



# IDRONAUT *TECHNOLOGY IN SEARCH OF NEW DEPTHS*

## CONDUCTIVITY - TEMPERATURE TRANSFER STANDARD CT-01*Plus*



The “Conductivity - Temperature Transfer Standard CT 01*Plus*” is a compact instrument, designed for metrology laboratories, to perform calibration of oceanographic CTD probes. It combines a Primary Standard 100 ohm RPRT (Reference Platinum Resistance Thermometer), a large-sized IDRONAUT self-flushing cell provided with seven internal rings of fused platinum in the quartz with a microprocessor-controlled high-resolution and high- accuracy electronic amplifier. Optionally, the CT-01*Plus* can become a redundant measuring system when equipped with two temperature and two conductivity sensors. The high-performance electronics collects and transmits the temperature and conductivity readings through the RS232C interface from 1 to 10 times per second. The CT-01*Plus* functions are managed by means of a simple communication protocol through the RS232C interface. A Windows interfacing and calibration management programme “ICAL”, which greatly simplifies the CTD probes calibrations, completes the CT-01*Plus*.



### Features

- Large-sized self-flushing cell provided with seven rings of fused platinum in the quartz.
- High-performance 24-bit digitizing circuits.

- Temperature controlled oven conditions the electronics to obtain drift-free measurements.
- 1ppm Vishay resistors used as a reference for the CT-01*Plus* electronic preamplifiers.
- Redundant C/T sensor pair.
- Windows management software simplifies system operations and automates CTD calibration.

### **CT-01*Plus* technical specifications**

#### ***Temperature***

Sensor	Standard 100 ohm RPRT (Reference Platinum Resistance Thermometer)
Range	-5 to +45°C
Initial Accuracy	0.001 °C
Resolution	0.0001 °C
Digital resolution	0.00000596°C (23 bits)
Stability	+/- 0.0003°C/month
Sampling rate	from 1 to 10 Hz
Noise	<0.0003°C (1Hz)
Excitation current	1.2 mA at 10 KHz



#### ***Conductivity***

Sensor	Self-flushing cell provided with seven internal rings of fused platinum in the quartz (16 mm, diameter 110 mm length)
Range	0 to 70 mS/cm
Initial Accuracy	0.001 mS/cm
Resolution	0.0001 mS/cm
Digital resolution	0.000008345 mS/cm (23 bits)
Stability	+/- 0.001 mS/cm/month
Sampling rate	from 1 to 10 Hz
Noise	< 0.0005 mS/cm (1Hz)
AC Excitation freq.	10 KHz



#### **Components:**

- CT-01*Plus* Deck Unit.
- RPRT Reference Platinum Resistance Thermometer.
- Conductivity Cell.
- Windows "ICAL" Management Software.

#### **Characteristics**

<i>Operating environment</i>	
Temperature	10-25 °C
Humidity	10 to 90% no condensing
Warm-up	60 minutes
Oven temperature	typical operating temperature 35°C, stability +/- 0.1 °C
Interfaces	RS-232C
Communications	Byte oriented proprietary communication protocol and a menu driven interface for maintenance access.
Power supply	115 or 230 VAC +/- 10%, 50/60 Hz
Dimensions	480 x 350 x 190 mm
Weight	10 Kg