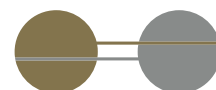


Product catalogue

03.04.2020



DK Information	UK Information	F Information	D Informationen	SE Information
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Løsninger	Solutions	Solutions	Lösungen	Lösingar
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Styring Brand- og komfort- ventilation	Controls For smoke and natural ventilation	Commandes pour désenfumage et ventilation de confort	Steuerungen für Rauch- und Wärmeabzug	Styrning Brand- och komfort- ventilation
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Styring Komfort- ventilation	Controls For natural ventilation	Commandes Pour la ventilation naturelle	Steuerungen für natürliche lüftung	Styrning Komfort- ventilation
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Motorer	Actuators	Moteurs	Antriebe	Motorer
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Sensorer	Sensors	Detecteurs	Sensoren	Sensorer
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Beslag	Brackets	Fixations	Beschläge	Beslag
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Tilbehør	Accessories	Accessoires	Zubehör	Tillebehör
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Referencer	References	References	Referenzen	Referenser
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DK
Information

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Information



Academic, Business, Education and Information

Information about

WindowMaster



History

WindowMaster A/S was founded in 1990. Its founding vision is to create better buildings that have plenty of fresh air and excellent and safe indoor climates. The company employs people in Denmark, Germany, England, Switzerland, Norway and the US and works with an extensive network of certified partners around the world.

WindowMaster has specialised in the development, production and marketing of window actuators for all types of façades and windows, and has also developed indoor climate control solutions for natural ventilation, hybrid ventilation and smoke ventilation. Today WindowMaster is able to offer a broad range of products and solutions. The driving force at the centre of our development has been to ensure that our solutions assist in providing a sustainable environment for those who use the buildings, by requiring far less energy than traditional methods.

Natural and mixed mode ventilation

In 2000 WindowMaster supplied its first project with a complete indoor climate solution for natural ventilation. The solution, which was for a school, was based on intelligent window actuators combined with individual automatic control of the indoor climate in all the classrooms.

Since this first project, WindowMaster has now supplied full indoor climate control solutions for over 1000 building projects across Europe, for offices, schools, universities, industrial buildings and shopping centres. Experience from these projects, together with close cooperation with a wide range of international universities and institutes, has led to WindowMaster becoming the market leader within sustainable indoor climate solutions.

Due to the continued focus of attention on the energy consumption of our buildings, in order to reduce their CO₂ impact, WindowMaster is working intensively on developing natural ventilation solutions

further, to also include mixed mode solutions. These solutions are where low-energy ventilation systems with heat recovery are used as a supplement to the natural ventilation during the coldest winter months.

Smoke ventilation

Supplying window actuators and controls for life safety applications, such as smoke ventilation, has been at the core of WindowMaster's development since it was founded. Our product range spans from simple standard solutions for staircases in residential buildings to advanced project solutions for office, industrial and institutional buildings, as well as shopping centres of all sizes.

Today we have a very broad and competitive product range within smoke ventilation, our reference projects are to be found all over Europe. Our products are approved according to international recognised standards such as EN 12101-2, EN 12101-10, DIN 18231 and VdS.

To gain optimum utilisation of the compulsory smoke ventilation systems, many of our customers choose to combine the systems with comfort control of the windows.

Motorised windows

WindowMaster has developed several different innovative window actuators for surface mounting as well as for complete integration within the window frame. Architects and building owners throughout Europe are especially enthusiastic about the solutions for complete integration. Due to our modular concept and our extensive product range we are able to offer cost efficient solutions with a high technical quality to almost every need within modern façades.

Our trained technicians work closely with the façade and window manufacturers in order to develop the optimum solution for the integration of actuators within the specific window profiles.

Information about WindowMaster

WindowMaster customer service

From answers on general questions about our products, specific enquiries concerning orders to consultancy regarding planning WindowMaster is able to help you.

windowmaster.com

Aside from the personal consultation, information about products and services can be found on our home pages **windowmaster.com**



Contact

SALES DEPARTMENT

Our sales team is able to answer questions concerning the choice of product, pricing and delivery times on WindowMaster products as well as questions concerning active projects.

SERVICE

WindowMaster has a network of service technicians at their disposal, who will carry out repairs and maintenance according to your needs.










MAINTENANCE OF SMOKE VENTILATION SYSTEMS

WindowMaster offer special maintenance agreements for smoke ventilation systems with an annual inspection of the complete system, thereby complying with the current regulations, which the owner of the system is responsible for.

Phone	+1 650 360 5414
E-mail	info.us@windowmaster.com
Internet	www.windowmaster.com (in the menu "About us" → "Customer Centre")

General

WindowMaster products	
Connection	WindowMaster window actuators must only be connected to genuine WindowMaster power supplies. If power supplies other than WindowMaster are used for connection to WindowMaster window actuators then this will invalidate in full any warranty or guarantee for WindowMaster window actuators. WindowMaster take no responsibility for the performance of WindowMaster products or third party products in this instance.
Cleaning	Product surface may be cleaned with a soft damp cloth using a small amount of household cleaner diluted in water.
Maintenance	<p>Power supplies are to be regularly tested. Maintenance of smoke ventilation systems is to be carried out at least once per year, according to the national guidelines.</p> <p>Actuators are to be regularly tested and lubricated, and the window hinges are to be lubricated according to the suppliers maintenance instructions.</p> <p>Sensors are to be regularly tested, cleaned and calibrated every 3 years.</p> <p>All faults, loose parts or other irregularities should immediately be repaired.</p> <p>WindowMaster offers service agreements to secure the long term reliability of the products. Please see separate sheet for further details.</p>
Smoke ventilation	<p>Connectors mounted at the factory must be replaced by ceramic connectors. Always use silicon cables.</p> <p>Smoke ventilation systems are to be tested according to building regulations. WindowMaster offers a service agreement for comfort and smoke ventilation solutions. Please see separate sheet for further details.</p>
Transportation	Protect against humidity during transport, storage and installation.
Packing disposal	The packing can be disposed of together with ordinary household waste and recycled.
Product disposal	Disposal of the product should conform to regulations for electronic waste and not with usual household waste.
Legal notice	WindowMaster claims no responsibility or guarantee for the topicality, correctness or completeness of the accessed information and reserves rights to supply and change the information at any time.

Symbol description		
	Natural ventilation	The product is suitable for comfort ventilation.
	Smoke ventilation	The product is suitable for smoke ventilation.
	Smoke ventilation EN 12101	The product is suitable for smoke ventilation accordingly to EN 12101. Please contact WindowMaster for further information.
	Smoke ventilation B300	The product is suitable for smoke ventilation accordingly to B300. Please contact WindowMaster for further information.
24V	±24V control	The product is to be connected to a ±24V power supply.
230V	Rated voltage	Symbol for rated voltage 120V, 230V and 230-400V.
MAX 4A	Maksimal output current	Symbol for max. 4A, max. 4.8A, max. 20A and max. 60A.
	MotorLink®	The product communicates with power supplies with MotorLink® – an intelligent patented digital communication from WindowMaster. This provides millimetre-by-millimetre control of the actuator, 3 open/close speeds, pressure safety function, fully synchronised actuators without external synchronisation module and early fault indication of any potential faults
	TrueSpeed™	The product can with the TrueSpeed™ technology slow down the actuator movement (down to 1mm per second), which enables the actuators to run completely silent.
VdS	VdS approved	The product is certified in accordance with VdS.
KNX	KNX product	The product is KNX certified.
BACnet	BACnet product	The product is BACnet certified.
Modbus	Modbus product	The product is Modbus certified.
LON	LON product	The product is LON certified.
	io-homecontrol® product	The product is a io-homecontrol® product
	UL certification – Controls	UL certification for USA according to UL325 and for Canada according to CSA C22.2 no.247-14
	UL certification – Actuators	UL certification for USA according to UL325 and for Canada according to CSA C22.2 no.247-14
CNBOP-PIB	CNBOP-PIB certification	CNBOP-PIB certification
NF	NF certification	NF certification according to NF S61-938 and NF 537.

Cable dimensions

For the maximum cable length for power supplies in conjunction with standard actuator (taking into consideration the stated cable cross sections) please refer to the following table.

Maximum cable length: always routed from the power supply to the last junction box

Actuator current: sum of all motor currents per group

Note

- do not use green/yellow (ground) wire!
- formula to calculate the max cable length
- maximum voltage drop in the cable UL: 2V

$$\text{Max cable length} = \frac{\text{admissible voltage drop (UL)} \times \text{conductivity of copper (56)} \times \text{cable cross section (a)}}{\text{total max. actuator current (I) in amps} \times 2}$$

Cable specifications is a guide only, overall responsibility resides with the electrical contractor on site.

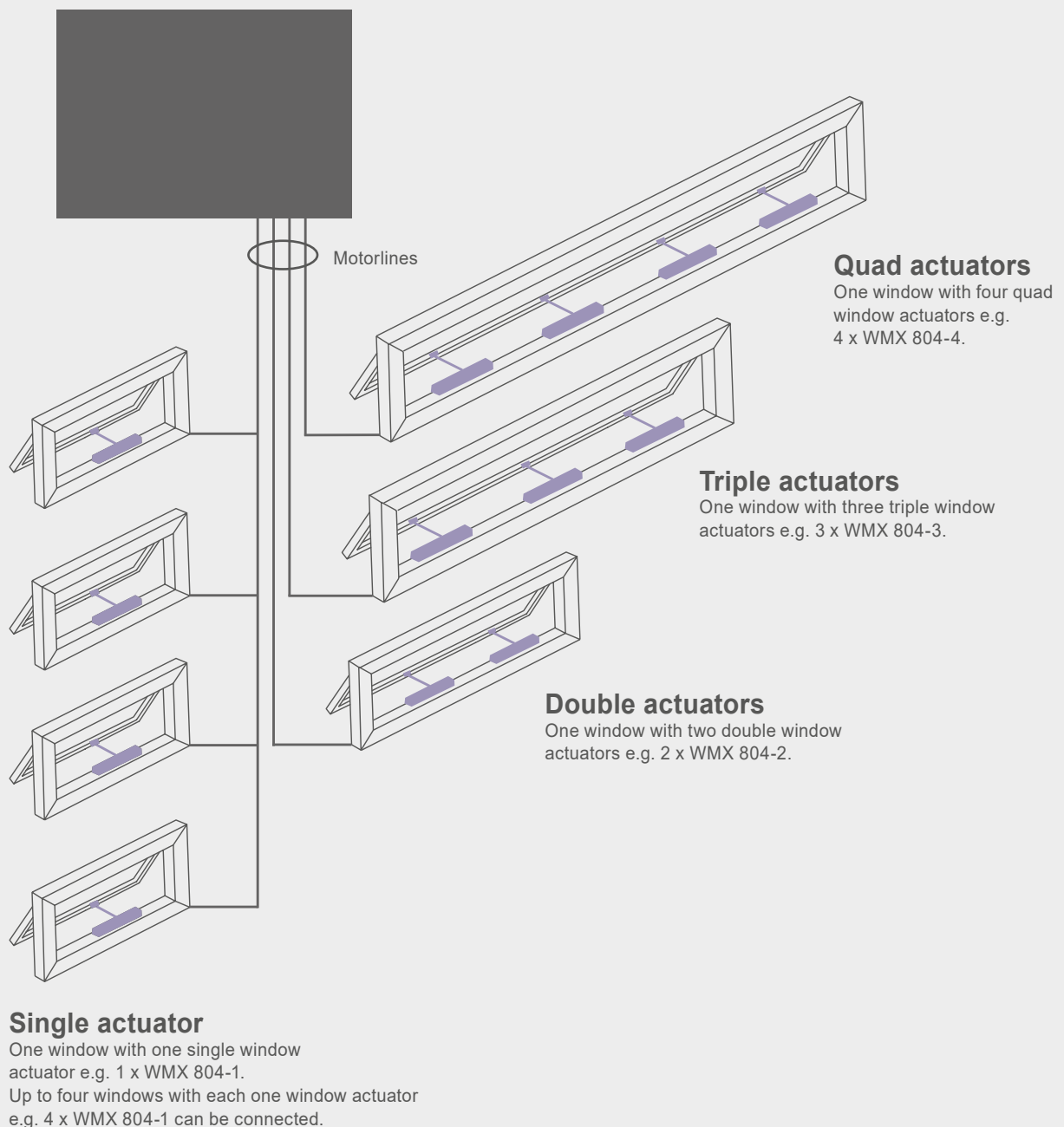
Max. cable length when actuator is connected to power supply

Cable cross section (a) (do not use green/yellow (ground) wire!)	3 wire 0.75mm ² (AWG 18)	3 wire 1.50 mm ² (AWG 15)	3 wire 2.50 mm ² (AWG 13)	3 wire 4.00 mm ² (AWG 11)	5 wire 1.50 mm ² (AWG 15) 2 wire parallel	5 wire 2.50 mm ² (AWG 13) 2 wire parallel
Total actuator current [I]						
±24V power supply						
1A	42m (137ft)	84m (275ft)	140m (459ft)	224m (734ft)	168m (551ft)	280m (918ft)
2A	21m (68ft)	42m (137ft)	70m (229ft)	112m (367ft)	84m (275ft)	140m (459ft)
3A	14m (45ft)	28m (91ft)	47m (154ft)	75m (246ft)	56m (183ft)	93m (305ft)
4A	11m (36ft)	21m (68ft)	35m (114ft)	56m (183ft)	42m (137ft)	70m (229ft)
5A	8m (26ft)	17m (55ft)	28m (91ft)	45m (147ft)	34m (111ft)	56m (183ft)
6A	7m (22ft)	14m (45ft)	23m (75ft)	37m (121ft)	28m (91ft)	47m (154ft)
7A	6m (19ft)	12m (39ft)	20m (65ft)	32m (104ft)	24m (78ft)	40m (131ft)
8A	5m (16ft)	11m (36ft)	18m (59ft)	28m (91ft)	21m (68ft)	35m (114ft)
9A		9m (29ft)	15m (49ft)	25m (82ft)	18m (59ft)	31m (101ft)
10A		8m (26ft)	14m (45ft)	22m (72ft)	16m (52ft)	28m (91ft)
20A		4m (13ft)	7m (22ft)	11m (36ft)	8m (26ft)	14m (45ft)
MotorLink® power supply						
1A	42m (137ft)	50m (164ft)	50m (164ft)	50m (164ft)	50m (164ft)	50m (164ft)
2A	21m (68ft)	40m (131ft)				
3A	14m (45ft)	28m (91ft)				
4A	11m (36ft)	21m (68ft)				
5A	8m (26ft)	17m (55ft)	28m (91ft)	45m (147ft)	34m (111ft)	
6A	7m (22ft)	14m (45ft)	23m (75ft)	37m (121ft)	28m (91ft)	47m (154ft)
7A	6m (19ft)	12m (39ft)	20m (65ft)	32m (104ft)	24m (78ft)	40m (131ft)
8A	5m (16ft)	11m (36ft)	18m (59ft)	28m (91ft)	21m (68ft)	35m (114ft)
9A		9m (29ft)	15m (49ft)	25m (82ft)	18m (59ft)	31m (101ft)
10A		8m (26ft)	14m (45ft)	22m (72ft)	16m (52ft)	28m (91ft)
20A		4m (13ft)	7m (22ft)	11m (36ft)	8m (26ft)	14m (45ft)

General

Actuator variants on one MotorLink® motorline

1. When connecting window actuators one should pay attention to:
 - the max current load of the MotorControllers: the max load on the MotorController is 10A per motorline (simultaneously load). The simultaneously max current consumption of all motorlines must not exceed max 20A.
 - the cable length and cross section: the max distance between the MotorController and the window actuators is 164' 1/2", however with a max voltage drop of 2V in the cable
2. Aside from window actuators; espagnolettes type WMB 81x-n (one single or two double actuators), can be connected to the window. When connecting an espagnolette each window must have its own motorline



DK
Løsninger

UK
Solutions

F
Solutions

D
Lösungen

SE
Lösingar





DK
Styrning
Brand- og
komfort-
ventilation

UK
Controls
For smoke and
natural
ventilation

F
Commandes
pour désenfumage
et ventilation
de confort

D
Steuerungen
für Rauch- und
Wärmeabzug

SE
Styrning
Brand- och
komfort-
ventilation

DK

Styring

Komfort-
ventilation

UK

Controls

For natural
ventilation

F

Commandes

Pour la
ventilation
naturelle

D

Steuerungen

für natürliche
lüftung

SE

Styrning

Komfort-
ventilation



3.11

WCC 310 / 320 STANDARD UL UL MotorController



Natural
ventilation

230V

Rated voltage



MotorLink®

KNX

KNX product



UL certification
– Controls

Application

- for daily comfort ventilation
- to be used with $\pm 24V$ standard window actuators and window actuators with MotorLink®
- 4 or 8 motor lines
- 10A or 20A
- With or without KNX

MotorController for the control of $\pm 24V$ DC standard actuators and actuators with MotorLink® for daily comfort ventilation. It can also control espagnolette/locking actuators.

