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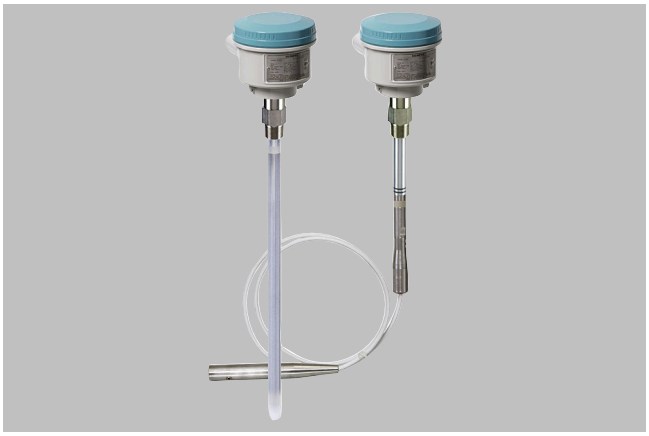
Overview



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

Benefits

- 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 signaling according to NAMUR NE 43
- Push-button calibration and programming
- Stilling well (ground tube) version for low dielectric media, agitated materials, 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 Active-Shield technology helps in ignoring the effects of buildup or condensation near vessel nozzle.

- Key Applications: conductive (dK ≥ 20) and non-conductive (dK < 20) media including: liquids and solids in standard industrial processes, bulk solids applications involving dust, and chemical processes involving vapor

Probe Applications	
Rod version	Conductive liquids, slurries or solids
Rod version with stilling well	• Conductive liquids or slurries in non-conductive tanks • Non-conductive liquids in non-conductive tanks • Tanks with agitation or turbulent liquids • Liquids with a dielectric constant below 2 • Non-linear tanks, such as parabolic or spherical tanks • Interface measurements
Cable version	Non-conductive solids or liquids
PFA coated cable version	Conductive or sticky liquids, slurries or solids

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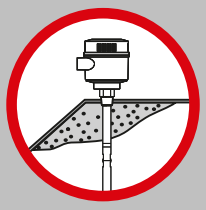
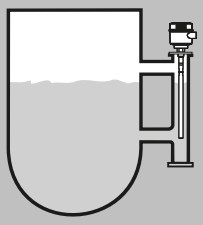
Configuration

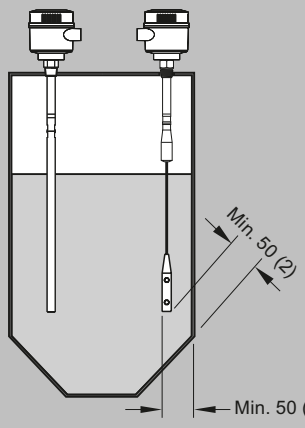
Installation



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



Mounting on a bypass



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

SITRANS LC300 installation, dimensions in mm (inch)

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Selection and ordering data

SITRANS LC300 Capacitance level transmitter, rod design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 5 m (16.40 ft).	Article No. 7ML560-	●	●	●	●	●	-	●	●	●	0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.											
Process connection											
Threaded, 316L stainless steel											
¾" NPT [(Taper), ASME B1.20.1]		0	A								
1" NPT [(Taper), ASME B1.20.1]		0	B								
1¼" NPT [(Taper), ASME B1.20.1]		0	C								
1½" NPT [(Taper), 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								
Welded flange, 316L stainless steel, raised face [1]											
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								
Welded flange, 316L stainless steel, Type A flat faced [1]											
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								
Sanitary, hastelloy, duplex or other custom process connections available. Please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app .											
Probe Length (from flange face or including process thread)											
Add Order code Y01 and plain text: "Insertion length ... mm"											
300 ... 1 000 mm (11.81 ... 39.37 inch)				A							
1 001 ... 2 000 mm (39.41 ... 78.74 inch)				B							
2 001 ... 3 000 mm (78.78 ... 118.11 inch)				C							
3 001 ... 4 000 mm (118.15 ... 157.48 inch)				D							
4 001 ... 5 000 mm (157.52 ... 196.85 inch)				E							
Bent probes also available. Please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.											
Thermal isolator											
Without thermal isolator					0						
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]					1						

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Selection and ordering data (continued)

SITRANS LC300 Capacitance level transmitter, rod design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 5 m (16.40 ft).	Article No. 7ML560-	●	●	●	●	●	-	●	●	●	0
Wetted seals											
FKM						0					
FFKM [for process temperatures above -20 °C (-4 °F)[2]]						1					
Probe material											
19 mm (0.75 inch) diameter 316L stainless steel, PFA lined rod								0			
Approvals											
General Safety CSA, FM, CE, UKCA, RCM									A		
Dust Ignition Proof with IS Probe CE, UKCA, RCM, ATEX, UKEX II 1/2D Ex ia/tb									B		
Flameproof Enclosure with IS Probe CE, UKCA, RCM, ATEX, UKEX II 1/2G Ex ia/db; ATEX, UKEX II 1/2D Ex ia/tb									C		
Dust Ignition Proof with IS Probe CSA/ FM Class II, III Div. 1Gr. E, F, G T4									D		
Explosion Proof Enclosure with IS Probe CSA/ FM Class I, II, III Div. 1 Gr. A, B, C, D, E, F, G 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	
Stainless steel, contact local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.											

