OpenBAS BUILDING AUTOMATION SYSTEM

Accessories

Mircom's OpenBAS controllers can be expanded with supported accessories to accommodate any industrial, commercial, or residential application. Some of the accessories include memory expansion, protocol conversion, digital displays, SMS transmitters, and networking modules. The OpenBAS accessories provide the flexibility to scale from a small to large system with its modular architecture.

Optional Memory Expansion Modules

OBS-ACC-32K128
This module consists of 128 kB of EEPROM memory + 32 kB of non-volatile (NV) RAM memory expansion via I2C bus.

- 128 kB of EEPROM provides an expansion of 1,000 point data logging for up to 8 graphs.
- 32 kB NVRAM provides memory expansion for an additional 410 remote points to any OpenBAS controller that has no dual core processor.
- In addition to the standard 50 remote points, a total of 460 remote points are available, wired or wireless, in any mix and match field bus protocols.

Simple Wired Temperature Sensing

OpenBAS-ACC-TE1K
Resistive silicone temperature sensor for HVAC applications. Incorporates a screw terminal connector for easy mounting. Reference resistance is 1,000 Ω @ 21°C (69.8 °F).

Communication Adapter Boards

OBS-NWK-USBCNV
The USB to RS-485 / RS-232 converter is used for connecting a PC to any OpenBAS controller via RS-485 or RS-232 ports.

- Footprint: 3.5 x 9 x 6 cm
- DIN Rail mountable
- RS-232 port with RS11 connector for PRO-2000 applications
- Communication LEDs
- USP Powered

Typical Applications:

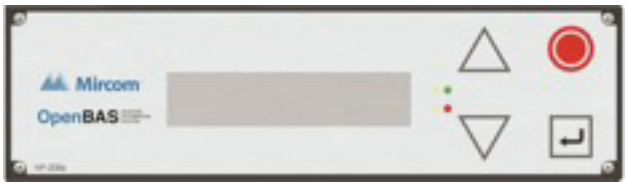
- Protocol conversion
- PC gateway
- PC programming
- Commissioning

OpenBAS-ACC-DB9
The DB9 female connector is used to convert three pin communication terminals on the OpenBAS controllers to a standard three wire DB9 connecter for use with a PC and/or modems.

OpenBAS-ACC-RS232
The RS-232 communication card, designed for OpenBAS controllers, provides field replacement of communication field buses requiring RS-232 protocols.

OpenBAS-ACC-RS485
A RS-485 communication card optically isolated up to 1 kV. Can be field replaced to provide isolation in field buses of OpenBAS controllers.

Optional Displays



OpenBAS-HV-LCD
This Operator Display includes a 2.5" screen, can be added to the NX10P HVAC controller, and has the following features:

- Mounted on top of NX10P plastic box, full size 15.8 x 9 x 6 cm
- Backlit LCD with 16 x 2 alphanumeric display
- Programmable
- Color LED status indicators
- Multi-language support (preloaded)
- 4-Button user interface
- I2C bus powered
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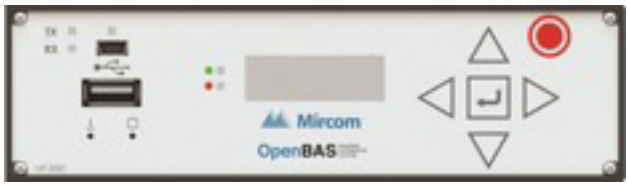
Typical Applications:

- Operator interface
- HVAC setup and commissioning
- Local scheduling
- Local override
- Replacement part



OpenBAS-HV-CORE2
This Operator Display includes a 32 bit secondary core, can be added to the NX10P HVAC controller, and has the following features:

- Graphic 1.5" display with 128 x 32 pixels, backlighting, 6 buttons, and a red/green status indicator.
- 256kB of EEPROM memory expansion integrated to increase the capacity of remote points in field buses to 470 points, and to add two PLC's with 400 ladder instructions each.
- One USB 2.0 port to install external memory for unlimited data storage.
- 6 user selectable languages.

Typical Applications:

- Operator interface
- HVAC setup and commissioning
- Local scheduling
- Local override
- System expansion
- Replacement part

Optional Networking Modules

OpenBAS-NWK-SMS
The OpenBAS-NWK-SMS is a GPRS modem with SMS text message generation that ties directly into the OpenBAS Controllers. The NWK-SMS can be programmed with its internal 400 instruction PLC to send up to 20 text messages.

