

## Description

The **Modulex-28** is an advanced controller designed to manage **Air Handling Units (AHUs)** with precision and efficiency. It features **28 I/O points**, including **16 digital inputs**, **8 binary outputs (BO)**, and **4 analog outputs (AO)**, offering comprehensive connectivity for AHU signals and control mechanisms.

All AHU points are physically connected to the Modulex-28, which serves as the central control unit. The system communicates wirelessly using a **2.4 GHz point-to-point bandwidth link** to a **4-inch full-touch, high-resolution display**, utilizing the proprietary **Unitex Protocol**. This wireless communication enables **real-time monitoring and control** of all AHU parameters directly from the display.

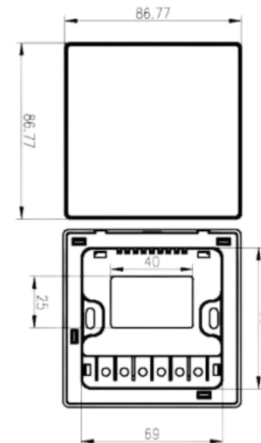
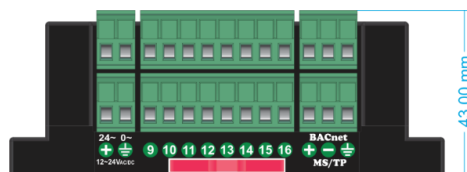
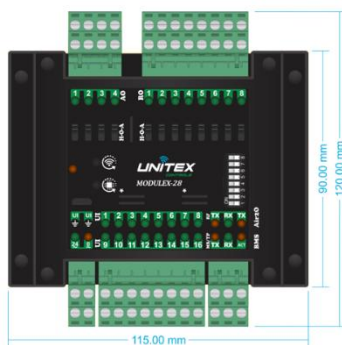
The display maintains a **virtual connection** to the AHU through its wireless link with the Modulex-28, allowing operators to view live system data and issue control commands. These commands are transmitted wirelessly to the controller, which then executes them through its physical interface with the AHU.

In addition to its wireless capabilities, the Modulex-28 offers enhanced integration options by supporting **Modbus** and **BACnet** protocols. This enables seamless communication with a wide range of building management systems (BMS), ensuring compatibility with existing automation infrastructure.

For added flexibility, the system also supports **cloud connectivity** when internet access is available, allowing for **remote monitoring and management** from anywhere.

*Note: Possible Customization feature in case of more Inputs and Outputs needed.*

## Technical Dimensions



## Technical Summary Table

Controller Type	I/O Points	Primary Connectivity	Wireless Communication	Display	Local Monitoring & Control	Remote Access	BMS Integration	Control Execution
<b>Advanced AHU controller</b>	28 total: 16 DI, 8 BO, 4 AO	Direct physical connection to AHU	2.4 GHz point-to-point using Unitex Protocol	4-inch full-touch, high-resolution	Real-time data viewing & command issuing via display	Cloud connectivity (internet required)	Supports Modbus and BACnet protocols	Commands sent via display and executed by Modulex-28

## Cloud Connection & Device Reset Guide

### Checking Cloud Chip Connection

- A **Wi-Fi symbol** will appear on the left side of the logo on the main page.
- If connected to the cloud, the **Wi-Fi symbol will blink**.
- If no connection is established, the blinking will stop, and the Wi-Fi symbol will return to its **default gray mode**.

### Connecting to the Cloud

1. Press the **Settings** symbol.
2. Tap the **CLOUD** button.
3. Select **Connect to Cloud** to access the QR code page.
4. Download the **ESP-Rainmaker** app and create an account (or log in with your Google account).
5. Tap the **PLUS** symbol at the top right.
6. Scan the QR code or manually add the device by entering the **prefix name** and **POP**. It must look as below; otherwise, factory-reset from the cloud setting page.



7. Scan for available networks and connect to **2.4GHz network**.
8. Once connected, your device will appear in the app with name ("Thermostat" its name can be modified).
9. You can share the device and organize it into rooms within the app.

### Reset & Restart

To **factory-reset**, **restart the device**, or **reset Wi-Fi credentials**, **LONG-PRESS** the button.

