

Teledyne RD Instruments

# citadel<sup>®</sup> CTD-ES/ER

Robust, Reliable, and Rugged CTD

Compact Conductivity, Temperature, and Depth Meter with Direct Digital Output

The CITADEL CTD-ES incorporates proven inductively coupled conductivity sensor technology with a platinum resistance thermometer and micromachined silicon pressure sensor to provide highly accurate and stable readings.

Data is output continuously via RS-232 or RS-485. All Citadel CTD-ES sensors are mounted in the flow, with no pumps or other artificial flushing devices required. Precise internal fixed references provide continuous calibration for increased long-term reliability.



## PRODUCT FEATURES

- Non-electrode ceramic inductive conductivity sensor provides cost-savings for maintenance
- High measurement accuracy without the need for pumps
- Lightweight yet durable construction



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## TECHNICAL SPECIFICATIONS

Sensors	Parameter	Conductivity	Temperature	Pressure
	Range	0-70mS/cm	-2° to 32°C	Customer specified
	Accuracy	±0.003mS/cm <sup>1,2</sup>	±0.002°C	±0.02% Full Scale (FS)
	Stability	±0.001mS/cm/month <sup>1,3</sup>	±0.0005°C/month	±0.01% FS/month
	Resolution	0.0001mS/cm	0.0001°C	0.001% FS/month
System	Power	6 to 14 VDC at 120mA, 770mW maximum (input connector jumper wake-up capability)		
	Depth Rating	500 meter Delrin housing or 7000 meter titanium housing		
	Weight	Air: 1.8kg (4lb) Water: 1.2kg (2.7lb)		
	Sample Rate	User selectable, 1.83 to 4.5 frames per second		
	Resolution	18 bits at 2 frames per second; 16 bits at 5 frames per second		
Data Format	Conductivity	mS/cm		
	Temperature	°C (ITS-90)		
	Pressure	decibars, (SNNNNN.NN)		
	Sound Velocity	meter/sec (UNESCO 44)		
	Salinity	PSU (PSS-78)		
	Time	Date		
	All data in ASCII, 8 data bits, one stop bit, no parity RS-232 or RS-485			
Baud Rate	User selectable:	9600, 19200, 38400		
Internal Clock	± 5 ppm initial accuracy			
	± 12 ppm per year			
	Programmable alarm and sleep functions			
Dimensions	Line drawings available upon request			

1 Specified at 22°C and 35PSU

2 Defines as root sum of the squares (RSS) of endpoint non-linearity, repeatability error, and calibration uncertainty.

3 Measured over a typical one-year period.