

Digital Excell® Oceanographic Pressure Module (EOPM)

The Falmouth Scientific, Inc. EOPM is a high-accuracy, high-resolution (20 Hz sampling) pressure sensor, intended for towed vehicle, ROV, AUV, or other autonomous profiling applications at depths up to 7000 meters.

The EOPM is an easy-to-use, light, compact, rugged instrument made of either delrin or titanium and other low-maintenance materials. It is well suited to even the smallest vehicles. Commands sent to the EOPM provide status display, data acquisition setup, and diagnostic tests. The EOPM must be externally powered and the serial data logged or telemetered by the vehicle to which it is mounted.

The EOPM's pressure sensor is almost perfectly elastic, so the pressure hysteresis is minimal. Compensation of the temperature influence on pressure offset and scale is performed by the EOPM's CPU.

The versatile EOPM can be configured for special, integrated applications such as FSI's High-Accuracy Tide Recorder (See separate datasheet for details).



EOPM with Titanium Housing

FEATURES

- Compact, lightweight, low-maintenance construction
- Delrin housing for depths to 500 meters and Titanium housing for depths to 7000 meters
- Strain-gauge pressure sensor
- Subconn 4 or 8 pin I/O bulkhead connector MCBH Micro connector (select at time of ordering)
- Voltage output interface provides 0-5 volt output proportional to the pressure or depth at full 12 bit resolution
- Windows 95/98/NT/2000/XP terminal program is supplied for instrument setup, status display, and diagnostics
- Configurable for special applications

SPECIFICATIONS

Parameter	Range	Accuracy	Stability (per month)	Resolution
Pressure	0 to 100 m, 0 to 200 m, 0 to 500 m, 0 to 1000 m, 0 to 2000 m, 0 to 7000 m	.08% of full scale range	0.004% of full scale range	0.002% of full scale range

Sampling

- Autonomous:** The EOPM runs continuously and samples at 20 scans per second (20 Hz). It can be set to boxcar average for a specific time interval, transmitting only the averaged data. The EOPM can be programmed to begin autonomous sampling when power is applied or on command. The EOPM has the ability to output pressure in dbar, psi, meters and feet. If the EOPM is outputting in meters or feet, the maximum sampling rate is 15 Hz.
- Polled:** On command, the EOPM transmits the most recent sample data or the boxcar averaged data.
- Interval:** User selectable time interval
- Digital Output:** Pressure data in ASCII engineering units, pressure in decibars or psia, or depth in meters or feet - pressure is calculated using calibration coefficients stored in EEPROM; depth is calculated from pressure and user-input latitude.
- Communication Protocol:** RS-232, RS-485 or open collector, 9600-N-8-1:
- Analog Output:** 0-5 V, with 12 bits of resolution only with 8 pin connector option
- Power Requirements:** 8-30 VDC @ 30 mA
- Optional Barometric Pressure Input:** 0 to +2.5 VDC (Consult factory for other ranges) Only with 8 pin connector option.
- Optional Data Memory:** 128 MB
256 MB
- Housing Material:** Delrin or Titanium 6AL4V
- Depth Rating:** 500 Meter Delrin Housing Standard
7000 Meter Titanium Housing Optional
- Weight:**
Delrin
Air: 0.6 kg (1.26 lbs)
Water: 0.2 kg (0.5 lbs) buoyant

Titanium
Air: 1.14 kg (2.52 lbs)
Water 0.7 kg (1.50 lbs)

Specifications Subject to Change without Notice

