

# PTC Series

Professional  
Temperature  
Calibrator

PTC-155/350/425/660



# What to expect

## Unique Temperature Performance



The PTC series provides precision temperature calibration of sensors, whatever the type or format. This is accomplished through an innovative **active dual-zone heating technology** where each heating zone is independently controlled for precision temperature calibration.

## Wide Temperature Range



The PTC Series performs calibration over a wide temperature range, making it ideal for many industries and applications.

PTC-155: -25 to 155°C

PTC-350: 33 to 350°C

PTC-425: 33 to 425°C

PTC-660: 33 to 660°C

## 3 Models Available



The PTC Series comes in three different models:

- A** - The calibrator without inputs
- B** - The calibrator with inputs for a reference sensor and device-under-test
- C** - The calibrator with an input for a reference sensor

## Introducing the new PTC-425

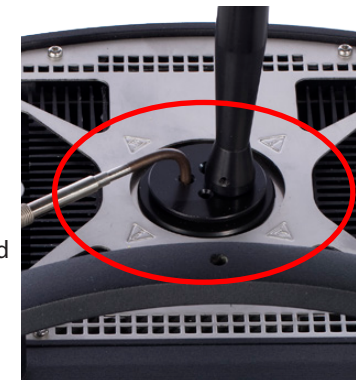


We are pleased to announce our latest model, the PTC-425. It is ideal for sterilization tunnels, or for process validation and monitoring solutions used in the pharmaceutical, medical and food industry. The PTC-425 has a temperature range from 33 to 425°C.

## Unique Reference Sensors

The STS-150 reference sensor is angled at 90° and is only slightly higher than the top of the PTC calibrator.

The unique design makes it possible to calibrate threaded sensors and sensors with connection heads without any problems



## Intelligent Recalibration Information, IRI



To comply with ISO, SOP's and FDA it is imperative that calibration equipment never exceeds the expiration date found on the calibration certificate. The PTC checks the calibration information for the calibrator as well as any connected STS sensor. If the calibration period has expired, a warning will appear on the display. The feature helps prevent costly consequence evaluation.



# Intuitive and fast navigation

## Stability Status

Shows information about the user selected stability criteria, the actual stability status, and estimations for when stability can be expected.

## Reference Temperature

Indicates if the internal or external reference sensor is used, the temperature of that sensor, and whether "Set Follows True" is active.

## Sensor Under Test

Displays the type of sensor under test connected as well as its temperature.

## Menu Bar

Shows the current function possibilities.



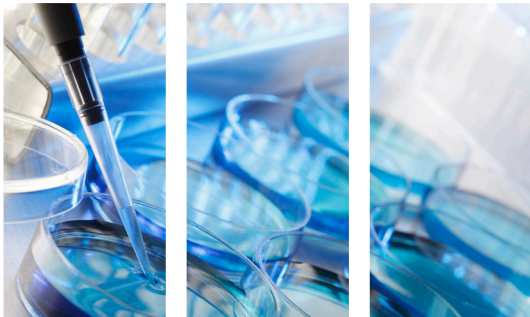
## Keyboard

With the keyboard you can navigate between functions and fill in desired settings such as set temperature, auto test temperature, and switch test temperature.

## Informative Color Display and Easy Operation

The PTC's full color VGA display is very easy to read. The main temperature indications, like SET, READ, TRUE and SUT (Sensor Under Test), are always displayed at all stages of the programming or calibration procedure.

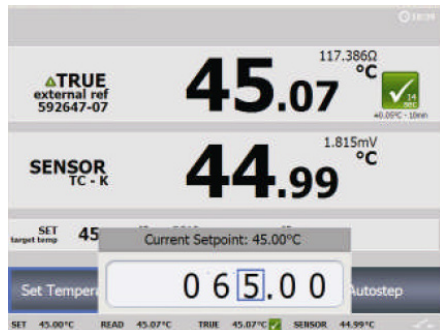
The navigation is very logical to use and the display indicates all important information needed for the current function.



# Integrated functions

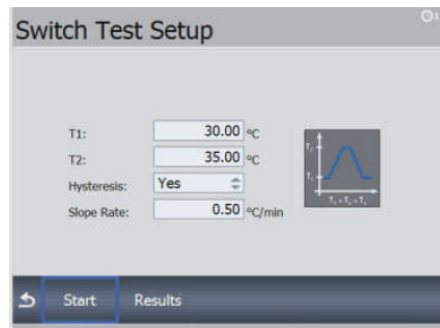
The PTC Series is a flexible calibrator with many integrated functions. Calibrations are completed in one of four ways.

