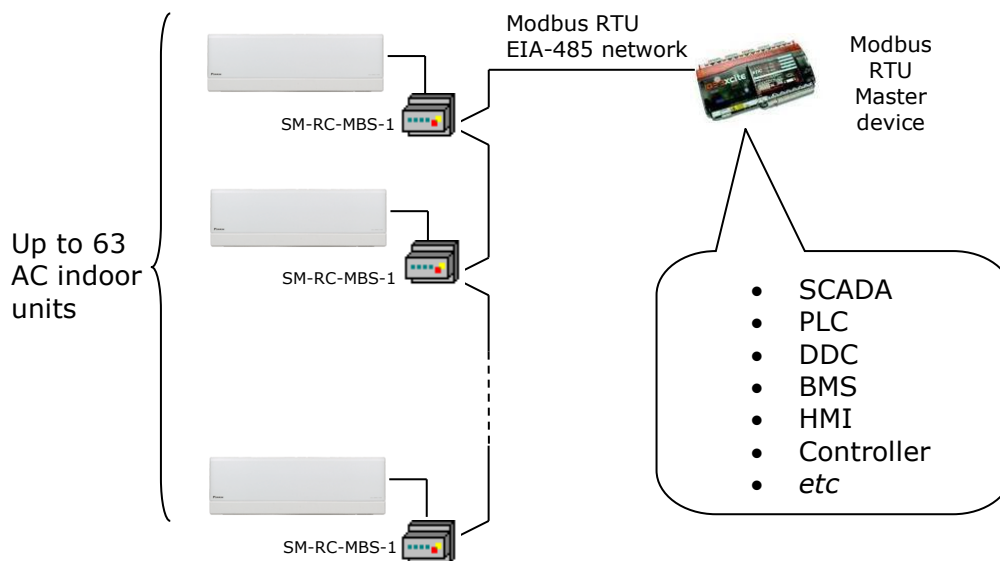




IntesisBox® SM-RC-MBS-1

Modbus Interface for Samsung Air Conditioners Commercial line



The SM-RC-MBS-1 interface allows a complete and natural integration of **Samsung** air conditioners into Modbus RTU (EIA-485) networks.

- Reduced dimensions. 93 x 53 x 58 mm / 3.7" x 2.1" x 2.3"
- Quick and easy installation. *Mountable on DIN rail, wall, or even inside the unit in some models of AC.*
- External power not required.
- Direct connection to Modbus RTU (EIA-485) networks. Up to 63 SM-RC-MBS-1 devices can be connected in the same network. SM-RC-MBS-1 is a Modbus Slave device.
- Direct connection to the AC indoor unit. Up to 16 AC indoor units can be connected to SM-RC-MBS-1, controlling them as one (not individually).
- Configuration from both on-board DIP-switches and Modbus RTU.
- Total Control and Supervision.
- Real states of the AC unit's internal variables.
- Allows using simultaneously remote controls and Modbus RTU.

1. Modbus Interface

1.1 Modbus Functions

SM-RC-MBS-1 implements the following standard Modbus functions:

- 3: Read Holding Registers
- 4: Read Input Registers
- 6: Write Single Register
- 16: Write Multiple Registers (Despite this function is allowed, the interface does not allow write operations on more than 1 register with the same request, this means that *length* field should always be 1 when this function is being used to write).

1.2 Modbus Communication parameters

SM-RC-MBS-1 implements a Modbus RTU (Slave) interface, to be connected to an EIA-485 line. The communication parameters are:

8N2 communication (8 data bits, no parity and 2 stop bit). It also supports 8N1 communication (1 stop bit). No need to change settings of DIP-switches.

