

MicroPod

Turbulence System

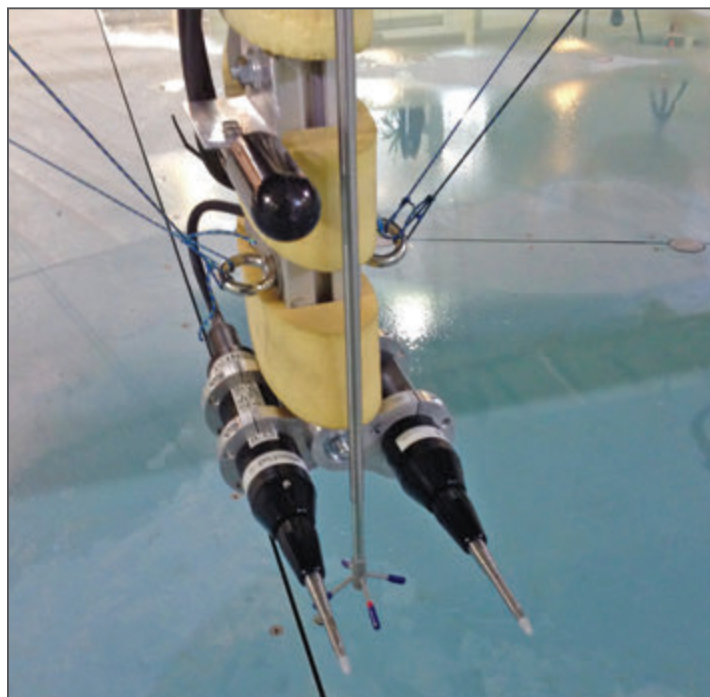


DESCRIPTION

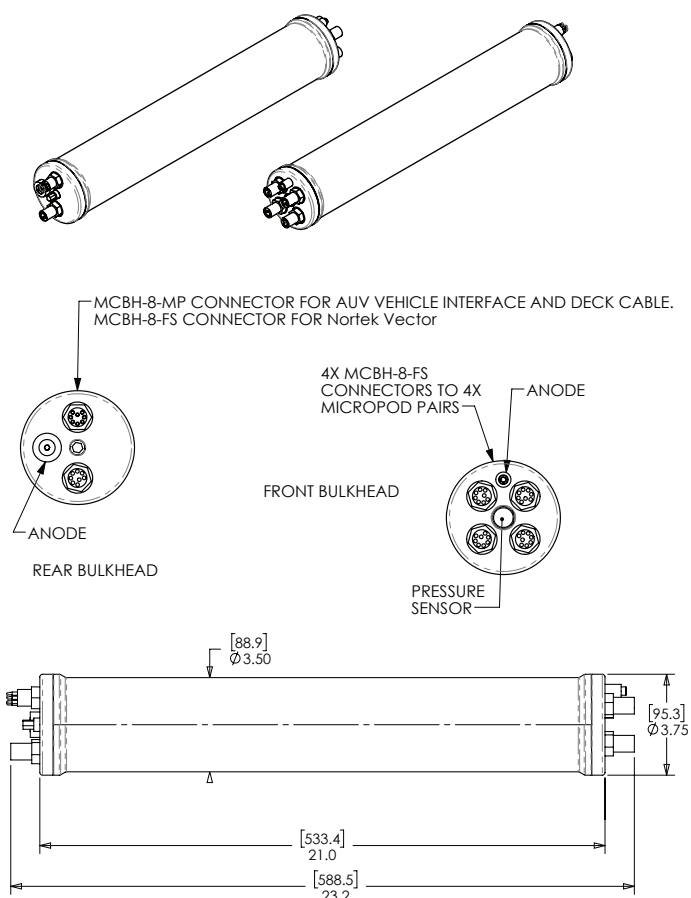
The MicroPod Turbulence System consists of a submerged data logger (**DataHub**) that provides signal input for up to eight **MicroPod** modules. These can be any combination of *MicroPod-S* velocity shear modules and *MicroPod-T* fast response temperature modules. The **DataHub** can also provide optional analog and digital input channels to synchronously sample other instruments, e.g., current meters such as Nortek ADV or Vectrino, or electro-magnetic current meters.

