SITRANS LG200

Overview

Introduction

Guided Wave Radar transmitters combine TDR (time domain reflectometry), ETS (equivalent time sampling) and modern low power circuitry.

Time Domain Reflectometry (TDR)

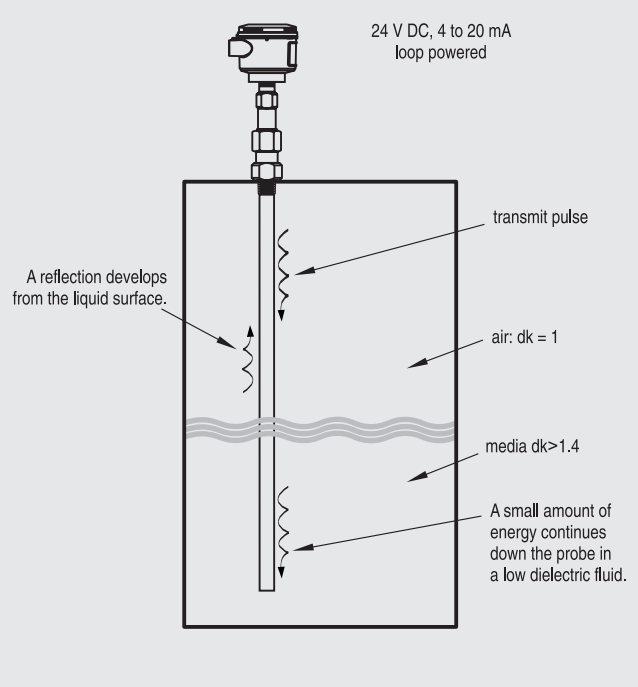
TDR uses pulses of electromagnetic (EM) energy to measure distances or levels. When a pulse reaches a dielectric discontinuity (created by media surface), part of the energy is reflected. The greater the dielectric difference, the greater the amplitude (strength) of the reflection.

In the SITRANS LG200 transmitter, a waveguide with a characteristic impedance in air is used as a probe. When part of the probe is immersed in a material other than air, there is lower impedance due to the increase in the dielectric. When an EM pulse is sent down the probe and meets the dielectric discontinuity, a reflection is generated.

Equivalent Time Sampling (ETS)

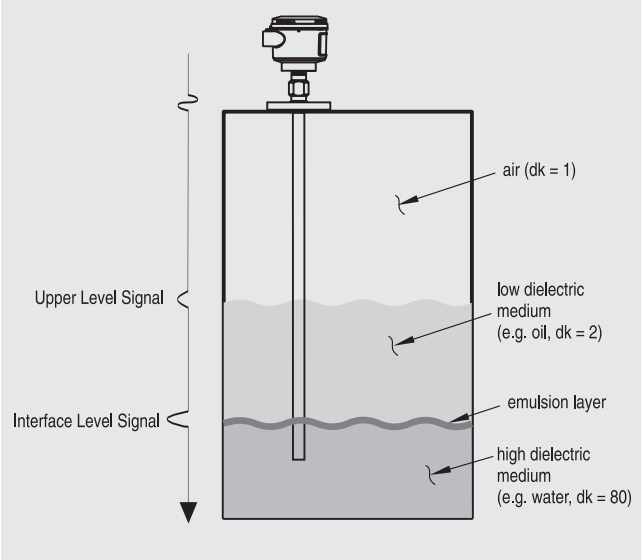
ETS (Equivalent Time Sampling) is used to measure the high speed, low power EM energy. ETS is critical in the application of TDR to vessel level measurement technology. The high speed EM energy (1000 ft/µs) is difficult to measure over short distances and at the resolution required in the process industry. ETS captures the EM signals in real time (nanoseconds) and reconstructs them in equivalent time (milliseconds), which is much easier to measure with today's technology.

ETS is accomplished by scanning the waveguide to collect thousands of samples. Approximately 8 scans are taken per second; each scan gathers more than 30,000 samples.



Interface Detection

The SITRANS LG200, when used with the Model 7ML1301-6 coaxial probe, is a transmitter capable of measuring both an upper level and an interface level. The upper liquid must have a dielectric constant between 1.4 and 5 and the two liquids have a difference in dielectric constants greater than 10. A typical application would be oil over water, with the upper layer of oil being non-conductive with a dielectric constant of approximately 2 and the lower layer of water being very conductive with a dielectric constant of approximately 80. This interface measurement can only be accomplished when the dielectric constant of the upper medium is lower than the dielectric constant of the lower medium.



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Guided Wave Radar (Level) Application Questionnaire

Customer information

Contact: _____ Prepared By: _____

Company: _____ Date: _____

Address: _____ Notes on the Application: _____

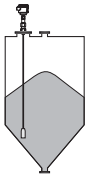
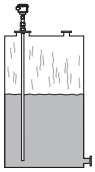
City: _____ Country: _____

Zip/Postal Code: _____ Phone: ( ) _____

E-mail: _____ Fax: ( ) _____

Tank/Vessel Information

(supply sketch where possible) ☐ Sketch attached

☐ Solids  ☐ Liquids 

Tank top:
- ☐ Open
- ☐ Flat
- ☐ Conical
- ☐ Parabolic

Tank bottom:
- ☐ Sloped
- ☐ Flat
- ☐ Conical
- ☐ Parabolic

Mounting location:
- ☐ Top mount
- ☐ Thread mount
- ☐ Flange mount
- ☐ Bypass/Sidepipe mount
- ☐ Pipe mount
- ☐ Displacer replacement *(please supply drawings)*

Tank dimensions:

Height: _____ m/ft

Diameter: _____ m/ft

Nozzle Length: _____ cm/in

Nozzle Diameter: _____ cm/in

Process connection type: _____

Process connection size: _____

Distance to sidewall: _____ cm/in

Pressure:

Normal: _____

Maximum (relief): _____

Material

Material being measured: _____ ☐ Liquid ☐ Solid ☐ Slurry

Material temperature: Norm: _____ °C/°F Max: _____ °C/°F

Measurement type: ☐ Continuous level ☐ Interface level

Dielectric constant value: _____

Coating buildup: ☐ Yes ☐ No **Turbulence:** ☐ Yes ☐ No

Maximum viscosity: _____ **Density:** _____ kg/m^3

Kinematic Viscosity (cSt) = Dynamic Viscosity (cP) / Density (kg/m^3)

- ☐ 1 to 5 cSt (like water)
- ☐ 5 to 20 cSt (like machine oil)
- ☐ 20 to 50 cSt (like cooking oil)
- ☐ 50 to 100 cSt (like honey)
- ☐ 100 to 500 cSt (like syrup/molasses)
- ☐ >500 cSt (like tar)

Particle size:
- ☐ Fine dust/powder, <0.5 cm (0.2”)
- ☐ Grains (rice, corn), <2 cm (0.8”)
- ☐ Small stones/gravel, <2 cm (0.8”)
- ☐ Small rocks/chunks, >2 cm (0.8”)
- ☐ Large particles, <9 cm (3.5”)

Foam type:
- ☐ None ☐ Wet
- ☐ Dry ☐ Wet/dense

Installation

(indicate all that apply)

Power available: _____

Communications:
- ☐ HART ® /4 to 20 mA

Outputs required:
- ☐ 4 to 20 mA
- ☐ Other *(please specify)* _____

Products recommended:

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Guided Wave Radar (Interface) Application Questionnaire

Customer information

Contact: _____ Prepared By: _____
Company: _____ Date: _____
Address: _____ Notes on the Application: _____
City: _____ Country: _____
Zip/Postal Code: _____ Phone: ( ) _____
E-mail: _____ Fax: ( ) _____

Tank/Vessel Information *(supply sketch where possible)* ☐ Sketch attached

Tank top:
☐ Open
☐ Flat
☐ Conical
☐ Parabolic

Tank bottom:
☐ Sloped
☐ Flat
☐ Conical
☐ Parabolic

Mounting location:
☐ Top mount
☐ Thread mount
☐ Flange mount
☐ Bypass/Sidepipe Mount
☐ Pipe mount
☐ Displacer replacement
(please supply drawings)

Tank dimensions:
Height: _____ m/ft
Diameter: _____ m/ft
Nozzle Length: _____ cm/in
Nozzle Diameter: _____ cm/in
Process connection type: _____
Process connection size: _____
Distance to sidewall: _____ cm/in

Pressure:
Normal: _____
Maximum (relief): _____

Interface Data

Upper material: _____ Lower material: _____ Emulsion layer: ☐ Yes
Upper material thickness: _____ cm/in Lower material thickness: _____ cm/in ☐ No (preferred)
Upper material dielectric: _____ Lower material dielectric: _____ Emulsion thickness: _____ cm/in

Material

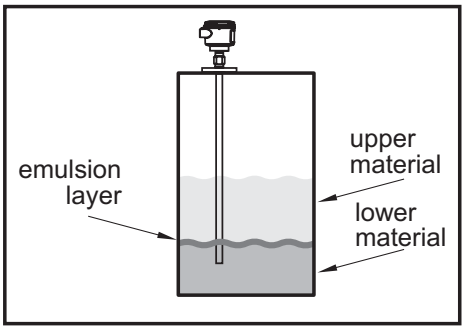
Material being measured: _____ ☐ Liquid ☐ Slurry

Material temperature: Norm: _____ °C/°F Max: _____ °C/°F

Coating buildup: ☐ Yes ☐ No **Turbulence:** ☐ Yes ☐ No

Maximum Viscosity: _____ **Density:** _____ kg/m³
Kinematic Viscosity (cSt) = Dynamic Viscosity (cP) / Density (kg/m³)

☐ 1 to 5 cSt (like water)
☐ 5 to 20 cSt (like machine oil)
☐ 20 to 50 cSt (like cooking oil)
☐ 50 to 100 cSt (like honey)
☐ 100 to 500 cSt (like syrup/molasses)
☐ >500 cSt (like tar)



Installation

Power available: _____

Communications: ☐ HART®/4 to 20 mA

Outputs required: ☐ 4 to 20 mA
☐ Other *(please specify)* _____

Products recommended:

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Overview



SITRANS LG200 is a guided wave radar transmitter for short and medium range level, level/interface, and volume measurement of liquids and solids. It is unaffected by changes in process conditions, high temperatures and pressures, and steam.

Benefits

- Coaxial, rigid, and flexible single or twin rods for many applications
- Measures accurately on materials with dielectric (dK) as low as 1.4
- Guided wave radar measurement for up to 2.5 mm (0.12") accuracy
- Measures level and interface on challenging applications including foam
- 3 button programming for quick setup
- Reliable level measurement on harsh applications with pressure up to 430 bar g (6250 psi g) and temperatures as high as +427 °C (+800 °F).
- Suitable for use in SIL 1 and SIL 2 Loops (Full FMEDA report available)

Application

SITRANS LG200 provides accurate measurement in level, volume, and interface applications. For short and extended applications, LG200 offers coaxial, single or twin rod probes, and single or twin cable probes up to 22.5 m (75 ft).

SITRANS LG200 measures accurately in liquid or slurry applications of corrosive vapors, foam, saturated steam, high viscosity, quick fill/empty rates, low levels and varying dielectrics and product densities.

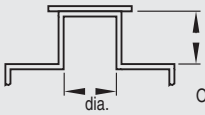
Ideal for retrofitting torque tube applications, SITRANS LG200 chamber replacement probe can be mounted in existing chambers or cages for optimal measurement.

- Key applications: hydrocarbon processing, interface/level measurement, low dielectric liquids, high temperature/pressure applications, powdered solids with high angle of repose.

SITRANS LG200

Configuration

Mounting on a nozzle



Optimal 1:1 ratio

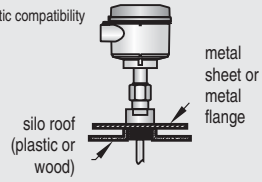


Do not use reducers

Installation in non-metallic silos[1)]

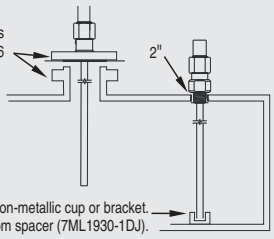
For installation in vessels of a non-metallic construction or possibly open vessels, a suitable launch plate is required to optimize the impedance of the transmitted signal as it travels along the probe. Optimal performance cannot be guaranteed if a suitable transition is not available at the process connection.
When using single rod versions (flexible or solid) and a threaded process connection, a metal sheet or flange will greatly improve conditions as this provides a suitable launch plate.
A flanged process connection is generally accepted to be provision of this launch plate.

[1)] See Electromagnetic compatibility



Single Rod mounting:

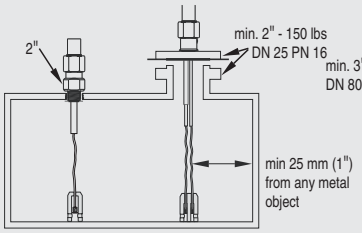
1. Do not mount in nozzles <50 mm (2") in diameter.
2. Mount in applications where ratio of diameter to length is 1:1 or greater. Any ratio less than 1:1 (ie: 2"x6" nozzle = 1:3) may require a blanking distance and/or dielectric adjustment.
3. Do not use pipe reducers.
4. Keep conductive objects away from probe to ensure proper performance.

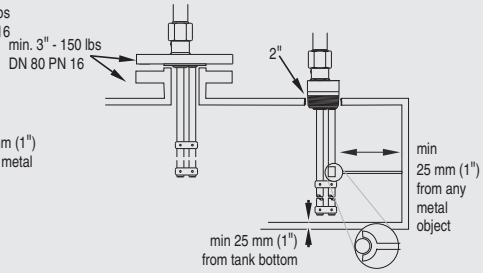


Probe can be stabilized at the bottomwith a non-metallic cup or bracket.
When mounting into a metallic cup or bracket, use optional TFE bottom spacer (7ML1930-1DJ).

