

The Smart•X is a real-time instrument that allows you to change the instrument's sensor load, in-the-field and on-demand. With the 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 single real-time instrument meets multiple deployment requirements.

Like all other X•Series instruments, the Smart•X uses Xchange™ field-swappable sensors, now available for Conductivity, Sound Velocity, Temperature, and Pressure. 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.

The Smart•X offers high-speed 25Hz sampling, ensuring excellent data resolution. Designed for AUV or ROV work, the 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.



C•Xchange™



SV•Xchange™



P•Xchange™



T•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.

## 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, regardless of range

## Electrical:

- Up to 25 scans per second
- Factory Set RS232 or RS485
- Externally Powered 8-26 VDC

## Mechanical:

- Housing: Delrin to 500 m or Titanium to 10,000 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").
- Connectors: Micro 6, Female
- Environmental Storage: -40oC to 60oC
- Environmental Usage: -20oC to 45oC

## Sampling Modes:

- User configurable (by time, by pressure, by sound speed)

Parameter	Range	Precision	Accuracy	Resolution	Response
<b>Xchange™</b>					
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
Salinity (Calculated)*	0 to 42 psu	+/-0.06psu	+/-0.01psu	0.001psu	
Density (Calculated)*	990 to 1230kg/m <sup>3</sup>		+/- 0.027kg/m <sup>3</sup>	0.001kg/m <sup>3</sup>	

X•Series instruments do not come with sensor-heads; please order them separately.  
 Calculated parameters are based on C•Xchange™, T•Xchange™ and P•Xchange™ sensor-heads.  
 Other ranges are available; please contact factory. All specifications subject to change without notice.

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