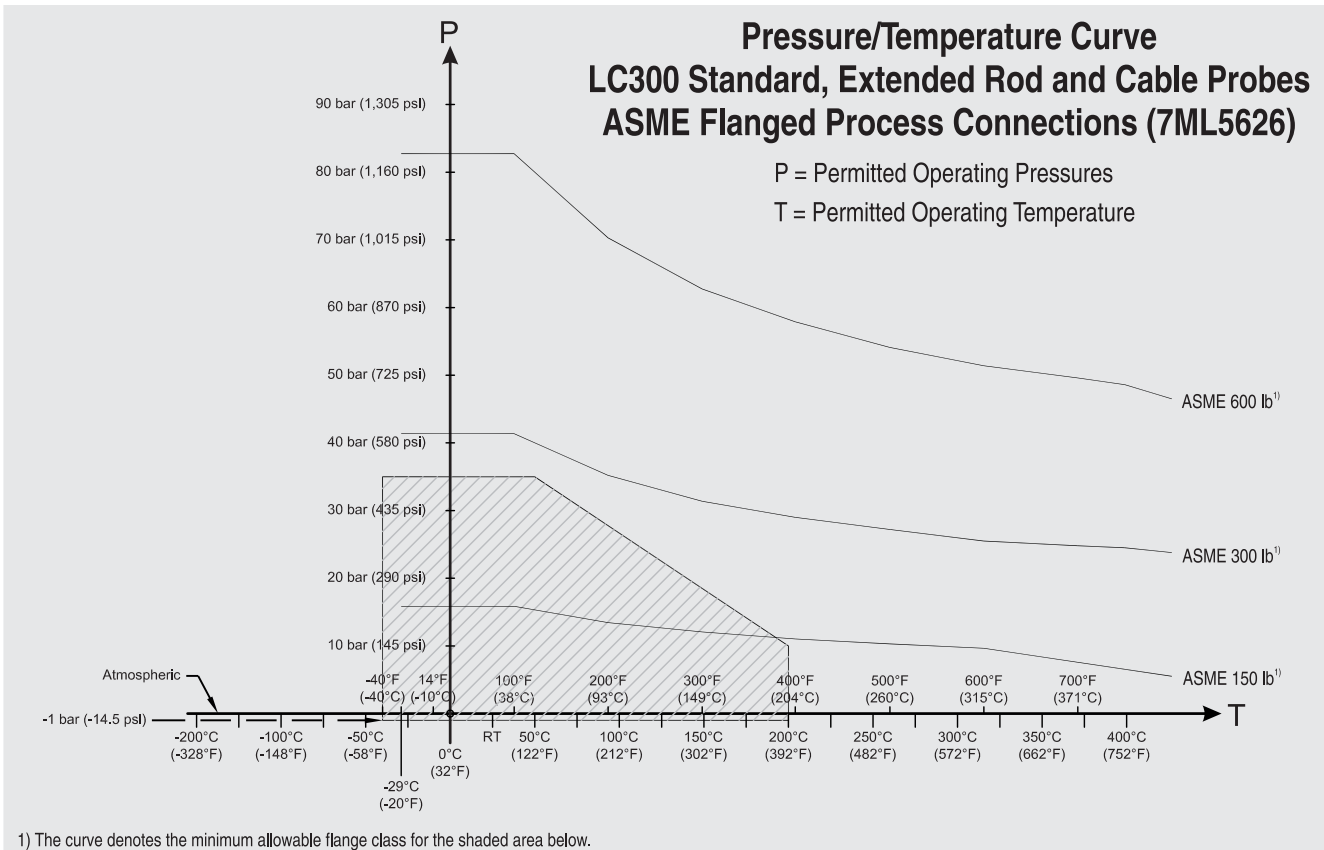


Pressure/Temperature Curve LC300 Standard, Extended Rod and Cable Probes Threaded Process Connections (7ML5625)

