

# Level Measurement

## Continuous level measurement – Capacitance transmitters

### SITRANS LC500

4

Selection and Ordering data	Article No.
<b>SITRANS LC500, Threaded or Welded Flange with Cable Sensor</b>	<b>7ML5513-</b>
Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.	
<b>Version<sup>1)</sup></b>	
Cable, 9 mm (0.35 inch) diameter, 316 stainless steel with PFA insulation, weighted <u>Add Order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u>	
1 000 ... 2 000 mm (39.37 ... 78.74 inch)	<b>0 E</b>
2 001 ... 4 000 mm (78.78 ... 157.48 inch)	<b>1 E</b>
4 001 ... 6 000 mm (157.52 ... 236.22 inch)	<b>2 E</b>
6 001 ... 8 000 mm (236.26 ... 314.96 inch)	<b>3 E</b>
8 001 ... 10 000 mm (315 ... 393.70 inch)	<b>4 E</b>
Longer lengths possible to a max. of 35 000 mm (114.83 ft). Contact <a href="mailto:ceg.smpi@siemens.com">ceg.smpi@siemens.com</a> for details.	
Cable, 6 mm (0.24 inch) diameter, 316L stainless steel, non-insulated, weighted (non-conductive media only) <u>Add Order code Y01 and plain text:</u> <u>"Insertion length ... mm"</u>	
1 000 ... 2 000 mm (39.37 ... 78.74 inch) <sup>2)</sup>	<b>0 F</b>
2 001 ... 4 000 mm (78.78 ... 157.48 inch) <sup>2)3)</sup>	<b>1 F</b>
4 001 ... 6 000 mm (157.52 ... 236.22 inch) <sup>2)3)</sup>	<b>2 F</b>
6 001 ... 8 000 mm (236.26 ... 314.96 inch) <sup>2)3)</sup>	<b>3 F</b>
8 001 ... 10 000 mm (315 ... 393.70 inch) <sup>2)3)</sup>	<b>4 F</b>
Cable lengths up to 25 000 mm (984.25 inch) are possible for non-conductive media. Cable lengths up to 15 000 mm (590.55 inch) are possible for conductive media. Contact <a href="mailto:ceg.smpi@siemens.com">ceg.smpi@siemens.com</a> for details.	
<b>Process connection (316L stainless steel)</b>	
<b>Threaded connection</b>	
1½" NPT [(Taper), ANSI/ASME B1.20.1]	<b>C 0</b>
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	<b>F 0</b>
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	<b>K 0</b>
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	<b>L 0</b>
<b>Welded flange, raised face</b>	
1½", ASME, 150 lb	<b>B 1</b>
1½", ASME, 300 lb	<b>B 2</b>
1½", ASME, 600 lb	<b>B 3</b>
2", ASME, 150 lb	<b>C 1</b>
2", ASME, 300 lb	<b>C 2</b>
2", ASME, 600 lb	<b>C 3</b>
3", ASME, 150 lb <sup>3)</sup>	<b>D 1</b>
3", ASME, 300 lb <sup>3)</sup>	<b>D 2</b>
3", ASME, 600 lb <sup>3)</sup>	<b>D 3</b>
4", ASME, 150 lb <sup>3)</sup>	<b>E 1</b>
4", ASME, 300 lb <sup>3)</sup>	<b>E 2</b>
4", ASME, 600 lb <sup>3)</sup>	<b>E 3</b>
6", ASME, 150 lb <sup>3)</sup>	<b>F 1</b>
6", ASME, 300 lb <sup>3)</sup>	<b>F 2</b>
6", ASME, 600 lb <sup>3)</sup>	<b>F 3</b>
<b>Welded flange, Type A flat faced</b>	
DN 40, PN 16	<b>K 4</b>
DN 40, PN 40	<b>K 5</b>
DN 50, PN 16	<b>L 4</b>
DN 50, PN 40	<b>L 5</b>
DN 80, PN 16	<b>M 4</b>
DN 80, PN 40 <sup>3)</sup>	<b>M 5</b>
DN 100, PN 16 <sup>3)</sup>	<b>N 4</b>
DN 100, PN 40 <sup>3)</sup>	<b>N 5</b>
DN 125, PN 16 <sup>3)</sup>	<b>P 4</b>
DN 125, PN 40 <sup>3)</sup>	<b>P 5</b>
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1 standard.)	

