

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, keeping you operational in the field.
- **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	Range	Precision (±)	Accuracy (±)	Resolution	Response Time	Notes
Sound Velocity	6000 m ¹	1375–1625 m/s	0.006 m/s	0.025 m/s	0.001 m/s	20 ms	Time of flight
Sound Velocity & Temperature	6000 m ¹	SV: 1375–1625 m/s T: -5–45 °C	SV: 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
Conductivity & Temperature	6000 m ¹	C: 0–5 or 0–90 mS/cm ² T: -5–45 °C	C: 0.003 mS/cm T: 0.003 °C	C: 0.01 mS/cm ⁵ T: 0.005 °C	C: 0.001 mS/cm T: 0.001 °C	C: 25 ms ⁶ T: 100 ms	Combined Conductivity & Temperature
High Accuracy Conductivity & Temperature	6000 m ¹	C: 0–90 mS/cm ² T: -5–45 °C	C: 0.003 mS/cm T: 0.003 °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: 25 ms ⁶ T: 100 ms	Combined Conductivity & Temperature
Pressure	50–6000 m	0–50 to 0–6000 dBar	0.03% FS	0.05% FS	0.02% FS	10 ms	Piezoresistive
High Accuracy Pressure	100–6000 m	0–100 to 0–6000 dBar	0.01% FS	0.01% FS	0.001% FS	10 ms	PA10LX Piezoresistive
Temperature	6000 m ¹	-5–45 °C ³	0.003 °C	0.005 °C	0.001 °C	100 ms	-
Turbidity <small>Powered by Turner Designs</small>	600 m	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 m	0–3000 NTU	0.04% reading or 0.1 NTU ⁴				Wiper-equipped
Dissolved Oxygen <small>Powered by JFE Rinko FT</small>	2000 m	0–425 µmol/L	-	2% of measured value or 2.0 µmol/L	0.01 µmol/L	< 1 s	-
	6000 m						
pH <small>Powered by Idronaut</small>	1500 m	pH 0–13	0.05% FS	pH 0.1	pH 0.01	3 s	NaCl or KCl Reference
	6000 m						
ORP <small>Powered by Idronaut</small>	6000 m	-1000 to +1000 mV	2 mV	10 mV	1 mV	< 1 s	NaCl or KCl Reference
CDOM/FDOM	600 m	0–1500 ppb	0.05% FS	Linearity 0.99 R ²	0.01	200 ms	X2•Series fluorometers are powered by Turner Designs
Chl A & B Red Excitation		0–500 µg/L					
Chl A & B Blue Excitation		0–500 µg/L					
Crude Oils		0–1500 ppb					
Flourescein		0–150 ppb					
Optical Brighteners		0–300 ppb					
Phycocyanin		0–4500 ppb					
Phycoerythrin (BGA)		0–700 ppb					
Refined Fuels		0–20 ppm					
Rhodamine		0–200 ppb					
Tryptophan		0–5000 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 per month when combined with Street Lamp UV

⁶ At 1 m/s flow