

## Universal BACnet Module (UBM)



### Features Highlights

- BACnet protocol
- Functions as a controller or distributed I/O
- Fully programmable with Standard applications available
- Auto Device Discovery and Configuration
- Small, compact design with high point count
- Removable terminal strips

### Product Description

Novar's UBM is a fully programmable BACnet module. It can be used as a direct digital thermostat controller that provides integrated control of unitary, packaged, and staged HVAC equipment – such as rooftop units. It can also be programmed to control sophisticated HVAC equipment – such as built up systems, air handlers, and chillers.

Additionally, the UBM can be programmed as a distributed input/output module that can be used to meet a wide variety of control, metering, and monitoring applications.

### Application

Control an assortment of HVAC and lighting applications as well as monitor any digital or analog point. The UBM is ideal for applications that require open protocols, high I/O concentration, or sophisticated HVAC control strategies.

**Controller Application Matrix**



# Universal BACnet Module (UBM) Specifications

## Mounting

DIN Rail Mount OR Surface-mount in a control panel using four slotted screw holes

## Dimensions

- Height: 5.45 inches
- Width: 6.85 inches
- Depth: 2.26 inches

## Power Requirements

- Input: 20-30 VAC, Class 2
- Frequency: 50/60 Hz
- Consumption: 5 VA

## Inputs

- Universal (6 Points):
  - 0-10V DC, 20K NTC, 4-20mA

These Universal Input points can be configured to the above voltage, resistance, and current ranges. These can be used for temperature, humidity, CO<sub>2</sub>, or relative humidity depending on the chosen sensor.

- Digital (4 Points):
  - Voltage Rating: 0 to 30 Vdc open circuit
  - Input Type: Dry contact to detect open and closed circuit
  - Operating Range:
    - Open circuit = False; Closed circuit = True
  - Resistance: Open circuit > 3,000 Ohms; Closed circuit < 500 Ohms

## Output

- Analog (3 Points – can be either current or voltage)
  - Current
    - Current Output Range: 4.0 to 20.0 mA
    - Output Load Resistance: 550 Ohms maximum
    - Analog outputs may be configured as digital outputs and operate as follows:
      - False (0%) produces the min possible value of 0 mA
      - True (100%) produces the max possible value of 22 mA

- Voltage
  - Voltage Output Range: 0.0 to 10.0 Vdc
  - Maximum Output Current: 10.0 mA
  - Analog outputs may be configured as digital outputs and operate as follows:
    - False (0%) produces the min possible value of 0 Vdc
    - True (100%) produces the max possible value of 11 Vdc
- Digital (8 Points - Triac)
  - Voltage Rating: 20 to 30 Vac @ 50/60Hz
  - Current Rating: 25 mA to 500 mA continuous, and 800 mA (AC rms) for
  - 60 milliseconds

## Communications

- Method: RS-485
- Application Protocol: BACnet MSTP, maximum 76.8 Kbps
- Method: Two-Wire
- Application Protocol: Syk™ Bus for supported wall sensors

## Operating Environment

- Temperature: -40° to 150°F (-40°C to 68.5°C)
- Humidity: 5% to 95% RH, non-condensing

## LED Indicators

There is a single LED indicator with the following statuses denoted:

LED State	Blink Rate	Status or Condition
OFF	Not applicable	No power to processor, LED damaged, low voltage to board, first second of power up or loader damaged.
ON	ON steady; not blinking	Processor not operating. Application Program CRC being checked. This takes 1-2 seconds and occurs on each restart (power up, reset and reflash, and following configuration file download).
Very Slow Blink (continuous)	1 second ON, 1 second OFF	Controller is operating normally.
Slow Blink (continuous)	0.5 second ON, 0.5 second OFF	Controller alarm is active or is in the process of configuration file download.
Medium Blink (continuous)	0.3 second ON, 0.3 second OFF	Controller is in reflash mode or awaiting/receiving reflash data via the BACnet network.

## Approvals

- UL/cUL (E87741) listed under UL916 (Standard for Open Energy Management Equipment) with plenum rating. CSA (LR95329-3) listed.
- Meets FCC Part 15, Subpart B, Class B (radiated emissions) requirements.
- Meets Canadian standard C108.8 (radiated emissions).
- Conforms to the following requirements per European Consortium standards:
  - EN 61000-6-1; 2001 (EU Immunity).
  - EN 61000-6-3; 2001 (EU Emissions)
  - BTL B-ASC (BACnet Testing Laboratories, BACnet Application Specific Controller)

## Application Requirements

- Opus Version 5.8 or higher
- Application Version 4.0 or higher
- NovarNet.jar version 2.6 or higher
- UnitConversion.jar
- docUBM.jar
- genericUIFramework.jar
- ubmSupport.jar
- ubmTool.jar
- ubm.jar

## Part Numbers/Accessories

Name	Description	Part Number
Universal BACnet Module (UBM)	UBM	UBM-P-6438