[1] Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
[2] Not available with FM approvals.

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	**Y01**
Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	**Y15**
Manufacturer's Test Certificate: M to DIN 55350, Part 18 and to ISO 9000	**C11**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
INMETRO[1]	**E34**

Accessories	Article No.
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	
Electronic transmitter kit (includes transmitter and driver)	**7ML1830-1KN**
SITRANS RD100, loop powered display - see Chapter 7	**7ML5741-.....-.**
SITRANS RD150, remote digital display for 4 ... 20 mA and HART devices - see Chapter 7	**7ML5742-.....-....**
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	**7ML5740-.....-..**
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	**7ML5744-.....-..**
For applicable back up point level switch - see point level measurement section	

[1] Available only with Approvals options A and B.

SITRANS LC300 Capacitance level transmitter, stilling well design Continuous, contact, monitors level or interface in liquids. Extension options up to 5 m (16.40 ft).	Article No. 7ML5671-	●	●	●	●	●	-	●	●	●	0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.											
Process connection											
Threaded, 316L stainless steel											
1½" NPT [(Taper), 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								
Welded flange, 316L stainless steel, raised face [1]											
1½" ASME, 150 lb		5	D								
1½" ASME, 300 lb		5	E								
1½" ASME, 600 lb		5	F								

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Selection and ordering data (continued)

SITRANS LC300 Capacitance level transmitter, stilling well design Continuous, contact, monitors level or interface in liquids. Extension options up to 5 m (16.40 ft).	Article No. 7ML5671-	●	●	●	●	●	-	●	●	●	0
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								
Welded flange, 316L stainless steel, Type A flat faced [1]											
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								
Sanitary, hastelloy, duplex or other custom process connections available. Please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app .											
Probe Length **(from flange face or including process thread)** ***Add Order code Y01 and plain text: "Insertion length ... mm"***											
300 ... 1 000 mm (11.81 ... 39.37 inch)				A							
1 001 ... 2 000 mm (39.41 ... 78.74 inch)				B							
2 001 ... 3 000 mm (78.78 ... 118.11 inch)				C							
3 001 ... 4 000 mm (118.15 ... 157.48 inch)				D							
4 001 ... 5 000 mm (157.52 ... 196.85 inch)				E							
Thermal isolator											
Without thermal isolator					0						
With thermal isolator [for process connection tem-peratures over 85 °C (185 °F)]					1						
Wetted seals											
FKM						0					
FFKM [for process temperatures above -20 °C (-4 °F)][2]						1					
Probe material											
35 mm (1.38 inch) diameter stilling well, with 19 mm (0.75 inch) diameter 316L stainless steel, PFA lined rod with PTFE spacers								1			
Approvals											
General Safety (CSA, FM, CE, RCM)									A		
Dust Ignition Proof With IS Probe CE, RCM, ATEX II 1/2 D T100 °C									B		
Flame Proof Enclosure With IS Probe CE, RCM, 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, Groups E, F, G CSA/FM Class III T4									D		
Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups 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	

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Selection and ordering data (continued)

SITRANS LC300 Capacitance level transmitter, stilling well design Continuous, contact, monitors level or interface in liquids. Extension options up to 5 m (16.40 ft).	Article No. 7ML5671- ● ● ● ● ● - ● ● ● 0
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
Stainless steel, please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.	

1) Flange bolting patterns and facings dimensionally correspond to the -applicable ASME B16.5 or EN 1092-1 standard.
2) Not available with FM approvals.

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	**Y01**
Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	**Y15**
Manufacturer's Test Certificate: M to DIN 55350, Part 18 and to ISO 9000	**C11**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
INMMETRO[1]	**E34**

Accessories	Article No.
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	
Electronic transmitter kit (includes transmitter and driver)	**7ML1830-1KN**
SITRANS RD100, loop powered display - see Chapter 7	**7ML5741-.....-.**
SITRANS RD150, remote digital display for 4 ... 20 mA and HART devices - see Chapter 7	**7ML5742-.....-....**
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	**7ML5740-.....-..**
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	**7ML5744-.....-..**
For applicable back up point level switch - see point level measurement section	

1) Available only with Approvals options A and B.

SITRANS LC300 Capacitance level transmitter, cable design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 25 m (82.02 ft).	Article No. 7ML5672- ● ● ● ● ● - ● ● ● 0
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Process connection	
Threaded, 316L stainless steel	
1½" NPT [(Taper), 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
Welded flange, 316L stainless steel, raised face [1]	
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
Welded flange, 316L stainless steel, Type A flat faced [1]	
DN 40, PN 16	6 C
DN 40, PN 40	6 D

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Selection and ordering data (continued)

