Echomax XPS and XCT

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 +145 °C (+293 °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.

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 to 10 m (1 to 33 ft)	Standard: 0.3 to 15 m (1 to 50 ft) Flanged: 0.45 to 15 m (1.5 to 50 ft)	0.6 to 30 m (2 to 100 ft)	0.9 to 40 m (3 to 130 ft)	0.6 to 8 m (2 to 26 ft)	0.6 to 12 m (2 to 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	-40 to +95 °C (-40 to +203 °F)				Standard: -40 to +145 °C (-40 to +293 °F) Sanitary: -40 to +125 °C (-40 to +260 °F)	-40 to +145 °C (-40 to +293 °F)
Pollution degree	4					
Pressure	8 bar (120 psi) Flanged: 0.5 bar (7.25 psi)	8 bar (120 psi) Flanged: 0.5 bar (7.25 psi)	0.5 bar (7.25 psi) Flanged: 0.5 bar (7.25 psi)	0.5 bar (7.25 psi)	Standard: 4 bar (60 psi): -40 to +138 °C (-40 to +280 °F) Standard: 8 bar (120 psi): -40 to +95 °C (-40 to +203 °F) Flanged: 0.5 bar (7.25 psi) Sanitary: XCT-8: 0.5 bar (7.25 psi)	
Design						
Weight	0.8 kg (1.8 lbs)	1.3 kg (2.8 lbs) Flanged: 2 kg (4.4 lbs)	4.3 kg (9.5 lbs)	8 kg (18 lbs)	0.8 kg (1.7 lbs)	1.3 kg (2.8 lbs)
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 1" BSPT	
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 (1200 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 2G Sanitary: CSA, 3A	CE[1], CSA, FM, ATEX II 2G

[1] EMC certificate available on request.

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Echomax XPS and XCT

Selection and Ordering data		Order No.
Echomax XPS-10 ultrasonic transducer	C)	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 (ANSI/ASME B1.20.1)		0
1" NPT (ANSI/ASME B1.20.1) with foam facing[1]		1
1" NPT (ANSI/ASME B1.20.1) with PTFE facing[2]		2
1" BSPT (EN 10226-1)		3
1" BSPT (EN 10226-1) with foam facing[1]		4
1" BSPT (EN 10226-1) 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 2238 standard.)		R
Approvals		
ATEX II 2 GD, FM Class I Div. 2, SAA Class I		3
CSA Class I Div. 1[3]		4
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**

Selection and Ordering data		Order No.
Instruction Manual		
Quick Start guide, multi-language	C)	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		
Accessories		
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 5/118 for more information.)		**7ML1830-1BQ**
1" NPT locknut, plastic		**7ML1830-1DS**
1" BSPT locknut, plastic		**7ML1830-1DR**
Split flanges		
3", aluminum		**7ML1830-1AV**
3", 304 stainless steel		**7ML1830-1AW**
Gasket Kit 3", neoprene		**7ML1930-1BF**
4", aluminum		**7ML1830-1BA**
4", 304 stainless steel		**7ML1830-1BB**
Gasket Kit 4", neoprene		**7ML1930-1BG**
6", aluminum		**7ML1830-1BC**
6", 304 stainless steel		**7ML1830-1BD**
Gasket Kit 6", neoprene		**7ML1930-1BH**
Instruction manual		**7ML1998-1EP01**

[1] Not available with flanged versions

[2] Available with flanged versions only

[3] Valid with mounting thread and facing options 0, 1 and 2 only

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

Refer to page 5/117 for split flanges for XPS-10 transducers.

Ordering data		Order No.
Echomax XPS-10F ultrasonic transducer	C)	**7ML1170-**
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 (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 2238 standard.)		**E**
Approvals		
FM Class I Div. 1		**1**
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**
Instruction manual		
English Note: The Instruction manual should be ordered as a separate line item on the order.	C)	**7ML1998-1DU01**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		
Accessories		
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 5/118 for more information.)		**7ML1830-1BQ**
1" NPT locknut, plastic		**7ML1830-1DS**
Split flanges		
3", aluminum		**7ML1830-1AV**
3", 304 stainless steel		**7ML1830-1AW**
Gasket Kit 3", neoprene		**7ML1930-1BF**
4", aluminum		**7ML1830-1BA**
4", 304 stainless steel		**7ML1830-1BB**
Gasket Kit 4", neoprene		**7ML1930-1BG**
6", aluminum		**7ML1830-1BC**
6", 304 stainless steel		**7ML1830-1BD**
Gasket Kit 6", neoprene		**7ML1930-1BH**
Instruction manual		**7ML1998-1EP01**

