



Typical connections to enable BACnet® Interface.



BACnet® is a registered trademark of ASHRAE

### ■ ECS BACNET® INTERFACE MODULE

The BACnet® Interface Module enables the integration of the Encelium Energy Control System (ECS) with any BACnet® compatible building automation system. ECS operates autonomously while lighting status, lighting levels and energy usage are all shared and may be controlled via BACnet®. Connection between the two systems is established via BACnet/IP.

The BACnet® Interface Module:

- Enables BACnet® switching and dimming control.
- Provides load shedding control over the lighting load (also referred to as demand response).
  - ECS provides information about the estimated amount of lighting load available for reduction, either by selected groups (Group Sheddable Load) or in total (Sheddable Load). In turn, load shedding requests can be made for each selected group individually or ECS can initiate prioritized load shedding by predefined zones through a single request to reduce the total lighting load.
  - Both types of load shed requests can be defined in Watts to achieve precise load reduction or by the common method of shedding by a percentage of the current lighting load.
- Notifies ECS of an emergency through a BACnet®-connected fire alarm input to turn all lights on.
- Shares occupancy information obtained by ECS with a BACnet® client to integrate HVAC with occupancy.
- Utilizes a centralized BACnet® time schedule.

To ensure smooth and user-friendly integration, the BACnet® Interface Module creates access points with names and descriptions that can be customized to accommodate any BACnet® client's naming scheme. It also exports standard BACnet® object properties in a clear, structured manner and can define an unlimited number of groups of fixtures.

The ECS BACnet® Interface Module adheres to the ANSI/ASHRAE standard 135-2004 "BACnet" (ISSN 1041-2336)

## TECHNICAL DESCRIPTION

The ECS BACnet® Interface Module shares the following information with BACnet® clients:

PROPERTY	BACnet® TYPE	DESCRIPTION
Light Zone State	Binary Value*	State of the defined lighting zone - on or off
Light Zone Dimming	Analog Value*	Light output level of the defined lighting zone, from 100% (maximum light output) to 0% (minimum light output)
Fire Alarm State	Binary Input	State of the fire alarm system-alarm activated or alarm not activated
Occupancy State	Binary Output	State of the defined occupancy sensor -occupancy detected or not detected
Sheddable Load	Analog Output	Reports the total lighting load available for load reduction according to ECS, defined in Watts
Shed Status	Analog Output	Reports the total current load reduction achieved according to ECS defined prioritization, defined in Watts
Shed Request	Analog Input	Requested total amount of load reduction, defined in Watts or as a percentage of sheddable load
Sheddable Load (Group)	Analog Output	(As above, unprioritized for the selected group)
Shed Status (Group)	Analog Output	(As above, unprioritized for the selected group)
Shed Request (Group)	Analog Input	(As above, unprioritized for the selected group)

\* Read/write BACnet® properties

## SYSTEM REQUIREMENTS

An Encelium Energy Control System with an SSU connected to a BACnet® system via BACnet/IP.

## CONNECTIONS

To communicate between the ECS system and the BACnet system, one of two connections is required:

- A connection from the BACnet network to the second network card of the SSU or
- A connection from the BACnet network to the Encelium network switch.

## Cat. No. BIF-600

# ENCELIUM

**CORPORATE HEAD OFFICE**  
500 Frank W. Burr Boulevard  
Floor 1, Suite 29  
Teaneck, NJ 07666 U.S.A.  
Tel. 1.201.928.2400  
Tel. 1.201.928.4028

**CANADIAN OFFICE**  
68 Leek Crescent - Unit A  
Richmond Hill, ON L4B 1H1  
CANADA  
Tel. 1.905.731.7678  
Tel. 1.905.731.1401

**TECHNICAL SUPPORT**  
1.888.531.7573

**EMAIL** [technicalsupport@encelium.com](mailto:technicalsupport@encelium.com)  
**WEB** [www.encelium.com/technicalsupport](http://www.encelium.com/technicalsupport)