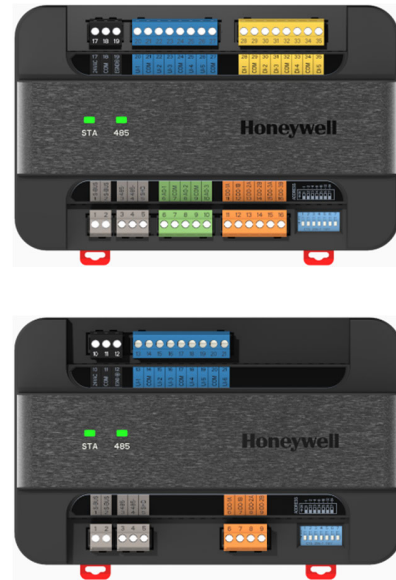


PUC Series

BACnet Universal Controller

Overview

The PUC BACnet Universal Controller is the standard BACnet controller in Honeywell's PUC family that supports BACnet MS/TP communications. With two different I/O composition patterns and functions, it satisfies the need for more flexible and efficient local control and I/O deployment based on the BACnet MS/TP control bus. The hardware design of the controller integrates the core elements of Honeywell's user experience, which embodies the essence of people-oriented concept no matter from appearance or usage. The controller is compatible with the existing systems of Honeywell. It is programmable with the same programming tools and can be widely used to control different building equipment.



Product data

Features

- The PUC controller based on the standard BACnet MS/TP protocol, enabling more flexible field deployment and monitoring of more devices
- Fully programmable on the PUC controller via programming tools to meet different HAVC applications
- Elegant design, light weight and easy to operate, which continues Honeywell's style on the universal controller
- Color-coded removable terminal blocks for differentiating signal types enable convenient and fault free termination
- Built-in input/output points, supporting communications through the standard BACnet MS/TP protocol, featuring rich point combinations and flexible local deployment
- Connecting to the TR42/TR42E display control panel through the Sylk protocol interface
- Supporting the connection of points among controllers, namely "binding", realizing more convenient invocation
- Additional network security with advanced security encryption standard
- Embedded programmable tool with user friendly interface, inheriting the style and functions of existing tools, compatible to the programs edited by the existing WEB tools
- BTL, CE, UL and RoHS certifications

Technical Specifications

Description

Table 1. Controller Model

Controller Model	Description
PUC5533-PB2	PUC BACnet Universal Controller UIx5, DIx5, AOx3, DOx3
PUC6002-PB2	PUC BACnet Universal Controller UIx6, DOx2

Electrical

Nominal voltage: 20-30 VAC, 50/60Hz

Power consumption:

PUC5533-PB2 11VA max. (including controller and all input, output and communication channels)

PUC6002-PB2 7VA max. (including controller and all input, output and communication channels)

PUC6002-EM2 7VA max. (including controller and all input, output and communication channels)

Operating Environment

- Storage temperature
-40°C to 65.5°C
- Operating temperature
0°C to +50°C
- Relative humidity: 5%~95%, without condensation
- Protection rating: IP20

Size (H/W/D)

180 × 115 × 57.5 mm

Certification

- CE
- UL
- RoHS
- BTL

Input and Output

Digital Input (DI)

Input type: dry contact detection on/off

Dry contact resistance: open circuit $\geq 12K$ Ohms; closed circuit ≤ 500 Ohms

Digital Output (DO)

Output type: relay passive dry contact on/off

Relay parameters

Nominal voltage: 20-30VAC, 50-60Hz

Rated current: 0mA-1A(AC), uninterrupted
1A Pilot Duty

Analog Output (AO)

The analog outputs must be current or voltage signals at the same time.

Analog current output:

- Current output: 4.0-20.0 mA
- Maximum output load resistance: 550 Ohms

Analog voltage output:

- Voltage output: 0-10 VDC
- Maximum output current: 10 mA

Analog output can be defined as digital output and run as follows:

- False (0%) output 0 VDC, (0mA)
- True (100%) maximum output 11 VDC, (22mA)

Universal Input (UI): details are shown in Table 2

Table 2. Universal Input Details

Input Type	Sensor	Operating Range
Outdoor temperature for room/area air supply	20K Ohm NTC	-40°C to 93°C
Outdoor temperature	PT1000 (IEC751 3850)	-40°C to 93°C
Input resistance	Normal	100 Ohms-100K Ohms
Input voltage	Transmitter Controller	0-10 VDC
Digital input	Dry contract	Open circuit $\geq 12K$ Ohms Closed circuit ≤ 500 Ohms

Accuracy of digital/analog conversion: 12bit

Communication Interface

- BACnet MS/TP protocol bus: 1 RS485 port is connected to the controller. 18-22AWG shielded twisted pair is recommended for the cable.
- Sylk protocol bus: Supporting TR42, TR42E display control panel

LED Display

Controller's status can be displayed via LED.