Refer to page 5/117 for split flanges for XPS-10 transducers.
C) Subject to export regulations AL: N, ECCN: EAR99

Echomax XPS and XCT

Selection and Ordering data		Order No.
Echomax XPS-15 ultrasonic transducer	C)	**7ML1118 -**
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		**0**
Mounting thread and facing		
1" NPT (ANSI/ASME B1.20.1)		**0**
1" NPT (ANSI/ASME B1.20.1) with foam facing[1]		**1**
1" NPT (ANSI/ASME B1.20.1) with PTFE facing[2]		**2**
1" BSPT (EN 10226-1)		**3**
1" BSPT (EN 10226-1) with foam facing[1]		**4**
1" BSPT (EN 10226-1) 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 10/16, 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 2238 standard.)		**P**
Approvals		
ATEX II 2 GD, FM Class I Div. 2, SAA Class I		**3**
CSA Class I Div. 1, available with mounting options 0, 1, 2 only		**4**
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**
Instruction manual		
Quick Start Manual, multi-language Note: Due to ATEX regulations, one Quick Start Manual is included with every transducer.	C)	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		

Selection and Ordering data	Order No.
Accessories	
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 5/118 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**
Split flanges	
6" aluminum	**7ML1830-1BE**
6" 304 stainless steel	**7ML1830-1BF**
Gasket Kit 6", neoprene	**7ML1930-1BH**
Split Flanges Instruction manual	**7ML1998-1EP01**

[1] Not available with flanged versions

[2] Available with flanged versions only

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

Refer to page 5/117 for split flanges for XPS-15 transducers.

Selection and Ordering data — Order No.

Echomax XPS-15F ultrasonic transducer C) **7ML1171-**

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. 15m — **0**

Mounting thread and facing
1" NPT (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 — **C**
(Note: Flange bolting patterns and facings dimensionally correspond to the applicable ASME B16.5, or EN 1092-1, or JIS B 2238 standard.)

Approvals
FM Class I Div. 1 — **1**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	**Y15**
Instruction manual	
English Note: The Instruction manual should be ordered as a separate line item on the order.	C) **7ML1998-1DU01**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C) **7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.	
Accessories	
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 5/118 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**
Split Flanges 6" aluminum	**7ML1830-1BE**
Split Flanges 6" stainless steel	**7ML1830-1BF**
Split Flanges Gasket kit 6"	**7ML1930-1BH**
Split Flanges Instruction manual	**7ML1998-1EP01**

Refer to page 5/117 for split flanges for XPS-15 transducers.

Selection and Ordering data — Order No.

Echomax XPS-30 ultrasonic transducer C) **7ML1123-**

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 1½" BSPT
Measuring range: min. 0.6 m (1.97 ft), max. 30 m (98.43 ft) — **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 10/16, 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 2238 standard.)

Approvals
ATEX II 2G 1D, FM Class I Div 2, SAA — **5**

Further designs	Order code
Please add "**-Z**" to Order No. and specify Order code(s).	
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text	**Y15**
Instruction manual	
Quick Start Manual, multi-language Note: Due to ATEX regulations, one Quick Start Manual is included with every transducer.	C) **7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C) **7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.	
Accessories	
1½" BSPT locknut, plastic	**7ML1830-1DP**
Easy Aimer 2, 1½" NPT galvanized coupling	**7ML1830-1AN**
Easy Aimer 2, 1½" NPT with stainless steel 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**

[1] Not available with flanged versions
[2] Available with flanged versions only
C) Subject to export regulations AL: N, ECCN: EAR99.

Echomax XPS and XCT

Selection and Ordering data		Order No.
Echomax XPS-40 ultrasonic transducer	C)	**7ML1127-**
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 1½" BSPT Measuring range: min. 0.9 m (2.95 ft), max. 40 m (131.23 ft)		**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**
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**
Instruction manual		
Quick Start Manual, multi-language Note: Due to ATEX regulations, one Quick Start Manual is included with every transducer.	C)	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		
Accessories		
1½" BSPT locknut, plastic		**7ML1830-1DP**
Easy Aimer 2, 1½" NPT galvanized coupling		**7ML1830-1AN**
Easy Aimer 2, 1½" NPT with stainless steel 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**

