EiUK

the PTB series is the top of the range multi functional Dry Block Temperature Calibrators offered by EiUK- It comes in 2 different models to cover and extended range from -45 to 1100 Deg C.

The PTB series is designed for both on-site maintenance or laboratory use and combines high portability with excellent temperature performance- All PTB model are equipped with RS232 serial communication (USB converter available). The Standard delivery also include the EIUK-CAL calibration PC software

Accuracy ±0.08°C
Down to ±0.08°C using our external reference sensor and special calibration with built-in reference sensor input

Excellent stability ±0.03°C
New controller and block design

Built-in dual channel readout (TC version)
Read simultaneously external reference sensor and unit under test

Wider temperature range
PTB 150 from -50 to 150°C (from ambient)
PTB 600 from Amb to 600°C
PTB 1100 from 200 to 1100°C

Deeper Immersion and large well 220x44 mm
Perform even larger diameter sensor calibration

Use as Dry Block, Black Body Source or Zero Reference
Unique range of multifunctional insert to extend the range of application

Fast heating/cooling time and light weight
Save time and

DEEP IMMERSION

The PTB series offer a deeper immersion depth in comparison to the most of portable temperature calibrators in the market place. Deeper immersion depth make the PTB series the optimal solution for calibrating liquid filled sensors(they require full immersion) and/or large size sensors and temperature switches. There is a correlation between immersion depth and sensor diameter which need to be considered to avoid stem conduction particularly when working at high temperatures

EXCELLENT TEMPERATURE PERFORMANCES

PTB series provide an excellent temperature calibration system for accurate testing of virtually most of the temperature sensors installed on industrial process such Thermocouple's, RTD's, Temperature Switches, Liquid Filled Thermometers and many other type of temperature sensors

The unique control technology together with extremely engineered calibration zone (Block) make it possible to reach excellent temperature performances both I term is stability and uniformity . An Innovative ventilation system(forced air) eliminates the need of a metal sheath to protect the sensor under test handle or head at high temperature

	TS VERSION	TC VERSION
Dry Block	●	●
Removable Insert	●	●
Infrared Insert	●	●
Surface Sensor Insert	●	●
Zero Reference Insert	●	●
Multi-Holes Inserts	●	●
Dual Line Display	●	●
Digital Communication	●	●
Stand Alone thermostat testing	●	●
Configurable C, F, K	●	●
RTD's Input		●
Universal Thermocouple's Input		●
Reference Sensor Input		●
Reference sensor linearization matching		●

DUAL CHANNEL READ-OUT (TC VERSION)

The TC version is equipped with a dual input which can measure the most common Thermocouples and RTD (3-4 WIRES) sensor- It eliminate the need to carry another Thermometer in the Field for calibrating the unit under test. Direct comparison of the unit under test and the Internal or External reference sensor is visualised on the display

AUTO RANP/STEPP

Programmable AUTORAMP function is available directly from Keyboard- User can select number of cycles, minimum and maximum points and temperature gradient. The function is ideal for automatic calibration of thermo switches. An AUTO STEP function with programmable STEP value and HOLD VALUE between each STEP is also available when using T connected with our EIUK-CAL software

CALIBRATION SOFWTARE

EiUK- CAL
TS series are supplied in the standard delivery with our Powerful EiUK-Cal software package-
Temperature Sensor Calibration both automatic and manual
Automatic Calibration routine for all type of temperature sen sors with advanced feature such reference sensor stabilization time- Calibration data are automatically populated and stored for printing calibration report- This procedure can also be ran in manual mode to allow the operator to manually enter the data- This is particular useful when calibrating Temperature device such digital thermometer or analogue thermometers
Stress Test
Simply set the MAX and MINI value and the software will run an automatic Stress Test of one single sensor or a batch-
Advance Thermostat Calibration
Simply set the open and close temperature limits, type of thermostat, type of test and T will automatically run the test- This is available on both the TC and TS version
Multiple Sensor Calibration
When use in conjunction with put ATCS system up to 60 sensors can be calibrated automatically

HIGH ACCURACY (TC VERSION)

The TC version is equipped with an built-in high accuracy reference input to be used in conjunction with our SRS (semi-standard PRT)- This feature allows the PTB-TC to perform calibration with an higher degree of accuracy.- It also eliminates most of the error due to Stem conduction and different load

A special 90C angled external reference sensor is designed to accommodate calibration of sensors with transmitter head- It provide maximum clearance to the top of the calibrator-

Our SRS external reference sensors are especially designed to improve the performance of our PTB series- The size and length of the external reference sensors have been chosen to provide best performance on the T series- A special linearization/calibration with the built-in reference input provide maximum reading accuracy as good as 0.08 Deg C (T150-TC) and 0.15 Deg C (T600-TC). The internal and reference sensor are independent from each other.