Twin Rod mounting 7ML1302-x:

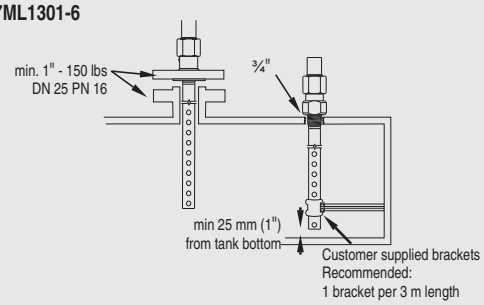
1. Active rod must be mounted at least 25 mm (1") away from any obstructions.
2. Minimum stillwell or nozzle diameter for probe is 76 mm (3"), inactive part needs to be flush with inside tank wall.





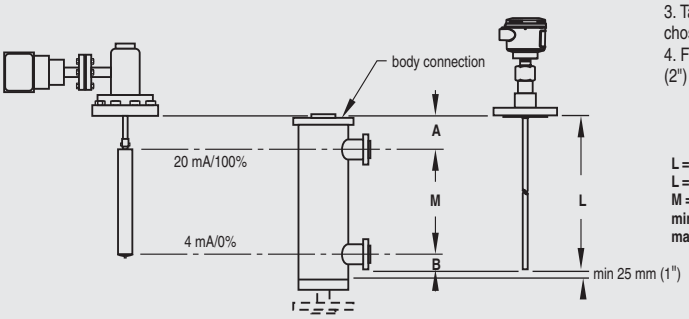
Coaxial 7ML1301-x/Coaxial-Interface 7ML1301-6

1. Minimum 25 mm (1") from tank bottom
2. Minimum 2" process connection for enlarged coaxial probe
3. Distance to obstructions not important due to enclosed design



Displacer/Torque Tube Replacement

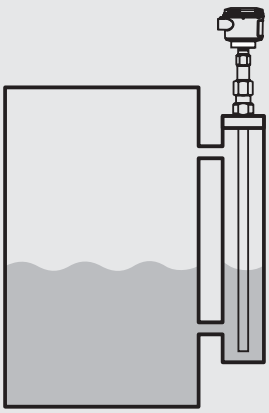
1. With Coaxial Probe 7ML1301-4 there is no top transition zone allowing measurement to the process connection.
2. Minimum pipe size: coaxial probes 2"/DN50, twin rod 3"/DN80, single rod 2"/DN50
3. 22 mm (0.875") Coaxial probes should be used where limited build up is expected.



Bypass pipe

1. Minimum pipe diameter 50 mm (2")
2. Minimum 25 mm (1") from bottom of the bypass pipe
3. Take note of bottom transition zone for chosen probe, see probe type table
4. For pipe diameters less than 50 mm (2") consult factory

L = A+M+B
L = probe insertion length
M = measuring range
min. 300 mm (11.81")
max. 5700 mm (224")



SITRANS LG200 installation

Technical specifications

Mode of operation	
Measuring principle	Guided wave radar measurement
Measuring range	0.15 to 22.5 m (0.5 to 75 ft)
Output	
mA analog output with HART digital signal	Optically isolated 4 to 20 mA, 620 Ω max.
Output range	
• Analog	3.8 to 20.5 mA usable
• Start-up current	4.0 mA
Diagnostic alarm	Adjustable 3.6 mA, 22 mA, HOLD
Digital communication	HART® Version 5.x and multidrop compatible
Performance	
Non-linearity	
• Coaxial/twin rod probes	< 0.1% of probe length or 2.5 mm (0.1"), whichever is greater [(top 60 cm (24") of twin rod probes 30 mm (1.2")]
• Single rod probes	< 0.3% or 0.3" (8 mm), whichever is greater
• Interface models	Upper layer: ± 25.4 mm (1") Interface layer: ± 25.4 mm (1") (distinct interface surface required)
Resolution and repeatability	≤ 2.5 mm (0.1")
Accuracy	
• Coaxial/twin rod probes	< 0.1 % of probe length or 0.1" (2.5 mm), whichever is greater [Top 60 cm (24") of twin rod probes 30 mm (1.2")
• Single rod probes	± 0.5 % of probe length or 0.5" (13 mm), whichever is greater
• Interface models	± 1" (25 mm) (distinct Interface required)
Electromagnetic compatibility	Meets CE requirements (EN 61326-1/2006) (Single and Twin Rod probes must be used in metallic vessel or stilling well to maintain CE compliance.)
• Response time	< 1 second
• Warm up time	< 5 seconds
Rated operating conditions[1]	
• Ambient temperature for enclosure	-40 to +80 °C (-40 to +176 °F)
• LCD readable temperature range	-20 to +70 °C (-5 to +160 °F)
• Location	Indoor/outdoor
• Installation category	II
• Pollution degree	2
Medium conditions[1]	
Dielectric constant	dK ≥ 1.4
Process temperature range[2]	-196 to +427 °C (-321 to +800 °F)
Vessel pressure[3]	Full vacuum to 431 bar g (6250 psi g), probe dependent

Design	
Weight of transmitter with solid lid	1.28 kg (2.83 lbs)
Weight of transmitter with glass window lid	1.60 kg (3.52 lbs)
Materials	
• Enclosure	Aluminum, epoxy-coated
• Degree of protection	Type 4/NEMA 4, IP65
• Cable inlet	2x M20x1.5 or 2 x ½" NPT
Process connections	
• Threaded	G ¾" [(BSPP), EN ISO 228-1], 1", 1½", 2" NPT [(Taper), ANSI/ASME B1.20.1] and G 2" [(BSPP), EN ISO 228-1]
• Flanged	3/4" to 4", ASME, DIN flanges
• Hygenic	3/4" to 4", Triclover
Programming	
Local	Three button, menu-driven data entry with security passwords
Remote	SIMATIC PDM via HART
Power	11 to 36 V DC
Certificates and approvals	
• General Purpose	CSA/FM, CE, C-TICK
• Intrinsically Safe	FM Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G T4, Class III, Type 4, IP65 CSA Class I, Div. 1, Groups A, B, C, D, Class II, Div. 1, Groups E, F, G T4, Class III, Type 4, IP65 ATEX II 1G EEx ia IIC T4
• Explosion Proof/Flame Proof	FM Class I, Div 1, Groups B, C, D, Class II, Div. 1, Groups E, F, G T4, Class III, Type 4, IP65 CSA Class I, Div. 1, Groups B, C, D, Class II, Div. 1, Groups E, F, G T4, Class III, Type 4, IP65 ATEX II 1/2 G EEx d [ia] IIC T6 ATEX II 1/2 D IP65 T85 °C
• Non-Incendive	FM Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups F, G T4, Class III, Type 4, IP65 CSA Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups E, F, G T4, Class III, Type 4, IP65
• Non-Sparking	ATEX II 3G EEx nA (nL) IIC T4 to T6 ATEX II 3G EEx nA II T4 to T6
• Others	Functional Safety to SIL-1 in accordance with IEC 61508 Safe Failure Fraction (SFF) of 85.5% (Third party FMEDA Analysis - hardware only) Functional Safety to SIL-2 in accordance with IEC 61508 Safe Failure Fraction (SFF) of 91% (Third party FMEDA Analysis - hardware only)

1) If installation is in areas classified as hazardous, please observe relevant certificates
2) Temperature rating is pressure dependent
3) Pressure rating is temperature dependent

5

SITRANS LG200

	Coaxial Probe (7ML1301-1)	Coaxial HT/HP Probe (7ML1301-2)	Coaxial HP Probe (7ML1301-3)	Coaxial Overfill/Flooded Cage Probe (7ML1301-4)
Model reference number	**7xA-x**	**7xD-x**	**7xP-x**	**7xR-x**
Recommended applications	General purpose: clean, low viscosity liquids < +150 °C (+300 °F)	Clean, high temperature/high pressure liquids > +200 °C (+400 °F), ammonia, chlorine	Clean, high pressure liquids < +200 °C (+400 °F), ammonia, chlorine	General applications, overfill, temperatures to +200 °C (+400 °F), clean, low viscosity liquids, displacer/torque-tube replacement
Not recommended for	Coating and buildup, foam	Coating and buildup, foam, steam	Coating and buildup, foam, steam	Coating and buildup, foam
Materials/wetted parts	316 L SS, TFE spacers[1], O-ring[2]	316L SS, Alumina spacers[1], Borosilicate	316L SS, TFE spacers[1], Borosilicate	316L SS, TFE spacers[1], O-ring[2]
Process seal	O-ring[2]	Borosilicate (no O-ring)	Borosilicate (no O-ring)	O-Ring[2]
Rod/tube diameter				
Standard	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube
Enlarged	ø 15 mm (0.63") rod ø 45 mm (1.75") tube	ø 15 mm (0.63") rod ø 45 mm (1.75") tube	ø 15 mm (0.63") rod ø 45 mm (1.75") tube	ø 15 mm (0.63") rod ø 45 mm (1.75") tube
Process connection thread				
Standard	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]
Enlarged	2" NPT [(Taper), ANSI/ASME B1.20.1]	2" NPT [(Taper), ANSI/ASME B1.20.1]	2" NPT [(Taper), ANSI/ASME B1.20.1]	2" NPT [(Taper), ANSI/ASME B1.20.1]
Flange ASME (EN/DIN)				
Standard	1 to 4" (DN 25 to 100)	1 to 4" (DN 25 to 100)	1 to 4" (DN 25 to 100)	1 to 4" (DN 25 to 100)
Enlarged	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)
Length	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")
Transition Zone[3]				
Top	25 mm (1") @ dk = 1.4 150 mm (6") @ dk = 80	none	25 mm (1") @ dk = 1.4 150 mm (6") @ dk = 80	none
Bottom	150 mm (6") @ dk = 1.4 25 mm (1") @ dk = 80	150 mm (6") @ dk = 1.4 25 mm (1") @ dk = 80	150 mm (6") @ dk = 1.4 25 mm (1") @ dk = 80	150 mm (6") @ dk = 1.4 25 mm (1") @ dk = 80
Process temperature maximum	+150 °C @ 27 bar g (+300 °F @ 400 psi g)	+427 °C @ 133 bar g (+800 °F @ 2000 psi g)[4]	+200 °C @ 379 bar g (+400 °F @ 5500 psi g)	+200 °C @ 18 bar g (+400 °F @ 270 psi g)
Process temperature minimum	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)	-196 °C @ 430 bar g (-321 °F @ 6250 psi g)	-196 °C @ 430 bar g (-321 °F @ 6250 psi g)	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)
Process pressure				
Process pressure maximum	70 bar g @ +20 °C (1000 psi g @ +70 °F)	431 bar g @ +20 °C (6250 psi g @ +70 °F)	431 bar g @ +20 °C (6250 psi g @ +70 °F)	70 bar g @ +20 °C (1000 psi g @ +70 °F)
Process pressure minimum/vacuum service	Yes, not hermetic[5]	Yes, hermetic ($<10^{-8}$ cc/sec @ 1 atmosphere)	Yes, hermetic ($<10^{-8}$ cc/sec @ 1 atmosphere)	Yes, not hermetic
Dielectric range	1.4 to 100	1.4 to 100	1.4 to 100	1.4 to 100
Maximum viscosity (cP)				
Standard	500	500	500	500
Enlarged	1500	1500	1500	1500
Coating/buildup	No	No	No	No
Foam	No	No	No	No
Corrosives	Yes	Yes	Yes	Yes
Sanitary	No	No	No	No
Overfill	No	Yes	No	Yes

1) PEEK only on Enlarged Version
2) See O-Ring Selection Guide for guidance
3) Transition zone is dielectric dependent: dK = dielectric permittivity. Unit will function but accuracy will decrease in Transition Zone
4) +345 °C (+650 °F) with PEEK spacers
5) Not hermetic: sealing by means of O-ring. Hermetic: sealing by means of borosilicate glass window

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®Hastelloy is a registered trademark of Haynes International
®Kalrez is a registered trademark of DuPont Dow Elastomers
®Monel is a registered trademark of Special Metals Corporation

