Features

- Programmable controller
- Wi-Fi access point and Ethernet port
- WEB interface for configuration and OTA update
- 24V DC power supply
- 13 pcs passive inputs that can be used as a voltage dry contact or NTC10K sensor
- 8 pcs digital inputs that can be used as a dry contact
- 8 pcs 0-10V Analog Inputs
- 9 pcs 10A Digital Outputs
- 6 pcs 0-10V Analog Outputs
- Modbus RTU Slave and TCP Server communication
- 1 Modbus RTU Master ports
- 1 Modbus RTU Slave ports
- 1 pcs Modbus TCP Server ports
- Optional BACnet MS/TP communication
- Room panel connection
- IP20 Plastic box
- DIN Rail mounting enclosure

Applications

SC100 series programmable controllers are used in building automation and HVAC applications. As a result of its freely programmable structure, the module is designed and manufactured to work seamlessly with all devices.

Notes on Usage

Please read this datasheet carefully. SC100 is designed and manufactured with the latest technological developments and safety rules. To avoid injury and property damage, safety warnings must be observed.

Security Advice – Caution

Installation, maintenance, and repair of the device should be made by authorized personnel. The power supply of the device is 24V AC and the device has a 1A internal fuse. Relay outputs don't have internal protection due to the variety of components that can be used. It is recommended to use an external-type fuse suitable for the required current level. Each pin of the supply and relay terminals can carry 20 A current maximum. Before making relay output connections, attention should be paid to recommended current levels.
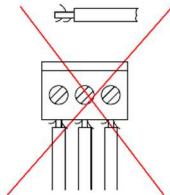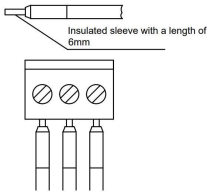
The ends of the connection wires must be protected against delamination using insulated sleeves as shown in the figure.

Ordering Information

Product Code	Description	Power	Communication
SC100.41	9 pcs Digital Outputs (Relay) 6 pcs Analog Outputs 8 pcs Analog Inputs 13 pcs Passive Inputs	6.0 VA	Modbus RTU
SC100.42	8 pcs Digital Inputs 3 pcs RS-485 Port Wi-Fi access point and Ethernet port		BACnet MS/TP

Technical Specifications

Power Supply	24VDC +%10-%15, 50/60Hz
Power Consumption	6.0 VA
Operating Temperature	0 °C … +50 °C
Storage Temperature	-20 °C … +70 °C
Relative Humidity	%5….95 RH, Non-Condensing
Cable Connected	Socket Terminal Block, max 1 x 2,5 mm^2
Measuring Range	NTC10K: -50°C …+150°C Analog Input Voltage: 0-10V
Measuring Resolution	NTC: 0,1°C Analog Input: 0,1V
Inputs	13 pcs Passive Inputs (NTC10K Temp. sensor or Voltage Free Dry Contact) 8 pcs Digital Inputs 8 pcs 0-10V Analog Inputs
Outputs	9 pcs Digital Outputs (10A Relay)* 6 pcs Analog Outputs (0-10V)
Communication	3 x RS-485 Port 1 x J45 Ethernet Port Wi-Fi Access Point
Plastic Box	IP20 according to EN 60529
Box Type	DIN Rail Plastic Enclosure
Plastic Enclosure Material	ABS (UL 94 V-0)
Dimensions	212 x 59 x 115 mm (W x H x D)

* There is a 10 A relay. For optimal relay life, an 8A current is recommended for resistive loads, and a maximum of 5A current is recommended for inductive loads.

Mounting Location

Due to its structure, the device is suitable for wall mounting or rail mounting within the panel. It is recommended to leave space for cable connections to the terminals to be made while mounting on the rail.

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CAUTION: Power off the supply at 1A-C type circuit breaker or glass fuse before installation to avoid fire, shock or death
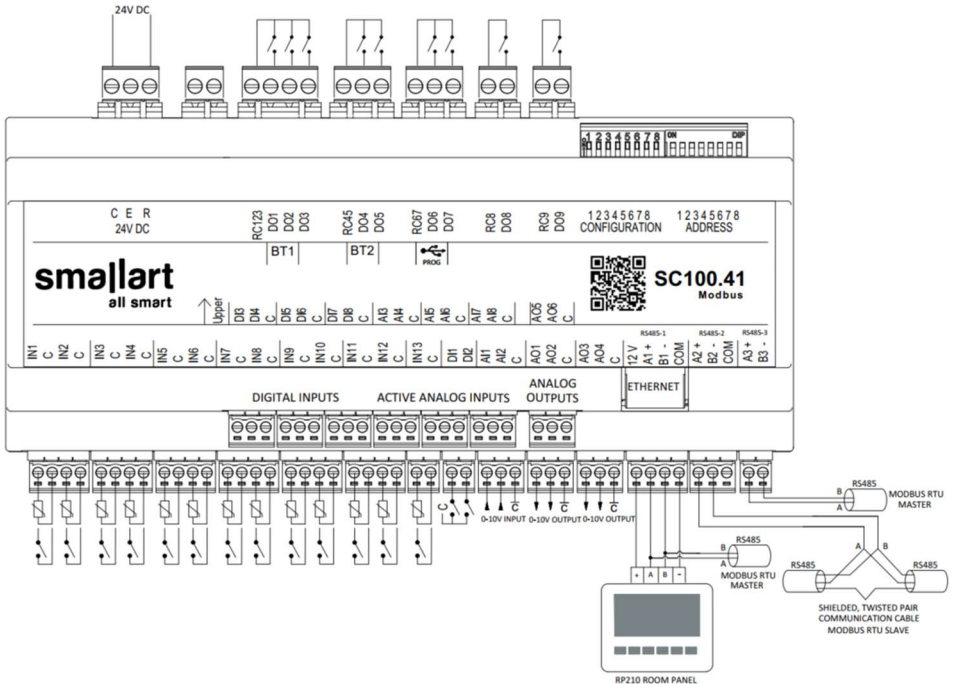
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Mounting Instructions

