SM300

TWO-CHANNEL PRECISION THERMOMETER FOR COMPARISON CALIBRATION

The SM300 Signal Master is a two-channel precision thermometer and signal conditioner that can serve a variety of purposes. Ideally used for comparison calibration with dry blocks or liquid baths, the SM300 will monitor both a reference 4-wire RTD as well as any thermocouple or RTD sensor under test. When used with a TC calibrator, the SC200 software, and a PC, it creates a totally automated calibration system.

The SM300 has two RS-232 communications ports, one for a calibrator and one for a PC. The SM300 drives the calibrator to different set points, reads the temperature of the sensor under test and the standard probe (if used), and records this information in the PC for the calibration report.



Two input channels are standard on the SM300. Channel B represents the sensor under test and can accommodate thermocouples, RTDs, mA, mV and V. Channel A is used for a standard RTD during comparison calibrations.

Each unit is provided with a traceable certificate of calibration, thus maintaining the overall uncertainty of the complete system. The SM300 has accuracies starting from 0.02%, depending on the type of input.

SPECIFICATIONS

CALIBRATION ENVIRONMENT	23°C ±2°C
OPERATING TEMPERATURE	32°F to 104°F
STORAGE TEMPERATURE	14°F to 140°F
WEIGHT	5.7 lbs
DIMENSIONS	3.2" H x 10.1" W x 10.5" D
POWER SUPPLY	6 volt, 2.5 Ah rechargeable sealed-lead battery; Regulated charger, 7.7V, max 500mA

INPUTS PORT A	RANGE	RES.	ACCURACY	
Pt100 2, 3 AND 4-WIRE*	-50 to 800°C	0.01°C	± 0.05°C	± 0.009% rdg
INPUTS PORT B				
Pt100 2, 3 AND 4-WIRE*	-50 to 800°C	0.01°C	± 0.05°C	± 0.009% rdg
TYPE K	-100 to 1370°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE J	-200 to 1200°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE E	-200 to 1000°C	0.1°C	± 0.25°C	± 0.04% rdg
TYPE T	-200 to 400°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE S	0 to 1760°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE R	0 to 1760°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE B	400 to 1820°C	0.1°C	± 0.25°C	± 0.03% rdg
TYPE N	-200 to 1300°C	0.1°C	± 0.25°C	± 0.05% rdg
VOLTAGE	0 to 10V	1µV	± 2µV	± 0.02% rdg
CURRENT	0 to 22mA	1µA	± 2µA	± 0.02% rdg
COLD JUNCTION**	0 to 40°C	0.1°C		± 0.25% rdg
TC INPUT TEMPERATURE DRIFT	±0.009%/°C or 90 ppm/°C			
V AND mA INPUT TEMPERATURE DRIFT	±0.0027%/°C or 27 ppm/°C			

** Pt100 conforms to IEC751 and temperature scaling of ITS-90*
*** All thermocouple inputs are cold junction compensated*

ORDERING INFORMATION

SM300	Signal Master SM300