## Set Temperature Function



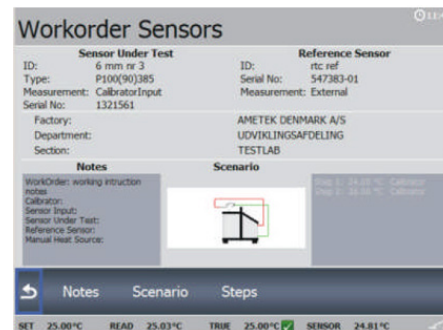
The fastest and simplest way of starting the calibrator. Simply press SET and type in the desired temperature by using the arrow keys.

## Auto Switch Test



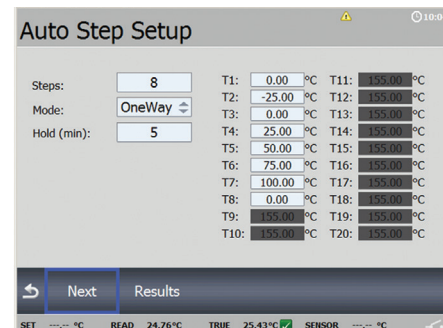
Switch test calibration is a perfect time saver. Start the switch calibration and come back to note the results after the test. You decide if you want the deadband value or not.

## Work Order Calibration Mode



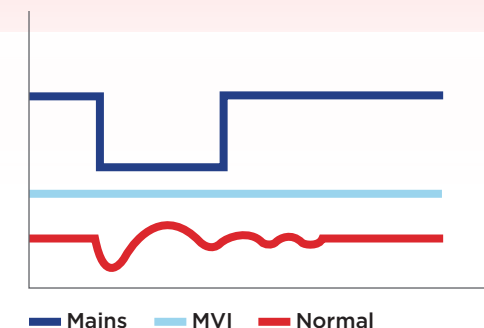
When using JofraCal, a calibration procedure can be downloaded into the PTC - transforming the PTC to a documenting calibrator. Optional function (U1).

## Auto Stepping



In AUTOSTEP mode, you can program as many as 20 temperature steps including dwell times. Just start the sequence and the calibrator will complete the test.

**MVI - Mains Power Variance Immunity** improves temperature stability. Unstable mains power supplies are a major contributor to calibration inaccuracies. Traditional temperature calibrators often become unstable in industrial environments where large electrical motors, heating elements, and other devices are periodically cycled on and off. The cycling of supply power can cause lower quality temperature regulators to perform inconsistently, leading to both inaccurate readings and unstable temperatures. The PTC series employ the MVI, thus avoiding such stability problems. The MVI circuitry continuously monitors the supply voltage and ensures a constant energy flow to the heating elements.



# Get even more

## Calibration Software Included



The PTC is supplied with our highly recommended calibration software JofraCal.

All calibrations can be documented with a certificate, given that the PTC is controlled from a PC. When the calibrator has reached the desired temperature and stability it will prompt you to type in the DUT temperature. JofraCal documents all your calibration needs within temperature, pressure and process calibration.

## Plug and Play Reference Sensors



All STS reference sensors are plug and play as they contain information in the connectors memory chip: Sensor coefficients • Unique serial number • Temperature range • Calibration date • Calibration interval

## Calibrate up to 24 Sensors



Using the PTC together with the ASM, Advanced Signal Multi-scanner, offers a great time-saving automatic solution to calibrate multiple temperature sensors at a same time.

The ASM is an eight-channel scanner controlled by JofraCal on a PC. Up to 3 ASM's can be stacked to calibrate up to 24 sensors at a time.

## Multi-hole Insert Kits



Two special multi-hole insert kits have been developed to comply with calibration of almost any sensor diameter without having to buy numerous inserts.

## Easy to Carry

Users that frequently perform on-site calibrations will appreciate the focus on minimizing the weight of the PTC calibrator.

We have developed new design techniques that have made the PTC lightweight and easy to carry around without compromising its quality, durability and functionality.



## All-in-one Carrying Case



The specially designed carrying case makes it possible to store the STS reference sensors in an optimum physical protection. There is room for inserts and insulation plugs to cover all dimensions and a compartment for wires, manuals, certificates, plugs, insert tools etc.