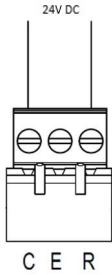Please follow the below instructions during mounting.

1. **Step:** Make sure the device is powered OFF.
2. **Step:** Connect the wires and equipment according to the connection diagrams below.
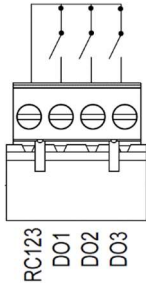3. **Step:** Make sure that all connections are made correctly.
4. **Step:** Power the device.

Connection Diagrams

**SC100 Wiring Diagrams**

Device Power Connection

Connect the 24V DC output of the power supply to the R terminal. Connect the GND output of the power supply to the C terminal.

Digital Outputs

The voltage to be switched with DOx relays should be connected to the RC terminal. The voltage connected to RC terminals can be received from the DOx terminals when the DOx relays are closed. This applies to all digital output terminals. The maximum current that each pin of the terminal can carry is 20 A. 20 A is the maximum current that can pass through the RCX input.
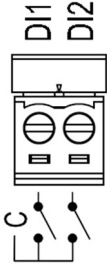
Passive Inputs (NTC10K)
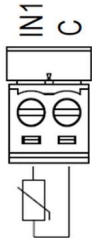
Connect the two cables of the NTC10K sensor as shown in the left picture. You can also make this connection for other passive input terminals.

Passive Inputs (Dry Contact)
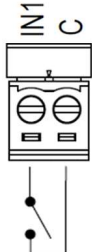
Connect the two cables of the Dry contact as shown in the left picture. You can also make this connection for other passive input terminals.

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Digital Inputs

It is used as a dry contact. A cable connection can be made between the DI inputs and any COM port on the passive inputThe upper board digital input (DI3-DI8) connections can be made with the COM next to it.

Analog Inputs
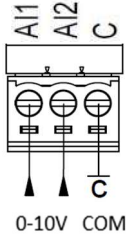
Connect the 0-10V output cables coming from the sensors, field devices, etc. to the AIx input. Connect the GND or COM cable of the related device to the "C" terminal as shown in the left picture.

Analog Outputs
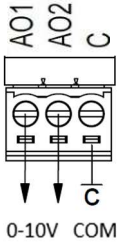
Connect the AOx 0-10V output to the related device's 0-10V input. Connect the GND or COM cable of the related device to the "C" terminal as shown in the left picture.

### RS485-1 Modbus RTU Master and Panel Communication
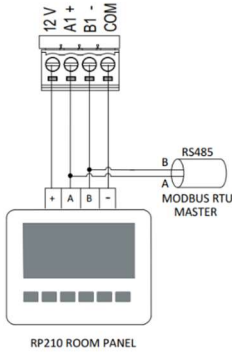
Connect the "+" terminal of the panel to the 12V terminal and the "-" terminal of the panel to the "COM" terminal for power up. For communication, connect the "A" terminal of the panel to the "A1" terminal and the "B" terminal to the "B1" terminal. Additional Modbus Slave devices can be added to the panel as shown in the left figure.

RS485-2 Modbus RTU Slave Communication and End Of Line (EOL)
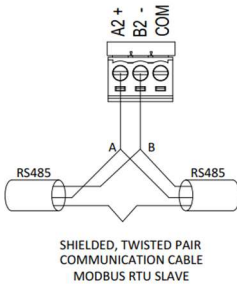
Communication connection can be made as shown in the left figure. Make a connection between the "A" or "+" terminal of the device communication port and the A2 terminal of the control card and between the "B" or "-" terminal and the B2 terminal. To activate the end-of-line resistor, activate the jumper above the word A2 B2 on the PCB.

RS485-3 Modbus RTU Master Communication Connection and End Of Line (EOL)
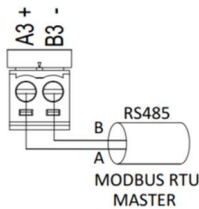
Communication connection can be made as shown in the left figure. Make a connection between the "A" or "+" terminal of the device communication port and the A3 terminal of the control card and between the "B" or "-" terminal and the B3 terminal. To activate the end-of-line resistor, activate the jumper above the word A3 B3 on the PCB.

TCP Server Communication

The Ethernet cable is connected to the port shown in the figure on the left.

Dimensions(mm)