	Coaxial Steam Probe (7ML1301-5)	Coaxial Interface Probe (7ML1301-6)	Single Rigid Rod Probe (7ML1303-1)	Single Rigid Rod HT/HP Probe (7ML1303-2)	Single Rigid Rod Probe, PFA rod insulation (7ML1303-1J)
Model reference number	**7xS-x**	**7xT-x**	**7xF-x**	**7xJ-x**	**7xF-4**
Recommended applications	Hot water (steam) >+200 °C (+400 °F) (external chamber is required for use in boilers)	Liquid/liquid-interface, temperatures to +200 °C (+400 °F); clean, low-viscosity liquids	Coating and buildup, foam	Coating and buildup, foam	Excessive coating and buildup, foam
Not recommended for	General purpose, coating and buildup, foam	Coating and buildup, foam	Low dielectric media (dK < 10)[1]	Low dielectric media (dK < 10)[1]	Low dielectric media (dK < 10)[1]
Materials/wetted parts	316L SS, PEEK spacers, Aegis PF128 O-ring[2]	316L SS, TFE spacers[3], O-ring[2]	316L SS, TFE, O-ring[2]	316L SS, TFE, O-ring[2]	316L SS, PFA, TFE, O-ring[2]
Process seal	Aegis PF128 O-ring[2], PEEK only	O-ring[2]	O-ring[2]	Aegis PF128 O-ring only[2]	O-ring[2]
Rod/Tube diameter					
Standard	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube	ø 8 mm (0.3125") rod ø 22 mm (0.875") tube	ø 12 mm (0.5") rod	ø 12 mm (0.5") rod	ø 12 mm (0.5") rod ø 16 mm (0.625") insulation
Enlarged	N/A	ø 15 mm (0.63") rod ø 45 mm (1.75") tube	N/A	N/A	N/A
Process connection thread					
Standard	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	¾" NPT [(Taper), ANSI/ASME B1.20.1], G 1" [(BSPP), EN ISO 228-1]	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]
Enlarged	N/A	2" NPT [(Taper), ANSI/ASME B1.20.1]	2" NPT [(Taper), ANSI/ASME B1.20.1]	2" NPT [(Taper), ANSI/ASME B1.20.1]	N/A
Flange ASME (EN/DIN)					
Standard	1 to 4" (DN 25 to 100)	1 to 4" (DN 25 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)
Enlarged	N/A	2 to 4" (DN 50 to 100)	N/A	N/A	N/A
Length	60 to 455 cm (24 to 180")	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")
Transition Zone[4]					
Top	25 mm (1") @ dk ≥ 10	none	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent
Bottom	25 mm (1") @ dk ≥ 10	150 mm (6") @ dk = 1.4 25 mm (1") @ dk = 80	25 mm (1") @ dk >10	25 mm (1") @ dk >10	25 mm (1") @ dk >10
Process temperature maximum	+343 °C @ 165 bar g (+650 °F @ 2400 psi g) (saturated steam)	+200 °C @ 18 bar g (+400 °F @ 270 psi g)	+150 °C @ 27 bar g (+300 °F @ 400 psi g)	+316 °C @ 165 bar g (+605 °F @ 2400 psi g)	+150 °C @ 27 bar g (+300 °F @ 400 psi g)
Process temperature minimum	-40 °C @ 207 bar g (-40 °F @ 3000 psi g)	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)	-40 °C @ 50 bar g (-40 °F @ 750 psi g)
Process pressure maximum	165 bar g @ +343 °C (2400 psi g @ +650 °F)	70 bar g @ +20 °C (1000 psi g @ +70°F)	70 bar g @ +20 °C (1000 psi g @ +70 °F)	207 bar g @ +20 °C (3000 psi g @ +70 °F)	70 bar g @ +20 °C (1000 psi g @ +70 °F)
Process pressure min. vacuum service	Yes, not hermetic	Yes, not hermetic	Not suitable	Not suitable	Not suitable
Dielectric range	10 to 100	Upper liquid layer 1.4 to 5 Interface liquid layer 15 to 100	1.9 to 100[1]	1.9 to 100[1]	1.9 to 100[1]
Maximum viscosity					
Standard	500 cP	500 cP	10000 cP (consult factory if severe agitation/turbulence)		
Enlarged	N/A	1500 cP			
Coating/buildup	No	No	Yes, maximum error 10% of coated length;% error related to dielectric of media, thickness of coating and coated probe length above media		
Foam	No	No	Yes	Yes	Yes
Corrosives	Yes	Yes	Yes	Yes	Yes
Sanitary	No	No	No	No	No
Overfill	Yes	Yes	No	No	No

1) With dK of 1.9 to 10, the device must be mounted between 50 and 150 mm (2 to 6") of metal tank wall or in chamber/bridle
2) See O-ring Selection Guide for guidance
3) PEEK only on Enlarged Version
4) Transition zone is dielectric dependent: dK = dielectric permittivity. Unit will function but accuracy will decrease in Transition Zone

SITRANS LG200

	Single Rigid Rod Probe, Sanitary (7ML1303-1D)	Single Rigid Rod Probe, PFA faced flange(7ML1303-1E)	Single Flexible Rod Probe (7ML1304-1)	Single Flexible Rod Probe for Bulk Solids (7ML1304-2)
Model reference number	**7xF-E**	**7xF-F**	**7x1-x**	**7x2-x**
Recommended applications:	Applications demanding sanitary specifications	Extreme corrosives, coating/buildup, foam	Coating and buildup, foam; lengths > 6 m (20 ft) headroom	Granular bulk solids applications (powders, grain, dust) 3000 lb pull down force
Not recommended for	Low dielectric media (dK < 10)[1]	Low dielectric media (dK < 10)[1]	Low dielectric media (dK < 4)	Solids with dK < 4
Materials/wetted parts	316L SS, TFE, 15 µ-inch (<0.4 µm) R_a	All PFA - wetted surfaces	316L SS, TFE, O-ring[2]	316L SS, TFE, O-ring[2]
Optional	AL6XN SS	N/A	N/A	N/A
Process seal	316L SS, TFE, O-ring[2]	PFA, no O-ring	O-ring[2]	Sealant
Rod/tube diameter	ø 12 mm (0.5") rod	ø 12 mm (0.5") rod ø 16 mm (0.625") insulation	ø 5 mm (0.188") cable	ø 6 mm (0.25") cable
Process connection thread	N/A	N/A	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]
Flange ASME (DIN)	19 to 100 mm (¾ to 4") Triclover-style 16 amp fitting	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)
Length	60 to 610 cm (24 to 240")	60 to 610 cm (24 to 240")	1 to 22.5 meters (3 to 75 ft)	1 to 22.5 meters (3 to 75 ft)
Transition Zone[3]				
Top	Blocking distance: 0 to 91 cm (0 to 36"), probe length dependent	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent	Blocking distance: 12 to 91 cm (4.8 to 36"), probe length dependent
Bottom	25 mm (1") @ dk >10	25 mm (1") @ dk >10	305 mm (12")	305 mm (12")
Process temperature maximum	+150 °C @ 5.1 bar g (+300 °F @ 75 psi g)	+150 °C @ 27 bar g (+300 °F @ 400 psi g)	+150 °C @ 27 bar g (+300 °F @ 400 psi g)	+66 °C @ 3.4 bar g (+150 °F @ 50 psi g)
Process temperature minimum	0 °C at 5.1 bar g (+32 °F at 75 psi g)	-40 °C @ 13.7 bar g (-40 °F @ 200 psi g)	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)	-40 °C @ 3.4 bar g (-40 °F @ 50 psi g)
Process pressure:				
Process pressure maximum	5.1 bar g @ +150 °C (75 psi g @ +300 °F)	70 bar g @ +20 °C (1000 psi g @ +70°F)	70 bar g @ +20 °C (1000 psi g @ +70 °F)	3.4 bar g +66 °C (50 psi g @ +150 °F)
Process pressure minimum/vacuum service	Not suitable for vacuum applications			
Dielectric range	1.9 to 100[1]	1.9 to 100[1]	4 to 100[1]	4 to 100
Maximum viscosity (cP)	10000 (consult factory if severe agitation/turbulence)			N/A
Coating/buildup	Yes, maximum error 10% of coated length; % error related to dielectric of media, thickness of coating and coated probe length above media			
Foam	Yes	Yes	Yes	Yes
Corrosives	No	Yes	No	No
Sanitary	Yes	No	No	No
Overfill	No	No	No	No

1) With dK of 1.9 to 10, the device must be mounted between 50 and 150 mm (2 to 6") of metal tank wall or in chamber/bridle
2) See O-ring Selection Guide for guidance
3) Transition zone is dielectric dependent: dK = dielectric permittivity. Unit will function but accuracy will decrease in Transition Zone

	Twin Rod Probe (7ML1302-1)	Flexible Twin Rod Probe (7ML1302-3)	Flexible Twin Rod Bulk Solids Probe (7ML1302-2)
Model reference number	**7xB-x**	**7x7-x**	**7x5-x**
Recommended applications:	General purpose, foam, minor film coating	Low dielectric media (1.9 to 10) with lengths > 6 m (20 ft)	Granular light bulk solids applications (powders, grains, dust), 3000 lbs pull-down force
Not recommended for:	Media bridging between rods or building up on spacers	Dielectric > 10: media bridging on flexible elements	Media bridging flexible elements
Materials/wetted parts	316L SS, TFE spacers, O-ring[1)]	316L SS, FEP webbing, O-ring[1)]	316L SS, FEP webbing, O-ring[1)]
Process seal	O-ring[1)]	O-ring[1)]	Sealant
Rod/tube diameter	Two, ø 12 mm (0.5") rod; 22 mm (0.875") C_L to C_L	Two, ø 6 mm (0.25") cables; 22 mm (0.875") C_L to C_L	Two, ø 6 mm (0.25") cables; 22 mm (0.875") C_L to C_L
Process connection thread	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]	2" NPT [(Taper), ANSI/ASME B1.20.1], G 2" [(BSPP), EN ISO 228-1]
Flange ASME (EN/DIN)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)	2 to 4" (DN 50 to 100)
Length	60 to 610 cm (24 to 240")	1 to 22.5 m (3 to 75 ft)	1 to 22.5 m (3 to 75 ft)
Transition Zone[2)]:			
Top	150 mm (6") @ dK > 1.9 Blocking distance: none	150 mm (6") @ dK > 1.9 Blocking distance: 12 to 50 cm (4.8 to 20")	150 mm (6") @ dK > 1.9 Blocking distance: 12 to 50 cm (4.8 to 20")
Bottom	150 mm (6") @ dK = 1.9 25 mm (1") @ dK = 80	305 mm (12")	305 mm (12")
Process temperature max.[3)]	+200 °C @ 19 bar g (+400 °F @ 275 psi g)		+66 °C @ 3.4 bar g (+ 150 °F @ 50 psi g)
Process temperature min.	-40 °C @ 70 bar g (-40 °F @ 1000 psi g)		-40 °C @ 3.4 bar g (-40 °F @ 50 psi g)
Process pressure max.	70 bar g @ +20 °C (1000 psi g @ +70 °F)		3.4 bar g @ +66 °C (50 psi g @ + 150 °F)
Process pressure min./vacuum service	Yes, not hermetic		Not suitable
Dielectric range	1.9 to 100	1.9 to 100	1.9 to 100
Maximum viscosity (cP)	1500	1500	Not suitable
Coating/buildup	Yes, maximum error 3% of coated length with conductive media Bridging not recommended.[4)]		
Foam	Yes	Yes	Yes
Corrosives	Yes	No	Yes
Sanitary	No	No	No
Overfill	No	No	No

1) See O-ring Selection Guide for guidance
2) Transition zone is dielectric dependent: dK = dielectric permittivity. Unit will function but accuracy will decrease in Transition Zone
3) Refer to Ambient Temperature vs Process Temperature graphs or Operating Instructions
4) Bridging is defined as continuous accumulation of material between the probe elements

O-ring and Seal Selection Guide

Material	Recommended for Use in:	Not Recommended for Use In:
Viton GFLT	General purpose, steam, ethylene	Ketones (MEK, acetone), skydrol fluids, amines, anhydrous ammonia, low molecular weight esters and ethers, hot hydrofluoric or chlorosulfuric acids, sour HCs
EPDM	Acetone, MEK, skydrol fluids	Petroleum oils, di-ester base lubricants, propane, steam, anhydrous ammonia
Kalrez (4079)	Inorganic and organic acids (including HF and nitric) aldehydes, ethylene, glycols, organic oils, silicone oils, vinegar, sour HCs	Black liquor, hot water/steam, hot aliphatic amines, ethylene oxide, propylene oxide, molten sodium, molten potassium, anhydrous ammonia
Aegis PF128	Inorganic and organic acids (including HF and nitric) aldehydes, ethylene, glycols, organic oils, silicone oils, vinegar, sour HCs, steam, amines, ethylene oxide, propylene oxide	Black liquor, Freon 43, Freon 75, Galden, KEL-F liquid, molten sodium, molten potassium, anhydrous ammonia
Borosilicate (HT/HP probes only)	General high temperature/high pressure applications, hydrocarbons, full vacuum (hermetic), anhydrous ammonia	Hot alkaline solutions, HF acid, media with pH>12

SITRANS LG200

Selection and Ordering data — Order No.

SITRANS LG200 Transmitter C) **7ML1300-**

A guided wave radar transmitter for short and medium range level, level/interface, and volume measurement of liquids and solids, including high temperature and pressure applications, and steam.

Note:

In addition to the transmitter, please select a probe configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Power	
24 V DC, 2-wire	**1**
Signal Output	
4 to 20 mA HART	**A**
Options	
SIL-1 Approved (FMEDA analysis) SFF = 85.5 %	**A**
SIL-2 Approved (FMEDA analysis) SFF = 91 %	**B**
Enclosure/lid	
Aluminum	**1**
Aluminum with glass window	**2**
Cable inlet	
2 x ½" NPT, IP65	**0**
2 x M20x1.5, IP65	**1**
Approvals (Please select for your region)	
North America	
General Purpose and Intrinsically Safe (CSA/FM Class I, Div. 1, Groups A, B, C, D; Class II, Div. 1, Groups E, F, G T4, Class III); Non-incendive (CSA Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups E, F, G; FM Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups F, G)	**A**
Explosion Proof (CSA/FM Class I, Div. 1, Groups B, C, and D; Class II, Div. 1, Groups E, F, G, T4; Class III); Non-incendive (CSA Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups E, F, G; FM Class I, Div. 2, Groups A, B, C, D, Class II, Div. 2, Groups F, G)	**B**
Europe	
General Purpose and Intrinsically Safe (ATEX II 1G EEx ia IIC T4)	**C**
Explosion Proof (ATEX II 1/2 GD EEx d [ia] IIC T6)	**D**
Non-sparking [ATEX II 3G EEx nA II/EEx nA (nL) IIC T4 to T6]	**E**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
For tagging information see probe configurations (additional option Y15)	
Acceptance test certificate: Manufacturer's test certificate M to DIN 55350, Part 18 and ISO 9000 [Available only when ordered in conjunction with a probe (7ML130x-x). Testing requires transmitter with probe.]	**C11**

Operating Instructions		Order No.
English	C)	**7ML1998-5KA01**
French	C)	**7ML1998-5KA11**
German	C)	**7ML1998-5KA31**
Multi-language Quick Start manual	C)	**7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Accessories

SITRANS RD100 Remote display - see RD100 on page 5/304

SITRANS RD200 Remote display - see RD200 on page 5/306

Selection and Ordering data — Order No.

