Dry Block Calibrators

50°C to 650°C

Wide Temperature Range

CALsys 650M offer a wide temperature range from 50 °C to 650 °C

Lightweight, Portable

The CALsys 650M block is ideal for Industrial/ Laboratory field use. It only weighs about 10 kg.

Speed

The CALsys 650M heats up from ambient to +650 °C in 20 minutes and cools down to 100°C in 80 minutes.

Accuracy and performance

The CALsys 650M is an easily portable unit that also provides excellent calibration accuracy and with stability ± 0.05° at 650 °C.

Computer Interface

The communication port (LAN) enables communication with selected CALsys 650M calibrators.

CALsys 650 M

Metrology grade Automatic
Temperature Calibrator

The Tempsens make metrology grade CALsys 650 M is a user friendly, highly accurate easy to use dry block calibrator with enhanced speed and portability. It offers best in class accuracy stability, axial uniformity, radial uniformity, loading and hysteresis. All parameter features the highest available performance and well adopted for characterization and performance validation for contact type temperature sensors like thermocouple, RTD, temperature gauges for a wide temperature ranges. The comparison volume is a metallic block of special material, which has a diameter of 38mm and 190mm long.

The CALsys 650 M Upgraded with automatic temperature calibration system for the Thermocouple and RTDs. The system consists of Temperature bath and PC software, which together contribute to the whole cycle of auto calibration process. The system accept 4 channels, 4 Thermocouples or 4 RTDs. The connection for these channels through special type of locking connectors. The channel configuration can be done with LCD display via touch screen keypad. The thermocouple microvolt & RTD ohm reading for each channel is monitored with CJC compensation. After the calibration process complete the PC software generates a report of actual calibrated values for the inputs.

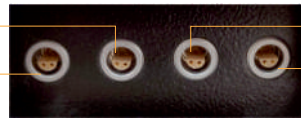## Specifications

CALsys 650 M

Temperature range	50°C to 650°C
Display Accuracy	±0.2°C
Stability	±0.01°C at 50°C
	±0.02°C at 350°C
	±0.05°C at 650°C
Axial Uniformity (40mm)	±0.09°C at 50°C
	±0.22°C at 350°C
	±0.35°C at 650°C
Axial Uniformity (60mm)	±0.12°C at 50°C
	±0.30°C at 350°C
	±0.60°C at 650°C
Radial Uniformity	±0.03°C at 50°C
	±0.05°C at 350°C
	±0.09°C at 650°C
Loading Effect	±0.05°C
Hysteresis	±0.07°C
Insert OD dimensions	38mm
Immersion depth	160mm
Cooling time	70 min (650°C to 100°C)
Heating time	20 min
Stability time	15-20 min
Set Point Resolution	0.1°C
Units	°C, F and K, User Selectable
Display	5 Inch LCD, Color touch display
Power requirements	230 VAC or 110 VAC 50/60 Hz 1 KW
Calibration	Accredited calibration certificate provided (Optional)
Environmental Operating conditions	0°C to 40°C
PC Interface	LAN
Size (HxWxD)	400(H)x230(W)x305(D) mm
Weight	10kg
Input (Autocal 1200)	**Four channels (one master and three test sensors), High quality universal LEMO connector suitable both for T/C (J, K, N, T, R, S, B type) and RTD**
Software (Autocal 1200)	**The calibrator will be provided with software for data recording (Manual Mode) and Excel generation in Auto Mode**

The Calibration system provides calibration upto four channels i.e. one master and three test sensors.

Connection for First TEST Sensor ———
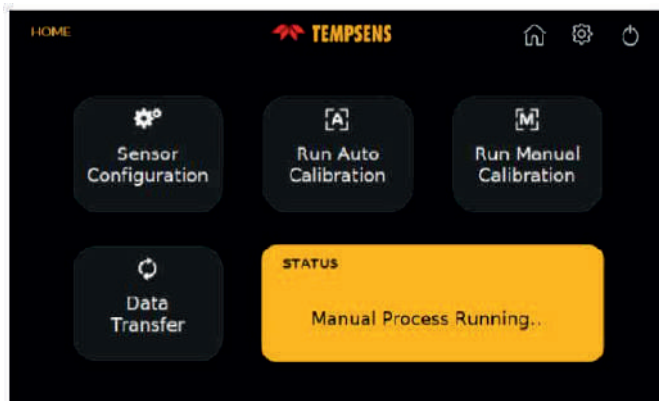Connection for MASTER Sensor ———

