

PTCt-155

Professional Temperature Calibrator

-30 to 155 °C / -22 to 311 °F



The PTCt-155 is shown with option RG

Professional temperature calibration from -30 to 155 °C (-22 to 311 °F)
Reliable performance for laboratory and field calibration of temperature sensors.

Product overview

The PTCt Series builds on the proven PTC platform and introduces an updated user interface, enhanced calibration functionality, and extended connectivity, while maintaining the accuracy, stability, and flexibility of the original PTC design.

The PTCt-155 is a dry-block temperature calibrator designed for calibration tasks in the medium temperature range. It provides a stable and repeatable temperature source for testing and calibration of temperature sensors, including RTDs, thermocouples, transmitters, and temperature switches.

PTCt platform – value highlights

The PTCt Series introduces a set of improvements focused on practical calibration work:

- Touchscreen user interface with configurable views
- Built-in automation features such as Auto Step and switch testing
- Dual sensor-under-test capability for parallel calibration (model B)
- Graphical calibration indication (Option RG)
- Integrated connectivity with support for documentation and data transfer (Option RG)



The PTCt-155 is shown with option RG

Typical applications

The PTCt-155 is designed for versatile calibration applications requiring stable and reliable temperature control across a wide operating range.

Typical applications include:

- Calibration of process temperature sensors in industrial production environments
- Verification of temperature instruments in manufacturing and general processing applications
- Calibration of transmitters and temperature switches in maintenance and service
- Calibration tasks in workshops, laboratories, and field service, including applications in food & beverage and ingredients production

The instrument supports calibration of a wide range of sensor types and configurations, consistent with the PTCt platform design.

Specifications for PTCT-155

Functional Specifications

Temperature Range

@ ambient temp. 0°C / 32°F **-30 to 155°C/-22 to 311°F**
 @ ambient temp. 23°C / 73°F **-30 to 155°C/-22 to 311°F**
 @ ambient temp. 40°C / 104°F **-15 to 155°C/ 5 to 311°F**

Accuracy with External STS Ref. Sensor

***±0.06°C/±0.11°F**
****±0.08°C/±0.108°F**

*12-month period. Relative to reference standard. Specifications by use of the external JOFRA STS-150 A 915 reference sensor.

** Total system accuracy, 12 months, incl. STS-150 A 915 sensor and calibration uncertainty with accredited system calibration (ISO/EN/IEC 17025)

Accuracy with Internal Ref. Sensor

± 0.18°C/± 0.32°F

Specification when using the internal reference. (Load 4 mm OD reference probe in the center of the insert).

Stability

±0.01°C/±0.018°F

Measured after the stability indicator has been on for 10 minutes. Measuring time is 30 minutes.

Radial Homogeneity

(difference between holes)

0.01°C/0.02°F

Resolution (user selectable)

All Temperatures **1° or 0.1° or 0.01°**

Temperature Unit in Display

User Selectable **°C, °F, or K**

Heating Time

-30 to 23°C / -22 to 73°F **3 minutes**
 23 to 155°C / 73 to 311°F **12 minutes**

Cooling Time

155 to 23°C / 311 to 73°F **10 minutes**
 23 to -30°C / 73 to -22°F **20 minutes**

Time to Stability (approx.)

10 minutes

Electrical

Mains Specifications

Voltage **115V (90-127) / 230V (180-254)**
 Frequency, non US Deliveries **50 Hz ±5, 60 Hz ±5**
 Frequency, US Deliveries **60 Hz ±5**
 Power Consumption (max.) **350VA**

Switch Input (model B)

Switch Dry Contacts

Test Voltage **Maximum 2.5 VDC**
 Test Current **Maximum 0.7 mA**

Communications Interface

Serial Data Interface **USB 2.0 Device Port**
 Serial Data Interface **USB 2.0 Host Port (3x)***
 LAN **Ethernet MAC 10/100 Base-T***

Physical Specifications

Weight and Instrument Size

Weight **10.1 kg / 22.3 lb**
 (LxWxH) **363 × 171 × 360 mm / 14.3 × 6.7 × 14.2 in**