SITRANS LG200 Coaxial Probes C) **7ML1301-**

SITRANS LG200 coaxial probes are used in most standard applications. Coaxial probes yield robust signal strength even in extremely low dielectric applications (dK 1.4 to 100).

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Model	
Coaxial[1) 2)]	**1**
Coaxial, High Temperature/High Pressure[2) 3)]	**2**
Coaxial, High Pressure[2) 3)]	**3**
Coaxial, Overfill/Flooded Cage[1) 2)]	**4**
Coaxial Steam[4) 5)]	**5**
Coaxial, Interface[1) 2)]	**6**
Material of Construction	
316/316L (1.4401/1.4404) stainless steel probe and process connection	**A**
316/316L (1.4401/1.4404) SS probe ASME B31.1 specifications[6)]	**D**
Enlarged Coaxial, 316/316L (1.4401/1.4404) stainless steel probe and process connection with PEEK Spacers[7)]	**E**
316/316L (1.4401/1.4404) stainless steel probe and process connection with PEEK HT spacers[8)]	**H**
316/316L (1.4401/1.4404) stainless steel probe and process connection with Teflon® spacers[8) 9)]	**J**
Probe Insertion Length	
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1, 4 and Material of Construction option A, E: 60 to 100 cm (23.6 to 39.4")	**A 1**
Model option 1, 4 and Material of Construction option A, E: 101 to 200 cm (39.8 to 78.7")	**A 2**
Model option 1, 4 and Material of Construction option A, E: 201 to 300 cm (79.1 to 118.1")	**A 3**
Model option 1, 4 and Material of Construction option A, E: 301 to 400 cm (118.5 to 157.5")	**A 4**
Model option 1, 4 and Material of Construction option A, E: 401 to 500 cm (157.9 to 196.9")	**A 5**
Model option 1, 4 and Material of Construction option A,E: 501 to 610 cm (197.2 to 240.2")	**A 6**
Add order code Y01 and plain text: "Insertion length ... cm"	
Model options 3, 6 with Material of Construction option A: 60 to 100 cm (23.6 to 39.4")	**B 1**
Model options 3, 6 with Material of Construction option A: 101 to 200 cm (39.8 to 78.7")	**B 2**
Model options 3, 6 with Material of Construction option A: 201 to 300 cm (79.1 to 118.1")	**B 3**
Model options 3, 6 with Material of Construction option A: 301 to 400 cm (118.5 to 157.5")	**B 4**
Model options 3, 6 with Material of Construction option A: 401 to 500 cm (157.9 to 196.9")	**B 5**
Model options 3, 6 with Material of Construction option A: 501 to 610 cm (197.2 to 240.2")	**B 6**
Add order code Y01 and plain text: "Insertion length ... cm"	
Model options 3, 6 with Material of Construction option E: 60 to 100 cm (23.6 to 39.4")	**C 1**
Model options 3, 6 with Material of Construction option E: 101 to 200 cm (39.8 to 78.7")	**C 2**
Model options 3, 6 with Material of Construction option E: 201 to 300 cm (79.1 to 118.1")	**C 3**

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

Selection and Ordering data

Order No.

SITRANS LG200 Coaxial Probes C) **7ML1301-** ■■■■■-■■■0

SITRANS LG200 coaxial probes are used in most standard applications. Coaxial probes yield robust signal strength even in extremely low dielectric applications (dK 1.4 to 100).

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Model options 3, 6 with Material of Construction option E: 301 to 400 cm (118.5 to 157.5")	**C 4**
Model options 3, 6 with Material of Construction option E: 401 to 500 cm (157.9 to 196.9")	**C 5**
Model options 3, 6 with Material of Construction option E: 501 to 610 cm (197.2 to 240.2")	**C 6**
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 2 with Material of Construction options A, E, H, J: 60 to 100 cm (23.6 to 39.4")	**E 1**
Model option 2 with Material of Construction options A, E, H, J: 101 to 200 cm (39.8 to 78.7")	**E 2**
Model option 2 with Material of Construction options A, E, H, J: 201 to 300 cm (79.1 to 118.1")	**E 3**
Model option 2 with Material of Construction options A, E, H, J: 301 to 400 cm (118.5 to 157.5")	**E 4**
Model option 2 with Material of Construction options A, E, H, J: 401 to 500 cm (157.9 to 196.9")	**E 5**
Model option 2 with Material of Construction options A, E, H, J: 501 to 610 cm (197.2 to 240.2")	**E 6**
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 5 with Material of Construction options A, D: 60 to 100 cm (23.6 to 39.4")	**F 1**
Model option 5 with Material of Construction options A, D: 101 to 200 cm (39.8 to 78.7")	**F 2**
Model option 5 with Material of Construction options A, D: 201 to 300 cm (79.1 to 118.1")	**F 3**
Model option 5 with Material of Construction options A, D: 301 to 400 cm (118.5 to 157.5")	**F 4**
Model option 5 with Material of Construction options A, D: 401 to 455 cm (157.9 to 180")	**F 5**

O-Rings

Viton	**1 1**
EPDM (Ethylene Propylene Rubber)	**1 2**
Kalrez 4079	**1 3**
HSN (Nitrile)	**1 4**
Buna-N	**1 5**
Neoprene	**1 6**
Chemraz	**1 7**
Polyurethane	**1 8**
Aegis PF128	**2 1**
Kalrez 2035	**2 2**
None[10]	**2 3**

Process Connection (Size/Type)

Threaded	
¾" NPT [(Taper), ANSI/ASME B1.20.1]	**AA**
G 1" [(BSPP), EN ISO 228-1]	**AB**
G 2" [(BSPP), EN ISO 228-1][11]	**AC**
2" NPT [(Taper), ANSI/ASME B1.20.1][11]	**AD**
ASME flanges	
1" 150 lb ASME raised face flange	**BA**
1" 300 lb ASME raised face flange	**BB**
1" 600 lb ASME raised face flange	**BC**
1" 900/1500 lb ASME raised face flange[10]	**BD**
1" 2500 lb ASME raised face flange[10]	**BE**
1" 900/1500 lb ASME ring joint flange[10]	**BF**
1" 2500 lb ASME ring joint flange[10]	**BG**
1½" 150 lb ASME raised face flange	**CA**
1½" 300 lb ASME raised face flange	**CB**
1½" 600 lb ASME raised face flange	**CC**
1½" 900/1500 lb ASME raised face flange[10]	**CD**
1½" 2500 lb ASME raised face flange[10]	**CE**
1½" 600 lb ASME ring joint flange	**CF**
1½" 900/1500 lb ASME ring joint flange[10]	**CG**
1½" 2500 lb ASME ring joint flange[10]	**CH**
2" 150 lb ASME raised face flange	**DA**
2" 300 lb ASME raised face flange	**DB**
2" 600 lb ASME raised face flange	**DC**
2" 900/1500 lb ASME raised face flange[10]	**DD**
2" 2500 lb ASME raised face flange[10]	**DE**
2" 600 lb ASME ring joint flange	**DF**
2" 900/1500 lb ASME ring joint flange[10]	**DG**
2" 2500 lb ASME ring joint flange[10]	**DH**
3" 150 lb ASME raised face flange	**EA**
3" 300 lb ASME raised face flange	**EB**
3" 600 lb ASME raised face flange	**EC**
3" 900 lb ASME raised face flange[10]	**ED**
3" 1500 lb ASME raised face flange[10]	**EE**
3" 2500 lb ASME raised face flange[10]	**EF**
3" 600 lb ASME ring joint flange	**EG**
3" 900 lb ASME ring joint flange[10]	**EH**
3" 1500 lb ASME ring joint flange[10]	**EJ**
3" 2500 lb ASME ring joint flange[10]	**EK**
4" 150 lb ASME raised face flange	**FA**
4" 300 lb ASME raised face flange	**FB**
4" 600 lb ASME raised face flange	**FC**
4" 900 lb ASME raised face flange[10]	**FD**
4" 1500 lb ASME raised face flange[10]	**FE**
4" 2500 lb ASME raised face flange[10]	**FF**
4" 600 lb ASME ring type joint flange	**FG**
4" 900 lb ASME ring type joint flange[10]	**FH**
4" 1500 lb ASME ring type joint flange[10]	**FJ**
4" 2500 lb ASME ring type joint flange[10]	**FK**
EN flanges	
DN 25 PN 16 EN 1092-1 Type A flat faced flange	**GA**
DN 25 PN 25/40 EN 1092-1 Type A flat faced flange	**GB**
DN 25 PN 64/100 EN 1092-1 Type B1 raised faced flange	**GC**
DN 25 PN 160 EN 1092-1 Type B1 raised faced flange[10]	**GD**
DN 25 PN 250 EN 1092-1 Type B1 raised faced flange[10]	**GE**
DN 25 PN 320 EN 1092-1 Type B1 raised faced flange[10]	**GF**
DN 25 PN 400 EN 1092-1 Type B1 raised faced flange[10]	**GG**
DN 40 PN 16 EN 1092-1 Type A flat faced flange	**HA**
DN 40 PN 25/40 EN 1092-1 Type A flat faced flange	**HB**
DN 40 PN 64/100 EN 1092-1 Type B1 raised faced flange	**HC**

Selection and Ordering data
Order No.
SITRANS LG200 Coaxial Probes C) 7ML1301-
SITRANS LG200 coaxial probes are used in most standard applications. Coaxial probes yield robust signal strength even in extremely low dielectric applications (dK 1.4 to 100).
Note:
In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).
For orders of 10 or more, please consult factory.

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SITRANS LG200

Selection and Ordering data — Order No.

SITRANS LG200 Coaxial Probes C) **7ML1301 -**

SITRANS LG200 coaxial probes are used in most standard applications. Coaxial probes yield robust signal strength even in extremely low dielectric applications (dK 1.4 to 100).

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

DN 40 PN 160 EN 1092-1 Type B1 raised faced flange[10]	**HD**
DN 40 PN 250 EN 1092-1 Type B1 raised faced flange[10]	**HE**
DN 40 PN 320 EN 1092-1 Type B1 raised faced flange[10]	**HF**
DN 40 PN 400 EN 1092-1 Type B1 raised faced flange[10]	**HG**
DN 50 PN 16 EN 1092-1 Type A flat faced flange	**JA**
DN 50 PN 25/40 EN 1092-1 Type A flat faced flange	**JB**
DN 50 PN 64 EN 1092-1 Type B1 raised faced flange	**JC**
DN 50 PN 100 EN 1092-1 Type B1 raised faced flange	**JD**
DN 50 PN 160 EN 1092-1 Type B1 raised faced flange[10]	**JE**
DN 50 PN 250 EN 1092-1 Type B1 raised faced flange[10]	**JF**
DN 50 PN 320 EN 1092-1 Type B1 raised faced flange[10]	**JG**
DN 50 PN 400 EN 1092-1 Type B1 raised faced flange[10]	**JH**
DN 80 PN 16 EN 1092-1 Type A flat faced flange	**KA**
DN 80 PN 25/40 EN 1092-1 Type A flat faced flange	**KB**
DN 80 PN 64 EN 1092-1 Type B1 raised faced flange	**KC**
DN 80 PN 100 EN 1092-1 Type B1 raised faced flange	**KD**
DN 80 PN 160 EN 1092-1 Type B1 raised faced flange[10]	**KE**
DN 80 PN 250 EN 1092-1 Type B1 raised faced flange[10]	**KF**
DN 80 PN 320 EN 1092-1 Type B1 raised faced flange[10]	**KG**
DN 80 PN 400 EN 1092-1 Type B1 raised faced flange[10]	**KH**
DN 100 PN 16 EN 1092-1 Type A flat faced flange	**LA**
DN 100 PN 25/40 EN 1092-1 Type A flat faced flange	**LB**
DN 100 PN 64 EN 1092-1 Type B1 raised faced flange	**LC**
DN 100 PN 100 EN 1092-1 Type B1 raised faced flange	**LD**
DN 100 PN 160 EN 1092-1 Type B1 raised faced flange[10]	**LE**
DN 100 PN 250 EN 1092-1 Type B1 raised faced flange[10]	**LF**
DN 100 PN 320 EN 1092-1 Type B1 raised faced flange[10]	**LG**
DN 100 PN 400 EN 1092-1 Type B1 raised faced flange[10]	**LH**

Selection and Ordering data — Order No.

SITRANS LG200 Coaxial Probes C) **7ML1301 -**

SITRANS LG200 coaxial probes are used in most standard applications. Coaxial probes yield robust signal strength even in extremely low dielectric applications (dK 1.4 to 100).

