

Precise set point device SG005



SG005 is precise digital set point device capable to output a different type of electrical signals including voltage, current and thermocouple simulated voltage output.

The configuration of the device can be completely performed from the keyboard. There is no need for hardware setup and opening device. It is also possible to select one from eight predefined output values via keyboard or digital inputs.

Characteristic:

- Compact 96x48 housing for panel mount
- Large 5 digit LED display with 20mm height
- Status indication by LED's at front panel
- 85...265VAC or 10...36VDC power supply
- Full configurable via serial interface.

Standard galvanic isolated analog output:

- Current range: 0mA...24 mA,
- Voltage ranges: +-25mV, +-100mV, +-1V and +-10V
- Thermocouple: type B,C,E,J,K,L,M,N,R,S,T, with included ambient temperature sensor, or set ambient temperature set by keyboard

Optional modules:

- Module2: Two isolated +24V digital inputs, used to select predefined values.
- Module3: Isolated RS-485/RS-422, or non-isolated RS-232 communication interface for Modbus RTU protocol.

Technical Data:

Outputs:

Type	Ratings	Max. Load	Resolution	Accuracy
Voltage output	-10V...+10V	>2k \square	16 bit	0.05%
Voltage output	-1V...+1V	>200 \square	16 bit	0.05%
Voltage output	-100mV...+100mV	>100 \square	16 bit	0.05%
Voltage output	-25mV...+25mV	>100 \square	16 bit	0.1%
Current output	0mA...24mA	<500 \square	16 bit	0.05%

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Temperature outputs, Thermocouple ranges:

Type	Measuring range	Generating accuracy	resolution
B	PtRh-Pt6%	250...1820°C	<3°C
C	W5%Re-W26%Re	0...2315°C	<2°C
E	NiCr-CuNi	-200...1000°C	<2°C
J	Fe-CuNi	-210...1200°C	<2°C
K	NiCr-Ni	-200...1350°C	<2°C
L	Fe-CuNi DIN	-200...900°C	<2°C
M	NiMo/NiCo	-50...1410°C	<2°C
N	Nicrosil-Nisil	-200...1300°C	<2°C
R	PtRh-Pt13%	-50...1760°C	<2°C
S	PtRh-Pt10%	-50...1760°C	<2°C
T	Cu-CuNi	-200...400°C	<2°C
Cold junction sensor		-25°C...+85°C	1,5°C
Temperature of external Cold junction sensor		-100°C...+200°C	-
			0.1°C

In accordance with ASTM E230-98e1, E 988-96, DIN 43710-1985, ASTM E1751

Display and indication

Display	7-seg LED display, 5 digits 20mm height Three brightness level
Status	5 LED for status indication

Power supply:

Power consumption	10VA
AC	85 VAC...264 VAC
DC	10 VDC...36 VDC

Housing:

type	ABS housing for front panel mounting, dimensions 48x96x107
protection	Front IP65 back IP20
connection	Cage type screw terminals at the back
Weight	App. 300g

Humidity and climatic

Storage temperature	-40°C...+80°C
Operating temperature	-20°C...+70°C
Humidity	up to 70%, non condensing

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Communication specifications

Electrical specifications

RS-485

Electrical specification	Based on EIA RS-485
Transmission system	2-wire, half duplex
Synchronizing system	Start-stop synchronous system
Number connectable units	32 unit
Transmission speed	1200, 2400, 4800, 9600 and 14400 bps
Isolation	Isolated

RS-422

Electrical specification	Based on EIA RS-422
Transmission system	4-wire, half duplex
Synchronizing system	Start-stop synchronous system
Number connectable units	32
Transmission speed	1200, 2400, 4800, 9600 and 14400 bps
Isolation	Isolated

Data specifications RS-485/RS-422/RS-232

Data format	Data length	8 bits
	Stop bit	1 bit
	Parity	None/Even
Transmission code	HEX value (MODBUS RTU mode)	
Error detection	CRC-16	