SITRANS LC300 Capacitance level transmitter, cable design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 25 m (82.02 ft).	Article No. 7ML5672-	●	●	●	●	●	-	●	●	●	0
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								
Sanitary, hastelloy, duplex or other custom process connections available. Please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.											
Probe Length **(from flange face or including process thread)** ***Add Order code Y01 and plain text: "Insertion length ... mm"***											
1 000 ... 2 000 mm (39.37 ... 78.74 inch)				A							
2 001 ... 4 000 mm (78.78 ... 157.48 inch)				B							
4 001 ... 6 000 mm (157.52 ... 236.22 inch)				C							
6 001 ... 8 000 mm (236.26 ... 314.96 inch)				D							
8 001 ... 10 000 mm (315.00 ... 393.70 inch)				E							
8 001 ... 10 000 mm (315.00 ... 393.70 inch)				F							
12 001 ... 14 000 mm (472.48 ... 551.18 inch)				G							
14 001 ... 16 000 mm (551.22 ... 629.92 inch)[2]				H							
16 001 ... 18 000 mm (629.96 ... 708.66 inch)[2]				J							
18 001 ... 20 000 mm (708.70 ... 787.40 inch)[2]				K							
20 001 ... 22 000 mm (787.44 ... 866.14 inch)[2]				L							
22 001 ... 24 000 mm (866.18 ... 944.88 inch)[2]				M							
24 001 ... 25 000 mm (944.92 ... 984.25 inch)[2]				N							
Thermal isolator											
Without thermal isolator					0						
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]					1						
Wetted seals											
FKM						0					
FFKM [for process temperatures above -20 °C (-4 °F)][3]						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, RCM)									A		
Dust Ignition Proof With IS Probe CE, RCM, ATEX II 1/2 D T100 °C									B		
Flame Proof Enclosure With IS Probe CE, RCM, 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, Groups E, F, G CSA/FM Class III T4									D		
Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups 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	
Stainless steel, please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.											

1) Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 standard.
2) Cable lengths from 15 000 mm (590.55 inch) to 25 000 mm (984.25 inch) can be used in non-conductive media. Contact Factory for assistance.
3) Not available with FM approvals.

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Selection and ordering data (continued)

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	**Y01**
Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	**Y15**
Manufacturer's Test Certificate: M to DIN 55350, Part 18 and to ISO 9000	**C11**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
INMETRO[1)]	**E34**

Accessories	Article No.
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	
Electronic transmitter kit (includes transmitter and driver)	**7ML1830-1KN**
SITRANS RD100, loop powered display - see Chapter 7	**7ML5741-.....-.**
SITRANS RD150, remote digital display for 4 ... 20 mA and HART devices - see Chapter 7	**7ML5742-.....-....**
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	**7ML5740-.....-..**
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	**7ML5744-.....-..**
For applicable back up point level switch - see point level measurement section	

[1)] Available only with Approvals options A and B.

SITRANS LC300 Capacitance level transmitter, PFA coated cable design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 25 m (82.02 ft).	**Article No. 7ML5673-** ●	●	●	●	●	-	●	●	●	●
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.										
Process connection										
Threaded, 316L stainless steel										
1½" NPT [(Taper), 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							
Welded flange, 316L stainless steel, raised face [1)]										
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							
Welded flange, 316L stainless steel, Type A flat faced [1)]										
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							
Sanitary, hastelloy, duplex or other custom process connections available. Please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app.										
Probe Length (from flange face or including process thread)										
Add Order code Y01 and plain text: "Insertion length ... mm"										
1 000 ... 2 000 mm (39.37 ... 78.74 inch)				A						

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Selection and ordering data (continued)

SITRANS LC300 Capacitance level transmitter, PFA coated cable design Continuous, contact, monitors level or interface in liquids or solids. Extension options up to 25 m (82.02 ft).	Article No. 7ML5673-	●	●	●	●	●	-	●	●	●	●
2 001 ... 4 000 mm (78.78 ... 157.48 inch)				B							
4 001 ... 6 000 mm (157.52 ... 236.22 inch)				C							
6 001 ... 8 000 mm (236.26 ... 314.96 inch)				D							
8 001 ... 10 000 mm (315.00 ... 393.70 inch)				E							
10 001 ... 12 000 mm (393.74 ... 472.44 inch)				F							
12 001 ... 14 000 mm (472.48 ... 551.18 inch)				G							
14 001 ... 16 000 mm (551.22 ... 629.92 inch)[2]				H							
16 001 ... 18 000 mm (629.96 ... 708.66 inch)[2]				J							
18 001 ... 20 000 mm (708.70 ... 787.40 inch)[2]				K							
20 001 ... 22 000 mm (787.44 ... 866.14 inch)[2]				L							
22 001 ... 24 000 mm (866.18 ... 944.88 inch)[2]				M							
24 001 ... 25 000 mm (944.92 ... 984.25 inch)[2]				N							
Thermal isolator											
Without thermal isolator					0						
With thermal isolator [for process connection temperatures over 85 °C (185 °F)]					1						
Wetted seals											
FKM						0					
FFKM [for process temperatures above -20 °C (-4 °F)][3]						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, RCM)									A		
Dust Ignition Proof With IS Probe CE, RCM, ATEX II 1/2 D T100 °C									B		
Flame Proof Enclosure With IS Probe CE, RCM, 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, Groups E, F, G CSA/FM Class III T4									D		
Explosion Proof Enclosure With IS Probe CSA/FM Class I, Div. 1, Groups A, B, C, D CSA/FM Class II, Div. 1, Groups 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	
Stainless steel, please contact a local sales person for details. For more information, please visit http://www.automation.siemens.com/aspa_app .											
Mounting eye											
Without Mounting eye											0
With mounting eye											1

[1] Flange bolting patterns and facings dimensionally correspond to the -applicable ASME B16.5 or EN 1092-1 standard.
[2] Cable lengths from 15 000 mm (590.55 inch) to 25 000 mm (984.25 inch) can be used in non-conductive media. Contact Factory for assistance.
[3] Not available with FM approvals.