# Specifications PTC-155

## Temperature

### Temperature Range

Temp. @ ambient 23°C / 73° F ..... **-25 to 155°C / -13 to 311°F**

### Accuracy

\*PTC-155 with internal ref. sensor ..... **±0.18°C / ±0.32°F**

<sup>A</sup>PTC-155 with external STS-150 ref. sensor... **±0.06°C / ±0.11°F**

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

*<sup>A</sup>12-month period. Relative to reference standard. Specifications by use of the external STS-150 reference sensor.*

### Stability

PTC-155 ..... **±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)

PTC-155 ..... **0.01°C / 0.0184°F**

### Settings

Resolution ..... **1 or 0.1 or 0.01**

Units ..... **°C or °F or K**

### Heating Time

PTC-155 ..... **-25 to 23°C / -13 to 73°F ... 4 minutes**

PTC-155 ..... **23 to 155°C / 73 to 311°F ... 12 minutes**

### Cooling Time

PTC-155 ..... **155 to 23°C / 311 to 73°F ... 10 minutes**

PTC-155 ..... **23 to -25°C / 73 to -13°F ... 15 minutes**

### Time to Stability (typical)

PTC-155 ..... **10 minutes**

## Mains Power

Voltage ..... **115 V (90-127) / 230 V (180-254)**

Max Power Consumption ..... **400 W**

Frequency, US deliveries ..... **60 Hz ±5**

Frequency, non US deliveries ..... **50 Hz ±5, 60 Hz ±5**

## Physical Specifications

Dimension L x W x H ..... **362x171x363 mm / 14.3x6.7x14.3 in**

### Weight

PTC-155 ..... **10.3 kg / 22.7 lb**

### Immersion Depth incl. insulation plug

PTC-155 ..... **160 mm / 6.3 in**

### Well Diameter

PTC-155 ..... **26 mm / 1.02 in**

### Insert Dimensions (diameter x length)

PTC-155 ..... **25,8 x 150 mm / 1.02 x 5.91 in**

## Electrical

### Switch Input (dry contact) B Model only

Test Voltage ..... **Maximum 5 VDC**

Test Current ..... **Maximum 2.5 mA**

### Digital Interface

USB 2.0

## Environmental

### 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, non-condensing

### Protection Class

IP-10



STS-150-A

STS-102-A

## External Reference Sensor

STS-102-A ..... **-45 to 155°C / -49 to 311°F**

### Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.01°C / 0.018°F**

Long Term Stability (@ 0°C / 32°F) ..... **0.014°C / 0.025°F**

Repeatability ..... **0.004°C / 0.007°F**

*Note: Stability when exposed to max. temperature for 100 hours*

### Sensing Element

Type ..... **Pt100**

### Response Time

STS-102-A:  $t_{0.5}$  (50%) ..... **5 sec.**

STS-102-A:  $t_{0.9}$  (90%) ..... **16 sec.**

*Note: Liquid in motion, 0.4 m/sec*

### Dimensions

Diameter ..... **4 mm / 0.157 in**

Length ..... **30 mm / 1.18 in**

Max. height over calibrator top ..... **20 mm / 0.79 in**

## External Reference Sensor

STS-150-A ..... **-25 to 155°C / -13 to 311°F**

### Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.01°C / 0.018°F**

Long Term Stability (@ 0°C / 32°F) ..... **0.014°C / 0.025°F**

Repeatability ..... **0.004°C / 0.0072°F**

*Note: Stability when exposed to max. temperature for 100 hours*

### Sensing Element

Type ..... **Pt100**

### Response Time

STS-150-A:  $t_{0.5}$  (50%) ..... **7 sec.**

STS-150-A:  $t_{0.9}$  (90%) ..... **18 sec.**

*Note: Liquid in motion, 0.4 m/sec*

### Dimensions

Diameter ..... **4 mm / 0.157 in**

Length ..... **180 mm / 7.08 in**

Cable length ..... **1 m / 3.28 ft**

# Specifications PTC-350

## Temperature

### Temperature Range

Temp. @ ambient 23°C / 73° F ..... **33 to 350°C / 91 to 662°F**

### Accuracy

\*PTC-350 with internal ref. sensor ..... **±0.2°C / ±0.36°F**

<sup>†</sup>PTC-350 with external STS-150 ref. sensor... **±0.08°C / ±0.15°F**

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

*<sup>†</sup>12-month period. Relative to reference standard. Specifications by use of the external STS-150 reference sensor.*

