





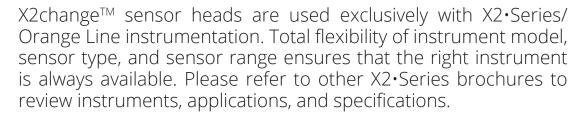


X2change<sup>™</sup> is the industry's leading family of field-swappable sensor heads. Each sensor head contains its own embedded calibration and can be moved from instrument to instrument without impacting accuracy. Changing sensors is easy: simply unscrew one sensor head and replace it with another.

## **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.









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 <sup>2</sup> T: -5 - 45 °C	C: 0.003 mS/cm T: 0.003 °C TMP: 0.003 °C	C: 0.01 mS/cm <sup>5</sup> or 0.003mS/cm <sup>5</sup> T: 0.005 °C or 0.002 °C	C: 0.001 mS/cm T: 0.001 °C	C: 25 ms <sup>6</sup> T: 100 ms	Combined Conductivity & Temperature (single sensor)
Sound Velocity	6000 <sup>1</sup>	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 <sup>1</sup>	-5 - 45 °C <sup>3</sup>	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 <sup>4</sup>	2% reading or 0.2 NTU <sup>4</sup>	0.01 NTU	<0.7 s	Non-wipered
	200	0-3000 NTU	0.04% reading or 0.1 NTU <sup>4</sup>				Wiper-equipped
Dissolved Oxygen Powered by JFE Rinko FT	2000	0-425 µmol/L		± 2% of measured value or ± 2.0 μmol/L	0.01 µmol/L	<15	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 <sup>2</sup>	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 <sup>2</sup>	0.01	200 ms	X2•Series Fluorometers are all powered by Turner Designs Cyclops 7F series
CDOM/FDOM Flourescein		0-1500 ppb 0-500 ppb					
Rhodamine Crude Oils Refined Fuels		0-1000 ppb 0-1500 ppb 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.

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<sup>&</sup>lt;sup>1</sup> Survivable to 11000 m. Inquire for specifications.

<sup>&</sup>lt;sup>2</sup> Will over-range to 100 mS/cm. Inquire for specifications.

<sup>&</sup>lt;sup>3</sup> Will over-range to 60 °C. Inquire for specifications.

<sup>&</sup>lt;sup>4</sup> Whichever is greater

<sup>&</sup>lt;sup>5</sup> Stability is +/-0.003 mS/cm/month when combined with Street Lamp UV

<sup>&</sup>lt;sup>6</sup> At 1 m/s flow