

Teledyne RD Instruments

CITADEL[®] CT-EK Digital

Robust, Reliable, and Rugged CT

Conductivity and Temperature Sensors
with Digital Output for Integration
into User Systems

Teledyne RD Instruments CITADEL CT-EK Sensor provides high-accuracy conductivity and temperature measurements in a package that can be readily adapted to various user platforms. The instrument relies on an innovative, inductively coupled conductivity sensor, which provides high-accuracy, stable readings. The sensor is self-flushing, so no pumps are required. A high-grade Platinum Resistance Thermometer (PRT) provides stable temperature readings for calculation of high-accuracy salinity and sound velocity.

Separate models are available with the following options:

- Shallow- (500-meter) or deep-water (7000-meter) construction
- Internal or external temperature sensor (faster response)
- Regular or short stem (shallow versions only)

A large ceramic conductivity cell is also available for improved accuracy and faster response.



PRODUCT FEATURES

- Self-flushing sensor, with no pump or other moving mechanical parts to fail
- High-stability inductive conductivity sensor can be cleaned without affecting calibration
- High-grade Thermistor provides high-accuracy temperature
- Low-power operation (<65 mW)
- Fast Power-on to Sample-time provides useful data fast
- Internal references enable continuous self-calibration of electronics
- Digital output includes calculated salinity and sound velocity



citadel[®] CT-EK Digital



Robust, Reliable, and Rugged CT

TECHNICAL SPECIFICATIONS

Sensors	Parameter	Large CT Cell Conductivity	Small CT Cell Conductivity	Temperature
	Range	0 to 70mS/cm	0 to 70mS/cm	-2 to 35°C
	Accuracy	±0.01mS/cm ^{1,2}	±0.02mS/cm ^{1,2}	±0.05°C
	Stability	±0.02mS/cm/month ^{1,3}	±0.005mS/cm/month ^{1,3}	±0.005°C/month
	Resolution	0.0001mS/cm	0.0001mS/cm	0.0001°C
Instrument	Power	50 mW @ 6 VDC, voltage range 6-14 VDC; (2) 0-5 VDC control lines; RS-232, RS-485		
	Output Format	Scaled or floating point		
	Baud Rate	300, 1200, 9600, 19200		
	Channels	4, plus user-programmable pressure		
	Connector	Molex 8 pin housing with lock, #7478		
Ordering	Shallow Long Stem (500dBar)			
	Internal Temperature		CT-EK-0-010305-0-I	
	External Temperature		CT-EK-0-010305-0-E	
	Shallow Short Stem (500dBar)			
	Internal Temperature		CT-EK-0-010306-0-I	
	External Temperature		CT-EK-0-010306-0-E	
	Deep Sensor (7000dBar)			
	External Temperature		CT-EK-0-010104-7000-0-E	
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.