Selection and Ordering data	Article No.
<b>SITRANS LC500, Threaded or Welded Flange with Cable Sensor</b>	<b>7ML5513-</b>
Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.	
<b>Approvals</b>	
General Purpose: CE, CSA, FM, C-TICK, KC	<b>1</b>
CSA / FM Class I, Div. 2, Groups A, B, C, D	<b>2</b>
CSA / FM Class II, III, Div. 1, Groups E, F, G T4	<b>4</b>
ATEX II 3G 2D EEx nA [ib] IIC T6 ... T4 T 100 °C	<b>6</b>
ATEX II 1/2 GD EEx d [ia] IIC T6 ... T1 T 100 °C	
FM Class I, Div.1, Groups A, B, C, D, T4	
<b>Enclosure/Cable inlet</b>	
<u>Aluminum epoxy coated</u>	
2 x ½" NPT, IP68	<b>1</b>
2 x M20x1.5 (IP68, adapter)	<b>2</b>
<b>Options</b>	
No additional options	<b>A</b>
With mounting eye <sup>4)</sup>	<b>B</b>
<b>Thermal isolator</b>	
Without thermal isolator	<b>A</b>
Isolator, only for use when temperature range is outside of -40 ... +85 °C (-40 ... +185 °F), explosion proof approval -40 ... +70 °C (-40 ... +158 °F)	<b>B</b>
<b>Electronic output</b>	
2-wire loop current 4 ... 20 mA (transmitter MSP 2002-2 _3300 pF)	<b>1</b>
<sup>1)</sup> A minimum span of 3 pF must be maintained	
<sup>2)</sup> Available with non-conductive media only	
<sup>3)</sup> Custom shipping methods required. Contact factory for more details.	
<sup>4)</sup> Available in PFA insulated version only	

Selection and Ordering data	Order code
<b>Further designs</b>	
Please add "-Z" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	<b>Y01</b>
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	<b>Y15</b>
Manufacturer's test certificate: M to DIN 55350, Part 18 and to ISO 9000	<b>C11</b>
Inspection Certificate Type 3.1 per EN 10204	<b>C12</b>
<b>Operating Instructions</b>	<b>See page 4/322</b>
<b>Accessories</b>	<b>See page 4/322</b>

