

# OCEAN SENSOR MODULES

## Direct Digital Output with Standards Accuracy

FSI's individual sensor modules provide a powerful tool to obtain high-accuracy physical oceanographic data. Three individual units are available: Ocean Conductivity Module (OCM), Ocean Temperature Module (OTM), and Ocean Pressure Module (OPM). All modules use a low-power microcontroller to collect, scale, and transmit real-time data via RS-232 or RS-485.

The OCM uses proven inductively coupled conductivity sensors. The large inside diameter of these sensors more accurately reproduces the salinity structure of the water without requiring a pump.

The OTM uses a standards-grade Platinum Resistance Thermometer (PRT) for superior stability without sudden calibration "jumps" typical of thermistor-based sensors.

The OPM, which incorporates a platinum strain gauge for maximum reliability, is available in a variety of full-scale ranges to meet the accuracy requirement of specific projects.

### FEATURES

- **High-Accuracy**
  - OCM  $\pm 0.0003$  S/m (.003 mmho/cm)
  - OTM  $\pm 0.003$  C
  - OPM  $\pm 0.03\%$  Full Scale
- **High-Quality Sensors**
  - OCM-Inductive Conductivity Sensor
  - OPM-Titanium Pressure Transducer
  - OTM-Platinum Resistance Thermometer
- **Internal Reference Electronics**
- **Self-Calibrating Electronics**
- **High-Speed Sampling, 32 Hz**
- **Direct-Digital Output**
- **Sensors with Predictable Spatial Response**
- **Titanium Pressure Housing Rated to 7000M**



Excellence In Instrumentation



**Falmouth Scientific, Inc.**

1140 Route 28A, P.O. Box 315 • Cataumet, MA 02534-0315 • email: fsi@falmouth.com  
Telephone: 508/564-7640 • Facsimile: 508/564-7643 • Website: www.falmouth.com

# Ocean Sensor Module Specifications

## Modules

Parameter	OCM Conductivity	OTM Temperature	OPM Pressure
Range	0 - 7.0 S/m (0 - 70 mS/cm)	-2 to 32 C	User Specified: 0-200 dBar 0-1000 dBar 0-2000 dBar 0-3000 dBar 0-7000 dBar
Accuracy	-0.0003* S/m (-0.003 mS/cm)	-0.003 C*	-0.03% full scale*
Stability / month	-0.00005 S/m (-0.0005 mS/cm)	-0.0005 C	-0.002% full scale
Resolution	0.00001 S/m (-0.0001 mS/cm)	0.0001 C	0.0004% full scale
Response @ 1 m/sec flow	50 msec	150 msec	25 msec
Sensor Type	Inductive Cell	Platinum Thermometer	Strain Gauge

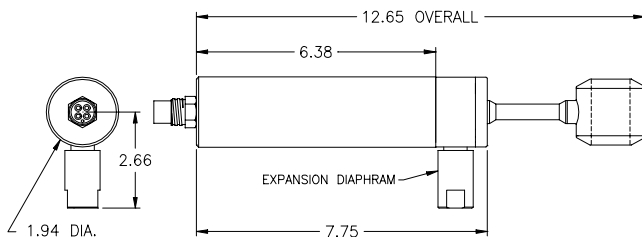
\*Higher accuracy calibration available, contact factory

## System

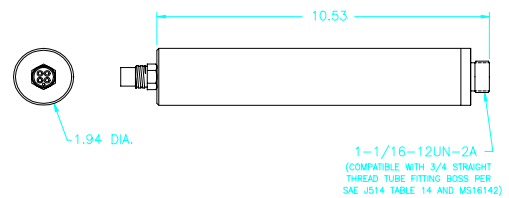
Power	12 VDC -20% @ 72 mA (OTM), 95 mA(OPM,OCM)
Warmup Time	2.0 seconds from power on
Physical	7,000m operating depth (1.25 full scale for OPM) see outline drawings below for dimensions
Material	Titanium 6AL-4V
Connector	SUBCONN MICRO 4 MCBH4F mates with MCIL4M
Data Format	Conductivity in mS/cm Temperature in °C per ITS-90 Pressure in dBars (SNNNNN.NN) Baud Rate: 4800, 9600, or 19,200 user selectable Data Bits: 8 data, 1 stop, no parity Format: ASCII
Data Options	RS-232 or RS-485 specified at time of order

Specifications Subject to Change without Notice

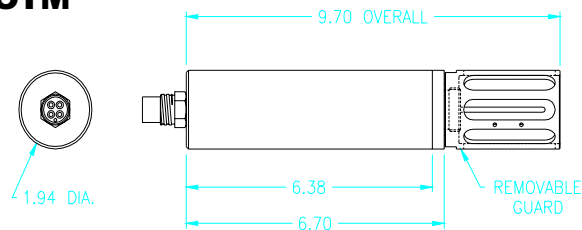
### OCM



### OPM



### OTM



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Rev. IV(7/20/00)

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