

# CTC 155 / 350 / 660

## Dry-block calibrator



- **Wide temperature range:** CTC-155: -25 to 155°C  
CTC-350: 28 to 350°C  
CTC-660: 28 to 660°C
- **Fast calibration**
- **External reference sensor**
- **External sensor control**
- **Easy to carry**



## Multi-Information Display

### Calibration Settings

Shows the actual calibration settings for reference sensor and Stability criteria. Can be accessed and changed directly in the display by use of the arrow keys.

### Status Bar

Shows information about recalibration due status and hot/ cold safety warnings and keeps track on date and time.

### Calibration Status

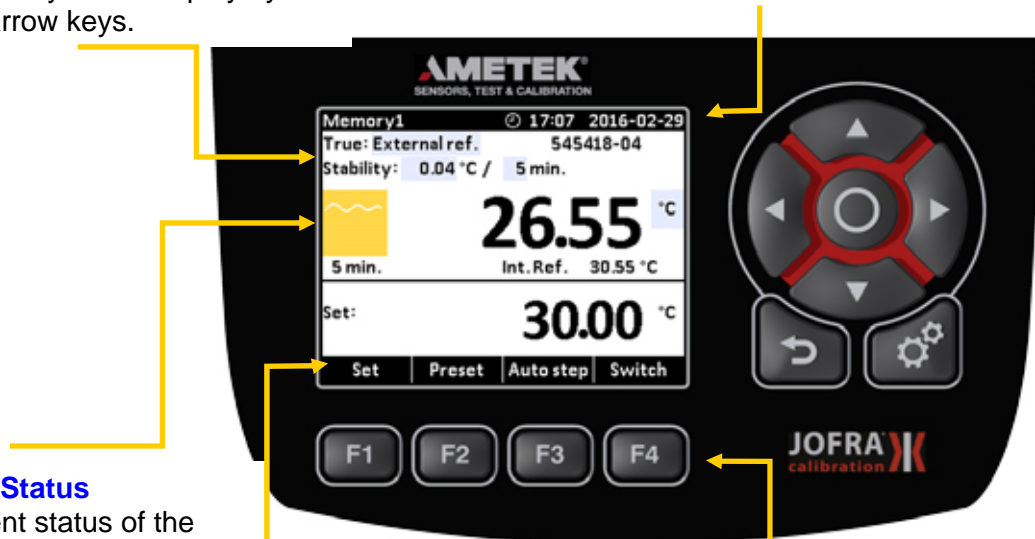
Shows current status of the calibrator, like heating/cooling, stability achieved and expected time to stability.

### Functions Bar

Shows the current possibilities of the function keys.

### Function Keys

The function keys serve as shortcuts to the main functions like Set, Reset, Auto step and Switch test. When entering one of the functions the function key shows the options within the selected function.



### Informative color display and intuitive operation

The CTC series is designed with an easy to read and very informative color display that gives you a full overview of the calibration task you currently are performing.

## Useful Features

- Set function
- Preset mode
- Auto Switch Test
- Auto Stepping

## Special features

- Multi sensor calibration
- IRI – Intelligent Recalibration Information
- Plug and Play reference sensors
- Broad range of inserts
- Reference sensor protection

## Specifications CTC-155

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**Temperature range:**

Temp. @ ambient 23°C / 73°F	-25 to 155°C / -13 to 311°F
Temp. @ ambient 0°C / 32°F	-39 to 155°C / -38 to 311°F
Temp. @ ambient 50°C / 104°F	-7 to 155°C / -19 to 311°F

**Accuracy:**

CTC-155 with internal ref. sensor	±0.3°C / ±0.54°F
CTC-155 with STS-102	±0.2 °C / ±0.36°F
CTC-350 with STS-120	±0.2 °C / ±0.36°F

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

**Stability:**

±0.04 °C / ±0.07°F

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

**Radial Homogeneity (difference between holes)** 0.04°C / ±0.072°F°**Settings**

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

**Heating time:** 23 to 155°C / 73 to 311°C 13 minutes**Cooling time:** 155 to 23°C / 311 to 73°F 12 minutes**Cooling time:** 23 to -25°C / 73 to -13°F 16 minutes**Time to stability (typical)** 10 minutes**Mains Power:**

Voltage: 115 V (90-127) / 230 V (180-254)  
Max. Power Consumption 1150 VA  
Frequency: 50 Hz ±5, 60 Hz ±5

**Instrument dimensions (L x W x H):** 248 x 148 x 305 mm

Instrument weight: 5.5 kg

Immersion depth: 120 mm

Well diameter: 26 mm

Insert Dimension (diameter x length): 25.8 x 100 mm

**Electrical:**

Switch Input (dry contact)

Test voltage: max. 14VDC

Test Current: max. 1 mA

Digital Interface

USB 2.0

**Enviromental:**

Operating temperature: 0 to 50°C

Storage Temperature: -20 to 50°C

Humidity: 5 to 90% Rh, non-condensing

Protection Class: IP-10

## External reference sensor (Pt100)

STS-120-A-915

-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 / 0.007°F

### Responsetime

STS-120-A  $t_{09}$  (90%)

18 sec.

