TECHNICAL DATASHEET

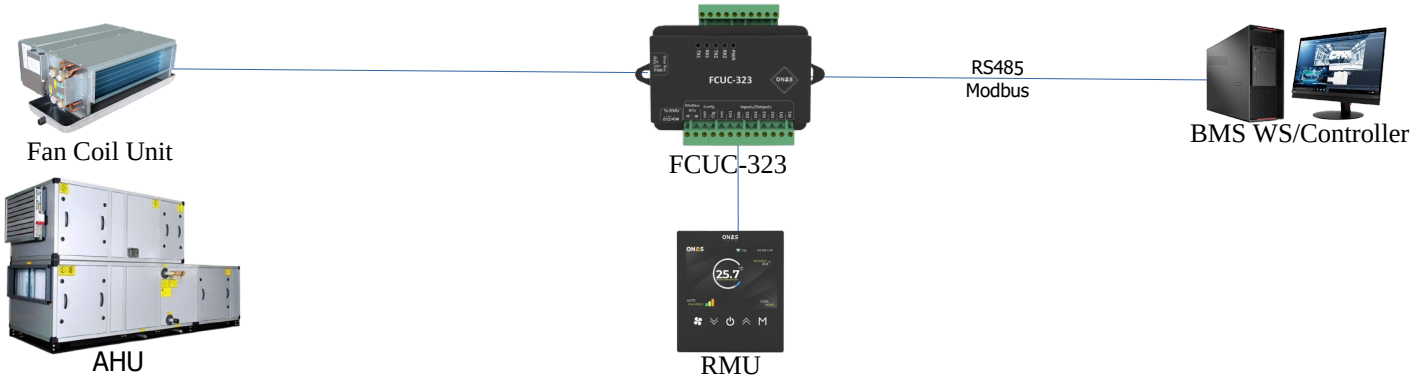
FCUC-323 Fan Coil Controller

General

FCUC-323 fan coil Controller is per-programmed controller designed to control fan coil unit system, by 7 ROs, 6 DIs,1AO&1AI with Modbus communication also with RMU for Monitoring.

It is widely used in these environment like Homes, Residential buildings, Schools, Hotels, Hospitals, Offices and etc. to main an ideal room temperature purpose.

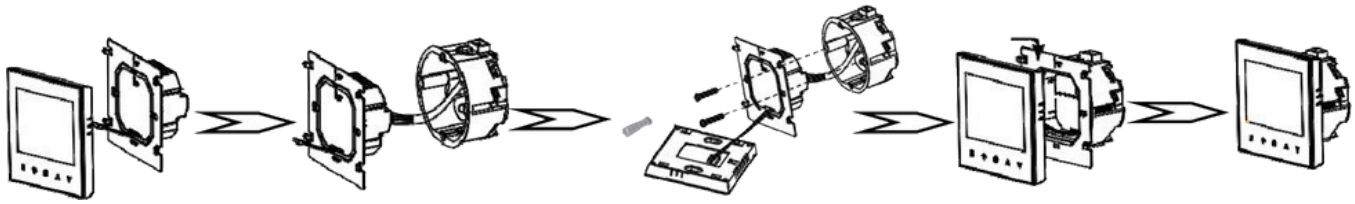
Product Topology



Technical Specifications

Power Supply	95~240VAC, 50/60Hz	Sensor Type	External NTC10K (0-10)V
Power Consumption	3W	Temperature Accuracy	±0.5°C or ±1°F
Display Temp. Range	5~99°C	Set-Point Range	5~35°C
Housing Material	PC + ABS (Fireproof)	Storage Temperature	-5 ~ 60°C
Installation Box RMU	EU or Standard Electric Box	Timing Error	< 1%
Terminal Wire Size		2 × 1.5 mm² or 1 × 2.5 mm²	
Protection Class		IP20	
Operating Buttons		Capacitive Touch Buttons RMU Unit	
Compliance		Ministry of Industry Approval (Egypt) IEC 63044-5-1, IEC 63044-5-2, UL 916, EN 50491-11	