### Stability

PTC-350 ..... **±0.02°C / ±0.036°F**

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

### Radial Homogeneity (difference between holes)

PTC-350 ..... **0.02°C / 0.036°F**

### Settings

Resolution ..... **1 or 0.1 or 0.01**

Units ..... **°C or °F or K**

### Heating Time

PTC-350 ..... **33 to 350°C / 91 to 662°F ... 7 minutes**

### Cooling Time

PTC-350 ..... **350 to 100°C / 662 to 212°F ... 12 minutes**

PTC-350 ..... **100 to 50°C / 212 to 122°F ... 12 minutes**

### Time to Stability (typical)

PTC-350 ..... **10 minutes**

## Mains Power

Voltage ..... **115 V (90-127) / 230 V (180-254)**

Max Power Consumption ..... **1150 W**

Frequency, US deliveries ..... **60 Hz ±3**

Frequency, non US deliveries ..... **50 Hz ±3, 60 Hz ±3**

## Physical Specifications

Dimension L x W x H ..... **362x171x363 mm / 14.3x6.7x14.3 in**

### Weight

PTC-350 ..... **8.2 kg / 18.1 lb**

### Immersion Depth incl. insulation plug

PTC-350 ..... **140 mm / 5.5 in**

### Well Diameter

PTC-350 ..... **26 mm / 1.02 in**

### Insert Dimensions (diameter x length)

PTC-350 ..... **25,8 x 150 mm / 1.02 x 5.91 in**

## Electrical

### Switch Input (dry contact) B Model only

Test Voltage ..... **Maximum 5 VDC**

Test Current ..... **Maximum 2.5 mA**

### Digital Interface

USB 2.0

## Environmental

### 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, non-condensing

### Protection Class

IP-10

## External Reference Sensor

STS-150-A ..... **0 to 350°C / 32 to 662°F**

### Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.01°C / 0.018°F**

Long Term Stability (@ 0°C / 32°F) ..... **0.014°C / 0.025°F**

Repeatability ..... **0.004°C / 0.007°F**

*Note: Stability when exposed to max. temperature for 100 hours*

### Sensing Element

Type ..... **Pt100**

### Response Time

STS-150-A:  $t_{0.5}$  (50%) ..... **7 sec.**

STS-150-A:  $t_{0.9}$  (90%) ..... **18 sec.**

*Note: Liquid in motion, 0.4 m/sec*

### Dimensions

Diameter ..... **4 mm / 0.157 in**

Length ..... **165 mm / 6.50 in**

Max. height over calibrator top ..... **20 mm / 0.79 in**



STS-150-A

# Specifications PTC-425

## Temperature

### Temperature Range

Range ..... **33 to 425°C / 91 to 797°F**

### Accuracy

\*PTC-425 with int. ref. sensor @ 33 to 350°C . **±0.20°C / ±0.36°F**

\*PTC-425 with int. ref. sensor @ 350 to 425°C **±0.25°C / ±0.45°F**

<sup>4</sup>PTC-425 with external STS-150 ref. sensor. . . **±0.13°C / ±0.23°F**

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

*<sup>4</sup>12-month period. Relative to reference standard. Specifications by use of the external STS-150 reference sensor.*

### Stability

PTC-425. .... **±0.02°C / ±0.036°F**

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

### Radial Homogeneity (difference between holes)

PTC-425. .... **0.02°C / 0.036°F**

### Settings

Resolution ..... **1 or 0.1 or 0.01**

Units..... **°C or °F or K**

### Heating Time

PTC-425. .... **33 to 425°C / 91 to 797°F ... 10 minutes**

*All specifications are given with an ambient temperature 23° C/73.4° F  
± 3° C/5.9° F. Specified at 115 V/230 V.*

