

## Loop Calibrator (Model TCS 4050 M)

4050 M



Masibus' Model TCS 4050M is a precision loop calibrator designed to provide significantly extended performance compared to any competitive calibrator with an accuracy of 0.05% of full scale with 1 $\mu$ A resolution. Model TCS 4050M can power and read two-wire transmitter for its calibration or can simulate transmitters to calibrate read out instruments. Above feature makes this calibrator most popular amongst the engineers and technicians in the process industry.

Model TCS 4050M Loop Calibrator is a micro-controller based calibrator, capable of measuring and simulating mV and mA signals. 18-bit ADC & 4 $\frac{1}{2}$  digit LCD display provides high resolution and accuracy for field or laboratory usage. This calibrator does not use any potentiometric knob which are prone to maintenance and drift. It uses digital setting through membrane keys that offers drift free long term performance and stability even in hostile environments.

In mA mode, four operating modes make the product more flexible and versatile. This enables the Model TCS 4050M to calibrate any instrument connected in current loop, hence the name 'Loop Calibrator'. Model TCS 4050M also has simulation facility for mV signal from 0-200mV that can be used to calibrate any other process instruments.

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 9001- 2008 certification from UL laboratories.

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. Various modes of operation are illustrated on the back cover of the instrument itself for quick reference connection in the field.

## Features

- *High accuracy of  $\pm 0.05\%$  FS*
- *High resolution 1 $\mu$ A*
- *Display facility in value and %*
- *Potentiometer free digital setting*
- *Bold, 4 $\frac{1}{2}$  digit LCD display*
- *Loop power measurement facility*
- *2W SIM and READ POWER mode*
- *Preset output for zero/span or in steps of 10% & 25%*
- *Powered by rechargeable battery*
- *Light weight, handy, portable unit*

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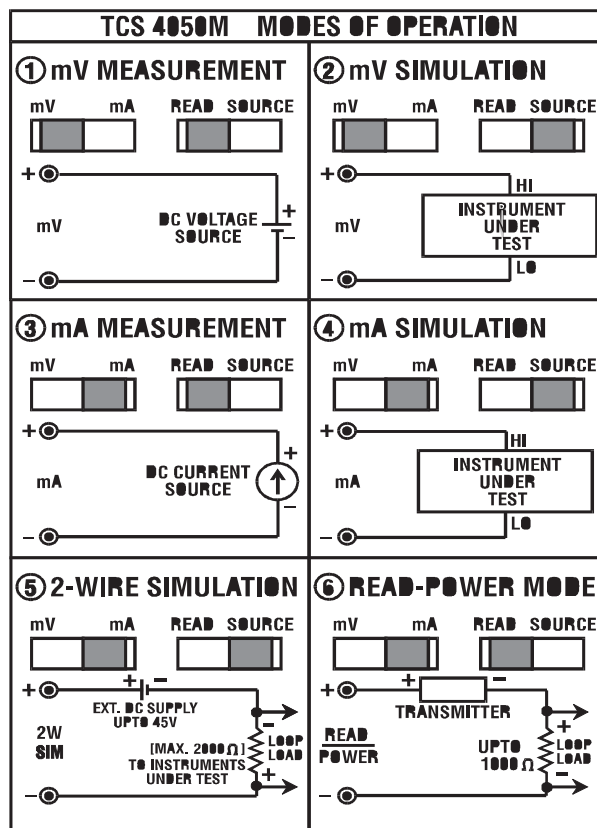
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## TECHNICAL SPECIFICATIONS

4050 M

<b>Range</b>	mV : -20 to 200 mV (250 mV in over range) mA : 0 to 20 mA (25 mA in over range)
<b>Resolution</b>	mV : 10 $\mu$ V (100 $\mu$ V in over range) mA : 1 $\mu$ A (10 $\mu$ A in over range)
<b>Accuracy</b>	mV : $\pm$ (0.03% F.S. + 1 count) mA : $\pm$ (0.05% F.S. + 1 count)
<b>Display</b>	4½ Digit 0.5" seven segment LCD
<b>Output Loading</b>	mV : 10 mA mA : 1000 Ohms at 20 mA with internal battery supply 2400 Ohms at 20 mA with external main supply
<b>Protection</b>	Reverse polarity, current limiting and over voltage
<b>Battery</b>	6 Nos. of 1.2V rechargeable cells AA size
<b>Battery Life</b>	Measurement mode : 20 Hrs. 20 mA source mode : 4 Hrs.
<b>Battery Charging Time</b>	14 Hrs. for full charge.
<b>LO Bat Indication</b>	Provided
<b>Output Setting</b>	By Key continuous or in steps of 10% or 25%.
<b>Zero/Span Setting</b>	By individual key for quick check.
<b>Operating Temperature</b>	0 to 50 °C
<b>Relative Humidity</b>	0 to 90% RH (non-condensing)
<b>Dimensions</b>	40 mm (H) x 100 mm (W) x 200 mm (L)
<b>Weight</b>	Less than 500 gms
<b>Accessories</b>	6 nos. Ni-Cd rechargeable battery Power adapter for 230VAC 2 sets of test leads & shorting links Operation manual Traceable calibration certificate Carrying pouch
<b>Re Calibration and training</b>	Masibus CAL-LAB carries out periodic re-calibration of calibrators and also offers calibration training as a professional service for our customers.

## MODES OF OPERATION



## ORDERING CODE

TCS 4050M Loop Calibrator