Continuum™
b3867 Terminal Controllers

- Native BACnet MS/TP Communications for Interoperability to Third-Party Systems
- Supports 18 BACnet Object Types including Trends, Schedules, Calendars, and Loops
- Compact Terminal Controllers Provide Low-cost VAV Control
- Built-in Damper Actuator Simplifies Hardware Installation
- 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 Extended Storage of Log Data
- On-Board Airflow Sensor
- View and Modify Information with Optional Andover Smart Sensor Display
- BTL Listed B-AAC Controller with Local Trends

The Andover Continuum™ b3867 is a native BACnet controller 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's Continuum 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 135-2004, and are listed with the BACnet Testing Labs (BTL) as BACnet Advanced Application Controllers. (B-AAC). By connection to the Andover Continuum b4920 or bCX1 controller, 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 Continuum 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

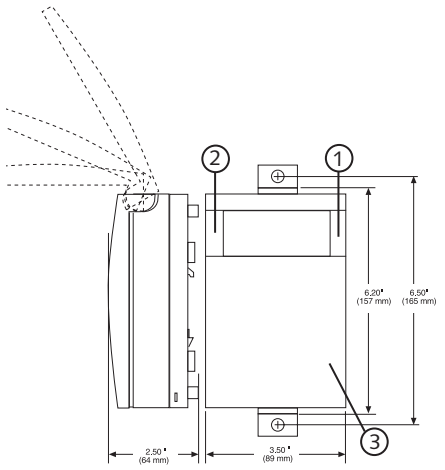
The b3867's non-volatile Flash memory stores your operating system and application programs, so that in the event of a power loss, your application will be restored when power is returned. In additon, the Flash memory allows for easy upgrades of your operating system via software downloads, eliminating 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.

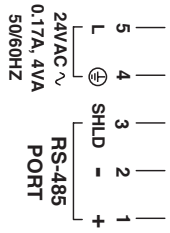
INPUTS

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.

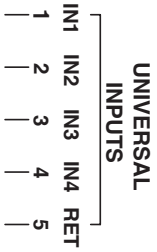
b3867 Terminal Controllers



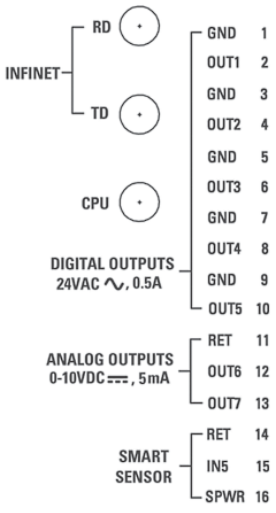
Dimensional Drawing



① Power and Communications Drawing



② Inputs Drawing



③ Outputs/Smart Sensor Drawing

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 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 Continuum 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.

SPECIFICATIONS

b3867 Terminal Controllers

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

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

BATTERY

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

COMMUNICATIONS

Communications Interface
RS-485, BACnet MS/TP

Communications Speed
9600, 19.2K, 38.4K, 76.8K baud

Bus Length
4,000 ft. (1,220m) standard; Infinet repeater module allows extension to longer distances.

Bus Media
Twisted, shielded pair, low capacitance cable

Infinet Device Profile
Advanced Application Controller

BTL Listed
B-AAC with Local Trends

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 Smart Sensor 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)

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

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 (i2867-S)

SDS-B3867
2/06

N1831

LISTED
5882
OPEN ENERGY MANAGEMENT EQUIPMENT

a company of Schneider Electric

www.tac.com

t.a.c®