### Cooling Time

PTC-425. .... **425 to 100°C / 797 to 212°F ... 25 minutes**

PTC-425. .... **100 to 50°C / 212 to 122°F ... 16 minutes**

### Time to Stability (typical)

PTC-425. .... **10 minutes**

## Mains Power

Voltage ..... **115 V (90-127) / 230 V (180-254)**

Max Power Consumption ..... **1150 VA**

Frequency, US deliveries ..... **60 Hz ±3**

Frequency, non US deliveries..... **50 Hz ±3, 60 Hz ±3**

## Physical Specifications

Dimension L x W x H ..... **362x171x363 mm / 14.3x6.7x14.3 in**

### Weight

PTC-425..... **9.2 kg / 20.3 lb**

### Immersion Depth

PTC-425..... **150 mm / 5.91 in**

### Well Diameter

PTC-425..... **26 mm / 1.02 in**

### Insert Dimensions (diameter x length)

PTC-425..... **25,8 x 155 mm / 1.02 x 6.1 in**

## Electrical

### Switch Input (dry contact)

Test Voltage..... **Maximum 5 VDC**

Test Current..... **Maximum 2.5 mA**

### Digital Interface

USB 2.0

## Environmental

### 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, non-condensing

### Protection Class

IP-10

## External Reference Sensor

STS-150-A..... **0 to 660°C / 32 to 1220°F**

### Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.01°C / 0.018°F**

Long Term Stability (@ 0°C / 32°F) ..... **0.014°C / 0.025°F**

Repeatability..... **0.004°C/ 0.007°F**

*Note: Stability when exposed to max. temperature for 100 hours*

### Sensing Element

Type ..... **Pt100**

### Response Time

STS-150-A :  $t_{0.5}$  (50%) ..... **7 sec.**

STS-150-A:  $t_{0.9}$  (90%) ..... **18 sec.**

*Note: Liquid in motion, 0.4 m/sec*

### Dimensions

Diameter..... **4 mm / 0.157 in**

Length..... **203 mm / 7.99 in**

Max. height over calibrator top..... **38 mm / 1.50 in**



STS-150-A



# Specifications PTC-660

## Temperature

### Temperature Range

Range ..... **33 to 660°C / 91 to 1220°F**

### Accuracy

\*PTC-660 with int. ref. sensor @ 33 to 420°C . **±0.30°C / ±0.54°F**

\*PTC-660 with int. ref. sensor @ 420 to 660°C **±0.50°C / ±0.54°F**

<sup>4</sup>PTC-660 with external STS-150 ref. sensor. . . **±0.15°C / ±0.27°F**

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

*<sup>4</sup>12-month period. Relative to reference standard. Specifications by use of the external STS-150 reference sensor.*

### Stability

PTC-660. .... **±0.04°C / ±0.072°F**

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

### Radial Homogeneity (difference between holes)

PTC-660. .... **0.1°C / 0.18°F**

### Settings

Resolution ..... **1 or 0.1 or 0.01**

Units..... **°C or °F or K**

### Heating Time

PTC-660. .... **33 to 660°C / 91 to 1220°F ... 20 minutes**

*All specifications are given with an ambient temperature 23° C/73.4° F  
± 3° C/5.9° F. Specified at 115 V/230 V.*

### Cooling Time

PTC-660. .... **660 to 100°C / 1220 to 212°F ... 36 minutes**

PTC-660. .... **100 to 50°C / 212 to 122°F ... 15 minutes**

### Time to Stability (typical)

PTC-660. .... **10 minutes**

## Mains Power

Voltage ..... **115 V (90-127) / 230 V (180-254)**

Max Power Consumption ..... **1150 VA**

Frequency, US deliveries ..... **60 Hz ±3**

Frequency, non US deliveries..... **50 Hz ±3, 60 Hz ±3**

## Physical Specifications

Dimension L x W x H ..... **362x171x363 mm / 14.3x6.7x14.3 in**

### Weight

PTC-660..... **8.9 kg / 19.6 lb**

### Immersion Depth

PTC-660..... **150 mm / 5.9 in**

### Well Diameter

PTC-660..... **25 mm / 0.98 in**

### Insert Dimensions (diameter x length)

PTC-660..... **24,8 x 160 mm / 0.98 x 6.30 in**

## Electrical

### Switch Input (dry contact)

Test Voltage..... **Maximum 5 VDC**

Test Current..... **Maximum 2.5 mA**

### Digital Interface

USB 2.0

## Environmental

### 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, non-condensing

### Protection Class

IP-10

## External Reference Sensor

STS-150-A..... **0 to 660°C / 32 to 1220°F**

### Accuracy

Hysteresis (@ 0°C / 32°F) ..... **0.01°C / 0.018°F**

Long Term Stability (@ 0°C / 32°F) ..... **0.014°C / 0.025°F**

Repeatability..... **0.004°C / 0.007°F**

*Note: Stability when exposed to max. temperature for 100 hours*

### Sensing Element

Type ..... **Pt100**

### Response Time

STS-150-A:  $t_{0.5}$  (50%) ..... **8 sec.**

STS-150-A:  $t_{0.9}$  (90%) ..... **26 sec.**

*Note: Liquid in motion, 0.4 m/sec*

### Dimensions

Diameter..... **4 mm / 0.157 in**

Length..... **203 mm / 7.99 in**

Max. height over calibrator top..... **25 mm / 0.94 in**



STS-150-A

# Input Specifications

All input specifications apply to the dry block of the calibrator running at the respective temperature (stable + and additional 20 min. period).  
Input specifications are not applicable to A models.  
Input specifications are valid for PTC-155/350/425/660.

