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Overview

EchoMax XPS/XCT transducers use ultrasonic technology to measure level in a wide range of liquids and solids.

Benefits

- Integral temperature compensation
- Low ringing effect reduces blanking distance
- Optional foam facing for dusty applications
- Self-cleaning and low-maintenance
- Chemically resistant
- Hermetically sealed

Application

The transducers can be fully immersed, are resistant to steam and corrosive chemicals, and can be installed without flanges.

The XPS series offers versions for various measuring ranges up to 40 m (130 ft) and up to a max. temperature of 95 °C (203 °F).

The XCT series can be used in applications at higher temperatures to measure level up to a distance of 12 m (40 ft) and at a max. temperature of 95 °C (203 °F).

During operation, the EchoMax transducers emit acoustic pulses in a narrow beam. The level monitor measures the propagation time between pulse emission and its reflection (echo) to calculate the distance.

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EchoMax XPS and XCT

Technical specifications

Input	XPS-10 (standard and F models)	XPS-15 (standard and F models)	XPS-30	XPS-40	XCT-8 (standard and sanitary models)	XCT-12
Measuring range	0.3 ... 10 m (1 ... 33 ft)	Standard: 0.3 ... 15 m (1 ... 50 ft) Flanged: 0.45 ... 15 m (1.5 ... 50 ft)	0.6 ... 30 m (2 ... 100 ft)	0.9 ... 40 m (3 ... 130 ft)	0.6 ... 8 m (2 ... 26 ft)	0.6 ... 12 m (2 ... 40 ft)
Output						
Frequency	44 kHz	44 kHz	30 kHz	22 kHz	44 kHz	44 kHz
Beam angle	12°	6°	6°	6°	12°	6°
Environmental						
Location	Indoors/outdoors					
Ambient temperature	Standard: -40 ... +95 °C (-40 ... +203 °F) F: -20 ... +95 °C (-4 ... +203 °F)				Standard: -40 ... +145 °C (-40 ... +293 °F) Sanitary: -40 ... +125 °C (-40 ... +260 °F)	-40 ... +145 °C (-40 ... +293 °F)
Pollution degree	4					
Pressure	8 bar g (120 psi g) Flanged: 0.5 bar g (7.25 psi g)	8 bar g (120 psi g) Flanged: 0.5 bar g (7.25 psi g)	0.5 bar g (7.25 psi g) Flanged: 0.5 bar g (7.25 psi g)	0.5 bar g (7.25 psi g)	Standard: 4 bar g (60 psi g): -40 ... +138 °C (-40 ... +280 °F) Standard: 8 bar g (120 psi g): -40 ... +95 °C (-40 ... +203 °F) Flanged: 0.5 bar g (7.25 psi g) Sanitary: XCT-8: 0.5 bar g (7.25 psi g)	
Design						
Weight	0.8 kg (1.8 lb)	1.3 kg (2.8 lb) Flanged: 2 kg (4.4 lb)	4.3 kg (9.5 lb)	8 kg (18 lb)	0.8 kg (1.7 lb)	1.3 kg (2.8 lb)
Power supply	Operation of transducer only with approved Siemens Milltronics controllers					
Material	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange	Standard: PVDF Flanged: PVDF with CPVC flange Option: PTFE face with CPVC flange	PVDF	Standard: PVDF Options: DERAKANE flange; PTFE face with universal PVDF flange	
Color	Standard: blue F: gray	Standard: blue F: gray	blue	blue	white	
Process connection	Standard: 1" NPT or 1" BSPT F: 1" NPT	Standard: 1" NPT or 1" BSPT F: 1" NPT	1.5" universal thread (NPT or BSPT)		1" NPT or R 1" (BSPT), EN 10226	
Degree of protection	IP66/68	IP66/68	IP66/68	IP66/68	IP66/68	IP66/68
Cable	2 wire twisted pair/braided and foil shielded 0.5 mm² (20 AWG) PVC jacket				2 wire twisted pair/braided and foil shielded 0.5 mm² (20 AWG) silicone jacket	
Separation	Max. 365 m (1 200 ft)					
Certificates and approvals	Standard: CE[1], CSA, FM, ATEX II 2GD F: FM Class I, Div 1, Groups A, B, C and D, Class II Div 1, Groups E, F and G, Class III	Standard: CE[1], CSA, FM, ATEX II 2GD F: FM Class I, Div 1, Groups A, B, C and D, Class II Div 1, Groups E, F and G, Class III	CE[1], CSA, FM, ATEX II 2G 1D	CE[1], CSA, FM, ATEX II 2G 1D	Standard: CE[1], CSA, FM, ATEX II 2GD Sanitary: CE, CTICK, $CSA_{US/C}$	CE[1], CSA, FM, ATEX II 2GD

