X2change™ Sensors

X2change™ is the industry's leading family of field-swappable sensor heads. Each sensor head contains its own embedded calibration and can be moved from instrument to instrument without impacting accuracy. Changing sensors is easy: simply unscrew one sensor head and replace it with another.

Key Benefits:

- **Zero Down Time:** With X2•Series sensors, calibrated spare sensors can be swapped onto the instrument instead of sending the whole instrument back for recalibration.
- **Reduce Logistical Costs:** No need to ship entire instruments, only the small sensor heads.

- **Increased Flexibility:** Field-swappable sensor heads enable any organization - big or small - to become a virtual recalibration centre by stocking spare calibrated sensor heads.
- **One Instrument, Multiple Applications:** The ability to change sensors on any instrument to suit specific application requirements. This means instruments dedicated to a single application are a thing of the past.

- **Improved Absolute Pressure Accuracy:** You may choose the best full scale pressure range to suit your deployment depth.

X2change™ sensor heads are used exclusively with X2•Series/ Orange Line instrumentation. Total flexibility of instrument model, sensor type, and sensor range ensures that the right instrument is always available. Please refer to other X2•Series brochures to review instruments, applications, and specifications.

Sound Velocity / CTD / Multiparameter / Biofouling Control / Deployment Systems

	Max Depth (m)	Range	Precision (+/-)	Accuracy (+/-)	Resolution	Response Time	Notes
Conductivity & Temperature	6000 [1]	C: 0-90 mS/cm [2] T: -5 - 45 °C	C: 0.003 mS/cm T: 0.003 °C TMP: 0.003 °C	C: 0.01 mS/cm [5] or 0.003mS/cm [5] T: 0.005 °C or 0.002 °C	C: 0.001 mS/cm T: 0.001 °C	C: 25 ms [6] T: 100 ms	Combined Conductivity & Temperature (single sensor)
Sound Velocity	6000 [1]	1375-1625 m/s	0.006 m/s	0.025 m/s	0.001 m/s	20 ms	-
Sound Velocity & Temperature	6000 [1]	SV: 1375-1625 m/s T: -5 - 45 °C	0.006 m/s T: 0.003 °C	SV: 0.025 m/s T: 0.01 °C	SV: 0.001 m/s T: 0.001 °C	SV: 20 ms T: 500 ms	Combined Sound Velocity & Temperature (single sensor)
Pressure Sensor	50 - 6,000	0-50 dBar to 0-6,000 dBar	0.03% FS	0.05% FS	0.02% FS	10 ms	Piezo-Resistive
Temperature	6000 [1]	-5 - 45 °C [3]	0.003 °C	0.005 °C	0.001 °C	100 ms	-
Turbidity Powered by Turner Designs	600	0-1500 NTU	0.5% reading or 0.1 NTU [4]	2% reading or 0.2 NTU [4]	0.01 NTU	<0.7 s	Non-wipered
	200	0-3000 NTU	0.04% reading or 0.1 NTU [4]				Wiper-equipped
Dissolved Oxygen Powered by JFE Rinko FT	2000 6000	0-425 µmol/L	-	± 2% of measured value or ± 2.0 µmol/L	0.01 µmol/L	< 1 s	Calibration range is 3 - 30 °C
pH Powered by Idronaut	1500 6000	0 to 14	± 0.05% FS	± 0.1 pH	0.01 pH	3 s	NaCl Reference
Chlorophyll Powered by Turner Designs	600	0-500 µg/L	± 0.05% FS	Linearity 0.99 R [2]	0.01 µg/L	200 ms	A & B Red Excitation High CDOM
A & B Blue Excitation	600	0-500 µg/L	± 0.05% FS	Linearity 0.99 R [2]	0.01	200 ms	X2•Series Fluorometers are all powered by Turner Designs Cyclops 7F series
CDOM/FDOM		0-1500 ppb					
Flourescein		0-500 ppb					
Rhodamine		0-1000 ppb					
Crude Oils		0-1500 ppb					
Refined Fuels		0-20 ppm					
Tryptophan		0-5000 ppb					
Optical Brighteners		0-2500 ppb					
Phycoerythrin (BGA)		0 to 750 ppb					

Additional Sensors in both X2Change™ and Cabled Configurations are available upon request. All specifications subject to change without notice.

[1] Survivable to 11000 m. Inquire for specifications.
[2] Will over-range to 100 mS/cm. Inquire for specifications.
[3] Will over-range to 60 °C. Inquire for specifications.
[4] Whichever is greater
[5] Stability is +/-0.003 mS/cm/month when combined with Street Lamp UV
[6] At 1 m/s flow

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