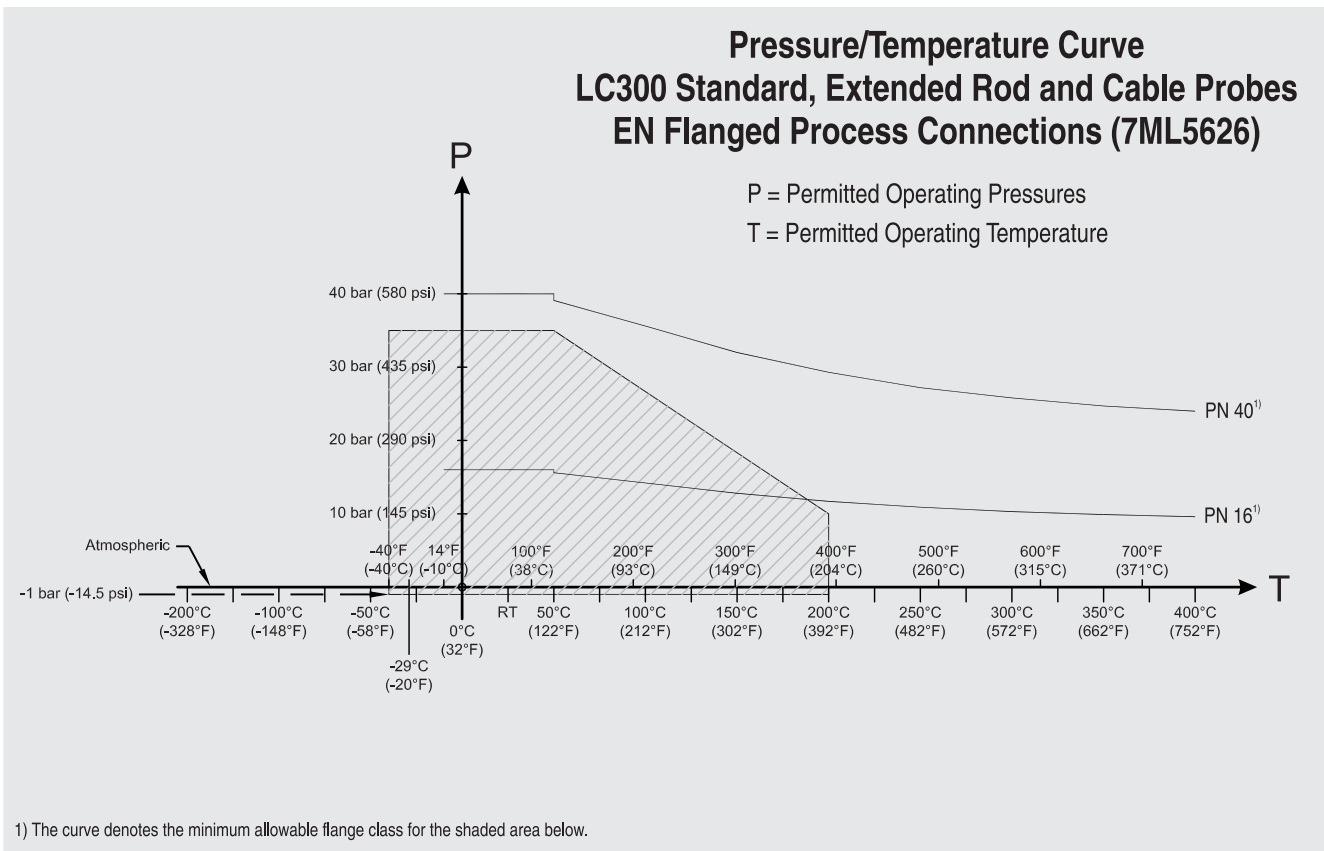
P = Permitted Operating Pressures

T = Permitted Operating Temperature

SITRANS LC300 Process Pressure/Temperature derating curves (7ML5625)



SITRANS LC300 Process Pressure/Temperature derating curves (7ML5626)