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Fisher torque tube flange, carbon steel (249B)	**MA**
Fisher torque tube flange, 316 stainless steel (249C)	**MB**
Masoneilan torque tube flange, carbon steel	**MC**
Masoneilan torque tube flange, 316 stainless steel	**MD**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Enter the total insertion length in plain text description, max. 610 cm (240.2")	**Y01**
Stainless steel tag. Measuring-point number/identification (max. 16 characters); specify in plain text	**Y15**
Inspection Certificate Type 3.1 per EN 10204	**C12**
Manufacturer's test report (Hydrostatic Test)	**C18**
NACE MR-0175 materials traceability	**D07**

Operating Instructions		
English	C)	**7ML1998-5KA01**
French	C)	**7ML1998-5KA11**
German	C)	**7ML1998-5KA31**
Multi-language Quick Start manual	C)	**7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Accessories		Order No.
Coaxial probe shortening kit with TFE end spacer [for process temperatures < +200 °C (+400 °F)]	C)	**A5E02455728**
Coaxial probe TFE end spacer [for process temperatures < +200 °C (+400 °F)]	C)	**A5E02479158**
SITRANS RD100 Remote display - see RD100 on page 5/304		
SITRANS RD200 Remote display - see RD200 on page 5/306		

1) Not available with O-ring option 21 (type Aegis PF128)
2) Consult factory for these options in Hastelloy C or Monel
3) Available with O-ring option 23 only (none)
4) Coaxial steam probe must be used with O-ring option 21 only (type Aegis PF128)
5) Available with Material of Construction option A and D only [316/316L (1.4401/1.4404) stainless steel]
6) Available with Model option 5 only (coaxial steam probe)
7) 2" or DN 50 minimum Process Connection and available with PEEK Spacers for temperature maximum +345 °C (+650 °F)
8) Used with Model option 2 only (coaxial High Temperature/High Pressure probe)
9) Process temperature maximum +345 °C (+650 °F)
10) Available with model options 2, 3, and 5 only (High Temperature/High Pressure, High Pressure, and Steam probes only)
11) Available with Material of Construction option E only (enlarged coaxial probe)

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

Selection and Ordering data		Order No.
SITRANS LG200 Twin Rod Probes	C)	7ML1302-
SITRANS LG200 twin rod probes are used in applications where coating and buildup are possible. Used in application with dielectric constant ≥1.9.		■■■■■-■■■0
Note: **In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).** **For orders of 10 or more, please consult factory.**		
Model		
Twin rod		1
Flexible twin rod bulk solids probe[1)]		2
Flexible twin rod probe		3
Material of Construction		
316/316L (1.4401/1.4404) stainless steel probe and process connection		A
Process Connection (size/type)		
2" NPT [(Taper), ANSI/ASME B1.20.1]		A1
G 2" [(BSPP), EN ISO 228-1]		A2
2" 150 lb ASME raised face flange		A3
2" 300 lb ASME raised face flange		B1
3" 150 lb ASME raised face flange		B2
2" 600 lb ASME raised face flange		B3
3" 300 lb ASME raised face flange		C1
4" 150 lb ASME raised face flange		C2
3" 600 lb ASME raised face flange		C3
4" 300 lb ASME raised face flange		D1
DN 50 PN 16 EN 1092-1 Type A flat faced flange		D2
4" 600 lb ASME raised face flange		D3
DN 50 PN 25/40 EN 1092-1 Type A flat faced flange		E1
DN 80 PN 16 EN 1092-1 Type A flat faced flange		E2
DN 80 PN 25/40 EN 1092-1 Type A flat faced flange		E3
DN 100 PN 16 EN 1092-1 Type A flat faced flange		E4
DN 100 PN 25/40 EN 1092-1 Type A flat faced flange		E5
Fisher Torque Tube flange, 316SS (249C)		F1
Masoneilan Torque Tube flange, 316SS		G1
Carbon Steel		
Fisher Torque Tube flange, Carbon Steel (249B)		K1
Masoneilan Torque Tube flange, Carbon Steel		L1
O-Ring		
Viton		11
EPDM (Ethylene Propylene Rubber)		12
Kalrez 4079		13
HSN (Nitrile)		14
Buna-N		15
Neoprene		16
Chemraz		17
Polyurethane		18
Aegis PF128		21
Kalrez 2035		22
Probe Insertion Length		
Add order code Y01 and plain text: "Insertion length ... cm"		
Model option 1 and Material of Construction option A: 60 to 100 cm (23.6 to 39.4")		AA
Model option 1 and Material of Construction option A: 101 to 200 cm (39.8 to 78.7")		AB
Model option 1 and Material of Construction option A: 201 to 300 cm (79.1 to 118.1")		AC

Selection and Ordering data		Order No.
SITRANS LG200 Twin Rod Probes	C)	7ML1302-
SITRANS LG200 twin rod probes are used in applications where coating and buildup are possible. Used in application with dielectric constant ≥1.9.		■■■■■-■■■0
Note: **In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).** **For orders of 10 or more, please consult factory.**		
Model option 1 and Material of Construction option A: 301 to 400 cm (118.5 to 157.5")		AD
Model option 1 and Material of Construction option A: 401 to 500 cm (157.9 to 196.9")		AE
Model option 1 and Material of Construction option A: 501 to 610 cm (197.2 to 240.2")		AF
Standard lengths[2)]		
Model option 2,3 and Material of Construction option A: 1 meter (39.4")[2)]		EA
Model option 2,3 and Material of Construction option A: 2 meters (78.7")[2)]		EB
Model option 2,3 and Material of Construction option A: 3 meters (118.1")[2)]		EC
Model option 2,3 and Material of Construction option A: 4 meters (157.5")[2)]		ED
Model option 2,3 and Material of Construction option A: 5 meters (196.9")[2)]		EE
Model option 2,3 and Material of Construction option A: 6 meters (236.2")[2)]		EF
Model option 2,3 and Material of Construction option A: 7 meters (275.6")[2)]		EG
Model option 2,3 and Material of Construction option A: 8 meters (315.0")[2)]		EH
Model option 2,3 and Material of Construction option A: 9 meters (354.3")[2)]		EJ
Model option 2,3 and Material of Construction option A: 10 meters (393.7")[2)]		EK
Model option 2,3 and Material of Construction option A: 11 meters (433.1")[2)]		EL
Model option 2,3 and Material of Construction option A: 12 meters (472.4")[2)]		EM
Model option 2,3 and Material of Construction option A: 13 meters (511.8")[2)]		EN
Model option 2,3 and Material of Construction option A: 14 meters (551.2")[2)]		EP
Model option 2,3 and Material of Construction option A: 15 meters (590.6")[2)]		EQ
Model option 2,3 and Material of Construction option A: 16 meters (629.9")[2)]		ER
Model option 2,3 and Material of Construction option A: 17 meters (669.3")[2)]		ES
Model option 2,3 and Material of Construction option A: 18 meters (708.7")[2)]		ET
Model option 2,3 and Material of Construction option A: 19 meters (748.0")[2)]		EU
Model option 2,3 and Material of Construction option A: 20 meters (787.4")[2)]		EV
Model option 2,3 and Material of Construction option A: 21 meters (826.8")[2)]		EW
Model option 2,3 and Material of Construction option A: 22.5 meters (885.8")[2)]		EX

SITRANS LG200

Selection and Ordering data — Order No.

SITRANS LG200 Twin Rod Probes C) **7ML1302-** ■■■■■-■■■0

SITRANS LG200 twin rod probes are used in applications where coating and buildup are possible. Used in application with dielectric constant ≥1.9.

Note:
In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).
For orders of 10 or more, please consult factory.

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Enter the total insertion length in plain text description, max. 610 cm (240.2") **(Not needed for standard lengths, insertion length options EA to EX)**	**Y01**
Stainless steel tag. Measuring-point number/identification (max. 16 characters); specify in plain text	**Y15**
Inspection Certificate Type 3.1 per EN 10204	**C12**
Manufacturer's test report (Hydrostatic Test)[3]	**C18**
NACE MR-0175 materials traceability[3]	**D07**

Operating Instructions		Order No.
English	C)	**7ML1998-5KA01**
French	C)	**7ML1998-5KA11**
German	C)	**7ML1998-5KA31**
Multi-language Quick Start manual	C)	**7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Accessories

SITRANS RD100 Remote display - see RD100 on page 5/304
SITRANS RD200 Remote display - see RD200 on page 5/306

1) Available with O-ring option 11 only
2) No Y01 needed in order code
3) Available with Model option 1 only

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

Selection and Ordering data — Order No.

SITRANS LG200 Single Rod Rigid Probes C) **7ML1303-** ■■■■■-■■■0

SITRANS LG200 single rod rigid probes are used in applications where coating and buildup are likely. Used in applications with dielectric constant ≥10, or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle.

Note:
In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).
For orders of 10 or more, please consult factory.

Model

Single rod rigid probe[1]	**1**
High Temperature/High Pressure Single rod[2] [3]	**2**

Material of Construction

316/316L (1.4401/1.4404) stainless steel probe and process connection	**A**
316/316L (1.4401/1.4404) stainless steel sanitary probe and process connection[1] [4]	**D**
PFA faced-flange and rod insulation, all PFA wetted parts (316 SS rod)[1] [5]	**E**
316 AL6XN stainless steel sanitary probe and process connection[1] [6]	**F**
PFA rod insulation (316 SS rod and process connection)	**J**

Process Connection (size/type)

1 or 1½" Tri-Clover 16 amp sanitary fitting[7]	**A 1**
2" NPT [(Taper), ANSI/ASME B1.20.1][8]	**A 2**
G 2" [(BSPP), EN ISO 228-1][8]	**A 3**
2" 150 lb ASME raised face flange[8]	**A 4**
2" 300 lb ASME raised face flange[8]	**A 5**
2" Tri-Clover 16 amp sanitary fitting[7]	**A 6**
¾" Tri-Clover 16 amp sanitary fitting[7] [9]	**A 7**
2½" Tri-Clover 16 amp sanitary fitting[7]	**B 0**
3" 150 lb ASME raised face flange[8]	**B 1**
3" 300 lb ASME raised face flange[8]	**B 2**
3" Tri-Clover 16 amp sanitary fitting[7]	**B 3**
4" 150 lb ASME raised face flange[8]	**C 1**
4" 300 lb ASME raised face flange[8]	**C 2**
4" Tri-Clover 16 amp sanitary fitting[7]	**C 3**
DN 50, PN 16, EN 1092-1 Type A flat faced flange[8]	**D 1**
DN 50, PN 25/40, EN 1092-1 Type A flat faced flange[8]	**D 2**
DN 80, PN 16, EN 1092-1 Type A flat faced flange[8]	**D 3**
DN 80, PN 25/40, EN 1092-1 Type A flat faced flange[8]	**D 4**
DN 100, PN 16, EN 1092-1 Type A flat faced flange[8]	**D 5**
DN 100, PN 25/40, EN 1092-1 Type A flat faced flange[8]	**D 6**
AL6XN[10]	
¾" Tri-Clover 16 amp sanitary fitting[9] [10]	**E 0**
1½" Tri-Clover 16 amp sanitary fitting[10]	**E 1**
2" Tri-Clover 16 amp sanitary fitting[10]	**E 2**
2½" Tri-Clover 16 amp sanitary fitting[10]	**E 3**
3" Tri-Clover 16 amp sanitary fitting[10]	**F 1**
4" Tri-Clover 16 amp sanitary fitting[10]	**G 1**
PFA Coated 316 stainless steel flange[11]	
2" 150 lb ASME raised face flange[11]	**H 1**
2" 300 lb ASME raised face flange[11]	**H 2**
3" 150 lb ASME raised face flange[11]	**J 1**
3" 300 lb ASME raised face flange[11]	**J 2**
4" 150 lb ASME raised face flange[11]	**K 1**
4" 300 lb ASME raised face flange[11]	**K 2**
DN 50, PN 16, EN 1092-1 Type A flat faced flange[11]	**L 1**

Selection and Ordering data	Order No.
SITRANS LG200 Single Rod Rigid Probes	C) 7ML1303-
SITRANS LG200 single rod rigid probes are used in applications where coating and buildup are likely. Used in applications with dielectric constant ≥10, or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle.	■■■■■-■■■0
Note: **In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).** **For orders of 10 or more, please consult factory.**	
DN 50, PN 25/40, EN 1092-1 Type A flat faced flange[11)]	L 2
DN 80, PN 16, EN 1092-1 Type A flat faced flange[11)]	L 3
DN 80, PN 25/40, EN 1092-1 Type A flat faced flange[11)]	L 4
DN 100, PN 16, EN 1092-1 Type A flat faced flange[11)]	L 5
DN 100, PN 25/40, EN 1092-1 Type A flat faced flange[11)]	L 6
Higher Pressure rated flanges	
ANSI/ASME	
2" 600 lb ASME raised face flange[8)]	M 0
2" 900/1500 lb ASME raised face flange[12)]	M 1
2" 2500 lb ASME raised face flange[12)]	M 2
3" 600 lb ASME raised face flange[8)]	N 0
3" 900 lb ASME raised face flange[12)]	N 3
3" 1500 lb ASME raised face flange[12)]	N 4
3" 2500 lb ASME raised face flange[12)]	N 5
4" 600 lb ASME raised face flange[8)]	P 0
4" 900 lb ASME raised face flange[12)]	P 3
4" 1500 lb ASME raised face flange[12)]	P 4
4" 2500 lb ASME raised face flange[12)]	P 5
2" 600 lb ASME ring type joint flange[8)]	Q 0
2" 900/1500 lb ASME ring type joint flange[12)]	Q 1
2" 2500 lb ASME ring type joint flange[12)]	Q 2
3" 600 lb ASME ring type joint flange[8)]	R 0
3" 900 lb ASME ring type joint flange[12)]	R 3
3" 1500 lb ASME ring type joint flange[12)]	R 4
3" 2500 lb ASME ring type joint flange[12)]	R 5
4" 600 lb ASME ring type joint flange[8)]	S 0
4" 900 lb ASME ring type joint flange[12)]	S 3
4" 1500 lb ASME ring type joint flange[12)]	S 4
4" 2500 lb ASME ring type joint flange[12)]	S 5
EN flanges	
DN 50, PN 64, EN 1092-1 Type A flat faced flange[8)]	T 0
DN 50, PN 100, EN 1092-1 Type A flat faced flange[8)]	T 1
DN 50, PN 160, EN 1092-1 Type A flat faced flange[12)]	T 2
DN 50, PN 250, EN 1092-1 Type A flat faced flange[12)]	T 3
DN 80, PN 64, EN 1092-1 Type A flat faced flange[8)]	U 0
DN 80, PN 100, EN 1092-1 Type A flat faced flange[8)]	U 1
DN 80, PN 160, EN 1092-1 Type A flat faced flange[12)]	U 2
DN 80, PN 250, EN 1092-1 Type A flat faced flange[12)]	U 3
DN 100, PN 64, EN 1092-1 Type A flat faced flange[8)]	V 0
DN 100, PN 100, EN 1092-1 Type A flat faced lange[8)]	V 1
DN 100, PN 160, EN 1092-1 Type A flat faced flange[12)]	V 2
DN 100, PN 250, EN 1092-1 Type A flat faced flange[12)]	V 3