The MotorController is used for control of 4 or 8 individual motor lines. The number of actuators which can be connected on each motor line depends on the type of actuator – see the table “Max numbers of actuators per motor line and MotorController” for type and number.

Versions

The MotorController is supplied in 4 variants:

With 10A:

- WCC 310 S 0410 U1: 10A, 4 motor lines, 10 inputs
- WCC 310 S 0410 KNX U1: 10A, 4 motor lines, 10 KNX-inputs

With 20A:

- WCC 320 S 0810 U1: 20A, 8 motor lines, 10 inputs
- WCC 320 S 0810 KNX U1: 20A, 8 motor lines, 10 KNX-inputs

In the MotorController each motor line can have a max load of 4A. The total max current consumption of all motor lines must not exceed 10A / 20A.

The MotorController is also supplied as a PLUS version where the configuration is done on the build in touchscreen – please see the separate product sheet for further information.

Description

The MotorController controls (opens/closes) the window actuators based on the signals from the connected components e.g. keypads, room sensor, weather sensor and BUS commands.

We recommend keypads are used in conjunction with ventilation automation to allow local manual user override.

Communication

The communication between the MotorController and each window actuator is done via a 2 or 3 wire cable this depends, if the actuator has MotorLink® or not.

Actuators without MotorLink®

The communication is controlled via a 2 wire cable. The positioning of the windows is based on time control with a limited precision.

Actuators with MotorLink®

The communication is controlled digitally via MotorLink® in a 3-core (power and communication wire).

The position of the window 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 reports if a malfunction occurs on one of the motor lines.

Actuator speeds

This MotorController gives the possibility of up to three window actuator speeds depending on the type of actuator connected:

- $\pm 24V$ DC standard actuator: 1 speed (type B)
- MotorLink® actuator: 1 speed (type B)
- MotorLink® actuator and bus communication, KNX version: 3 speeds (type A / B / C)

The different speeds

A: Slow and almost soundless chain drive when operated automatically

B: Faster and audible when manually operated by comfort ventilation

C: 100% chain drive when operated by security functions

Common input

The actuators can be controlled via four common inputs. All switch contacts must be potential free.

When connecting sensors the auxiliary power from the built-in 24V DC 0.23A power supply can be used.

Option 1

Common CLOSE ALL/safety (rain) function

Actuator speed: B.

Option 2

Self-hold function on all actuator groups.

Switch closed = self-hold.

Option 3

Common "OPEN" function for all actuator groups.

No self-hold.

Actuator speed: B.

Option 4

Common "CLOSE" function for all actuator groups.

No self-hold.

Actuator speed: B.

MotorController with KNX

The MotorController is integrated into KNX projects using the relevant application. In the application there are a number of communication objects and parameters, which help ensure a flexible integration with other KNX products and control units.

For further information on available objects see "KNX Application Program Description" on our web site www.windowmaster.com.

Specifications

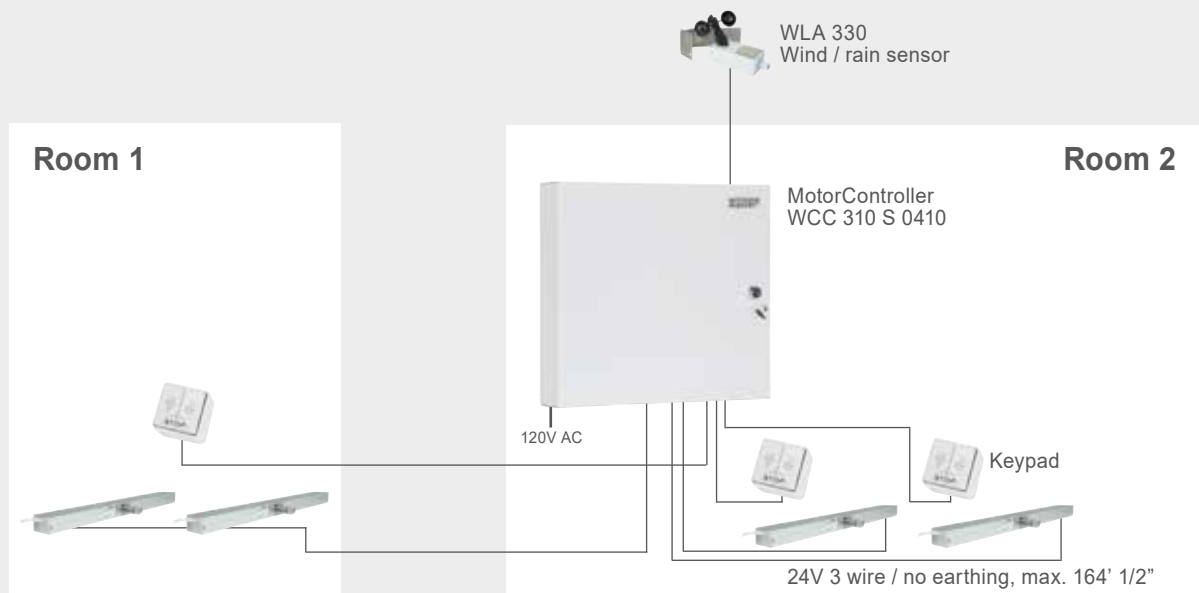
- 4 motor lines (comfort ventilation groups) up to 10A or 8 motor lines (comfort ventilation groups) up to 20A
- max. 4A/motor line
- supplied with or without KNX
- one comfort input "Close all"
- max. output voltage 27.6VDC @120VAC
- simple and fast installation

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

Example 1: WCC 310 S 0410 with wind / rain sensor

In each room actuators with MotorLink® have been connected as well as individual keypads for individual operation of the windows.

A wind/rain sensor is mounted on the roof.

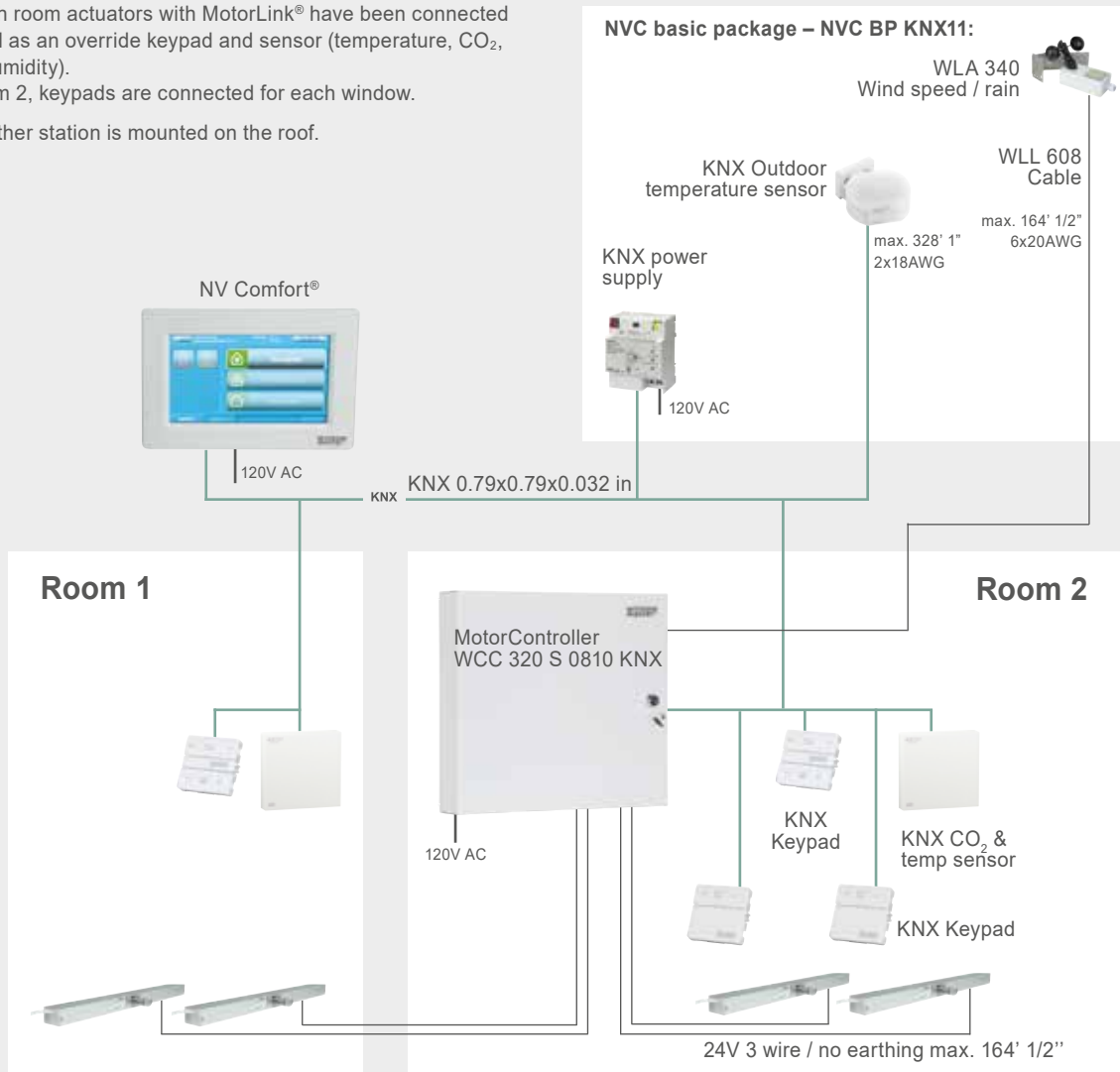


Example 2: WCC 320 S 0810 KNX connected to the controller NV Comfort®

In each room actuators with MotorLink® have been connected as well as an override keypad and sensor (temperature, CO₂, and humidity).

In room 2, keypads are connected for each window.

A weather station is mounted on the roof.



Technical specifications		
Output current	WCC 310: 10A / WCC 320: 20A	
Motor lines	4 or 8 motor lines A line can be either a $\pm 24\text{V}$ standard motor line or a MotorLink [®] motor line.	
Primary voltage	120V AC, 60Hz (85-264V AC, 47-63Hz)	
Actuator secondary voltage	Nominal voltage Open circuit voltage at 120V AC (no load) Ripple at max load	24V DC ($\pm 15\%$) 27.6V DC @ 20°C max 6% (3,5Vpp)
Power consumption	WCC 310: min 1.1W ¹ , typ. 3W ² . At max load 305W WCC 320: min 1.1W ¹ , typ. 3.5W ³ . At max load 605W 1) min.: 1 actuator 2) typ.: 16 MotorLink [®] actuators + rain sensor 3) typ.: 32 MotorLink [®] actuators + rain sensor	
Inrush current on primary site	70A < 5ms Max 3 x WCC 310/320 per 10 A supply group. Circuit breaker "C" characteristic.	
AUX	24V DC, 230 mA	
Operating conditions	+23°F – +113°F, for indoor installation, the controller may not be covered	
Switch-on duration	ED 40% (4 min. per 10 min.)	
Connection cable	Actuators Flexible max 10AWG / solid max 8AWG, max. 2V power loss. MotorLink [®] actuator however cables max. 164' 1/2" Min. 22AWG, 300V, 176°F Listed / Recognized to UL 13 Other components Min 24AWG / max 16 AWG Listed / Recognized to UL 13 Mains Mains must be done per relevant Electrical Code. For permanent connection (rigid or flexible 1/2" conduit or equivalent) use the supplied 1/2" adaptor in the Knockout. Use 10, 12, or 14AWG conductors (same size). Listed / Recognized to UL 13	
Size	1' 2" x 1' 5/8" x 3" (WxHxD)	
Material	Lacquered metal housing for surface mounting	
Colour	White (RAL 9010)	
Weight	WCC 310: 8.8lbs / WCC 320: 10.6lbs	
IP rating	IP20	
Certification	UL 325 and CSA C22.2 no 247-14 approved	
Delivery includes	MotorController	
Spare parts	See the spare part list on our website windowmaster.com under "Products"	
Note	We reserve the right to make technical changes	

Max numbers of actuators per motor line and MotorController

The table shows the maximum number of actuators, which can be connected per motor line and MotorController depending on the type of actuator ($\pm 24V$ standard or MotorLink[®] actuator) and MotorController.

Notice: For actuators with MotorLink® always max. 4 actuators per motor line. The total power consumption of all the connected actuators must not exceed 10A for WCC 310 and 20A for WCC 320.

