EchoFlo

3m | 1.25m

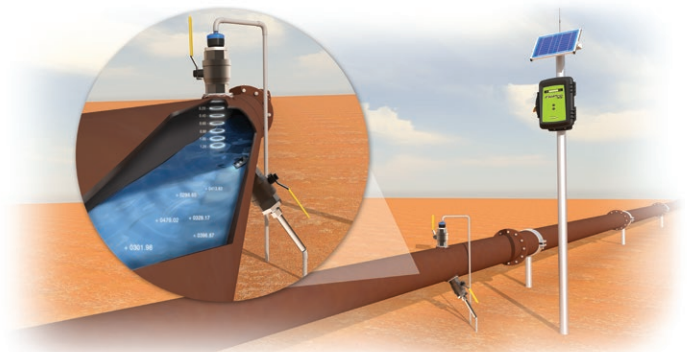# Innovative and economical ultrasonic depth sensor

Key Benefits:
- Patented DSP technology - small dead band and beam width
- Compact, rugged design for deployment in applications with limited space and corrosive media
- Quick and easy configuration, no coding knowledge required

The MACE EchoFlo ultrasonic depth sensor features patented DSP technology that allows level measurements in a limited space. With a minimal 50 mm (2 in.) dead band and narrow beam-width, the EchoFlo can be deployed in a diverse range of applications. These include: wastewater flow measurement through flumes (coupled with a MACE I/O card installed in to a MACE XCi device); level measurement in small tanks and sumps; depth measurement in pipes; and any number of other control automation applications where non-contact level measurement is desirable or necessary.

The EchoFlo is easy to configure using the free EchoCal software and is economical to purchase and install.

In a world-first, a typical flow measuring application in a partially full, closed pipe is shown below. The EchoFlo (mounted on the top of the pipe) measures the depth and a MACE Doppler insert sensor measures velocity. Together, these two sensors are connected to a FloPro XCi that calculates, records and displays the resultant flow rate.
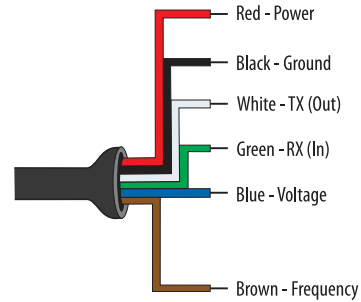
Features:
- Compact design for flexible mounting options
- Easy installation in small pipes and tanks
- Patented DSP ultrasonic measurements
- Provides advanced surface imaging with obstacles in the beam width
- Minimal dead band and narrow beam width
- Allows for maximum fill in small pipes and tanks
- Corrosion resistant and water proof enclosure
- Measures dirty, sticky and corrosive media without affecting product performance
- Quick and painless configuration
- Point 'n' click configuration using free EchoCal software
- No proprietary coding knowledge required

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EchoFlo Ultrasonic Depth Sensor Specifications

Model/Part#	1.25m (850-341)	3m (850-343)
Range:	1.25 m (49.2 in.)	3 m (118.1 in.)
Accuracy:	+/- 0.24% Range	+/- 0.2% Range
Resolution:	0.5 mm (0.019 in.)	0.5 mm (0.019 in.)
Beam width:	5 cm (2 in.)	5 cm (2 in.)
Dead band:	5 cm (2 in.)	10 cm (4 in.)
Supply voltage:	12-24 VDC	
Consumption:	0.5W	
Signal output:	0 - 5 V, 0 - 10 V, 976 - 2000 Hz	
Frequency:	Sink current = 15 mA nominal	
Fail-safety:	Full, empty, hold last	
Configuration:	EchoCal Software, USB 2.0	
Temp. comp.:	Automatic over range	
Process temp.:	C: -7˚ to 60˚ (F: 20˚ to 140˚)	
Ambient temp.:	C: -35˚ to 60˚ (F: -31˚ to 140˚)	
Pressure:	MWP = 206.8 kPa (30 PSI)	
Enclosure:	IP67 (Type 6P) encapsulated, corrosion resistant & submersible	
Encl. material:	Polycarbonate	
Strain relief mat.:	Santoprene	
Trans. material:	PVDF	
Cable length:	1.2 m (48 in.)	
Cable jacket mat.:	Polyurethane	
Process mount:	1" NPT	
Mount. gasket:	Viton®	
Classification:	General purpose	
Approvals:	CE, cFMus	

Wiring Diagram:

Red - Power
Black - Ground
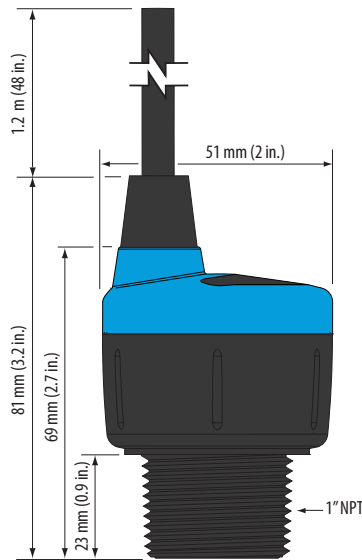White - TX (Out)
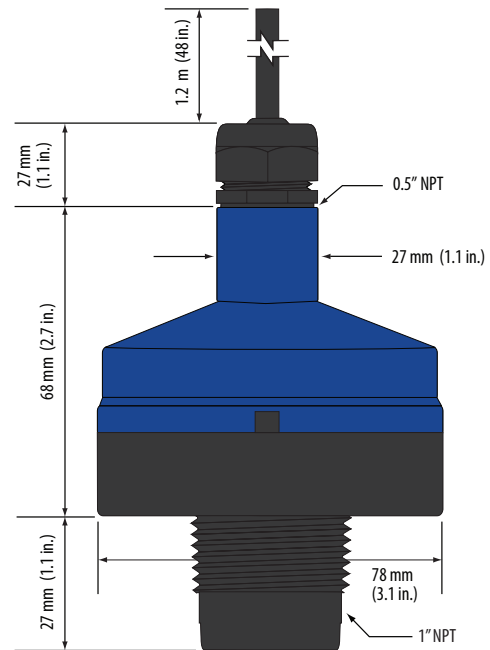Green - RX (In)
Blue - Voltage
Brown - Frequency

Safety:

1. Installation should be undertaken by properly trained staff
2. Supply voltage should NEVER exceed a maximum of 24 VDC
3. Make sure the sensor is chemically compatible with your application
4. Design a fail-safe system that accommodates the possibility of sensor and/or power failure.
5. This sensor should not be used in classified hazardous environments

Model/Part# **1.25m (850-341)**

1.2 m (48 in.)
51 mm (2 in.)
81 mm (3.2 in.)
69 mm (2.7 in.)
23 mm (0.9 in.)
1" NPT

Model/Part# **3m (850-343)**

1.2 m (48 in.)
27 mm (1.1 in.)
0.5" NPT
27 mm (1.1 in.)
68 mm (2.7 in.)
27 mm (1.1 in.)
78 mm (3.1 in.)
1" NPT

Note to end users: These specifications are subject to change at any time without notice. MACE takes no responsibility for the use of these figures. Please consult MACE for the latest specifications before using them in contract submittals or third party quotes etc. MACE reserves the right to change specifications without prior warning. All quoted figures are based on test conditions and are subject to variation due to site conditions.