[1] EMC certificate available on request.

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Selection and Ordering data	Order No.
EchoMax XPS-10 ultrasonic transducer	**7ML1115-**
High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Measuring range: min. 0.3 m, max. 10 m	■■■■ **0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**0**
1" NPT [(Taper), ANSI/ASME B1.20.1] with foam facing[1]	**1**
1" NPT [(Taper), ANSI/ASME B1.20.1] with PTFE facing[2]	**2**
R 1" [(BSPT), EN 10226]	**3**
R 1" [(BSPT), EN 10226] with foam facing[1]	**4**
R 1" [(BSPT), EN 10226] with PTFE facing[2]	**5**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
3" ASME, 150 lb, flat faced	**C**
4" ASME, 150 lb, flat faced	**D**
6" ASME, 150 lb, flat faced	**E**
8" ASME, 150 lb, flat faced	**F**
DN 80, PN 10/16, Type A, flat faced	**G**
DN 100, PN 10/16, Type A, flat faced	**J**
DN 150, PN 10/16, Type A, flat faced	**L**
JIS10K3B Style	**M**
JIS10K4B Style	**P**
JIS10K6B Style (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)	**R**
Approvals	
ATEX II 2 GD, FM Class I Div. 2, SAA Class I Zone 1	**3**
CSA Class I Div. 1[3]	**4**

1) Not available with flanged versions
2) Available with flanged versions only
3) Valid with mounting thread and facing options 0 ... 2 only

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submergence shield kit	**7ML1830-1BH**
Easy Aimer 2, with ¾" x 1" NPT PVC coupling	**7ML1830-1AQ**
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	**7ML1830-1AX**
Easy Aimer 304, with stainless steel coupling	**7ML1830-1AU**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**
1" BSPT locknut, plastic	**7ML1830-1DR**

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EchoMax XPS and XCT

Selection and Ordering data	Order No.
EchoMax XPS-10F ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Measuring range: min. 0.3 m, max.10 m	**7ML1170-** ■■■■ **0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**1**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**D**
50 m (164.04 ft)	**E**
100 m (328.08 ft)	**F**
Mounting flange, flush mount	
None	**A**
3" ASME, 150 lb, flat faced	**B**
4" ASME, 150 lb, flat faced	**C**
6" ASME, 150 lb, flat faced	**D**
8" ASME , 150 lb, flat faced (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard.)	**E**
Approvals	
FM Class I Div. 1	**1**

Selection and Ordering data	Order code
Further designs Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-1DU01**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submergence shield kit	**7ML1830-1BH**
Easy Aimer 2, with ¾" x 1" NPT PVC coupling	**7ML1830-1AQ**
Easy Aimer 304, with stainless steel coupling	**7ML1830-1AU**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**

