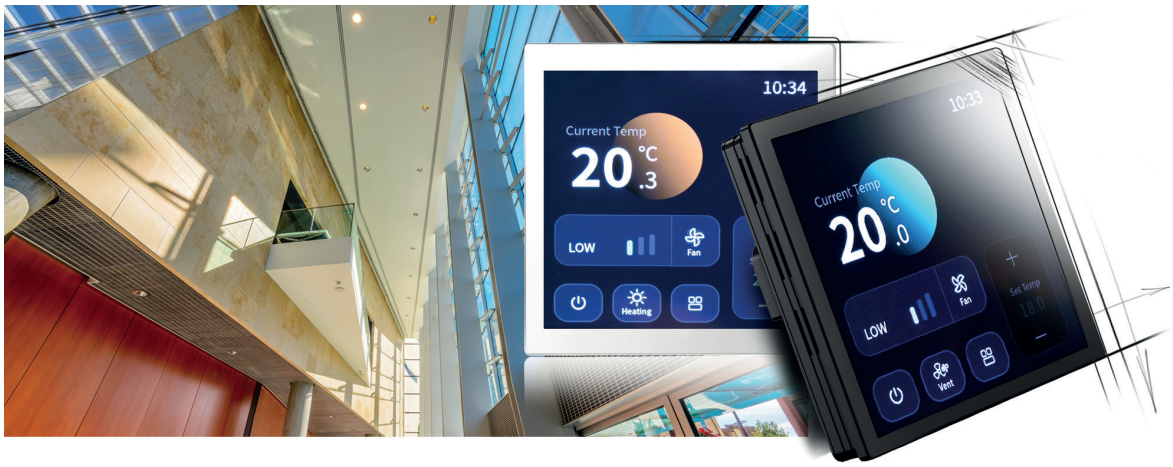
MIDAM RGC00055

Fan-coil room unit



Communicative HMI designed for seamless integration with RFC017x1 fan-coil controllers. It is equipped with built-in temperature and humidity sensors, allowing it to continuously control environmental conditions. These values are clearly presented to the user via a large, easy-to-read, full graphic LCD screen, ensuring optimal visibility even in low-light conditions. Communication between both devices is established via the robust and widely-used Modbus protocol.

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Application

- Fan-coil control in connection with RFC017x1
- Measurement of temperature and humidity
- Display of fan coil system status values
- Wired integration into SCADA control systems

Function

The room unit RGC00055 measures temperature and relative humidity. It allows to set the desired temperature setpoint and operating modes using the capacitive touch buttons. The values are transmitted through the modbus protocol to the RFC017x1 fan coil controller. Full graphic LCD display comes as a standard feature to this model. The unit can be delivered in white or black design version. This options need to be specified in the order. The room unit feature a native modbus map with the direct read and write functionality and is available in a separate document (refer to RFC017x1 dedicated file). All settings and configuration are also stored in a modbus register, directly in the device. This device is fully compatible/interchangeable with the current RUC000XX (RGC000XX) fancoil room unit family.

SCADA system integration

The controller can be integrated via the RFC017x1 fancoil controller and its Modbus RTU (RS485) bus terminals. For direct integration, the RGC00055 room unit with direct Modbus RTU communication terminals is recommended.

Configuration

The device is configured using the manufacturer's tool or with a standard modbus tool, modifying the appropriate registers. The different operation modes and user access can be configured in this way. Modifications to the controller configuration can be made afterwards without the need for any special tools, for instance, setpoint limitation, disabling or enabling buttons, functions, etc.

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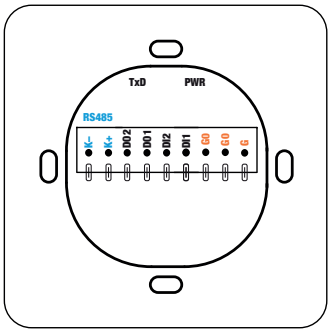
Technical data

Power supply	24 V AC ± 20%
Consumption	2W
Communication	RS485
Protocol	Modbus RTU, selectable speed 1200 ... 115200 bps
Mechanical and dimensions	88x88x45,5 mm Weight 0,2kgs Enclosure ABS, IP20, RAL9010, RAL9005 2 x DIP switch (1x USR mode, 1x INIT mode, 1x Bus End) 9x pin/screw terminal, recommended wire diameter 0.5 to 1.5 mm^2
Temperature measurement range	-20 to +55 °C, ± 0,5 °C
Humidity measuring range	10 to 90 % rH, ± 3% rH
Temperature setpoint	Configurable, ± 10 to ± 1 K
Display	4-inch IPS screen, capacitive touch screen 480*480px
Ambient conditions	-5 to +45 °C, 5 % to 95 % rH (EN 60721-3-3 class 3K5)

Terminals and DIP switches

Wall enclosure terminals (back side)	
K-	Serial line RS485 - (To RFC017X1)
K+	Serial line RS485 + (To RFC017X1)
DO2	Not used.
DO1	Not used.
DI2	Not used.
DI1	Not used
G0	Power
G	Power
LCD enclosure (back side)	
INIT	In ON position at power-up, configuration parameters are brought to defaults
USR	Not used.
BUS END	Switched via clamp located on the wall part front side .



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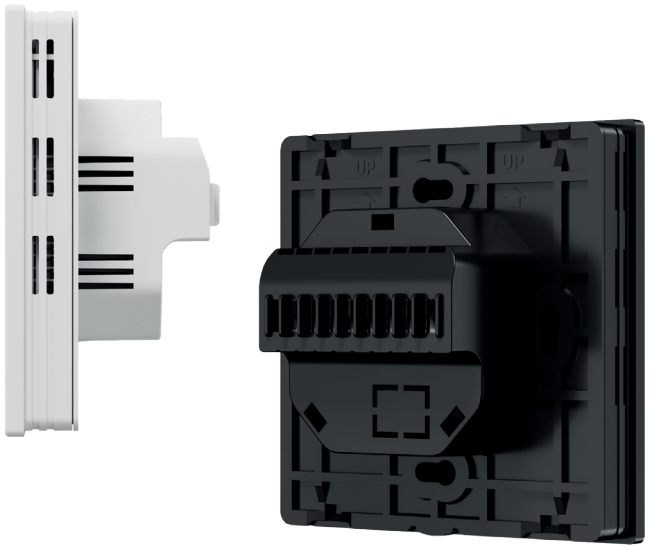
Display

The large fully graphic LCD shows the current temperature, humidity and CO_2 status using graphic symbols, standard symbols for day and night mode, time programs and activated output. The particular screens can be customised upon requirement and technical feasibility. Check signal polarity (terminals K-, K+, bus termination, and correct wiring). Upon any intervention with display, it illuminates for defined time. All of the functions could be set from Modbus master. After power-up, following items are displayed:

1. Display test (all pixels active).
2. FW version (e.g. 1.25).
3. Modbus address
4. Baudrate (coded 0, 1, 2, 3 – see above, br 0 = 9600 bps).

Device installation/dismantle (flush mount)

Once the terminal part (back plate) has been wired and mounted onto the multifix flush box, slide the HMI part from the top to fit in the connecting terminals. The controller is secured in its position lock located in the bottom part of the device. To detach the HMI part from the terminal part, use thin tool in order to disengage the lock situated at the bottom of the HMI part. Then, pull the inclined LCD part cover carefully.



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Changes in versions

06/2025	New datasheet version (v25/06).

Subject to technical changes and General Terms and Conditions. The images are illustrative.