

Signal

Nagman Temperature Calibrator

Portable, Handy, Easy to carry
& Sturdy Case with grip

Basic Accuracy : $\pm 0.02\%$ F.S.

**Capability to Measure & Simulate
DC Voltages, Resistances, Thermocouples & RTD**

Model

NAGMAN 14+

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate DC Voltages, Resistances, Thermocouples and RTD
- 5 digits display of Measurement & 6 digits display for Simulation
- Dual LCD with white LED for backlight
- Measurement & Simulation of :
 - Thermocouple types :
R, S, B, E, K, J, T, N, L & U
 - RTD Types :
PT100, Pt200, Pt500, Pt1000, Cu10 & Cu50
 - Resistances :
500 Ω & 5 K Ω in Measurement Mode
400 Ω & 4 K Ω in Simulation Mode
 - DC Voltages :
50 mV & 500 mV in Measurement Mode
100 mV & 1000 mV in Simulation Mode



Product of

Nagman Instruments & Electronics (P) Ltd.

- Comprehensive Calibration Solutions (Standards / Systems / Packages / Software / Services)
Chennai – 600 123. INDIA.



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Specifications subject to change owing to continuous development



P.T.O.

Dec. 2010

SPECIFICATIONS

MEASURING FUNCTIONS

Functions	Range / Type	Ranges	Resolution	Accuracy	Remarks
DC Voltage	50 mV	-5 to 55 mV	1 μ V	0.02 + 0.02	Impedance approximately 100 M Ω
	500 mV	- 50 to 550 mV	10 μ V	0.02 + 0.01	
Resistance	500 Ω	0 to 550 Ω	0.01 Ω	0.05 + 0.02	Test current for 500 Ω ; approximately 1 mA; Test current for 5 K Ω ; Approximately 0.1 mA; Open circuit Voltage; About 2.5 V; Does not include Lead Resistance
	5 K Ω	0 K Ω to 5.5 K Ω	0.1 Ω	0.05 + 0.02	
Thermocouple	R	0 to 1767 $^{\circ}$ C	1 $^{\circ}$ C	0 to 500 $^{\circ}$ C : 1.8 $^{\circ}$ C	ITS-90
	S	0 to 1767 $^{\circ}$ C		500 to 1767 $^{\circ}$ C : 1.5 $^{\circ}$ C	
	K	-100 to 1372 $^{\circ}$ C	0.1 $^{\circ}$ C	-100 to 0 $^{\circ}$ C : 1.2 $^{\circ}$ C	
				0 to 1372 $^{\circ}$ C : 0.8 $^{\circ}$ C	