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Selection and Ordering data	Order No.
EchoMax XPS-15 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Measuring range: min. 0.3 m, max. 15 m	**7ML1118-** ■■■■**0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**0**
1" NPT [(Taper), ANSI/ASME B1.20.1] with foam facing[1]	**1**
1" NPT [(Taper), ANSI/ASME B1.20.1] with PTFE facing[2]	**2**
R 1" [(BSPT), EN 10226]	**3**
R 1" [(BSPT), EN 10226] with foam facing[1]	**4**
R 1" [(BSPT), EN 10226] with PTFE facing[2]	**5**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
6" ASME, 150 lb, flat faced	**D**
8" ASME, 150 lb, flat faced	**E**
DN 150, PN 10/16, Type A, flat faced	**J**
DN 200, PN 10, Type A, flat faced	**K**
JIS10K 6B	**N**
JIS10K 8B	**P**
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)	
Approvals	
ATEX II 2GD, FM Class I Div. 2, SAA Class I	**3**
CSA Class I Div. 1[3]	**4**

1) Not available with flanged versions
2) Available with flanged versions only
3) Available with mounting options 0 ... 2 only

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submergence shield kit	**7ML1830-1BJ**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**
1" BSPT locknut, plastic	**7ML1830-1DR**
Easy Aimer 2, with ¾" x 1" NPT PVC coupling	**7ML1830-1AQ**
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	**7ML1830-1AX**
Easy Aimer 304 with stainless steel coupling	**7ML1830-1AU**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**

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EchoMax XPS and XCT

Selection and Ordering data	Order No.
EchoMax XPS-15F ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Measuring range: min. 0.3 m, max. 15 m	**7ML1171 -** ■■■■ **0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**1**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**D**
50 m (164.04 ft)	**E**
100 m (328.08 ft)	**F**
Mounting flange, flush mount	
None	**A**
6" ASME, 150 lb, flat faced	**B**
8" ASME, 150 lb, flat faced (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2220 standard.)	**C**
Approvals	
FM Class I Div. 1	**1**

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s). Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-1DU01**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submergence shield kit	**7ML1830-1BJ**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**
Easy Aimer 2, with ¾" x 1" NPT PVC coupling	**7ML1830-1AQ**
Easy Aimer 304 with stainless steel coupling	**7ML1830-1AU**

Selection and Ordering data	Order No.
EchoMax XPS-30 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. 1½" universal thread compatible with 1½" NPT and R 1½" [(BSPT), EN 10226] Measuring range: min. 0.6 m (1.97 ft), max. 30 m (98.43 ft)	**7ML1123 -** ■■■■ **0**
Mounting thread and facing	
1½" universal thread	**0**
1½" universal thread, foam facing[1]	**1**
1½" universal thread, PTFE facing[2]	**2**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
6" ASME, 150 lb, flat faced	**D**
8" ASME, 150 lb, flat faced	**E**
DN 150, PN 10/16, Type A, flat faced	**J**
DN 200, PN 10, Type A, flat faced	**K**
JIS10K 6B	**N**
JIS10K 8B (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1, or JIS B 2220 standard.)	**P**
Approvals	
ATEX II 2G 1D, FM Class I Div 2, SAA	**5**

[1] Not available with flanged versions
[2] Available with flanged versions only

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Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s).	
Acrylic coated, stainless steel tag [13 x 45 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	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
1½" BSPT locknut, plastic	**7ML1830-1DP**
Easy Aimer 2, 1½" NPT galvanized coupling	**7ML1830-1AN**
Easy Aimer 304, NPT with 1½" coupling	**7ML1830-1AT**
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	**7ML1830-1AX**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**

Selection and Ordering data	Order No.
EchoMax XPS-40 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. 1½" universal thread compatible with 1½" NPT and R 1½" [(BSPT), EN 10226] Measuring range: min. 0.9 m (2.95 ft), max. 40 m (131.23 ft)	**7ML1127-** ■■■■ **0**
Mounting thread and facing	
1½" universal thread	**0**
1½" universal thread, foam facing	**1**
Cable length	
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
Approvals	
ATEX II 2G 1D, FM Class I Div 2, SAA	**5**

