

Model 218

Temperature monitor

Input specifications

	Sensor temperature coefficient	Input range	Excitation current	Display resolution	Measurement resolution	Electronic accuracy
Diode	negative	0 V to 2.5 V	10 μ A \pm 0.05% ⁹	100 μ V	20 μ V	\pm 200 μ V \pm 0.01% of rdg
		0 V to 7.5 V	10 μ A \pm 0.05% ⁹	100 μ V	20 μ V	\pm 350 μ V \pm 0.02% of rdg
PTC RTD	positive	0 Ω to 250 Ω	1 mA \pm 0.3% ¹⁰	10 m Ω	2 m Ω	\pm 0.06 Ω \pm 0.02% of rdg
		0 Ω to 500 Ω	1 mA \pm 0.3% ¹⁰	10 m Ω	2 m Ω	\pm 0.06 Ω \pm 0.02% of rdg
		0 Ω to 5000 Ω	1 mA \pm 0.3% ¹⁰	100 m Ω	20 m Ω	\pm 0.4 Ω \pm 0.04% of rdg
NTC RTD	negative	0 Ω to 7500 Ω	10 μ A \pm 0.05% ⁹	100 m Ω	50 m Ω	\pm 0.8 Ω \pm 0.04% of rdg

⁹ Current source error has negligible effect on measurement accuracy

¹⁰ Current source error is removed during calibration

Sensor input configuration

Diode/RTD	
Measurement type	4-lead differential
Excitation	8 constant current sources
Supported sensors	Diodes: Silicon, GaAs RTDs: 100 Ω Platinum, 1000 Ω Platinum, Germanium, Carbon-Glass, Cernox®, and Rox™
Standard curves	DT-470, DT-500D, DT-670, CTI-C, PT-100, and PT-1000
Input connector	25-pin D-sub

Interface

IEEE-488.2 interface (218S)

Features	SH1, AH1, T5, L4, SR1, RL1, PP0, DC1, DT0, C0, E1
Reading rate	To 16 rdg/s
Software support	LabVIEW™ driver

Serial interface

Electrical format	RS-232C
Max baud rate	9600 baud
Connector	9-pin D-sub
Reading rate	To 16 readings per s (at 9600 baud)
Printer capability	Support for serial printer through serial interface port used with data log parameters

Alarms

Number	16: high and low for each input
Data source	Temperature, sensor units, and linear equation
Settings	Source, high setpoint, low setpoint, deadband, latching or non-latching, and audible on/off
Actuators	Display annunciator, beeper, and relays (218S)

Relays (218S)

Number	8
Contacts	Normally open (NO), normally closed (NC), and common (C)
Contact rating	30 VDC at 5 A
Operation	Each input may be configured to activate any or all of the eight relays—relays may be activated on high, low, or both alarms for any input, or manually
Connector	Detachable terminal block

Analog voltage output (218S)

Number	2
Scale	User selected
Update rate	To 16 rdg/s
Data source	Temperature, sensor units, and linear equation
Range	\pm 10 V
Resolution	1.25 mV
Accuracy	\pm 2.5 mV
Min load resistance	1 k Ω (short-circuit protected)

Data logging

Channels	1 to 8
Operation	Data log records can be stored in memory or sent to the printer; stored data may be displayed, printed, or retrieved by computer interface
Data memory	Maximum of 1500 single reading records, non-volatile

General

Ambient temperature 15 °C to 35 °C at rated accuracy, 10 °C to 40 °C at reduced accuracy
Power requirement 100, 120, 220, 240 VAC, (+6%, -10%), 50 or 60 Hz, 18 VA
Size 216 mm W \times 89 mm H \times 318 mm D (8.5 in \times 3.5 in \times 12.5 in), half rack
Weight 3 kg (6.6 lb)
Approval CE mark, RoHS

Ordering information

Part number Description

218S	Standard temperature monitor (8 inputs, IEEE-488 and serial interface, alarms, relays, corrected analog output, data logging)—includes two 25-pin D-sub sensor input plugs (G-106-253), two 25-pin D-sub sensor input shells (G-106-264), two 14-pin relay/analog output connectors (106-772), a calibration certificate and a user's manual
218E	Economy temperature monitor (8 inputs, serial interface, alarms, data logging)—includes same accessories as the 218S

Please indicate your power/cord configuration:

- 1 100 V—U.S. cord (NEMA 5-15)
- 2 120 V—U.S. cord (NEMA 5-15)
- 3 220 V—Euro cord (CEE 7/7)
- 4 240 V—Euro cord (CEE 7/7)
- 5 240 V—U.K. cord (BS 1363)
- 6 240 V—Swiss cord (SEV 1011)
- 7 220 V—China cord (GB 1002)

Accessories

4005	1 m IEEE-488 (GPIB) computer interface cable assembly—includes extender which allows connection of IEEE cable and relay terminal block simultaneously
RM-1/2	Kit for mounting one half rack instrument
RM-2	Kit for mounting two half rack instruments
G-106-253	DB-25 plug, qty 1
G-106-264	DB-25 hood; qty 1
106-772	Terminal block mating connector, 14-pin connector, 218S only
8000	The CalCurve™ breakpoint table from a calibrated sensor loaded on a CD-ROM for customer uploading
8002-05-218	The breakpoint table from a calibrated sensor stored in a NOVRAM for installation at the customer location
CAL-218-CERT	Instrument calibration with certificate
CAL-218-DATA	Instrument recalibration with certificate and data
119-007	Model 218 temperature monitor manual

All specifications are subject to change without notice