	E	-50 to 850 $^{\circ}$ C	0.1 $^{\circ}$ C	-50 to 0 $^{\circ}$ C : 0.9 $^{\circ}$ C	
				0 to 85 $^{\circ}$ C : 1.5 $^{\circ}$ C	
	J	-60 to 1120 $^{\circ}$ C	0.1 $^{\circ}$ C	-60 to 0 $^{\circ}$ C : 1 $^{\circ}$ C	
				0 to 1120 $^{\circ}$ C : 0.7 $^{\circ}$ C	
	T	-100 to 400 $^{\circ}$ C	0.1 $^{\circ}$ C	-100 to 0 $^{\circ}$ C : 1 $^{\circ}$ C	
				0 to 400 $^{\circ}$ C : 0.7 $^{\circ}$ C	
	N	-200 to 1300 $^{\circ}$ C	0.1 $^{\circ}$ C	-200 to 0 $^{\circ}$ C : 1.5 $^{\circ}$ C	
				0 to 1300 $^{\circ}$ C : 0.9 $^{\circ}$ C	
B	600 to 1820 $^{\circ}$ C	1 $^{\circ}$ C	600 to 800 $^{\circ}$ C : 2.2 $^{\circ}$ C		
			800 to 1000 $^{\circ}$ C : 1.8 $^{\circ}$ C		
L	-60 to 900 $^{\circ}$ C	0.1 $^{\circ}$ C	1000 to 1820 $^{\circ}$ C : 1.4 $^{\circ}$ C		
			-60 to 0 $^{\circ}$ C : 0.7 $^{\circ}$ C		
U	-100 to 600 $^{\circ}$ C	0.1 $^{\circ}$ C	0 to 900 $^{\circ}$ C : 0.5 $^{\circ}$ C		
			-100 to 0 $^{\circ}$ C : 0.7 $^{\circ}$ C		
RTD	Pt100 385	-200 to 800 $^{\circ}$ C	0.1 $^{\circ}$ C	0 to 600 $^{\circ}$ C : 0.5 $^{\circ}$ C	ITS-90
				0 to 400 $^{\circ}$ C : 0.7 $^{\circ}$ C	
	Pt1000 385	-200 to 630 $^{\circ}$ C	0.1 $^{\circ}$ C	400 to 800 $^{\circ}$ C : 0.8 $^{\circ}$ C	
				-200 to 100 $^{\circ}$ C : 0.3 $^{\circ}$ C	
	Pt200 385	-200 to 630 $^{\circ}$ C	0.1 $^{\circ}$ C	100 to 300 $^{\circ}$ C : 0.5 $^{\circ}$ C	
				300 to 630 $^{\circ}$ C : 0.7 $^{\circ}$ C	
	Pt500 385	-200 to 630 $^{\circ}$ C	0.1 $^{\circ}$ C	-200 to 100 $^{\circ}$ C : 0.8 $^{\circ}$ C	
				100 to 300 $^{\circ}$ C : 0.9 $^{\circ}$ C	
	Cu10	-100 to 260 $^{\circ}$ C	0.1 $^{\circ}$ C	300 to 630 $^{\circ}$ C : 1 $^{\circ}$ C	
				-200 to 100 $^{\circ}$ C : 0.4 $^{\circ}$ C	
	Cu50	-50 to 150 $^{\circ}$ C	0.1 $^{\circ}$ C	-100 to 300 $^{\circ}$ C : 0.5 $^{\circ}$ C	
				300 to 30 $^{\circ}$ C : 0.7 $^{\circ}$ C	
	500 Ω	<50 Ω	0.02 Ω		500 Ω Approximately 1 mA test Current