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

Selection and Ordering data		Order No.
Echomax XCT-8 ultrasonic transducer	C)	7 M L 1 1 3 2 -
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 Measuring range: min. 0.6 m (2 ft), max. 8 m (26 ft)		0
Mounting thread and facing		
1" NPT (ANSI/ASME B1.20.1)		0
1" NPT (ANSI/ASME B1.20.1), PTFE facing[1]		1
1" BSPT (EN 10226-1)		2
1" BSPT (EN 10226-1), 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 2238 standard.)		R
3" universal[2]		S
4" universal[3]		T
6" universal[4]		U
4" sanitary flange, available with approval option 6 and PTFE facing only		V
Approvals		
ATEX II 2G, FM Class I, Div. 2, SAA		4
CSA Class I Div. 1, available with mounting thread and facing option 0		5
3A Sanitary (only with 4" sanitary flange, option V)		6
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**

Selection and Ordering data		Order No.
Instruction manual		
Quick start manual, multi-language Note: Due to ATEX regulations, one Quick start manual is included with every transducer.	C)	**7ML1998-5QM82**
XCT-8 with Sanitary Flange, multi-language Note: This manual should be ordered as a separate line item with Mounting Option V.	C)	**7ML1998-5HX61**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		
Accessories		
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 5/118 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 to 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	C)	**7ML1830-1KC**
Split flanges		
3", aluminum		**7ML1830-1AV**
3", 304 stainless steel		**7ML1830-1AW**
Gasket Kit 3", neoprene		**7ML1930-1BF**
4", aluminum		**7ML1830-1BA**
4", 304 stainless steel		**7ML1830-1BB**
Gasket Kit 4", neoprene		**7ML1930-1BG**
6", aluminum		**7ML1830-1BC**
6", 304 stainless steel		**7ML1830-1BD**
Gasket Kit 6", neoprene		**7ML1930-1BH**
Instruction manual		**7ML1998-1EP01**

[1] Available with flange versions S, T, U and V only
[2] Universal fits 3" ASME, DN 80, JIS 10K3B style
[3] Universal fits 4" ASME, DN 100, JIS 10K4B style
[4] Universal fits 6" ASME, DN 150, JIS 10K6B style
C) Subject to export regulations AL: N, ECCN: EAR99
Refer to page 5/117 for split flanges for XCT-8 transducers.

Echomax XPS and XCT

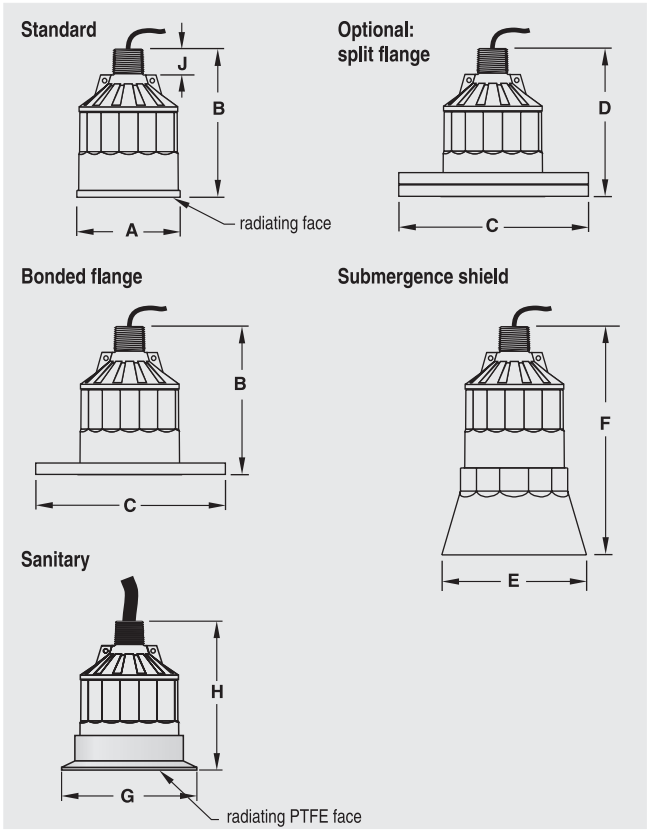
Selection and Ordering data		Order No.
Echomax XCT-12 ultrasonic transducer High-frequency ultrasonic transducer designed for a wide variety of liquid and solid applications, for use with approved controllers. Includes integral temperature sensor. Ambient temperatures up to +145 °C Measuring range: min. 0.6 m (2 ft), max.12 m (40 ft)	C)	**7ML1136 - ■■■■ 0**
Mounting thread and facing		
1" NPT (ANSI/ASME B1.20.1)		**0**
1" NPT (ANSI/ASME B1.20.1), PTFE facing, available for flange options U only		**1**
1" BSPT (EN 10226-1)		**2**
1" BSPT (EN 10226-1), PTFE facing, available for flange options U only		**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 10/16, 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 2238 standard.)		**P**
6" universal for 6" ASME, DIN 150 or JIS 10K6B style		**U**
Approvals		
ATEX II 2G, FM Class I, Div. 2, SAA		**3**
CSA Class I, Div. 1, available with mounting thread and facing option 0 only		**4**
Further designs		Order code
Please add "**-Z**" to Order No. and specify Order code(s).		
Stainless steel tag [69 mm x 50 mm (2.71 x 1.97")]: Measuring-point number/identification (max. 16 characters) specify in plain text		**Y15**
Instruction manual		
Quick Start Manual, multi-language Note: Due to ATEX regulations, one Quick Start Manual is included with every transducer.	C)	**7ML1998-5QM82**
Applications Guidelines, multi-language Note: The Applications Guidelines should be ordered as a separate line item on the order.	C)	**7ML1998-5HV61**
This device is shipped with the Siemens Milltronics manual CD containing the complete instruction manual library.		