Selection and Ordering data	Order No.
SITRANS LG200 Single Rod Rigid Probes	C) 7ML1303-
SITRANS LG200 single rod rigid probes are used in applications where coating and buildup are likely. Used in applications with dielectric constant ≥10, or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle.	■■■■■-■■■0
Note: **In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).** **For orders of 10 or more, please consult factory.**	
O-Ring	
Viton	1 1
EPDM (Ethylene Propylene Rubber)	1 2
Kalrez 4079	1 3
HSN (Nitrile)	1 4
Buna-N	1 5
Neoprene	1 6
Chemraz	1 7
Polyurethane	1 8
Aegis PF128	2 1
Kalrez 2035	2 2
None	2 3
Probe Insertion Length	
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1, 2 and Material of Construction option A: 60 to 100 cm (23.6 to 39.4")	A A
Model option 1, 2 and Material of Construction option A: 101 to 200 cm (39.8 to 78.7")	A B
Model option 1, 2 and Material of Construction option A: 201 to 300 cm (79.1 to 118.1")	A C
Model option 1, 2 and Material of Construction option A: 301 to 400 cm (118.5 to 157.5")	A D
Model option 1, 2 and Material of Construction option A: 401 to 500 cm (157.9 to 196.9")	A E
Model option 1, 2 and Material of Construction option A: 501 to 610 cm (197.2 to 240.2")	A F
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1 and Material of Construction option D: 60 to 100 cm (23.6 to 39.4")	B A
Model option 1 and Material of Construction option D: 101 to 200 cm (39.8 to 78.7")	B B
Model option 1 and Material of Construction option D: 201 to 300 cm (79.1 to 118.1")	B C
Model option 1 and Material of Construction option D: 301 to 400 cm (118.5 to 157.5")	B D
Model option 1 and Material of Construction option D: 401 to 500 cm (157.9 to 196.9")	B E
Model option 1 and Material of Construction option D: 501 to 610 cm (197.2 to 240.2")	B F
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1 and Material of Construction option F: 60 to 100 cm (23.6 to 39.4")	C A
Model option 1 and Material of Construction option F: 101 to 200 cm (39.8 to 78.7")	C B
Model option 1 and Material of Construction option F: 201 to 300 cm (79.1 to 118.1")	C C
Model option 1 and Material of Construction option F: 301 to 400 cm (118.5 to 157.5")	C D
Model option 1 and Material of Construction option F: 401 to 500 cm (157.9 to 196.9")	C E
Model option 1 and Material of Construction option F: 501 to 610 cm (197.2 to 240.2")	C F
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1 and Material of Construction option E: 60 to 100 cm (23.6 to 39.4")	D A

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SITRANS LG200

Selection and Ordering data — Order No.

SITRANS LG200 Single Rod Rigid Probes C) **7ML1303-**

SITRANS LG200 single rod rigid probes are used in applications where coating and buildup are likely. Used in applications with dielectric constant ≥10, or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle. **-** **0**

Note:
In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Model option 1 and Material of Construction option E: 101 to 200 cm (39.8 to 78.7")	**DB**
Model option 1 and Material of Construction option E: 201 to 300 cm (79.1 to 118.1")	**DC**
Model option 1 and Material of Construction option E: 301 to 400 cm (118.5 to 157.5")	**DD**
Model option 1 and Material of Construction option E: 401 to 500 cm (157.9 to 196.9")	**DE**
Model option 1 and Material of Construction option E: 501 to 610 cm (197.2 to 240.2")	**DF**
Add order code Y01 and plain text: "Insertion length ... cm"	
Model option 1 and Material of Construction option J: 60 to 100 cm (23.6 to 39.4")	**EA**
Model option 1 and Material of Construction option J: 101 to 200 cm (39.8 to 78.7")	**EB**
Model option 1 and Material of Construction option J: 201 to 300 cm (79.1 to 118.1")	**EC**
Model option 1 and Material of Construction option J: 301 to 400 cm (118.5 to 157.5")	**ED**
Model option 1 and Material of Construction option J: 401 to 500 cm (157.9 to 196.9")	**EE**
Model option 1 and Material of Construction option J: 501 to 610 cm (197.2 to 240.2")	**EF**
Add order code Y01 and plain text: "Insertion length ... cm" (¾" Process Connection only)	
Model option 1 and Material of Construction option D and F: 60 to 100 cm (23.6 to 39.4")[13]	**FA**
Model option 1 and Material of Construction option D and F: 101 to 180 cm (39.8 to 72")[13]	**FB**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Enter the total insertion length in plain text description, max. 610 cm (240.2")	**Y01**
Stainless steel tag. Measuring-point number/identification (max. 16 characters); specify in plain text	**Y15**
Inspection Certificate Type 3.1 per EN 10204	**C12**
Manufacturer's test report (Hydrostatic Test)	**C18**
NACE MR-0175 materials traceability	**D07**

Operating Instructions		Order No.
English	C)	**7ML1998-5KA01**
French	C)	**7ML1998-5KA11**
German	C)	**7ML1998-5KA31**
Multi-language Quick Start manual	C)	**7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Selection and Ordering data — Order No.

SITRANS LG200 Single Rod Rigid Probes C) **7ML1303-**

SITRANS LG200 single rod rigid probes are used in applications where coating and buildup are likely. Used in applications with dielectric constant ≥10, or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle. **-** **0**

Note:
In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Accessories

TFE bottom spacer/endplate	C)	**7ML1930-1DJ**
SITRANS RD100 Remote display - see RD100 on page 5/304		
SITRANS RD200 Remote display - see RD200 on page 5/306		

1) Model option 1 with Material of Construction options D, E, F, available with O-ring option 23 only
2) Available with O-ring option 21 only
3) Available with Material of Construction option A only
4) Available with Process Connection options A1, A6, A7, B0, B3, C3 only
5) Available with Process Connection options H1, H2, J1, J2, K1, K2, L1, L2, L3, L4, L5, L6 only.
6) Available with Process Connection options E0, E1, E2, E3, F1, G1 only
7) Available with Material of Construction option D only
8) Available with Material of Construction options A and J only
9) Available with Probe Insertion Length options FA and FB only
10) Available with Material of Construction option F only
11) Available with Material of Construction option E only
12) Available with Model option 2 only
13) Available with Process Connection options A7 and E0 only (¾")
C) Subject to export regulations AL: N, ECCN: EAR99

Selection and Ordering data

Order No.

SITRANS LG200 Single Rod Flexible Probes C) **7ML1304-**

SITRANS LG200 single rod flexible probes are used in applications where coating and buildup are possible. Used in applications with dielectric constant ≥10 or dk >1.9 when installed within 2 to 6" of a metal tank wall or in cage or bridle. For solids version only, dk>4.

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For orders of 10 or more, please consult factory.

Model										
Single rod flexible probe	**1**									
Single rod bulk solids flexible probe[1)]	**2**									
Material of Construction										
316/316L (1.4401/1.4404) stainless steel probe and process connection		**A**								
Process Connection (size/type)										
316/316L (1.4401/1.4404)										
2" NPT [(Taper), ANSI/ASME B1.20.1]			**A**	**0**						
G 2" [(BSPP), EN ISO 228-1]			**A**	**1**						
2" 150 lb ASME raised face flange			**A**	**2**						
2" 300 lb ASME raised face flange			**A**	**3**						
3" 150 lb ASME raised face flange			**B**	**1**						
3" 300 lb ASME raised face flange			**B**	**2**						
4" 150 lb ASME raised face flange			**C**	**1**						
4" 300 lb ASME raised face flange			**C**	**2**						
DN 50 PN 16 EN 1092-1 Type A flat faced flange			**D**	**1**						
DN 50 PN 25/40 EN 1092-1 Type A flat faced flange			**D**	**2**						
DN 80 PN 16 EN 1092-1 Type A flat faced flange			**E**	**1**						
DN 80 PN 25/40 EN 1092-1 Type A flat faced flange			**E**	**2**						
DN 100 PN 16 EN 1092-1 Type A flat faced flange			**F**	**1**						
DN 100 PN 25/40 EN 1092-1 Type A flat faced flange			**F**	**2**						
O-Ring										
Viton					**1**	**1**				
EPDM (Ethylene Propylene Rubber)					**1**	**2**				
Kalrez 4079					**1**	**3**				
HSN (Nitrile)					**1**	**4**				
Buna-N					**1**	**5**				
Neoprene					**1**	**6**				
Chemraz					**1**	**7**				
Polyurethane					**1**	**8**				
Aegis PF128					**2**	**1**				
Kalrez 2035					**2**	**2**				
Flexible Rod Length (To be shortened by customer as required)										
1 meter (39.4")							**A**	**A**		
2 meters (78.7")							**A**	**B**		
3 meters (118.1")							**A**	**C**		
4 meters (157.5")							**A**	**D**		
5 meters (196.9")							**A**	**E**		
6 meters (236.2")							**A**	**F**		
7 meters (275.6")							**A**	**G**		
8 meters (315.0)							**A**	**H**		
9 meters (354.3")							**A**	**J**		
10 meters (393.7")							**A**	**K**		
11 meters (433.1")							**A**	**L**		
12 meters (472.4")							**A**	**M**		
13 meters (511.8")							**A**	**N**		
14 meters (551.2")							**A**	**P**		
15 meters (590.6")							**A**	**Q**		
16 meters (629.9")							**A**	**R**		
17 meters (669.3")							**A**	**S**		
18 meters (708.7")							**A**	**T**		
19 meters (748.0")							**A**	**U**		
20 meters (787.4")							**A**	**V**		
21 meters (826.8")							**A**	**W**		
22.5 meters (885.8")							**A**	**X**		

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag. Measuring-point number/identification (max. 16 characters); specify in plain text	**Y15**

Operating Instructions	Order No.
English	C) **7ML1998-5KA01**
French	C) **7ML1998-5KA11**
German	C) **7ML1998-5KA31**
Multi-language Quick Start manual	C) **7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Accessories

SITRANS RD100 Remote display - see RD100 on page 5/304

SITRANS RD200 Remote display - see RD200 on page 5/306

1) Available with O-ring option 1 1 only (others on request)

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

5

SITRANS LG200

Selection and Ordering data

Order No.

SITRANS LG200 Chamber Replacement Probe C) **7ML1305-**

SITRANS LG200 Chamber Replacement Probe replaces existing aging torque tube transmitters. Proprietary flanges can be used with existing chambers and cages.

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For this option, please consult factory

Model	
Chamber Replacement Probe[1]	**1**
Chamber/Process Connection Material of Construction	
316/316L stainless steel (B31.1 construction)	**A**
Carbon Steel (106 Grade B)[2]	**B**
Carbon Steel (B31.1 construction)	**C**
Process Connection (size/type)	
1½" NPT [(Taper), ANSI/ASME B1.20.1] thread	**A 0**
1½", 150 lb ASME raised face flange	**A 1**
1½", 300 lb ASME raised face flange	**A 2**
1½", 600 lb ASME raised face flange	**A 3**
1½" Socket weld	**B 1**
2" NPT [(Taper), ANSI/ASME B1.20.1] thread	**B 2**
2", 150 lb ASME raised face flange	**C 1**
2", 300 lb ASME raised face flange	**C 2**
2", 600 lb ASME raised face flange	**D 1**
2" Socket weld	**D 2**
Other flange sizes available. Please consult factory.	
Level Range	
14" (0.356 meters)	**1**
Other level ranges available. Please consult factory.	
Process Connection Configuration	
Top In, Bottom Out	**1**
Top In, Bottom Out, with Sight Glass Connections	**2**
Other configurations available. Please consult factory.	
Temperature Range	
+316 °C (+600 °F) (Dielectric constant ≥ 10)	**A**
+260 °C (+500 °F) (Dielectric constant ≥ 1.4)	**B**
Chamber Type	
Fisher 249B	**A**
Fisher 259B	**B**
Fisher 249	**C**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag. Measuring-point number/identification (max. 16 characters); specify in plain text	**Y15**
Inspection Certificate Type 3.1 per EN 10204	**C12**
NACE MR-0175 materials traceability	**D07**

Operating Instructions		Order No.
English	C)	**7ML1998-5KA01**
French	C)	**7ML1998-5KA11**
German	C)	**7ML1998-5KA31**
Multi-language Quick Start manual	C)	**7ML1998-5XG81**

This device is shipped with the Siemens Milltronics manual CD containing the complete Operating Instructions library.

