ACM GLOBAL CONTROLLER

The backbone of Alerton's BACtalk™ Ascent product line, the Ascent Control Module (ACM) is the industry's most agile BACnet Building Controller (B-BC) in its class. It combines Alerton's pioneering and proven BACnet® capability with Tridium's® Niagara Framework® flexibility.

It provides a powerful assortment of features such as multiple global controller instances, and multiple communication networks.

The ACM can incorporate up to six (6) global controller instances and supports up to six (6) MS/TP trunks or EIA-485 LANs, consolidating the functionality of these controllers into a single configurable platform, and exceeding the functionality of six individual devices.

Two onboard Ethernet ports support 10/100/1000 Mbps Ethernet connections to the BACnet network, Modbus TCP or for Niagara 4 integration protocols such as LON IP and SNMP.

Easy to add option cards offer scalability for additional communication trunks as needed using the two slots available on the ACM. For example, you can use one option card slot for additional BACnet communication and the second card slot for LON communication by simply adding a dual 485 card and a LON card, respectively. Or you can use up to four card slots to support applications with large point count requirements for a central plant.

The ACM's quad-core processor future-proofs the system by providing high DDC execution speed for all the computing power you need. Two-direction DIN channel and direct panel mount options enable you to mount the ACM in different positions for the best fit.

The ACM hosts automation features such as schedules, trendlogs, alarms, zones and demand limiting.

FEATURES AND HIGHLIGHTS

SCALABLE
- Supports up to six EIA-485 LANs; two EIA-232 connections; two LON LANs; four TUX trunks; or 4 AXM/EXP trunks.

INTEROPERABLE
- Supports the BACnet Protocol on Ethernet, BACnet/IPv4, BACnet/IPv6, and MS/TP; Modbus TCP and RTU (EIA-485 and EIA-232); Alerton TUX, Alerton AXM (and EXP), as well as many Niagara supported protocols.

ENTERPRISE READY
- Supports BACnet/IPv4, BACnet/IPv6, and Network Time Protocol (NTPv4), and can be configured to act as a BACnet Broadcast Management Device (BBMD).
- Secure Boot to prevent tampering.

POWERFUL
- Advanced processor and extended memory provide a fast, reliable platform for running DDC programming and global automation routines.

SEGMENTED DDC CODE
- Allows multiple DDC program instances to run within a single controller, providing the ability to logically group sub-systems, improve uptime by enabling service on one system without impacting another, and maximizing flexibility in programming configuration.

TECHNICAL DATA: ACM

POWER 20-30 VAC @ 40 VA, 47–63 Hz, full-wave rectified, with optional battery backup (see other side).

DATA BACKUP/STORAGE One removable microSD card.

PROCESSOR AND MEMORY Efficient, high-speed, quad-core CPU based on the ARM® Cortex™-A9 architecture (Freescale i.MX6Quad); 1GB DDR3 SDRAM, 64-bit-wide, 533 MHz (1066 MT/s).

REAL-TIME CLOCK Provides system date and time.

BACNET/IP IPv4 and IPv6 support for interoperability on enterprise and WANs. Functions as up to four BACnet broadcast management devices (BBMDs) in accordance with Annex J BACnet/IP. Supports both Alerton and BACnet Standard network address translation (NAT) implementations.

MS/TP Supports two onboard networks that can be used for BACnet MS/TP or EIA-485 and up to two expansion cards (two networks each) for a maximum of six BACnet MS/TP networks per ACM.

MODBUS supports both TCP and RTU (EIA-485 and EIA-232) protocols; configuration supports up to 384 Modbus devices.

TUX Supports up to four Alerton TUX trunks for connection of up to 64 TUXs per trunk communicating at 4800/9600 baud or up to 32 TUXs per trunk communicating at 1200 baud. Each TUX Option Card has two TUX trunks.

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VLX/AXM (EXP) Supports up to four instances of the VLX application; one instance is included with the ACM.

EXPANSION Supports up to two expansion cards for interface adapters, such as EIA-485, EIA-232, LON, and TUX.

COMMUNICATIONS Provides two Ethernet ports, two onboard EIA-485 networks, two expansion card slots give the ability to add up to four additional EIA-485 networks (for a total of six), or two EIA-232 connections, or two LONworks networks, or up to four TUX Trunks.

MOUNTING 35mm DIN rail, either vertical or horizontal orientation.

