METRAVI®
Setting Trends.Showing the Way.

MULTIFUNCTION PROCESS CALIBRATOR | CAL-600H

INTRODUCTION

The Metravi CAL-600H is a high-performance, versatile, multifunction process calibrator designed for precision testing and maintenance across PLCs, DCS, ESD systems, field instruments, control valves, and more.

Compact and rugged, it's engineered with a fully protected design, constructed from high-quality ABS material and low-resistance copper connectors for durability and accuracy in every task.

A Signal generator, multifunction process calibrator and digital multimeter all-in-one, its panel-style layout and dedicated function keys ensure ease of use, even in the most demanding environments.

It features fast response, no delay in signal source simulation and signal testing or measurement. Precision AD, DA, reference voltage, OP circuits are used to ensure high accuracy, high performance and high stability.

Whether you're working in industrial automation, instrumentation maintenance, or plant calibration, the Metravi CAL-600H ensures reliability, speed, and simplicity at every step.

FEATURES

- **Multi-functional Signal Capability:**
  Supports V, mV, mA, Resistance, and Hz input/output.
- **Direct Function Access:**
  Each signal type has a dedicated Source button for faster, simpler operation.
- **HART & Modbus Communication:**
  Built-in HART communication and Modbus (Master/Slave) functionality for seamless integration and testing.
- **Durable & Portable Design:**
  Made with impact-resistant ABS housing, ideal for field use.
- **Precision Engineering:**
  Features minimal contact resistance with high-quality copper connectors.
- **User-Friendly Interface:**
  Intuitive panel-type layout makes calibration tasks straightforward and efficient.

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APPLICATIONS

- **PLC Testing & Calibration**
  Simulate and measure analog signals for programmable logic controllers.
- **DCS (Distributed Control Systems) Maintenance**
  Check, calibrate and troubleshoot input/output loops in control systems.
- **ESD System Calibration**
  Ensure proper signal levels for emergency shutdown systems.
- **Field Instrumentation Calibration**
  Source and measure voltage, current, resistance, frequency for transmitters, sensors, and converters.
- **Control Valve Testing**
  Simulate signals to check valve response and actuator function.
- **Signal Loop Testing (mA Loops)**
  Perform loop checks and verify 4-20mA signal integrity.
- **HART Device Communication**
  Configure and troubleshoot HART-enabled field instruments.
- **Modbus Systems Integration**
  Test and verify Modbus communication with slave or master devices.
- **SCADA System Testing**
  Validate signal inputs and outputs to SCADA-controlled equipment.
- **Transmitter Calibration**
  Source or read signals to calibrate pressure, flow, temperature, or level transmitters.
- **Maintenance in Power Plants, Refineries & Chemical Plants**
  General-purpose calibrator for signal path verification and diagnostics.

- **R&D and Instrument Testing Labs**
  Ideal for simulation and verification of signal inputs/ outputs in test benches.
- **Signal Converter Testing**
  Calibrate devices converting voltage to current or vice versa.
- **Industrial Automation System Debugging**
  Validate signal response during commissioning and troubleshooting.
- **Temperature Signal Simulation (via mV and Resistance)**
  Simulate thermocouple and RTD signals for temperature transmitters.