# Level Measurement

## Continuous level measurement – Capacitance transmitters

SITRANS LC500

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
<b>SITRANS LC500, Threaded or Welded Flange, with Rod Sensor</b>	<b>7ML5515-</b>	<b>SITRANS LC500, Threaded or Welded Flange, with Rod Sensor</b>	<b>7ML5515-</b>
Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.		Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.	
<b>Version</b>		<b>Welded flange, raised face</b>	
Rod, 16 mm (0.63 inch), PFA insulated		1½", ASME, 150 lb	B 1
<u>Add Order code Y01 and Y02 and plain text:</u>		1½", ASME, 300 lb	B 2
<u>"Insertion length ... mm and active shield length ... mm"</u>		1½", ASME, 600 lb	B 3
200 ... 1 000 mm (7.87 ... 39.37 inch) <sup>1)</sup>	0 A	2", ASME, 150 lb	C 1
1 001 ... 2 000 mm (39.41 ... 78.74 inch)	1 A	2", ASME, 300 lb	C 2
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)</sup>	2 A	2", ASME, 600 lb	C 3
3 001 ... 3 500 mm (118.15 ... 137.80 inch) <sup>2)</sup>	3 A	3", ASME, 150 lb <sup>2)</sup>	D 1
Rod, 16 mm (0.63 inch), PFA insulated with 35 mm (1.38 inch) stilling well in 316L stainless steel		3", ASME, 300 lb <sup>2)</sup>	D 2
<u>Add Order code Y01 and Y02 and plain text:</u>		3", ASME, 600 lb <sup>2)</sup>	D 3
<u>"Insertion length ... mm and active shield length ... mm"</u>		4", ASME, 150 lb <sup>2)</sup>	E 1
200 ... 1 000 mm (7.87 ... 39.37 inch) <sup>1)3)</sup>	0 B	4", ASME, 300 lb <sup>2)</sup>	E 2
1 001 ... 2 000 mm (39.41 ... 78.74 inch) <sup>3)</sup>	1 B	4", ASME, 600 lb <sup>2)</sup>	E 3
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)3)</sup>	2 B	6", ASME, 150 lb <sup>2)</sup>	F 1
3 001 ... 3 500 mm (118.15 ... 137.80 inch) <sup>2)3)</sup>	3 B	6", ASME, 300 lb <sup>2)</sup>	F 2
Rod, 24 mm (0.94 inch), PFA insulated		6", ASME, 600 lb <sup>2)</sup>	F 3
<u>Add Order code Y01 and Y02 and plain text:</u>		<b>Welded flange, Type A flat faced</b>	
<u>"Insertion length ... mm and active shield length ... mm"</u>		DN 40, PN 16	K 4
200 ... 1 000 mm (7.87 ... 39.37 inch) <sup>4)</sup>	0 C	DN 40, PN 40	K 5
1 001 ... 2 000 mm (39.41 ... 78.74 inch) <sup>4)</sup>	1 C	DN 50, PN 16	L 4
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)4)</sup>	2 C	DN 50, PN 40	L 5
3 001 ... 4 000 mm (118.15 ... 157.48 inch) <sup>2)4)</sup>	3 C	DN 80, PN 16	M 4
4 001 ... 5 000 mm (173.26 ... 196.88 inch) <sup>2)4)</sup>	4 C	DN 80, PN 40 <sup>2)</sup>	M 5
5 001 ... 5 500 mm (196.89 ... 216.54 inch) <sup>2)4)</sup>	5 C	DN 100, PN 16 <sup>2)</sup>	N 4
Rod, 24 mm (0.94 inch), PFA insulated with 48 mm (1.89 inch) stilling well in 316L stainless steel		DN 100, PN 40 <sup>2)</sup>	N 5
<u>Add Order code Y01 and Y02 and plain text:</u>		DN 125, PN 16 <sup>2)</sup>	P 4
<u>"Insertion length ... mm and active shield length ... mm"</u>		DN 125, PN 40 <sup>2)</sup>	P 5
200 ... 1 000 mm (7.87 ... 39.37 inch) <sup>5)</sup>	0 D	(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1 standard.)	
1 001 ... 2 000 mm (39.41 ... 78.74 inch) <sup>5)</sup>	1 D	<b>Approvals</b>	
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)5)</sup>	2 D	General Purpose: CE, CSA, FM, C-TICK, KC	1
3 001 ... 4 000 mm (118.15 ... 157.48 inch) <sup>2)5)</sup>	3 D	CSA / FM Class I, Div. 2, Groups A, B, C, D	2
4 001 ... 5 000 mm (173.26 ... 196.88 inch) <sup>2)5)</sup>	4 D	CSA / FM Class II, III, Div. 1, Groups E, F, G T4	
5 001 ... 5 500 mm (196.89 ... 216.54 inch) <sup>2)5)</sup>	5 D	ATEX II 3G 2D EEx nA [ib] IIC T6 ... T4 T 100 °C	4
		ATEX II 1/2 GD EEx d [ia] IIC T6 ... T1 T 100 °C	6
		FM Class I, Div.1, Groups A, B, C, D, T4	
<b>Process connection (316L stainless steel)</b>		<b>Enclosure/Cable inlet</b>	
<b>Threaded connection</b>		Aluminum epoxy coated	
¾" NPT [(Taper), ANSI/ASME B1.20.1]	A 0	2 x ½" NPT, IP68	1
1" NPT [(Taper), ANSI/ASME B1.20.1]	B 0	2 x M20 x1.5 (IP68, adapter)	2
1½" NPT [(Taper), ANSI/ASME B1.20.1]	C 0	<b>Options</b>	
2" NPT [(Taper), ANSI/ASME B1.20.1]	D 0	No additional options	A
R ¾" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	E 0	Slotted holes instead of standard vent holes in stilling well (refer to Operating Instructions for dimensions.) <sup>6)</sup>	B
R 1" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	F 0	<b>Thermal isolator/remote version</b>	
R 1½" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	J 0	Without thermal isolator or remote electronics	A
R 2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	K 0	Thermal isolator, only for use when temperature range is outside of -40 ... +85 °C (-40 ... +185 °F), explosion proof approval -40 ... +70 °C (-40 ... +158 °F)	B
1¼" NPT [(Taper), ANSI/ASME B1.20.1]	N 0	Remote electronics with mounting bracket and cable <sup>7)</sup>	
G ¾" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	P 0	• Length: 2 m (79 inch)	C
G 1" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	R 0	• Length: 3 m (118 inch)	D
G 1½" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	S 0	• Length: 4 m (158 inch)	E
G 2" [(BSPP), EN ISO 228-1/PF (JIS-P), JIS B 0202]	T 0	• Length: 5 m (197 inch)	F

# Level Measurement

## Continuous level measurement – Capacitance transmitters

### SITRANS LC500

#### Selection and Ordering data

##### SITRANS LC500, Threaded or Welded Flange, with Rod Sensor

Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.