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick Start guide, multi-language	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
1½" BSPT locknut, plastic	**7ML1830-1DP**
Easy Aimer 2, 1½" NPT galvanized coupling	**7ML1830-1AN**
Easy Aimer 304, NPT with 1½" coupling	**7ML1830-1AT**
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	**7ML1830-1AX**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**

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EchoMax XPS and XCT

Selection and Ordering data	Order No.
EchoMax XCT-8 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Ambient temperatures up to 145 °C (293 °F) Measuring range: min. 0.6 m (2 ft), max. 8 m (26 ft)	**7ML1132-** ■■■■ **0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**0**
1" NPT [(Taper), ANSI/ASME B1.20.1], PTFE facing[1]	**1**
R 1" [(BSPT), EN 10226]	**2**
R 1" [(BSPT), EN 10226], PTFE facing[1]	**3**
Cable length	
1 m (3.28 ft)	**A**
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
3" ASME, 150 lb, flat faced	**C**
4" ASME, 150 lb, flat faced	**D**
6" ASME, 150 lb, flat faced	**E**
DN 80, PN 10/16, Type A, flat faced	**G**
DN 100, PN 10/16, Type A, flat faced	**J**
DN 150, PN 10/16, Type A, flat faced	**L**
JIS10K 3B	**M**
JIS10K 4B	**P**
JIS10K 6B (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 or JIS B 2220 standard.)	**R**
3" universal[2) 3)]	**S**
4" universal[4) 3)]	**T**
6" universal[5) 3)]	**U**
4" sanitary flange[6)]	**V**
Approvals	
ATEX II 2GD, FM Class I, Div. 2, SAA	**4**
CSA Class I Div. 1[7)]	**5**
CE, C-TICK, $CSA_{US/C}$[8)]	**7**

1) Available with flange versions S, T, U and, V only
2) Universal fits 3" ASME, DN 80, JIS 10K3B style
3) Available for mounting thread and facing options 1 and 3 only
4) Universal fits 4" ASME, DN 100, JIS 10K4B style
5) Universal fits 6" ASME, DN 150, JIS 10K6B style
6) Available with Mounting thread and facing options 1 and 3, and approval option 7 only
7) Available with mounting thread and facing option 0 only
8) Available with 4" mounting flange option V only

Selection and Ordering data	Order code
Further designs	
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick start manual, multi-language	**7ML1998-5QM82**
XCT-8 with Sanitary Flange, multi-language Note: This manual should be ordered as a separate line item with Mounting Option V.	**7ML1998-5HX62**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x 1.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submersible hood	**7ML1830-1BH**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**
1" BSPT locknut, plastic	**7ML1830-1DR**
Easy Aimer 304 with stainless steel coupling	**7ML1830-1AU**
Easy Aimer, aluminum, with M20 adapter and ¾ ... 1" and 1½" BSPT couplings	**7ML1830-1AX**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**
Sanitary, 4" mounting clamp	**7ML1830-1BR**
Sanitary, isolating gasket	**7ML1830-1KC**