APPLICATIONS

The **MicroPod** Turbulence System can either be deployed in the field or installed and manipulated in a laboratory tank or flume for turbulent flow characterization. The **MicroPods** have also been integrated with autonomously operated ocean gliders, submarine vehicles, floats and mooring systems with the **DataHub** installed within the autonomous platform.

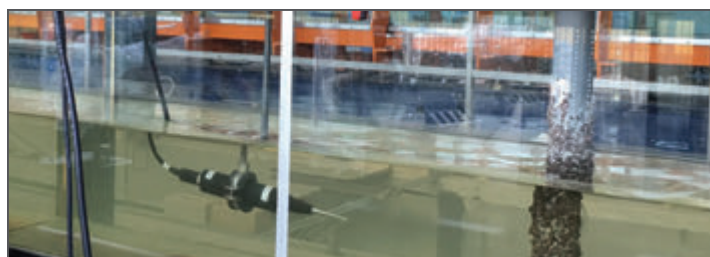


DATAHUB



Input channels	8 analog channels (0-5 VDC) standard for synchronous logging, expandable to 16 channels, optional serial input channels
Depth Rating	1,000 m depth rating standard, up to 6,000 m available
Pressure Sensor	100 bar standard, up to 600 bar available
Sampling rate	512 Hz standard, per channel, up to 2048 Hz available
Power	9 – 18 VDC, ~1W while sampling
Trigger	On/Off TTL trigger input for data acquisition on/off
Memory	16 GB memory card (standard), up to 64 GB available

Other, customized configurations for different sensor inputs are available upon request.



All specifications subject to change without notice.

Rockland Scientific International Inc.
520 Dupplin Road,
Victoria BC V8Z 1C1 Canada

tel +1-250-370-1688
fax +1-250-370-1688
toll free 1-877-370-1688

email info@RocklandScientific.com
web www.RocklandScientific.com

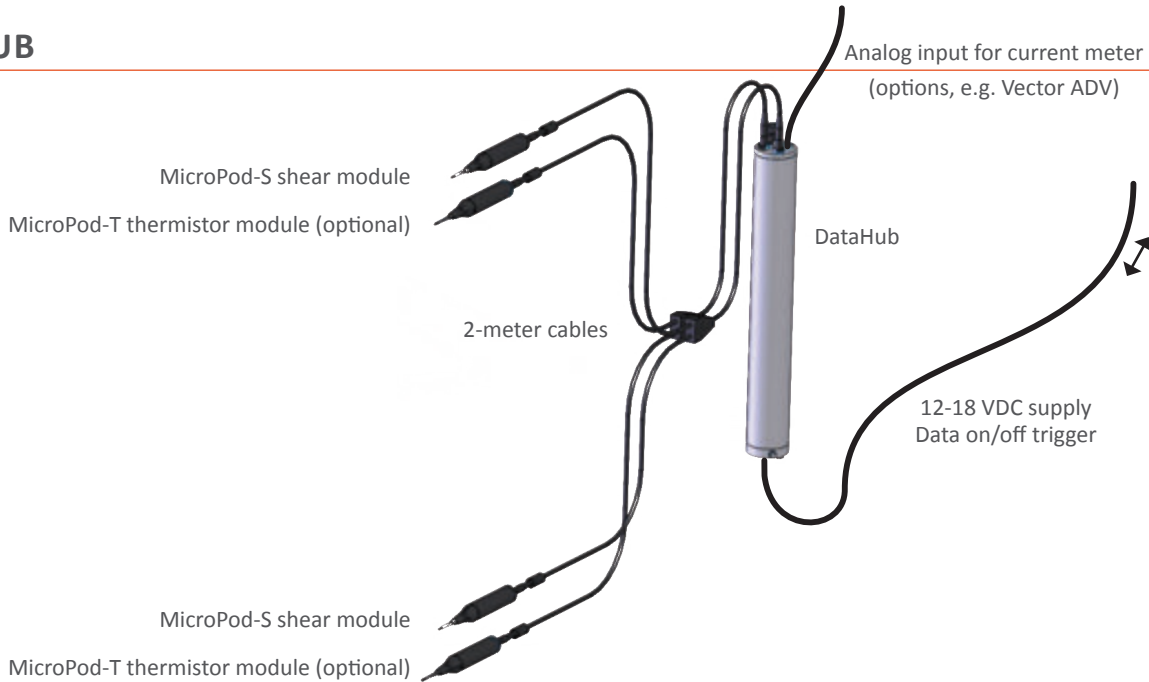
Business No.: 82695-5544



MicroPod Turbulence System



DATAHUB



MICROPOD-S SHEAR MODULE & MICROPOD-T MODULE

Mechanical (both)