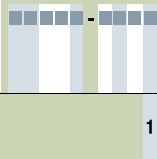
##### Electronic output

2-wire loop current 4 ... 20 mA  
(transmitter MSP 2002-2\_3300 pF)

- 1) A minimum span of 3 pF must be maintained
- 2) Custom shipping methods required. Contact factory for more details.
- 3) Available with process connection 1½" or larger
- 4) Available with process connection 1" or larger
- 5) Available with process connection 2" or larger
- 6) Available with version 0B ... 3B, 0D ... 5D and 0F only
- 7) Available with approval option 1 only

#### Article No.

7ML5515-



1

#### Selection and Ordering data

##### Further designs

Please add "-Z" to Article No. and specify Order code(s).

Insertion length, specify in plain text: Y01: ... mm

Active shield length, specify in plain text [min. length is 50 mm (2 inch)]: Y02: ... mm

Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]:  
Measuring-point number/identification (max. 27 characters) specify in plain text

Manufacturer's test certificate: M to DIN 55350, Part 18 and to ISO 9000

Inspection Certificate Type 3.1 per EN 10204

Manufacturing Test Report (Electrode Test)

##### Operating Instructions

##### Accessories

#### Order code

Y01

Y02

Y15

C11

C12

C18

See page 4/322

See page 4/322

# Level Measurement

## Continuous level measurement – Capacitance transmitters

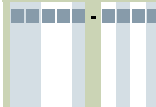
SITRANS LC500

Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
<b>SITRANS LC500, Single Piece Flanged with Rod Sensor</b>	<b>7ML5517-</b>	<b>SITRANS LC500, Single Piece Flanged with Rod Sensor</b>	<b>7ML5517-</b>
Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.		Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.	
<b>Version</b>		<b>Single piece flange, Type B1 raised face</b>	
Rod, 16 mm (0.63 inch), PFA insulated		DN 40, PN 16	<b>K 4</b>
<u>Add Order code Y01 and Y02 and plain text:</u>		DN 40, PN 40	<b>K 5</b>
<u>"Insertion length ... mm and active shield length ... mm"</u>		DN 50, PN 16	<b>L 4</b>
250 ... 1 000 mm (9.84 ... 39.37 inch) <sup>1)</sup>	<b>0 A</b>	DN 50, PN 40	<b>L 5</b>
1 001 ... 2 000 mm (39.41 ... 78.74 inch)	<b>1 A</b>	DN 80, PN 16	<b>M 4</b>
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)</sup>	<b>2 A</b>	DN 80, PN 40 <sup>2)</sup>	<b>M 5</b>
3 001 ... 3 500 mm (118.15 ... 137.80 inch) <sup>2)</sup>	<b>3 A</b>	DN 100, PN 16 <sup>2)</sup>	<b>N 4</b>
Rod, 16 mm (0.63 inch), PFA insulated with 35 mm (1.34 inch) stilling well in 316L stainless steel		DN 100, PN 40 <sup>2)</sup>	<b>N 5</b>
<u>Add Order code Y01 and Y02 and plain text:</u>		DN 125, PN 16 <sup>2)</sup>	<b>P 4</b>
<u>"Insertion length ... mm and active shield length ... mm"</u>		DN 125, PN 40 <sup>2)</sup>	<b>P 5</b>
250 ... 1 000 mm (9.84 ... 39.37 inch)	<b>0 B</b>	<b>Single piece flange with PTFE flange facing</b>	
1 001 ... 2 000 mm (39.41 ... 78.74 inch)	<b>1 B</b>	<u>(applicable with versions 0A ... 3A and 0C ... 5C)<sup>4)</sup></u>	