## RTD Reference Input (B & C models only)

Type ..... 4-wire RTD with true ohm measurements\*  
F.S. (Full scale) ..... 400 ohm  
Accuracy (12 months) .....  $\pm(0.003\% \text{ Rdg.} + 0.0007\% \text{ F.S.})$

RTD Type	Temperature		Accuracy	
	°C	°F	°C	°F
Pt100 Reference	-25	-13	$\pm 0.014$	$\pm 0.025$
	0	32	$\pm 0.015$	$\pm 0.027$
	55	131	$\pm 0.017$	$\pm 0.031$
	100	212	$\pm 0.018$	$\pm 0.032$
	155	311	$\pm 0.020$	$\pm 0.036$
	350	662	$\pm 0.028$	$\pm 0.051$
	660	1220	$\pm 0.041$	$\pm 0.074$

\*Note: True ohm measurement is an effective method to eliminate errors from included thermo electrical voltage



## RTD Sensor Under Test Input (B model only)

F.S. (range) ..... 400 ohm  
Accuracy (12 months) .....  $\pm(0.006\% \text{ Rdg.} + 0.002\% \text{ F.S.})$   
F.S. (range) ..... 4000 ohm  
Accuracy (12 months) .....  $\pm(0.006\% \text{ Rdg.} + 0.005\% \text{ F.S.})$   
2-wire ..... add 50 mOhm

RTD Type	Temperature		Accuracy	
	°C	°F	°C	°F
Pt1000 (90) 385	-25	-13	$\pm 0.07$	$\pm 0.12$
	0	32	$\pm 0.07$	$\pm 0.12$
	155	311	$\pm 0.08$	$\pm 0.15$
	350	662	$\pm 0.10$	$\pm 0.18$
Pt500 (90) 385	-25	-13	$\pm 0.12$	$\pm 0.22$
	0	32	$\pm 0.12$	$\pm 0.22$
	155	311	$\pm 0.14$	$\pm 0.24$
	Optional	350	662	$\pm 0.16$
Pt100 (90) 385	-25	-13	$\pm 0.04$	$\pm 0.06$
	0	32	$\pm 0.04$	$\pm 0.06$
	155	311	$\pm 0.05$	$\pm 0.08$
	350	662	$\pm 0.06$	$\pm 0.11$
	660	1220	$\pm 0.08$	$\pm 0.15$

The PTC calibrator has as standard input for resistance sensors and curves such as: Pt100(90)391, Pt100(90)392, H120(90)672

The PTC can optionally be supplied with input for resistance sensors and curves such as: Pt10(90)385, Pt50(90)385, Pt200(90)385, Pt500(90)385, Pt50(90)391, M50(90)428, M100(90)428, Pt100 Mill and YSI-400

## Thermocouple Input

Range .....  $\pm 78 \text{ mV}$   
F.S. (Full scale) .....  $78 \text{ mV}$   
Accuracy .....  $\pm(0.02\% \text{ Rdg.} + 0.01\% \text{ F.S.})$

RTD Type	Temperature		Accuracy	
	°C	°F	°C	°F
E	0	32	$\pm 0.14$	$\pm 0.25$
	155	311	$\pm 0.14$	$\pm 0.25$
	350	662	$\pm 0.17$	$\pm 0.31$
	660	1220	$\pm 0.22$	$\pm 0.40$
J	0	32	$\pm 0.17$	$\pm 0.31$
	155	311	$\pm 0.17$	$\pm 0.31$
	350	662	$\pm 0.23$	$\pm 0.41$
	660	1220	$\pm 0.25$	$\pm 0.45$
K	0	32	$\pm 0.22$	$\pm 0.40$
	155	311	$\pm 0.22$	$\pm 0.40$
	350	662	$\pm 0.26$	$\pm 0.48$
	660	1220	$\pm 0.32$	$\pm 0.57$
T	0	32	$\pm 0.20$	$\pm 0.36$
	155	311	$\pm 0.20$	$\pm 0.36$
	350	662	$\pm 0.19$	$\pm 0.35$
	400	752	$\pm 0.19$	$\pm 0.35$
R	155	311	$\pm 1.56$	$\pm 2.81$
	350	662	$\pm 0.83$	$\pm 1.50$
	660	1220	$\pm 0.75$	$\pm 1.36$
S	155	311	$\pm 1.56$	$\pm 2.81$
	350	662	$\pm 0.92$	$\pm 1.66$
	660	1220	$\pm 0.85$	$\pm 1.53$
B	250	482	$\pm 3.17$	$\pm 5.70$
	350	662	$\pm 2.42$	$\pm 4.35$
	660	1220	$\pm 1.32$	$\pm 2.37$
N	0	32	$\pm 0.30$	$\pm 0.54$
	155	311	$\pm 0.30$	$\pm 0.54$
	350	662	$\pm 0.29$	$\pm 0.52$
	660	1220	$\pm 0.32$	$\pm 0.57$
U	0	32	$\pm 0.20$	$\pm 0.36$
	155	311	$\pm 0.18$	$\pm 0.33$
	350	662	$\pm 0.19$	$\pm 0.35$
	660	1220	$\pm 0.21$	$\pm 0.37$

\*Excl. CJC accuracy  $\pm 0.35^\circ\text{C} / \pm 0.63^\circ\text{F}$

# Inserts

Inserts for PTC-155 and PTC-350 are made of aluminum. Inserts for PTC-425 and PTC-660 are made of brass. All specifications on hole sizes refer to the outer diameter of the sensor-under-test.

