



Multicalibrator for Instrumentation MCS-8

- Measures and generates mA, mV, volts, ohms, RTD, TC.
- Simultaneous input and output operation.
- Isolated input and output.
- Interface with a Windows-based Calibration Software to provide a true Computer-Aided Calibration System with documenting capability.
- Real-time data acquisition capability when connected to a computer.

MCS-8 Multicalibrator enables measurement and generation of signals used in instrumentation and Process Control. It is a high-accuracy instrument, having high stability features in temperature changes and long-term aging conditions. It contains useful items allowing its on field and workbench use.

The calibrator also incorporates concepts of automatic checking and calibration via computer, such as report and certificate issues, automatic work management, data archiving for an overall coverage of quality procedure requirements. When connected to computer can be used as an online data logger.



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Specifications - Input

Input Ranges	Resolution	Accuracy	Remarks
millivolt	-150 mV to 150 mV	0.001 mV	± 0.01 % FS *
	-500 mV to -150 mV	0.01 mV	± 0.02 % FS
	150 mV to 2450 mV	0.01 mV	± 0.02 % FS
volt	-10 V to 11 V	0.0001 V	± 0.02 % FS
	11 V to 45 V	0.0001 V	± 0.02 % FS
mA	-5 mA to 24.5 mA	0.0001 mA	± 0.02 % FS
resistance	0 to 400 Ω	0.01 Ω	± 0.01 % FS
	400 to 2500 Ω	0.01 Ω	± 0.03 % FS
Pt-100	-200 to 850 °C / -328 to 1562 °F	0.01 °C / 0.01 °F	± 0.1 °C / ± 0.2 °F
Pt-1000	-200 to 400 °C / -328 to 752 °F	0.1 °C / 0.1 °F	± 0.1 °C / ± 0.2 °F
Cu-10	-200 to 260 °C / -328 to 500 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
Ni-100	-60 to 250 °C / -76 to 482 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-J	-210 to 1200 °C / -346 to 2192 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-K	-270 to -150 °C / -454 to -238 °F	0.1 °C / 0.1 °F	± 0.5 °C / ± 1.0 °F
	-150 to 1370 °C / -238 to 2498 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-T	-260 to -200 °C / -436 to -328 °F	0.1 °C / 0.1 °F	± 0.6 °C / ± 1.2 °F
	-200 to -75 °C / -328 to -103 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
	-75 to 400 °C / -103 to 752 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-B	50 to 250 °C / 122 to 482 °F	0.1 °C / 0.1 °F	± 2.5 °C / ± 5.0 °F
	250 to 500 °C / 482 to 932 °F	0.1 °C / 0.1 °F	± 1.5 °C / ± 3.0 °F
	500 to 1200 °C / 932 to 2192 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	1200 to 1820 °C / 2192 to 3308 °F	0.1 °C / 0.1 °F	± 0.7 °C / ± 1.4 °F
TC-R	-50 to 300 °C / -58 to 572 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	300 to 1760 °C / 572 to 3200 °F	0.1 °C / 0.1 °F	± 0.7 °C / ± 1.4 °F
TC-S	-50 to 300 °C / -58 to 572 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	300 to 1760 °C / 572 to 3200 °F	0.1 °C / 0.1 °F	± 0.7 °C / ± 1.4 °F
TC-E	-270 to -150 °C / -454 to -238 °F	0.1 °C / 0.1 °F	± 0.3 °C / ± 0.6 °F
	-150 to 1000 °C / -238 to 1832 °F	0.1 °C / 0.1 °F	± 0.1 °C / ± 0.2 °F
TC-N	-260 to -200 °C / -436 to -328 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	-200 to -20 °C / -328 to -4 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
	-20 to 1300 °C / -4 to 2372 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-L	-200 to 900 °C / -328 to 1652 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-C	0 to 1500 °C / 32 to 2732 °F	0.1 °C / 0.1 °F	± 0.5 °C / ± 1.0 °F
	1500 to 2320 °C / 2732 to 4208 °F	0.1 °C / 0.1 °F	± 0.7 °C / ± 1.4 °F