Table 3. STA LED Status Description

STA LED Status	Controller Status
Off	No power; damaged LED; insufficient power supply; initial power-on; or boot loader damaged.
Solid on	Start-up power insufficient; check power supply – this requires about 3.5 sec – occurs on power-up, reset and refresh.
Blinking mode 1 – continuously blinks on for 1 sec and off for 1 sec	Operating normally
Blinking mode 2 – continuously blinks on for 0.5 sec and off for 0.5 sec	Equipment alarm active; downloading configuration; loss of configuration.
Blinking mode 3 – continuously blinks on for 0.25 sec and off for 0.25 sec	Equipment in firmware upgrade mode

DIP Switch (Binary Encoding)

The DIP switch is active when pulled up to "ON"

Dip Switch Numbers 1-7, corresponding to low order to high order, are used to set MAC address



Table 4. RS485 Communication LED Status Description

BACnet MS/TP communication status

LED Status	Controller Status
Solid on	Equipment fault or system crashed
Solid on, blink once every 2.5 sec	In bootstrap mode, without MS/TP token.
Solid on, blink twice every 2.5 sec	In bootstrap mode, with MS/TP token.
Solid on, blink three times every 2.5 sec	In bootstrap mode, with BACnet communication data transmission
Solid off	No power supply or equipment malfunction or system crashed.
Solid off, blink once every 2.5 sec	The controller is operating without MS/TP token.
Solid off, blink twice every 2.5 sec	The controller is operating with MS/TP token.
Solid off, blink three times every 2.5 sec	The controller is operating with BACnet communication data transmission

Pollution level: level 2

Electric shock protection level: Class II

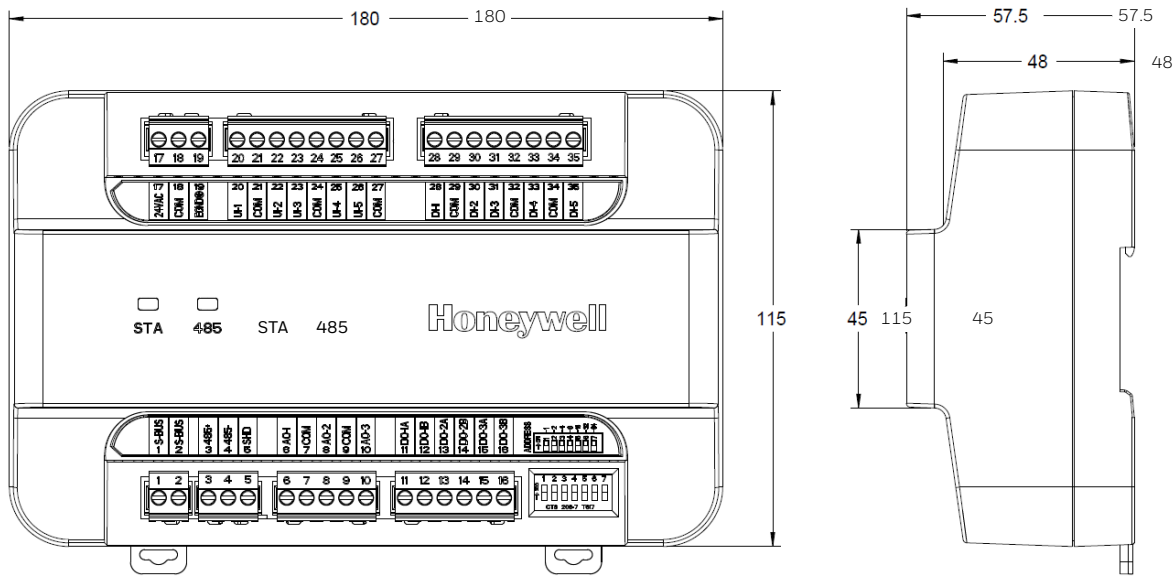
The distance among contact heads: micro-gap

Load-type: continuous

The connection of input/output: use screw clamp terminals

Installation: DIN-rail EN50022

Product Dimensions (Unit: Mm)



Product Installation

Installation Notes

- Removable terminals make it easier for installation and maintenance;
- The controller must be installed in adequate space for wiring, maintenance and removal;
- The product supports DIN rail installation. DIN rail specification: EN50022 7.5mm × 35mm.

Instructions:

1. Pull both hooks at the base of the controller. Tilt the controller and fix the hooks on the top of the controller onto the guide rail;
2. Press the controller for it to fit the guide rail;
3. Push in both hooks at the base to fasten the controller;
4. The controller after the hooks are pushed in is as shown in Figure 4.

