MSC-D

Multifunction Smart Calibrator with LCD display

- 3,5” touchscreen LCD display
- Ethernet & Wi-Fi communication
- Web Server with integrated APP
- Testing machines automatic access
- ModBUS TCP-IP protocol

MSC-D

MULTIFUNCTION SMART CALIBRATOR WITH LCD DISPLAY

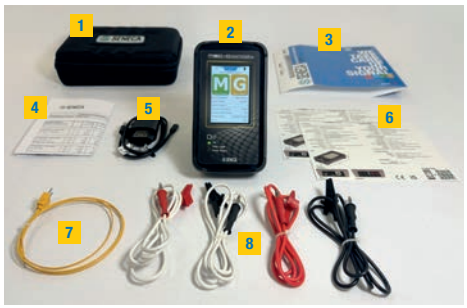
TECHNICAL DATA

GENERAL DATA	
Power network	100-240 Vac via standard Micro USB battery charger
Power battery	1 Lithium Polymer (LiPo) 3400 mAh battery
Power on	Push-button or automatic (depending on main power supply)
Battery runtime	4 hours (minimum at maximum load)
Protection degree	IP20
Overvoltage protection	240 Vac max without permanent damage
Operating temperature	-20..50°C (not charging), 0..40°C during charging
Long term warehouse temperature	0..35°C
Humidity	30..90 % non condensing
Dimension (wxhxd)	96 x 171 x 44 mm
Weight	395 g
Rejection	50/60 Hz
Sampling freq.	10 Hz
Operating modes	Meter, Generator, Datalogger, Ramps
Memories	16MB Flash, 8 MB RAM
Display	5-point capacitive touch display, TFT-LCD 262k colors, 3.5", 53x71mm, 320x480 resolution, with backlight.
Setting system	Touch display interface, WebServer with multilanguage APP (italian, english, german, french, spanish)
Equipment	(1) Portable case, (2) MSC-D full of batteries, (3) adapter, (4) USB charging cable, (5) factory calibration report, (6) test cables
Calibration report	On demand
Approvals	CE
Norms	EN61326-1; EN61010-1
MEASUREMENT ACCURACY	
Accuracy	0,03% (basic), 0,04% (current)
Resolution	1 µA; 1 mV; 5 µV; 0,1°C; 0,1uV/V
GENERATION ACCURACY	
Accuracy	0,03% (basic), 0,04% (current)
Resolution	1 µA; 1 mV; 5µV; 0,1°C; 0,02 Ohm; 0,1 uV/V;
INTERFACES	
Button	On / Off
LED	Power on - Battery charge status Datalogger on
Buzzer	Buzzer for signaling overload and inability to simulate the requested value
Standard bushings	Nr. 4 bushings 4mm
Thermocouple connection	Mini plug (7.9mm) for thermocouple measurement and simulation
COMMUNICATION	
Micro USB	For fw update
Wireless	Built-in 2.4 GHz WiFi (802.11 b/g/n, up to 150 Mbps); Access Point/Station mode
Ethernet	1 Fast Ethernet 100 Tx port, ModBUS TCP-IP protocol; max 8 TCP-IP clients, web server
MEASUREMENT FUNCTIONS	
Current	0,1..24 mA active / passive; protection ± 28 V
Voltage (V)	0..26 V
Voltage (mV)	-10mV..+90mV
Thermocouple	Type J,K ,T, E, N, R, S, B, L
Thermoresist. (2,3,4 wires)	Pt100, Pt500, Pt1000, Cu50, Cu100, Ni100, Ni120
Load cell	350 Ohm; -0,2..+3mV/V
Pulse	Max counting 1000 Hz
Frequency	0,1..1000 Hz
GENERATION FUNCTION	
Current	0,1..24 mA active / passive; protection ± 28 V
Voltage (V)	0,1..26 V
Voltage (mV)	-10mV..+90mV
Thermocouple	Type J,K ,T, E, N, R,S, B, L
Termoresistance (2 wires)	Pt100, Pt500, Pt1000, Cu50, Cu100, Ni100, Ni120
Load cell	350 Ohm; -0,2..+3mV/V
Pulse	Min 0.5 ms (1..24V) pulse number settable
Frequency	0,1..1000 Hz; resolution 50µs
DATALOGGER	
Datalogger	Si
Sampling time	>500 ms
RAMP FUNCTION	
Signal	Current/Voltage/TC/RTD/Load Cell
Function	Single or Loop
Type	Maximum 9 segments, ramp resolution 100ms, minimum ramp 1s
SETTINGS	
Function menu	General setup / Measurement: input type selection. Datalogger / Generation of standard, ramp mode or preset signals.
Error reports	Voltage reading out of range (> 28 V or < -0.2V) Current reading out of range > 24 mA or -0.1 mA Resistance out of range (<18 Ohm or >400 Ohm) Load cell not properly powered Flashing value - Signal generation failed

LEGEND

1. Measuring/generation bushing -EX
2. Measuring/generation bushing -SN
3. Thermocouple connection
4. Measuring/generation bushing +SN
5. Measuring/generation bushing +EX
6. Capacitive 3,5'' touch display
7. Power ON button
8. LED power ON
9. LED data logger ON
10. LED power supply
11. Reset
12. Micro USB (fw update)
13. LED battery charge status
14. Ethernet port
15. Non-slip shell

EQUIPMENT



1. Portal case
2. Calibrator including batteries
3. Holding band
4. Factory calibration report
5. Battery charger and USB cable
6. User manuals
7. Thermocouple
8. Test and connection cables

MEASUREMENT RANGE

VARIABLE	U.M.	GENERATION	MEASURE
Voltage (hi range)	[dc V]	0..26 V	0..26 V
Voltage (low range)	[dc mV]	-10..+90 mV	-10..+90 mV
Active current	[dc mA]	0,1..+24 mA	0..+24 mA
Passive current	[dc mA]	0,1..+24 mA (3..29 V)	0..+24 mA
Pt100	[°C]	-200..+859°C	-200..+850°C
Pt500	[°C]	-200..+859°C	-200..+850°C
PT1000	[°C]	-200..+859°C	-200..+850°C
Cu50 / Cu100	[°C]	-180..+200°C	-180..+200°C
Ni100 / Ni120	[°C]	-80..+260°C	-60..+250°C
Thermocouple J	[°C]	-210..+1200°C	-210..+1200°C
Thermocouple K	[°C]	-270..+1372°C	-200..+1372°C
Thermocouple T	[°C]	-270..+400°C	-200..+400°C
Thermocouple E	[°C]	-270..+1000°C	-200..+1000°C
Thermocouple N	[°C]	-270..+1300°C	-200..+1300°C
Thermocouple R	[°C]	-50..+1768°C	-50..+1768°C
Thermocouple S	[°C]	-50..+1768°C	-50..+1768°C
Thermocouple B	[°C]	0..+1820°C	250..+1820°C
Thermocouple L	[°C]	-200..+800°C	-200..+800°C
Load Cell 350 Ohm	[mV/V]	-0,2..+2,4 mV/V	-0,2..+2,4 mV/V
Pulse / Frequency	[Hz]	0,1..1000 Hz (1..24 V)	0,1..1000 Hz (3..24 Vdc)

ORDER CODES

Code	Description
MSC-D	Multifunction Smart Calibrator with LCD display
MSC-TOOL	Free Windows application for fw update and data extraction in .csv format
CU-A-MICROB	USB cable plug USB-A - MicroUSB-B - 5P
CE-RJ45-RJ45-R	Ethernet cable (right) (RJ45 / RJ45)

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