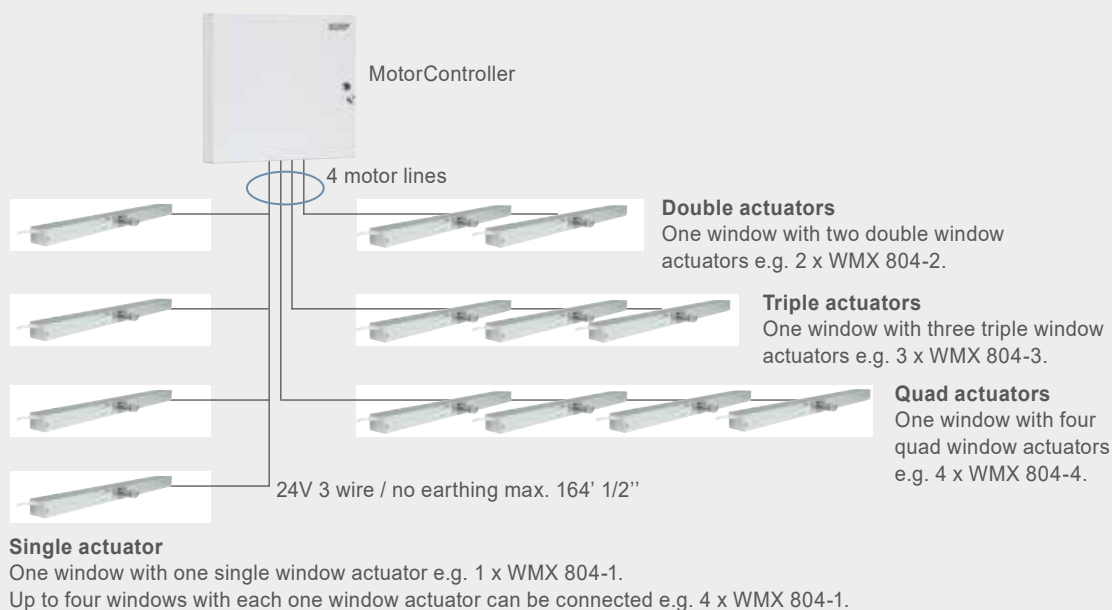
WCC 310 / WCC 320 STANDARD UL – maximum numbers of actuators						
Actuator type	Per motor line		Per WCC 310 S 0410		Per WCC 320 S 0810	
	±24V	MotorLink®	±24V	MotorLink®	±24V	MotorLink®
WMU 831 / 836 / 851-1	4	4	10	10	20	20
WMU 831 / 836 / 851-2	4	2	10	8	20	16
WMU 831 / 836 / 851-3	3	3	9	9	18	18
WMU 831 / 836 / 851-4	4	4	8	8	20	20
WMU 861-1	4	4	6	6	12	12
WMU 861-2	4	2	6	6	12	12
WMU 861-3	3	3	6	6	12	12
WMU 861-4	4	4	4	4	12	12
WMU 842 / 852 / 862 / 882-1	2	2	4	4	8	8
WMU 842 / 852 / 862 / 882-2	2	2	4	4	8	8
WMU 863 / 883-1	1	1	3	3	6	6
WMU 864 / 884-1	1	1	2	2	5	5
WMX 503 / 504 / 523 / 526-1	8	4	20	16	40	32
WMX 503 / 504 / 523 / 526-2	8	2	20	8	40	16
WMX 503 / 504 / 523 / 526-3	6	3	18	12	39	24
WMX 503 / 504 / 523 / 526-4	8	4	20	16	40	32
WMX 803 / 804 / 813 / 814 / 823 / 826-1	4	4	10	10	20	20
WMX 803 / 804 / 813 / 814 / 823 / 826-2	4	2	10	8	20	16
WMX 803 / 804 / 813 / 814 / 823 / 826-3	3	3	9	9	18	18
WMX 803 / 804 / 813 / 814 / 823 / 826-4	4	4	8	8	20	20
WMB 801/802*	Actuators with a total of max. of 4A can be connected to the locking actuator					
WMB 811/812 */**	4	2	10	8	20	16
* Do not exceed the total power consumption of the motor line ** When having two locking actuators on one motor line use: 1 x WMB 811 and 1 x WMB 812						

WCC 310 / 320 STANDARD UL

UL MotorController

MotorLink® combinations: Actuator variants on one MotorLink® motor line

- When connecting window actuators one should pay attention to:
 - The max current load of the MotorControllers is 4A per motor line. The simultaneously max current consumption of all motor lines must not exceed 10A on a WCC 310 and 20A on a WCC 320. Actuators with MotorLink®: max 4 actuators per motor line.
 - The cable length and cross section: max voltage drop 2V in the cable, however max distance between the MotorController and the window actuators is 164' 1/2"
- Aside from window actuators; espagnolette actuators type WMB 811 / 812 (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.



Variants	Number of motor lines	Number of inputs	Item no.
MotorController 10A	4 motor lines each 3.15A (in total max. 10A)	10 input	WCC 310 S 0410 U1
MotorController 10A	4 motor lines each 3.15A (in total max. 10A)	10 KNX input	WCC 310 S 0410 KNX U1
MotorController 20A	8 motor lines each 3.15A (in total max. 20A)	10 input	WCC 320 S 0810 U1
MotorController 20A	8 motor lines each 3.15A (in total max. 20A)	10 KNX input	WCC 320 S 0810 KNX U1

Accessories	Item no.
Rain and wind sensor	WLA 330
Rain sensor	WLA 331
Rain and wind sensor	WLA 340

All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



3.21

WCC 310 / 320 PLUS UL UL MotorController



Natural
ventilation

230V

Rated voltage



MotorLink®

KNX

KNX product

BACnet

BACnet
product

Modbus

Modbus
product



UL certification
– Controls

Application

- for daily comfort ventilation
- to be used with $\pm 24V$ standard window actuators and window actuators with MotorLink®
- 2, 6 or 10 motor lines
- 10A or 20A
- can be expanded with field bus card with interface for KNX, BACnet IP MS/TP and Modbus TCP/RTU/RS485
- with build-in touch screen for configuration

MotorController for the control of $\pm 24V$ DC standard actuators and actuators with MotorLink® for daily comfort ventilation. It can also control espagnolette / locking actuators.

The MotorController is used for control of 2, 6 or 10 individual motor lines. The number of actuators, which can be connected on each motor line depends on the type of actuator – see the table “Max numbers of actuators per motor line and MotorController” for type and number.

Versions

MotorController is supplied in 6 variants:

With 10A:

- WCC 310 P 0202 U1: 10A, 2 motor lines, 2 inputs
- WCC 310 P 0612 U1: 10A, 6 motor lines, 12 inputs
- WCC 310 P 1012 U1: 10A, 10 motor lines, 12 inputs

With 20A:

- WCC 320 P 0202 U1: 20A, 2 motor lines, 2 inputs
- WCC 320 P 0612 U1: 20A, 6 motor lines, 12 inputs
- WCC 320 P 1012 U1: 20A, 10 motor lines, 12 inputs

All versions can be expanded with field bus card.

In the MotorController each motor line can have a max load of 4A. The total max current consumption of all motor lines must not exceed 10A / 20A.

The MotorController is also supplied as a STANDARD version – please see the separate product sheet for further information.

Description

The MotorController controls (opens/closes) the window actuators based on the signals from the connected components e.g. keypads, room sensor, weather sensor and BUS commands.

We recommend keypads are used in conjunction with ventilation automation to allow local manual user override.

Communication

The communication between the MotorController and each window actuator is done via a 2 or 3 wire cable this depends, if the actuator has MotorLink® or not.

Actuators without MotorLink®

The communication is controlled via a 2 wire cable. If a 3 wire cable is used, cable monitoring can be added and is to be selected on the touch screen in the MotorController. The positioning of the windows is based on time control with a limited precision.

Actuators with MotorLink®

The communication is controlled digitally via MotorLink® in a 3-core (power and communication wire).

The position of the window 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 reports if a malfunction occurs on one of the motor lines.

Actuator speeds

This MotorController gives the possibility of up to three window actuator speeds depending on the type of actuator connected:

- $\pm 24V$ DC standard actuator: 1 speed (type B)
- MotorLink® actuator – 2 speeds (type B / C)
- MotorLink® actuator and bus communication: 3 speeds (type A / B / C)

The different speeds

A: Slow and almost soundless chain drive when operated automatically

B: Faster and audible when manually operated by comfort ventilation

C: 100% chain drive when operated by security functions

Communication card

The MotorController can be expanded with a communication card (fieldbus card) thus daily comfort ventilation will be possible via bus communication KNX, BACnet IP MS/TP or Modbus TCP/RTU/RS485 together with comfort controls e.g. NV Comfort® and NV Advance®.

The field bus card is to be ordered separately.

Card types

- WCA 3FK: KNX interface
- WCA 3FB: BACnet-IP key
- WCA 3FM: BACnet MS/TP / Modbus RTU/RS485 interface

The MotorController is integrated into KNX and BACnet projects using the relevant application.

In the application there are a number of communication

objects and parameters, which help to ensure a flexible integration with other KNX/BACnet products and control units.

For further information on available objects see "KNX Application Program Description", "BACnet PICS" and "Modbus register description" on our web site www.windowmaster.com.

Configuring / commissioning / maintaining

The MotorController PLUS is configured, commissioned and maintained via the built in LCD touch screen – easy and simple without the use of an external PC.

For easy commissioning and quick troubleshooting when maintaining the system, faults in the system will be displayed on the touch screen.

Configuration options

- 2 outputs as comfort group 1 respectively comfort group 2
- wind speed sensor to be connected directly
- master/slave when linking with e.g. smoke control panels type WSC 310 or WSC 320
- output when error
- input can be freely configured
- speeds can be configured
- sequence control
- ventilation timer
- event log

Specifications

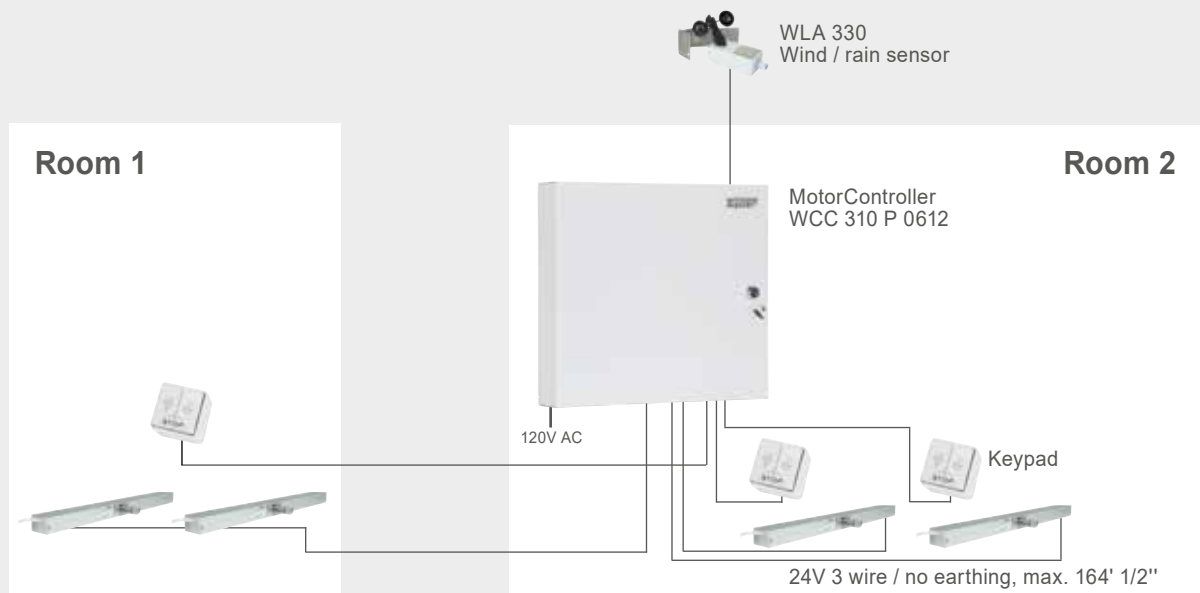
- 2, 6 or 10 motor lines (comfort ventilation groups) with up to 10A / 20A
- max. 4A/motor line
- automatically limited opening for comfort ventilation – no additional modules required
- field bus cards are available for KNX, BACnet IP MS/TP and Modbus TCP/RTU/RS485
- max. output voltage 27.6VDC @120VAC
- easy configuration at start up / expanding / rebuilding on the 2½" LCD built in touch screen in the panel – this can also be done on a PC without any additional modules
- the touch screen is also used for quick troubleshooting when maintaining the system
- simple and fast installation

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

Example 1: WCC 310 P 0612 with wind / rain sensor

In each room actuators with MotorLink® have been connected as well as individual keypads for individual operation of the windows.

A wind/rain sensor is mounted on the roof.



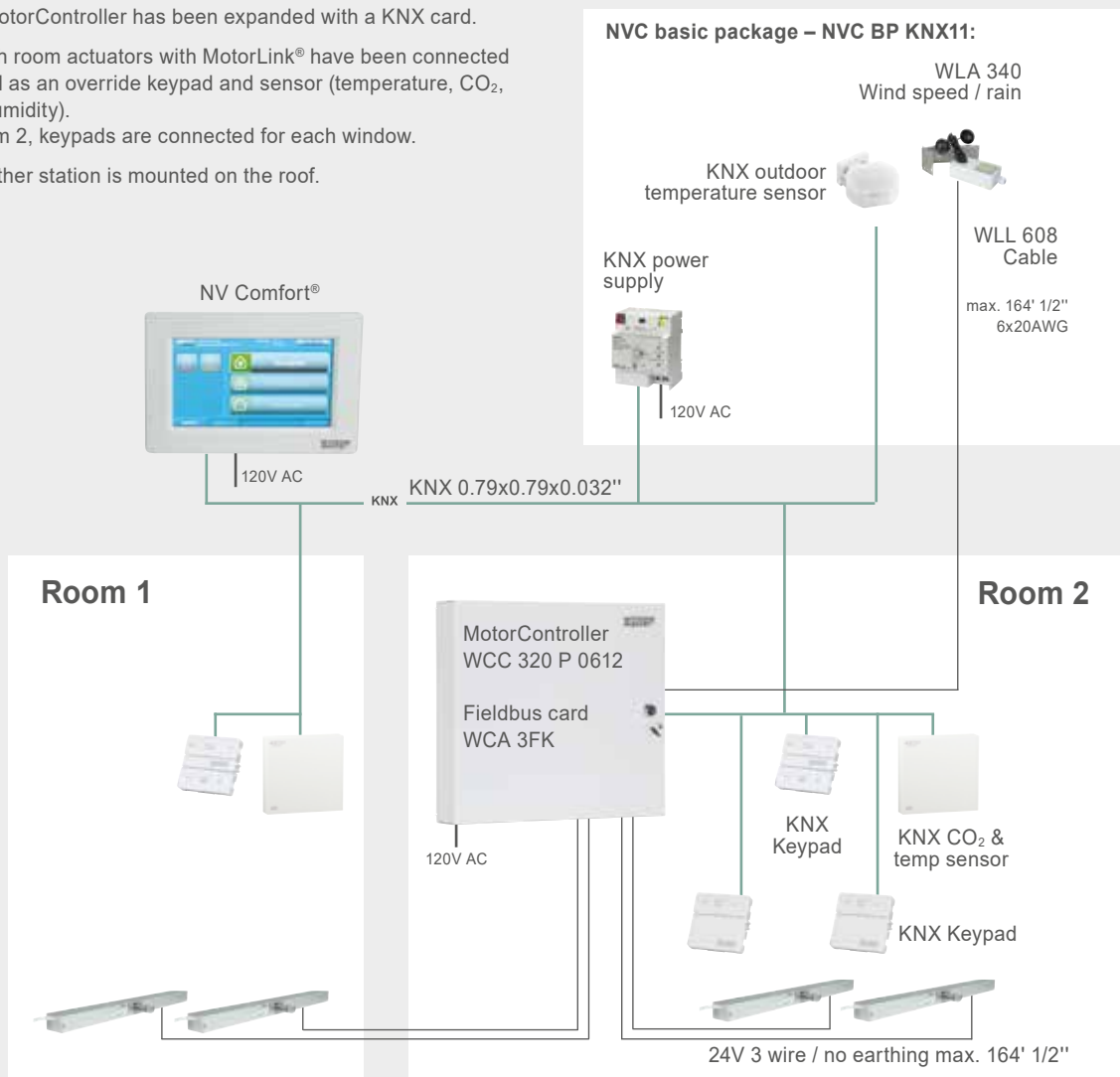
Example 2: WCC 320 P 0612 expanded with KNX card and connected to NV Comfort® controller and NV Comfort® weather station

The MotorController has been expanded with a KNX card.