Configurable baud rates:

- 2400 bps
- 4800 bps
- 9600 bps (Default)
- 19200 bps
- 38400 bps
- 57600 bps
- 76800 bps
- 115200 bps

2. List of compatible Samsung indoor units.

A list of Samsung indoor unit model references compatible with SM-RC-MBS-1 and their available features can be found at:

https://www.intesisbox.com/intesis/support/compatibilities/IntesisBox_SM-RC-xxx-1_Compatibility.pdf

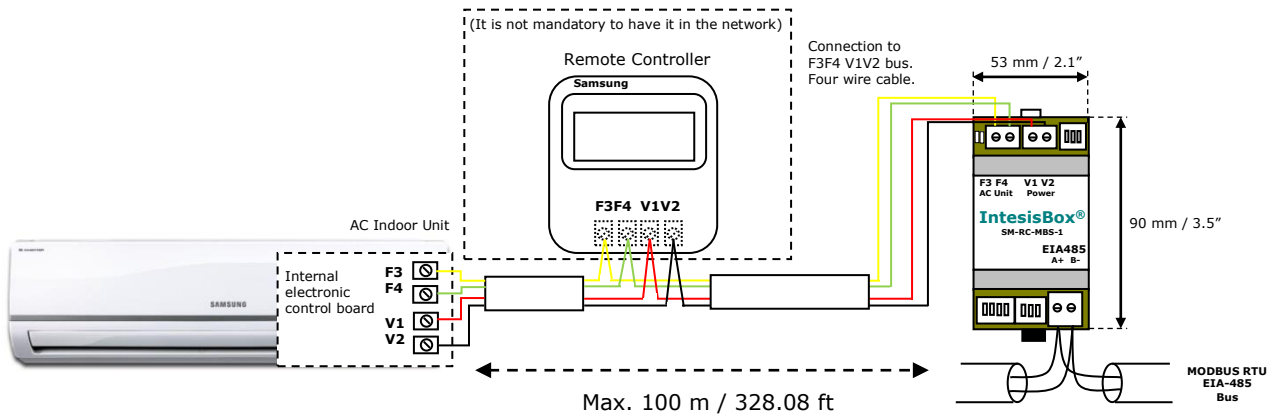
3. *Electrical and Mechanical features*

| | | | |
|---|--|-----------------------|--------------------------------------|
| Enclosure | Plastic, type PC (UL 94 V-0) Net dimensions (dxwxh): 93 x 53 x 58 mm / 3.7" x 2.1" x 2.3" Color: Light Grey. RAL 7035 | Operation Temperature | 0°C to +60°C |
| Weight | 85 g. | Stock Temperature | -20°C to +85°C |
| Mounting | Wall DIN rail EN60715 TH35. | Operational Humidity | <95% RH, non-condensing |
| Terminal Wiring (for low-voltage signals) | For terminal: solid wires or stranded wires (twisted or with ferrule) 1 core: 0.5mm ² ... 2.5mm ² 2 cores: 0.5mm ² ... 1.5mm ² 3 cores: not permitted | Stock Humidity | <95% RH, non-condensing |
| Modbus RTU port | 1 x Serial EIA485 Plug-in screw terminal block (2 poles): A, B Compatible with Modbus RTU EIA-485 networks | Isolation voltage | 1500 VDC |
| AC unit port | 1 x F3F4 bus Plug-in screw terminal block (2 poles, keep polarity): F3, F4 Compatible with Samsung networks 1 x V1V2 Power screw terminal block (2 poles, no polarity): V1, V2 | Isolation resistance | 1000 MΩ |
| Switch 1 (SW1) | 1 x DIP-Switch for AC features | Protection | IP20 (IEC60529) |
| Switch 3 (SW3) | 1 x DIP-Switch for Modbus RTU settings | LED indicators | 2 x Onboard LED - Operational status |
| Switch 4 (SW4) | 1 x DIP-Switch for extra functions | | |

4. Connections

SM-RC-MBS-1 can be used with Samsung Remote Controller or without it. Use the EIA485 connector in the SM-RC-MBS-1 to connect to the Modbus network.

- SM-RC-MBS-1 with Remote Controller from Samsung



- SM-RC-MBS-1 without Remote Controller from Samsung