OUTPUT FUNCTIONS

Output	Range / Type	Ranges	Resolution	Accuracy	Remarks
DC Voltage	100 mV	-10 to 110 mV	1 μ V	0.02 + 0.01	Maximum Output : 0.5 mA Maximum Output : 2 mA
	1000 mV	-100 to 1100 mV	10 μ V	0.02 + 0.01	
Resistance	400 Ω	0 to 400 Ω	0.01 Ω	0.02 + 0.02	Excitation Current : ± 0.5 to 3 mA if ± 0.1 to 0.5 mA add 0.1 Ω ; does not include lead resistance
	4 K Ω	0 K Ω to 4 K Ω	0.1 Ω	0.05 + 0.025	
Thermocouple	R	0 to 1767 $^{\circ}$ C	1 $^{\circ}$ C	0 to 100 $^{\circ}$ C : 1.5 $^{\circ}$ C	ITS-90
	S	0 to 1767 $^{\circ}$ C		100 to 1767 $^{\circ}$ C : 1.2 $^{\circ}$ C	
	K	-200 to 1372 $^{\circ}$ C	0.1 $^{\circ}$ C	0 to 100 $^{\circ}$ C : 1.5 $^{\circ}$ C	
				100 to 1767 $^{\circ}$ C : 1.2 $^{\circ}$ C	
				-200 to -100 $^{\circ}$ C : 0.6 $^{\circ}$ C	
				-100 to 400 $^{\circ}$ C : 0.5 $^{\circ}$ C	
	E	-200 to 1000 $^{\circ}$ C	0.1 $^{\circ}$ C	400 to 1200 $^{\circ}$ C : 0.7 $^{\circ}$ C	
				1200 to 1372 $^{\circ}$ C : 0.9 $^{\circ}$ C	
				-200 to 100 $^{\circ}$ C : 0.6 $^{\circ}$ C	
				-100 to 600 $^{\circ}$ C : 0.5 $^{\circ}$ C	
	J	-200 to 1200 $^{\circ}$ C	0.1 $^{\circ}$ C	600 to 1000 $^{\circ}$ C : 0.4 $^{\circ}$ C	
				-200 to -100 $^{\circ}$ C : 0.6 $^{\circ}$ C	
				-100 to 800 $^{\circ}$ C : 0.5 $^{\circ}$ C	
				800 to 1200 $^{\circ}$ C : 0.7 $^{\circ}$ C	
T	-250 to 400 $^{\circ}$ C	0.1 $^{\circ}$ C	-250 to 400 $^{\circ}$ C : 0.6 $^{\circ}$ C		
N	-200 to 1300 $^{\circ}$ C		-200 to -100 $^{\circ}$ C : 1.0 $^{\circ}$ C		
B	600 to 1820 $^{\circ}$ C	1 $^{\circ}$ C	-100 to 900 $^{\circ}$ C : 0.7 $^{\circ}$ C		
			900 to 1300 $^{\circ}$ C : 0.8 $^{\circ}$ C		
			600 to 800 $^{\circ}$ C : 1.5 $^{\circ}$ C		
			800 to 1820 $^{\circ}$ C : 1.1 $^{\circ}$ C		
			-200 to 0 $^{\circ}$ C : 0.7 $^{\circ}$ C		
			0 to 900 $^{\circ}$ C : 0.5 $^{\circ}$ C		
L	-200 to 900 $^{\circ}$ C	0.1 $^{\circ}$ C	-200 to 0 $^{\circ}$ C : 0.7 $^{\circ}$ C		
			0 to 600 $^{\circ}$ C : 0.5 $^{\circ}$ C		
U	-200 to 600 $^{\circ}$ C	0.1 $^{\circ}$ C	0 to 900 $^{\circ}$ C : 0.5 $^{\circ}$ C		
			0 to 600 $^{\circ}$ C : 0.5 $^{\circ}$ C		
RTD	Pt100 385	-200 to 800 $^{\circ}$ C	0.1 $^{\circ}$ C	-200 to 0 $^{\circ}$ C : 0.3 $^{\circ}$ C	ITS-90 Excitation Current " ± 0.5 to ± 3 mA for Pt100, Cu10, Cu50, add 0.5 $^{\circ}$ C when excitation current is ± 0.1 mA to 0.5 mA; Excitation Current " ± 0.05 mA to ± 0.3 mA for Pt200, Pt500, Pt1000; does not include Lead Resistance
				0 to 400 $^{\circ}$ C : 0.5 $^{\circ}$ C	
	400 to 800 $^{\circ}$ C : 0.8 $^{\circ}$ C				
	-200 to 100 $^{\circ}$ C : 0.2 $^{\circ}$ C				
	100 to 300 $^{\circ}$ C : 0.5 $^{\circ}$ C				
	300 to 630 $^{\circ}$ C : 0.7 $^{\circ}$ C				
	-200 to 100 $^{\circ}$ C : 0.8 $^{\circ}$ C				
	100 to 300 $^{\circ}$ C : 0.9 $^{\circ}$ C				
Pt200 385	-200 to 630 $^{\circ}$ C	300 to 630 $^{\circ}$ C : 1 $^{\circ}$ C			
		-200 to 100 $^{\circ}$ C : 0.4 $^{\circ}$ C			
Pt500 385	-200 to 630 $^{\circ}$ C	100 to 300 $^{\circ}$ C : 0.5 $^{\circ}$ C			
		300 to 630 $^{\circ}$ C : 0.7 $^{\circ}$ C			
Cu10	-10 to 260 $^{\circ}$ C	-10 to 260 $^{\circ}$ C : 1.8 $^{\circ}$ C			
Cu50	-50 to 150 $^{\circ}$ C	-50 to 150 $^{\circ}$ C : 0.6 $^{\circ}$ C			

STANDARD DELIVERY

- Temperature Calibrator – Model : Nagman 14+
- 1.5V x 4 Nos. Alkaline Batteries
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

OPTIONAL

- Calibration Certificate from NABL Accredited – as per ISO/IEC 17025:2005 Laboratory