

MODEL 9540/B

DIGITAL PLATINUM RESISTANCE THERMOMETER

PRECISION IN A MICRO PROCESSOR BASED INSTRUMENT



Guildline Model 9540 has made hi-accuracy temperature measurement affordable. The 9540 delivers precision in a micro processor based instrument which is equally at home in the lab or on the production line.

The model 9540 provides a measurement range of -180°C to $+240^{\circ}\text{C}$, variable recorder zero set for any temperature over it's range and an integral dedicated probe which is matched to the instruments electronics. Hi-precision temperature measurement at affordable prices... Guildline doesn't just measure standards, they set them.

Automatic power-up self test diagnostic indicates circuit malfunctions for both analog and digital circuits.

The temperature probe fits conveniently into the lower portion of the instrument case.

The 9540 also available in a "B" version with expanded temperature range to 600°C

The Model 9540B provides a measurement range of -180°C to $+600^{\circ}\text{C}$. The same features and circuit operation applies to the 9540B as with the 9540, except that the probe is longer to allow the higher temperature operation. The longer probe will not fit into the lower portion of the instrument case.

9540/B FEATURES

- > IEEE-488 Interface
- > Wide temperature measurement range in both $^{\circ}\text{C}$ and $^{\circ}\text{F}$
- > Variable zero set for recorder output providing full width hi-resolution analog recording
- > Hi-resolution temperature display to 0.001 $^{\circ}\text{C}$ and $^{\circ}\text{F}$
- > Micro processor based design
- > Dedicated integral probe
- > Automatic power-up self test diagnostic
- > Rack mounting kit available

9540/B Digital Platinum Resistance Thermometer

9540/B SPECIFICATIONS

Temperature - Accuracy: Guaranteed Performance including supplied probe

Range 9540/9540B	Resolution deg °C or °F	9540 Limits of Error ± °C			9540B Limits of Error ± °C		
		24 hrs. @ 23 °C ± 1 °C	90 days @ 23 °C ± 5 °C	1 Year @ 23 °C ± 5 °C	24 hrs. @ 23 °C ± 1 °C	90 days @ 23 °C ± 5 °C	1 Year @ 23 °C ± 5 °C
+180/200 °C to +240/600 °C (+356/392 °F to +464/1112 °F)	0.001	0.01 + 0.001/°C	0.03 + 0.001/°C	0.05 + 0.001/°C	0.03 + 0.0008/°C	0.035 + 0.0008/°C	0.04 + 0.0008/°C
-40 °C to +180/200 °C (-40 °F to +356/ 392 °F)	0.001	0.01	0.015	0.03	0.03	0.035	0.04
-40 °C to -100 °C (-40 °F to -148 °F)	0.001	0.01 + 0.002/°C	0.015 + 0.002/°C	0.03 + 0.002/°C	0.03 + 0.002/°C	0.035 + 0.002/°C	0.04 + 0.002/°C
-100 °C to -150 °C (-148 °F to -292 °F)	0.001	0.13 + 0.02/°C	0.135 + 0.02/°C	0.15 + 0.02/°C	0.15 + 0.02/°C	0.155 + 0.02/°C	0.16 + 0.02/°C

Total guaranteed performance is worst case. It assumes all contributing errors are maximum and occur at the same time and in the same direction. Contributing errors include calibration uncertainty which is referred to flowing water at the rate of 1 m/s, repeatability, stability, temperature coefficient, linearization plus sensor and electronics drift and probe self heating.

Temperature coefficient:.... < ± 0.0005 deg. C./°C.
< ± 0.0009 deg. F./°F.
Repeatability:..... ± 2 least significant digits
Warm up time:..... 30 seconds to full rated accuracy
Time constant:..... 5 seconds
Self Heating:..... < 0.015 °C. at 23 °C.
in flowing water at 1 m/s
Filter:..... 10 sec. digital filter
Speed:..... 1 sec. per reading, filter out

INTERFACE – built in as standard

Protocol and connection: IEEE 488 (1978)
Provides full talker/listener facilities
and remote control of all functions.
Subset: SH1, AH1, T5, TE0, L3, LE0, SR1, RL1, PP2, DC1, C0

9540/B ORDERING INFORMATION

9540	Thermometer	9540B	Thermometer
OM9540	Operating Manual (included)	OM9540B	Operating Manual (included)
SM 9540	Service Manual (included)	SM 9540B	Service Manual (included)
	Certificate of Calibration (included)		Certificate of Calibration (included)
	Report of Calibration (extra charge)		Report of Calibration (extra charge)

General Specifications

Power Supply	Voltage	95 to 130V or 190 to 290V
	Frequency	50, 60, or 400 Hz < 10VA
	Protection	Fused line 100mA time delay
Environment:	Operating	0 to 50 °C, < 70% RH non-condensing
	Storage	-30 °C to 70 °C
Shock and Vibration		1 g in 3 planes, resonance search 5 Hz to 200 Hz
Exterior Dimensions		H 88mm (3.46 in) W 228mm (8.98 in) D 278mm (10.94 in)
Sensor Dimensions		
	9540	9540B
	Length: 159mm (6.25 in)	Length: 356mm (14 in)
	Diameter: 3mm (0.12 in)	Diameter: 6.3mm (0.25 in)
	Immersion Depth: 77mm (3 in)	Immersion Depth: 152mm (6 in)
	Cable Length: 2.4m (94 in)	Cable Length: 1.8m (71 in)
Incapsulation		Stainless steel
Weight		3 KG (6.6 lbs)

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