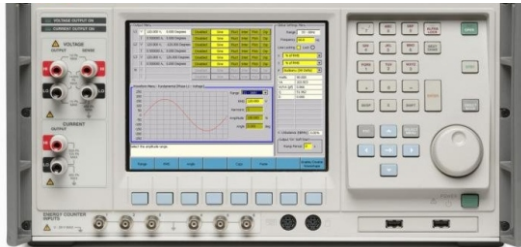


Precision Multi-Product Calibrator Delta-7970



High Performance Calibration

A precision multi-product calibrator designed to rapidly calibrate a wide range of test & measurement instruments. The Delta7970 can accurately test and verify both traditional and new test equipment. It is ideal for companies requiring a calibrator that delivers high performance over wide conditions, with excellent capabilities, functionality, and features for ease of use.

The Delta7970 multifunction calibrator is fitted with AC/DC voltage to 1050V, AC/DC current to 22A, digital frequency to 10MHz, decade resistance to 1GΩ, conductance, capacitance, thermocouple and RTD simulation.

An enhanced performance pack enables advanced calibration for up to 6.5 digit multimeters. It provides full range variable resistance to 1200 MΩ, extended temperature functions, extended capacitance, inductance, additional precision high DCV ranges and increased ACV frequency bandwidth. Also available are oscilloscope and power calibration options.

External adaptors are available for clamp meter calibration (up to 1100A) and optical tachometer calibration. Also available is a power amplifier which increases the Delta7970's AC/DC voltage output drive capabilities to 100mA. This addition allows even the most demanding analogue instruments to be tested.

The Delta-7970 calibrator covers many of the electronic test tools you use to keep your company up and running, including:

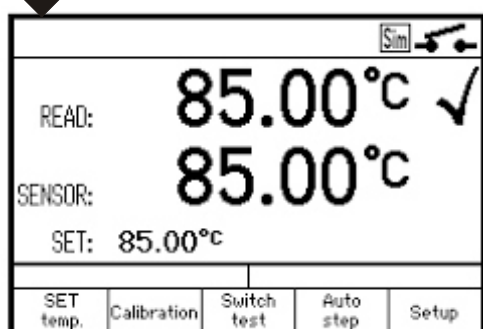
- Handheld and bench meters (analog and digital) up to 6 ½ digits
- Current clamps meters upto 1100 Amp.
- All types of Thermocouples and RTDs
- Process calibrators (mA, mV, Amp, Voltage (AC & DC) Resistance, Frequency, Inductance)
- Data loggers & Chartless recorder
- Watt meters
- Analog or digital handheld and bench oscilloscopes to 600 Mhz / 1100 MHz.

- 20 ppm precision calibrator (depending Upon Range)
- Calibrate up to 6.5 digit meters
- 0 - 1050V & 0 - 22A (AC/DC)
- Resistance, Frequency, capacitance etc.
- Thermocouple/RTD simulation
- Oscilloscope & power options
- Specification Confidence level : 99%

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www.deltatmi.com



Wide Workload Coverage

The Delta7970 is designed for multifunction calibration of various instruments and devices; bench and handheld multimeters, frequency meters, ohm meters, AC/DC millivoltmeters, thermocouple and RTD meters, clamp meters, and many other measurement devices.

Simple Operation

Functions and ranges are easily accessed from the front panel. Increase and decrease keys per digit, are used to quickly set the output value. Deviation control then enables the user to finely adjust the output value as a percentage (+/- 9.999%). All this information is shown on a clear, easy to read LED display.

Virtual Control Software

The Instrument is supplied as standard with windows based Virtual Control Software. It allows quick and direct input of any value required.

Easy Cal Calibration Software

Connect the Delta7970 to a PC/Laptop (via RS-232, USB or GPIB) installed with EasyCal software and automate the calibration process. This provides increased speed of calibration and consistency of results. Produce calibration certificates and reports to ISO 9001, ISO 17025, and other international quality standards.

All specifications are valid after allowing a warm-up period of 30 minutes, or twice the time the calibrator has been turned off. (For example, if the Calibrator has been turned off for 15 minutes, the warm-up period is 30 minutes.)

