

PTCt Series

Professional Temperature Calibrators

Models: PTCt-125 / PTCt-155 / PTCt-350 / PTCt-425 / PTCt-660



The PTCt Series – a unified platform covering a wide range of temperature calibration applications.

Product Description

A Next-Generation Platform Based on Proven PTC Technology

The JOFRA PTCt Series is a new enhanced generation of dry-block temperature calibrators, building on the proven performance of the PTC platform while introducing a new digital architecture and custom build user interface.

PTCt combines established thermal performance with a modern user interface, enhanced visualization, and extended connectivity, creating a common platform designed for both laboratory and field calibration.

The series is developed to support consistent workflows, improved documentation, and software integration.

One Platform – Multiple Models

The PTCt is designed as a single platform, covering a wide range of temperature calibration needs while maintaining a consistent user experience across all models.

- The same touchscreen user interface across the series
- Shared software structure and workflows
- Consistent handling of sensors, automation, and documentation
- Model-specific temperature ranges, inserts, and performance characteristics

This platform approach simplifies training, operation, and long-term ownership across multiple instruments.

Designed for Modern Calibration Workflows

The PTCt introduces a digital foundation that supports modern calibration requirements without changing established calibration principles.

- Touch-based operation replacing push-button navigation
- Graphical visualization of calibration progress and stability
- Expanded automation and test functions
- Integrated connectivity for documentation and remote access

The result is a calibrator platform that aligns with digital quality systems while remaining intuitive for daily use. instruments.



PTCt Series – Model Overview

PTCt Series – Model Overview

Model	Temperature		External reference accuracy		Stability*	
	°C	°F	°C	°F	°C	°F
PTCt-125	-90 to 125	-130 to 257	±0.07	±0.13	±0.03	±0.054
PTCt-155	-30 to 155	-22 to 311	±0.06	±0.11	± 0.01	± 0.018
PTCt-350	33 to 350	91 to 662	±0.08	±0.14	±0.02	±0.036
PTCt-425	33 to 425	91 to 797	±0.13	±0.23	±0.02	±0.036
PTCt-660	33 to 660	91 to 1220	±0.15	±0.27	±0.04	±0.072

All PTCt models are designed for laboratory and field calibration of temperature sensors. Model selection is primarily based on temperature range and performance requirements.

PTCt Configuration Overview

The PTCt Series is available in a standard base configuration of 3 different models:

- A models: Basic high quality temperature calibrator, internal reference sensor system, auto step functions.
- B Models: Full featured with input for external reference sensor and dual sensor under test inputs and loop supply for transmitters.
- C Models: Integrated reference sensor input, for enhanced accuracy

Add additional functionality by selecting option RG (Remote & Graph).

The overview below summarizes the key differences between the base version and option RG across the entire PTCt Series.

Base version (standard configuration)

- Numeric temperature indication
- Touchscreen operation with fixed status line
- User Interface without graphical trend view
- USB and Ethernet communication
- No web remote access
- No Wi-Fi connectivity

Option RG (extended visualization and connectivity)

- Graphical calibration and stability indication
- Screen duplication and remote access via standard web browser
- Wi-Fi access via external dongle
- Same option functionality available for all PTCt models



User Interface

Purpose-Built User Interface

The PTCt Series features a purpose-built touchscreen user interface designed to support intuitive operation and efficient calibration workflows.

The interface is developed to improve usability and provide clear access to all relevant functions during operation.

PTCt Efficient Navigation and Operation

The user interface provides direct access to frequently used calibration functions, reducing the number of steps required for typical tasks.

Key functions include:

- Calibration
- Auto Calibration (work orders)
- Switch Test
- Auto Step

These functions are accessible through dedicated shortcuts, supporting efficient and

Continuous Status Visibility

A fixed status line is always visible during operation.

This ensures continuous access to key information, including measurement status and system conditions, supporting safe and controlled calibration.

System Setup and Configuration

The PTCt Series provides easy access to system setup and configuration settings.

This allows users to adjust instrument parameters and calibration settings directly from the interface, supporting flexible adaptation to different applications.

Language Support

The user interface supports multiple languages.

Available languages include:

- English
- German
- Chinese
- Japanese
- Russian* (*for Central Asisa only)



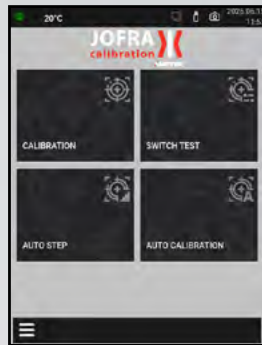
Calibration Screens

Calibration Screens & Basic Functions

The PTCt Series provides a clear and structured presentation of calibration information through a set of dedicated screen views, designed to support daily calibration tasks with minimal interaction.