Selection and Ordering data

Order No.

SITRANS LG200 Chamber Replacement Probe C) **7ML1305-**

SITRANS LG200 Chamber Replacement Probe replaces existing aging torque tube transmitters. Proprietary flanges can be used with existing chambers and cages.

Note:

In addition to the probe, please select a transmitter configuration to complete the SITRANS LG200 (ordered separately).

For this option, please consult factory

Accessories

SITRANS RD100 Remote display - see RD100 on page 5/304

SITRANS RD200 Remote display - see RD200 on page 5/306

1) Probe is always 316/316L (1.4401/1.4404) Stainless Steel construction regardless of chamber and process connection materials.

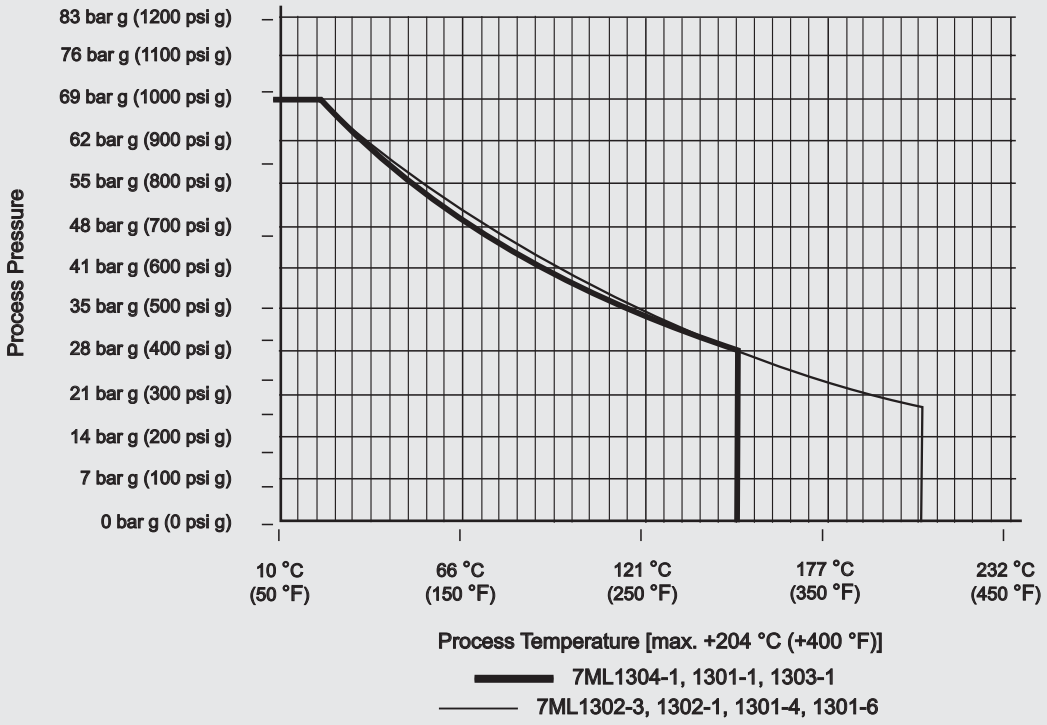
2) Available Process Connection Configuration option 1 only