In each room actuators with MotorLink® have been connected as well as an override keypad and sensor (temperature, CO₂, and humidity).

In room 2, keypads are connected for each window.

A weather station is mounted on the roof.



Example 3: WCC 320 P 1012 expanded with BACnet MS/TP / Modbus RTU/RS485 card or BACnet-IP key

Two fieldbus modules can turn the WCC MotorController into a BACnet MotorController supporting either:

- BACnet MS/TP or Modbus RTU/RS485
- BACnet IP or Modbus TCP

BACnet configuration is easily done in the BACnet menu on the touch display.

Download PICS / Modbus register description from windowmaster.com

☒ **Configuration**

BACnet IP

Login

Configuration files, USB

System

↶

↷

☒ **Configuration, BACnet IP**

BACnet IP UDP port number 47808

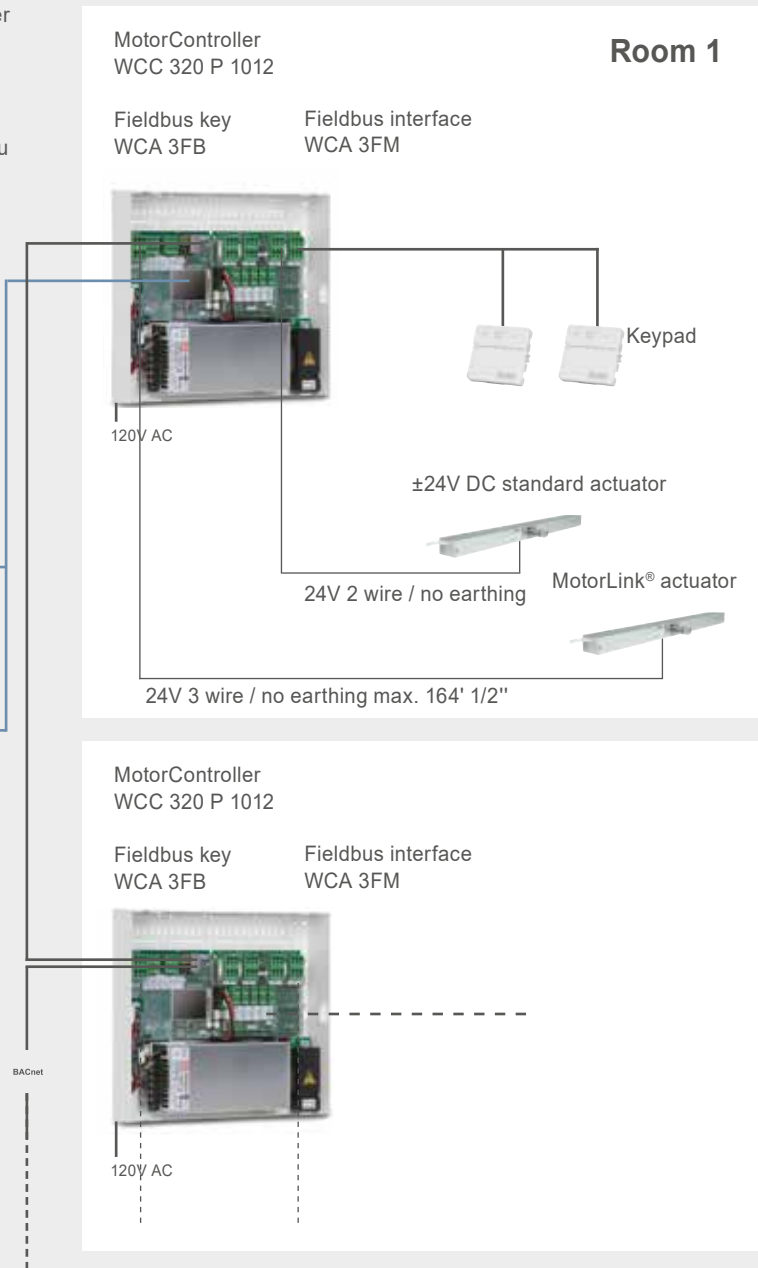
BACnet IP device instance 1

Actual position COV increment 1%

Actual max. position COV increment 1%

↶

↷



Technical specifications		
Output current	WCC 310: 10A / WCC 320: 20A	
Motor lines	2, 6 or 10 motor lines A line can be either a $\pm 24\text{V}$ standard motor line or a MotorLink [®] motor line.	
Primary voltage	120V AC, 60Hz (85-264V AC, 47-63Hz)	
Actuator secondary voltage	Nominal voltage Open circuit voltage at 120V AC (no load) Ripple at max load	24V DC ($\pm 15\%$) 27,6V DC @ 20°C max 6% (3,5Vpp)
Power consumption	WCC 310: min 2W ¹ , typ. 4.2W ² . At max load 305W WCC 320: min 2W ¹ , typ. 5W ³ . At max load 605W 1) min.: 1 MotorLink [®] actuator 2) min.: 20 MotorLink [®] actuators + rain sensor 3) min.: 40 MotorLink [®] actuators + rain sensor	
Inrush current on primary site	70A < 5ms Max 3 x WCC 310/320 per 10 A supply group. Circuit breaker "C" characteristic.	
AUX	24V DC, 230 mA	
Operating conditions	+23°F – +113°F, for indoor installation, the controller may not be covered	
Switch-on duration	ED 40% (4 min. per 10 min.)	
Connection cable	Actuators Flexible max 10AWG / solid max 8AWG, max. 2V power loss. MotorLink [®] actuator however cables max. 164' 1/2" Min. 22AWG, 300V, 176°F Listed / Recognized to UL 13 Other components Min 24AWG / max 16 AWG Listed / Recognized to UL 13 Mains Mains must be done per relevant Electrical Code. For permanent connection (rigid or flexible 1/2" conduit or equivalent) use the supplied 1/2" adaptor in the Knockout. Use 10, 12, or 14AWG conductors (same size). Listed / Recognized to UL 13	
Size	1' 2" x 1' 5/8" x 3" (WxHxD)	
Material	Lacquered metal housing for surface mounting	
Colour	White (RAL 9010)	
Weight	WCC 310: 8.8lbs / WCC 320: 10.6lbs	
IP rating	IP20	
Certification	UL 325 and CSA C22.2 no 247-14 approved	
Delivery includes	MotorController	
Spare parts	See the spare part list on our website windowmaster.com under "Products"	
Note	We reserve the right to make technical changes	

Max numbers of actuators per motor line and MotorController

The table shows the maximum number of actuators, which can be connected per motor line and MotorController depending on the type of actuator ($\pm 24V$ standard or MotorLink[®] actuator) and MotorController.

Notice: For actuators with MotorLink® always max. 4 actuators per motor line. The total power consumption of all the connected actuators must not exceed 10A for WCC 310 and 20A for WCC 320.

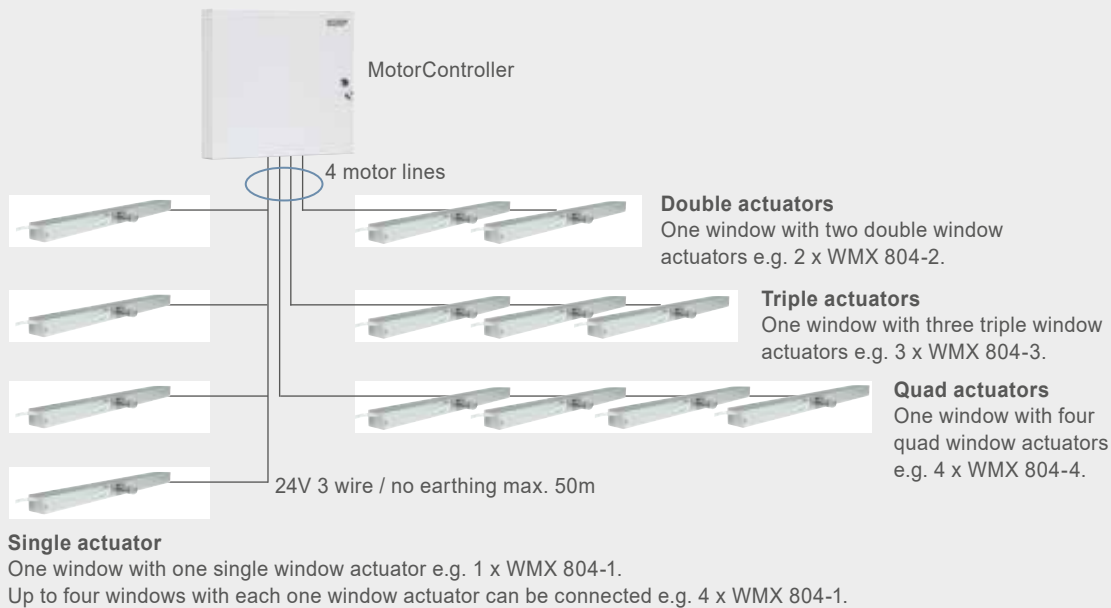
WCC 310 / WCC 320 PLUS UL – maximum numbers of actuators						
Actuator type	Per motor line		Per WCC 310 P 1012		Per WCC 320 P 1012	
	± 24V	MotorLink®	± 24V	MotorLink®	± 24V	MotorLink®
WMU 831 / 836 / 851-1	4	4	10	10	20	20
WMU 831 / 836 / 851-2	4	2	10	10	20	20
WMU 831 / 836 / 851-3	3	3	9	9	18	18
WMU 831 / 836 / 851-4	4	4	8	8	20	20
WMU 861-1	4	4	6	6	12	12
WMU 861-2	4	2	6	6	12	12
WMU 861-3	3	3	6	6	12	12
WMU 861-4	4	4	4	4	12	12
WMU 842 / 852 / 862 / 882-1	2	2	4	4	8	8
WMU 842 / 852 / 862 / 882-2	2	2	4	4	8	8
WMU 863 / 883-1	1	1	3	3	6	6
WMU 864 / 884-1	1	1	2	2	5	5
WMX 503 / 504 / 523 / 526-1	8	4	20	20	40	40
WMX 503 / 504 / 523 / 526-2	8	2	20	16	40	20
WMX 503 / 504 / 523 / 526-3	6	3	18	18	39	30
WMX 503 / 504 / 523 / 526-4	8	4	20	20	40	40
WMX 803 / 804 / 813 / 814 / 823 / 826-1	4	4	10	10	20	20
WMX 803 / 804 / 813 / 814 / 823 / 826-2	4	2	10	10	20	20
WMX 803 / 804 / 813 / 814 / 823 / 826-3	3	3	9	9	18	18
WMX 803 / 804 / 813 / 814 / 823 / 826-4	4	4	8	8	20	20
WMB 801/802*	Actuators with a total of max. of 4A can be connected to the locking actuator					
WMB 811/812 */**	4	2	10	10	20	20
* Do not exceed the total power consumption of the motor line ** When having two locking actuators on one motor line use: 1 x WMB 811 and 1 x WMB 812						

WCC 310 / 320 PLUS UL

UL MotorController

MotorLink® combinations: Actuator variants on one MotorLink® motor line

- When connecting window actuators one should pay attention to:
 - The max current load of the MotorControllers is 4A per motor line. The simultaneously max current consumption of all motor lines must not exceed 10A on a WCC 310 and 20A on a WCC 320. Actuators with MotorLink®: max 4 actuators per motor line.
 - 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
- Aside from window actuators; espagnolette actuators type WMB 811 / 812 (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.



Variants	Number of motor lines	Number of inputs	Item no.
MotorController 10A	2 motor lines each 3.15A	2 inputs	WCC 310 P 0202 U1
MotorController 10A	6 motor lines each 3.15A (in total max. 10A)	12 inputs	WCC 310 P 0612 U1
MotorController 10A	10 motor lines each 3.15A (in total max. 10A)	12 inputs	WCC 310 P 1012 U1
MotorController 20A	6 motor lines each 3.15A (in total max. 20A)	12 inputs	WCC 320 P 0612 U1
MotorController 20A	10 motor lines each 3.15A (in total max. 20A)	12 inputs	WCC 320 P 1012 U1

Accessories	Item no.
Fieldbus card with field bus interface to KNX	WCA 3FK
Fieldbus card with field bus key to BACnet-IP	WCA 3FB
Fieldbus card with field bus interface to BACnet MS/TP or Modbus RTC/RS485	WCA 3FM
Wind and rain sensor	WLA 330
Rain sensor	WLA 331
Wind and rain sensor	WLA 340
Wind speed sensor unit	WOW 201
Wind direction sensor unit	WOW 202
Interface box for weather station	WOW 204

All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



DK
Motorer

UK
Actuators

F
Moteurs

D
Antriebe

SE
Motorer



WMX 503 / 503 UL / 803 / 803 UL Chain actuator



Natural
ventilation



Smoke
ventilation

24V

±24V control



MotorLink®



UL certification
– Actuators

1.34

Description

- optimized design for concealed installation in window profiles
- WMX 503 / 503 UL / 803 UL: for comfort ventilation
- WMX 803: for smoke and comfort ventilation
- to be used with all window types
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- available with and without UL certification:
 - Europe: order without UL certification
 - USA / Canada: order with UL certification (version UL)
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level – with the WAT 100 programming box, also possible following installation
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing. The set points determining when the actuators are to reverse are individually adjustable and can be adjusted after installation using the programming box WAT 100.



Version S



Version E

Opening speeds

One speed:

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see the following page for opening speed.