Precision Multi-Product Calibrator Delta-7970



Function	Range / Values	Minimum Absolute Uncertainty 90 Days, (Depends On range)
Voltage DC	0 to ± 1050V (Minimum Resolution : 0.1µV, Depends On Range) “ Max. Burden - 10 mA ”	± (20 ppm of output + 1 µV)
Current DC	0 to ± 22A (Minimum Resolution : 1nA, Depends on Range) “ Max. Compliance Volt -10V ” optional 1100A	± (80 ppm of output + 0.25 µA)
Voltage AC	1mV to 1050V (10Hz to 500kHz, Depends On range) (Minimum Resolution : 1µV, Depends On Range)	± (120 ppm of output + 6 µV)
Current AC	10µA to 22A (10Hz to 45 kHz) (Minimum Resolution : 0.01µA, Depends On Range) 600A / 1100A with optional clamp meter adaptor (optional)	± (0.10 % of output + 0.05 µA)
Thermocouple Simulation	Type J, K, R, T, S, B, E, N, C, U, L (Minimum Resolution 0.01 °C)	± 0.5 °C
RTD Simulation	Type PT100, PT200, PT500, PT1000 (Minimum Resolution 0.01 °C)	± 0.5 °C
Frequency	0.01Hz to 10MHz (jitter 100ns to 10s) Minimum Resolution : 0.01Hz	2.5ppm + 10 µHz
Conductance	1s to 1ns (decade values)	± 20ppm of setting
Decade Resistance	1Ω to 1GΩ (decade values)	± 20ppm of setting
Resistance	0 to 1200MΩ (Minimum Resolution : 0.0001Ω)	± 40 ppm Of Output
Capacitance	200pF to 120mF (Minimum Resolution : 0.01pF)	± (0.5% of output + 10pF)
Amplitude	2mV to 200V and 1mV to 2V 50Ω (Square-wave or DC)	± 0.05%
Duty Cycle	0.01Hz to 100 kHz, settable from 0 to 100%	-
Fast-Rise	< 1µS for AC Voltage 25µS to 100µS for AC Current	-
2.5GHz Sweep	50MHz to 2.5GHz levelled sine-wave (0.5, 1, 1.5V pk-pk)	Amplitude ± 1%, Frequency ± 20ppm
Power	22A, 1050V, 23kW, 10 to 20kHz	-
Oscilloscope	Upto 600MHz (Available in Delta 7970-600) Upto 1100MHz (Available in Delta 7970-1100)	-
Phase/Power Factor	Phase : ± 90° PF : 0.00 to 1.00PF	
Warm up	30 minutes to full accuracy	
Standard Interfaces	GPIB (IEEE-488), RS-232	
Temp Performance	Operating: 0 to 55 °C. Storage: -10 to 60 °C	
Humidity	<80% to 30 °C, <70% to 40 °C, <40% to 50 °C Storage: <95% non-condensing	
Altitude	Operating : 0 to 3km. Non-operating: 3km to 12km	
Line Power	100 to 230V AC 50/60 Hz. Power Consumption : 600VA	

Precision Multi-Product Calibrator Delta-7970



Safety	IEC 61010-1: Overvoltage CATII
Electromagnetic	IEC 61326-1
Electrical Overload Protection	External voltages up to ± 300 V peak. Reverse-power protection, immediate output disconnection, and/or fuse protection on the output terminals for all functions.
Analog Low	20 V normal operation, 400 V peak transient
Dimensions	W455 x H155 x D480mm
Weight	25 kg

Ordering Information

Code	Description
Delta7970	6.5 Digit Multiproduct Calibrator (20ppm) with Precision Test Lead Set, User manual, RS-232 cable
Delta 7970-C1000	6.5 Digit Multiproduct Calibrator (20ppm) with Precision Test Lead Set, User manual, RS-232 cable with 50 Turn Current Coil & No Oscilloscope calibration
Delta7970-600	Advanced 6.5 Digit Multiproduct Calibrator (20ppm) with Precision Test Lead Set, User manual, RS-232 cable, Inbuilt Oscilloscope calibration 600MHz, 50 Turn Current Coil
Delta7970-1100	Advanced 6.5 Digit Multiproduct Calibrator (20ppm) with Precision Test Lead Set, , User manual, RS-232 cable, Inbuilt Oscilloscope calibration 1100MHz, 50 Turn Current Coil

Ordering Information - Optional Accessories

Code	Description
T5080	Transit Case
TL175	Spare Lead Set
RMK	Rack Mount Kit
TL270HC	Test Lead Set- High Current
AL270HC	Alligator Clip - High Current
ATA75	Alligator To Alligator Test Lead Set
BTA75	Banana To Alligator Test Lead Set
ATS75	Alligator Clip to Spade Lug