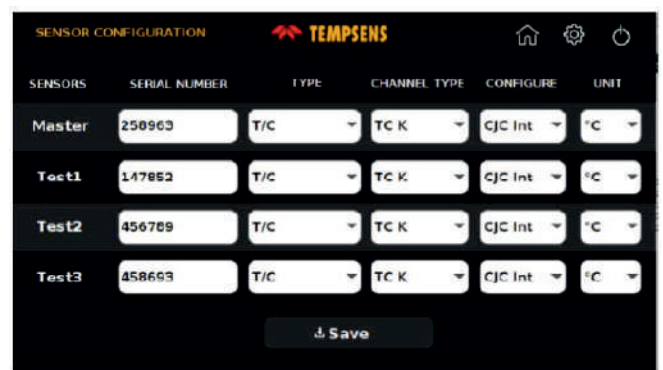——— Connection for Second TEST Sensor
——— Connection for Third TEST Sensor

User Interface

Home Screen: In this screen user can select sensor configuration (for selection of type of sensors), mode of operation (auto / manual) and data transfer (file transfer). This window also shows the on going process.
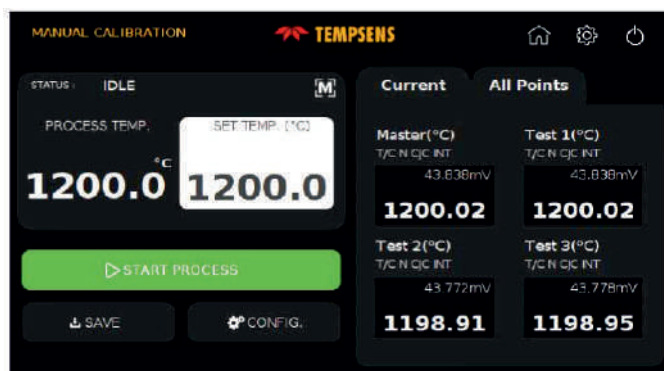
Sensor Configuration: In this screen user select the sensors Thermocouple (J, K, B, N, R, S, T type) / RTD (PT 100, PT 1000, PT50 etc.) for calibration with their serial number and temperature unit (C/F/K).
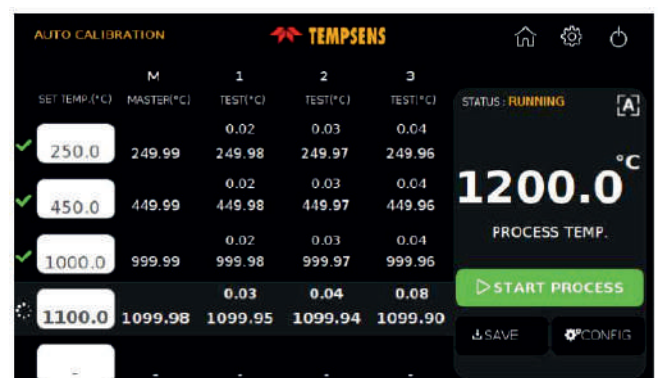

CALsys 650 M have two operating modes i.e. Manual and Auto mode

Manual Mode: In this screen user set the temp. Point for calibration and on clicking start process button the process of calibration starts
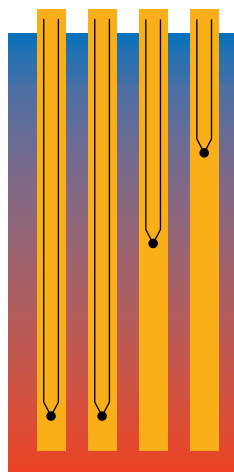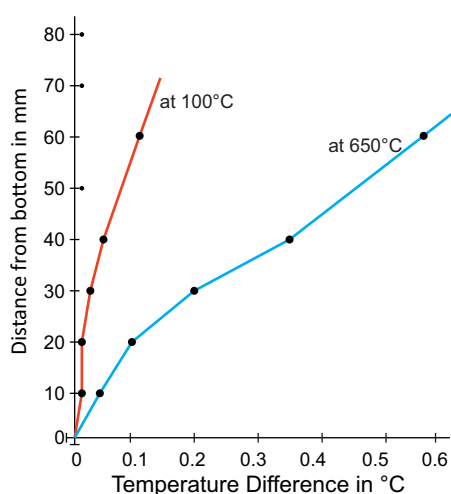
Auto Mode : In this screen user sets the temperature Points for calibration (Max 5 Points)

SOFTWARE : Tempsens make Easy to use Customized software enables end user to access temperature data both for Manual mode and Automode

Axial Uniformity

ACCESSORIES

- **Inserts for CALsys 650 M models**
  Inserts for CALsys 650 M are made of special material have multiholes of 4x6.5mm. All specifications on hole size based on outer diameter of the sensor under test.

  *We also offer customized hole size based on Customer requirements.

- **Reference Standard Thermocouple ('N' Type T/C)**

- **Calsoft Software**

- **Operational Manual**

- **Carry Case**

- **NABL accredited calibration certificate (Optional)**