

# Temperature Simulator (Model TCS 4060)



Masibus Model 4060 is a micro-controller based temperature simulator. This is an ideal device to handle all of your temperature calibration needs in a truly rugged, low cost package. It combines measurement and simulation of mV, 7 different thermocouples and RTD Pt 100. It provides highly accurate, stable & fast reading, enhancing calibration productivity.

Micro controller and 24 bit ADC is embedded in one silicon package that gives excellent accuracy, resolution & fast response. 16 character x 2 line bold LCD display provides interactive calibration data display and mode programming. It uses membrane switches for setting the output in simulation mode.

Preset value setting is possible in simulation mode. Various setting like low, mid, high and step value can be entered that makes the calibration process very fast and error free. Random value selection is possible in selection mode using key pad. Engineering unit is user selectable between °C or °F. Cold junction compensation for thermocouple is also user selectable between automatic or manual.

The product is designed to guarantee minimum current consumption ensuring optimized battery life. The instrument is powered using rechargeable battery of standard 'AA' size. It is supplied with an external charger and leather carrying case for hands-off field work.

Calibration certificates traceable to national standards are provided with all calibrators. Calibration is carried out in the Masibus' Calibration Lab which has been accredited with ISO 9002 certification from UL.

## Features

- *Micro-controller based temperature simulator*
- *User-friendly menu driven operation*
- *High accuracy & resolution*
- *Digital Simulation- no trim pots*
- *16 character x 2 Line alphanumeric bold LCD display*
- *Measures & simulates TC/ RTD/ mV*
- *Rechargeable 'AA' size Ni-MH cells*
- *Handy & Portable*
- *Automatic CJC*
- *3 programme preset value in SIM mode*

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4060

**TECHNICAL SPECIFICATIONS****TCS 4060****Display**

16 character x 2 Line alphanumeric LCD display

**Keyboard**

10 key tactile keys

**Source & Sense**

Thermocouple E, J, K, T, B, R, S

Voltage 0-100 mV DC

RTD Pt 100 (0-850.0 °C)

**Thermocouple & mV Specification**

| Type   | Temp Range °C | Min mV | Max mV  | Resolution | Accuracy  |
|--------|---------------|--------|---------|------------|-----------|
| E-Type | -200 : 1000   | -8.824 | 76.358  | 0.1 °C     | ±0.5 °C   |
| J-Type | -200 : 1200   | -7.890 | 69.536  | 0.1 °C     | ±0.5 °C   |
| K-Type | -200 : 1370   | -5.891 | 54.807  | 0.1 °C     | ±0.5 °C   |
| T-Type | -200 : 400    | -5.603 | 20.869  | 0.1 °C     | ±0.5 °C   |
| B-Type | 450 : 1820    | 1.002  | 13.814  | 0.1 °C     | ±1.0 °C   |
| R-Type | 0 : 1750      | 0.000  | 20.878  | 0.1 °C     | ±1.0 °C   |
| S-Type | 0 : 1750      | 0.000  | 18.504  | 0.1 °C     | ±1.0 °C   |
| mV     |               | -9.000 | 100.000 | 0.001 mV   | ±0.010 mV |

**"QUICK-CHECK" Switches**

Low, Mid &amp; High

**CJ Compensation**

User Selectable - Auto / Manual

**Calibration**Calibration of Zero, Span & DAC Output through Software and Key board.  
No trim-pots.**Indication**

Under and Over Limit Indication

**Warm Up Time**

15 Minutes maximum for all ranges

**Battery**

6 Nos. of 1.2V, 1200mAH rechargeable 'AA' size Ni-MH cells

**Battery Discharging Time**

Sensing mode                      Approx. 24 Hrs.

Source mode                         Approx. 24 Hrs.

**Battery Charging Time**

14 to 16 hours for full charge

**BAT indication**

" &lt; " indication will display on Last character of First line of the LCD display if battery voltage is below 6.8 V.

" &gt; " indication will display on Last character of First line of the LCD display if battery is fully charged ( &gt; 7.5 V) or charger is connected to it.

**Data Entry**

Through 10 Key keypad.

**General**

Power Supply                         7.2 V, 1200mAH rechargeable Battery

Operating Temperature             0 to 50 °C

Storage Temperature                0 to 60 °C

Relative Humidity                    up to 95 % RH non-condensing.

Power consumption                  Less than 10 VA

Authorized Dealer:  
Digital Promoters (India) Pvt .Ltd. 505, Vishal Bhavan, 95, Nehru Place,  
New Delhi – 110019 Phone: 011 – 41618100, Fax: 26437849,  
digitalpromoters@gmail.com, www.DigitalPromoters.com

**TECHNICAL SPECIFICATIONS****TCS 4060****Physical**

Case                                      Black color case of ABS material with IP40 protection

Dimensions                            200(L) x 100(W) x 40(H) (all in mm)

Weight                                    Less Than 500 gms

Charger Jack                            At left hand side

**Accessories**

6 nos. Ni-MH rechargeable battery

Power adapter for 230VAC

2 sets of test leads &amp; shorting links

Operation manual

Traceable calibration certificate

Carrying pouch

**Re Calibration and training**

Masibus CAL-LAB carries out periodic re-calibration of calibrators and also offers calibration training as a professional service for our customers.

**ORDERING CODE****TCS 4060**

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