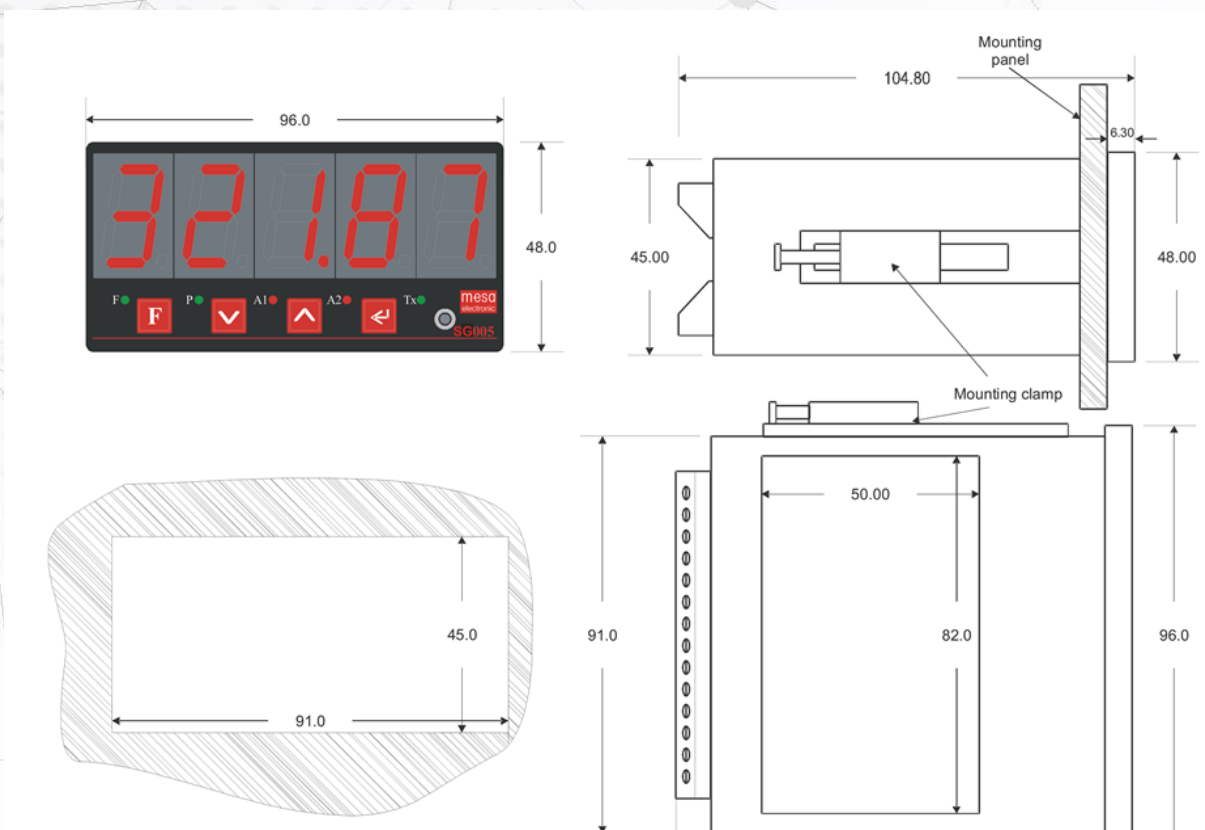
RS-232 module

Electrical specification	Based on EIA RS-232
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Mounting:



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Electrical connections

The electrical connection of the SG005 is present at fig 7.1. The device can be equipped with two optional modules mounted at fix position inside device.

Module2: "Two digital inputs" must be in **Position 2**, with terminal from 24 to 28.

Module3: "RS-422/RS-485/RS-232 module" must be in **Position3**, with terminal from 29 to 33. If the two wire mode of RS-485 is used, please use TxA and TxB only. Two wire/four wire mode is chosen by an internal jumper and must be defined during ordering.

