

**MODEL: TN50**

**Generates
Temperature from
125°C Down to -50°C**

- EXCELLENT ACCURACY AND STABILITY
- 0.01°C RESOLUTION
- GENERATES TEMPERATURE
- MEASURES SIGNAL FROM SENSORS
- mA INPUT FROM 2-WIRE TRANSMITTERS
- COMPLETELY AUTOMATIC CALIBRATION
- RS-232 COMMUNICATIONS
- DOCUMENTING CAPABILITY
- PORTABLE & COMPACT
- INTERNAL COLD JUNCTION COMPENSATION
- INTERNAL REGULATED 24 VDC POWER SUPPLY
- INTERCHANGEABLE INSERTS & CARRYING CASE
- REACHES -50°C IN AMBIENT TEMPERATURE (23°C) WITH NO NEED FOR INSULATOR OR COLD ROOM (similar dry block from other manufacturers require external refrigeration)



THREE INSTRUMENTS IN ONE:
Dry Block + Standard Thermometer +
Calibrator for TCs, RTDs, mA, mV,
Ohm & thermoswitches

INTRODUCTION

Model TN50 *Dry Block Calibrator* controls temperature over an insert in order to calibrate thermocouples, RTDs, thermoswitches, glass thermometers, etc.

This instrument incorporates the functions of dry block, standard thermometer and electronic calibrator by providing high accuracy temperature value and measuring signals generated by RTDs, thermocouples, thermoswitches and mA generating sources.

It has a great deal of programming capabilities, allowing automatic calibration of sensors. By defining the calibration points and their number of repetition, and then placing the sensor in the insert and connecting its electrical terminal to the embedded calibrator, the process of calibration can be started and proceed to all the sequences automatically.

Automatic documented calibration can be performed by means of the optional SCA850 *Calibration Software* and connecting the calibrator via its RS-232 serial port to a personal computer. Communication cables should be ordered separately.

By using the calibration software, the operator can take advantages of computer data management to register the sensors, create and print calibration certificates and reports, and generate work orders.

Viewing in poor lighting is made easy with a graphic, high contrast and adjustable liquid crystal display.

The calibrator is supplied with connecting cables, a strap for transportation and a sturdy carrying case.

SPECIFICATIONS

Operating Range	-50...125°C*
Accuracy	±0.1°C
Resolution	0.01°C or 0.01°F
Stability	±0.02°C or 0.04°F
Heating Rate	5 min. (20 to 100°C)
Cooling Rate	9 min. (100 to 0°C)
Well Depth	124 mm
Homogeneity	±0.05°C (well-to-well)
Power Supply	110 or 220 VAC, 50/60 Hz
Power Consumpt'n	400 W
Display	LCD; adjustable contrast
Dimensions HxWxD	250 x 180 x 270 mm
Weight	9.0 kg (20 lb)

* with 23°C ambient temperature

Indumart reserves the right to change the specifications without prior notice.

ORDER CODES

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POWER SUPPLY

110 VAC

220 VAC

1

2

INSERT INCLUDED

Choose one of the inserts listed below

(if not specified, it comes with 06 insert)

INSERT	HOLES (Insert External Diameter: 1")
01	1 x 3/4"
02	1 x 1/2"
03	1 x 6.0 mm and 3 x 1/4"
04	3 x 6.0 mm and 1 x 1/4"
05	4 x 6.0 mm
06	2 x 6.0 mm and 2 x 1/4"
07	1 x 6.0 mm and 1 x 8.0 mm and 1 x 3/8"
08	1 x 6.0 mm and 1 x 3.0 mm and 2 x 1/4"
09	Without hole, to be drilled by the client
10	Others

Input	Range	Resolution	Accuracy	Remarks
mV	-150...150 mV	0.001 mV	0.01% FS	$R_{input} > 10M\Omega$ auto-ranging
	-500...-150 mV	0.01 mV	0.02% FS	
	150...2450 mV	0.01 mV	0.02% FS	
mA	-5...24.5 mA	0.0001 mA	0.02% FS	$R_{input} > 160 R$
Resistance	0...2500 Ω	0.01 Ω	0.008% FS	0.9 mA Excitation
Pt-100	-200...850°C/-328...1562°F	0.01°C or °F	0.2°C/0.4°F	IEC 751
Pt-1000	-200...400°C/-328...752°F	0.1°C or °F	0.1°C/0.2°F	IEC 751
Cu-10	-200...260°C/-328...500°F	0.1°C or °F	2.0°C/4.0°F	Minco 16-9
Ni-100	-60...250°C/-76...482°F	0.1°C or °F	0.2°C/0.4°F	DIN 43760
TC-J	-210...1200°C/-346...2192°F	0.1°C or °F	0.2°C/0.4°F	IEC 584
TC-K	-270...-150°C/-454...-238°F	0.1°C or °F	0.5°C/1.0°F	IEC 584
	-150...1370°C/-238...2498°F	0.1°C or °F	0.2°C/0.4°F	IEC 584
TC-T	-260...-200°C/-436...-328°F	0.1°C or °F	0.6°C/1.2°F	IEC 584
	-200...-75°C/-328...-103°F	0.1°C or °F	0.4°C/0.8°F	IEC 584
	-75...400°C/-103...752°F	0.1°C or °F	0.2°C/0.4°F	IEC 584
TC-E	-270...-150°C/-454...-238°F	0.1°C or °F	0.3°C/0.6°F	IEC 584
	-150...1000°C/-238...1832°F	0.1°C or °F	0.1°C/0.2°F	IEC 584
TC-N	-260...-200°C/-436...-328°F	0.1°C or °F	1.0°C/2.0°F	IEC 584
	-200...-20°C/-328...-4°F	0.1°C or °F	0.4°C/0.8°F	IEC 584
	-20...1300°C/-4...2372°F	0.1°C or °F	0.2°C/0.4°F	IEC 584
TC-L	-200...900°C/-328...1652°F	0.1°C or °F	0.2°C/0.4°F	DIN 43710



INDUMART INC.

1-15 W. Pearce St., Richmond Hill, Ont. L4B 1H6, Canada
Phone: (905) 707-9998 Fax: (905) 707-8484 E-mail: Sales@Indumart.com