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Selection and ordering data (continued)

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	**Y01**
Stainless steel tag [70 x 13 mm (2.75 x 0.5 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	**Y15**
Manufacturer's Test Certificate: M to DIN 55350, Part 18 and to ISO 9000	**C11**
Material inspection Certificate Type 3.1 per EN 10204	**C12**
INMETRO[1)]	**E34**

Accessories	Article No.
Operating Instructions	
All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Accessories	
Electronic transmitter kit (includes transmitter and driver)	**7ML1830-1KN**
SITRANS RD100, loop powered display - see Chapter 7	**7ML5741-.....-.**
SITRANS RD150, remote digital display for 4 ... 20 mA and HART devices - see Chapter 7	**7ML5742-.....-....**
SITRANS RD200, universal input display with Modbus conversion - see Chapter 7	**7ML5740-.....-..**
SITRANS RD300, dual line display with totalizer and linearization curve and Modbus conversion - see Chapter 7	**7ML5744-.....-..**
For applicable back up point level switch - see point level measurement section	

1) Available only with Approvals options A and B.

LC300 Specials[1)]	
LC300 Cable Extensions, 316L stainless steel	
Kit, Stainless steel cable extension, 1 m, adjustable by customer	**A5E01163688**
Kit, Stainless steel cable extension, 3 m, adjustable by customer	**A5E01163689**
Kit, Stainless steel cable extension, 5 m, adjustable by customer	**A5E01163690**
Kit, Stainless steel cable extension, 10 m, adjustable by customer	**A5E01163691**
Kit, Stainless steel cable extension, 15 m, adjustable by customer	**A5E01163693**
Kit, Stainless steel cable extension, 20 m, adjustable by customer	**A5E01163695**
LC300 Cable Extensions, 316 stainless steel with PFA coating	
Kit, PFA cable extension, 1 m	**A5E01163709**
Kit, PFA cable extension, 3 m	**A5E01163710**
Kit, PFA cable extension, 5 m	**A5E01163711**
Kit, PFA cable extension, 10 m	**A5E01163712**
Kit, PFA cable extension, 15 m	**A5E01163713**
Kit, PFA cable extension, 20 m	**A5E01163714**
LC300 Mounting Eye	
Spare mounting eye (LC300 PFA versions only)	**A5E01163717**
LC300 Weight Kit, 316L stainless steel	
Kit, Spare stainless steel weight. To be used in any cable version of CLS300, or stainless steel cable version of LC300	**A5E01163727**

Customers interested in a custom designed device should consult a local sales person. For more information, please visit http://www.automation.siemens.com/aspa_app.

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Technical specifications

SITRANS LC300	
Input	
Measuring range	1.66 ... 3 300 pF
Span	Min. 3.3 pF
Output	
Loop current	Continuous signal 4 ... 20 mA/20 ... 4 mA according to NAMUR 43
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 conditions[1]	
Ambient conditions	
• Ambient temperature	-40 ... +85 °C (-40 ... +185 °F)[2][3]
• Storage temperature	-40 ... +85 °C (-40 ... +185 °F)
• Installation category	I
• Pollution degree	4
• Ingress protection	Type 4/NEMA 4/IP65 (optional IP68)
Installation conditions	
• Location	Indoor/outdoor
• Process pressure	-1 ... +35 bar g (-14.6 ... +511 psi g)
• Process temperature	-40 ... +200 °C (-40 ... +392 °F)[4]
• Min. dielectric constant ϵ_r	1.5
• Min. difference in dielectric constant for interface measurement	5
Design	
Material	
• Enclosure	Aluminum, epoxy-coated
Probe diameter	
• Rod version	19 mm (0.75 inch) with PFA jacket
• Cable version	9 mm (0.35 inch) with PFA jacket, 6 mm (0.24 inch) without PFA jacket
Active shield length	
• Rod version	Threaded: 120 mm (4.72 inch) Flanged: 100 mm (3.94 inch)
• Cable version	Threaded: 125 mm (4.92 inch) Flanged: 105 mm (4.13 inch)
Process connection of probe	
• Threaded rod mounting	¾",1",1¼", 1½" NPT [(Taper), ANSI/ASME B1.20.1] R ¾",1", 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203] G ¾", 1", 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]
• Threaded cable mounting	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]