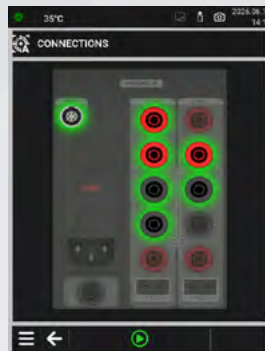
Startup Menu

The startup menu provides direct access to the primary calibration functions immediately after power-up, enabling fast and consistent setup.



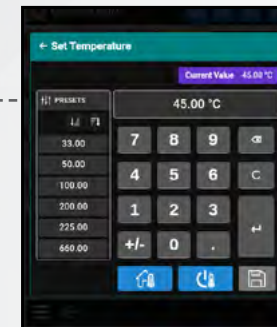
Input Validation Screen

Active inputs are highlighted, and unavailable selections are disabled to prevent incorrect connections.



Main Calibration Screen

The main calibration screen shows current block temperature, reference sensor values, and Sensor-Under-Test readings for continuous monitoring during calibration.



Preset Temperature Selection
Calibration temperatures can be quickly selected using up to six user-defined preset values.



Settings Screen
System, temperature, and communication settings are configured through a dedicated setup screen with clear navigation.

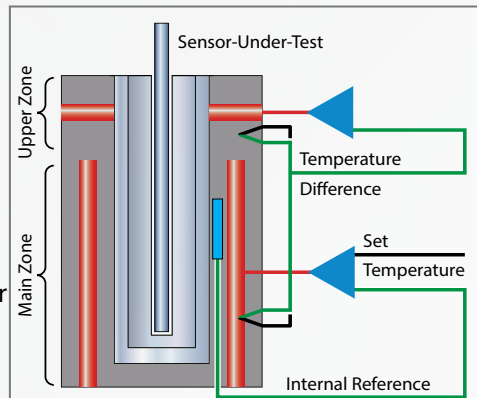
Intelligent Reference Sensors, Unique Sensor Design, and Multi-Hole Insert Kits

The PTCt temperature calibrators come equipped with specialized features that enhance their precision, versatility, and ease of use. These include intelligent reference sensors, uniquely designed sensors for varied applications, and multi-hole insert kits, all of which contribute to efficient and reliable calibration for a diverse range of sensor types and sizes.

Consistent Temperature Performance

The PTCt Series provides precise temperature calibration through active dual-zone heating and cooling technology.

Each heating zone is independently controlled to ensure uniform temperature conditions within the calibration zone. The lower heating zone ensures efficient heat distribution throughout the block, while the upper zone compensates for heat loss from the sensor-under-test and from the open top of the calibrator.



Intelligent Reference Sensors

The PTCt Series supports JOFRA STS-150 intelligent reference sensors, which contain individual calibration data stored directly in the sensor.

This enables plug-and-play operation without manual coefficient handling and allows reference sensors to be exchanged without additional setup. The result is a reliable and repeatable reference measurement with reduced risk of user error.

Unique Sensor Design and Insert Solutions

The STS-150 reference sensors are designed with a compact, angled construction to minimize protrusion above the calibrator. This makes it possible to calibrate threaded sensors and sensors with connection heads without mechanical interference.



Accuracy and Stability

Enhanced Stability, Accuracy, and Support Features

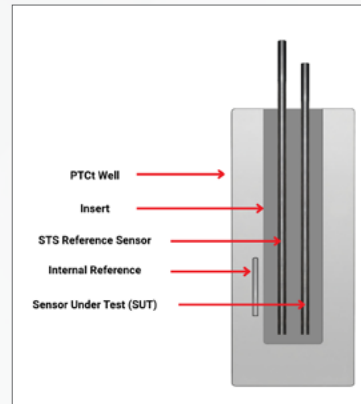
The PTCt temperature calibrators incorporate advanced stability, control, and support features designed to maximize accuracy, ease of use, and operational efficiency. These capabilities make the PTCt platform a reliable solution for industrial and laboratory environments where precise, repeatable temperature calibration is essential.

