MSC-1020
Multi Signal Calibrator

Features

- Simulates various sensor and transmitter signal outputs
- Fully compliant with requirements of ISO 10816 standards
- Operates in two modes: stand-alone and PC based
- The software includes a sensor/transmitter database*
- Automatic creation of reports in PC mode enabled*
- Loop powered current source output
- Tachometer TTL and OSO® output
- BOV test of IEPE (ICP®) sensors supported
- Menu-driven operation
- Multi language menu
- Metric and Imperial units
- PC connection
- Battery operated

   * Under development

Application Note

MSC-1020 Multi Signal Calibrator is suitable for checking and calibration of measuring lines for dynamic parameters analysis, such as vibration analysis, structural analysis, etc. Function BOV (Bias Output Voltage) allows quick verification of IEPE (ICP®) sensors and signal cables functionality. Device is especially designed for Condition Monitoring Systems (CMS) and/or Machinery Monitoring Systems (MMS) that are independent or connect to SCADA Systems.

Description

MSC-1020 Multi Signal Calibrator is a battery operated instrument which is used to electronically simulate outputs from various types of sensors and transmitters.

MSC-1020 Multi Signal Calibrator uses a menu-driven 4x16 character LCD display to establish appropriate settings. The key panel contains five sealed buttons marked with Arrows, Enter, Back and ON/OFF.

Power is supplied from 4 AA rechargeable, internally mounted Ni-MH batteries which can be recharged with a regulated 9Vdc source.

Connection to PC is established over the front mounted LEMO compatible connector. PC mode will be automatically started after inserting proper cable into device.

Output signal is user selectable from the following: single-ended voltage (mV), single-ended charge (pC), differential charge (pC), current-sinking IEPE (ICP®), loop powered current source (mA), tachometer (TTL), flow (TTL), OSO® (Optical Speed Output) and BOV (Bias Output Voltage). Frequency range is 1Hz to 10kHz; RMS output voltage is from 10mV to 10.000mV or 10pC to 10.000pC. Outputs can be provided in acceleration, velocity, displacement, voltage or charge.

Specifications

Input/Outputs

Output Types	Single-ended Voltage (mV)
	IEPE (ICP®) - Current Sinking
	Loop powered Current Source (mA)
	Single-ended Charge (pC)
	Differential Charge (pC)
	Tachometer (TTL)
	Flow Meter (TTL)
	OSO® - Optical Speed Output
Input Type	BOV - Bias Output Voltage
Frequency Range	1Hz to 10kHz
Amplitude	10mV to 10.000mV RMS; 10pC to 10.000pC

Transfer Characteristics

Amplitude accuracy	± 0.5% of settings on any range
Amplitude stability	0.03%/°C maximum change from -10°C to +65°C
Frequency accuracy	± 0.02% of settings on any range
Frequency stability	± 0.5% of maximum change from -10°C to +65°C
Total harmonic distortion	≤ 0.1% 1Hz to 2kHz; ≤ 0.15% 2kHz to 10kHz;

Environmental Characteristics

Temperature	
Operating	-10°C to +65°C
Storage	-18°C to +65°C
Humidity	95% R.H. maximum

Power

Battery	4x AA rechargeable Ni-MH supplied
Autonomy	More than 5 hours when fully charged

Physical Characteristics

Dimension	196mm x 100mm x 40mm
Weight	0.5kg typical
Case	Molded Plastic Case
Connection	mV, IEPE, BOV, mA and Tachometer - BNCs
	Charge (single-ended and differential) - Microdots
	USB - ODU (LEMO compatible)
Front Panel Controls	Five buttons (Arrows, Enter, Back and ON/OFF)
Front Panel Display	4 line LCD panel with 64 character

NOTE: All technical data can be changed without notice.