SITRANS LC300	
• Flange mounting	1 ... 4" ASME, DN 25 ... 100
Enclosure cable inlet	2 x ½" NPT or 2 x M20 x 1.5
Power supply	12 ... 30 V DC any polarity, 2-wire current loop circuit
User Interface	
Display	Local LCD, 4 digit, each 0 ... 9 and limited alpha characters
Safety	
Measurement current signaling	According to NAMUR NE 43, signal 3.8 ... 20.5 mA, fault ≤ 3.6 or ≥ 21 mA (22 mA)
Certificates and approvals	
General	CE, $CSA_{US/C}$, FM, RCM, KCC, EAC
Dust Ignition Proof (Intrinsically Safe probe circuit)	
• Canada/USA	FM/CSA: Class II, Div. 1, Groups E, F, G Class III T4
• Europe	ATEX ½ D T100 °C
Flame Proof (Intrinsically Safe probe circuit)	
• Europe	ATEX II ½ G EEx d [ia] IIC T6 ... T1 ATEX II ½ D T100 °C
• Brazil	Ex d [ia Ga] IIC T6 ... T4 Gb Ex tb IIIC T85 °C ... T100 °C Db IP65/IP68
• Russia/Kazakhstan	EAC Ex
Explosion Proof (Intrinsically Safe probe circuit)	
• Canada/USA	Class I, Div. 1, Groups A, B, C, D Class II, Div. 1, Groups E, F, G Class III T4
Marine	ABS Type Approval, Lloyds Register
Overfill Protection	VLAREM II
Other	Pattern Approval (AQSIQ, China), CRN, PED

1) When operation is in areas classified as hazardous, observe restrictions according to relevant certificate. See also LC300 Pressure/Temperature curves.
2) Thermal isolator is used if process connection temperature exceeds 85 °C (185 °F)
3) Minimum voltage of 15 V DC is required for use at -40 °C (-40 °F)
4) Not suitable for steam environments

Design: Probe	Rod version	Stilling well version	Cable version
Length	Min. 300 mm (12 inch), max. 5 000 mm (197 inch)	Min. 300 mm (12 inch), max. 5 000 mm (197 inch)	Min. 1 000 mm (40 inch), max. 25 000 mm (984 inch)
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

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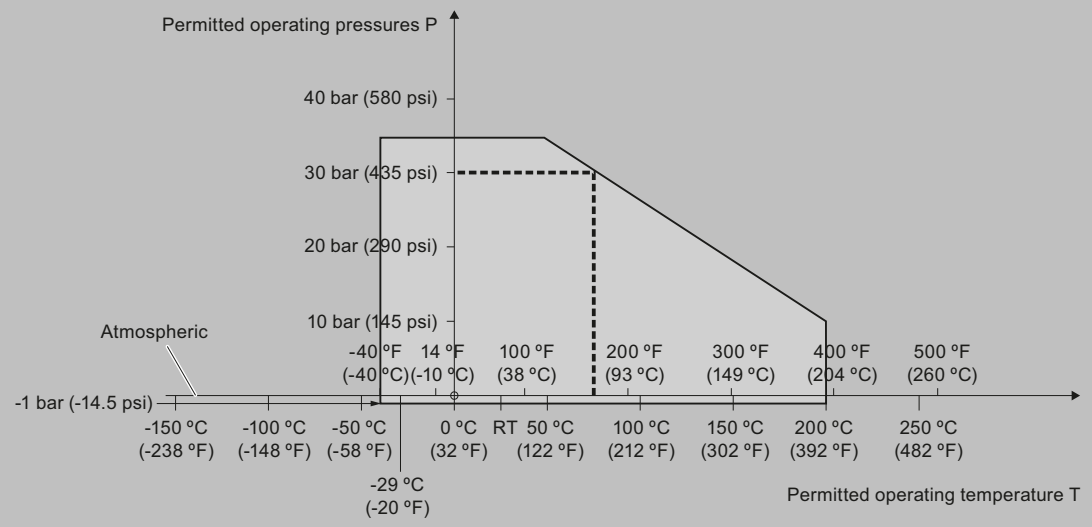
Characteristic curves

Pressure/temperature curve
LC300 standard, extended rod and cable probes
Threaded process connections
(7ML5670, 7ML5671, 7ML5672 and 7ML5673)



SITRANS LC300 process pressure/temperature derating curves (7ML5670, 7ML5671, 7ML5672, and 7ML5673))