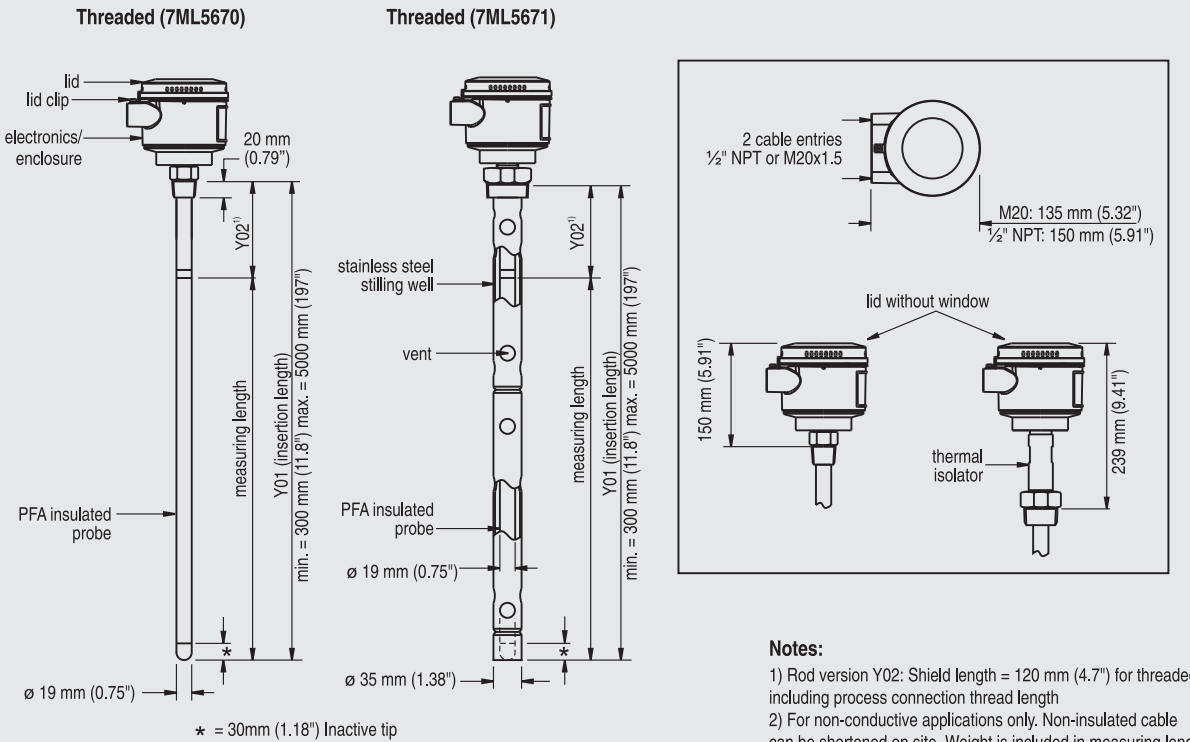
SITRANS LC300 Process Pressure/Temperature derating curves (7ML5626)

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Dimensional drawings

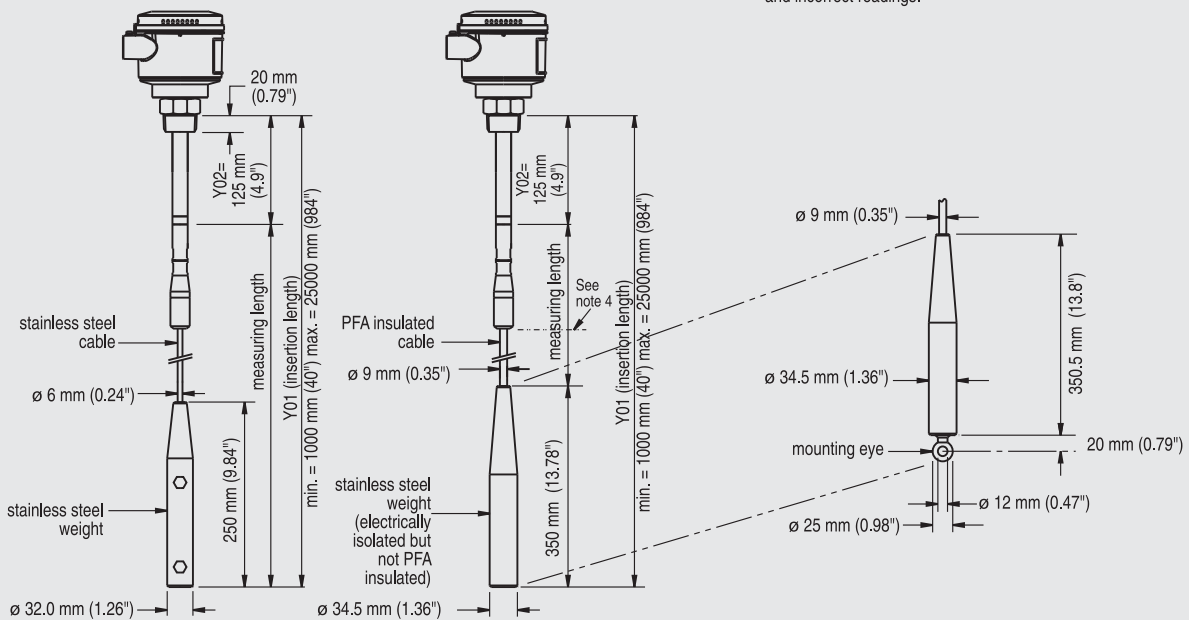


Notes:

