

Continuum® BACnet Family™

b3867 Terminal Controller



- **Native BACnet MS/TP Communications for Interoperability to Third-Party Systems**
- **Compact Terminal Controllers Provide Low-cost DDC Control of Package Units, Heat Pumps, Unit Ventilators**
- **Universal Inputs with Form A, Form K, and Analog Outputs for Flexible Control Options**
- **Non-Volatile Flash Memory Provides Utmost Reliability — Stores Both Application Program and Operating System**
- **Flash Memory Allows Easy On-Line Software Updates**
- **Local Storage of Extended Log Data**
- **Modular, Sleek Design Simplifies Installation in Small Areas**
- **View and Modify Information with Optional Andover *Smart Sensor* Display**

The *Continuum* b3867 is a native BACnet Advanced Application Controller (B-AAC) that communicates on an RS-485 field bus as a Master device using the MS/TP BACnet protocol. The b3867 provides cost-effective DDC control of package units, heat pumps, unit ventilators, and other terminal unit applications. Its versatile mix of I/O — Universal inputs, Triac outputs, plus an interface to Andover Controls' *Smart Sensor* room temperature sensor with programmable keypad — allows for flexible control solutions. The b3867 also features two analog outputs to control reheat valves, dampers, lighting ballasts, etc. And because the b3867 is enclosed in a sleek, modular casing, it can be mounted in a small area — perfect for retrofit applications.

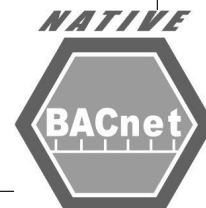
The b3867 features Flash memory, increased user memory, and a fast (32-bit) processor for faster scan times, with plenty of additional memory available for data logging of your critical data.

As a native BACnet controller, the b3867 can communicate with other BACnet devices on the MS/TP network, in strict accordance with **ANSI/ASHRAE standard 135-2001**. By connection to the Andover b4920 device the b3867's and other MS/TP devices can share and gather data from the wider Ethernet/IP network of controllers. Among those Ethernet controllers can be *Continuum* controllers (BACnet or Infinet) or third-party BACnet/IP devices. All Andover devices, both BACnet and Infinet, are fully compatible with the *Continuum* CyberStation front-end software, a fully native BACnet Operator Workstation (B-OWS) application.

INCREASED RELIABILITY WITH FLASH MEMORY

The b3867's non-volatile Flash memory stores your operating system *and* application programs, so that in the event of a power loss, your application will be restored when power is returned. In addition, the Flash memory allows for easy upgrades of your operating system via software downloads, eliminating the need to swap out proms. The b3867 includes an on-board battery to safeguard your runtime data — protecting all point data and log data from being lost if power is removed.

Andover Controls
WE'RE BUILDING SMART



INPUTS

The input configuration on the b3867 consists of four full range Universal inputs that accept voltage (0-5VDC), digital (on/off), counter signals (up to 4Hz), or temperature signals. The b3867 also offers a fifth input to support the Andover *Smart Sensor*, or any standard room temperature sensor

OUTPUTS

The b3867 contains five Form A Triac-based outputs. Each Triac is ground referenced. These outputs can be used separately for on/off or pulsed control of lighting, heat, and fan units or be configured into Form K Tri-state outputs (2-max) for bi-directional control of dampers and valves, with a free Triac output remaining. (Note: Any two consecutive Triac outputs can be configured as a Form K output.) Outputs are rated for AC loads only. The b3867 also offers two (0-10V) analog outputs.

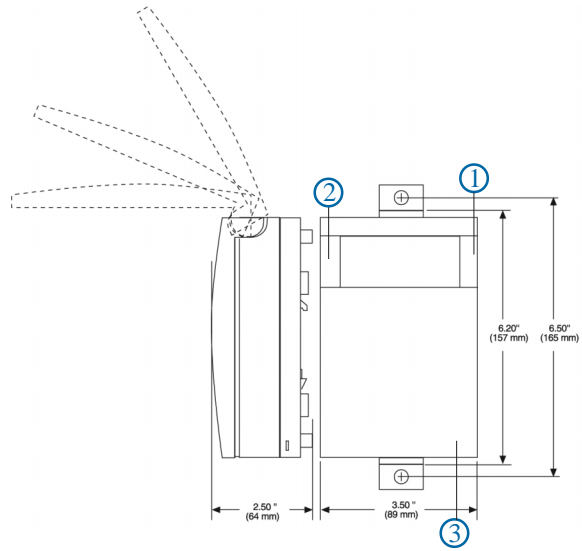
SOFTWARE CAPABILITIES

The dynamic memory of the b3867 can be allocated for any combination of programs, scheduling, alarming, and data logging using the powerful Andover Controls *Plain English*[®] programming language. Our object-oriented *Plain English* language with intuitive keywords provides an easy method to tailor the controller to meet your exact requirements. Programs are entered into the b3867 using the *Continuum* CyberStation. Programs are then stored and executed by the b3867.

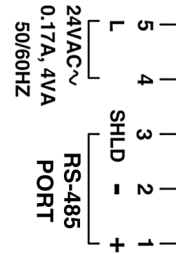
Programming multiple b3867s is inherently easy with *Plain English*. A complete copy of one b3867's programs can be loaded directly into other b3867s without changing any point names or programs.

