



PASS PRTD-7 CALIBRATOR FOR RESISTANCE TEMPERATURE PROBES

OPERATING MANUAL & SPECIFICATIONS

PLEASE READ BEFORE SWITCHING ON THE UNIT, IMPORTANT SAFETY INFORMATION INSIDE

Safety Information

To avoid possible electric shock or personal injury:

- Never apply more than 30V between any two terminals, or between any terminal and earth
- Make sure the battery door is closed and latched before you operate the calibrator
- Remove test leads from the calibrator before you open the battery door
- Do not operate the calibrator if it is damaged
- Do not operate the calibrator around explosive gas, vapour, or dust

To avoid possible damage to the calibrator:

- Use only the terminals and wires corresponding to the function chosen
- Remove the calibrator from its working environment when it is off

Introduction

The PRTD-7 can measure or simulate 7 different types of probe ($^{\circ}\text{C}$ or $^{\circ}\text{F}$), and resistance. It cannot be used as a measuring instrument and as a generator at the same time.

Included Accessories

- Carry Case
- Pair of Test Leads and Clips
- 6x AAA 1.5 V Batteries
- Operating Manual

Specification

All of the specifications are guaranteed for one year after calibration, at temperatures between 18°C and 28°C, with battery power.

Input/Output Resistance Parameters

Range	Measurement Accuracy $4W \pm \Omega$	Simulation Accuracy $\pm \Omega$	Acceptable excitation in mA
0.00 Ω ~ 400.00 Ω	0.1	0.15	0.1 ~ 0.5
		0.1	0.5 ~ 3.0
400.0 Ω ~ 1500.0 Ω	0.5	0.5	0.05 ~ 0.8
1500.0 Ω ~ 3200.0 Ω	1	1	0.05 ~ 0.4
	2		

The acceptable excitation current values apply only in simulation mode.

RTD Probe Measurement Parameters






Mode	Range	Accuracy in °C			Acceptable excitation mA
		4-wire Input	2/3 wire Input	Output	
Pt10 385	-200~800°C / -328~1472°F				0.1 ~ 3.0
Pt50 385	-200~800°C / -328~1472°F	0.7	1.0	0.7	0.1 ~ 3.0
Pt100 385	-200~800°C / -328 ~ 1472°F	0.33	0.5	0.33	0.1 ~ 3.0
Pt200 385	-200~250°C / -328~482°F	0.2	0.3	0.2	0.1 ~ 3.0
	250~630°C / 482~1166°F	0.8	1.6	0.8	
Pt500 385	-200~500°C / -328~932°F	0.3	0.6	0.3	0.05 ~ 0.8
	500~630°C / 932~1166°F	0.4	0.9	0.4	
Pt1000 385	-200~100°C / -328~212°F	0.2	0.4	0.2	0.05 ~ 0.8
	100~630°C / 212~1166°F	0.2	0.5	0.2	
Pt100 JIS	-200~630°C / 328~1166°F	0.3	0.5	0.3	0.1 ~ 3.0

MAX input voltage: 30V - The acceptable excitation current applies only in simulation mode.

General Specifications

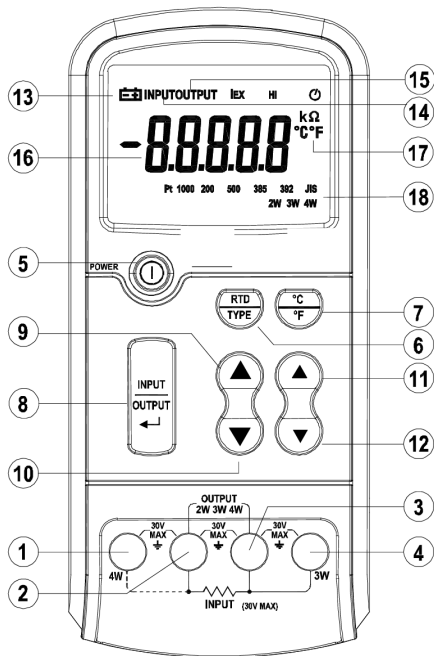
30 V Max. Voltage applied between a terminal and earth or between two terminals	
Resolution	RTD 0.1°C/°F - Resistance 0.01 / 0.1 Ω
Storage Temperature	- 40°C ~ 60°C
Operating Temperature	- 10°C ~ 55°C
Operating Altitude	3000 Metres Max.
Temperature Coefficient	$\pm 0.01\%/^{\circ}\text{C}$ on 0°C ~18°C and 28°C ~50°C
Relative Humidity	95% up to 30°C, 75% up to 40°C, 45% up to 50°C, 35% up to 55°C
Shock	Random, 2 g, 5 Hz to 500 Hz
Safety	1 Metre Drop Test
Power Requirements	6x 1.5 V AAA Batteries
Size (LxWxH)	205 mm \times 98 mm \times 46 mm, 472g (with batteries)