### Dimensions

Diameter

4 mm

Length

140 mm

Max. height over calibrator top

20 mm



## External reference sensor (Pt100)

STS-102-A

-50 to 155°C / -58 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

0.002°C / 0.0036°F

### Responsetime

STS-120-A  $t_{09}$  (90%)

16 sec.

### Dimensions

Diameter

4 mm

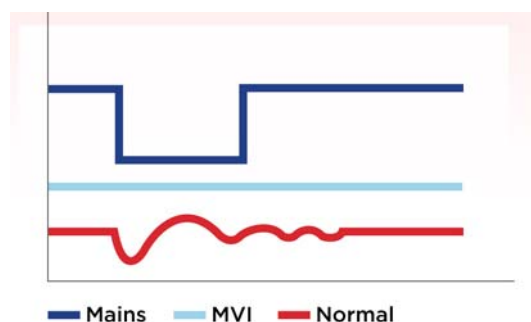
Length

30 mm

Cable length

1 mm

## MVI – Improved temperature stability



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.

## Specifications CTC-350

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<b>Temperature range:</b>	28 to 350°C / 82 to 662°F	
Lowest Calibration temperature	ambient +5°C / 41°F	
<b>Accuracy:</b>		
CTC-350 with internal ref. sensor	±0.45°C / ±0.81°F	
CTC-350 with STS-120	±0.25 °C / ±0.45°F	
<b>Stability:</b>	±0.05 °C / ±0.09°F	
Measured after the stability indicator has been on for 10 minutes. Measuring time is 30 minutes.		
<b>Radial Homogeneity (difference between holes)</b>	0.04°C / ±0.072F°	
<b>Settings</b>		
Resolution	1 or 0.1 od 0.001	
Units	°C or °F or K	
<b>Heating time:</b>	23 to 350°C / 73 to 662°C	6 minutes
All specifications are given with an ambient temperature 23°C/73.4°F ±3°C/5.9°F. Specified at 115V/230V.		
<b>Cooling time:</b>	350 to 100°C / 662 to 212°F	18 minutes
<b>Cooling time:</b>	100 to 50°C / 212 to 122°F	13 minutes
<b>Time to stability (typical)</b>	10 minutes	
<b>Mains Power:</b>		
Voltage:	115 V (90-127) / 230 V (180-254)	
Max. Power Consumption	1150 VA	
Frequency:	50 Hz ±5, 60 Hz ±5	
<b>Instrument dimensions (L x W x H):</b>	248 x 148 x 305 mm	
Instrument weight:	5 kg	
Immersion depth:	115 mm	
Well diameter:	26 mm	
Insert Dimension (diameter x length):	25.7 x 120 mm	
<b>Electrical:</b>		
Switch Input (dry contact)		
Test voltage:	max. 14VDC	
Test Current:	max. 1 mA	
Digital Interface		
USB 2.0		
<b>Enviromental:</b>		
Operating temperature:	0 to 50°C	
Storage Temperature:	-20 to 50°C	
Humidity:	5 to 90% Rh, non-condensing	
Protection Class:	IP-10	

**External reference sensor (Pt100)**

STS-120-A-913

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

**Responsetime**STS-120-A  $t_{09}$  (90%)

18 sec.

