VLT® BACnet MCA 109

VLT® HVAC Drive integrates and communicates seamlessly with all HVAC devices mastered by Building Management Systems via the BACnet protocol. HVAC-specific features make it economical, flexible and user friendly.

The VLT® BACnet MCA 109 is a plug-and-play solution that optimizes the use of VLT® HVAC Drive together with building management systems using the BACnet MS/TP protocol.

Lowest cost of ownership
The modular concept of the VLT® HVAC Drive, allows you to pay only for features you need, customize your solutions and minimize system costs. The option makes it easy to control or monitor points required in typical HVAC applications.

Optimized communication
Beside standard functionality, the option features three additional functions:
■ COV, Change Of Value
■ Read/Write Property Multiple
■ Alarm/Warning handling

These three features lower the traffic on the BACnet MS/TP Bus significantly, and improves the overall performance of the BACnet..

This means that installing the VLT® HVAC Drive with a VLT® BACnet MCA109, system operation is faster and the BMS controller is better utilized.
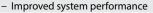
Improve system performance
Via the BACnet option it is possible to read all analogue and digital inputs and control all analogue and digital outputs of the VLT® HVAC Drive. All inputs and outputs can be operated independently of the VLT® HVAC Drives functions and thus work as remote I/O's

This means that when integrating a VLT® HVAC Drive into the control system it is possible to save physical I/O points, which typically would demand a remote I/O block.

The VLT® BACnet MCA109 follows the BACnet standards, and represents Digital Inputs and Outputs in the correct format. This eases the work for operators and programmers, since it shows the drives I/O with its corresponding objects.

Feature	Benefit
The built-in clock of the VLT® HVAC Drive synchronizes with the system master clock via BACnet	No need for a battery that eventually will need to be replaced
Device name, location and description can be changed	Time saved at servicing since the drive is clearly identified
Warnings and alarms come with explanatory text	Faster maintaining because alarms are clearly indicated and not shown by numbers.
Power full range of services implemented	Less load on the network, faster response
– Reads all inputs – Controls all I/O's on options	– Reduced need for additional I/O devices – Reduced physical space needed – Lower installation cost
Accepts 3 separate feedbacks transmitted over BACnet	Reduced cabling cost
COV supported for a number of objects	The option sends data when they are changed. Improves the throughput up to 50%
Read or write multiple points in one telegram	– Can transfer required points of the VLT® HVAC Drive in one telegram – Improved system performance

Facts about our products

VLT®
THE REAL DRIVE

Flexible choice

The VLT® HVAC Drive offers two alternative BACnet MS/TP solutions: The built-in BACnet features basic functionality that makes it very well suited for small installation, whereas the MCA109 is well suited for installations that requires a fast access to the network, or where the BMS controller would be heavily loaded.

Detailed information about warnings and alarms

VLT® HVAC Drive provides detailed information about alarms and warnings. BMS controllers can monitor these or let the drive send the alarm or warning when they occur, and afterwards get detailed information from the drive.

Examples: Earth fault, short circuit, over current, motor phase loss, motor thermal condition (thermistor or ETR), mains phase loss, live zero, Broken Belt, No Flow, Dry Pump, End of Curve etc.

Simultaneous synchronization of built-in clocks

VLT® HVAC Drives have a built-in clock that synchronizes to the BMS network clock via BACnet. This eliminates the need for a battery in the drive. Batteries must be manually exchanged at a given time, which is costly in larger installations.

Built-in and tested from factory

The Danfoss BACnet option is available factory installed and tested or can be added to the VLT® HVAC Drive as a field installed upgrade in existing installations.

Listed by BTL*

The VLT® BACnet solution is listed by BTL Testing Laboratory.

BACnet Interoperability Building Blocks Supported

Data Sharing-ReadProperty-B	(DS-RP-B)
Data Sharing-ReadPropertyMultiple-B	(DS-RPM-B)
Data Sharing-WriteProperty-B	(DS-WP-B)
Data Sharing-WritePropertyMultiple-B	(DS-WPM-B)
Alarm and Event-ACK-B	(AE-ACK-B)
Alarm and Event-Notification Internal-B	(AE-N-I-B)
Alarm and Event-Information-B	(AE-INFO-B)
Device Management-Dynamic Device Binding-A	(DM-DDB-A)
Device Management-Dynamic Device Binding-B	(DM-DDB-B)
Device Management-Dynamic Object Binding-B	(DM-DOB-B)
Device Management-DeviceCommunicationControl-B	(DM-DCC-B)
Device Management-TimeSynchronization-B	(DM-TS-B)
Device Management-ReinitializeDevice-B	(DM-RD-B)

* See the BTL's homepage for the latest version listed.

Standard object types supported

- Analogue input
- Analogue output
- Analogue value
- Binary input
- Binary output
- Binary value
- Device
- Multi-state output
- Notification class

Number of objects supported	
Digital inputs	16
Digital outputs	32
Digital Values	200
Analogue inputs	7
Analogue outputs	7
Analogue values	46
Multistate output	1
Multistate input	1
Total	310