SWITCH TEST

Both the T-TS and T-TC versions are equipped with a " switch test input" which provide facility to perform automatic switch test calibration. T will log both the "Open"and "Close" tempertraure values for onsite recall and dead band calculation

Technical Specifications

	PTB 150	PTB 600	PTB 1100
Temperature Range @ 20	-30 C to 150 °C (-48 C from ambient)	Tamb C to 600 °C	200 C to 1100 °C
Stability	± 0.02 °C	± 0.05 °C	± 0.3 °C
Time to Stability	10 min approx		
Radial Uniformity	± 0.02 °C	± 0.15 °C	± 0.4 °C
Axial Uniformity (lower 40 mm)	± 0.08 °C	± 0.35 °C	± 0.4 °C
Accuracy (Internal Sensor)	± 0.15 ° C	± 0.3 °C	± 3 °C
Accuracy with External reference sensor TC VERSION ONLY*	± 0.08 °C	± 0.15 ° C	n/a
Resolution	0.1 °C / 0.01 °C selectable		
Temperature units	C -F -K selectable		
Inserts Diameter	35 mm	35 mm	44 mm
Immersion Depth	130 mm	185 mm	220 mm(with insulator)
Standard insert supplied	Ø3.5-4.5-5.5-6.5-8.5-10.5 mm	Ø3.5-5-6.5-8.5-12.5 mm	Ø7-9-11-13.5 mm
Heating Time	20 °C/minutes	20 °C/minutes	18 °C/minutes
Cooling Time	22 °C/minutes	25 °C/minutes	6 °C/minutes
Digital communication	RS232 (USB converter)		
Switch test Input	with automatic log of Open and Closed Temperature values		
Thermocouple Input (TC version Only)			
Type	K,N,R,S,J,E		
Range	-0 C to 1700 ° C		
Accuracy	± 1 °C Include CJC		
Resolution	0.1 C / 0.01 °C selectable		
RTD's Input (TC version only)			
Type	Pt100 IEC 3/4 wires		
Range	-100 C to 700 C		
Accuracy	± 0.3 °C		
Resolution	0.1 C / 0.01 °C selectable		
Voltage	115 or 230 VAC, 50/60 HZ		
Power	300 VA	800 VA	850 VA
Weight	8 Kg	10 Kg	12 Kg
Dimension	160x340x330 mm	160x340x330 mm	170x 450x330 mm

Specifications might change with-out prior notice

12 months period

*Require SRS Reference sensor and UKAS calibration for probe matching linearization- Accuracy do not include long term sensor drift
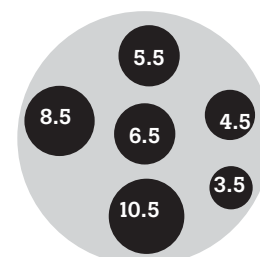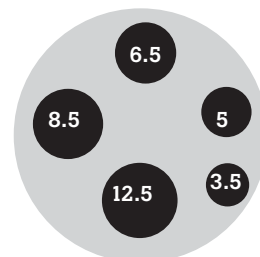
REMOVABLE MULTI HOLES INSERTS

The PTB series feature a vast selection of standard inserts or custom made inserts to suit difference size of probes- All the insert are designed with the correct tolerance to maximise thermal conductivity- The large size of the PTB well make it possible to drill multi-holes inserts to perform multiple sensors calibration routine
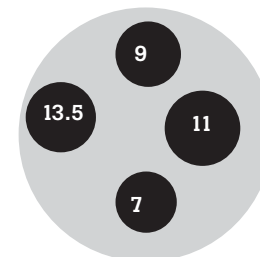
Part Number	Description
PTB 150 Inserts	
PTB 150-INS-01	blank insert DN.35x135 mm
PTB 150-INS-02	Multi-hole insert DN 35x135 mm with 6 holes: .3,5-4.5-5.5-6,5-8,5-10,5 mm (standard delivery)
PTB 150-INS-03	Multi-hole insert DN.35x135 mm custom with special drilling(1 to 3 holes from 3,5 to 20mm)
PTB 150-INS-04	Multi-hole insert DN.35x135 mm custom with special drilling(4 to 6 holes from 3,5 to 20mm)
PTB 150-INS-05	Multi-hole insert DN.35x135 mm custom with special drilling(7-10 holes from 3,5 to 20mm)
PTB 150-INS-06	Multi-hole insert DN35x135 mm with 2 holes: 6.5- 19.5 mm.
PTB 600 Inserts	
PTB 600-INS-01	blank insert DN.35x190 mm
PTB 600-INS-02	Multi-hole insert DN35x190 mm with 5 holes: .3,5-5.0-6,5-8,5-12,5 mm. (standard delivery)
PTB 600-INS-03	Multi-hole insert DN.35x190 mm custom with special drilling(max 5 holes from 3,5 to 20mm)
PTB 600-INS-04	Multi-hole insert DN.35x190 mm custom with special drilling(max 3 holes from 3,5 to 20mm)
PTB 600-INS-05	Multi-hole insert DN.35x190 mm custom with special drilling(max 2 holes from 3,5 to 20mm)
PTB 1100 Inserts	
PTB 1100-INS-01	Blank Insert DN 44x155 mm
PTB 1100-INS-02	Multi-hole insert DN 44 x155 with 4 holes 7-9-11-13.5 mm (standard delivery
PTB 1100-INS-03	Multi-hole insert DN 44x155 with custom drilling(4 holes)
PTB 1100-INS-04	Multi-hole insert DN 44x155 with custom drilling(2 holes)

