

Multifunction Calibrator

Portable/Handheld

Nagman 25

Portable, Handy & Sturdy case with grip

Capability to Measure & Simulate DC Voltages, DC Current, Frequency, Resistance, Thermocouples & RTD

Basic Accuracy : $\pm 0.02\%$ Reading

SALIENT FEATURES

- Compact, Light Weight Unit with Holster
- Capability to Measure & Simulate DC Voltages, DC Current, Frequency, Resistance, Thermocouples & RTDs
- 5 digits display of Measurement & 6 digits display for Simulation
- Dual LCD with white LED for backlight
- Measurement & Simulation of :
 - DC Voltages : 50 mV & 500 mV & 5 V in Measurement Mode 100 mV, 1V & 10V in Simulation Mode
 - DC Current : 50 mA in Measurement Mode; 20 mA in Simulation Mode
 - Resistance : 500 Ω & 5 K Ω in Measurement Mode; 400 Ω , 4 K Ω & 40 K Ω in Simulation Mode
 - Thermocouples : R, S, B, E, K, J, T & N
 - RTDs : Pt100, Pt1000 & Cu50
 - Frequency : 500 Hz, 5 KHz & 50 KHz in Measurement Mode; 100 Hz, 1 KHz, 10 KHz & 100 KHz in Simulation Mode
- Capability to perform Switch Test & Continuity Test



Typical Photo.
Final Product Look May Vary.

SPECIFICATIONS

Input Functions

Functions	Reference	Ranges	Resolution	Accuracy	Remarks
DC Voltage	50 mV	-5 to 55 mV	1 μ V	0.02 + 0.02	Input Resistance : 100M Ω
	500 mV	-50 to 550 mV	10 μ V	0.02 + 0.01	
	5 V	-0.5 to 5.5 V	0.1 mV	0.02 + 0.01	Input Resistance : 1 M Ω
	50 V	-5 to 55 V	1 mV	0.03 + 0.01	
DC Current (mA)	50 mA	-5 to 55 mA	1 μ A	0.02% + 0.01	Shunt Resistance : 10 Ω
Resistance (Ohm)	500 Ω Test current : approx. 1 mA	0 to 550 Ω	0.01 Ω	0.05% + 0.02	Open circuit voltage about 2.5 V Does not include lead resistance
	5 K Ω test current; approx.. 0.1mA	0 to 5.50 K Ω	0.1 Ω	0.05% + 0.02 Ω	
Frequency	500 Hz	3 Hz to 500 Hz	0.01 Hz	± 2 digit	Input Impedance 100K Ω atleast; Sensitivity : 3Vp-p minimum; duty cycle : 50%
	5 KHz	3 Hz to 5 KHz	0.1 Hz		
	50 KHz	3 Hz to 50 KHz	1 Hz		
Thermocouples	R	0 to 1767 $^{\circ}$ C	1 $^{\circ}$ C	0 to 500 $^{\circ}$ C : 1.8 $^{\circ}$ C	By using ITS-90 temperature scale, the Accuracy does not include the error of internal temperature compensation caused by a sensor.
	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	
	E	-50 to 1000 $^{\circ}$ C		0 to 1372 $^{\circ}$ C : 0.8 $^{\circ}$ C	
	J	-60 to 1200 $^{\circ}$ C	0.1 $^{\circ}$ C	-50 to 0 $^{\circ}$ C : 0.9 $^{\circ}$ C	
	T	-100 to 400 $^{\circ}$ C		0 to 1000 $^{\circ}$ C : 1.5 $^{\circ}$ C	
	N	-200 to 1300 $^{\circ}$ C	1 $^{\circ}$ C	-60 to 0 $^{\circ}$ C : 1 $^{\circ}$ C	
	B	600 to 1820 $^{\circ}$ C		0 to 1200 $^{\circ}$ C : 0.7 $^{\circ}$ C	

Functions	Reference	Ranges	Resolution	Accuracy	Remarks
RTD	Pt100 385	-200 to 800°C	0.1°C	1000 to 1820°C : 1.4°C	By using Pt100-385 does not include lead resistance.
				-200 to 0°C : 0.5°C	
				0 to 400°C : 0.7°C	
	Pt1000 385	-200 to 630°C		400 to 800°C : 0.8°C	
				-200 to 100°C : 0.3°C	
	Pt200 385	-200 to 630°C		100 to 300°C : 0.5°C	
				300 to 630°C : 0.7°C	
	Pt500 385	-200 to 630°C		-200 to 100°C : 0.8°C	
				100 to 300°C : 0.9°C	
				300 to 630°C : 1.0°C	
-200 to 100°C : 0.4°C					
Cu10	-100 to 260°C	100 to 300°C : 0.5°C			
		300 to 630°C : 0.7°C			
Cu50	-50 to 150°C	1.8°C			
				0.7°C	
Switch		Close / open			Approx.. 1 mA test current. Short circuit display "Close Open" : OPEN Threshold value about 200 to 300Ω
Continuity	500Ω	≤50Ω sound			Approx. 1 mA test current

