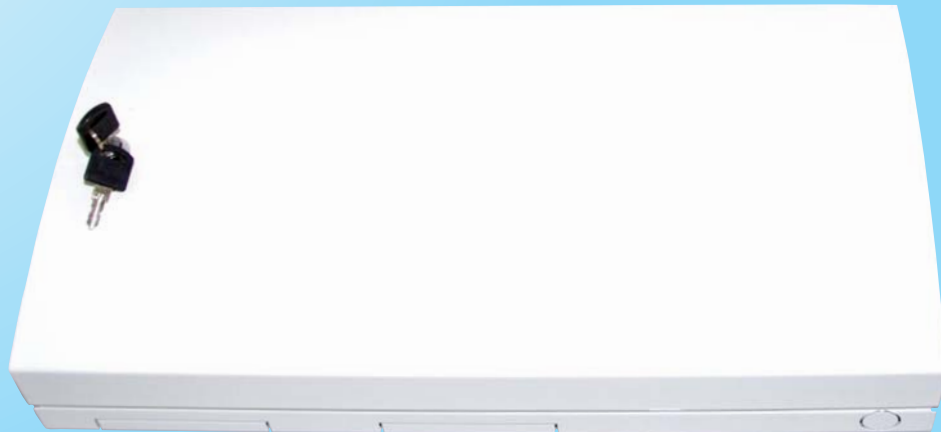
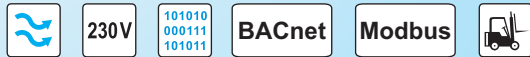


WBC 16M 040A / 080B

MOTOR CONTROLLER BACnet



4.10

Application

- for comfort ventilation via BACnet or Modbus
- for 24 VDC window and espagnolette actuators with MotorLink™
- WBC 16M 040A – 4 motorlines of 4A
- WBC 16M 080B – 8 motorlines of 4A (total max. 16A)
- the windows can also be operated individually via keypads

The MotorController is used for control via BACnet or Modbus of 4 or 8 motorlines each with up to 4 MotorLink™ window actuators. It is also possible to connect individual keypads, so a user at any time can open and close a window via a keypad if more or less fresh air is desired.

The MotorController contains motor lines. The number of lines depends on the variant of the panel - WBC 16M 040A has 4 motor lines and WBC 16M 080B has 8 motor lines. Each motor line has a max. load of 4A and is able to control up to 4 MotorLink™ actuators. The total maximum current consumption of all the motor lines must not exceed 16A.

WBC 16M supports BACnet IP and Modbus CTP plus BACnet MS/TP or Modbus RTU and contains more than 100 BACnet data objects or Modbus registers to ensure a flexible integration in BMS systems. The panel contains BACnet/Modbus modules, the number of modules depends on the type of the panel - see technical data "Bus connection".

The MotorController is to be surface mounted. Actuator and power supply cables are easily and fast connected in the MotorController. The cable access can be made from the side or from underneath the MotorController, which can be mounted vertically or horizontally on the wall.

WBC 16M is also available in an ETL certified version (WBC 16M UL) and a version for integration in smoke ventilation systems, where the smoke ventilation function has the highest

priority (WBS xxM). See separate product sheet for further informations.

Description

The MotorController controls the window actuators. The communication between the MotorController and the individual window actuators are done digitally via MotorLink™ in a 3-core wire (power and communication wire).

The MotorController controls the window actuators in such a way that:

- the actuators have three different opening/closing speeds:
 - a slow and almost soundless speed, when controlled automatically
 - a faster and audible speed when manually operated
 - a fast speed by smoke ventilation and security functions
- the position of the windows is controlled with millimetre accuracy. This is done via the position feedback from the actuators to the MotorController. Via this communication the system continuously registers the extent of the window opening.
- the MotorController immediately registers if a malfunction occurs on one of the actuators or cables

Specifications

- daily comfort ventilation controlled via BACnet or Modbus
- with integrated BACnet or Modbus modules
- to be used together with MotorLink™ window and espagnolette actuators
- 4 or 8 motor lines of 4A – total max of 16A
- three opening/closing speeds for the window actuators
- position feedback
- control of the windows is to millimetre accuracy
- immediate recognition of possible actuator or cable malfunction
- easy installation and flexible mounting