PTB 150-INS-02

PTB 600-INS-02

PTB 1100-INS-02

BLACK BODY TARGET

The PTB series use can be converted into an Infrared temperature calibrator by simply using the INFRARED BLACK BODY TARGET INSERT- The large well size 60 mm make it possible to calibrate Infrared thermometer with very large distance to Target to ratio with out compromising the accuracy

Each Insert is supplied with an angled Pt100 reference sensor to measure the true temperature at the bottom of the insert- The True temperature can be read directly on the Display of the TC version

Part Number	Description
PTB 150-INS-IR	Black body Insert DN 35x135 c/w Reference Sensor
PTB 600-INS-IR	Black body Insert DN 35x190 c/w Reference Sensor

PTB STANDARD DELIVERY

PTB 150, PTB 600 and PTB 1100 are supplied as standard with the full list of accessories

PTB Temperature Calibrator
PTB-INS-02
Power Lead
Fuse Kit
Tenperature switches test leads
Traceable calibration certificate
Instruction Manual
RS232 Cable
EIUK- CAL Software Package

PBT 150-TC, PTB600-TC and PTB1100-TC include all the above plus Buitt-in dual channel read out
Test Leads

SOFT CASE (PTB-CASE-01)

Robust Vinyl case for trnasport with pockets for accessories and shoudl strap for easy trapsort- The case has 4 alluminium protective feets

ALUMINIUM CASE (PTB-CASE-02) PTB150/600
ALUMINIUM CASE (PTB1100-CASE-01) PTB1100 only

Robust Aluminium transport case with space for PTB and accessories

Part Number				Description
				Model
PTB 150				PTB 150 Portable Temperature Calibrator , - 48 to 150 C, with T150-INS-02 insert
PTB 600				PTB 600 Portable Temperature Calibrator , - T amb to 600, C with T600-INS-02 insert
PTB 1100				PTB 1100 Portable Temperature Calibrator , 200 to 1100 C, with T1100-INS-02 insert
				version
	TS			Source Version without input
	TC			Calibrator Version with Built-in dual channel read out
				Power Supply
		115		115 V 50/60 Hz
		230		230 Vac 50/60 Hz
				Main Power Cable
			EU	Europe power lead
			UK	UK power lead
			US/JP	USA/JP
T200	TC	230	UK	Example: T 200 TC version with 230 VAC, UK power lead

HIGH ACCURACY OPTION (TC VERSION ONLY)

Part Number	Option Description
PT150-OPT-01	SRS-PRT-03-A168B reference sensor and spacial UKAS calibration for linearization and probe matching- Range -40 to 150 Deg C
PTB 600-OPT-01	SRS-PRT-45-190B reference sensor and spacial UKAS calibration for linearization and probe matching- Range 50 to 600 Deg C

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UKAS MANAGEMENT SYSTEMS 0026
Certificate Number 9309
ISO 9001

REFERENCE SENSORS SRS

Our range of semi standard reference sensors (SRS) are especially designed to improve the performance of our PTB series– The size and length of the external reference sensors have been chosen to
These industrial platinum resistance thermometers are ideal for field and lab use. They are particularly designed for use as working standards in Dry Blocks and Liquid Baths . The 90 degree bent provide maximum clearance at the top of the calibrator allowing space for calibrating temperature sensors with head such transmitters– Size and dimensions are optimised for use with the T series series

General specifications are:
Ro 100 ohm ± 0.05 ohm (Pt 100 A Class)
Alpha 0.003850 ± 0.000005
Standard IEC 60751
Stability 0.010 ohm/year
Sensing Element length 15 mm
Metal Sheath
4 Wires Type
Supplied with 2 metre cable and connectors for TC version measurement input

Part Number	Range	Diameter	Immersion Depth	Application
SRS-PRT-03-A168B	–40 to 250 Deg °C	3 mm	168 mm angled	PTB150/PLB200
SRS-PRT-45-A195B	–40 to 650 Deg °C	4.5 mm	195 mm angled	PTB 600
SRS-PRT-45-S480B	–40 to 650 Deg °C	4.5 mm	480 mm Straight	Working Standard

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