



## Description

- ▶ The BACwall is a fully programmable digital wall controller
- ▶ It is factory delivered preprogrammed with a powerful low voltage FCU controller application
- ▶ It supports BACnet MS/TP
- ▶ It has 4 AI/BI's, 3 AO's, 6 BO's plus 1 jumper selectable universal AO/BO
- ▶ Options includes: Humidity sensor, PIR & CO2 sensing
- ▶ It is certified as a B-ASC (BACnet Application Specific Controller)
- ▶ To order use part number as per table below

Model number	Built-in humidity sensor	Built-in PIR motion sensor	Built-in CO2 NDIR sensor
BW437-FCU			
BW437MH-FCU	√	√	
BW437HC-FCU	√		√
BW437MHC-FCU	√	√	√

## Application

This controller is designed to facilitate control and management of equipment typically used in the HVAC industry. It allows powerful yet flexible solutions that can be tailored and sized according to any project needs. It features a very flexible I/O set capable of meeting all terminal equipment control needs in the market

## Technical specifications

### Power supply:

24 Vac/Vdc ± 15%

### Current consumption:

1.5 VA controller only

Up to 96 VA total maximum on all 7 BO's @

0.5A maximum per output

### Inputs:

4 x AI/BI's universal inputs

- Thermistor 10KΩ (type 2 or 3)

- Dry contact, 500 ms minimum (On-Off)

- Voltage 0 - 10 Vdc (Input impedance of 100 K Ω)

- Resolution: 12 Bits (4096 segments)

### Outputs:

6 x BO's Solid State

- 10 to 30Vac/Vdc, 0.5A max.

- Up to 96 VA total maximum on all 7 BO's @ 0.5A maximum per output

- Sink or source main power feed

- Built-in overcurrent protection @ 4A max

- Solid State BO's can be used as pulse outputs

3 x AO's

- Voltage 0 - 10 Vdc linear

1 x universal AO/BO's

- Jumper selectable

- Same specification as above

### Real-time clock (RTC):

Built in with one-week capacitor backup once charged

### Trend logs:

Automatic for all declared BACnet objects

Limited only by the storage capacity of the server when connected to a Strato Edge Server

Server

### Microprocessor:

STM32 (ARM Cortex™ M3)

32 bits, 72MHz

### Memory:

Flash: 768 KB non-volatile for the application program

RAM: 96 KB

### Number of BACnet objects:

Maximum 100 items

### RS485 BACnet MS/TP communication speed:

9600, 19200, 38400, 76800 Bps

### Controller addressing:

Via keypad configuration

### External connections:

Mini USB connector allows local access to the MS/TP network  
Requires a Strato Automation USB-MSTP cable

### Humidity sensor (Sensirion SHT31)

±2 @ 0-100% RH

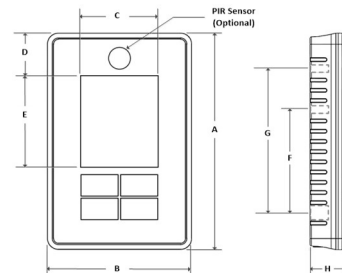
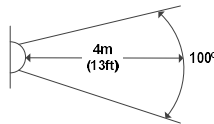
### PIR sensor

- Operating Principle: Passive Infrared

- Detection Angle: 100 degrees

- Detection Distance: 4M (13ft) maximum

- Detection Area



### CO2 sensor Sensirion SCD30

- Operating Principle: Self calibrating, non-dispersive infrared (NDIR)

- Sensor Range: 0-5000 PPM

- Accuracy: ± 30 PPM @ 3% of reading

- Accuracy is valid after a minimum of 3 weeks of continuous operation

- Response Time T63: 2 minutes

### Backlight display / LCD

Multi-HVAC system symbols, time display, 4 segment main numeric display with one decimal

### Programming:

Fully programmable using the Strato Workstation software

### Communication protocols:

BACnet MS/TP

### Dimensions:

B 83 mm x A 124 mm x 20 mm

B 3,25" x A 4,88" x 0,8"

### Max. wire size:

16 awg

### Stocking temperature:

-30 °C to 50 °C / -22 °F to 122 °F

### Operating conditions:

-25 °C to 45 °C / -13 °F to 113 °F

10% to 90% H.R. without condensation

### Weight:

120 g / 0.25 lb

### Mounting type:

Standard 2" x 4" electrical junction box

### Warranty:

1 year

### Enclosure:

White color, ABS material UL94V0

### Certifications:

UL 916 Energy Management Equipment  
BTL listed: B-ASC, BACnet Application Specific Controller