Three speeds:

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications

Permitted constant pressure load	45N by 10,000 opening and closing movements (up to 150N for special version with shorter chain lengths)
Permitted constant tractive load	WMX 503 / 503 UL: 150N by 10,000 opening and closing movements WMX 803 / 803 UL: 200N by 10,000 opening and closing movements
Locking force	3000N
Permitted short pressure load when chain has run to end stop	100N
Short pressure capacity on motor	Max. 150N (e.g. at the beginning of opening: sticky gasket, ice, wind speed)
Chain opening	1 15/16" – 9 13/16" increments of 25/64", maximum opening depends on the window construction
Opening speed	0.276 in/s (programmable 0.118 in/s up to 0.374 in/s)
Window types	Window types and sizes must be agreed with the window supplier and WindowMaster
Window width	Min. 1' 3/8", maximum width depends on the window construction and the number of window actuators
Window height	Min. 1' 3 3/4", maximum height depends on the window construction and the number of window actuators
Nominal voltage	24 VDC (max. 10% ripple)
Voltage	20 - 36V DC
Max. open-circuit voltage	Max. 36V DC
Current consumption	WMX 503 / 503 UL: max. 0.5A WMX 803 / 803 UL: max. 1A
Operating condition	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4 min. per 10 min)
Material	Lacquered zinc housing with 10mm zinc cromate passivated steel chain and a 3' 15/16" cable with fast-in/fast-on connectors for connection to the extension cable WLL
Colour	Grey (RAL 9006)
Size	1' 1 7/16" x 1 1/8" x 1 5/8" (W x H x D)
Weight	2.2 lbs
IP rating	IP20 - when surface mounted / IP32 - when concealed
Certification	Actuators with "U" in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464
SHE test	WMX 503 / 503 UL / 803 UL: not SHE tested WMX 803*: tested in accordance with DIN 18232-3, section 3.6 (30 minutes at 572°F) *The construction of the actuator is identical with WMX 802, which has passed the SHE test
Life span	Tested with 10,000 opening and closing movements
Delivery includes	Actuator with 3 15/16" cable with fast-in/fast-on connector for WLL cable
To be ordered separately	WLL extension cable
Note	We reserve the right to make technical changes

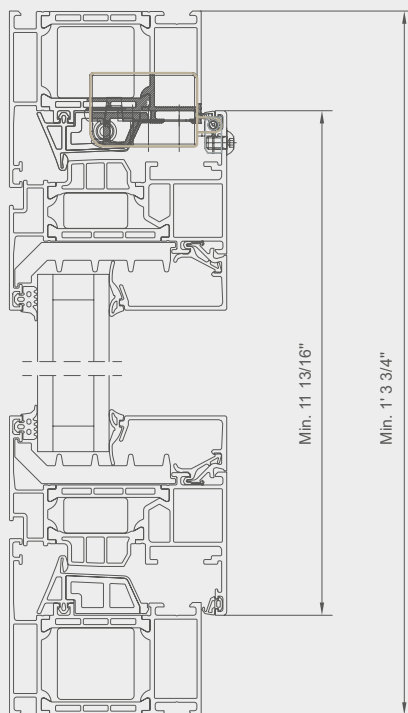
Brackets	Item no.
Chain bracket with split	WAB 860
Window fitting for wooden windows	WAB 867
Multi bracket	WAB 801
Chain bracket for integrated WMX	WAB 833
See separate product sheets for further information.	

Product code composition (actuator supplied in sealed plastic packaging)						
WMX 503 WMX 803	-n	G	xxx	z	v	3
						Product version: 3
						Certification: 0 = CE, U = CE + UL
						Actuator hardware version: S = standard, E = with connection for pressure safety (E: not UL actuator)
						Chain opening: 1 15/16" – 9 13/16", in increments of 25/64" (050 = 25/64")
						Colour: G = grey
	Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad					
Explanation of product code structure:						
WMX 503-2G070E 03		WMX 503 actuator, double synchronisation, grey, 2' 3/4" chain opening, with connection for pressure safety, with CE certification, product version 3.				

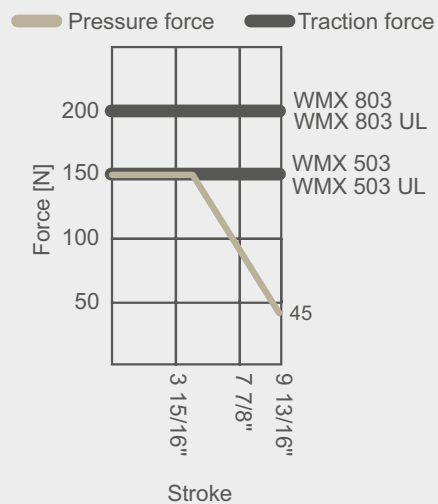
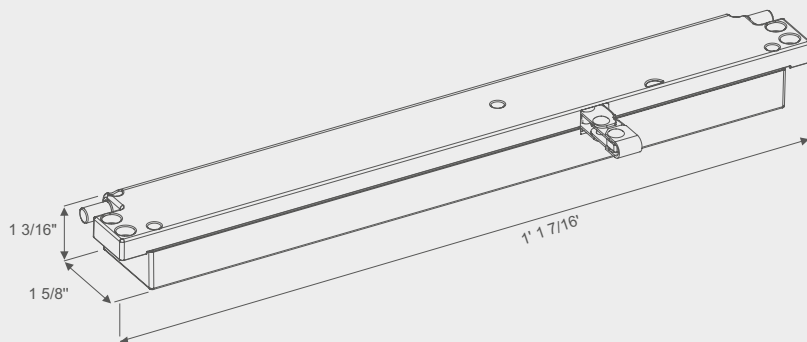
WMX 503 / 503 UL / 803 / 803 UL

Chain actuator

Installation suggestion



For questions regarding the concealed installation – contact WindowMaster



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMX 504 / 504 UL / 804 / 804 UL Chain actuator



1.41

Description

- designed for surface mounting
- WMX 504 / 504 UL / 804 UL: for comfort ventilation
- WMX 804: for smoke and comfort ventilation
- to be used with all window types
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- available with and without UL certification:
 - Europe: order without UL certification
 - USA / Canada: order with UL certification (version UL)
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level – with the WAT 100 programming box, also possible following installation
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing. The set points determining when the actuators are to reverse are individually adjustable and can be adjusted after installation using the programming box WAT 100.



Opening speeds

One speed:

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see the following page for opening speed.

Three speeds:

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

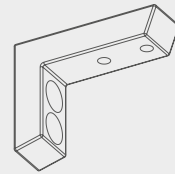
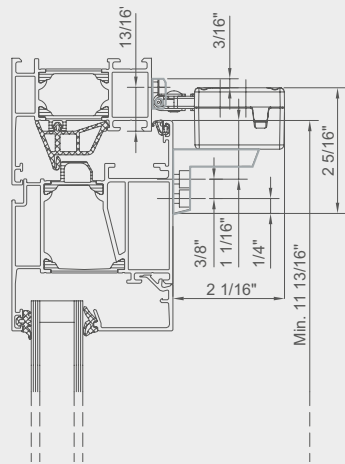
- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications	
Locking force	3000N
Permitted short pressure load when chain has run to end stop	100N
Short pressure capacity on motor	Max. 150N (e.g. at the beginning of opening: sticky gasket, ice, wind speed)
Chain opening	1 15/16" – 9 13/16" increments of 25/64", maximum opening depends on the window construction
Opening speed	0.276 in/s (programmable 0.118 in/s up to 0.374 in/s)
Window types	Window types and sizes must be agreed with the window supplier and WindowMaster
Window width	Min. 365mm, maximum width depends on the window construction and the number of window actuators
Window height	Min. 1' 3/8" / 1' 3 3/4" (see installation suggestions 1 and 3), maximum height depends on the window construction and the number of window actuators
Nominal voltage	24 VDC (max. 10% ripple)
Voltage	20 - 36 VDC
Max. open-circuit voltage	Max. 36 VDC
Current consumption	WMX 504 / 504 UL: max. 0.5A WMX 804 / 804 UL: max. 1.0A
Operating condition	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min)
Material	Lacquered zinc housing with 0.39" zinc cromate passivated steel chain and a 6' 51/64" 3-core 22AWG cable with fast-in/fast-on connectors for connection to the extension cable WLL WMX 504 / 804: 6' 51/64" grey silicone cable WMX 504 UL / 804 UL: 6' 51/64" UL listed/recognized cable in grey (grey actuator) or white (white actuator)
Colour	Aluminium (RAL 9006) or white (RAL 9010), other RAL colours available at additional price
Size	1' 1 1/16" x 1 1/8" x 1 5/8" (W x H x D)
Weight	2.2 lbs
IP rating	IP20 – when surface mounted / IP32 – when concealed
Certification	Actuators with "U" in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464
SHE test	WMX 504 / 504 UL / 804 UL: not SHE tested WMX 804*: tested in accordance with DIN 18232-3, section 3.6 (30 minutes at 572°F) *The construction of the actuator is identical with WMX 802, which has passed the SHE test
Life span	Tested with 10,000 opening and closing movements
Delivery includes	Actuator with 6 51/64" cable with fast in/fast out connector for WLL cable
To be ordered separately	Brackets and WLL extension cable
Note	We reserve the right to make technical changes

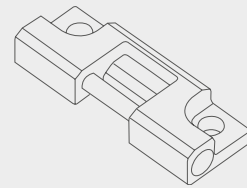
Brackets	Item no.
Chain bracket with tight-fitting bolt, WMX, for sash or frame	WAB 801
Chain bracket with split, for sash or frame	WAB 860
Chain bracket for wooden windows, for sash	WAB 867
Angle bracket for actuator, aluminium RAL 9006	WAB 804 0101
Angle bracket for actuator, white RAL 9010	WAB 804 1101
Z bracket for actuator WMX 504/804/526/826. Sash min. 2' 7 1/2"	WAB 805
Z bracket for actuator WMX 804 – for windows with offset sash min. 19/32"	WAB 807
See separate product sheets for further information.	

Product code composition (actuator supplied in sealed plastic packaging)						
WMX 504 WMX 804	n	x	xxx	x	x	3
						Product version: 3
						Certification: 0 = CE, U = CE + UL
						Actuator hardware version: S = standard, E = with connection for pressure safety strip (E: not UL actuator)
						Chain opening: 1 15/16" – 9 13/16" increments of 25/64" (050 = 25/64")
						Colour: G = grey, W = white
						Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad
Explanation of product code structure						
WMX 504-2G070E 03			WMX 504 actuator, double synchronisation, grey, 2 3/4" chain opening, with connection for pressure safety strips, with CE certification, product version 3			

Installation suggestion 1

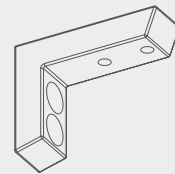
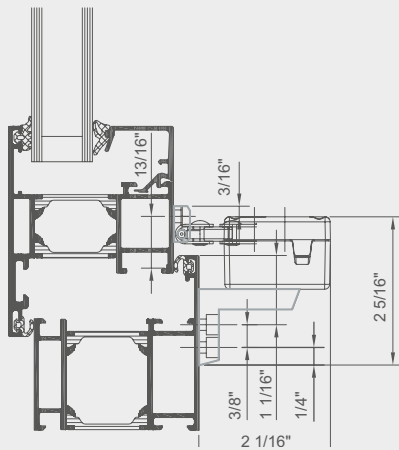


WAB 804 0101

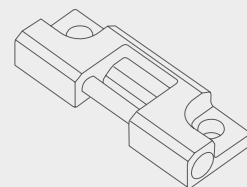


WAB 801

Installation suggestion 2

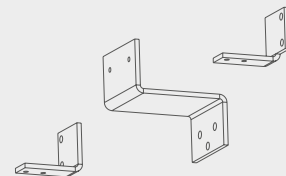
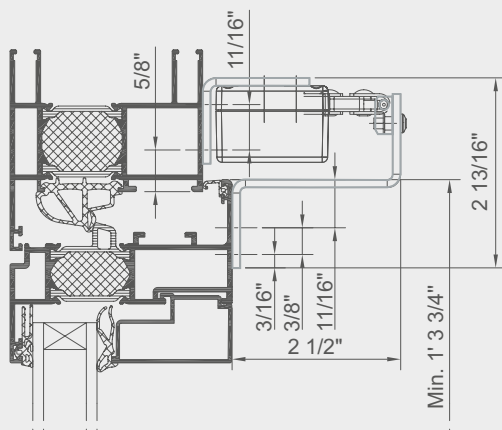


WAB 804 0101

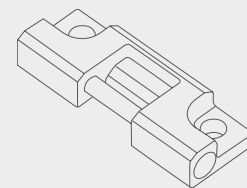


WAB 801

Installation suggestion 3



WAB 805

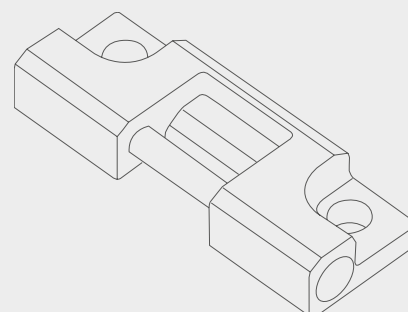
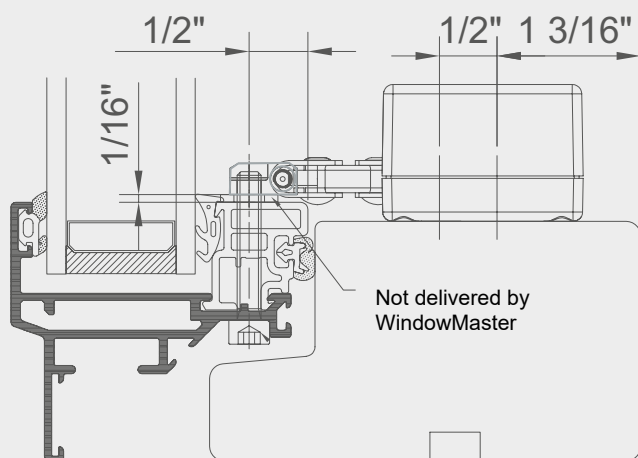


WAB 801

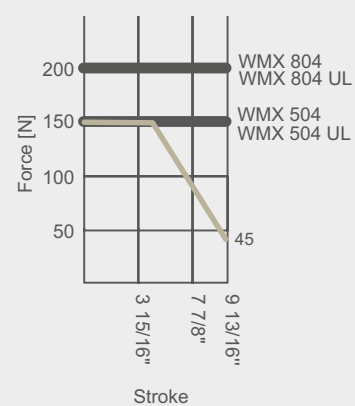
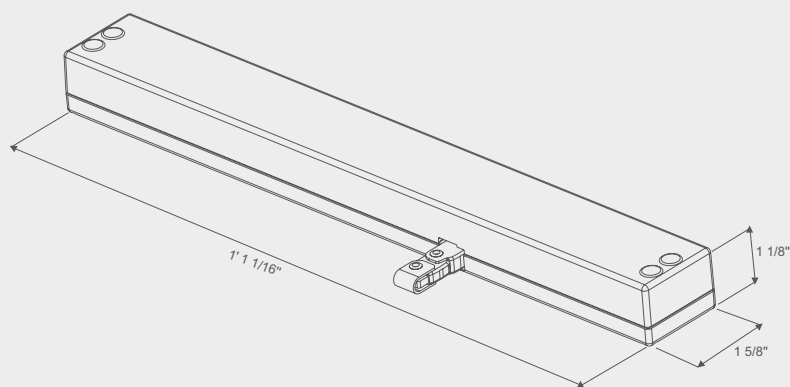
WMX 504 / 504 UL / 804 / 804 UL

Chain actuator

Installation suggestion 4



WAB 801



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMX 813 UL Chain actuator



Natural
ventilation

24V

±24V control



MotorLink®



TrueSpeed™



UL certification
– Actuators

1.43

Description

- optimized design for concealed installation
- for smoke and comfort ventilation
- to be used with all window types
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- available with UL certification:
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing.



