





Conductivity



Sound Velocity



Pressure



Turbidity And More.... $^{\rm X}$ hangeTM 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, recalibrated sensors are sent to the instrument instead of sending the instrument to the recalibration centre.
- **Reduce Logistical Costs** With X2 series small sensor heads are shipped instead of heavy instruments.
- 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 Application ility to change sensor type on any instrument to suit specific appli (identical instruments dedicated t Turbidity, pH, Chlorophyll, etc) be thing of the past.
 - Improved absolute pressure accu to suit your deployment depth.
- nts. This means instrument duplicates ent pressure ranges, seperate instrument for
- ou may choose the best full scale pressure range

 $\mathbb{R}^{\mathbb{T}^{M}}$ 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 the X2. Series brochure for a list of 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	CND: 0-90 mS/ cm ²	CND: 0.003 mS/ cm	CND: 0.01 mS/ cm ⁶ or 0.003mS/ cm ⁶	CND: 0.001 mS/ cm	CND: 25 ms ⁷ TMP: 100 ms	Combined Conductivity & Temperature
Sound Velocity	6000 ¹	1375-1625 m/s	0.006 m/s	0.025 m/s	0.001 m/s	20 ms ⁸	
Pressure Sensor	100 - 6,000	0-100 dBar to 0 to 6,000 dBar	0.03% FS	0.05% FS	0.02% FS	10 ms	Piezo-Resistive
Turbidity ^a	200	0-1500 NTU ⁴	0.5% reading or 0.1 NTU ⁵	2% reading or 0.2 NTU ⁵	0.01 NTU	<0.7 s	
	200	0-3000 NTU ⁴	0.04% NTU ⁵ or 0.1 NTU ⁵	Linearity 0.99 R $^{\rm 2}$	0.01 NTU	<0.7 s	Wiper-equipped
Chlorophyll ª	600 600	0-500 μg/L 0-500 μg/L	± 0.05% FS	Linearity 0.99 R ²		200 ms	A & B Red Excitation A & B Blue Excitation High CDOM
pH♭	1500	0 to 14	± 0.05% FS	± 0.1			KCl Reference: Ideal for fast response profiling applications
	6000						KCl Reference: Idealfor fast response profiling applications
	1500						NaCl Reference: Ideal for long term in-situ deployments
	6000						NaCl Reference: Ideal for long term in-situ deployments
Phycoerythrin (BGA) CDOM/FDOM ^a Flourescein ^a Rhodamine ^a Crude Oils ^a Refined Fuels ^a Tryptophan ^a Optical Brighteners ^a	600	0 to 750 ppb 0-1250 ppb 0-500 ppb 0-1000 ppb >10000 ppb >100 ppm 0-5000 ppb 0-5000 ppb	± 0.05% FS	Linearity 0.99 R ²		200 ms	
	Additional Sensors in both X2Change and Cabled Configurations are available upon request.			¹ Survivable to 11000 m. Inquire for specifications. ² Will over-range to 100 mS/cm. Inquire for			

Configurations are available upon request. All specifications subject to change without notice.

specifications.

^a Powered by Turner Designs ^b Powered by Idronaut

⁴ Digital auto-ranging ⁵ Whichever is greater ⁶ Stability is +/-0.003 mS/cm/month when combined