

OpenBAS BUILDING AUTOMATION SYSTEM

Description

Mircom's OpenBAS-HV-NXHALF Building Automation Controller aims to provide various HVAC, energy management, and lighting control solutions to offer building owners and managers seamless operation.

The NXHALF combines integrated control, supervision, data logging, alarming, scheduling, and network management functions. With additional modular accessories, the NXHALF can be expanded to support web servers, email and SMS notifications.

The NXHALF is a microprocessor-based programmable controller specially designed to control various building automation applications such as air handling units, chillers, boilers, pumps, cooling towers, and central plant applications.

Features

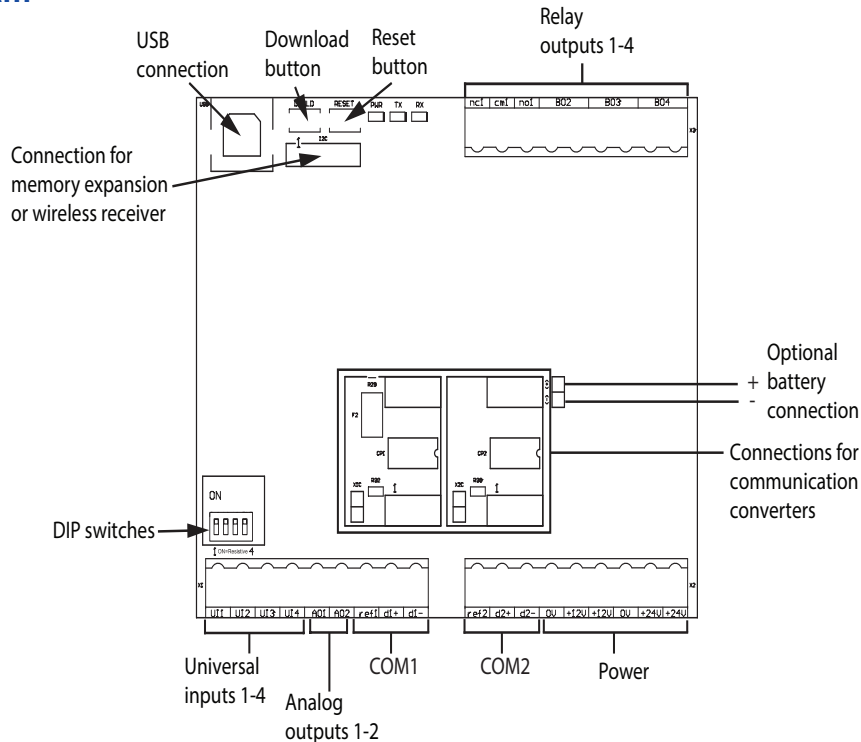
- Standard field bus protocols to integrate into any existing BAS system such as: BACnet, Modbus, Optomux, N2-Open, ECM, and ASCII. Other protocols such as Ethernet, Wi-Fi, Zigbee, EnOcean, Bluetooth, etc. can also be incorporated using external modules or Network cards.
- Modular design and expandability for increasing capacity of inputs and outputs through expansion modules, networked controllers, and remote bus-driven controllers.
- OpenBAS covers any small, medium, or large-sized projects, either stand alone or networked applications.
- Supports the management of wireless field devices, sensors, and switches. Reduces the cost of installation for new or retrofit applications.
- Two RS-485 field bus communication ports.
- Programmable remotely with the addition of the OpenBAS-NWK-ETH3 network module or locally through the USB and field bus ports.
- 4 Universal Inputs are provided to connect any industry standard sensor. 2 Analog Outputs for variable uses (ex. Base heaters).

- 4 Relay binary Outputs with a current capability of up to 5 Amps at 125 VAC or 28 VDC. Avoids unnecessary costs of externally mounted relays.
- Powerful Configuration Software supports ladder templates and script programs for an effortless solution. Visually assemble building blocks for custom control sequences in any HVAC/building automation application.
- Mircom's enclosures, boxes, and power supplies provide installers with a single supplier source for all building automation needs.
- Highly expandable with several expansion buses that allow the addition of diverse external modules. One full speed USB 2.0 port used to configure the controller and program the application logic with the configuration tool software.
- Uniquely allows the support of up to 2 separate networks of BAS controllers simultaneously with two different communication protocols.
- DIN Rail mountable.
- Each controller can be configured as a master and a slave simultaneously through the available field buses.
- Master controllers have the capability to support up to 50 remote points or 460 remote points with expanded memory.

