

Echomax® XPS/XCT transducers use ultrasonic technology to monitor level changes in a wide range of liquids and solids applications. All of these transducers can be immersed in the process, are resistant to steam and harsh chemicals, and can be installed without flange mounting.

The XPS series offers models for various distances up to 40 m (130 ft) and up to a maximum temperature of 95°C (203°F). Two models have FM Class 1, Div 1 approvals for applications up to a distance of 15 m (50 ft).

In applications that require higher temperature, the XCT series can monitor level up to a distance of 12 m (40 ft) and up to a maximum temperature of 145°C (293°F).

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



Product Features

- Built-in temperature compensation
- Low ringing - cuts blanking distance
- Closed cell foam - immune to moisture and temperature changes
- Self-cleaning and low maintenance
- 2-wire interconnection
- Chemically resistant
- FM approved versions available
- Hermetically sealed

Technical Specifications

	XPS-10 (standard, D and F models)	XPS-15 (standard, D and F models)	XPS-30 (standard and D models)	XPS-40 (standard and D models)	XCT-8	XCT-12
Range	0.3 to 10 m (1 to 33 ft)	0.3 to 15 m (1 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)
Frequency	44 kHz	44 kHz	30 kHz	22 kHz	44 kHz	44 kHz
Beam Angle	12°	6°	6°	6°	12°	6°
Environmental						
• Location	indoor/outdoor	indoor/outdoor	indoor/outdoor	indoor/outdoor	indoor/outdoor	indoor/outdoor
• Altitude	2000 m max	2000 m max	2000 m max	2000 m max	2000 m max	2000 m max
• Ambient Temp.	-40 to 95°C (-40 to 203°F)	-40 to 95°C (-40 to 203°F)	-40 to 95°C (-40 to 203°F)	-40 to 95°C (-40 to 203°F)	-40 to 145°C (-40 to 293°F)	-40 to 145°C (-40 to 293°F)
• Pollution Degree	4	4	4	4	4	4
Construction						
• Material	standard, F: Kynar® D: Kynar® with carbon nanotubes	standard, F: Kynar® D: Kynar® with carbon nanotubes	standard: Kynar® D: Kynar® with carbon nanotubes	standard: Kynar® D: Kynar® with carbon nanotubes	standard: Kynar® option: Teflon® face available with universal flange	White
• Colour	standard: Blue D: Black F: Grey	standard: Blue D: Black F: Grey	standard: Blue D: Black	standard: Blue D: Black	White	White
• Mounting	standard, D: 1" NPT or BSP F: 1" NPT*	standard, D: 1" NPT or BSP F: 1" NPT	1.5" universal thread (NPT or BSP)	1.5" universal thread (NPT or BSP)	1" NPT or BSP	1" NPT or BSP
• Cable	2 wire twisted pair/braided and foil shielded, 0.5 mm ² (20 AWG) PVC jacket				2 wire twisted pair/braided and foil shielded, 0.5 mm ² (20 AWG) silicone jacket	
Weight	0.8 kg (1.8 lbs)	standard: 1.3 kg (2.8 lbs) F: 2kg (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)
Supply Source	Transducer shall only be supplied by Milltronics certified controllers.					
Separation	365 m (1200 ft)	365 m (1200 ft)	365 m (1200 ft)	365 m (1200 ft)	365 m (1200 ft)	365 m (1200 ft)
Approvals	standard: CE*, CSA, FM, SIRA/CENELEC, ATEX F: FM Class 1 Div 1, Group A, B, C, and D, Class II Div 1, Group E, F, and G, Class III D: ATEX II 1D 2G	standard: CE*, CSA, FM, SIRA/CENELEC, ATEX F: FM Class 1 Div 1, Group A, B, C, and D, Class II Div 1, Group E, F, and G, Class III D: ATEX II 1D 2G	standard: CE*, CSA, FM, SIRA/CENELEC, ATEX D: ATEX II 1D 2G	standard: CE*, CSA, FM, SIRA/CENELEC, ATEX D: ATEX II 1D 2G	CE*, CSA, FM, SIRA/CENELEC, ATEX	CE*, CSA, FM, SIRA/CENELEC, ATEX

* EMC performance available upon request.