- 1) Rod version Y02: Shield length = 120 mm (4.7") for threaded including process connection thread length
- 2) For non-conductive applications only. Non-insulated cable can be shortened on site. Weight is included in measuring length.
- 3) For liquids and solids applications. Insulated cable cannot be shortened. Weight is **not** included in measuring length.
- 4) For conductive materials, the measuring length includes the exposed PFA insulated cable only. Any fluid contact with the upper rod assembly will result in a short circuit and incorrect readings.

Cable version, non-insulated³⁾
Threaded (7ML5672)

Cable version, insulated³⁾
Threaded (7ML5673)



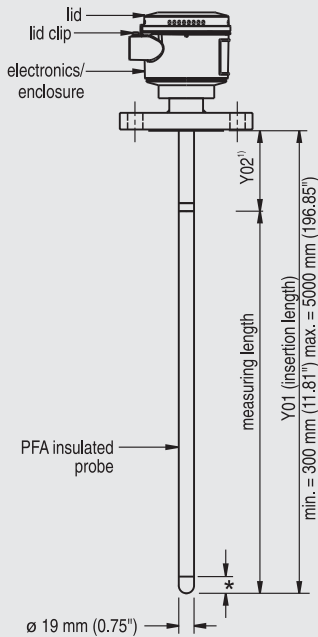
SITRANS LC300 dimensions - Threaded Process Connections

Level instruments

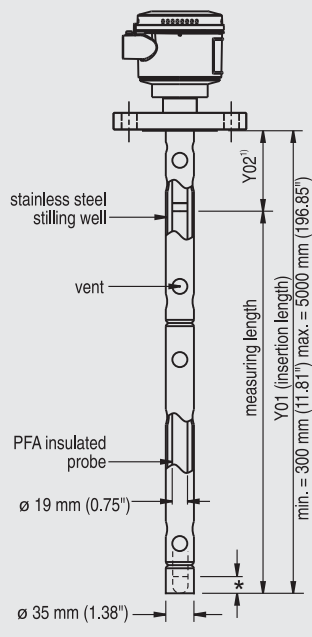
Continuous level measurement - Capacitance transmitters

SITRANS LC300

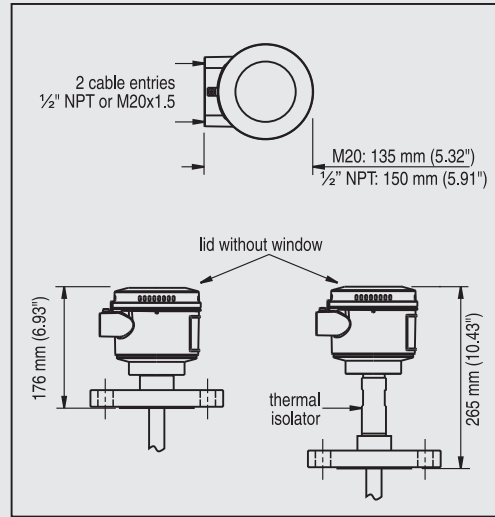
Welded Flange (7ML5670)



Welded Flange (7ML5671)