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)</sup>	<b>2 B</b>	1½" ASME, 150 lb	<b>B 4</b>
3 001 ... 3 500 mm (118.15 ... 137.80 inch) <sup>2)</sup>	<b>3 B</b>	1½", ASME, 300 lb	<b>B 5</b>
Rod, 24 mm (0.94 inch), PFA insulated		1½", ASME, 600 lb	<b>B 6</b>
<u>Add Order code Y01 and Y02 and plain text:</u>		2", ASME, 150 lb	<b>C 4</b>
<u>"Insertion length ... mm and active shield length ... mm"</u>		2", ASME, 300 lb	<b>C 5</b>
250 ... 1 000 mm (9.84 ... 39.37 inch)	<b>0 C</b>	2", ASME, 600 lb	<b>C 6</b>
1 001 ... 2 000 mm (39.41 ... 78.74 inch)	<b>1 C</b>	3", ASME, 150 lb <sup>2)</sup>	<b>D 4</b>
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)</sup>	<b>2 C</b>	3", ASME, 300 lb <sup>2)</sup>	<b>D 5</b>
3 001 ... 4 000 mm (118.15 ... 157.48 inch) <sup>2)</sup>	<b>3 C</b>	3", ASME, 600 lb <sup>2)</sup>	<b>D 6</b>
4 001 ... 5 000 mm (173.26 ... 196.88 inch) <sup>2)</sup>	<b>4 C</b>	4", ASME, 150 lb <sup>2)</sup>	<b>E 4</b>
5 001 ... 5 500 mm (196.89 ... 216.54 inch) <sup>2)</sup>	<b>5 C</b>	4", ASME, 300 lb <sup>2)</sup>	<b>E 5</b>
Rod, 24 mm (0.94 inch), PFA insulated with 48 mm (1.89 inch) stilling well in 316L stainless steel		4", ASME, 600 lb <sup>2)</sup>	<b>E 6</b>
<u>Add Order code Y01 and Y02 and plain text:</u>		6", ASME, 150 lb <sup>2)</sup>	<b>F 4</b>
<u>"Insertion length ... mm and active shield length ... mm"</u>		6", ASME, 300 lb <sup>2)</sup>	<b>F 5</b>
250 ... 1 000 mm (9.84 ... 39.37 inch)	<b>0 D</b>	6", ASME, 600 lb <sup>2)</sup>	<b>F 6</b>
1 001 ... 2 000 mm (39.41 ... 78.74 inch) <sup>2)3)</sup>	<b>1 D</b>	<b>Single piece flange with PTFE flange facing</b>	
2 001 ... 3 000 mm (78.78 ... 118.11 inch) <sup>2)3)</sup>	<b>2 D</b>	<u>(applicable with versions 0A ... 3A, 0C ... 5C)<sup>4)</sup></u>	
3 001 ... 4 000 mm (118.15 ... 157.48 inch) <sup>2)3)</sup>	<b>3 D</b>	DN 40, PN 16	<b>K 6</b>
4 001 ... 5 000 mm (173.26 ... 196.88 inch) <sup>2)3)</sup>	<b>4 D</b>	DN 40, PN 40	<b>K 7</b>
5 001 ... 5 500 mm (196.89 ... 216.54 inch) <sup>2)3)</sup>	<b>5 D</b>	DN 50, PN 16	<b>L 6</b>
<b>Process connection (316L stainless steel)</b>		DN 50, PN 40	<b>L 7</b>
<b>Single piece flange, raised face</b>		DN 80, PN 16	<b>M 6</b>
1½", ASME, 150 lb	<b>B 1</b>	DN 80, PN 40 <sup>2)</sup>	<b>M 7</b>
1½", ASME, 300 lb	<b>B 2</b>	DN 100, PN 16 <sup>2)</sup>	<b>N 6</b>
1½", ASME, 600 lb	<b>B 3</b>	DN 100, PN 40 <sup>2)</sup>	<b>N 7</b>
2", ASME, 150 lb	<b>C 1</b>	DN 125, PN 16 <sup>2)</sup>	<b>P 6</b>
2", ASME, 300 lb	<b>C 2</b>	DN 125, PN 40 <sup>2)</sup>	<b>P 7</b>
2", ASME, 600 lb	<b>C 3</b>	(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1 standard.)	
3", ASME, 150 lb <sup>2)</sup>	<b>D 1</b>		
3", ASME, 300 lb <sup>2)</sup>	<b>D 2</b>		
3", ASME, 600 lb <sup>2)</sup>	<b>D 3</b>		
4", ASME, 150 lb <sup>2)</sup>	<b>E 1</b>		
4", ASME, 300 lb <sup>2)</sup>	<b>E 2</b>		
4", ASME, 600 lb <sup>2)</sup>	<b>E 3</b>		
6", ASME, 150 lb <sup>2)</sup>	<b>F 1</b>		
6", ASME, 300 lb <sup>2)</sup>	<b>F 2</b>		
6", ASME, 600 lb <sup>2)</sup>	<b>F 3</b>		