The correct clearance size is applied in all predrilled inserts.

## Predrilled Inserts-metric (mm)

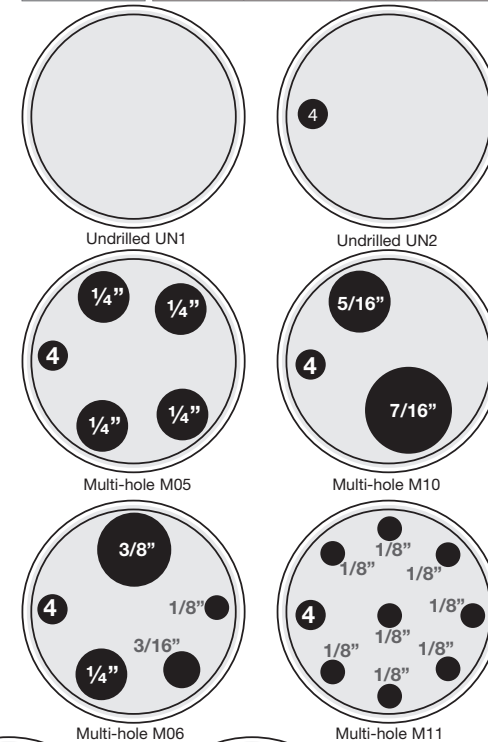
Probe Dia.	Part Numbers				
	Insert Code	PTC-155	PTC-350	PTC-425	PTC-660
3 mm	003	127937	127990	129722	128031
4 mm	004	127938	127991	129723	128032
5 mm	005	127939	127992	129724	128033
6 mm	006	127940	127993	129725	128034
7 mm	007	127941	127994	129726	128035
8 mm	008	127942	127995	129727	128036
9 mm	009	127943	127996	129728	128037
10 mm	010	127944	127997	129729	128038
11 mm	011	127945	127998	129730	128039
12 mm	012	127946	127999	129731	128040
13 mm	013	127947	128000	129732	128041
14 mm	014	127948	128001	129733	128042
15 mm	015	127949	128002	129734	128043
Package of the above inserts	SMM	127951	128004	129743	128045
Multi-hole 1	M01	127962	128015	129697	128056
Multi-hole 2	M02	127963	128016	129698	128057
Multi-hole 3	M03	127964	128017	129699	128058
Multi-hole 4	M04	127965	128018	129700	128059
Multi-hole 7	M07	127966	128019	129701	128060
Multi-hole 8	M08	127967	128020	129702	128061
Set of 4, 3 to 12 mm	SMX	127976	128022	129748	128067

## Predrilled Inserts-imperial (in)

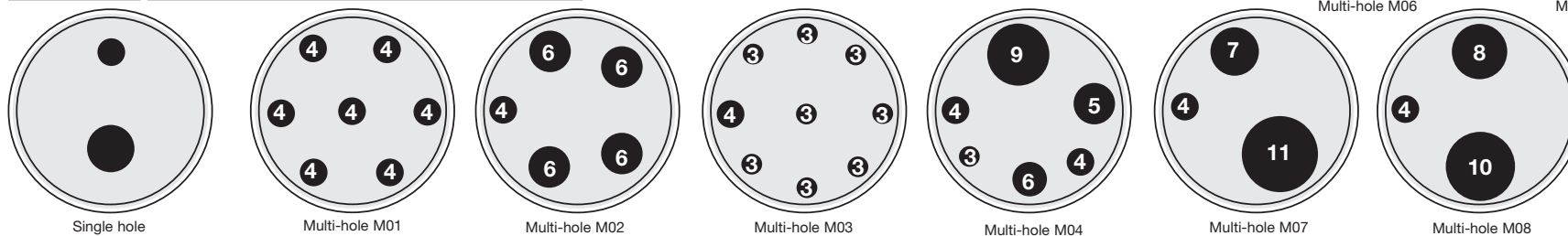
Probe Dia.	Part Numbers				
	Insert Code	PTC-155	PTC-350	PTC-425	PTC-660
1/8 in	125	127952	128005	129735	128046
3/16 in	187	127953	128006	129736	128047
1/4 in	250	127954	128007	129737	128048
5/16 in	312	127955	128008	129738	128049
3/8 in	375	127956	128009	129739	128050
7/16 in	437	127957	128010	129740	128051
1/2 in	500	127958	128011	129741	128052
9/16 in	562	127959	128012	129742	128053
5/8 in	625	127960	128013	n/a	n/a
Package of the above inserts	SIM	127961	128014	129744	128055
Multi-hole 5	M05	127970	128023	129703	128063
Multi-hole 6	M06	127972	128025	129704	128065
Multi-hole 10	M10	127973	128026	129705	128066
Multi-hole 11	M11	127971	128024	129706	128064
Set of 3, 1/8 to 1/2 in	SIX	127977	128027	129749	128068