Technical information				
Field bus	BACnet IP and Modbus TCP as well as BACnet MS/TP or Modbus RTU			
Field bus tool support	BACnet Device type: Application Specific Controller (B-ASC) BIBB: DS-RP-B, DS-RPM-B, DS-WP-B, DS-WPM-B, DS-COV-A, DS-COV-B, AE-ACK-B, AE-N-I-B, AE-INFO-B, DM-DDB-A, DM-DDB-B, DM-DOB-B, DM-DCC-B, DM-TS-B, DM-RD-B Object Types (Static): AI, BI, MI, AV, BV, MV, AO, BO (see PICS for further information)			
Actuator control module	WBA 11M			
Primary voltage	230 VAC, ±10%, 500VA, 50Hz			
Secondary voltage	24 VDC, 4 or 8 motorlines with 4A per motorline however total output max 16A			
Inrush current	max. 20A < 5msec			
Standby consumption	WBC 16M 040A:ca. 9W without actuators ca. 15W with 16 actuators (power consumption, when the actuator is not running) WBC 16M 080B:ca. 13W without actuators ca. 19W with 16 actuators (power consumption, when the actuator is not running)			
open circuit voltage	33V at 253V			
Ripple	5 Vpp at 24V = 10%			
Connection	primary side	screw joints up to:	4 mm ² flexible cable	
			6 mm ² solid cable	
	secondary side	screw joints up to:	Keypads	Actuators
			1.5 mm ² flexible cable	4 mm ² flexible cable
		2.5 mm ² solid cable	6 mm ² solid cable	
	max voltage drop 2V however max 50m actuator cable			
Bus connection	<u>Ethernet connection</u> WBC 16M 040A: < 1 x RJ 45 (1 MAC address/Node ID) WBC 16M 080B: < 2 x RJ 45 (2 MAC addresses/Node ID) <u>RS 485 connection</u> WBC 16M 040A: < 1 x RS 485 LU (load unit) WBC 16M 080B: < 2 x RS 485 LU (load unit) 3 way phoenix connector Baud rate: 2.400, 4.800, 9.600, 19.200, 38.400, 76.100, 115.200 selected on dipswitch. WBC 16M 040A 1 Node ID, WBC 16M 080A 2 Node ID: 1-255 selected on dipswitch. BACnet MS/TP or Modbus RTU protocol selected on dipswitch.			
Local manual signal input	one for each motor line			
Output	max 16A			
Safety transformer	the MotorController contains a safety transformer according to EN 61558			
Operating conditions	-5°C - +45°C, for indoor installation, the controller may not be covered			
Material	steel cabinet, lacquered			
Colour	white (RAL 9010)			
Size	455 x 240 x 88mm (W x H x D)			
Weight	7.5kg			
IP rating	IP20			
Delivery includes	MotorController			
Note	we reserve the right to make technical changes			

Items	Item no.
MotorController BACnet with 4 outputs of 4A	WBC 16M 040A
MotorController BACnet with 8 outputs of 4A (total max. 16A)	WBC 16M 080B
WBC 16M is also available in an ETL certified version (WBC 16M UL) and for integration in smoke ventilation systems (WBS xxM), where the smoke ventilation function has the highest priority. See separate product sheet for further information.	

Accessories	Item no.
Ventilation keypad	WSK 100 1161
Ventilation keypad	WUI 110

Max. number of windows/actuators which can be connected in max. number of groups								
WindowMaster actuator type	Actuator power consumption	Actuator variant	Possible combinations					
			WBC 16M 040A			WBC 16M 080B		
			Windows	Actuators	Groups	Windows	Actuators	Groups
WMX 802/804-n WMX 820/824-n WMU 836/861-n WMS 306/309-n	1A	-1 single	16	16	4	use WBC 16M 040A		
		-2 double	4	8	4	8	16	8
		-3 triple	4	12	4	use WBC 16M 040A		
		-4 quad	4	16	4	use WBC 16M 040A		
WMX 802/804-n WMX 820/824-n WMU 836/861-n WMS 306/309-n + WMB*	1A	-1 single	4	4	4	8	8	8
		-2 double	4	8	4	8	16	8
		-3 triple	4	12	4	5	15	5
		-4 quad	4	16	4	use WBC 16M 040A		
WMU 862-n WMS 409-n	Up to 2A	-1 single	8	8	4	use WBC 16M 040A		
		-2 double	4	8	4	use WBC 16M 040A		
		-3 triple	3	9	3	use WBC 16M 040A		
		-4 quad	2	8	2	use WBC 16M 040A		
WMU 862-n WMS 409-n + WMB*	Up to 2A	-1 single	4	4	4	8	8	8
		-2 double	4	8	4	8	16	8
		-3 triple	3	9	3	use WBC 16M 040A		
		-4 quad	4	16	4	use WBC 16M 040A		
WMU 863/883-n	3A	-1 single	4	4	4	5	5	5
WMU 863/883-n + WMB*		-1 single	4	4	4	5	5	5
WMU 864/884-n	4A	-1 single	4	4	4	use WBC 16M 040A		
WMU 864/884-n + WMB*		-1 single	4	4	4	use WBC 16M 040A		
WMU 885-n	5A	-1 single	3	3	3	use WBC 16M 040A		
WMU 885-n + WMB*		-1 single	3	3	3	use WBC 16M 040A		

In the MotorController each motorline can have a max load of 4A. The total max current consumption of all motorlines must not exceed 16A.

*Up to two espagnolette actuators WMB 01M, WMB 02M or WMB 811-n and WMB 812-n (one single or two double) can be connected to one window and each window must have its own motorline.

MOTOR CONTROLLER BACnet

Actuator variants on one motor line

1. The MotorController WBC 16M 040A has 4 motor lines and WBC 16M 080B has 8 motor lines
2. When connecting window actuators one should pay attention to:
 - The max current load of the MotorControllers:
the max load on the MotorController is 4A per motor line (simultaneously load). The simultaneously max current consumption of all motor lines must not exceed max 16A.
 - The cable length and cross section:
max voltage drop 2V in the cable, however max distance between the MotorController and the window actuators is 50m
3. Aside from window actuators; espagnolette actuators type WMB 01M, WMB 02M or WMB 811-n, WMB 812-n (one single or two double actuators) can be connected to the window. When connecting an espagnolette actuator each window must have its own motor line.