# Level Measurement

## Continuous level measurement – Capacitance transmitters

### SITRANS LC500

Selection and Ordering data	Article No.
<b>SITRANS LC500, Single Piece Flanged with Rod Sensor</b> Inverse frequency shift capacitance level and interface transmitter for extreme and critical process conditions, such as oil and liquid gas, toxic and aggressive chemicals and vapours.	<b>7ML5517-</b> 
<b>Approvals</b> General Purpose: CE, CSA, FM, C-TICK, KC CSA / FM Class I, Div. 2, Groups A, B, C, D CSA / FM Class II, III, Div. 1, Groups E, F, G T4 ATEX II 3G 2D EEx nA [ib] IIC T6 ... T4 T 100 °C ATEX II 1/2 GD EEx d [ia] IIC T6 ... T1 T 100 °C FM Class I, Div.1, Groups A, B, C, D, T4	1 2 4 6
<b>Enclosure/Cable inlet</b> Aluminum epoxy coated 2 x 1/2" NPT, IP68 2 x M20 x1.5 (IP68, adapter)	1 2
<b>Options</b> None Slotted holes instead of standard vent holes in stilling well (Refer to manual for dimensions) <sup>5)</sup>	A B
<b>Thermal isolator/remote version</b> Without thermal isolator Isolator, only for use when temperature range is outside of -40 ... +85 °C (-40 ... +185 °F), explosion proof approval -40 ... +70 °C (-40 ... +158 °F) Remote electronics with mounting bracket and cable <sup>6)</sup> <ul style="list-style-type: none"> <li>• Length: 2 m (79 inch)</li> <li>• Length: 3 m (118 inch)</li> <li>• Length: 4 m (158 inch)</li> <li>• Length: 5 m (197 inch)</li> </ul>	A B C D E F
<b>Electronic output</b> 2-wire loop current 4 ... 20 mA (transmitter MSP 2002-2_3300 pF)	1

- 1) A minimum span of 3 pF must be maintained  
 2) Custom shipping methods required. Contact factory for more details.  
 3) Available with process connection 2" or larger, and only available with process connection options C1 ... F3, L4 ... P5  
 4) Not available with versions 0E and 0F  
 5) Available with version 0B ... 3B, 0D ... 5D and 0F only  
 6) Available with approval option 1 only

Selection and Ordering data	Order code
<b>Further designs</b> Please add "-Z" to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: ... mm	<b>Y01</b>
Active shield length, specify in plain text [min. length is 50 mm (2 inch)]: Y02: ... mm	<b>Y02</b>
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring-point number/identification (max. 27 characters) specify in plain text	<b>Y15</b>
Manufacturer's test certificate: M to DIN 55350, Part 18 and to ISO 9000	<b>C11</b>
Inspection Certificate Type 3.1 per EN 10204	<b>C12</b>
Manufacturing Test Report (Electrode Test)	<b>C18</b>
<b>Operating Instructions</b>	<b>See page 4/322</b>
<b>Accessories</b>	<b>See page 4/322</b>

