



citadel™

CITADEL CTD-ES-R ROSETTE

Robust, Reliable, and Rugged CTD

WOCE Accuracy in a Compact Full Ocean Titanium Package

The Teledyne RD Instruments Citadel CTD-ES-R Rosette combines innovative sensors with self-calibrating electronics to produce a physical measurement system with unparalleled accuracy, stability, and reliability.

The Teledyne RDI conductivity cell provides the long-term calibration stability of an inductive cell, while its free flushing design avoids thermal contamination and the need for troublesome pumps.

The silicon pressure sensor provides a superior performance and reliability. The Citadel CTD-ES-R Rosette uses a standards-grade platinum resistance thermometer for primary temperature measurement, the world standard (ITS-90) for temperature measurement. The instrument can support up to three temperature sensors configured to meet the user's specific requirements.

The Citadel CTD-ES-R Rosette features exceptional stability and the sensor configuration is designed to eliminate noise and errors. The instrument consistently produces excellent results, even in harsh environments such as Arctic or polluted waters; and with its rugged, maintenance-free sensors, the unit dramatically reduces shipboard maintenance and turnaround time.



The Citadel CTD-ES-R offers:

- 32 Hz sampling rate
- Plug compatible with a variety of sensors
- 7000 meter titanium housing
- High-accuracy measurement
- Optional 4 MB internal memory
- Multiple RS-232 serial inputs for a variety of sensors including: Teledyne RDI ADCP, Teledyne Benthos PSA-916 Altimeter, WetLabs SAFire
- 8 AID inputs for external sensors
- High speed 9600 BPS DPSK uplink for real-time data output and sampler control
- Powerful, easy to use Windows® software
- Compact DT-2000 deck unit
- Water Sampler Control



**TELEDYNE
RD INSTRUMENTS**

A Teledyne Technologies Company

ROBUST, RELIABLE, AND RUGGED CITADEL CTD'S



Technical Specifications

Sensors			
Parameter	Conductivity	Temperature	Pressure
Sensor	Inductive Cell	Platinum Thermometer	Precision-machined Silicon
Range	0 - 7.0 S/m (0 - 70 mS/cm)	-2° to 35°C	Customer specified
Accuracy*	±0.0002 S/m (±0.002 mS/cm)	0.002°C	±0.01% full scale*
Stability	±0.0005 mS/cm/month	±0.0002°C/month	±0.002% full scale/month
Resolution	0.00001 S/m (0.0001 mS/cm)	0.00005°C	0.0004% full scale
Response	5.0 cm at 1 m/sec	150 m/sec Platinum 20 m/sec Thermistor**	25 m/sec

* Instrument comparison to calibration standards. **Optional.

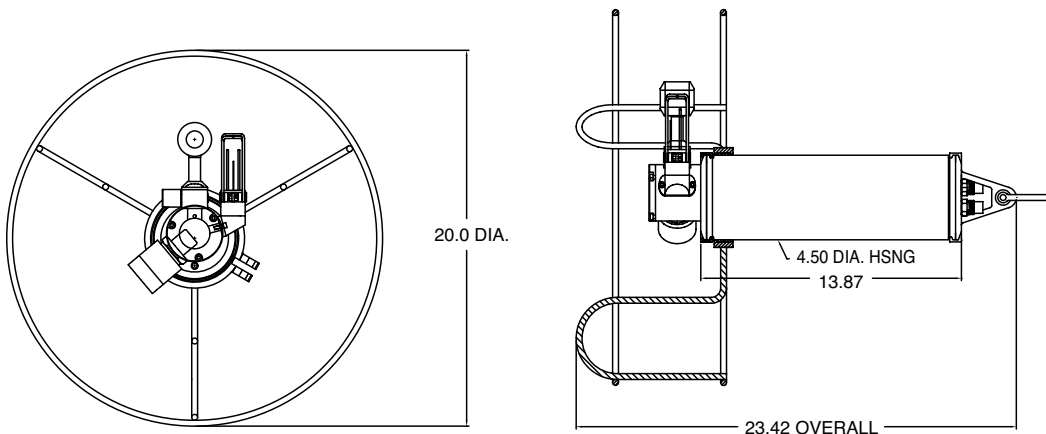
Optical Sensors

The Citadel CTD-ES-R Rosette supports 5 primary sensors and up to 8 additional DC output sensors. Teledyne RDI offers three basic temperature sensors: Primary platinum (150m/sec response), Redundant platinum (150m/sec response), and Exposed (20m/sec response) thermistor. Any combination of 3 of these sensors can be used in the primary channels. In addition, the 8 DC input channels can support virtually any sensor that has a DC output.

Instrument

Communications:	Uplinked CTD and sensor data; bi-directional serial interface for command telemetry
CTD Output:	9600 bps DPSK uplink; 300 bps bi-directional command telemetry; 8 data bits, 1 stop bit, no parity
Optional Internal Memory:	4 MB internal memory with battery backup
Sampling:	User programmable, 4 to 32 frames per second
Power:	110-240 VDC, 6.5 watts
Construction:	Titanium housing rated to 7000m

Dimensions



All dimensions are in inches. All dimensions are subject to change.