Opening speeds

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed.

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- automatically control speed – actuators run slowly and

almost soundlessly.

- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications

Pressure force	See diagram
Traction force	See diagram
Locking force	2000N
Chain opening	1 15/16" – 3' 3 3/8" in increments of 25/64", maximum opening depends on the window construction
Opening speed	0.039-4.3 in/s (TrueSpeed™)
Window type	Concealed installation
Nominal voltage	24V DC (max. 10% ripple)
Voltage	20-36V DC
Max. open-circuit voltage	max. 36V DC
Current consumption	max. 1A
Working condition	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4 min. per 10 min)
Colour	Black anodized aluminium, black RAL 9005. RAL colours available at additional price
Size	55/64" x 1 19/64" (H x D), length (L) depending on chain stroke – see table.
Weight	1' 3 3/4" stroke: 2.82 lbs; 1' 11 5/8" stroke: 3.13 lbs; 2' 7 1/2" stroke: 3.59 lbs; 3' 3 3/8" stroke: 4.06 lbs kg;
IP rating	concealed: IP 32
Certification	Actuators with 'U' in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and are supplied with UL approved cables UL STYLE 2464. Actuators intended to comply with UL Standard 325 paragraph 34A.3 should satisfy one of the following criteria: a) Be intended for mounting at least 8 ft above the floor; b) Require constant contact on a control within view of the window to cause movement of the window; c) Have a maximum chain length of 7 7/8"; d) Be provided with external entrapment protection device. External entrapment protection device can be supplied by an alternative supplier; e) The actuators are used in a heat and smoke system.
Life span	Tested with 10,000 opening and closing movements
Delivery includes	WMX 813 S UL: Actuator with 16' 4 7/8" connection cable (3-core cables 22AWG) with fast-in/fast-on connector for WLL cable WMX 813 E1 UL: Actuator with 16' 4 7/8" connection cable (3-core cables 22AWG) with fast-in/fast-on connector for WLL cable, and 6' 6 3/4" cable (2-core cables 22AWG) with connection for pressure safety strip Actuators with 'U' in the article no. are supplied with UL approved cables.
To be ordered separately	Brackets and standard extension cables (WLL)
Note	We reserve the right to make technical changes

Chain stroke [ft and in]	Length (L) [ft and in]
7 13/16"	1' 11 5/8"
1' 3 11/16"	1' 7 5/8"
1' 11 5/8"	1' 11 9/16"
2' 7 1/2"	2' 3 1/2"
3' 3 3/8"	2' 7 7/16"

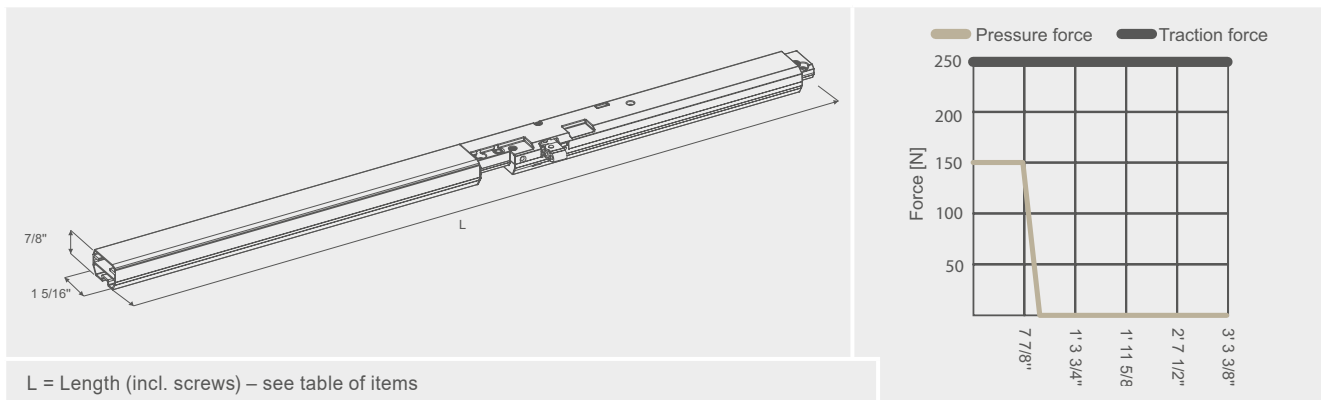
WMX 813 UL

Chain actuator




Product code composition						
WMX 813	-n	x	yyyy	zz	v	1
						Product version: 1
						Certification: 0= CE, U = CE + UL
						Actuator hardware version: S = standard, E1 = with connection for pressure safety strip
						Chain opening: 1 15/16" – 9 13/16" increments of 25/64" (0050 = 25/64")
						Colour: B = black
						Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad
Explanation of product code structure						
WMX 813-2B0070S 01			WMX 813 actuator, double synchronisation, black, 2 3/4" chain opening, with CE certification, product version 1.			

Installation suggestion 1 - Inward Opening

WAB 813T





RAL 9005 
RAL 8019 
EV1 



WMX 814 E1 UL

WMX 814 UL

Chain actuator



Natural
ventilation



Smoke ventilation
EN 12101



Smoke ventilation
B300

24V

±24V control



MotorLink®



TrueSpeed™

1.47

Description

- designed for surface mounting
- for comfort ventilation
- to be used with tophung, bottomhung and turning windows
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- UL listed product
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close function
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the

actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing.

Opening speed

Actuators connected to ±24 VDC control units (e.g. WUC) can run with one speed.

Actuators connected to control units with MotorLink® (e.g. WCC) can run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.



Version S



Version E1 UL

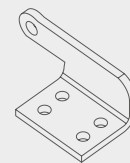
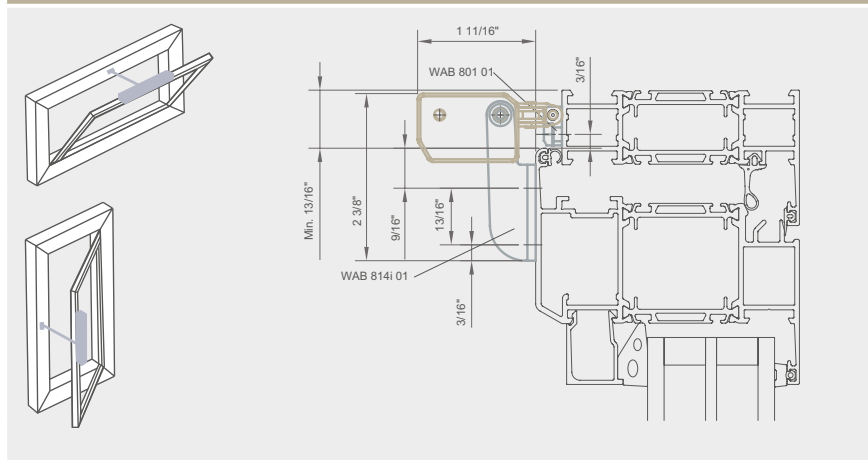
Technical specifications	
Pressure force	See diagram.
Traction force	See diagram.
Locking force	2000N
Chain stroke	1 15/16" – 3' 3 3/8" in increments of 25/64" Special version up to 3' 3 3/8" possible (only for bottom hung windows) – contact WindowMaster for further information.
Opening Speed	0.039-4.3 in/s (TrueSpeed™)
Window type	Tophung, bottomhung and turning windows.
Power consumption	24V DC (max. 10% ripple)
Voltage	20-36V DC
Open-circuit voltage	Max. 36V DC
Current consumption	Max. 1A
Operating conditions	+23°F – +113°F, Max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min)
Material	Anodized aluminium housing with steel chain. Black actuators: black silicone cable Grey actuators: grey silicone cable
Colour	Standard colors: anodized natural aluminium, anodized black. RAL colours available at additional price.
Size	63/64" x 2 29/32" (H x D), length (L) depending on chain stroke – see table.
Weight	1' 3 3/4" stroke: 3.00lbs; 1' 11 5/8" stroke: 3.48lbs; 2' 7 1/2" stroke: 3.96 lbs; 3' 3 3/8" stroke: 4.34lbs
IP rating	Surface mounted: IP 20, concealed: IP 32
Certification	Actuators with 'U' in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464 Actuators intended to comply with UL Standard 325 paragraph 34A.3 should satisfy one of the following criteria: a) Be intended for mounting at least 8 ft above the floor; b) Require constant contact on a control within view of the window to cause movement of the window; c) Have a maximum chain length of 2' 7 1/2"; d) Be provided with external entrapment protection device. External entrapment protection device can be supplied by an alternative supplier; e) The actuators are used in a heat and smoke system.
SHE test	Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2
Life span	Tested with 10,000 opening and closing movements.
Delivery	WMX 814 S UL: Actuator with 16' 4 7/8" connection cable (3-core cables, 22AWG) with fast-in/fast-on connector for WLL cable. WMX 814 E1 UL: Actuator with 16' 4 7/8" connection cable (3-core cables, 22AWG) with fast-in/fast-on connector for WLL cable, and 6' 6 3/4" cable (2-core cables, 22AWG) with connection to external entrapment protection device. All cables on the WMX 813 U version are UL listed/recognized.
To be ordered separately	Brackets and standard extension cables type WLL.
Note	We reserve the right to make technical changes.

Item code composition						
WMX 814	n	x	xxxx	zz	v	1
						Product version: 1
						Certification: 0= CE, U = CE + UL
				Actuator hardware version: S = standard, E1 = with connection for pressure safety strip		
				Chain opening: 1 15/16" – 9 13/16" increments of 25/64" (050 = 25/64")		
		Colour: B = black, G = grey				
		Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad				
Explanation of product code structure						
WMX 814-2B0170S 01			WMX 814 actuator, double synchronisation, black, 6 11/16" chain stroke, with CE certification, product version 1			

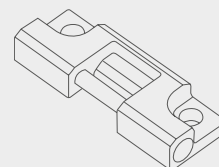
Accessories	Item no.
Chain bracket with tight-fitting bolt, WMX, for sash or frame	WAB 801
Actuator bracket, matt finish stainless steel	WAB 814A 0101
Actuator bracket, black RAL 9005	WAB 814A 2101
Actuator bracket, matt finish stainless steel	WAB 814B 0101
Actuator bracket, black RAL 9005	WAB 814B 2101
Actuator bracket, matt finish stainless steel	WAB 814C 0101
Actuator bracket, black RAL 9005	WAB 814C 2101
Actuator bracket for inwards opening windows, matt finish stainless steel	WAB 814I 0101
Actuator bracket for inwards opening windows, black RAL 9005	WAB 814I 2101
Z bracket for sash, matt finish stainless steel	WAB 814Z 0101
Z bracket for sash, black RAL 9005	WAB 814Z 2101
See separate product sheets for further information.	

Installation suggestion 1 - Inward Opening	

Installation suggestion 2 - Inward opening

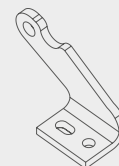
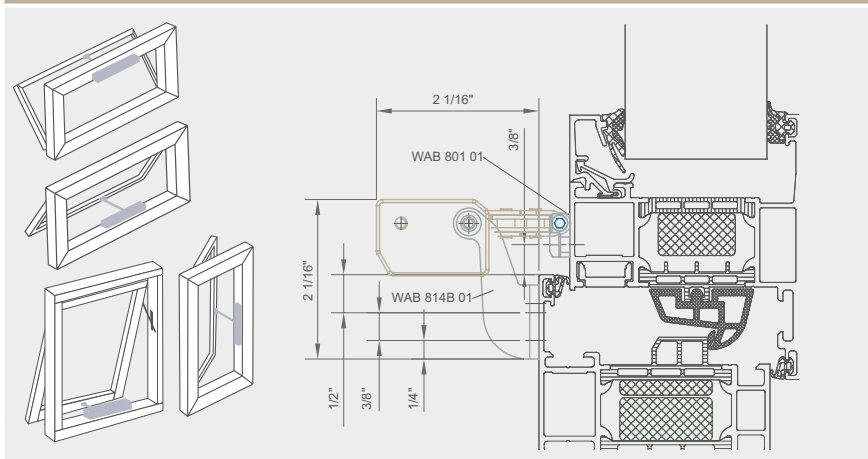


WAB 814i

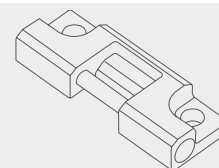


WAB 801

Installation suggestion 3 - Outward opening

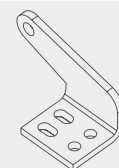
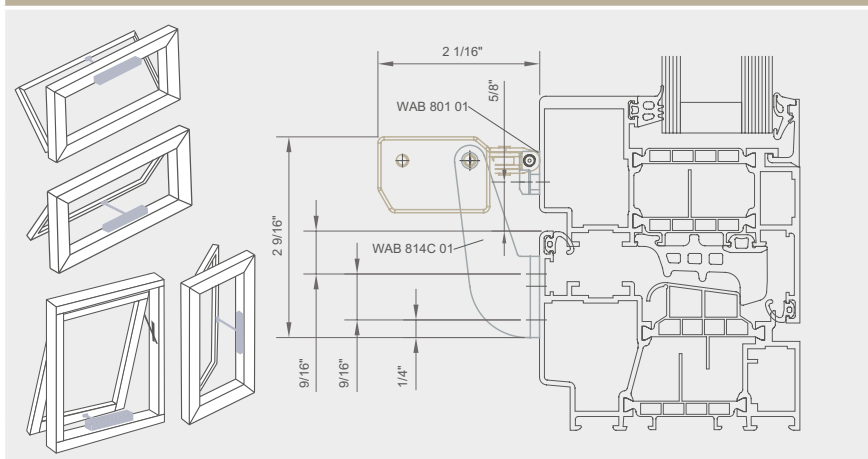


WAB 814B

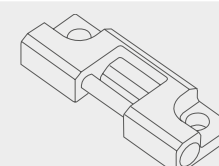


WAB 801

Installation suggestion 4 - Outward opening



WAB 814C



WAB 801

WMX 814 UL

Chain actuator

Installation suggestion 5 - Outward opening

WAB 814A

WAB 801

L = Length (incl. screws) – see table of items

Chain stroke [ft and in]	Length (L) [ft and in] (incl. screws = 11/16")
7 13/16"	1' 10 3/16"
1' 3 3/4"	1' 10 3/16"
1' 11 5/8"	2' 2 1/8"
2' 7 1/2"	2' 6 1/16"
3' 3 3/8"	2' 10"



WMX 523 / 523 UL / 823 / 823 UL

Chain actuator



Natural
ventilation



Smoke ventilation
EN 12101



Smoke ventilation
B300

24V

±24V control



MotorLink®



UL certification
– Actuators

1.51

Description

- optimized design for concealed installation in window profiles
- WMX 523 for comfort ventilation
- WMX 823 for smoke and comfort ventilation
- to be used with all window types
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- available with and without UL certification:
 - Europe: order without UL certification (version 0)
 - USA / Canada: order with UL certification (version U)
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing. The set points determining when the actuators are to reverse are individually adjustable and can be adjusted after installation using the programming box WAT 100.