# Level Measurement

## Continuous level measurement – Capacitance transmitters

SITRANS LC500

Selection and Ordering data	Article No.
<b>SITRANS LC500, Extended Cable version with Rod Sensor, threaded connection or welded flange<sup>1)</sup></b> Inverse frequency shift capacitance level and interface transmitter for short range continuous measurement in large storage vessels.	<b>7ML5523-</b>
<b>Version<sup>2)</sup></b> Rod, 16 mm (0.63 inch), PFA insulated and 316L stainless steel flexible extension tube Total insertion length: <u>Add Order code Y01 and plain text: "Total insertion length ... mm and Y02 and plain text: Active shield length ... mm"<sup>3)4)</sup></u>	
<ul style="list-style-type: none"> <li>• 5 000 ... 10 000 mm (196.85 ... 393.70 inch)<sup>1)</sup></li> <li>• 10 001 ... 15 000 mm (393.74 ... 590.55 inch)<sup>1)</sup></li> <li>• 15 001 ... 20 000 mm (590.59 ... 787.40 inch)<sup>1)</sup></li> <li>• 20 001 ... 25 000 mm (787.44 ... 984.25 inch)<sup>1)</sup></li> <li>• 25 001 ... 30 000 mm (984.29 ... 1 181.10 inch)<sup>1)</sup></li> <li>• 30 001 ... 35 000 mm (1 181.14 ... 1 377.95 inch)<sup>1)</sup></li> </ul>	<b>0 A</b> <b>1 A</b> <b>2 A</b> <b>3 A</b> <b>4 A</b> <b>5 A</b>
Rod, 24 mm (0.94 inch), PFA insulated and 316L stainless steel flexible extension tube Total insertion length: <u>Add Order code Y01 and plain text: "Total insertion length ... mm and Y02 and plain text: Active shield length ... mm"<sup>3)4)</sup></u>	
<ul style="list-style-type: none"> <li>• 5 000 ... 10 000 mm (196.85 ... 393.70 inch)<sup>1)</sup></li> <li>• 10 001 ... 15 000 mm (393.74 ... 590.55 inch)<sup>1)</sup></li> <li>• 15 001 ... 20 000 mm (590.59 ... 787.40 inch)<sup>1)</sup></li> <li>• 20 001 ... 25 000 mm (787.44 ... 984.25 inch)<sup>1)</sup></li> <li>• 25 001 ... 30 000 mm (984.29 ... 1 181.10 inch)<sup>1)</sup></li> <li>• 30 001 ... 35 000 mm (1 181.14 ... 1 377.95 inch)<sup>1)</sup></li> </ul>	<b>0 B</b> <b>1 B</b> <b>2 B</b> <b>3 B</b> <b>4 B</b> <b>5 B</b>
<b>Process connection (316L stainless steel)</b> <u>Threaded connection</u>	
2" NPT [(Taper), ANSI/ASME B1.20.1]	<b>A 0</b>
R 2" [(BSPT), EN 10226/PT (JIS-T), JIS B 0203]	<b>B 0</b>
G 2" [(BSPP), EN ISO 228-1/PT (JIS-P) JIS B 0202]	<b>D 0</b>
<u>Welded flange, raised face</u>	
2", ASME, 150 lb	<b>C 1</b>
2", ASME, 300 lb	<b>C 2</b>
3", ASME, 150 lb <sup>1)</sup>	<b>D 1</b>
3", ASME, 300 lb <sup>1)</sup>	<b>D 2</b>
4", ASME, 150 lb <sup>1)</sup>	<b>E 1</b>
4", ASME, 300 lb <sup>1)</sup>	<b>E 2</b>
6", ASME, 150 lb <sup>1)</sup>	<b>F 1</b>
6", ASME, 300 lb <sup>1)</sup>	<b>F 2</b>
<u>Welded flange, Type A flat faced</u>	
DN 50, PN 16	<b>L 4</b>
DN 50, PN 40	<b>L 5</b>
DN 80, PN 16	<b>M 4</b>
DN 80, PN 40 <sup>1)</sup>	<b>M 5</b>
DN 100, PN 16 <sup>1)</sup>	<b>N 4</b>
DN 100, PN 40 <sup>1)</sup>	<b>N 5</b>
DN 125, PN 16 <sup>1)</sup>	<b>P 4</b>
DN 125, PN 40 <sup>1)</sup>	<b>P 5</b>
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1 standard.)	
<b>Approvals</b>	
General Purpose: CE, CSA, FM, C-TICK, KC	<b>1</b>
CSA / FM Class I, Div. 2, Groups A, B, C, D	<b>2</b>
CSA / FM Class II, III, Div. 1, Groups E, F, G T4	
ATEX II 3G 2D EEx nA [ib] IIC T6 ... T4 T 100 °C	
ATEX II 1/2 GD EEx d [ia] IIC T6 ... T1 T 100 °C	<b>4</b>
FM Class I, Div. 1, Groups A, B, C, D T4	<b>6</b>

Selection and Ordering data	Article No.
<b>SITRANS LC500, Extended Cable version with Rod Sensor, threaded connection or welded flange<sup>1)</sup></b> Inverse frequency shift capacitance level and interface transmitter for short range continuous measurement in large storage vessels.	<b>7ML5523-</b>
<b>Enclosure/Cable inlet</b> <u>Aluminum epoxy coated</u> 2 x 1/2" NPT, IP68 2 x M20x1.5 (IP68, adapter)	<b>1</b> <b>2</b>
<b>Options</b> No additional options With mounting eye	<b>A</b> <b>B</b>
<b>Thermal isolator</b> Without thermal isolator Isolator, only for use when temperature range is outside of -40 ... +85 °C (-40 ... +185 °F), explosion proof approval -40 ... +70 °C (-40 ... +158 °F)	<b>A</b> <b>B</b>
<b>Electronic output</b> 2-wire loop current 4 ... 20 mA (transmitter MSP 2002-2 _3300 pF)	<b>1</b>

<sup>1)</sup> Custom shipping methods required. Contact factory for more details.