Selection and Ordering data	Order No.
Accessories	
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 5/118 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**
Split Flanges 6" aluminum	**7ML1830-1BE**
Split Flanges 6" stainless steel	**7ML1830-1BF**
Split Flanges Gasket Kit 6", neoprene	**7ML1930-1BH**
Split Flanges Instruction manual	**7ML1998-1EP01**

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

Refer to page 5/117 for split flanges for XCT-12 transducers.

Dimensional drawings

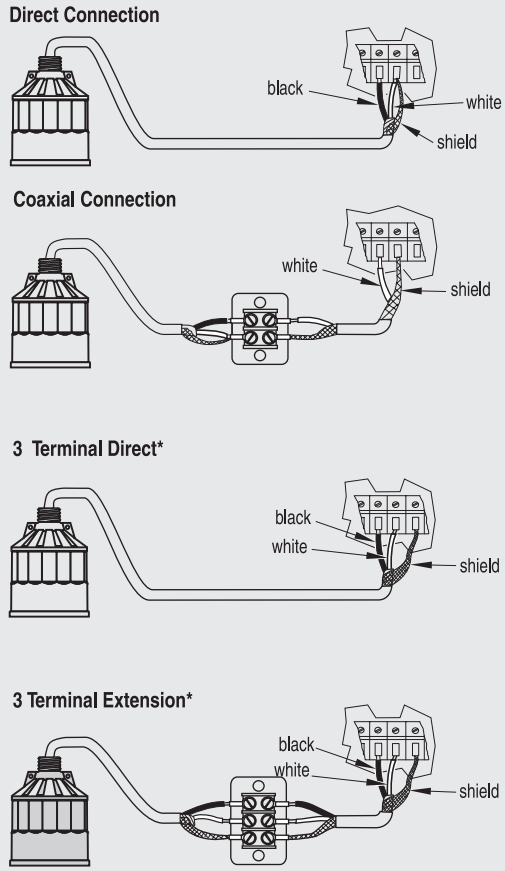


XPS and XCT ultrasonic transducer dimensions

Version				
Dimen.	**XPS-10**	**XPS-15**	**XPS-30**	**XPS-40**
A	88 mm (3.464")	121 mm (4.764")	175 mm (6.890")	206 mm (8.110")
B	122 mm (4.803")	132 mm (5.197")	198 mm (7.795")	229 mm (9.016")
C	According to ASME, DIN and JIS	n/a		
D	128 mm (5.039")	138 mm (5.433")	204 mm (8.031")	n/a
E	124 mm (4.882")	158 mm (6.220")	n/a	n/a
F	152 mm (5.984")	198 mm (7.795")	n/a	n/a
J	28 mm (1.1")	28 mm (1.1")	28 mm (1.1")	28 mm (1.1")

Version		
Dimen.	**XCT-8**	**XCT-12**
A	88 mm (3.464")	121 mm (4.764")
B	122 mm (4.803")	132 mm (5.197")
C	According to ASME, DIN and JIS	
D	128 mm (5.039")	138 mm (5.433")
E	n/a	n/a
F	n/a	n/a
G	sanitary version: 119 mm (4.68")	n/a
H	sanitary version: 122 mm (4.8")	n/a
J	28 mm (1.1")	28 mm (1.1")

Schematics



* For 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 applications, 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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