



Intcal SM - 10 FEATURES

VARIETIES OF INPUTS AND OUTPUTS: Intcal SM-10 simultaneously measures Standard Instrumentation standard HIGH LEVEL signals like 4-20mA, 0-20mA, Two wire Transmitters simulation, 0-10V, 1-5V and 0-2V.

EASY CONFIGURATION & INTERACTIVE DISPLAY MESSAGES: Intcal SM-10 is easily configurable to any of its working mode with few key strokes. The LCD graphics display interacts with the operator displays error messages, Displays Data Logger Contents and guides him during logging.

LOGGING OF FIELD DATA FOR CALIBRATION REPORT: Intcal SM-10 can log calibration data and identification data, like Tag no., sl no., etc., of upto 20 field instruments and can be made to upload this to a PC to generate calibration report.

SETTING AND READING IN PERCENTAGE & DIRECT DIGIT ACCESS : Source or Meter can be set in terms of percentage of span of the selected range. This makes calibration of transmitters, receiver indicators and recorders with percentage scale easier. Setting of source output can be made either through numerical keys or through UP/DOWN arrow keys by accessing digit by digit. This facilitates accurate calibration of Alarm modules / Limit value cards.

MEMORY STEPPING and SINGLE KEY FUNCTIONS: Each source has eleven non volatile memory locations to user programmed source settings. The source can output them in sequence, to facilitate calibration re-check. Setting source output to range maximum or minimum of any selected range is done with single key stroke to make calibration less tiresome.

BATTERY PROTECT FUNCTIONS: Intcal SM-10 warns the operator if the battery voltage is low and shuts off itself to protect the battery. The Auto Power Off function switches off Intcal SM-10 if there is no keypad activity for 20 minutes.

About SM-10.....

Intelligent field Calibrator Intcal SM-10 from MCIH is a highly convenient instrument designed for the instrumentation industry. Intcal SM-10 has versatile features for calibrating and checking receiver instrument, DCS I/Os, Transmitters, Converters etc., either in workshop or on site. It is a portable instrument with internal rechargeable batteries.

Triple Task : Intcal SM-10 does three prime tasks of sourcing, measuring and calibration data logging all at a time, under the control of a micro processor. When connected to a PC, Intcal SM-10 generates calibration reports with the powerful software SM DB-10

Triple Benefit : Intcal SM-10 helps to achieve accurate, fast and reliable calibration. Every Intcal SM-10 is STQC certified 0.01% accuracy, and thus suits the requirements of ISO 9000 clients. The function features of SM-10 maximise the convenience to facilitate fast calibration. Above all, the internal calibration of SM-10 is tamperproof, with password protection to offer the highest calibration reliability.

More insight into the functional features will reveal the uniqueness of Intcal SM-10 among the calibrators in the market

TYPICAL APPLICATION

E/E Converter Calibration: The SOURCE display indicates generated input to converter, The SENSE display indicates output of the converter.

Transmitter Simulation : Intcal SM-10 replaces a transmitter in the field for in loop calibration of receivers/signal converters. The source display indicates the simulated input to the receiver in the control room.

Source of voltage / Current signals: The SOURCE display indicates the generated input to the instruments to be calibrated. The output of Intcal SM-10 can be set in terms of percentage of selected range.

Report Generation & CAC: Intcal SM-10 uploads the logged calibration data to a IBM compatible personal computer. The powerful SM DB-10 software performs computer Aided calibration and generates calibration report.

GENERAL SPECIFICATIONS

Display	: 5 character Alpha Numeric LCD 6.45x10.75mm character size.	Dimensions	: 21cm (W) x 9cm (H) x 23cm (D)
Back light	: LED Backlight	Material	: Industrial ABS enclosure
Signal I/O	: 4 mm Banana sockets	Operating Temp.	: 0 to 50°C
Power supply	: 12V 2Ahr battery,	Storage Temp.	: 0 to 60°C
		Humidity	: 95% Non condensing

CHARGE TIME/LIFE

Time taken for full charge	:	14 to 16 hrs with the standard mains adaptor provided
Battery charge life	:	6 Hrs in Voltage and Tx-Simulation mode. 5 Hrs in Current mode.

PERFORMANCE SPECIFICATIONS

Model SM-10

SOURCE

Range :

0 to 2V, 1 to 5V, 0 to 10V, 0 to 20 mA, 4 to 20mA, Tx-Simulation.

Resolution :

0.001% of span for all range.

Uncertainty :

± 0.1% of Full Scale for all ranges (25°C)

Ambient temperature effect :

± 0.0008% of Full Scale /°C)

METER

Range :

0 to 2V, 1 to 5V, 0 to 10V, 0 to 20 mA, 4 to 20mA, Tx-Powering, All ranges are Bipolar.

Resolution :

0.003% of span for all range.

Uncertainty :

± 0.01% of Full Scale for all ranges (@25°C)

Ambient temperature effect :

± 0.0008% of Full Scale /°C)

OPERATIONAL SPECIFICATION

SOURCE MODE

Output Impedance (nominal):

Voltage range : 50 milliohms
Current range : 10 Mega ohms

Isolation :

300V DC/AC Peak, 50 Mega ohms nominal, between source and meter or source and communication port.

Load Handling Capacity :

Voltage Range : 5mA maximum
Current Range : 800 ohms maximum
Tx-Simulation : 800 ohms at 24V
Max.loop voltage : 50V DC

Protection :

Source is Protected in voltage ranges against continuous short circuit and against reverse loop voltage in Tx-Simulation mode.

METER MODE

Input Impedance

Voltage range : 20 Mega ohms.
Current range : 15 ohms

Isolation :

300V DC/AC Peak, 50 Mega ohms nominal, between meter and source or meter and communication port.

Load Handling Capacity :

Tx-Powering : 24V / 30mA

Protection :

Meter is protected with 100mA (nominal) fuse and up to a over voltage of ± 40V DC.

STANDARD ACCESSORIES

- ◆ Main Adaptor
- ◆ RS-232 Cable
- ◆ Carrying Case

- ◆ Test Probes (2 pairs)
- ◆ Fuse Pack
- ◆ User Manual

- ◆ SM DB - 10 Software
- ◆ Traceability Certificate*

*By STQC,DOE, Government of India

ODERING INFORMATION

Model **Intcal SM-10** 0.01% Accurate documenting Calibrator for mA/Vsignals

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Specifications are subject to change without any notice due to continuous development.