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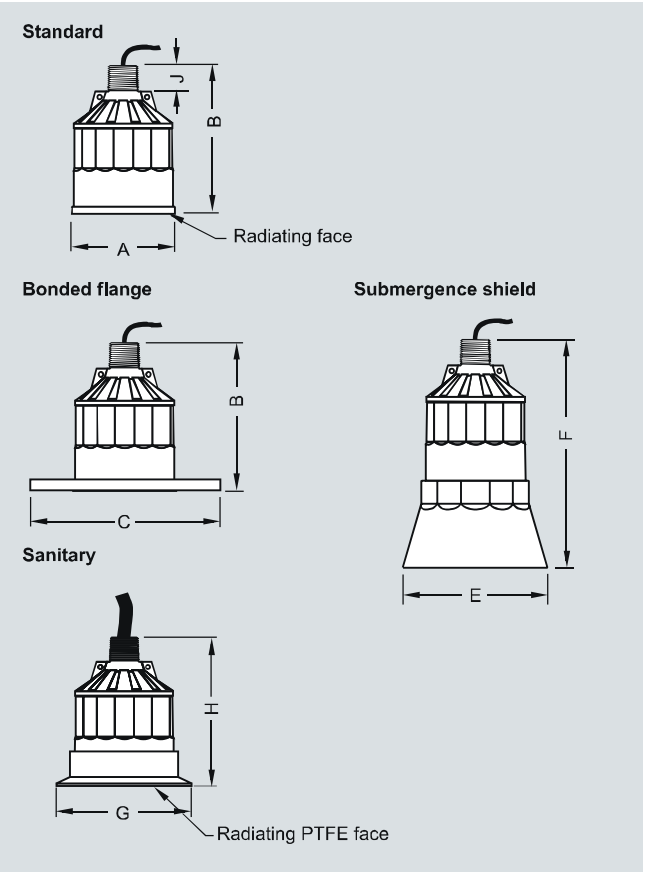
Dimensional drawings

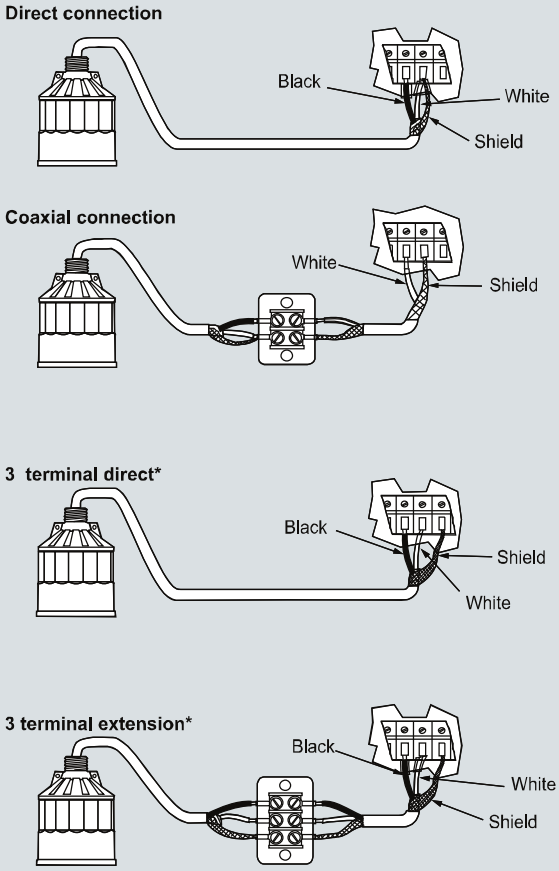


XPS and XCT ultrasonic transducer, dimensions in mm (inch)

Version				
Dimension	**XPS-10**	**XPS-15**	**XPS-30**	**XPS-40**
A	88 mm (3.464 inch)	121 mm (4.764 inch)	175 mm (6.890 inch)	206 mm (8.110 inch)
B	122 mm (4.803 inch)	132 mm (5.197 inch)	198 mm (7.795 inch)	229 mm (9.016 inch)
C	According to ASME, DIN and JIS			n/a
E	124 mm (4.882 inch)	158 mm (6.220 inch)	n/a	n/a
F	152 mm (5.984 inch)	198 mm (7.795 inch)	n/a	n/a
J	28 mm (1.1 inch)	28 mm (1.1 inch)	28 mm (1.1 inch)	28 mm (1.1 inch)

Version		
Dimension	**XCT-8**	**XCT-12**
A	88 mm (3.464 inch)	121 mm (4.764 inch)
B	122 mm (4.803 inch)	132 mm (5.197 inch)
C	According to ASME, DIN and JIS	
E	n/a	n/a
F	n/a	n/a
G	Sanitary version: 119 mm (4.68 inch)	n/a
H	Sanitary version: 122 mm (4.8 inch)	n/a
J	28 mm (1.1 inch)	28 mm (1.1 inch)

Schematics



* For SITRANS LUT400, SITRANS LUC500, MultiRanger 100/200, HydroRanger 200

Mounting
Make particularly sure that the radiating face of the transducer is protected from damage.Mount the transducer so that it is above the maximum material level by at least the blanking value. On liquid applications, the transducer must be mounted so that the axis of transmission is perpendicular to the liquid surface. On solids alications, a Milltronics Easy Aimer should be used to facilitate aiming the transducer. Consider the optional temperature sensor when mounting the transducer.