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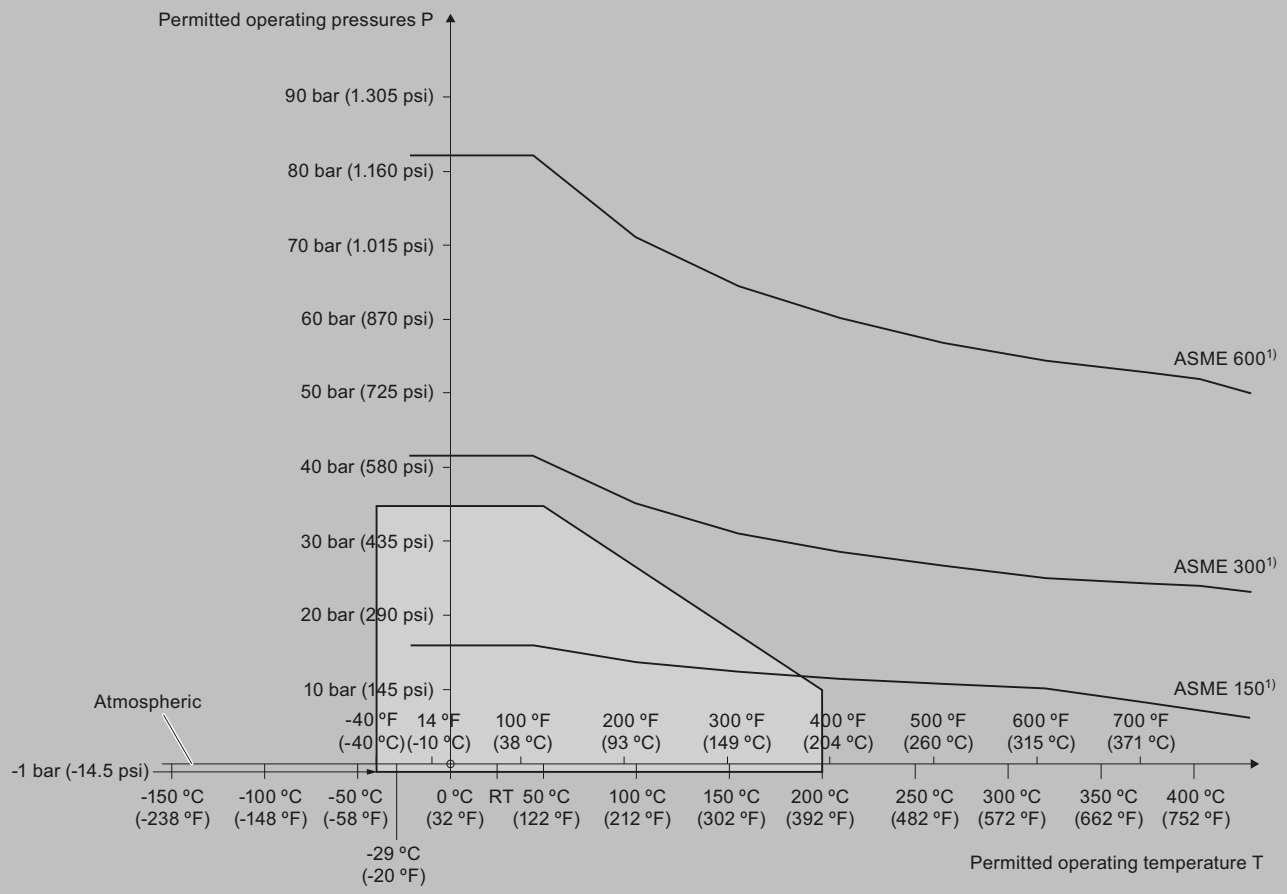
Characteristic curves (continued)

Pressure/temperature curve
LC300 standard, extended rod and cable probes
ASME flanged process connections
(7ML5670, 7ML5671, 7ML5672 and 7ML5673)



1) The curve denotes the minimum allowable flange class for the shaded area below.

SITRANS LC300 process pressure/temperature derating curves (7ML5670, 7ML5671, 7ML5672, and 7ML5673)

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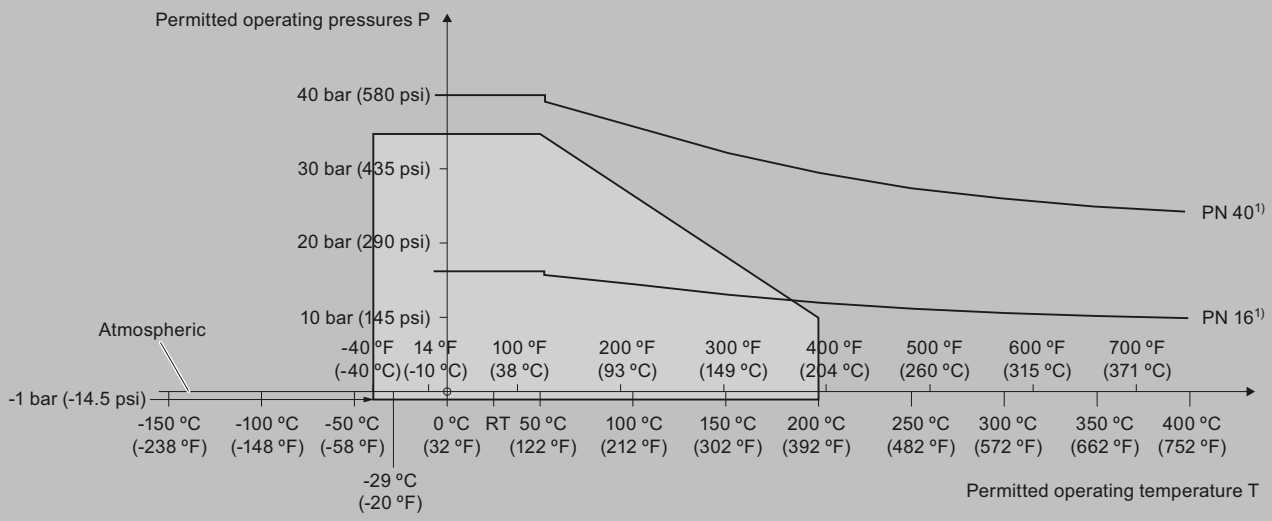
Characteristic curves (continued)

Pressure/temperature curve
LC300 standard, extended rod and cable probes
EN flanged process connections
(7ML5670, 7ML5671, 7ML5672 and 7ML5673)



1) The curve denotes the minimum allowable flange class for the shaded area below.

