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	Accuracy (+/-)	Resolution	Response Time	Notes
Conductivity & Temperature	6000 [1]	C: 0-5 or 0-90 mS/cm [2] T: -5-45 °C	C: 0.01 mS/cm [5] T: 0.005 °C	C: 0.001 mS/cm T: 0.001°C	C: 25ms [6] T: 100ms	Combined Conductivity & Temperature
High Accuracy Conductivity & Temperature	6000 [1]	C: 0-90 mS/cm [2] T: -5-45 °C	C: 0.003 mS/cm [5] T: 0.005 °C or 0.002 °C	C: 0.001 mS/cm T: 0.001°C	C: 25ms [6] T: 100ms	Combined Conductivity & Temperature
Sound Velocity	6000 [1]	1375-1625 m/s	0.025 m/s	0.001 m/s	20ms	-
Sound Velocity & Temperature	6000 [1]	SV: 1375-1625 m/s T: -5-45 °C	SV: 0.025 m/s T: 0.01 °C	SV: 0.001 m/s T: 0.001°C	SV: 20ms T: 500ms	Combined Sound Velocity & Temperature
Pressure	50 - 6000	0-50 to 0-6,000 dBar	0.05% FS	0.02% FS	10ms	Piezoresistive
High Accuracy Pressure	100 -6000	0–100 to 0-6,000 dBar	0.01% FS	0.001% FS	10ms	PA10LX Piezoresistive
Temperature	6000 [1]	-5-45 °C [3]	0.005 °C	0.001°C	100 ms	-
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	< 1s	Calibration range is 3 - 30 °C
pH Powered by Idronaut	1500 6000	pH 0 to 14	pH 0.1	pH 0.01	3s	NaCl or KCl Reference
ORP Powered by Idronaut	6000	-1000 to +1000 mV	10mV	1mV	< 1s	NaCl or KCl Reference
Turbidity with Wiper	200	0-3000 NTU	2% reading or 0.2 NTU [4]	0.01 NTU	<0.7s	X2•Series Fluorometers & Turbidity Sensors are powered by Turner Designs
Turbidity	600	0-1500 NTU	2% reading or 0.2 NTU [4]	0.01 NTU	<0.7s	
Turbidity	2000	0–200 NTU	2% reading or 0.2 NTU [4]	0.01 NTU	T99 < 0.6s	
Tryptophan	600	0-5000 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Refined Fuels	600	0-20 ppm	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Chlorophyll A & B Blue Excitation	2000	0–100 µg/L	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Chlorophyll A & B Red Excitation	2000	0–500 µg/L	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
CDOM/FDOM	2000	0–500 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Flourescein	2000	0–150 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Rhodamine	2000	0-200 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Phycoerythrin (BGA)	2000	0–700 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Phycocyanin	2000	0–4,500 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Crude Oils	2000	0–300 ppb PTSA	Linearity 0.99 R [2]	0.01	T99 < 0.6s	
Optical Brighteners	2000	0-300 ppb	Linearity 0.99 R [2]	0.01	T99 < 0.6s	

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

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