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GENERAL SPECIFICATIONS

Applications	Widely used as frequency calibrator, mA mV loop calibrator, temperature calibrator, etc. Can be used as a signal generator, frequency calibrator, multifunction process calibrator, and simple digital multimeter.
Input	30-30V, -150-150mV, -30mA-30mA, 0-999.9Ω, R, E, S, K, J, B, T, N type thermocouple, PT100, Pt1000 CU50, 24V, 0-24mA, Ohm, frequency, etc.
Output	0/4-20mA source/passive, 0-11V, 0-110mV, 20-400Ω, R, E, S, K, J, B, T, N type thermocouple, PT1000, PT100, CU50, 24V outputs, frequency, curves, etc.
Modes	Have automatic output mode, manual output mode, customized output mode, signal conversion, curves output, full function operation, etc.
Safety	Using 4 units of PPTC and a quick-break fuse to protect the instrument from damages caused by high-voltage
Display	High-resolution colour LCD, with backlight for different lighting conditions, large screen clear display
Power	Built-in 2000mAH rechargeable battery. Battery capacity bar to check the battery status easily.
Dimensions	12.0 × 7.6 × 3.0 cm
Weight	1.0 kg approx.
Accessories	1 Set x High safety standards testing Pen Probe 1 Unit x High quality 2A USB Cable for Battery Recharging 1 Unit x High-quality Carrying Case 1 x Professional Easy-to-understand User Manual

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TECHNICAL SPECIFICATIONS

OUTPUT					
Function		**Range**	**Set Step**	**Accuracy**	**Remarks**
AC Voltage	V	0~11.00V	0.01/0.1/1	±0.025%SP ±0.004V	
AC Current	mA	0~110.00mA	0.1/1/10	±0.025%SP ±0.03mA	
AC Milli Volt mV	Sink/ Source/ Program	0~24.00mV		±0.025%SP ±0.004mV	
Resistance	Ω	0~400Ω	0/10/100	±0.025%SP ±0.3Ω	Accuracy given does not include Test Lead resistance.
		400~2200Ω		±0.05%SP ±1.5Ω	
Frequency	KHz	0-10	0.01/0.1/1	±0.05%SP ±2Hz	
Temperature	R	0~1700°C	1/10/0100	±0.1%SP ±3°C	Accuracy given does not cold junction compensation error.
	S	0~1600°C			
	B	500~1800°C			
	K	-200~1370°C		±0.05%SP ±0.5°C	
	E	-200~1000°C		±0.05%SP ±0.3°C	
	J	-200~1200C		±0.05%SP ±0.4°C	
	T	-200~400°C		±0.05%SP ±0.5°C	
	N	-200~1300°C		±0.05%SP ±0.8°C	
Thermal Resistance	PT1000	-50~300°C	1/10/0100	±0.1%RD ±0.5°C	Accuracy given does not include discrepancy caused by Test Lead resistance.
	PT100	-200~850°C		±0.1%RD ±0.8°C	
	Cu50	-50~150°C			

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TECHNICAL SPECIFICATIONS

MEASURE					
Function		**Range**	**Resolution**	**Accuracy**	**Remarks**
AC Voltage	V	-30~30.000V	0.001V	±0.025%RD ±0.004V	
AC Current	mA	-150~150.00mA	0.01mA	±0.025%RD ±0.02mA	
AC Milli Volt	mV	-30~30.000mV	0.001mV	±0.025%RD ±0.004mV	
Resistance	Ω	0~999.9	0.1Ω	±0.025%RD ±0.2Ω	Accuracy given does not include Test Lead resistance.
		1000-2500	1Ω	±0.025%RD ±1Ω	
Frequency	KHz	0-10	0.001	±0.05%RD ±2Hz	
Temperature	R	0~1700°C	0.1°C	±0.1%RD ±3°C	Accuracy given does not cold junction compensation error.
	S	0~1600°C			
	B	500~1800°C			
	K	-200~1370°C		±0.025%RD ±0.5°C	
	E	-200~1000°C		±0.025%RD ±0.3°C	
	J	-200~1200°C		±0.025%RD ±0.4°C	
	T	-200~400°C		±0.025%RD ±0.5°C	
	N	-200~1300°C		±0.025%RD ±0.8°C	
Thermal Resistance	PT1000	-50~300°C	0.1°C	±0.1%RD ±0.5°C	Accuracy given does not include discrepancy caused by Test Lead resistance.
	PT100	-200~850°C		±0.1%RD ±0.8°C	
	Cu50	-50~150°C		±0.1%RD ±1.5°C	

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