Shipping

In cardboard box,

Weight **12.5k g / 27.6 lb**
 (LxWxH) **520 × 320 × 480 mm / 20.5 × 12.6 × 18.9 in**

In carrying case in cardboard box

Weight **18 kg / 39.7 lb**
 (LxWxH) **600 × 350 × 530 mm / 23.6 × 13.8 × 20.9 in**

In wheeled carrying case in cardboard box with pallet

Weight **25.5 kg / 56.2 lb**
 (LxWxH) **530 × 450 × 620 mm / 20.9 × 17.7 × 24.4 in**

Well Diameter

26 mm / 1.02 in

Immersion Depth

160mm / 6.3 in

Insert Dimensions

Diameter **25.8 mm / 1.02 in**
 Length **150 mm / 5.91 in**

Miscellaneous

Operating Temperature **0 to 40°C / 32 to 104°F**
 Storage Temperature **-20 to 50°C / -4 to 122°F**
 Humidity **0 to 90% RH**
 Protection Class **IP-10**

Specifications

External Reference Sensors

Unless noted, specifications apply to both STS-102-A 030 and STS-150-A 915

Temperature Range

-45 to 155°C / -49 to 311°F

Accuracy

Hysteresis @ 0°C/32°F **0.01°C / 0.02°F**
 Long Term Stability @ 0°C/32°F **typ. 0.014°C / 0.025°F**
 Repeatability **0.004°C / 0.007°F**
 Stability when exposed to maximum temperature for 100 hours.

Sensing Element

Pt100

Response Time

STS-102-A 030

t₀₅ (50%) **5 seconds**
 t₀₉ (90%) **16 seconds**

STS-150-A 915

t₀₅ (50%) **7 seconds**
 t₀₉ (90%) **18 seconds**

Liquid in motion, 0.4 m/sec.

Dimensions

STS-102-A 030

Diameter **4 mm / 0.157 in**
 Length **30 mm / 1.18 in**

STS-150-A 915

Diameter **4 mm / 0.157 in**
 Length **180 mm / 7.08 in**

Input Specifications

Input specifications are *not* applicable to the A models.

RTD Reference Input (models B and C)

Type **4-wire RTD with true ohm measurements ⁽¹⁾**
 F.S. (Full Scale) **400 ohm**
 Accuracy (12 months) **±(0.003% rdg. + 0.0007% F.S.)**

RTD Type	Temperature		12 Months	
	°C	°F	°C	°F
Pt100 Reference	-30	-22	±0,02	±0,03
	0	32	±0,02	±0,03
	155	311	±0,03	±0,04

⁽¹⁾ True ohm measurement is an effective method to eliminate errors from induced thermoelectrical voltage.

RTD Sensor Under Test Input (model B)

F.S. (range) **400 ohm**
 Accuracy (12 months) **±(0.006% Rdg.+0.002% F.S.)**
 F.S. (range) **4000 ohm**
 Accuracy (12 months) **±(0.006% Rdg. + 0.005% F.S.)**
 2-wire **add 50 mOhm**

RTD Type	Temperature		12 Months	
	°C	°F	°C	°F
Pt1000 (90) 385	-30	-22	±0,07	±0,12
	0	32	±0,07	±0,12
	155	311	±0,08	±0,15
Pt500 (90) 385	-30	-22	±0,12	±0,21
	0	32	±0,12	±0,22
	155	311	±0,14	±0,24
Pt100 (90) 385	-30	-22	±0,04	±0,06
	0	32	±0,04	±0,07
	155	311	±0,05	±0,08

Supported resistance sensors types: Pt10(90)385, Pt50(90)385, Pt100(90)385, Pt200(90)385, Pt500(90)385, Pt1000(90)385 Pt50(90)391, Pt100(90)391, M50(90)428, M100(90)428, Pt100(90)392, H120(90)672,

PT100 Mill and YSi-400.

Thermocouple Input

Range **± 78 mV**
 F.S. (Full Scale) **78 mV**
 Accuracy (12 months) **±(0.02% Rdg. + 0.01% F.S.)**
 Refer to the table in the next column.

