Temperature dry-well calibrator
Compact version
Model CTD9100-375

Applications

- Testing and calibration of temperature measuring instruments
- Reference instrument for on-site laboratories for the calibration of thermometers
- Also suitable for on-site calibration

Special features

- High accuracy and stability
- Possibility to check temperature switches
- Low weight and compact design
- Simple operation



Temperature dry-well calibrator model CTD9100-375

Description

Versatile in application
Nowadays, fast and simple testing of thermometers is a “must” when it comes to the operational safety of machines and plants.
The portable calibrators of the CTD9100 family are particularly suited to local calibration tasks and extremely user-friendly. Due to their compact design and their low weight, the instruments can be taken and used almost anywhere. The model CTD9100-375 in particular is characterised by its robust case and compact dimensions.

The instrument concept brings together a stable heat source with precision Pt100 temperature measurement. This enables industrial temperature probes to be calibrated even more efficiently. Regular monitoring of temperature probes helps to recognise failures promptly and shorten downtimes.

Easy to use
The temperature dry-well calibrators of the CTD9100 family work with temperature-controlled metal blocks and interchangeable inserts.

The calibration temperature, adjusted simply using two keys on the controller, can be very quickly controlled. The set temperature of the heating block is displayed on a large, 4-line, high-contrast LED display. Thus reading errors are virtually eliminated.

Thermometers with different diameters can be fitted into the calibrator using inserts, drilled to suit. A new block design, with improved temperature homogeneity at the calibrator‘s lower range, leads to smaller measurement uncertainties.

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Smart in sensing

Specifications

Basic information		
Temperature range	T_{amb} ... 375 °C [T_{amb} ... 707 °F]	
Accuracy	→ See table „Accuracy specifications“	
Temperature stability	→ See table „Accuracy specifications“	
Temperature control		
Heating time	From 20 °C to 300 °C [From 68 °F to 572 °F]	6 min
Cooling time	From 300 °C to 60 °C [From 572 °F to 140 °F]	14 min
Stabilisation time	Time before reaching a stable measuring value. Dependent on temperature and temperature probe	
Metal block		
Immersion depth	100 mm [3.94 in]	
Insert dimensions	Ø 13 x 100 mm [Ø 0.51 x 3.94 in]	
Dry-well material	Aluminium	
Digital display instrument		
Display	4 digit 7-segment LED display	
Display range	0 ... 999.9	
Resolution	0.1	
Unit	°C	
Communication		
Interface	RS-232	
Weight	1.7 kg [3.8.1 lb]	

Accuracy specifications	
Temperature range	T_{amb} ... 375 °C [T_{amb} ... 707 °F]
Accuracy [1]	±0.5 K
Temperature stability [2]	±0.05 K to 100 °C [212 °F]
Temperature distribution [1]	Determined in accordance with current calibration guideline in a standard insert.
Axial homogeneity	±0.25 K
Hysteresis	±0.1 K

1) Is defined as the measuring deviation between the measured value and the reference value.
2) Maximum temperature difference at a stable temperature over 30 minutes.

Voltage supply and performance data	
Operating voltage	■ AC 230 V, 50/60 Hz ■ AC 110 V, 50/60 Hz
Power consumption	250 VA
Fuse	2 x Microfuse T3.15AL250V
Power cord	■ Europe ■ USA/Canada ■ Switzerland ■ UK

Operating conditions	
Place of use	Only for indoor use
Operating altitude	To 2,000 m [6,562 ft] above sea level
Operating temperature	0 ... 50 °C [32 ... 122 °F] The ambient temperature influences the heating/cooling behaviour
Storage and transport temperature range	-10 ... +60 °C [14 ... 140 °F]
Humidity	< 80 % relative humidity to 31 °C [88 °F] Decreasing linearly to 50 % relative humidity at 40 °C [104 °F]
Condensation	Non-condensing
Electrical safety	
Overvoltage category	II
Pollution degree	2 per IEC-61010-1

Approvals

Logo	Description	Region
CE	**EU declaration of conformity**	European Union
	EMC Directive EN 61326 emission (group 1, class B) and immunity (industrial environment)	
	Low Voltage Directive	
	RoHS directive	

Certificates

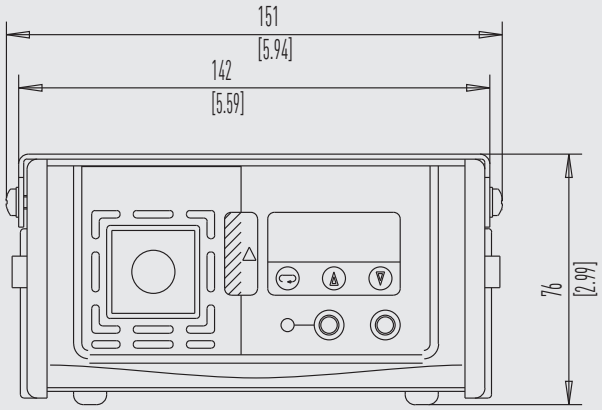
Description	
Calibration [1]	■ 3.1 inspection certificate per EN 10204 ■ DAkkS calibration certificate (traceable and accredited in accordance with ISO/IEC 17025)
Recommended calibration interval	1 year (dependent on conditions of use)

1) Calibration in a horizontal position.