Version S



Version E

Opening speeds

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see the following page for opening speed.

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.

- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications	
Locking force	3000 N
Permitted short pressure load when chain has run to end stop	400 N
Short pressure capacity on motor	WMX 523: max. 150 N (e.g. at the beginning of opening: Sticky gasket, ice, wind pressure) WMX 823: max. 200 N (e.g. at the beginning of opening: Sticky gasket, ice, wind pressure)
Chain opening	1' 15/16" – 1' 7 11/16" in increments of 25/64" (10mm), maximum opening depends on the window construction
Opening speed	WMX 523: 9/32" in/s / WMX 823: 23/64" in/s (programmable 1/8 in/s - 3/8 in/s)
Window type	For vertical or horizontal installation in the frame of inward and outward opening windows, window types and sizes must be agreed with the window supplier and WindowMaster
Window width	Min. 1' 9 5/8", maximum width depends on the window construction and the number of window actuators
Window height	Min. 2' 3 9/16", maximum height depends on the window construction and the number of window actuators
Nominal voltage	24V DC (max. 10% ripple)
Voltage	20-36V DC
Max. open-circuit voltage	Max. 36V DC
Current consumption	WMX 523: max. 0.5A / WMX 823: max. 1A
Working condition	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4 min. per 10 min)
Material	Lacquered zinc housing and zinc chromate passivated steel chain and a 3 15/16" cable with fast-in/fast-on connectors for connection to the extension cable WLL
Colour	Aluminium (RAL 9006), other RAL colours available at additional price
Size	1' 8 3/8" x 1 1/4" x 1 5/8" (W x H x D)
Weight	2.9 lbs
IP rating	Surface mounted: IP 20, concealed: IP 32
Certification	Actuators with "U" in the article no. are L certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464 (primary for U.S./Canada)
SHE test	WMX 823: Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2 WMX 523 / 823U: Not SHE tested
Life span	Tested with 10,000 opening and closing movements
Delivery includes	Actuator with 3 15/16" connection cable with fast-in/fast-on connector for WLL cable
To be ordered separately	Brackets and standard extension cables (WLL)
Note	We reserve the right to make technical changes

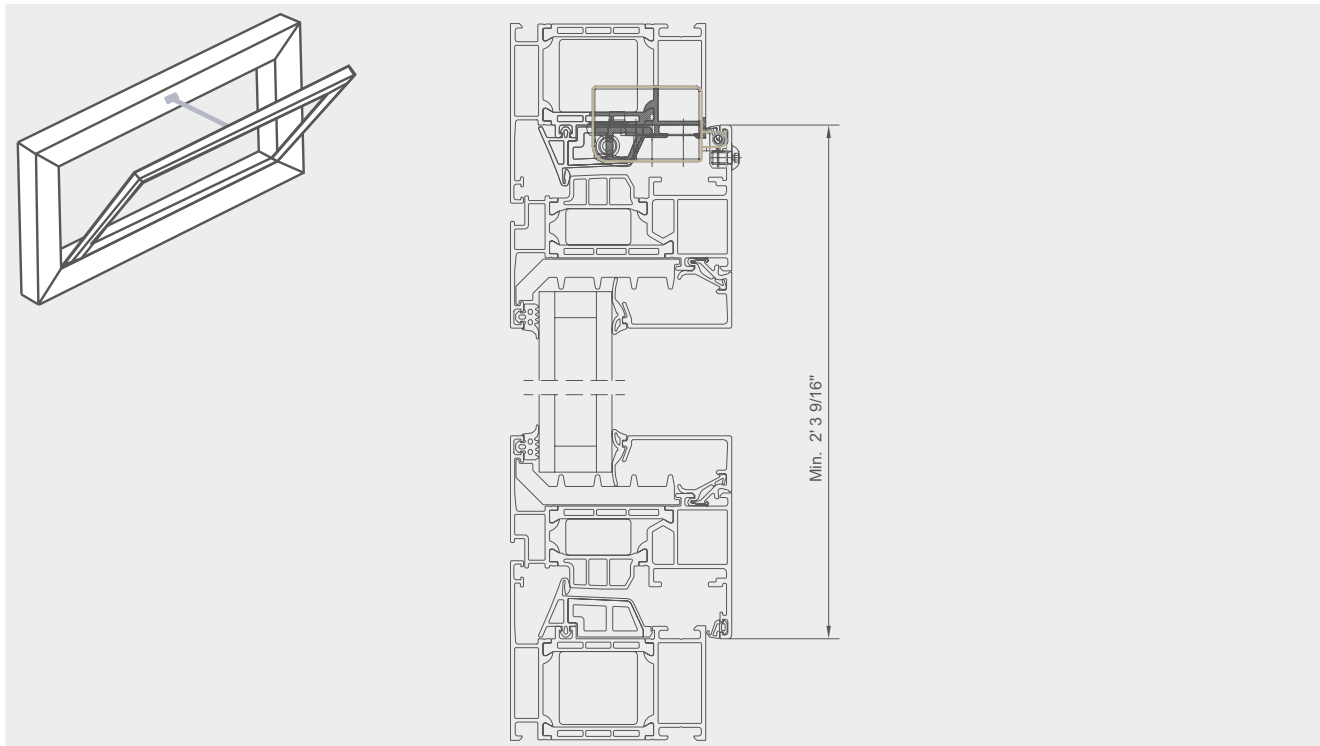
Brackets and accessories	Item no.
Chain bracket with tight-fitting bolt, WMX, for sash or frame	WAB 801
Chain bracket for integrated WMX, for sash	WAB 833
Chain bracket with split, for sash or frame	WAB 860
Chain bracket for Schüco systems, for sash	WAB 863
Chain bracket for wooden windows, for sash	WAB 867
Mounting profile for WMX 820 (tested in accordance with EN 12101-2)	WAB 909 0384
See separate product sheets for further information.	

Product code composition (actuator supplied in sealed plastic packaging)						
WMX 523 WMX 823	-n	x	xxx	x	x	3
					Product version: 3	
					Certification: 0 = CE, U = CE + UL, E = CE + EN 12101-2	
					Actuator hardware version: S = standard, E = with connection for pressure safety strip (E: not UL actuator)	
					Chain opening: 1 15/16" (50mm) – 9 13/16" (500mm) increments of 25/64" (10mm) (050 = 25/64")	
					Colour: G = grey	
	Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad					
Explanation of product code structure						
WMX 523-2G070E 03			WMX 523 actuator, double synchronisation, grey, 2 3/4" chain opening, with connection for pressure safety strip, with CE certification, product version 3.			

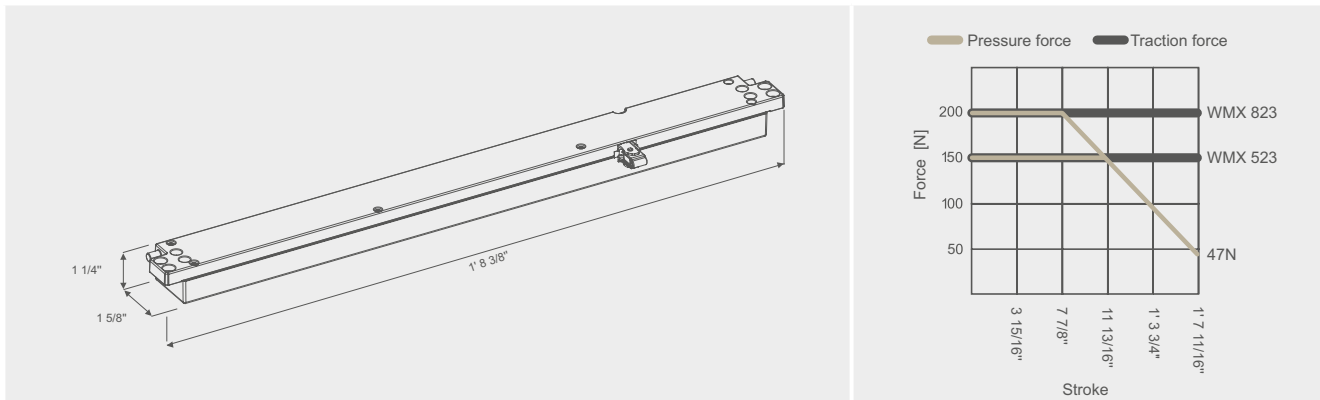
WMX 523 / 523 UL / 823 / 823 UL

Chain actuator

Installation suggestion - Bottom hung, inward opening



For questions regarding the concealed installation – contact WindowMaster



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMX 526 / 526 UL / 826 / 826 UL Chain actuator



Natural
ventilation



Smoke
ventilation

24V

±24V control



MotorLink®



UL certification
– Actuators

1.61

Description

- designed for surface mounting
- WMX 526 / 526 UL / 826 UL: for comfort ventilation
- WMX 826: for smoke and comfort ventilation
- to be used with top/hung, bottom/hung and turning windows
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- external safety edge can be connected directly to the actuator (actuator version 'E')
- available with and without UL certification:
 - Europe: order without UL certification
 - USA / Canada: order with UL certification (version UL)
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close function
- the electronics in this actuator can be programmed to suit specific requirements – i.e. pressure- and traction force, stroke, speed/sound level – with the WAT 100 programming box, also possible following installation
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing. The set points determining when the actuators are to reverse are individually adjustable and can be adjusted also after installation using the programming box WAT 100.



Version S



Version E

Opening speeds

One speed:

Actuators connected to ± 24 VDC control units (e.g. WUC) can run with one speed – see the following page for opening speed.

Three speeds:

Actuators connected to control units with MotorLink® (e.g. WCC) can run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

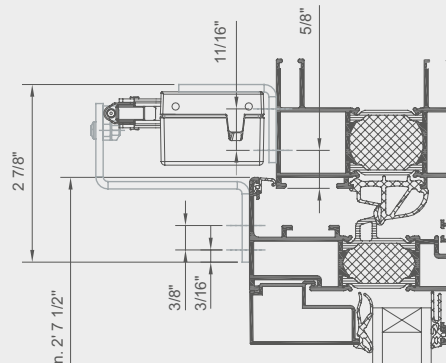
Technical specifications

Pressure force	See diagram
Traction force	See diagram
Locking force	3000N
Chain stroke	1' 15/16" – 1' 7 11/16" in increments of 25/64" (10mm). Special version up to 1' 11 5/8" possible (only for bottom hung windows) – contact WindowMaster for further information.
Speed	WMX 526 / 526 UL: 9/32 in/s WMX 826 / 826 UL: 23/64 in/s (programmable 1/8 in/s - 3/8 in/s)
Window type	Tophung, bottomhung and turning windows
Window width	Min. 2' 3 9/16", maximum width depends on the window construction and the number of window actuators
Window height	Min. 2' 3 9/16", maximum height depends on the window construction and the number of window actuators
Power consumption	24V DC (max. 10% ripple)
Voltage	20-36V DC
Open-circuit voltage	Max. 36V DC
Current consumption	WMX 526 / 526 UL: max. 0.5A WMX 826 / 826 UL: max. 1A
Operating conditions	+23°F – +113°F. Max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min)
Material	Lacquered zinc house with 1/2" zinc cromate passivated steel chain and 3-core AGW 22 cable with fast-in/fast-on connectors for connection to the extension cable WLL WMX 526 / 826: 16' 15/16" grey silicone cable WMX 526 UL / 826 UL: 6' 2 13/16" UL listed/recognized cable in grey (grey actuator) or white (white actuator)
Colour	Aluminium (RAL 9006) or white (RAL 9010), other RAL colours available at additional price
Size	1' 7 3/16" x 1 1/4" x 1 5/8" (W x H x D)
Weight	2.9 lbs
IP rating	Surface mounted: IP 20, concealed: IP 32
Certification	Actuators with 'U' in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14 and is supplied with UL approved cables UL STYLE 2464
SHE test	WMX 526 / 526 UL / 826 UL: not SHE tested WMX 826: tested in accordance with DIN 18232-3, section 3.6 (30 minutes at 572°F) and part B300 of BS EN 12101-2
Life span	Tested with 10,000 opening and closing movements
Delivery	WMX 526 / 826: actuator with 16' 15/16" cable and fast-in/fast-on connector for WLL cable WMX 526 UL / 826 UL: actuator with 6' 2 13/16" UL listed/recognized cable
To be ordered separately	Brackets and standard extension cables type WLL
Note	We reserve the right to make technical changes

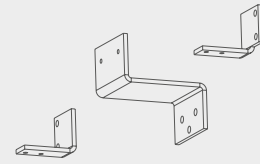
Item code composition <i>(actuator supplied in sealed plastic packaging)</i>						
WMX 526 WMX 826	n	x	xxx	x	x	3
					Product version: 3	
					Certification: 0 = CE, U = CE + UL	
					Actuator hardware version: S = standard, E = with connection for pressure safety strip <i>(E: not UL actuator)</i>	
					Chain opening: 1 15/16" (50mm) – 9 13/16" (500mm) increments of 25/64" (10mm) (050 = 25/64")	
	Colour: G = grey, W = white					
Actuator variant: 1= single, 2 = double, 3 = triple, 4 = quad						
Explanation of product code structure						
WMX 526-2G070E 03			WMX 526 actuator, double synchronisation grey, 70mm chain opening, with connection for pressure safety strip, with CE certification, product version 3			

Accessories	Item no.
Chain bracket with tight-fitting bolt, WMX, for sash or frame	WAB 801
Chain bracket with split, for sash or frame	WAB 860
Chain bracket for wooden windows, for sash	WAB 867
Angle bracket for actuator, grey RAL 9006	WAB 804 0101
Angle bracket for actuator, white RAL 9010	WAB 804 1101
Z bracket for actuator WMX 504/804/524/824/526/826. Sash min 800mm.	WAB 805
Actuator bracket for buttomhung window	WAB 845
Actuator bracket	WAB 824B
See separate product sheets for further information.	

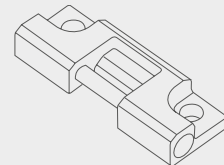
Installation suggestion 1



* The cable cover must face towards the window hinge!

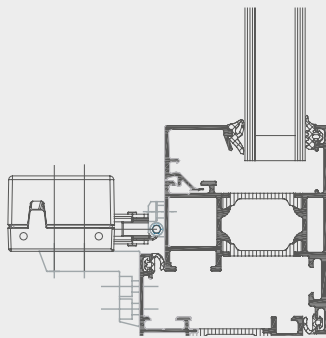


WAB 805



WAB 801

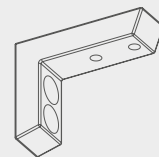
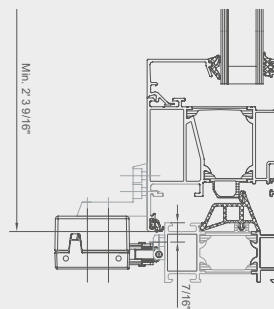
Installation suggestion 2



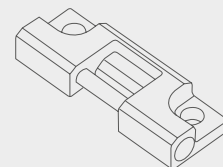
IMPORTANT!