Typical Applications:

- Small air handler units
- Roof top units
- Small mechanical rooms
- Single VAV boxes
- Single Fan & Coils
- Water source heat pumps
- Pumps
- Industrial automation
- Protocol conversion

Wiring Diagram



Technical Information

Standards	UL 60730-1		
Input:	12 Vdc, 177 mA max., or 24 Vac 50/60 Hz, 200 mA max., or 24 Vdc, 102 mA max.		
Output:	12 Vdc, 100 mA max. (when 24V powered)		
Power Supply Protection:	Resettable fuse 0.30 A		
Optional Battery:	FDK Corporation ML2430 Type: lithium Nominal capacity: 100 mAh Nominal voltage: 3 V Mircom part number: BT-025		
Relay Output 1:	Voltage, current	Load	Form
	125 VAC, 5 A	General Use	NO/NC
	28 VDC, 5 A	Resistive	NO/NC
Relay Outputs 2, 3, 4:	Voltage, current	Load	Form
	125 VAC, 5 A	Resistive	NO
	125 VAC, 3 A	General Use	NO
2 Analog Outputs:	Analog Output Voltage:		
	<ul style="list-style-type: none"> • 0-10 VDC • 2-10 VDC • 0-5 VDC 		

4 Universal Inputs:	Analog Inputs:
	<ul style="list-style-type: none"> • 0-10 VDC • 0-5 VDC • 0.5-4.5 VDC ratiometric • 0-20 mA • 4-20 mA • 1000 Ω temperature sensor • Thermocouple input with x200 amplifiers <p>Digital (binary) inputs:</p> <ul style="list-style-type: none"> • For dry contacts being fed by 12 VDC <p>Pulse counters:</p> <ul style="list-style-type: none"> • Active PNP 12 VDC • For dry contacts being fed by 12 VDC
Communication Ports:	<p>2 RS-485 ports supporting the following protocols:</p> <p>COM1</p> <ul style="list-style-type: none"> • BACnet/MSTP • Modbus/RTU-Slave • Modbus/RTU-Master • N2-Open • Optomux <p>COM2</p> <ul style="list-style-type: none"> • N2-Open • Optomux • N2/O22-master • ASCII • ECM <p>Can be configured as RS-232 or optically isolated RS-485</p> <p>BAUD Rate: 2400, 4800, 9600, 19200, 38400, 76800</p> <p>1 USB 2.0 port supporting the following protocols:</p> <ul style="list-style-type: none"> • Optomux • ASCII <p>1 I2C port for memory expansion or OpenBAS-HV-RF433R</p>
Physical Characteristics:	<ul style="list-style-type: none"> • Weight: 160 g (5.6 oz) • Enclosure dimensions: 106 mm x 90 mm x 58 mm (4 3/16" x 3 35/64" x 2 17/64")
Ambient Conditions:	<ul style="list-style-type: none"> • Operating temperature: 0° to 40°C (32° to 104°F) • Indoor Use Only
Purpose of Control:	Operating Control, HVAC Control
Construction of Control:	Independently Mounted, for Panel Mount
Action Type and additional features:	Type 1.C
Pollution Degree:	2
Software Class:	Class A
Rated Impulse Voltage:	2500V

USB and Expansion Ports		
P3	USB 2.0 Programming Port	The programming requires the use of the OpenBAS-SW-CFGTL configuration tool software
P4	I2C Expansion Port	The expansion port P4 is used for adding expansion modules and/or wireless expansion modules.

Ordering Information

Model	Description
OpenBAS-HV-NXHALF	Half Sized Automation Controller for HVAC Applications
BT-025	Replacement / Optional battery for NX10, NX12R, NXHALF, NXSF

NOT TO BE USED FOR INSTALLATION PURPOSES.



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