**Dimensions**

Diameter

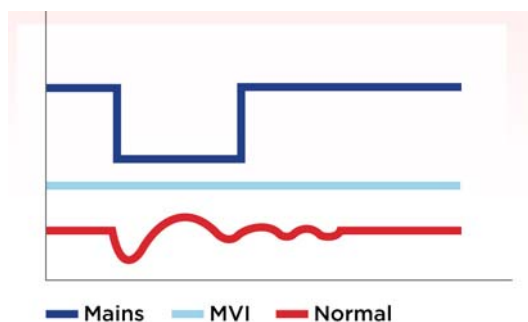
4 mm

Length

135 mm

Max. height over calibrator top

110 mm

**MVI – Improved temperature stability**

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## Specifications CTC-660

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<b>Temperature range:</b>	28 to 660°C / 82 to 1220°F	
Lowest Calibration temperature	ambient +5°C / 41°F	
<b>Accuracy:</b>		
CTC-660 with internal ref. sensor	±0.85°C / ±1.531°F	
CTC-660 with STS-120	±0.45 °C / ±0.8°F	
<b>Stability:</b>	±0.08 °C / ±0.14°F	
Measured after the stability indicator has been on for 10 minutes. Measuring time is 30 minutes.		
<b>Radial Homogeneity (difference between holes)</b>	0.1°C / ±0.18F°	
<b>Settings</b>		
Resolution	1 or 0.1 od 0.001	
Units	°C or °F or K	
<b>Heating time:</b>	23 to 660°C / 73 to 1220°C	18 minutes
All specifications are given with an ambient temperature 23°C/73.4°F ±3°C/5.9°F. Specified at 115V/230V.		
<b>Cooling time:</b>	660 to 100°C / 1220 to 212°F	39 minutes
<b>Cooling time:</b>	100 to 50°C / 212 to 122°F	18 minutes
<b>Time to stability (typical)</b>	5 minutes	
<b>Mains Power:</b>		
Voltage:	115 V (90-127) / 230 V (180-254)	
Max. Power Consumption	1150 VA	
Frequency:	50 Hz ±5, 60 Hz ±5	
<b>Instrument dimensions (L x W x H):</b>	248 x 148 x 305 mm	
Instrument weight:	6.1 kg	
Immersion depth:	115 mm	
Well diameter:	26 mm	
Insert Dimension (diameter x length):	25.7 x 120 mm	
<b>Electrical:</b>		
Switch Input (dry contact)		
Test voltage:	max. 14VDC	
Test Current:	max. 1 mA	
Digital Interface		
USB 2.0		
<b>Enviromental:</b>		
Operating temperature:	0 to 50°C	
Storage Temperature:	-20 to 50°C	
Humidity:	5 to 90% Rh, non-condensing	
Protection Class:	IP-10	

### External reference sensor (Pt100)

STS-120-A-966

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

### Responsetime

STS-120-A  $t_{09}$  (90%)

26 sec.

### Dimensions

Diameter

4 mm

Length

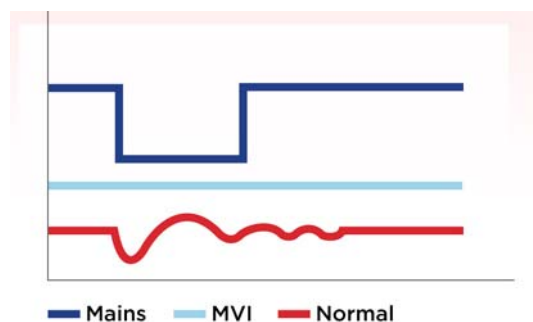
151 mm

Max. height over calibrator top

25 mm



## MVI – Improved temperature stability



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## Inserts

Inserts for CTX-155 and CTC-350 are made of aluminium. Inserts for CTC-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. All CTC-155 inserts include an insulation plug.

### Predrilled Insert metric

Probe Diameter	CTC-155	CTC-350	CTC-660
3 mm	•	•	•
4 mm	•	•	•
5 mm	•	•	•
6 mm	••	•	•
7 mm	•	•	•
8 mm	•	•	•
9 mm	•	•	•
10 mm	•	•	•
11 mm	•	•	•
12 mm	•	•	•
13 mm	•	•	•
14 mm	N/A	•	•
15 mm	N/A	•	•
16 mm	N/A	•*)	•*)
18 mm	N/A	•*)	•*)
20 mm	N/A	•*)	•*)
Multi-hole	•	•	•

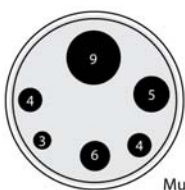
\*) No reference hole in insert.



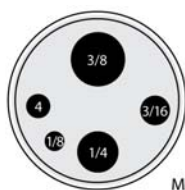
### Undrilled Inserts

Inserts	CTC-155	CTC-350	CTC-660
5-pack	•	•	•
with ref. hole	•	•	•

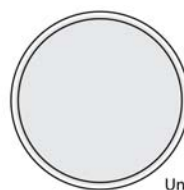
Typical weight            75 g            170 g            510 g



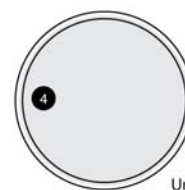
Multi-hole M01



Multi-hole M02



Undrilled



Undrilled w/ref. hole

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 advice using our inserts, as the guarantee trouble free operating.

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