

Smart•X is a real-time instrument that allows you to change the instrument's sensor load, in the field and on demand. With Smart•X, your SVP can become a CTD; shallow pressure sensors can be swapped for deep; and temperature range can be extended or tightened, as needed. One real-time instrument meets multiple deployment requirements.

Like all other X•Series instruments, Smart•X uses Xchange™ field-swappable sensors, now available for conductivity, sound velocity, temperature, pressure, and turbidity. This means that sensor-heads can be shared with other instruments, regardless of instrument size or type. Total flexibility – of instrument model, of sensor type, and of sensor range – ensure that the right instrument is always available.

Field-swappable sensors also streamline recalibration: instead of sending the entire instrument back to a recalibration centre, calibrated sensor-heads can be sent to the instrument. Changing sensors is easy: simply unscrew one sensor-head and replace it with another.

Smart•X offers high-speed 25Hz sampling, ensuring excellent data resolution. Designed for AUV or ROV work, a Smart•X equipped with a sound velocity sensor is also appropriate for sea surface sound velocity measurement for multi-beam systems. The instrument is available in 1 or 3 sensor configurations; form factor and functionality vary slightly between the two.

Smart•X is available with UV•Xchange™ to prevent biofouling during in-situ deployments.



C•Xchange™



SV•Xchange™



P•Xchange™



T•Xchange™



Tu•Xchange™



UV•Xchange™

Key Benefits:

- Greater return on investment: Each instrument can multi-task as CTD or SVTP, at multiple pressure ranges, assuring greater usage.
- Right instrument always ready: Calibrated sensors are shared amongst all X•Series instruments, ensuring that the right instrument is always field-ready.
- Reduced downtime: Recalibrated sensors sent to the instrument means the instrument never leaves the field for recalibration.
- Reduction in transport and logistics costs: Instruments can be recalibrated without return to a calibration centre.
- Greater system redundancy: Mobility of sensor-heads and modularity of instruments minimizes the risk of downtime on the vessel.
- Streamlined management: Less time spent administering instrument recalibration and certification requirements.
- Biofouling control: UV•Xchange™ prevents biofouling of sensors, enhancing in-situ CTD performance.

Xchange™ and X•Series:

- Each Xchange™ sensor-head includes its own embedded calibration
- Sensors exchange easily without use of speciality tools
- Swap any sensor with another sensor of its own kind, regardless of range
- Exchange conductivity with sound velocity, regardless of range
- Exchange pressure with temperature or turbidity, regardless of range

Data & Sampling:

- Scan up to 25 Hz
- User configurable (by time, by pressure, by sound speed)
- Factory Set RS232 or RS485
- Externally Powered 8-26 VDC

Mechanical:

- Housing: Delrin to 500 m or Titanium to 6,000 m
- Size: Single Sensor Configuration: 46 mm (1.8") diameter x 308 mm (12.2") OAL (same form fit as earlier versions of Smart instruments)
Multi- Sensor Configuration: Sensor Cage 70 mm (2.75") diameter, Body 46 mm (1.8") diameter, OAL 420 mm (16.5").
- Weight (Delrin): in air: 0.85 kg (1.87 lbs), in water: 0.10 kg (0.22 lbs)
- Weight (Titanium): in air: 1.94 kgs (4.27 lbs), in water: 1.10 kgs (2.42 lbs)
- Connectors: Micro 6, Female
- Storage Temperature: -40°C to 60°C
- Operating Temperature: -20°C to 45°C

Software:

- Seacast software included for use on PC or laptop. Features of Seacast include instrument set up, calibration information, sampling mode selection, data review, graphing, and data export.

Parameter	Range	Precision	Accuracy	Resolution	Response
Xchange™					
¹ C•Xchange™	0 to 70 mS/cm	+/-0.003mS/cm	+/-0.01mS/cm	0.001mS/cm	25ms at 1m/s flow
SV•Xchange™	1375 to 1625 m/s	+/-0.006 m/s	+/-0.025 m/s	0.001 m/s	47 microseconds
P•Xchange™	Up to 6000 dBar	+/-0.03%FS	+/-0.05%FS	0.02%FS	10 milliseconds
T•Xchange™	-2 to 32°C	+/-0.003°C	+/-0.005°C	0.001°C	100 milliseconds
Tu•Xchange™	up to 3000 NTU	up to +/- 3%NTU	up to +/- 3%NTU	up to 0.5NTU	<0.7s (3s to 95%)
² Salinity (Calculated)	0 to 42 psu	+/-0.06psu	+/-0.01psu	0.001psu	
² Density (Calculated)	990 to 1230kg/m ³		+/- 0.027kg/m ³	0.001kg/m ³	

X•Series instruments do not come with sensor-heads; please order them separately.

Other ranges are available; please contact us. All specifications subject to change without notice.

¹ Stability is +/-0.003 mS/cm/month when combined with UV•Xchange.

² Calculated parameters are based on C•Xchange™, T•Xchange™ and installed pressure sensor.

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