Description

✓ Factory-delivered pre-loaded with a powerful low voltage FCU controller application
✓ Supports BACnet MS/TP
✓ Has 4 AI/BI's, 3 AO's, 6 BO's plus 1 jumper-selectable universal AO/BO
✓ Options include: Humidity sensor, PIR & CO2 sensing
✓ Certified as a B-ASC (BACnet Application Specific Controller)
✓ Requires Onyxx LX USB to RS-485 adapter to program with Onyxx LX UI
✓ 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-LX			
BW437MH-FCU-LX	✓	✓	
BW437HC-FCU-LX	✓		✓
BW437MHC-FCU-LX	✓	✓	✓

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/dc ± 15%

CURRENT CONSUMPTION
1.5 VA controller only
Up to 96 VA total maximum on all 7 BOs @ 0.5A maximum per output

INPUTS
4 x AI/BI's universal inputs
- Thermistor 10 K Ω (type 2 or 3)
- Dry contact, 500 ms minimum (On-Off)
- Voltage 0 - 10 Vdc (Input impedance of 100 K Ω)
- Resolution: 12 bits (4,096 segments)

OUTPUTS
6 x BO's Solid State
- 10 to 30 Vac/dc, 0.5 A maximum
- Up to 96 VA total maximum on all 7 BO's @ 0.5 A maximum per output
- Sink or source main power feed
- Built-in overcurrent protection @ 4 A maximum
- 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 when charged

MICROPROCESSOR
STM32 (ARM Cortex™ M3)
32 bits, 72 MHz

MEMORY
Flash: 768 KB non-volatile for the application program
RAM: 96 KB

RS485 BACNET MS/TP COMMUNICATION SPEED
9600, 19200, 38400, 76800 Bps

CONTROLLER ADDRESSING
Via keypad configuration

EXTERNAL CONNECTIONS
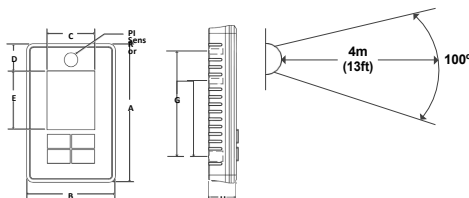Mini USB Type-A connector allows local access to the MS/TP network.
Requires the USB to RS-485 adapter: USB-MSTP-LX.

HUMIDITY SENSOR (SENSIRION SHT31)
±2 @ 0-100% rH

PIR SENSOR
- Operating Principle: Passive Infrared
- Detection Angle: 100 degrees
- Detection Distance: 4 m (13 ft.) maximum
- Detection Area

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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

COMMUNICATION PROTOCOLS
BACnet MS/TP

DIMENSIONS
B 83 mm x A 124 mm x 20 mm B
3.25 in. x A 4.88 in. x 0.8 in.

WIRE SIZE
18-24 AWG acceptable; 18 AWG recommended

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% rH without condensation

WEIGHT
120 g. / 0.25 lb.

MOUNTING TYPE
Standard 2 in. x 4 in. electrical junction box

WARRANTY
1 year

ENCLOSURE
White color, ABS material UL94VO

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

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