SITRANS LC300 process pressure/temperature derating curves (7ML5670, 7ML5671, 7ML5672, and 7ML5673)

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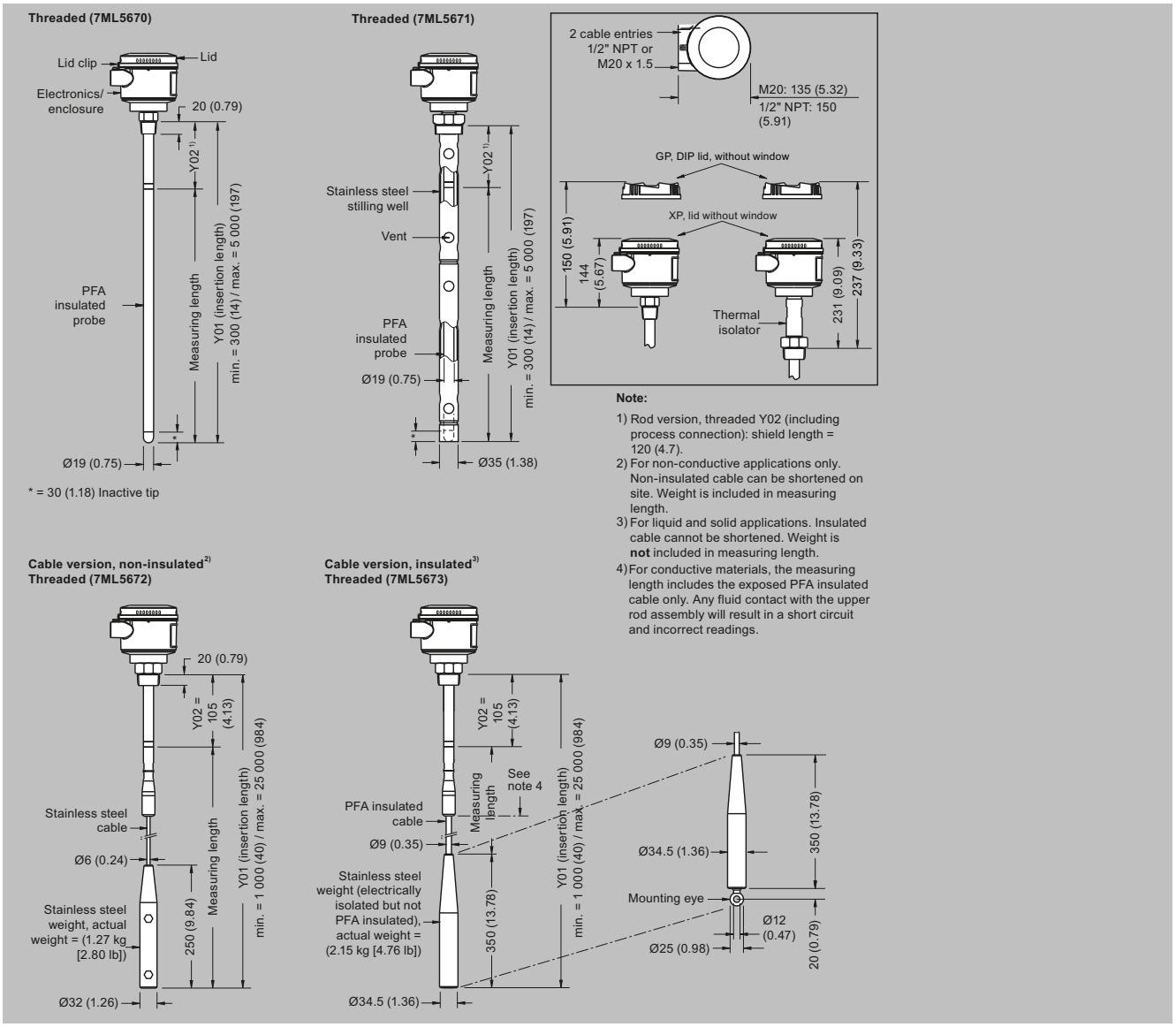
Dimensional drawings



SITRANS LC300 threaded process connections, dimensions in mm (inch)