DIMENSIONS 7-1/4 W x 8-9/16 H x 1-11/16 D (inches) 185 W x 220 H x 44 D (millimeters); fits 12 x 12 x 4 (inch) panel enclosure.

ENVIRONMENTAL Without battery:
 -4 to 149 °F (-20 to 65 °C), 0 to 95% RH, non-condensing.

Storage Temperature:
-4 to 185 °F (-20 to 85 °C), 0 to 95% RH, non-condensing.

ETHERNET Two integrated 8P8C modular connectors for use with two 10Base-T, 100Base-TX, and 1000Base-T Ethernet networks.

SOFTWARE Programming interface is Alerton Compass operator workstation software. Supports Niagara 4 platform when running ACM 2.x ROC (ACM ROC 2.3.8 supports N4.8 and ACM ROC 2.4.2 supports N4.10).

PROTOCOLS BACnet/Ethernet, BACnet/IPv4, BACnet/IPv6, BACnet/MSTP, Modbus RTU, Modbus TCP, Alerton TUX, Alerton AXM/EXP, Network Time Protocol v4 (NTPv4), and numerous Niagara supported protocols.

AUTOMATION FEATURES Supports 2000 trendlogs, 2000 alarms, 6000 AVs, 6000 BVs, 10 demand limiters, 384 schedules, and 384 zones (Optimum Start).

CERTIFICATIONS AND STANDARDS
 - RoHS compliant
 - CE (EN 60730-1)
 - FCC Part 15 Class B
 - ICES-003
 - C-Tick listed
 - UL 916 for open energy management equipment.
 - BTL Listing: BACnet Building Controller (B-BC)

TECHNICAL DATA: ACM BATTERY

The ACM has an optional 12 volt NiMH battery, which provides backup power that allows for orderly shutdown should power remain OFF for more than 60 seconds.

POWER 12 VDC supply voltage

ENVIRONMENTAL
Operational temperature and humidity:
32 to 122 °F (0 to 50 °C), 0 to 95% RH, non-condensing
Recommended storage temperature and humidity (to extend life):
41 to 77 °F (5 to 25°C), RH 65% ±5% non-condensing
Allowed storage temperature and humidity:
32 to 122 °F (0 to 50 °C), RH 5 to 95% non-condensing

CERTIFICATIONS AND STANDARDS
 - UL 2054 ed 2 rev 2011-09-14
 - EN 62133 ed 1 (2002), ed 2 (2012)

TECHNICAL DATA: TUX OPTION CARD

Each card has two TUX trunks - a total of four TUX trunks can be added in an ACM.

ENVIRONMENTAL
Operational temperature and humidity:
-4 to 149 °F (-20 to 65°C), 5 to 95% RH, non-condensing

Storage temperature and humidity:
 -40 to 149 °F (-40 to 65°C), 5 to 95% RH, non-condensing

 CERTIFICATIONS AND STANDARDS
 - (Same as ACM)

ORDERING INFORMATION* ±
ITEM NUMBER

ACM	Ascent Control Module
ACM-BATT	Optional ACM battery
ACM-OC-2X485* ±	Dual EIA-485 option card
ACM-OC-232	EIA-232 option card
ACM-OC-LON	78kbps FTT10A LON option card
ACM-OC-2XTUX	Dual TUX Trunk option card
ACM-MDBS-DR-TCP	Alerton Modbus TCP protocol driver
ACM-MDBS-DR-RTU	Alerton Modbus RTU protocol driver
ACM-DR-VLX	Alerton VLX driver
ACM-DR-FPCS	Integration to FPCS protocol
ACM-DR-HOTEL	Integration to HOTEL protocol
AXM-1048	I/O Module for use with ACM-VLX
AXM-10120	I/O Module for use with ACM-VLX
AXM-2200	I/O Module for use with ACM-VLX

*IMPORTANT! Requires at least one base device license, Alerton (ACM032, ACM064, ACM128, ACM256, ACM384) or Niagara 4 (NC-0005-A, NC-0010-A, NC-0025-A, NC-0100-A, NC-0200-A). Add-on Device packs also available for both Alerton and Niagara 4 base licenses.

± ACM-OC-2X485 is required when using the AXM (EXP) I/O Modules

Specifications subject to change without notice.

INNOVATIVE GLOBAL CONTROLLER WITH EXTENSIVE FLEXIBILITY.