

Sensor Overview

of the Micro Series

The Micro Series: adaptable instruments for an ever-changing world.

Applied Microsystems' Micros offer a common instrument platform for a wide variety of sensors. Each instrument is customizable in terms of diameter, length, output format, power source, and connector style. And remote sensors are fully modular. That means that as your needs change, you're able to add, subtract or update sensors. Sound too easy? It is.

Key features include:

- Market leading sensor response times to minimize data spiking
- Sample rates of 25 Hz for improved vertical or horizontal profiling
- No pumps to maximize reliability and minimize power draw
- Programmable sampling rates and programmable outputs
- Plug and play approach to remote sensors



The Micro CTD: 1.98" diameter and 9.54" length

Micros come in three sizes, ranging in diameter from 33mm (1.3") to 102mm (4.0"). As a standard, Micros come with RS 232 communications and use wet pluggable Micro 8 pin connectors. Customization is possible. For full mechanical details on the Micros – and a listing of available options – please see our brochure "Mechanical Overview for the Micro Series." Complete sensor specifications are located on the reverse of this page.

Sound Velocity:

Manufacturer: Applied Microsystems
Type: Piezoelectric time of flight
Range: 1400 - 1600 m/s
Precision: +/- 0.03 m/s
Accuracy: +/- 0.05 m/s (RMS)
Displayed Resolution: 0.01 m/s
Timing Resolution: 0.005m/s
Power: 40 mA at 8 to 16 volts DC (12V nominal)

Conductivity (4 Electrode):

Manufacturer: Applied Microsystems
Type: 4 electrode cell
Time constant: 25ms (at 1 m/s flushing)
Range: 0 - 7S/m or 0 to 70 ms/cm
Precision: +/- 0.005 mS/cm
Accuracy: +/- 0.01 mS/cm (RMS)
Resolution: 0.0015 mS/cm
Power: 40 mA at 8 to 16 volts DC (12V nominal)

Temperature:

Manufacturer: Applied Microsystems
Type: Pressure protected precision thermistor
Time constant: 200ms (optional 85 ms)
Range: -2 °C to 32 °C. (other ranges by request)
Precision: +/- 0.004 °C
Accuracy: +/- 0.005 °C (RMS)
Resolution: 0.001 °C
Power: 27 mA at 8 to 16 volts DC (12V nominal)

Pressure:

Manufacturer: Keller (other supplier by request)
Type: Semiconductor bridge strain gauge
Time constant: <10 ms
Range: Various 0-6000 dbars
Precision: +/- 0.05% full-scale range
Accuracy: +/- 0.05% full-scale range (RMS)
Resolution: 0.002% full-scale range
Power: 27 mA at 8 to 16 volts DC (12V nominal)

pH:

Manufacturer: Innovative Sensors
Type: Combination electrode
Time constant: 15 s
Range: 2 to 12 pH units
Accuracy: ±0.1
Resolution: 0.01
Power: 23 mA at 8 to 16 volts DC (12V nominal)

Heading / Tilt:

Manufacturer: KVH / Applied Geomechanicals
Type: Flux gate / Electrolytic
Range: 0 to 360 / +/- 45 degrees
Accuracy: +/- 0.5 degrees / +/- 2% of reading
Resolution: 0.1 degrees for both
Power: 40 mA / 30 mA at 8 to 16 volts DC (12V nominal)

We welcome requests for the integration of specific makes of sensors. Not all sensors and options are available for all Micro sizes. Some sensors may require conductivity, temperature, and / or pressure. Consult the factory for more details.

Conductivity (Inductive):

Manufacturer: Applied Microsystems
Type: Inductive
Time constant: 25ms (at 1 m/s flushing)
Range: 0 - 7S/m or 0 to 70 ms/cm
Precision: +/- 0.01 mS/cm
Accuracy: +/- 0.03 mS/cm (RMS)
Resolution: 0.0015 mS/cm
Power: 40 mA at 8 to 16 volts DC (12V nominal)

Dissolved Oxygen:

Manufacturer: YSI or Idronaut
Type: Polarographic
Time constant: 60 s or 3 s
Range: 0 to 15 mg/l or 0 to 20 mg/l
Accuracy: ±0.2 mg/l
Resolution: 0.01 mg/l
Power: 23 mA at 8 to 16 volts DC (12V nominal)

Turbidity Sensor (OBS):

Manufacturer: D&A Instruments
Type: Optical backscatter
Range: 0 to 2000 NTU's (other ranges available)
Accuracy: ±1.5 NTU's
Resolution: 0.1 NTU's
Power: 40 mA at 8 to 16 volts DC (12V nominal)

O.R.P. / Redox:

Manufacturer: Innovative Sensors
Type: Combination electrode
Range: +/- 2000 mV
Accuracy: +/- 2 mV
Resolution: 0.1 mV
Power: 23 mA at 8 to 16 volts DC (12V nominal)

Chlorophyll A:

Manufacturer: Wet Labs
Type: Fluorometric
Time Constant: 0.17 seconds
Dynamic Range: 0.03 to 75 ug/l
Resolution: 0.0015 ug/l
Power: 90 mA at 8 to 16 volts DC (12V nominal)

Transmissometer:

Manufacturer: Wet Labs
Wavelengths: 660, 530, 470, 370 nM
Time Constant: 0.167 s
Range: 0 to 5000 mV
Accuracy: +/- 0.1%FS
Resolution: 1 mV
Power: 80 mA at 8 to 16 volts DC (12V nominal)

APPLIED Because it's not just 
MICROSYSTEMS

2071 Malaview Avenue, Sidney B.C. Canada Tel: +1-250-656-0771
info@AppliedMicrosystems.com www.AppliedMicrosystems.com
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