Auto Stepping for Efficient Multi-Step Calibration

The PTCt series features an Auto Stepping function, which allows users to pre-program up to 20 temperature steps, with customizable hold times at each step. This hands-off approach enables efficient multi-step calibrations, reducing manual intervention and providing consistent, repeatable results for complex applications. For labs and production environments that require repeat calibrations across set temperatures, auto stepping is particularly useful.

Highest Accuracy Calibration with Set-Follows-True (Models B & C)

Selected PTCt models deliver maximum calibration accuracy through the Set-Follows-True function. This feature dynamically adjusts the control setpoint based on real-time readings from an external reference sensor, ensuring that the calibration zone temperature precisely matches the target value. Set-Follows-True eliminates manual corrections and is especially beneficial in applications where tight accuracy requirements and traceability are critical.



Direct Reading of Sensor Under Test (Model B Only)

Selected PTCt models provide direct electrical measurement of the sensor under test, including resistance, thermocouple signals, mA, and voltage. This capability allows real-time monitoring of sensor output during calibration without the need for external measurement instruments. Direct reading enhances flexibility and efficiency in multi-sensor setups and applications requiring immediate feedback.

Support Rod for Sensor Placement

For stable and repeatable sensor positioning, the optional support rod securely holds sensors in place during calibration. The lightweight yet robust design ensures consistent immersion depth and thermal contact, reducing measurement uncertainty caused by sensor movement. This feature is particularly useful in field applications or when calibrating long, heavy, or multiple sensors simultaneously.



MVI – Mains Voltage Immunity

Unstable mains power can significantly affect the accuracy and stability of temperature calibration. In industrial environments, power fluctuations are common due to equipment such as motors, heaters, and other electrical loads being switched on and off. These fluctuations can disturb the temperature control system in traditional calibrators, resulting in unstable temperatures and unreliable readings.

The PTCt Series incorporates Mains Voltage Immunity (MVI) to minimize the influence of power supply variations. By stabilizing the internal control system, MVI ensures that the calibrator maintains consistent temperature performance, even when the external power supply is unstable.

This improves overall temperature stability and supports more reliable and repeatable calibration results.

Option RG

Option RG – Remote & Graph

Option RG is an optional feature package that can be ordered with the PTCt Series. It extends the standard functionality with enhanced visualization, connectivity, and remote access capabilities. Option RG is available for all PTCt models and is intended for applications requiring advanced monitoring, remote access, and improved documentation support.

Wi-Fi Connectivity

When Option RG is selected, the PTCt Series supports Wi-Fi connectivity via an external Wi-Fi dongle. The instrument can operate as a Wi-Fi access point or connect to an existing network, enabling flexible communication and remote access in laboratory and field environments.

Remote Access via Standard Web Browser

Option RG enables remote access to the PTCt user interface through a standard web browser. Screen duplication and remote monitoring are supported over Ethernet or Wi-Fi, allowing the instrument to be observed and accessed without dedicated software. This supports remote supervision and documentation during calibration tasks.

Graphical Calibration Visualization

With Option RG installed, the PTCt Series provides a dynamic graphical view of temperature development during calibration. The graphical display adapts automatically to the calibration process and presents real-time temperature behavior and stability alongside numeric values, supporting clear evaluation of calibration progress.

Support for Documentation and Reporting

Option RG supports improved documentation by combining graphical visualization with remote access. Graphical calibration views and browser-based screen access simplify observation, reporting, and capture of calibration information as part of quality and documentation workflows.



Connectivity - Option RG

Option RG – Integrated Wi-Fi Access Point

The PTCt Series supports an integrated local Wi-Fi access point, enabling direct connection between the calibrator and external devices. This allows the instrument to be accessed without the need for external network infrastructure or existing Wi-Fi networks.