(*) FS = Full Scale

Specifications - Output

Output Ranges	Resolution	Accuracy	Remarks
millivolt	-10 mV to 110 mV	0.001 mV	± 0.02 % FS
volt	-0.5 V to 12 V	0.0001 V	± 0.02 % FS
mA	0 to 24 mA	0.0001 mA	± 0.02 % FS
Two-wire transmitter (XTR)	4 to 24 mA	0.0001 mA	± 0.02 % FS
resistance	0 to 400 Ω	0.01 Ω	± 0.02 % FS
	0 to 2500 Ω	0.1 Ω	± 0.03 % FS
Pt-100	-200 to 850 °C / -328 to 1562 °F	0.01 °C / 0.01 °F	± 0.2 °C / ± 0.4 °F
Pt-1000	-200 to 400 °C / -328 to 752 °F	0.1 °C / 0.1 °F	± 0.1 °C / ± 0.2 °F
Cu-10	-200 to 260 °C / -328 to 500 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
Ni-100	-60 to 250 °C / -76 to 482 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-J	-210 to 1200 °C / -346 to 2192 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
TC-K	-270 to -150 °C / -454 to -238 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	-150 to 1370 °C / -238 to 2498 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
TC-T	-260 to -200 °C / -436 to -328 °F	0.1 °C / 0.1 °F	± 1.2 °C / ± 2.4 °F
	-200 to -75 °C / -328 to -103 °F	0.1 °C / 0.1 °F	± 0.8 °C / ± 1.6 °F
	-75 to 400 °C / -103 to 752 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
TC-B	50 to 250 °C / 122 to 482 °F	0.1 °C / 0.1 °F	± 5.0 °C / ± 10.0 °F
	250 to 500 °C / 482 to 932 °F	0.1 °C / 0.1 °F	± 3.0 °C / ± 6.0 °F
	500 to 1200 °C / 932 to 2192 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
	1200 to 1820 °C / 2192 to 3308 °F	0.1 °C / 0.1 °F	± 1.4 °C / ± 2.8 °F
TC-R	-50 to 300 °C / -58 to 572 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
	300 to 1760 °C / 572 to 3200 °F	0.1 °C / 0.1 °F	± 1.4 °C / ± 2.8 °F
TC-S	-50 to 300 °C / -58 to 572 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
	300 to 1760 °C / 572 to 3200 °F	0.1 °C / 0.1 °F	± 1.4 °C / ± 2.8 °F
TC-E	-270 to -150 °C / -454 to -238 °F	0.1 °C / 0.1 °F	± 0.6 °C / ± 1.2 °F
	-150 to 1000 °C / -238 to 1832 °F	0.1 °C / 0.1 °F	± 0.2 °C / ± 0.4 °F
TC-N	-260 to -200 °C / -436 to -328 °F	0.1 °C / 0.1 °F	± 2.0 °C / ± 4.0 °F
	-200 to -20 °C / -328 to -4 °F	0.1 °C / 0.1 °F	± 0.8 °C / ± 1.6 °F
	-20 to 1300 °C / -4 to 2372 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
TC-L	-200 to 900 °C / -328 to 1652 °F	0.1 °C / 0.1 °F	± 0.4 °C / ± 0.8 °F
TC-C	0 to 1500 °C / 32 to 2732 °F	0.1 °C / 0.1 °F	± 1.0 °C / ± 2.0 °F
	1500 to 2320 °C / 2732 to 4208 °F	0.1 °C / 0.1 °F	± 1.4 °C / ± 2.8 °F

Accuracy values are valid within one year and temperature range of 20 to 26 °C. For thermocouples, using the internal cold junction compensation add a cold junction compensation error of ± 0.2 °C or ± 0.4 °F.

Serial Communication: Modbus® RTU Protocol (RS-232/RS-485).
Dimension: 91 mm x 233 mm x 64 mm (HxWxD).
Weight: 1 kg approx.
Warranty: 1 year, except for rechargeable battery.
Included Items: carrying case, test leads, manual and battery charger.

Optional Accessories:
Communication Interface - Order Code: 06.02.0007-00.