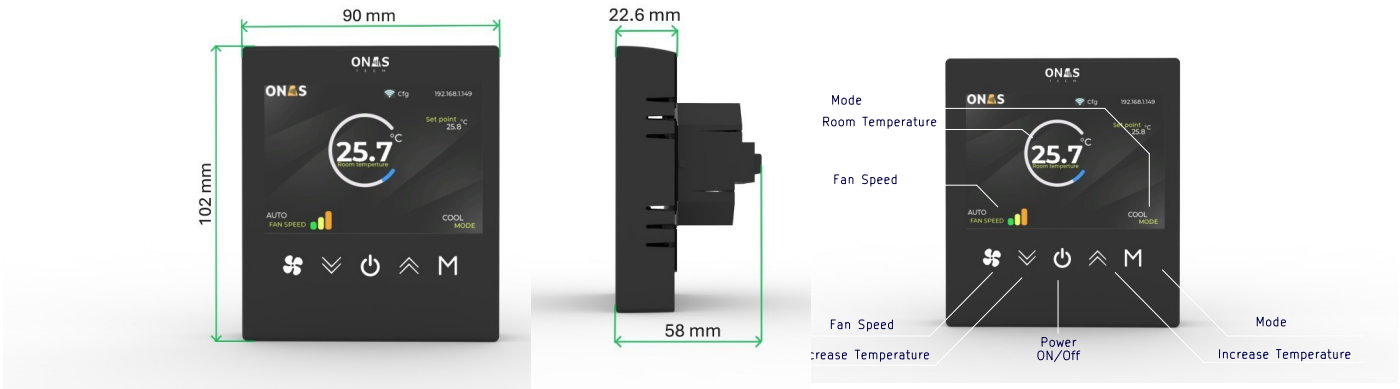
RMU Installation



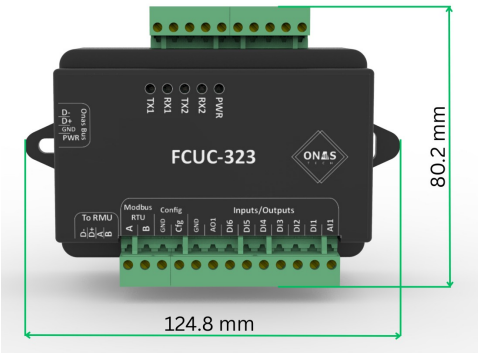
WARNING: RISK OF ELECTRICAL SHOCK. Disconnect power supply before making electrical connection. Contact with components carrying hazardous voltage can cause electrical shock and may result in severe personal injury or death.

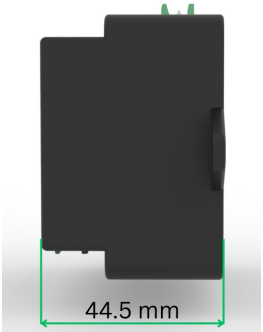
Make sure the power is OFF! Try turning ON your heating/cooling system by changing the temperature. If you can't get the system to turn ON in 5 minutes, you'll know the power is OFF.
Take off the installation face plate by rotating and gently pulling, then connect voltage supply/load output/external sensor(if with) wires respectively to appropriate terminals.
Fix the installation plate onto the electric junction box with screws packed in the box.
Fasten the thermostat display part and the installation face plate through the groove.(Installation process completed)

RMU Dimensions and Display



FCUC-323 Dimensions





FCUC-323 Points

Power	95~240VAC, 50/60Hz	Comm. Protocol	Modbus RTU
Digital Inputs	6	Configuration method	Using Web page by WiFi
Analog inputs	1 (0-10) V DC	RMU Power	12 V DC from FCUC-323
Relay Outputs	7 , 220V AC Output	RMU Data	2 Wires Communication with FCUC-323
Analog Outputs	1 (0-10)V DC		

Operation Modes

Cooling Control Logic with Hysteresis
The Controller implements a hysteresis-based control strategy to regulate cooling based on the user defined setpoint (SP). This prevents frequent switching near the target temperature and ensures stable system behavior.

Heating Control Logic with Hysteresis
Also supports heating control using a hysteresis-based approach. This ensures smooth operation and prevents rapid switching of the heating output near the desired setpoint (SP).

Comfort / Pre-Comfort

Dual Mode Temperature Control: Comfort & Pre-comfort
Also Supports two operational modes — Comfort and Pre-comfort — each with configurable deadbands to balance energy efficiency and thermal stability.

State Temperature Control with Configurable Deadband
This mode intelligently regulates heating and cooling based on the difference between the current temperature and a user-defined setpoint (SP). The system behavior is governed by a user-configurable deadband and a fixed Idle Zone, enabling both high precision and energy efficiency.

Modbus Holding Registers

Register	Function	Access	Details
[10]	Device Power	Read/Write	0 = Off. Any positive or negative value = Power On.
[11]	Fan Speed	Read/Write	0 = Off, 1 = Low, 2 = Medium, 3 = High, 4 = Auto. Any other value = No change.
[12]	Operating Mode	Read/Write	0 = Cool, 1 = Heat, 2 = Comfort, 3 = Pre-Comfort. Any other value = No change.
[13]	Temperature Setpoint	Read/Write	Value must be written as: Setpoint × 100. Example: 20.0°C = 2000. Setpoint limits are defined via the web interface.
[14]	PID - Kp	Read Only	Monitors the current proportional gain value.
[15]	PID - Ki	Read Only	Monitors the current integral gain value.
[16]	PID - Kd	Read Only	Monitors the current derivative gain value.
[17]	Room Temperature	Read Only	Displays the current measured room temperature (value × 100).

Warranty

Products are warranted for 1 year (checking and repairing services) from the date of purchase which products are not being damaged by any man-made factors.

- Service outwith the warranty period may incur an extra charge.

Issued by
Onastech
5th floor, Building no. 49, 291 st.,
New Maadi,Cairo,
Egypt
Tel. +2 02 25 19 01 93
www.onastech.com

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