SMART SENSOR INTERFACE

The b3867 provides a built-in connection for Andover's *Smart Sensor*. The *Smart Sensor* provides a 2-character LED display and a 6-button programmable keypad that enables operators and occupants to change setpoints, balance VAV boxes, monitor occupancy status, and turn equipment on and off. An enhanced version of the *Smart Sensor* is also available with a 4-digit custom LCD that provides the following icons: PM, %, °, Setpoint, Cool, Heat, CFM, Fan, OA, and SP.

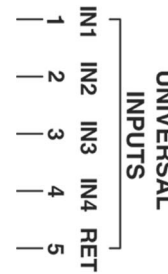


Dimensional Drawing



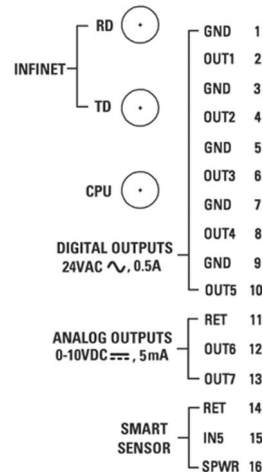
①

Power and Communications Drawing



②

Inputs Drawing



③

Outputs/Smart Sensor Drawing

SPECIFICATIONS

b3867 Terminal Controller

ELECTRICAL

Power:	24 VAC, +10% -15%, 50/60 Hz
Power Consumption:	4 VA
Overload Protection:	Fused with 2 amp fuse. MOV protected.
Software Real-Time Clock:	Synchronized through MS/TP via BACnet

MECHANICAL

Operating Environment:	32°–120°F (0–49°C), 10–95% RH (non-condensing)
Size:	6.20"H x 3.50"W x 2.50"D (157H x 89W x 64) mm
Weight:	0.64 lbs. (0.29 kg)
Enclosure Type:	UL Open class, IP 10. Flammability rating of UL94-5V
Mounting:	Din-rail or panel mount

BATTERY

Battery Backup:	Replaceable, non-rechargeable, lithium battery. Provides 5 years typical accumulated power failure backup of RAM memory
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COMMUNICATIONS

Communications Interface:	RS-485, BACnet MS/TP
Communications Speed:	9600, 19.2K, 38.4K, 76.8K baud*
BACnet Device Profile:	B-AAC, BACnet Advanced Application Controller
Bus Length:	4,000 ft. (1,220m) standard; BACnet repeater module allows extension to longer distances.
Bus Media:	Twisted, shielded pair, low capacitance cable

Note: Baud rates REQUIRE Continuum V1.62 version (or later) of software

INPUTS/OUTPUTS

Inputs:	4 Universal inputs: Voltage (0-5.115 VDC); Temperature -30°F to 230°F (-34°C to 110°C), Digital (on/off), Counter (up to 4Hz at 50% duty cycle, 125 ms min. pulse width). Current input (0 - 20 mA) using external 250 ohm resistor 1 <i>Smart Sensor</i> Temperature Input (32°F to 105°F) (0°C to 41°C)
Input Voltage Range:	0-5.115 volts DC
Input Impedance:	10K ohm to 5.120V or 5M ohm with pull-up resistor disabled
Input Protection:	24 VAC or 24 VDC temporarily on any single channel, ±1000V transients (Tested according to EN61000-4-4)
Input Resolution:	5.0 mV
Input Accuracy:	±15mV (±0.56°C from -23°C to +66°C or ±1°F from -10°F to +150°F)
Outputs:	5 single pole single throw (SPST) Form A Triacs (Any two consecutive outputs can be configured as one Tri-State Form K) 2 analog outputs (0-10V)

INPUTS/OUTPUTS (CONTINUED)

Output Rating:	
For SPST:	Maximum 0.5A, 24VAC, ±2000V transients (Tested according to EN61000-4-4) Minimum: 20 mA AC Each Triac is ground referenced, DC loads not permitted.
For 0-10V:	5 mA maximum, 2K ohm minimum impedance, ±1000V transients (Tested according to EN61000-4-4)
Output Accuracy:	
For SPST:	0.1 sec. for pulse width modulation
For 0-10V:	50 mV resolution/100mV accuracy

CONNECTIONS

Power/Communications:	5-position removeable screw terminal connector
Inputs:	5-position removeable screw terminal connector
Outputs/Smart Sensor:	16-position removeable screw terminal connector
Service Port:	4-position shrouded connector

USER LEDS/SWITCHES

Status Indicator LEDS:	
CPU	CPU Active
TD	Transmit Data
RD	Receive Data
Switches:	
RESET	
Input Pull-up Resistor Switch (per input)	

GENERAL

Memory:	128K SRAM, 1MB FLASH
Processor:	Motorola 32-bit Coldfire

Note: b3867 REQUIRES Continuum V1.6 version (or later) of software

AGENCY LISTINGS

UL/CUL 916, FCC CFR 47 Part 15, ICES-003, EN55022, AS/NZS 3548, and VCCI Class A, CE



OPTIONS

UL864, Smoke Control System Equipment, UUKL (b3867-S)

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