International Symbols

Symbol	Meaning
	Earth Ground
	Conforms to European Union Directives (CE marking)
	Warning! Take note of Safety Recommendations
	Battery
	Double Insulation

Explanation of the Front Panel

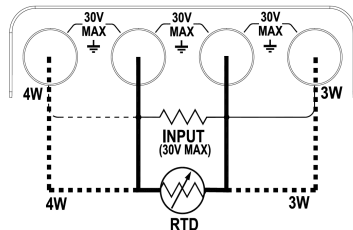
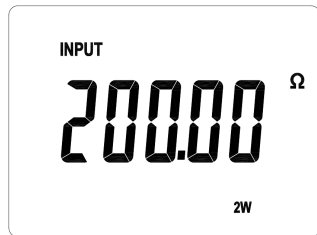
1. 4-Wire input terminal
2. 2-Wire input / output terminal
3. 2-Wire input / output terminal
4. 3-Wire input terminal
5. On/Off button
6. RTD selection
7. °C / °F button
8. Input / output button
9. Increase upper value / No. of wires
10. Decrease upper value / No. of wires
11. Increase lower value
12. Decrease lower value
13. Battery indicator
14. Input status indicator
15. Output status indicator
16. Measured value
17. Unit indicator
18. Mode indication



Operating Instructions

RTD Probe Measurement

1. Turn on the calibrator (5)
2. Change to 'INPUT' mode (8)
3. Press (6) to select desired measurement
4. Connect the RTD or Resistor to the input terminal
5. To measure in 3-wire / 4-wire mode, press (9, 10) to select number of wires then connect the wire to the corresponding input terminal
6. See the value on the display (16)

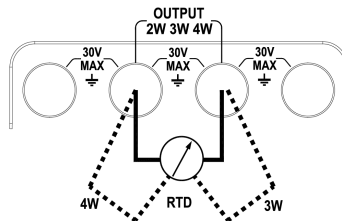
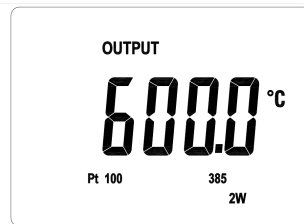


The numbers in brackets refer to the [EXPLANATION OF THE FRONT PANEL](#)

Operating Instructions

RTD Simulation

1. Turn on the calibrator (5)
2. Change to 'INPUT' mode (8)
3. Press (6) to select probe type/desired measurement
4. Press buttons (9, 10, 11 and 12) to define the desired value
5. Connect the RTD probe or resistance meter to the input terminal
6. If you want an output in 3-wire/4-wire mode, connect the other wire to the 2-wire terminal as shown below
7. If you want to change the output value or type of RTD, press key (9, 10, 11, or 12) to adjust values or (6) to change RTD type



Connecting a Mains Adapter (Accessory)

1. Connect the AC power cord to the AC-DC converter
2. Plug the AC power cord into an electrical outlet (220V-240V)
3. Plug the DC power plug of the converter into DC power socket of the meter

AC/DC Characteristics of the Mains Adapter

Input: 220V-240VAC,50-60Hz 1A

Output:DC 9V 1A MAX, $\pm 8\%$



Plug size: DCPLUG (Round) -5.5mm-2.1mm(hole)

Ripple: $\leq 50\text{mVpp}$

WARNING

1. Only use the original mains adapter
2. The AC power adapter can only be used indoors
3. Plug the AC power cord into an electrical outlet first, then, put the DC plug into the DC input in the right of the meter. When unplugged, firstly pull out the DC plug perpendicular to DC input end, and then unplug the AC plug from the electrical outlet
4. Do not use the mains adapter with any other device
5. It is normal for the mains adapter to warm up in operation
6. Do not dismantle the mains adapter
7. Do not use the adapter in an overheated or damp room
8. It is normal for the mains adapter to make noise when in operation
9. The battery symbol may appear when plugging the AC power adapter

Maintenance



Use only manufacturer-specified spare parts for maintenance. The manufacturer is not responsible for accidents resulting from repairs performed by unapproved repairers.

Cleaning

Periodically wipe the case with a damp cloth and gentle detergent; do not use abrasives or solvents.

Calibration

Calibrate your calibrator once a year to ensure that it performs according to its specifications. You can visit www.calibrate.co.uk for a quote.

Replacing the Battery

Please change the battery when the LCD indicates the battery symbol

1. Turn off the instrument
2. Remove the battery cover, discard old batteries properly and safely, and replace them with new 1.5V AAA batteries



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