## Undrilled Inserts

Inserts	Part Numbers				
	Insert Code	PTC-155	PTC-350	PTC-425	PTC-660
5-pack	UN1	127935	127988	129720	128029
w/ref. hole	UN2	127936	128989	129721	128030
Insul. plug		127969	n/a	n/a	n/a



Use of other inserts may reduce performance of the calibrator. To get the best results out of the calibrator, the insert dimensions, tolerance and material is critical. We highly advise using Jofra inserts, as they guarantee trouble free operation.



# Ordering Information

Base Model Number	
PTC155	PTC-155, -25 to 155°C (-13 to 311°F)
PTC350	PTC-350, 33 to 350°C (91 to 662°F)
PTC425	PTC-425, 33 to 425°C (91 to 797°F)
PTC660	PTC-660, 33 to 660°C (91 to 1220°F)

Model Version	
A	Basic model, without input
B	Full model, incl. reference sensor input, Device-under-test input
C	Full model, incl. reference sensor input

Power Supply (US deliveries 60 Hz only)	
115	115 VAC
230	230 VAC

Mains Power Cable Type	
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	Without insert (standard delivery)
UNX	1 x Undrilled insert (Please see insert section for correct code)
XXX	1 x Single hole Insert (Please see insert section for correct code)
MXX	1 x Multi hole insert (Please see insert section for correct code)
SIX	Set of 3 Imperial multi hole inserts, from 1/8" to 1/2"
SMX	Set of 4 Metric multi hole inserts, from 3mm to 12mm
SIM	Complete set of Imperial inserts - inch
SMM	Complete set of Metric inserts - mm

User Interface Functionality (Optional)	
U1	Work Orders, Complete Device-Under-Test types, ect.

STS Reference Sensor (B & 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 PTC-155
R12	STS-150-A-935 Ref. Sensor for PTC-350
R13	STS-150-A-935 Ref. Sensor for PTC-425
	STS-150-A-966 Ref. Sensor for PTC-660

Calibration Certificate	
F	Traceable Certificate to International standards (standard)
H	Accredited Certificate - ISO17025
EA	Full EURAMET Accredited Certificate - ISO17025
HS	System Calibration - Accredited (B & C models only)
EAS	System Calibration - Full EURAMET (B & C models only)

Accessories	
CX	Protective Carrying Case
CR	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

PTC155 B 230 A SMX U1 R11 EA CT

PTC-155 B with 230VAC, EU power cord, set of metric inserts, work orders, STS-150 ref. sensor, full EA temp. calibration certificate, and carrying case with trolley

## Standard Delivery

- PTC dry-block calibrator (user specified)
- Mains power cable (user specified)
- Traceable certificate - temperature performance
- Tool for insertion tubes
- USB containing manual and JofraCal
- USB cable
- PTC-660 includes a Heat Shield
- PTC-155 includes a set of rubber cones
- Model B - extra items:
  - Test cables ( 2 x red, 2 x black)
  - Traceable certificate for reference input
  - Traceable certificate for DUT input
- Model C - extra items:
  - Traceable certificate for reference input



## Accessories

**STS150A915EH**.. Reference sensor for PTC-350

**STS150A966EH**.. Reference sensor for PTC-660 & PTC-425

**STS102A030EH**.. Reference sensor STS-102

**125067**..... Sensor grip

**125066**..... Fixture for sensor grip

**129264**..... Heat Shield

**120516**..... Thermocouple Male Plug, type J, Black

**120517**..... Thermocouple Male Plug, type K, Yellow

**120514**..... Thermocouple Male Plug, type N, Orange

**120515**..... Thermocouple Male Plug, type T, Blue

**120518**..... Thermocouple Male Plug, type R/S, Green

**120519**..... Thermocouple Male Plug, type Cu-Cu, White

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\* ISO 17025 accredited calibration lab.



## EN ISO/IEC 17025 Laboratory accreditation

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