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

5

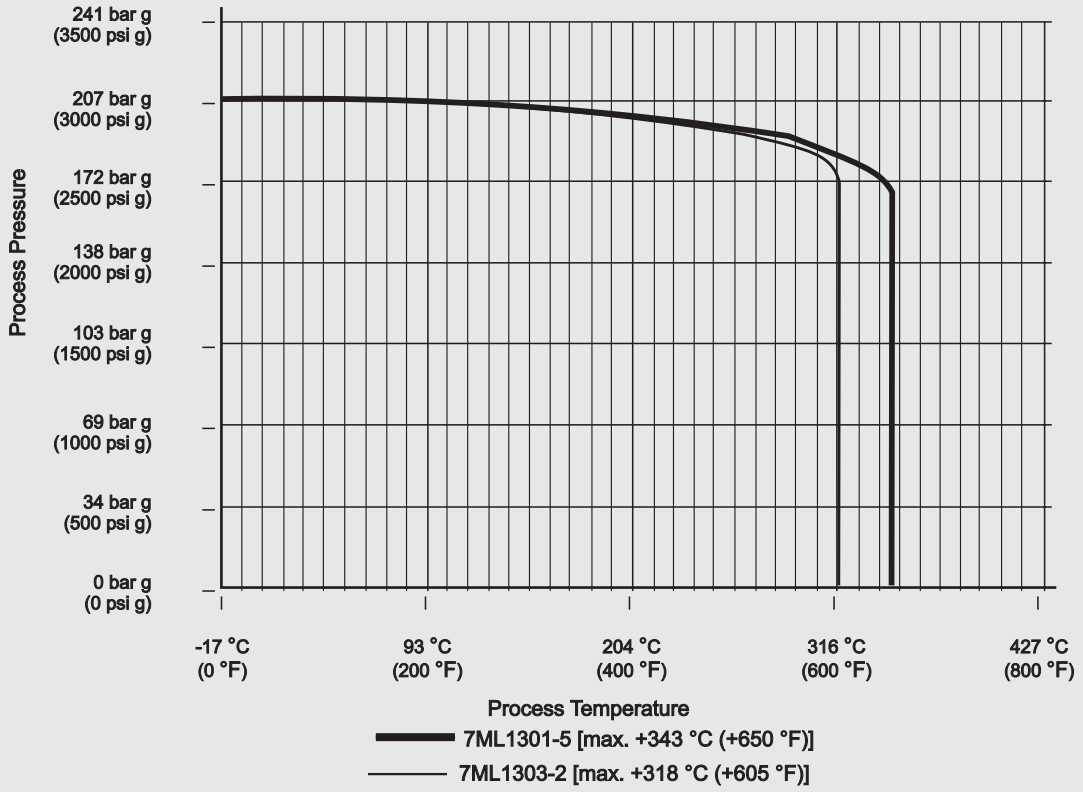
Characteristic curves

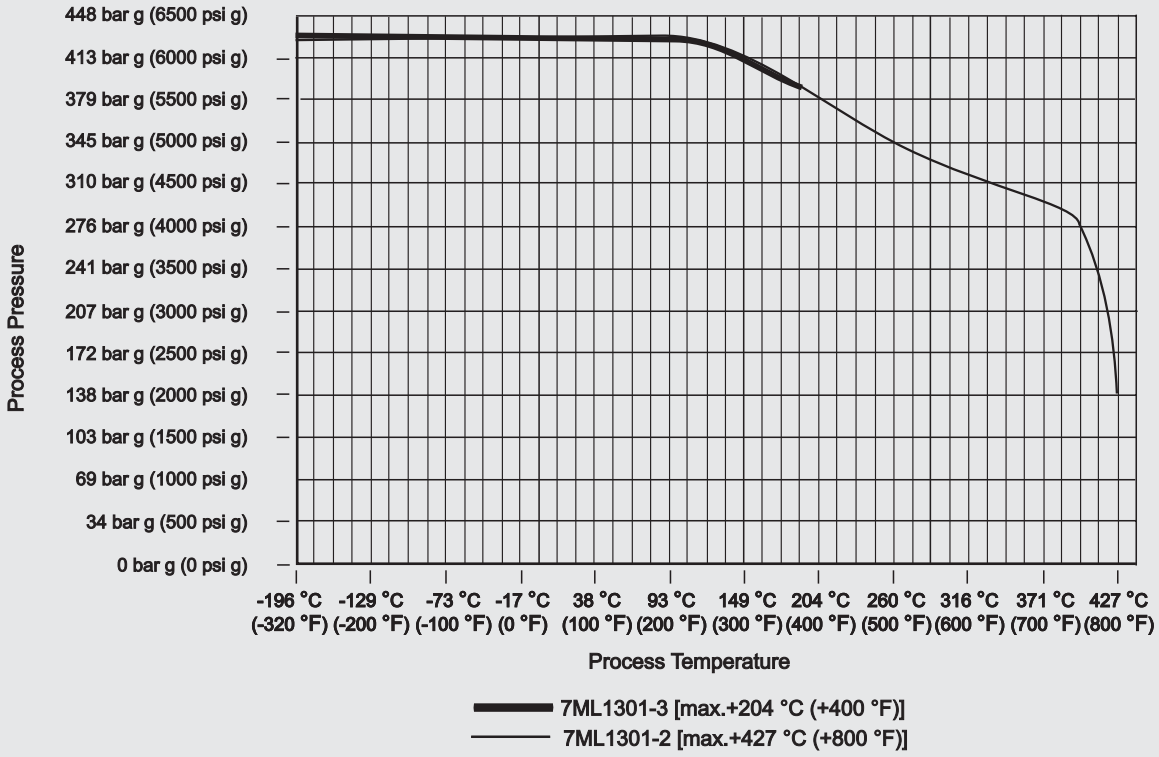




SITRANS LG200 Process Pressure/Temperature derating curves

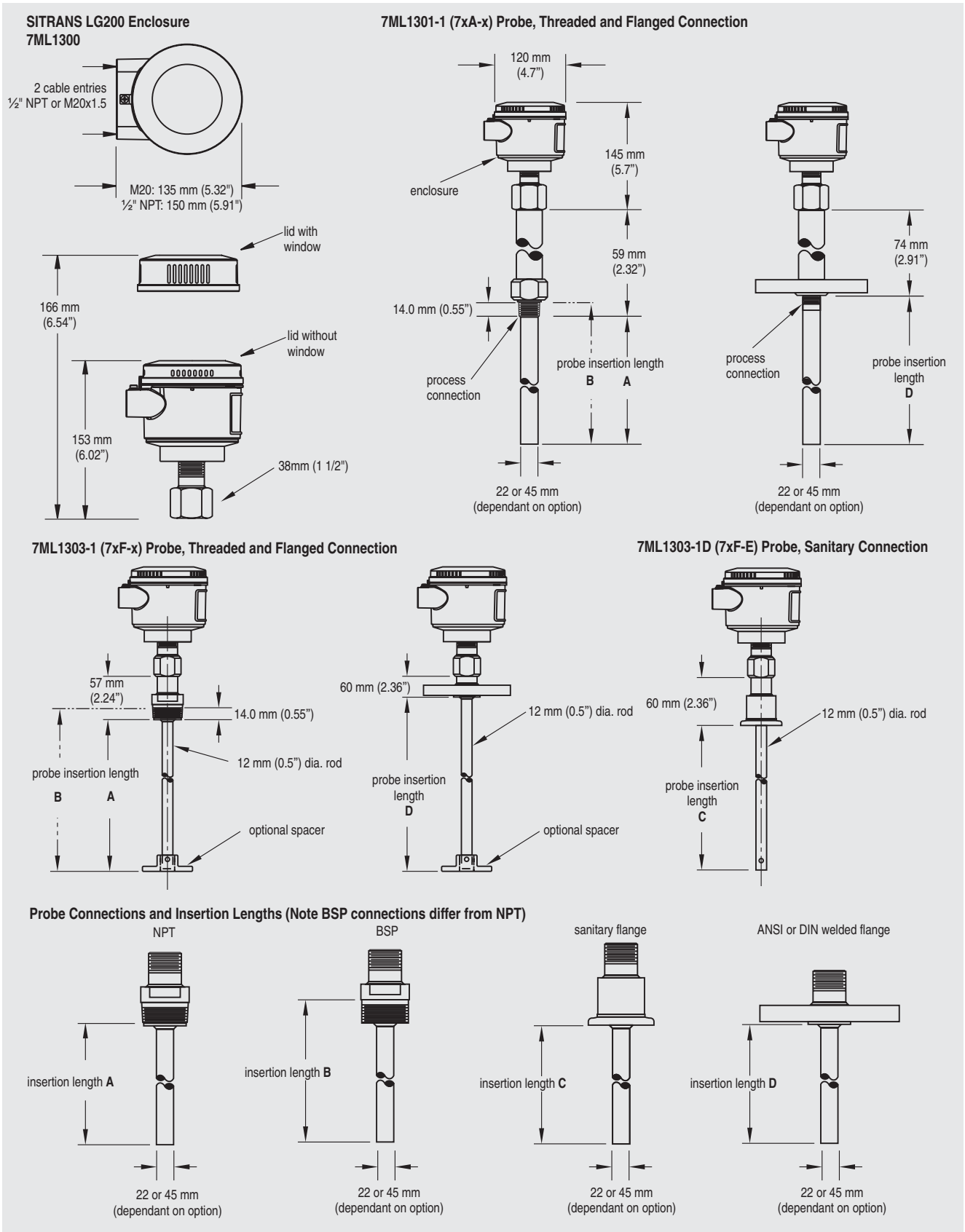
SITRANS LG200





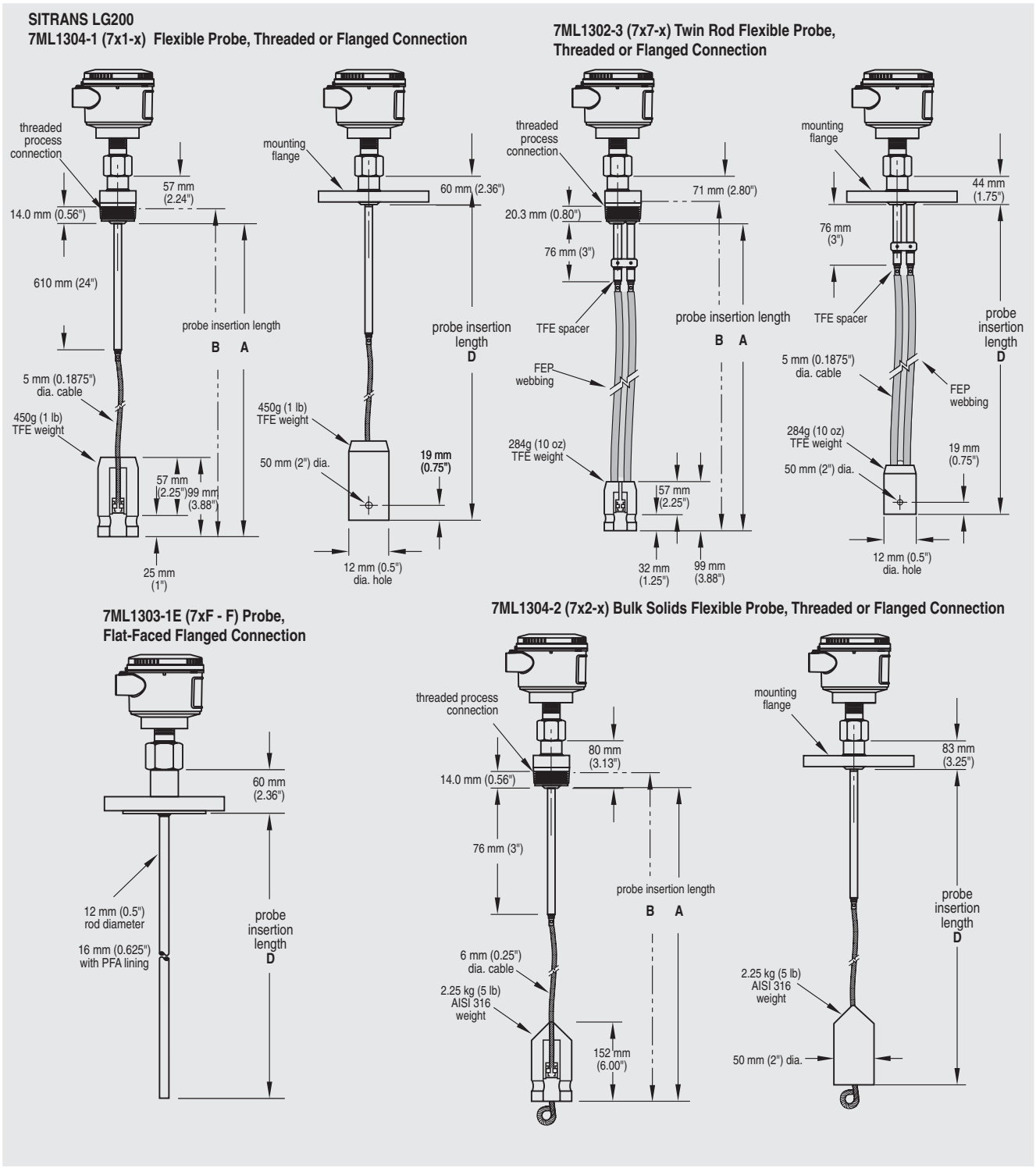
SITRANS LG200 Process Pressure/Temperature derating curves

Dimensional drawings



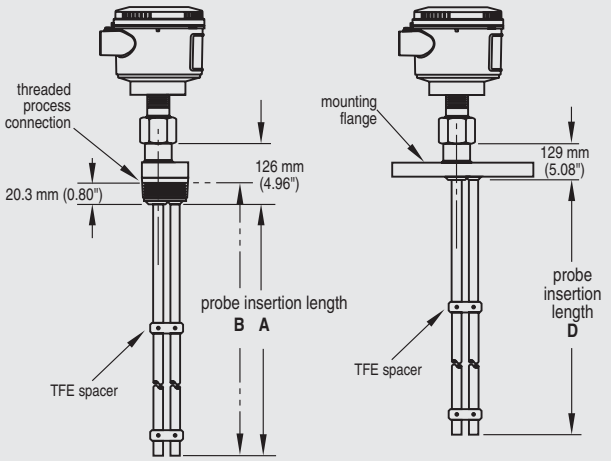
SITRANS LG200 dimensions (threaded process connection dimensions shown are NPT connections unless stated otherwise)

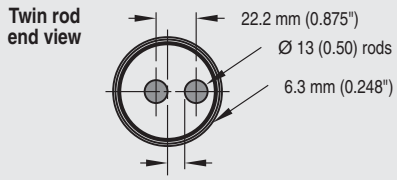
SITRANS LG200



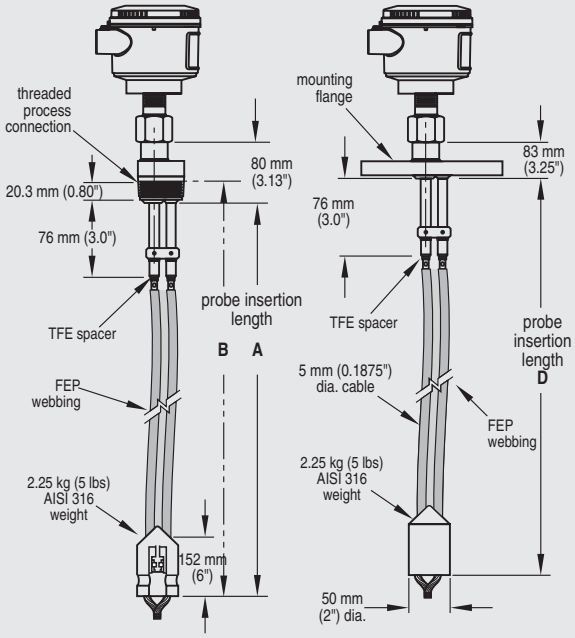
SITRANS LG200 dimensions (threaded process connection dimensions shown are NPT connections unless stated otherwise)

SITRANS LG200
7ML1302-1 (7xB-x) Twin Rod Probe, Threaded and Flanged Connection

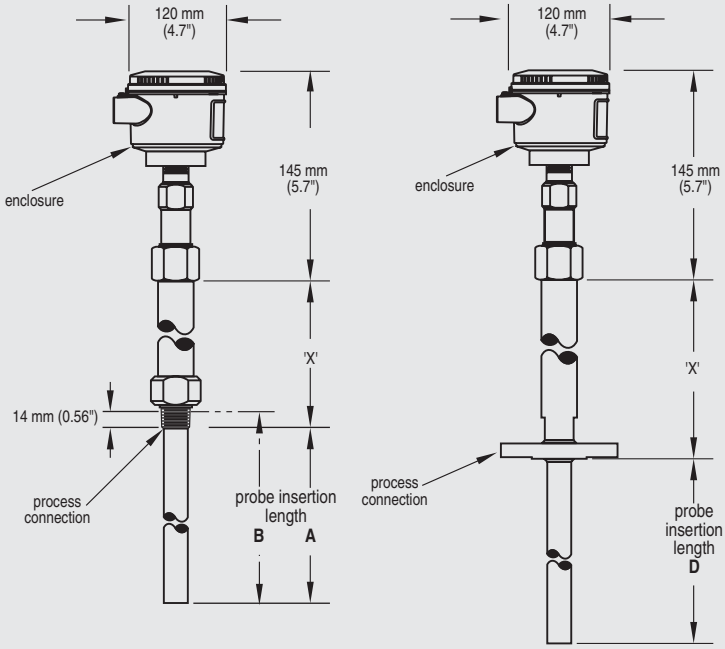




7ML1302-2 (7x5-x) Twin Rod Bulk Solids Flexible Probe Threaded or Flanged Connection



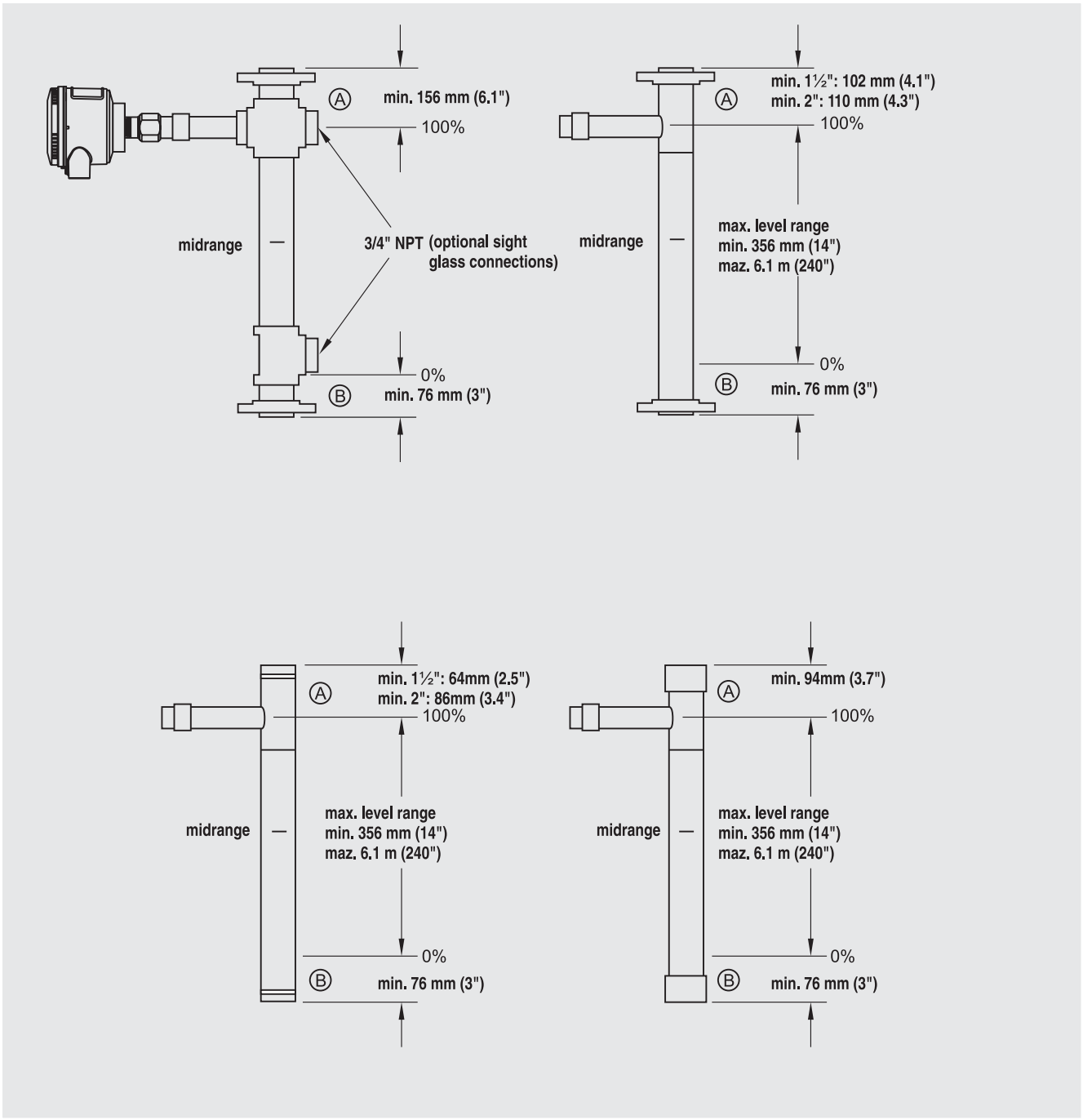
7ML1301-2 (7xD-x), 7ML1301-3 (7xP-x), 7ML1301-4 (7xR-x), 7ML1301-6 (7xT-x), Threaded or Flanged Connection



Probes	'X' Dimension (NPT)	'X' Dimension (Flanged)
7ML1301-2 (Coaxial HT/HP Probe)	217 mm (8.55")	277 mm (10.91")
7ML1301-3 (Coaxial HP Probe)	106 mm (4.18")	166 mm (6.54")
7ML1301-4 (Coaxial Overfill/Flooded Cage Probe), 7ML1301-6 (Coaxial Interface Probe)	150 mm (5.89")	167 mm (6.57")
7ML1301-5 (Coaxial HT/HP Steam Probe)	180 mm (7.10")	242 mm (9.52")

SITRANS LG200 dimensions (threaded process connection dimensions shown are NPT connections unless stated otherwise)

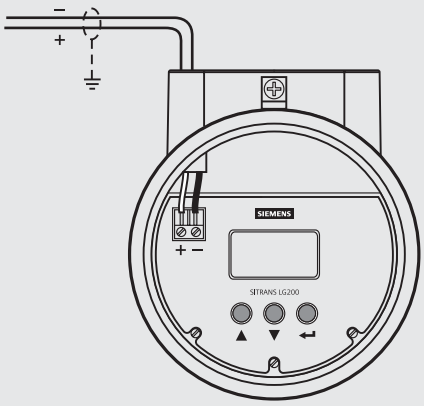
SITRANS LG200



SITRANS LG200 - Model 7ML1305-1 Chamber Replacement Probe

Schematics

SITRANS LG200 General Purpose Wiring



Intrinsically Safe wiring
When connecting SITRANS LG200 in Intrinsically Safe applications, install an approved IS barrier in the non-hazardous (safe) area.

Explosion Proof wiring
When connecting SITRANS LG200 in hazardous areas with explosion hazard, the wiring for the transmitter must be contained in Explosion Proof conduit extending into the safe area. An Explosion Proof conduit fitting is not required within 457 mm (18") of the transmitter. An Explosion Proof conduit fitting is required between the hazardous and safe areas.

SITRANS LG200 connections