TC Type	Temperature		12 Months*	
	°C	°F	°C	°F
E	-30	-22	±0,15	±0,27
	0	32	±0,14	±0,24
	155	311	±0,14	±0,25
J	-30	-22	±0,17	±0,31
	0	32	±0,16	±0,28
	155	311	±0,18	±0,31
K	-30	-22	±0,22	±0,39
	0	32	±0,20	±0,36
	155	311	±0,23	±0,41
N	-30	-22	±0,32	±0,57
	0	32	±0,31	±0,55
	155	311	±0,28	±0,50
R	-30	-22	±1,78	±3,21
	0	32	±1,48	±2,65
	155	311	±0,97	±1,74
S	-30	-22	±1,71	±3,07
	0	32	±1,45	±2,61
	155	311	±1,01	±1,81
T	-30	-22	±0,23	±0,41
	0	32	±0,21	±0,37
	155	311	±0,19	±0,33

* Excludes CJC accuracy ± 0.35° C / ± 0.63° F

Predrilled Inserts PTCt-155

Predrilled Inserts

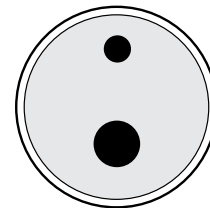
All predrilled inserts have holessensor under test selected diameter and for: 4 mm reference sensor
All inserts are supplied with an insulation plug drilled with the necessary holes.

Sensor Diameter	Order Codes
	PTCt-155
3 mm	127937
4 mm	127938
5 mm	127939
6 mm	127940
7 mm	127941
8 mm	127942
9 mm	127943
10 mm	127944
11 mm	127945
12 mm	127946
13 mm	127947
14 mm	127948
15 mm	127949
Package of Above Inserts	127951

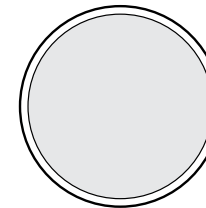
Sensor Diameter	Order Codes
	PTCt-155
1/8 in	127952
3/16 in	127953
1/4 in	127954
5/16 in	127955
3/8 in	127956
7/16 in	127957
1/2 in	127958
9/16 in	127959
5/8 in	127960
Package of Above Inserts	127961

Undrilled Inserts

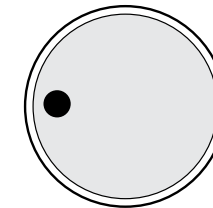
Inserts	Order Codes
	PTCt-155
5-pack, undrilled inserts with no holes	127935
5-pack, undrilled inserts with 1 hole for STS reference sensors (4mm)	127936
Undrilled insulation plug	127969



Predrilled Insert



Undrilled Insert



Undrilled Insert

Inserts for PTCt-155 are made of aluminum. All specifications on hole sizes refer to the diameter of the sensor-under-test.

The correct clearance size is applied in all predrilled inserts.

Ordering information

Inserts are not included with the instrument and must be ordered separately.

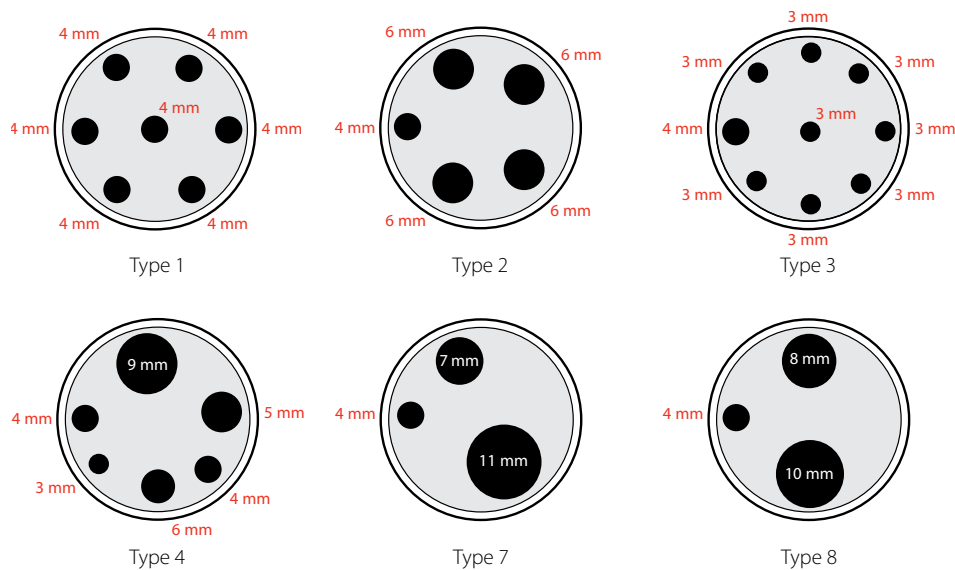
Please refer to the insert selection table to ensure compatibility with your sensor type and diameter.

