

# 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 $\mu$ A $\pm$ 0.05% <sup>9</sup>	100 $\mu$ V	20 $\mu$ V	$\pm$ 200 $\mu$ V $\pm$ 0.01% of rdg
	0 V to 7.5 V	10 $\mu$ A $\pm$ 0.05% <sup>9</sup>	100 $\mu$ V	20 $\mu$ V	$\pm$ 350 $\mu$ V $\pm$ 0.02% of rdg
PTC RTD positive	0 $\Omega$ to 250 $\Omega$	1 mA $\pm$ 0.3% <sup>10</sup>	10 m $\Omega$	2 m $\Omega$	$\pm$ 0.06 $\Omega$ $\pm$ 0.02% of rdg
	0 $\Omega$ to 500 $\Omega$	1 mA $\pm$ 0.3% <sup>10</sup>	10 m $\Omega$	2 m $\Omega$	$\pm$ 0.06 $\Omega$ $\pm$ 0.02% of rdg
	0 $\Omega$ to 5000 $\Omega$	1 mA $\pm$ 0.3% <sup>10</sup>	100 m $\Omega$	20 m $\Omega$	$\pm$ 0.4 $\Omega$ $\pm$ 0.04% of rdg
NTC RTD negative	0 $\Omega$ to 7500 $\Omega$	10 $\mu$ A $\pm$ 0.05% <sup>9</sup>	100 m $\Omega$	50 m $\Omega$	$\pm$ 0.8 $\Omega$ $\pm$ 0.04% of rdg

<sup>9</sup> Current source error has negligible effect on measurement accuracy

<sup>10</sup> 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 $\Omega$ Platinum, 1000 $\Omega$ 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)

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

#### Serial interface

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

#### Alarms

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

#### Relays (218S)

<b>Number</b>	8
<b>Contacts</b>	Normally open (NO), normally closed (NC), and common (C)
<b>Contact rating</b>	30 VDC at 5 A
<b>Operation</b>	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
<b>Connector</b>	Detachable terminal block

#### Analog voltage output (218S)

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

#### Data logging

<b>Channels</b>	1 to 8
<b>Operation</b>	Data log records can be stored in memory or sent to the printer; stored data may be displayed, printed, or retrieved by computer interface
<b>Data memory</b>	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

<b>218S</b>	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
<b>218E</b>	Economy temperature monitor (8 inputs, serial interface, alarms, data logging)—includes same accessories as the 218S

#### Please indicate your power/cord configuration:

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

#### Accessories

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

All specifications are subject to change without notice