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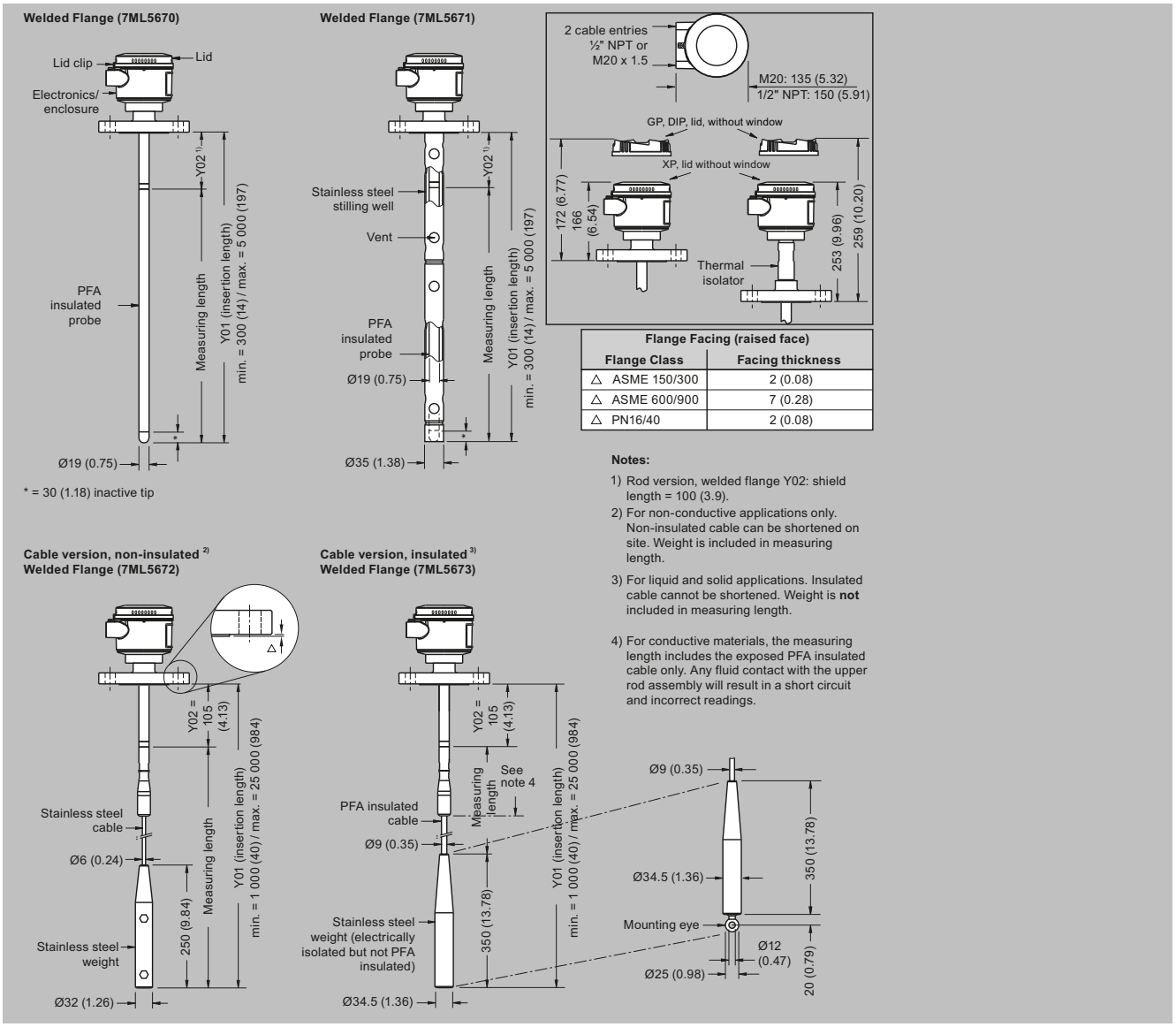
Dimensional drawings (continued)



SITRANS LC300 flanged process connections, dimensions in mm (inch)

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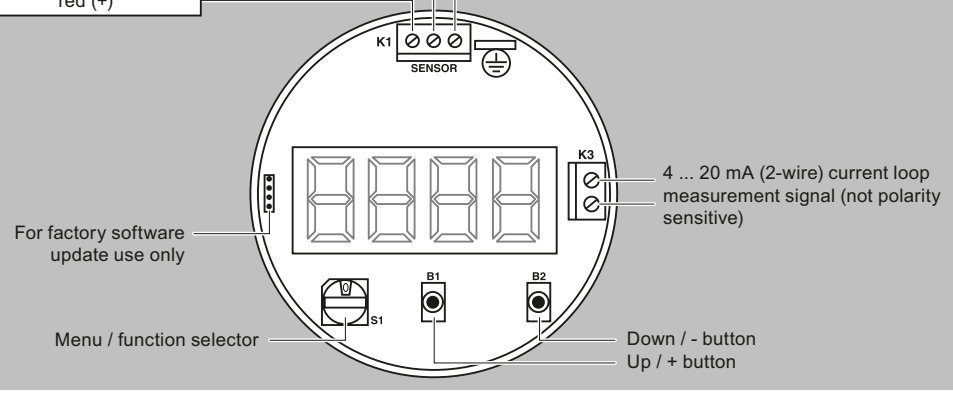
Circuit diagrams

With safety barrier	Without safety barrier
white (S)	orange (S)
black (O)	black (O)
red (+)	red (+)



SITRANS LC300 connections