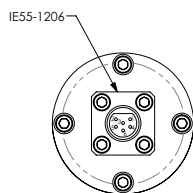
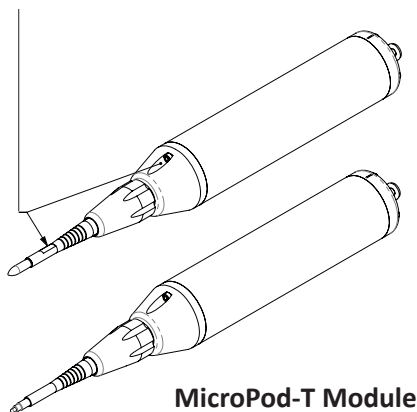
- **Mass in air** = 272 GRAMS (including dummy probe)
- **Displaced Volume** = 208.02 CM³
- **Total buoyancy** (1025 KG/M³ seawater) = 213 grams
- **Net buoyancy** = -59 GRAMS (estimated, excluding underwater cables)
- Rated for 1,000 m seawater (up to 6,000 m upon request)
- Housing material is acetal (Delrin) with Titanium screws

MicroPod-S Shear Module

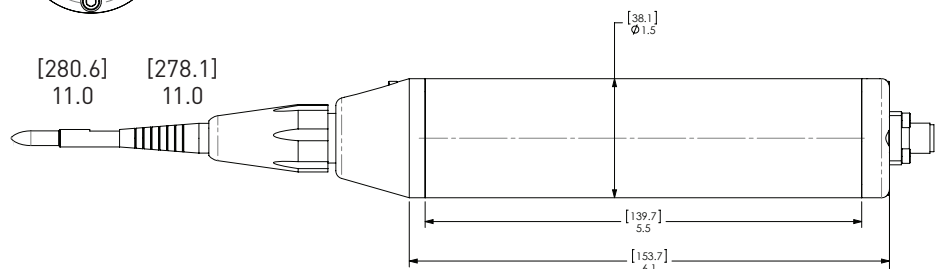
FLAT ON SHEAR PROBE IS THE SENSING DIRECTION.

ALIGN FLAT WITH THE SINGLE CAP SCREW ON THE FRONT BULKHEAD. THIS ALIGNS THE SHEAR PROBE WITH THE VIBRATION SENSOR INSIDE THE MICROPOD.

CHANGE TO THE ORTHOGONAL SENSING AXIS BY ROTATING THE ENTIRE FRONT BULKHEAD/SENSOR ASSEMBLY 90 DEGREES. REMOVE THE SINGLE FASTENER, TURN THE BULKHEAD SO THE OTHER TAPPED HOLE IS EXPOSED IN THE TUBE. SECURE. THIS KEEPS THE TUBE AND THE REAR BULKHEAD FIXED.



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dimensions in [millimeters] inches

Electrical MICROPOD-S SHEAR

Signal output on two channels with Dynamic Variance Compression™

- Channel 1: SPM-6000 velocity shear (du/dt)
- Channel 2: Acceleration
- Signal Bandwidth: 0 - 102 Hz

Electrical MICROPOD-T MODULE

• Channel 1: FP07 High resolution Temperature with Dynamic Variance Compression™ (T+G*dT/dt)

- Signal Bandwidth: 0 - 102 Hz

Signal output options (both)

- 0-4.096VDC analog voltage output (needs 5 – 18 VDC supply)
- 4-20mA analog current output (needs 12.5 – 18 VDC supply)

Connector: IE55-1205 five-pin connector

(Note: a wet-pluggable connector option is available)