

CTC 652

Compact Temperature Calibrator



- **Temperature Range: 28 °C to 652 °C**
- **Multi Sensor Calibration**
- **IRI – Intelligent Recalibration Information**
- **Plug and Play reference sensors**
- **Broad range of inserts**
- **Reference sensor protection**



Specifications

Temperature Range:

@ Ambient 23°C / 73°F	28°C to 650 °C / 82 to 1202°F
@ Ambient 0°C / 32°F	5°C to 650 °C / 41 to 1202°F

Accuracy:

In lower 40 mm incl. Stability, Uniformity, 12-month drift (typical), Hysteresis, Resolution , Load (Max. 6 mm) and calibration laboratory uncertainty

CTC 652 with Internal Reference Sensor

@ 650°C / 202°F	±0.65°C / ±1.17°F
@ 400°C / 752°F	±0.60°C / ±1.08°F
@ 200°C / 392°F	±0.50°C / ±0.90°F

CTC 652 with External Reference Sensor STS-200-A-970

@ 650°C / 202°F	±0.45°C / ±0.81°F
@ 400°C / 752°F	±0.40°C / ±0.72°F
@ 200°C / 392°F	±0.35°C / ±0.63°F

Stability:

±0.05°C / ±0.09°F

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

Radial Homogeneity (difference between holes)

CTC 652 @650°C / 202°F	0.08°C / 0.14°F
CTC 652 @400°C / 752°F	0.03°C / 0.054°F

Infuence From Load Ø6mm 28 to 650°C / 82 to 1202°F

With Internal Reference	0.1°C / 0.18°F
With External Reference	0.03°C / 0.054°F

Settings

Resolution	1 or 0.1 od 0.001
Units	°C or °F or K

Heating Time: 23 to 650°C / 73 to 1202°F 33 minutes

Cooling Time: 650 to 100°C / 1202 to 212°F 48 minutes
100 to 50°C / 212 to 122°F 25 minutes

Time to Stability (typical): 5 minutes

Mains Power:

Voltage: 115 V (103-127) / 206 V (180-254)
103V-127VAC/206-254VAC 47-63Hz for full temperature range. At mains voltage below 103VAC/206VAC maximum temperature will be reduced.

Max. Power Consumption 1150 VA
Frequency: (non US) 50 Hz ±3, 60 Hz ±3

Instrument Weight:

Instrument Dimensions (L x W x H): 248 x 148 x 390 mm
Immersion Depth: 190 mm

Well Diameter: 26 mm
Insert Dimension (diameter x length): 25.7 x 200 mm

Electrical:**Switch Input (dry contact)**

Test Voltage:	max. 14 VDC
Test Current:	max. 1 mA
Digital Interface	USB 2.0 Device

Environmental:

Operating Temperature:	0 to 50°C / 32 to 122°F
Storage Temperature:	-20 to 50°C / -4 to 122°F
Humidity:	5 to 90% Rh, non-condensing
Protection Class:	IP-10

External Reference Sensor: STS-200-A-970 0 to 700°C / 32 to 1292°F

Accuracy

Hysteresis (@0°C / 32°F)	0.01°C / 0.018°F
Long Term Stability (@0°C/32°F)	0.016°C / 0.029°F
Stability when exposed to maximum temperature for 100 hours. Stability will depend on actual use of the probe.	
Repeatability	0.002°C / 0.0036°F

Sensing element Pt100

Response Time

STS-200-A-970, $t_{0,5}$ (50%)	8 sec
STS-200-A-970: $t_{0,9}$ (90%)	26 sec.

Dimensions

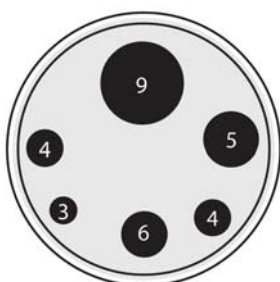
Diameter	4 mm
Length	241 mm
Max. height over calibrator top	35 mm

Please note:

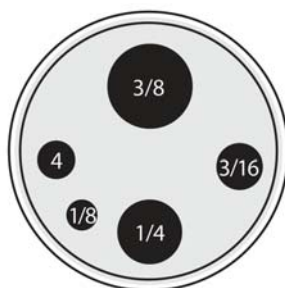
All specifications are given with an ambient temperature 23°C/73.4°F ±3°C / 5.9°F and specified at 115V / 230V

Inserts for CTC 652 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.

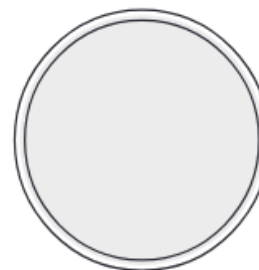
Predrilles Inserts-metric (mm)	Predrilles Inserts-imperial (in)	Undrilles Inserts
Probe Dia.	Probe Dia.	Without ref. hole With ref hole
3 mm	1/8 in	
4 mm	3/16 in	
5 mm	1/4 in	
6 mm	5/16 in	
7 mm	3/8 in	
8 mm	7/16 in	
9 mm	1/2 in	
10 mm	9/16 in	
11 mm	5/8 in	
12 mm	11/16 in	
13 mm	13/16 in	
14 mm	3/4 in	
15 mm	Package of the above inserts	
16 mm	Multi-hole	
18 mm		
20 mm		
Package of the above inserts		
Multi-hole		



Mult-hole (mm)



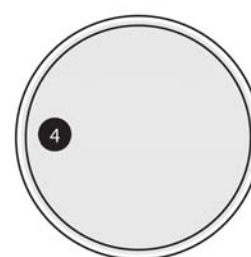
Mult-hole (in)



Undrilled

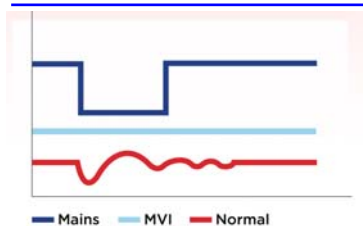
Use of other inserts may reduce performance of the calibrator. To get the best results out of the calibrator, the insert dimensions, tolerance and material is critical. We highly advise using Jofra inserts, as they guarantee trouble free operation.

Do you need a customized insert?
Please contact us for more information.



Undrilles w/ref. hole

MVI – Improved Temperature Stability „Mains power Variance Immunity”



Unstable mains power supplies are a major contributor to on-site calibration inaccuracies. Traditional temperature calibrators often become unstable in production environments where large electrical motors, heating elements, and other devices are periodically cycled on or off. The cycling of supply power can cause the temperature regulator to perform inconsistently leading to both inaccurate readings and unstable temperatures.