<sup>2)</sup> A minimum span of 3 pF must be maintained.

<sup>3)</sup> See dimension drawings on page 4/331 for further explanation of Y01.

<sup>4)</sup> Inactive length is equal to the flexible extension plus transition.  
See dimension drawings on page 4/331 for further explanation of Y02.

# Level Measurement

## Continuous level measurement – Capacitance transmitters

### SITRANS LC500

Selection and Ordering data	Order code
<b>Further designs</b>	
Please add <b>"-Z"</b> to Article No. and specify Order code(s).	
Insertion length, specify in plain text: Y01: to mm	<b>Y01</b>
Active shield length, specify in plain text [min. length is 50 mm (2 inch)]: Y02: to mm	<b>Y02</b>
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]; Measuring-point number/identification (max. 27 characters) specify in plain text	<b>Y15</b>
Manufacturer's test certificate M to DIN 55350, Part 18 and to ISO 9000	<b>C11</b>
Inspection Certificate Type 3.1 per EN 10204	<b>C12</b>
<b>Operating Instructions</b>	
Article No.	
English	<b>7ML1998-5GE04</b>
French	<b>7ML1998-5GE12</b>
Spanish	<b>7ML1998-5GE21</b>
German	<b>7ML1998-5GE33</b>
Note: The Operating Instructions should be ordered as a separate line item on the order.	
This device is shipped with the Siemens Milltronics manual DVD containing the ATEX Quick Start and Operating Instructions library.	
<b>Accessories</b>	
<u>General Purpose</u>	
1/2" NPT General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... -100 °C (-40 ... -212 °F), cable size 6 ... 12 mm (0.236 ... 0.472 inch)	<b>7ML1830-1JA</b>
M20x1.5 General Purpose Cable Entry IP68/IP69K NEMA6, -40 ... -100 °C (-40 ... -212 °F), cable size 7 ... 12 mm (0.275 ... 0.472 inch)	<b>7ML1830-1JC</b>
<u>Hazardous Locations</u>	
1/2" NPT EMC rated Cable Gland: Dust Ignition Proof, Flameproof Exd, and Increased Safety ATEX II 2 GD ExtD A21 (Zone 1, Zone 2, Zone 21, Zone 22, and in Gas Groups IIA, IIB and IIC) -60 ... +80 °C IP66, IP67, IP68, NEMA4X, cable sizes 5.5 ... 12 mm (0.216 ... 0.472 inch)	<b>7ML1830-1JB</b>
M20 EMC rated Cable Gland: Dust Ignition Proof, Flameproof Exd, and Increased Safety ATEX II 2 GD ExtD A21 (Zone 1, Zone 2, Zone 21, Zone 22 and in Gas Groups IIA, IIB and IIC) -60 ... +80 °C IP66, IP67, IP68, NEMA4X, cable sizes 5.5 ... 12 mm (0.216 ... 0.472 inch)	<b>7ML1830-1JD</b>
Transmitter, MSP 2002-1, 330 PF <sup>1)</sup>	<b>7ML1830-1JP</b>
Transmitter, MSP 2002-2, 3 300 PF <sup>1)</sup>	<b>7ML1830-1JQ</b>
Transmitter, MSP 2002-3, 6 600 PF (used with conductive fluids and probe lengths >10 000 mm) <sup>1)</sup>	<b>7ML1830-1JR</b>
SITRANS RD100 Remote display - see Chapter 7	
SITRANS RD200 Remote display - see Chapter 7	
SITRANS RD500 web, datalogging, alarming, ethernet, and modem support for instrumentation - see Chapter 7	<b>7ML5750-1AA00-0</b>

<sup>1)</sup> Transmitters not suitable for Intrinsically Safe application (ATEX II 1G EEx ia IIC T4 or CSA/FM Class 1 Div. 1 Groups A, B, C and D)

Please contact [ceg.smpi@siemens.com](mailto:ceg.smpi@siemens.com) for special requests.