It has two RS-485 field buses with multiple protocol support for: BACnet/MSTP, Modbus/RTU, Opto-22, N2-Open, and ASCII. The NWK-SMS incorporates one universal input and one universal output to be used as a standalone SMS generator. This product requires a GPRS SIM card (not included).

- Footprint: 10.5 x 9 x 6 cm
- GSM/SMS module with antenna
- Uses standard SIM module for easy setup into cell network
- Generates up to 20 different messages, where each can be sent to a separate phone number
- Two universal inputs
- One digital output 0.5 Amp @ 120 VAC
- Two field buses with RS-485 drivers
- Powered by 24 VAC/VDC or 12 VDC
- USB 2.0 and I2C buses
- Field bus protocols; BACnet/MSTP, Modbus RTU, N2-Open, Opto22, ASCII
- Alarm and event reporting over GSM/SMS
- DIN Rail mountable

Wireless Temperature and Protocol Conversion

OpenBAS-HV-RF433R
Wireless adapter module with I2C bus interface designed to add wireless communication to the OpenBAS NX10 Series of controllers.

Enables the communication of up to 10 wireless field devices, such as wireless temperature and humidity sensors.
Note: The wireless adder module works in 433 MHz bandwidth as a default and must be connected to the P6 expansion port.

- Footprint: 3.5 x 9 x 6 cm
- Split design for better RF reception
- Powered by I2C @ 5 VDC
- DIN Rail mountable

Wireless Temperature and Protocol Conversion

OpenBAS-HV-NXCORE
A small footprint protocol converter with a 400 instruction PLC automation controller for HVAC and energy management applications, providing a total of 50 remote points.

- USB 2.0
- Two RS485/RS232 field buses with multiple protocol support
- I2C bus
- Works on 12/24 Volts AC/DC
- DIN Rail mountable

Can be upgraded by adding:

- Memory Expansion
- Operator Displays
- Field bus Communication cards

The Learning Module

OpenBAS-HV-LEARN
The learning module is designed for OpenBAS training which includes multiple inputs and outputs to replicate inputs and loads. It connects with the OpenBAS software for programming. Used for training installers, technicians, and commissioning engineers.

- 8 LED's for binary outputs (4 open collector outputs available externally)
- 8 potentiometers for analog inputs (4 terminals available for external input)
- 8 toggle switches for binary inputs (4 terminals available for external input)
- 2 RS-485 communication ports
- 2 analog outputs (3.3V max)
- 1 integrated 1000 Ω temperature sensor
- 400 PLC instructions, 400 schedules, 50 remote points
- SPI bus for connecting the Ethernet Gateway (OpenBAS-NWK-ETH3)
- I2C bus for connecting LCD display, future memory expansions
- 12 V AC/DC, or powered over micro-USB

Ordering Information

Model	Description
OBS-ACC-32K128	128 kB of EEPROM memory and 32 kB of non-volatile (NV) RAM memory expansion via I2C bus.
OBS-NWK-USBCNV	USB to RS-485 / RS-232 Converter, used for connecting a PC to any OpenBAS controller via RS-485 or RS-232 ports
OpenBAS-ACC-DB9	DB9 Connector
OpenBAS-ACC-RS232	RS232 Communication Card
OpenBAS-ACC-RS485	Profibus Communication Card
OpenBAS-HV-LCD	2.5" Operator Display (Replacement Part)
OpenBAS-HV-CORE2	Operator Display that includes a 32 bit secondary core and USB port. (Replacement Part)
OpenBAS-NWK-SMS	GPRS Modem with SMS Text Message Generation
OpenBAS-HV-RF433R	Wireless Adapter Module to add Wireless Communication to the NX10 Series
OpenBAS-HV-NXCORE	Protocol Converter for HVAC and Energy Applicaitons
OpenBAS-ACC-TE1K	Resistive Silicone Temperature Sensor
OpenBAS-HV-LEARN	OpenBAS Training Module
BT-025	Replacement / Optional battery for NX10, NX12R, NXHALF, NXSF
BT-014	Replacement AA batteries for WLSTH
BT-007	Replacement battery for ETH3, ME11

NOT TO BE USED FOR INSTALLATION PURPOSES.

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