* Accuracy expressed as Percentage of Reading + Percentage of Range

Output Functions

Functions	Reference	Ranges	Resolution	Accuracy	Remarks
DC Voltage	100 mV	-10 to 110 mV	1 μV	0.02 + 0.01	Max output current 0.5 mA
	1 V	-0.1 to 1.10 V	10 μV	0.02 + 0.01	Max output current 2 mA
	10 V	-1 to 11 V	0.1 mV	0.02 + 0.01	Max output current 5 mA
DC Current	20 mA	0 to 22 mA	1 μA	0.02 + 0.02	External supply for simulate mA : 5V – 28V. Max. load 1KΩ at 20mA
Resistance	400Ω	0 to 400Ω	0.01Ω	0.02 + 0.02	Excitation current : ±0.5 – 3mA; if ±0.1 – 0.5 add 0.1Ω Accuracy does not include lead resistance
	4KΩ	0 to 4KΩ	0.1Ω	0.05 + 0.025	Excitation current : ±0.05 – 0.3mA; does not include lead resistance.
	40KΩ	0 to 40KΩ	1Ω	0.1 + 0.1	Excitation current : ±0.01mA; does not include lead resistance.
Thermocouple	R	0 to 1767°C	1°C	0 to 100°C:1.5°C	By using ITS-90 temperature scale, the accuracy does not include the error internal temperature compensation caused by a sensor.
				100 to 1767°C : 1.2°C	
	S	0 to 1767°C		0 to 100°C : 1.5°C	
				100 to 1767°C : 1.2°C	
	K	-200 to 1372°C		-200 to -100°C : 0.6°C	
				-100 to 400°C : 0.5°C	
				400 to 1200°C : 0.7°C	
				1200 to 1372°C : 0.9°C	
	E	-200 to 1000°C		-200 to -100°C : 0.6°C	
				-100 to 600°C : 0.5°C	
	J	-200 to 1200°C		600 to 1000°C : 0.4°C	
				-200 to -100°C : 0.6°C	
T	-250 to 400°C	-100 to 800°C : 0.5°C			
		800 to 1200°C : 0.7°C			
N	-200 to 1300°C	-250 to 400°C : 0.6°C			
		-200 to -100°C : 1°C			
		-100 to 900°C : 0.7°C			
B	600 to 1820°C	900 to 1300°C : 0.8°C			
		600 to 800°C : 1.5°C			

Functions	Reference	Ranges	Resolution	Accuracy	Remarks
RTD	Pt100 385	-200 to 800°C	0.1°C	800 to 1820°C : 1.1°C	By using Pt100-385 Excitation Current : ±0.5 to ±3 mA for Pt100, Cu10, Cu50; Excitation Current : ±0.05 to ±0.3mA for Pt200, Pt500, Pt1000; does not include lead resistance
				-200 to 0°C : 0.3°C	
				0 to 400°C : 0.5°C	
				400 to 800°C : 0.8°C	
	Pt200 385	-200 to 630°C		-200 to 100°C : 0.8°C	
				100 to 300°C : 0.9°C	
	Pt500 385	-200 to 630°C		300 to 630°C : 1.0°C	
				-200 to 100°C : 0.4°C	
	Pt1000 385	-200 to 630°C		100 to 300°C : 0.5°C	
				300 to 630°C : 0.7°C	
Cu10	-100 to 260°C	-200 to 100°C : 0.2°C	100 to 300°C : 0.5°C	1.8°C	
Cu50	-50 to 150°C	300 to 630°C : 0.7°C	0.6°C		
Frequency	100 Hz	1 to 110 Hz	0.01 Hz	±2 count	Output voltage : +1 to 11 Vp-p (zero base waveform); Amplitude Accuracy : ±(5% +0.5V); Maximum load : >100KΩ; Duty cycle : 50%
	1 KHz	0.100 to 1.100 KHz	1 Hz		
	10 KHz	1 to 11 KHz	0.1 KHz		
	100 KHz	1 to 110 KHz	2 KHz		
Pulse	100 Hz	1 to 100000 cycles	1 cycle	±2 count	
	1 KHz				
	10 KHz				
Switch	100 Hz	1 Hz to 110 Hz	0.01 Hz	±2 count	FET Switch maximum open/close Voltage : +28V Max. open/close Current : 50mA
	1 KHz	0.100 KHz to 1.100 KHz	1 Hz		
	10 KHz	1 KHz to 11 KHz	0.1 KHz		
	100 KHz	10 KHz to 110 KHz	2 KHz		
Loop	24V			±10%	Maximum Current 22 mA Short Circuit Protected

STANDARD INCLUSIONS

- Multifunction Process Calibrator - Nagman 25
- 1.5V x 4 Nos. AAA Alkaline Batteries
- Operation Manual
- Test Leads
- Traceable Calibration Certificate

OPTIONAL (ADD-ON) ITEMS

- Calibration Certificates are issued in Accordance with our Scope as granted by NABL per ISO/IEC 17025:2017 Standards

Manufactured by



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