

Data Sheet

Multifunction Calibrators

APPLICATIONS

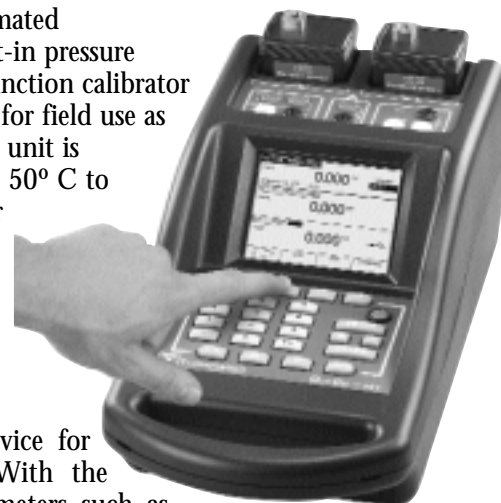
- Calibrate pressure and temperature transmitters in the lab, shop or field
- Calibrate draft range transmitters such as those used to monitor clean rooms and furnaces
- Test safety switches
- Check calibration of pressure gauges
- Set up controllers and recorders
- Troubleshoot instrument loops

FEATURES

- Field hardened – temperature characterized from 0° to 50° C
- Portable / weighs less than 15 lbs
- Built-in microprocessor controlled compressor to automatically generate and control pressure
- Modular design – choose the options you need
- Unsurpassed accuracy – to 0.025% of pressure reading or 0.01% of full scale electrical value
- Pressure control stability up to 0.002 inches of water column (QuikCal 191/196) or 0.02 inches of water column (QuikCal 190/195)
- Monitor up to three parameters simultaneously
- Bright, sunlight readable high resolution, backlit paperwhite display
- Documenting models interface with leading CMS packages, including Blue Mountain, AMS and Cornerstone

Transmation QuikCal™ 190 Family

The world's first modular fully automated multifunction calibrators with a built-in pressure controller. The QuikCal 190 multifunction calibrator family's rugged design makes it ideal for field use as well as shop or lab calibrations. Each unit is temperature characterized from 0° to 50° C to permit accurate calibrations wherever your instruments are located. Lightweight and rugged. The QuikCal 190 can go anywhere you want to take it.



It's a pressure calibrator

You can't find a more accurate device for calibrating pressure instruments. With the QuikCal 190 family, external parameters such as local gravity, mounting orientation, and ambient temperature do not affect pressure calibration accuracy. The built-in pump eliminates the need to carry around hand pumps or nitrogen tanks, further simplifying your calibration tasks. The built-in pump in the QuikCal 190 / 195 generates and controls pressure from -11 to 100 psig. The Draft Range QuikCal 191 / 196 pump has a range of ±10 psig, with incredible control stability to 0.002 inches of water column, which makes these models ideal for calibrating draft range instruments with spans of 1 inch or less!

It's a temperature calibrator

If you need to calibrate temperature devices, two plug-in modules are available for sourcing and reading all common thermocouple and RTD signals. We separated the thermocouples and the RTD's for maximum flexibility. In addition, the base unit can read 100 Ohm Platinum RTD's (the most common type) without a module. If you want an actual temperature for the input rather than simulating a sensor signal, the 65T Dry Block Interface Module for Hart Scientific dry blocks is available. With this module, you can connect the QuikCal 195 / 196 to any communicating Hart Scientific dry block calibrator, then perform an unattended system test on temperature devices in the field. Place the temperature probe into the dry block calibrator, connect it to the transmitter under test, power the transmitter and measure its output. Then set the transmitter's zero and full scale temperatures, the number of data points to take, and how long to dwell at each temperature before taking data. Start the test, and the QuikCal calibrator handles the rest. All the data is automatically saved for later printing or downloading to a supported CMS package.

It's a documenting calibrator

"Smart" calibrators are the future of calibration. The QuikCal 195 and 196 are the most advanced documenting calibrators on the market. Documenting systems tend to be complex and difficult to use, but the QuikCal 195 and 196 is simple to operate. The built-in keypad allows you to enter all common alphanumeric characters. The QuikCal 195 and 196 will interface with leading calibration management software packages, including Blue Mountain, Cornerstone, and AMS by Fisher Rosemount. If you prefer, you can output traceable calibration reports directly to a printer via the built-in serial port.



Transmation®
THE EASY CHOICE.



QuikCal™ 190 Family Specifications

These specifications are referred to an attached volume of 2.0 cubic inches (33 ml). The pneumatic functions of the QuikCal 190 Family have been characterized over the entire specified temperature range to minimize temperature effects.