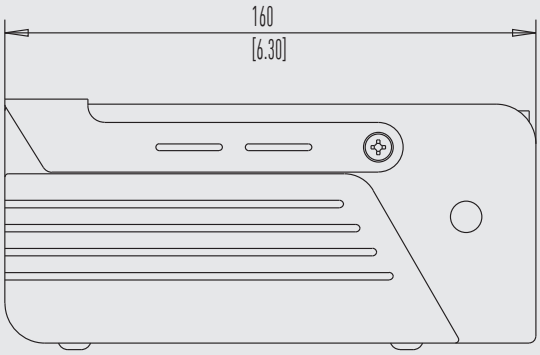
→ For approvals and certificates, see website

Dimensions in mm [in]

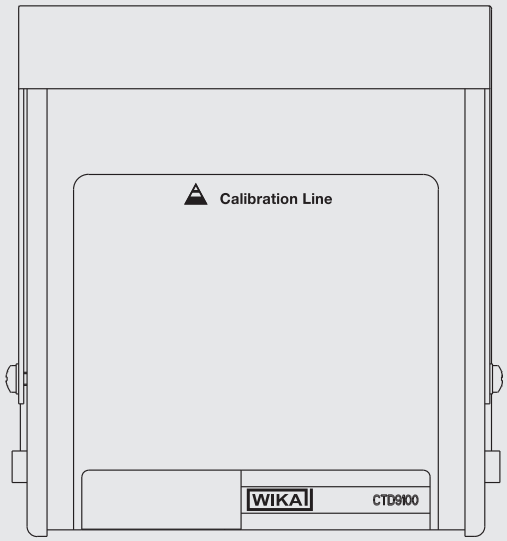
View from the front



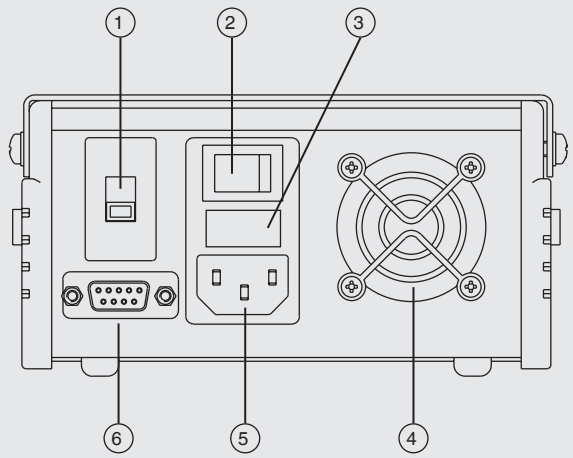
View from the left



View from above



Rear



1. Selection of the mains voltage
2. ON/OFF switch
3. Fuse
4. Fan
5. Mains connection socket
6. RS-232 interface

Design and controls



1. Display
2. Controls
3. Sockets for temperature switch test
4. Handle
5. Insert with opening for test item

Accessories and spare parts

Accessories		Order code
Description [1]		CTX-A-K3
	**Insert replacement tool**	-RT-
-	**Transport case**	-TB-
	**Power cord for EU**	-EU-
	Power cord for Switzerland	-CH-
	Power cord for UK	-UK-
	Power cord for USA/Canada	-US-
Ordering information for your enquiry:		
	1. Order code: CTX-A-K3 **2. Option:**	⇓ [ ]

1) The figures are an example and may change depending on the state of the art in design, material composition and representation

Inserts		Order code
Description [1]		CTA9I-1N
	**Undrilled insert** Dimensions: Ø 13 x 150 mm [Ø 0.51 x 3.94 in] Material: Brass 2.0375	-N-
	**Drilled insert** Dimensions: Ø 13 x 150 mm [Ø 0.51 x 3.94 in] Drilling depth: 95 mm [3.74 in] Material: Brass 2.0375	-
	For thermometers with diameters up to 2.7 mm [0.11 in] Bore diameter: 1 x 3 mm [1 x 0.12 in]	-3-

Inserts		Order code
Description [1]		**CTA9I-1N**
	For thermometers with diameters up to 3.2 mm [0.13 in] Bore diameter: 1 x 3.5 mm [1 x 0.14 in]	-4-
	For thermometers with diameters up to 4.7 mm [0.19 in] Bore diameter: 1 x 5 mm [1 x 0.20 in]	-5-
	For thermometers with diameters up to 6.3 mm [0.25 in] Bore diameter: 1 x 6.5 mm [1 x 0.26 in]	-6-
	For thermometers with diameters up to 7.2 mm [0.28 in] Bore diameter: 1 x 7.5 mm [1 x 0.30 in]	-7-
	For thermometers with diameters up to 8.2 mm [0.32 in] Bore diameter: 1 x 8.5 mm [1 x 0.33 in]	-8-
	For thermometers with different diameters Bore diameter: 1 x 5.0 mm and 1 x 3.5 mm [1 x 0.20 in and 1 x 0.14 in]	-I-
	Bore diameter: 1 x 5.0 mm and 1 x 6.5 mm [1 x 0.20 in and 1 x 0.26 in]	-X-
	Bore diameter: 1 x 3.5 mm and 1 x 4.5 mm [1 x 0.14 in and 1 x 0.18 in]	-K-
	Bore diameter: 2 x 4.5 [2 x 0.18 in]	-L-
-	Customer-specific, special probes are possible on request.	-?-
Ordering information for your enquiry:		
	1. Order code: CTA9I-1N **2. Option:**	⇓ **[ ]**

1) The figures are an example and may change depending on the state of the art in design, material composition and representation

Scope of delivery

- Temperature dry-well calibrator CTD9100-375
- Power cord 1.5 m [5 ft]
- Insert with bore 6.2 mm [0.24 in]
- Insert replacement tools
- Operating instructions
- Calibration certificate

Ordering information

Model / Certificate type / Transport case / Power cord / Further approvals / Additional ordering information

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We reserve the right to make modifications to the specifications and materials.

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