Multi-Hole Inserts PTcT-155

Multi-Hole Inserts—Metric (mm)

All inserts are supplied with an insulation plug drilled with the necessary holes.

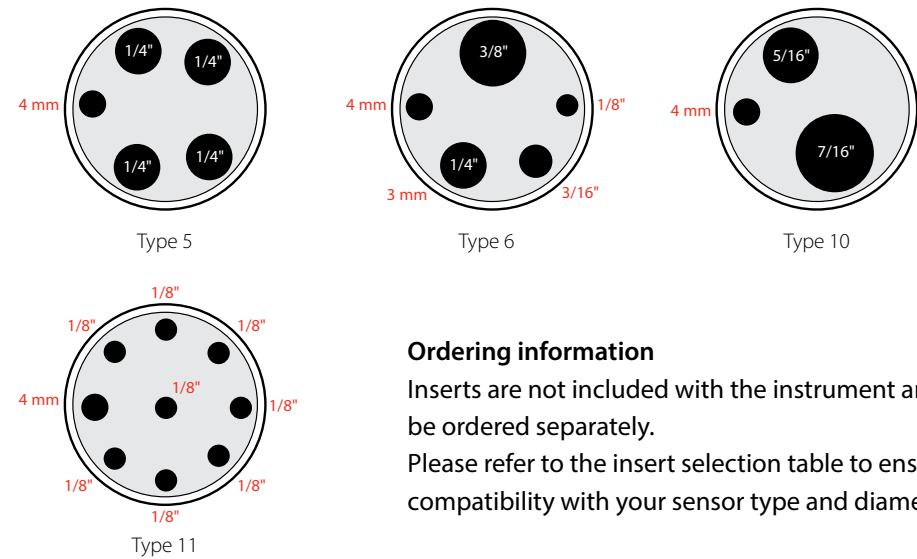
Insert Type	Order Codes
	PTcT-155
Multi-hole Type 1	127962
Multi-hole Type 2	127963
Multi-hole Type 3	127964
Multi-hole Type 4	127965
Multi-hole Type 7	127966
Multi-hole Type 8	127967
Set of 4 Inserts, 3 to 12 mm.	127976



Multi-Hole Inserts—Imperial (in)

All inserts are supplied with an insulation plug drilled with the necessary holes.

Insert Type	Order Codes
	PTcT-155
Multi-hole Type 5	127970
Multi-hole Type 6	127972
Multi-hole Type 10	127973
Multi-hole Type 11	127971
Set of 3 Inserts, 1/8 to 1/2 in.	127977



Ordering information

Inserts are not included with the instrument and must be ordered separately.

Please refer to the insert selection table to ensure compatibility with your sensor type and diameter.

Options & Accessories

Standard Delivery

Models A, B, and C Include:

- PTCT dry-block calibrator (user specified).
- Mains power cable (user specified).
- Traceable certificate - temperature performance.
- Tool for insertion tubes.
- USB cable.
- Set of rubber cones for insulation plugs.
- USB key containing JofraCal software package and reference manual.

Model B Instruments Also Include:

- Test cables (2 x red, 2 x black).
- Traceable certificate - input performance for reference sensor.
- Traceable certificate - input performance for sensor-under-test inputs.

Model C Instruments Also Include:

- Traceable certificate - input performance for reference sensor.