** Measurement range 1 to 30 m (3 to 98 ft) when used with the InterRanger DPS 300.

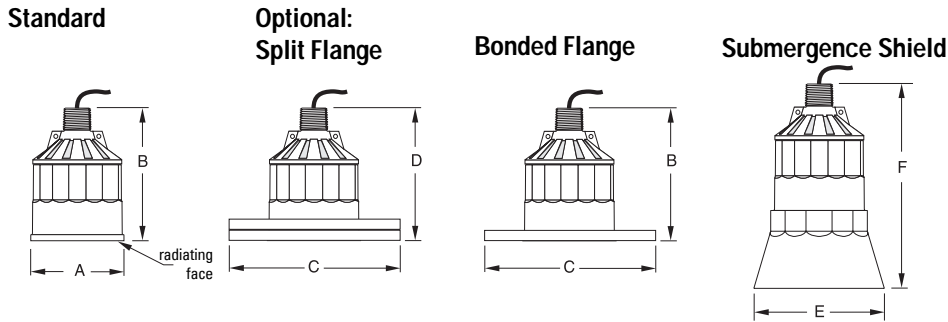
Range specifications are "typical". Actual range is dependent upon installation conditions. Maximum power is radiated axially (perpendicular) from the transducer face in a line referred to as the axis of transmission. Where power is reduced by half (-3 dB), a conical boundary defining the sound beam, centered about the axis of transmission, is established.

* Kynar is a registered trademark of ELF Atochem. * Teflon is a registered trademark of DuPont.

Specifications are subject to change without notice.

Echomax XPS and XCT Transducers

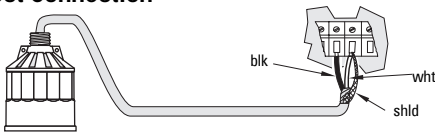
Dimensions



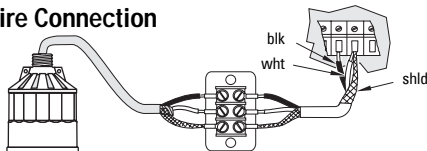
Model						
Dimensions	XPS-10	XPS-15	XPS-30	XPS-40	XCT-8	XCT-12
A	86 mm (3.386")	119 mm (4.685")	173 mm (6.811")	206 mm (8.110")	86 mm (3.4")	119 mm (4.7")
B	122 mm (4.803")	132 mm (5.197")	198 mm (7.795")	229 mm (9.016")	122 mm (4.8")	132 mm (5.2")
C	To suit ANSI, DIN and JIS					
D	128 mm (5.039")	138 mm (5.433")	204 mm (8.031")	N/A	128 mm (5.0")	138 mm (5.4")
E	124 mm (4.882")	158 mm (6.220")	N/A	N/A	N/A	N/A
F	152 mm (5.984")	198 mm (7.795")	N/A	N/A	N/A	N/A

Wiring

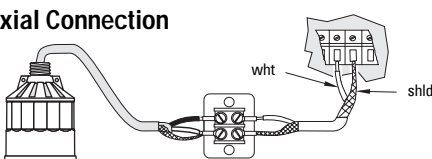
Direct Connection



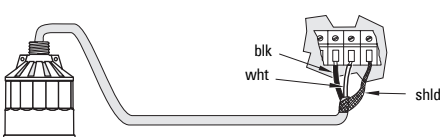
2 Wire Connection



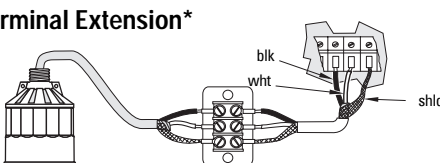
Coaxial Connection



3 Terminal Direct*



3 Terminal Extension*



* For EnviroRanger ERS 500, MultiRanger 100/200, HydroRanger 200

Mounting

Special handling precautions must be taken to protect the face of the transducer from any 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.

Mounting should be hand-tightened and installation secured by connecting a safety chain from the transducer to a structural member.

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.