Direct Device-to-Browser Access

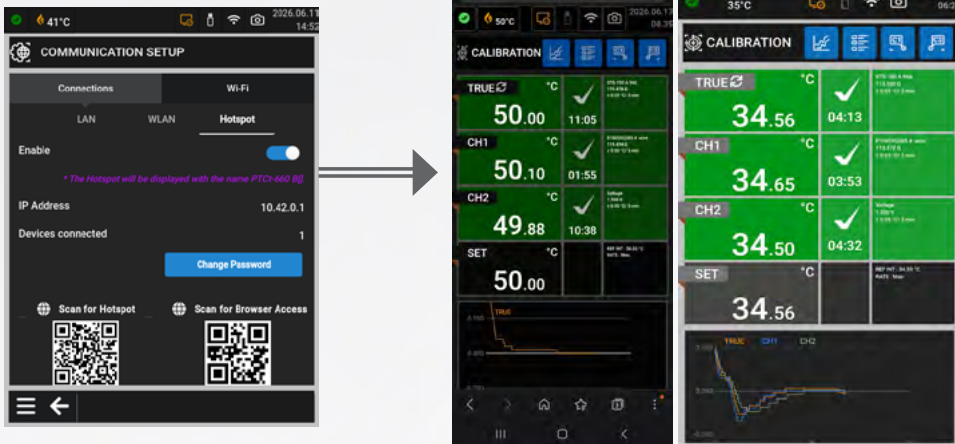
The PTCt Series can be accessed using a standard web browser over Wi-Fi or Ethernet. The integrated web server enables direct communication between the calibrator and connected devices, allowing monitoring and operation without dedicated software installation

Remote Access via Standard Web Browser

Option RG enables remote access to the PTCt user interface through a standard web browser. Screen duplication and remote monitoring are supported over Ethernet or Wi-Fi, allowing the instrument to be observed and accessed without dedicated software. This supports remote supervision and documentation during calibration tasks.

Quick Setup via QR Code

Network connection and browser access can be established quickly using QR codes. This simplifies the setup process and enables fast connection from mobile devices, tablets, and computers.



Remote Operation and Screen Mirroring

The remote interface provides full screen mirroring of the calibrator display. All relevant information, including temperature data, calibration status, and settings, can be viewed remotely, and the instrument can be operated directly from the connected device

No Additional Software Required

The PTCt Series does not require dedicated applications or software for remote access. All functionality is available through standard web browsers, ensuring compatibility across platforms including PC, Android, and iOS devices.



Accessories, Inserts and Service Support

The PTCt Series is supported by a range of accessories and service offerings designed to adapt the calibrator to different applications and to support long-term operation. Detailed information on available inserts, accessories, and package contents is provided in the individual PTCt model specification sheets.

Inserts

Available insert configurations and dimensions are specified in the individual PTCt model specification sheets.

A comprehensive range of standard inserts is available to cover most common sensor diameters for both industrial and laboratory applications.

Custom-designed inserts can also be provided to meet specific application requirements.



Carrying Cases

Model specific carrying cases are available for safe transport and storage of the PTCt calibrator and accessories.

The case supports field use and protects the instrument during transport between calibration tasks.



Flexible system configuration

The PTCt Series is designed as a flexible calibration platform that can be configured to meet a wide range of application requirements.

Users can select from a comprehensive range of inserts, reference sensors, and accessories to match specific calibration needs. This ensures optimal performance for different sensor types, dimensions, and application environments.

The modular approach allows the system to be tailored for both laboratory and field use, supporting efficient calibration workflows across industries.

Calibration Certificates and Service Support

AMETEK JOFRA provides calibration and service solutions to support the full lifecycle of the PTCt Series.

PTCt calibrators can be delivered with calibration certificates issued by AMETEK JOFRA to support traceability and quality system requirements.

Optional Accredited calibrations available in more variants

Service support includes recalibration, maintenance, repair, and technical support provided through AMETEK JOFRA service centers and authorized partners worldwide.

Ordering information

The PTCt Series is available in multiple configurations to meet a wide range of calibration requirements, including model variants, insert options, sensors, and accessories. For detailed ordering information and configuration structure, please refer to the individual product specification sheets.



Singapore

Tel +65 6484 2388

jofra@ametek.com

USA, Florida

Tel +1 (800) 527 9999

cal.info@ametek.com

USA, California*

Tel +1 (800) 444 1850

crystal@ametek.com

India

Tel +91 22 2836 4750

jofra@ametek.com

China, Shanghai

Tel +86 21 5868 5111

jofra.sales@ametek.com.cn

China, Beijing

Tel +86 10 8526 2111

jofra.sales@ametek.com.cn

United Kingdom

Tel +44 (0) 1243 833 302

caluk.sales@ametek.com

France

Tel +33 (0) 30 68 89 40

general.lloyd-instruments@ametek.fr

Germany

Tel +49 (0) 2159 9136 510

info.mct-de@ametek.de

Denmark*

Tel +45 4816 8000

jofra@ametek.com

*ISO 17025 accredited calibration lab.

ametekcalibration.com

No part of this document may be reproduced or modified in any form or by any means, electronic or mechanical, without express written permission from JOFRA.

©2023 AMETEK Incorporated

JOFRA calibration  / **AMETEK** 