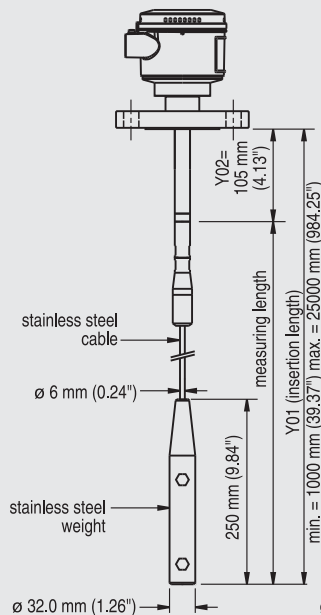


* = 30 mm (1.18") Inactive tip

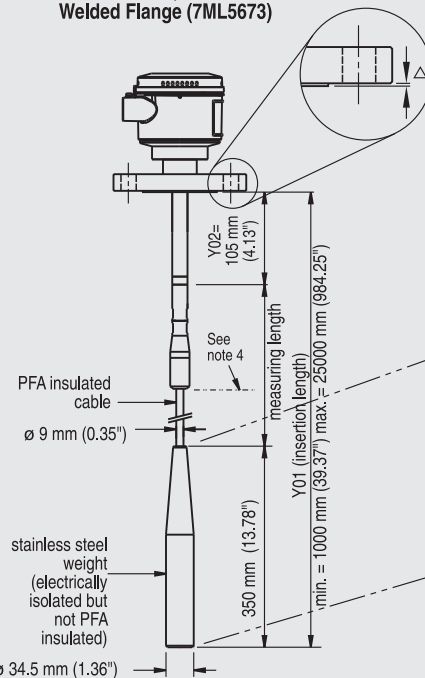


Flange Facing (raised face)	
Flange Class	Facing thickness
△ ASME 150/300	2 mm (0.08")
△ ASME 600/900	7 mm (0.28")
△ PN 16/40	2 mm (0.08")

Cable version, non-insulated²⁾
Welded flange (7ML5672)

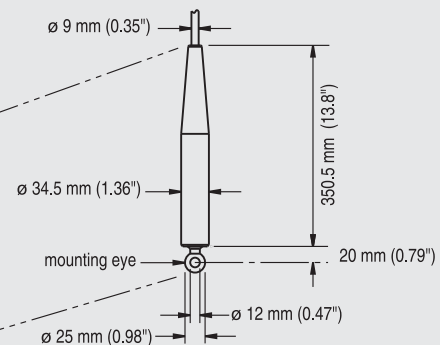


Cable version, insulated³⁾
Welded Flange (7ML5673)



Notes:

- 1) Rod version Y02: Shield length= 100 mm (3.9")
- 2) For non-conductive applications only. Non insulated cable can be shortened on site. Weight is included in measuring length.
- 3) For liquids and solids applications. Insulated cable cannot be shortened. Weight is **not** included in measuring length.
- 4) For conductive materials, the measuring length includes the exposed PFA insulated cable only. Any fluid contact with the upper rod assembly will result in a short circuit and incorrect readings.



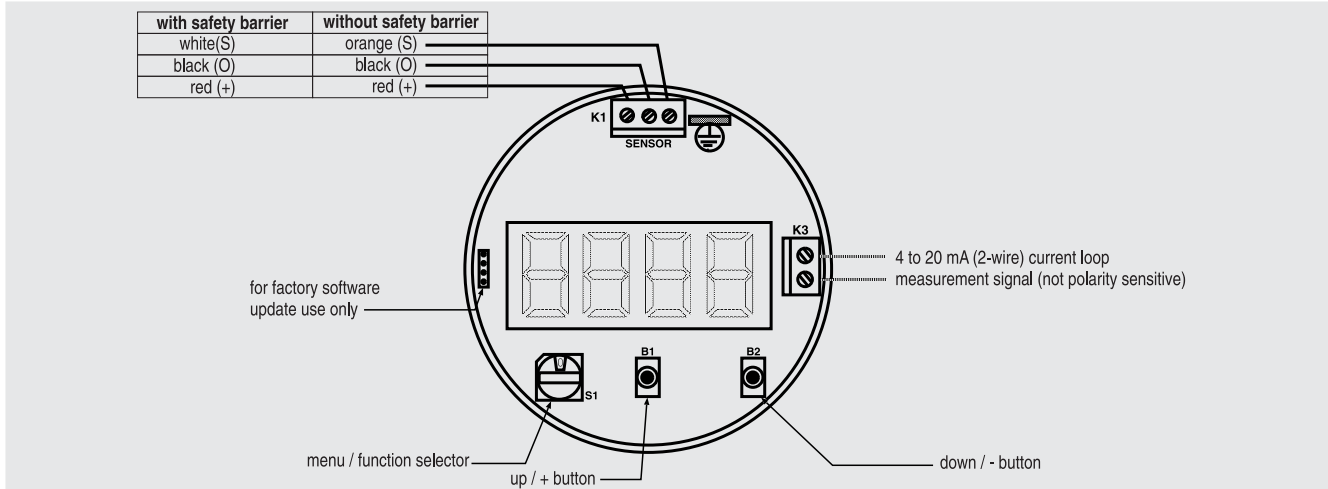
SITRANS LC300 dimensions - Flanged Process Connections

Level instruments

Continuous level measurement - Capacitance transmitters

SITRANS LC300

Schematics



SITRANS LC300 connections