Model Number	190	195	191	196
Output Pressure Range	-11 to 100 psi (-75 to 690 kPa)	-11 to 100 psi (-75 to 690 kPa)	-10 to 10 psi (-69 to 69 kPa)	-10 to 10 psi (-69 to 69 kPa)
Control Stability	0.02 "WC max	0.02 "WC max	0.005 "WC max, 0.002" WC typical	0.005 "WC max, 0.002" WC typical
Compressor Resoluton	1 x 10 ⁻⁵ cubic inch change in volume	1 x 10 ⁻⁵ cubic inch change in volume	5 x 10 ⁻⁶ cubic inch change in volume	5 x 10 ⁻⁶ cubic inch change in volume
Time to Pressure	<5 psi: 8 seconds typical 30 psi: 15 seconds typical 100 psi: 45 seconds typical	<5 psi: 8 seconds typical 30 psi: 15 seconds typical 100 psi: 45 seconds typical	<10 psi: 15 seconds typical	<10 psi: 15 seconds typical
Documenting	No	Yes	No	Yes

Pressure Accuracy:	See Pressure Module Specifications
Pressure Connections:	1/8"-27 NPT via module connection
Filtration:	40 micron sintered brass filter; cleanable
Media Compatibility:	
Controllable Modules	Non-conductive, non-corrosive gas
Measure Only Modules	Media compatible with 316 stainless steel and fluorocarbon rubber
Standard Engineering Units:	
Electrical	mA, V, %
Temperature	°C, °F
Pressure	psi, Pa, kPa, MPa, bar, mbar, atm, kgf/cm ² , Torr, mm Hg @ 0°C, inch Hg @ 32°F and 60°F, inch H ₂ O @ 40°F, 60°F, 68°F, 73.4°F, mm H ₂ O @ 4°C and 23°C, cm H ₂ O @ 4°C and 23°C
SI Engineering Units:	
Electrical	mA, V, %
Temperature	°C
Pressure	Pa, kPa, MPa, bar, mbar
Input Ranges:	
Current	±50.000 mA
Voltage	±50.000 Volts
RTD	(100Ω Platinum RTD, DIN 43760, IEC 751 Curve): -40.0°F to 212.0°F (-40.0°C to 100.0°C)
Input Calibrated Accuracy:	
Current	±0.01% of reading ± 0.01% of f.s.
Voltage	±0.05% of reading ± 0.01% of f.s.
RTD	±0.5°C
Input Impedance:	
Current	10 Ohms nominal
Voltage	>1 megohm
Loop Power	24 Volts ± 20%; current limited to 25 mA nominal

Maximum Common Mode Voltage:	200V peak to peak (between switch test terminals and any other terminal)
Normal Mode Rejection:	80 dB @ 50/60 Hz
Input Protection:	mA input is fuse protected (0.125A)
Switch Test:	Isolated, wet or dry, 250 VAC max
Isolation (Input-to-Case):	500 VAC
Power:	Rechargeable 12V sealed lead acid battery, 5000 mAh
Charge Life:	6 hours in typical calibration use
Charge Time:	8 hours typical. May be charged during operation.
Display:	320 x 240 dot matrix paperwhite graphics LCD; 8 digit resolution; with back lighting feature and contrast adjustments
Input/Output Connections:	
Electrical	Full-size double insulated banana jacks
Pressure	1/8" NPT via module connection
Serial I/O	8 pin Mini-DIN terminal (external module connection) DB9 serial port (RS-232) 6 pin Mini-DIN terminal (external keyboard connection)
Housing:	Black ABS/Polycarbonate (UL 94V-0)
Dimensions (HWD):	6.0" x 7.75" x 16.25" (153 mm x 197 mm x 413 mm)
Weight:	12.65 lb. (5.75 kg)
Storage Temperature:	-4°F to 140°F (-20°C to 60°C)
Operating Temperature:	32°F to 122°F (0°C to 50°C)
Test Leads:	Red & Black, 1m long, shielded banana plugs, probes, clips & spade lugs

ORDERING INFORMATION	Part No.
100 PSI QuikCal Multifunction Calibrator	190
100 PSI QuikCal Documenting Multifunction Calibrator	195
±10 PSI Draft Range QuikCal Multifunction Calibrator	191
±10 PSI Draft Range Documenting QuikCal Multifunction Calibrator	196
AC Charger, 110 VAC	502226-117
AC Charger, 220 VAC	502226-118
DC Charger with cigarette adapter plug	502226-131
Carrying Case – Cordura	190-CS

AVAILABLE MODULES:

- Gauge
- Differential
- Draft
- Vacuum
- Compound
- Absolute
- T/C
- RTD
- mA/V
- HART Scientific
- Dry Block

AVAILABLE FROM:



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