Interconnection
Do not route cable openly or near high voltage or current runs, contactors and SCR control drives. For optimum isolation against electrical noise, run cable separately in a grounded metal conduit. Seal all thread connections to prevent ingress of moisture.

XPS and XCT ultrasonic transducer connections

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EchoMax XPS and XCT

Selection and Ordering data	Order No.
EchoMax XCT-12 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Ambient temperatures up to 145 °C (293 °F) Measuring range: min. 0.6 m (2 ft), max.12 m (40 ft)	**7ML1136-** ■■■■ **0**
Mounting thread and facing	
1" NPT [(Taper), ANSI/ASME B1.20.1]	**0**
1" NPT [(Taper), ANSI/ASME B1.20.1], PTFE facing, available for flange options U only[1]	**1**
R 1" [(BSPT), EN 10226]	**2**
R 1" [(BSPT), EN 10226], PTFE facing, available for flange options U only[1]	**3**
Cable length	
1 m (3.28 ft)	**A**
5 m (16.40 ft)	**B**
10 m (32.81 ft)	**C**
30 m (98.43 ft)	**E**
50 m (164.04 ft)	**F**
100 m (328.08 ft)	**K**
Mounting flange	
None	**A**
6" ASME, 150 lb, flat faced	**D**
8" ASME, 150 lb, flat faced	**E**
DN 150, PN 10/16, Type A, flat faced	**J**
DN 200, PN 10, Type A, flat faced	**K**
JIS10K 6B	**N**
JIS10K 8B (Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5 or EN 1092-1 or JIS B 2220 standard.)	**P**
6" universal for 6" ASME, DN 150 or JIS 10K6B style[2]	**U**
Approvals	
ATEX II 2GD, FM Class I, Div. 2, SAA	**3**
CSA Class I, Div. 1, available with mounting thread and facing option 0 only	**4**

[1] Available with universal flanges only
[2] For use with mounting thread and facing option 1 and 3 only

Selection and Ordering data	Order code
Further designs Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 x 50 mm (2.71 x 1.97 inch)]: Measuring point number/ identification (max. 27 characters) specify in plain text	**Y15**
Operating Instructions	Order No.
Quick start manual, multi-language	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete ATEX Quick Start and Operating Instructions library.	
Accessories	
Tag, stainless steel with hole, 12 x 45 mm (0.47 x.77 inch), one text line for fastening on sensors	**7ML1930-1BJ**
Submergence shield kit	**7ML1830-1BJ**
Universal box bracket, mounting kit	**7ML1830-1BK**
Channel bracket, wall mount	**7ML1830-1BL**
Extended channel bracket, wall mount	**7ML1830-1BM**
Channel bracket, floor mount	**7ML1830-1BN**
Extended channel bracket, floor mount	**7ML1830-1BP**
Bridge channel bracket, floor mount (see Mounting Brackets on page 4/204 for more information)	**7ML1830-1BQ**
1" NPT locknut, plastic	**7ML1830-1DS**
1" BSPT locknut, plastic	**7ML1830-1DR**
Easy Aimer 304 with stainless steel coupling	**7ML1830-1AU**
Easy Aimer 2, aluminum with M20 adapter and 1" and 1½" BSPT aluminum couplings	**7ML1830-1AX**
Easy Aimer 304, with M20 adapter and 1" and 1½" BSPT 304 SS couplings	**7ML1830-1GN**