Accessories

Reference sensor STS-150	STS150A915EH
Reference sensor STS-102	STS102A030EH
Extra fixture for sensor grip	125066
Extra sensor grip	125067
Thermocouple Male Plug — Type J — Black	120516
Thermocouple Male Plug — Type K — Yellow	120517
Thermocouple Male Plug — Type N — Orange	120514
Thermocouple Male Plug — Type T — Blue	120515
Thermocouple Male Plug — Type R / S — Green	120518
Thermocouple Male Plug — Type Cu-Cu — White	120519

Optional STS-150 A 915

Temperature Range

-30 to 155° C (-22 to 311° F)

Accuracy

Hysteresis⁽¹⁾ @ 0°C/32°F 0.01°C / 0.02°F
 Long Term Stability⁽²⁾ @ 0°C/32°F typ. 0.016°C / 0.029°F
 Repeatability⁽¹⁾ 0.004°C / 0.007°F

(1) When used in the range -30 to 155° C (-22 to 311° F)

(2) When exposed to 155°C / 311°F for 100 hours. Stability will depend on actual use of the sensor.

Sensing Element

PT100

Dimensions

Diameter 4 mm / 0.16 in
 Length 180 mm / 7.08 in
 Max Height on Calibrator Top 22 mm / 0.87 in

Standard Delivery

STS-150 A Sensor, Plastic Protection Case, Accredited Certificate, Cable, and manual.



Functional Comparison

	Model A	Model B	Model C
Input	None	ref and SUT	ref
Dual-zone heating/cooling block	■	■	■
MVI — Mains Variance Immunity (or similar)	■	■	■
Stability indicator	■	■	■
Automatic step function	■	■	■
USB communication	■	■	■
Display resolution 0.01°C/F/K	■	■	■
Programmable max. temperature	■	■	■
External precision reference sensor input		■	■
"SET" follows "TRUE"		■	■
Input for RTD, TC, mA		■	
4-20 mA transmitter input incl. 24 VDC supply		■	
All inputs scalable to temperature		■	
Automatic switch test (open, close, and hysteresis)		■	



Ordering Information

Base Model Number	
PTCt-155.....	PTCt-155, -25 to 155° C (-13 to 311° F)
Model Version	
A.....	Basic model, without input
B.....	Full model, incl. Reference sensor input, Sensor-under-test input
C.....	Middle model, incl. Reference sensor input
Power Supply (US deliveries 60 Hz only)	
115.....	115 VAC
230.....	230 VAC
Mains Power Cable	
A.....	European, 230 V
B.....	USA/Canada, 115 V
C.....	UK, 240 V
D.....	South Africa, 220 V
E.....	Italy, 220 V
F.....	Australia, 240 V
G.....	Denmark, 230 V
H.....	Switzerland, 220 V
I.....	Israel, 230 V
Insert Type and Size	
NON.....	No insert (The inserts must be ordered separately.)
User Interface Functionality (B model only – optional)	
RG.....	Remote and Graph package
External Reference Sensor (B and C models only – optional)	
R1.....	STS-102 Ref. sensor. Temperature range up to 155° C/311° F
R11.....	STS-150-A-915 Ref. sensor for PTCt-155
Calibration Certificate	
F.....	Traceable Certificate to International standards
H.....	Accredited Certificate – ISO17025
EA.....	Full EURAMET Accredited Certificate – ISO17025
HS.....	System Calibration – Accredited Certificate – ISO17025 (B & C model only)
EAS.....	System Calibration – Full EURAMET Accredited Certificate – ISO17025 (B & C model only)
Accessories	
CX..	Solid Protective Carrying Case
CR..	Solid Protective Carrying Case with Support Rod Set
CT..	Solid Protective Carrying Case with Trolley
SR..	Support Rod Set
TR..	Solid Protective Carrying Case with Trolley & Support Rod Set

Ordering information

Inserts are not included with the instrument and must be ordered separately.

Please refer to the insert selection table to ensure compatibility with your sensor type and diameter.

Sample Order Number

PTCt155B230ANONRGR11EAGTR

JOFRA PTCt-155 B with 230VAC, EU power cord, RG Remote and graph package, 4 mm diameter STS-150 reference sensor, full EA temperature calibration certificate, and carrying case with trolley plus support rod set.

PTCt 155 B 230 A NON RG R11 EA TR

The PTcT Series



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