Mount the actuator so the bottom of the housing faces towards the centre of the window

Installation suggestion 3

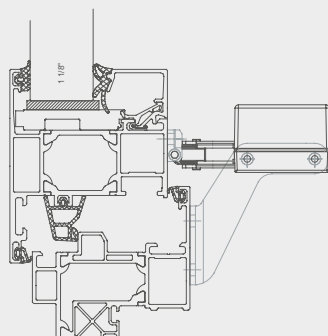


WAB 804 - 0101 grey / -1101 white



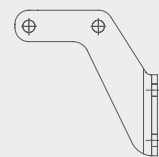
WAB 801

Installation suggestion 4

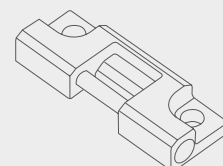


IMPORTANT!

Mount the actuator so the bottom of the housing faces towards the centre of the window



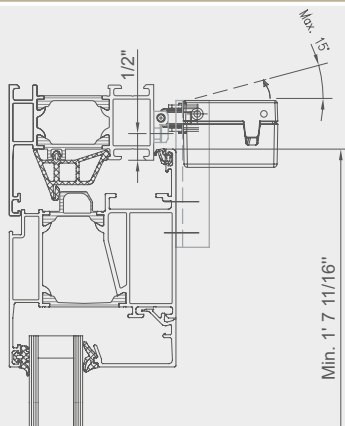
WAB 824B



WAB 801

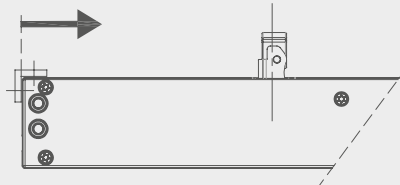
Chain actuator

Installation suggestion 5

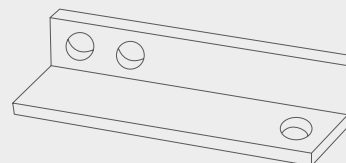
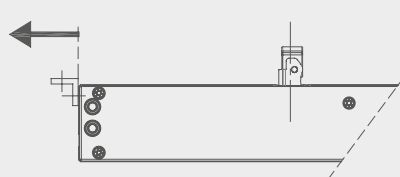


IMPORTANT! Mount the actuator so the bottom of the housing faces towards the centre of the window

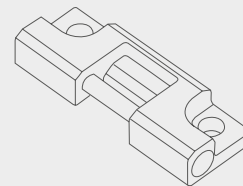
Actuator with limited 15° rotation mounted:



Actuator unlimited rotation mounted:

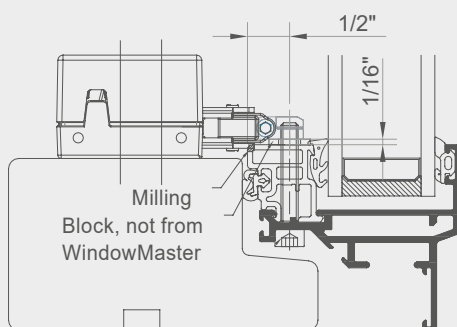


WAB 845



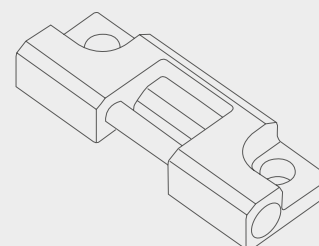
WAB 801

Installation suggestion 6



IMPORTANT!

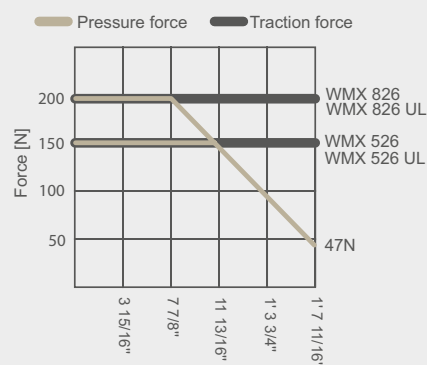
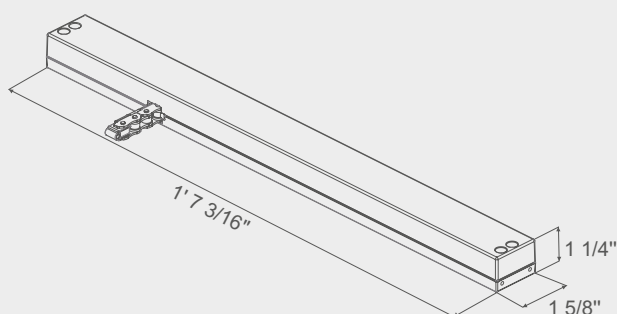
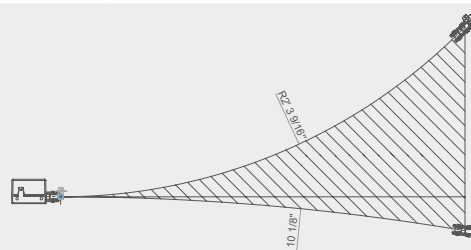
Mount the actuator so the bottom of the housing faces towards the centre of the window



WAB 801

IMPORTANT!

Mount the actuator so the bottom of the housing (marked with a yellow label) faces towards the centre of the window



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMU 836 Chain actuator 300N



Natural
ventilation



Smoke ventilation
EN 12101



Smoke
ventilation B300

24V

±24V control



MotorLink®



UL certification
– Actuators

2.11

Description

- designed for surface mounting
- for comfort ventilation
- for smoke ventilation DIN 18232-3
- for smoke ventilation EN 12101-2: The EN-actuators are approved according to EN 12101-2 with selected profiles
- to be used with all window types
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- available with and without UL certification:
 - Europe: order without UL certification
 - USA / Canada: order with UL certification (version UL) – the UL actuator is supplied without cable
- synchronization of up to four window actuators – no need for an external synchronization module
- genuine position feedback and three speeds when using control unit with MotorLink®
- soft close function
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting

Actuator variants

The actuator is available in four different versions: single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.



Notice: Cable is not supplied when actuators are shipped to USA and Canada.

Opening speeds

The number of window actuator running speeds (up to three) depends on the type of control unit to which the window actuator is connected.

One speed:

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see the following page for opening speed.

Three speeds:

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications

Pressure force	See variant table and stroke / force diagram
Traction force	300N
Locking force	3000N
Chain stroke	1' 3 3/4", 1' 11 5/8", 2' 7 1/2" and 3' 3 3/8"
Opening speed	7/16 in/s - 1/2 in/s
Window types	Tophung, bottomhung, pivot and turning window - vent size should be confirmed with the window supplier and WindowMaster
Nominal voltage	24 VDC (max. 10% ripple)
Voltage	20 - 36 VDC
Open circuit voltage	Max. 36 VDC
Current consumption	Max. 1,0A
Consumption of power	Max. 24W
Operating conditions	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min)
Material	Anodised aluminium housing with stainless steel chain WMU 836: with 16' 4 7/8" grey silicone cable 3-cores AWG 19 WMU 836 UL: without cable
Colour	Anodized aluminium. RAL colours available at an additional price
Size	1 5/16" x 1 7/8" (H x D), length (L) depending on chain stroke – see table
Weight	1' 3 3/4": 4.9lbs, 1' 11 5/8": 5.7lbs, 2' 7 1/2": 6.5lbs, 3' 3 3/8": 7.5lbs
IP rating	IP32
Fire test	Testet according to DIN 18232-3, part 3.6 (30 min./572°F)
EN approval	Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2
Certification	Actuators with "UL" in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14. Primarely used in USA and Canada.
Life span	Tested with 10,000 opening and closing movements
Delivery includes	WMU 836: actuator with 16' 4 7/8" cable WMU 836 UL: actuator without cable
To be ordered separately	Actuator bracket and chain bracket
Note	We reserve the right to make technical changes

Description of product code composition				
WMU 836	-n	xx	xxxx	0103
			Product version: 3	
			Stroke: 0400 = 1' 3 3/4", 0600 = 1' 11 5/8", 0800 = 2' 7 1/2", 1000* = 3' 3 3/8" (0400 = 400mm)	
		Certification EN: For actuator approved according to EN 12101-2 the item number must contain EN. Notice: Are supplied with strokes of 1' 3 3/4", 1' 11 5/8" and 2' 7 1/2". UL: For UL certified actuator the item number must contain UL.		
		Actuator variant: 1 = single, 2 = double, 3 = triple, 4 = quad		
* 3' 3 3/8" is not supplied as EN-12101-2 approved actuator				
Example of product code				
WMU 836-2 EN 0600 0103		WMU 836 actuator, double synchronisation, EN 12101-2 approved, 1' 11 5/8" stroke, product version 3		

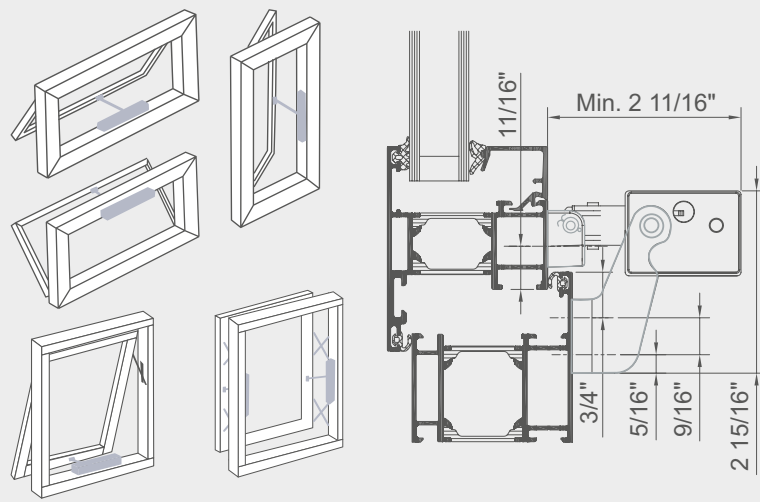
Items	Chain stroke [ft and in]	Compressive force [N] *(only bottom hung window)	Length (L)[ft and in] (incl. screws = 3/4")	Item no. Europe	Item no. USA/Canada
Single actuator	1' 3 3/4"	300	1' 10 3/8"	WMU 836-1 0400	WMU 836-1 UL 0400
	1' 11 5/8"	300	2' 2 5/16"	WMU 836-1 0600	WMU 836-1 UL 0600
	2' 7 1/2"	0*	2' 6 1/4"	WMU 836-1 0800	WMU 836-1 UL 0800
	3' 3 3/8"	0*	2' 10 3/16"	WMU 836-1 1000	WMU 836-1 UL 1000
Double actuator	1' 3 3/4"	300	1' 10 3/8"	WMU 836-2 0400	WMU 836-2 UL 0400
	1' 11 5/8"	300	2' 2 5/16"	WMU 836-2 0600	WMU 836-2 UL 0600
	2' 7 1/2"	0*	2' 6 1/4"	WMU 836-2 0800	WMU 836-2 UL 0800
	3' 3 3/8"	0*	2' 10 3/16"	WMU 836-2 1000	WMU 836-2 UL 1000
Triple actuator	1' 3 3/4"	300	1' 10 3/8"	WMU 836-3 0400	WMU 836-3 UL 0400
	1' 11 5/8"	300	2' 2 5/16"	WMU 836-3 0600	WMU 836-3 UL 0600
	2' 7 1/2"	0*	2' 6 1/4"	WMU 836-3 0800	WMU 836-3 UL 0800
	3' 3 3/8"	0*	2' 10 3/16"	WMU 836-3 1000	WMU 836-3 UL 1000
Quad actuator	1' 3 3/4"	300 N	1' 10 3/8"	WMU 836-4 0400	WMU 836-4 UL 0400
	1' 11 5/8"	300 N	2' 2 5/16"	WMU 836-4 0600	WMU 836-4 UL 0600
	2' 7 1/2"	0 N*	2' 6 1/4"	WMU 836-4 0800	WMU 836-4 UL 0800
	3' 3 3/8"	0 N*	2' 10 3/16"	WMU 836-4 1000	WMU 836-4 UL 1000

Actuators approved according to EN 12101-2 – contact WindowMaster

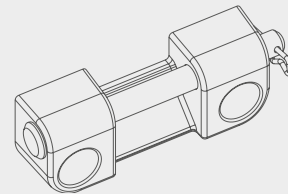
Accessories	Item no.
Bracket set for frame mounting	WAZ 101
Bracket set for sash mounting	WAZ 102
Chain bracket for WMU 836 / 936	WAB 811
Actuator bracket for WMU 836 / 936	WAB 812
Actuator bracket for WMU 836	WAB 824
Z-Bracket for inward opening windows	WAB 825
Actuator bracket for WMU 836 / 936 / 866	WAB 836A
Actuator bracket for WMU 836 / 936 / 866	WAB 836B
Chain bracket for WMU 836 / 936	WAB 836E
Actuator bracket for WMU 836 – sash mounting	WAB 836P
Shortening electronically of chain	WKK

See separate product sheets for further information.

Installation suggestion 1 - Outward opening, frame mounting

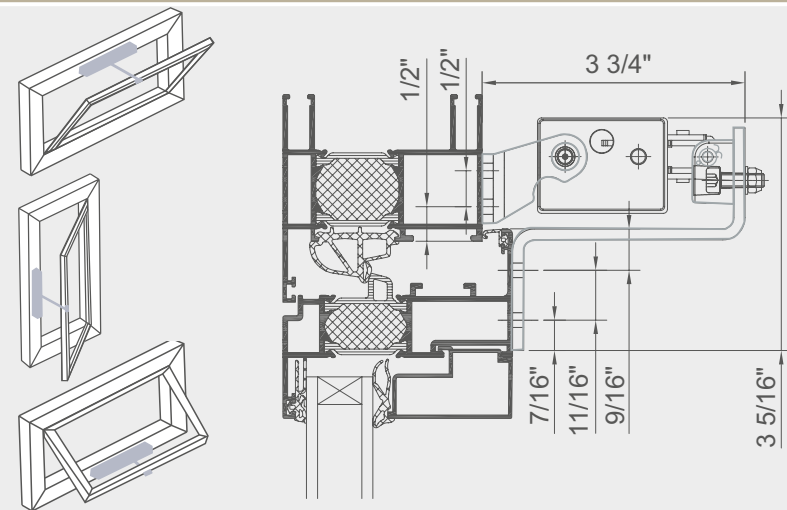


WAB 836B

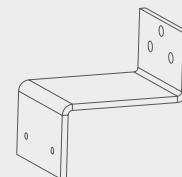


WAB 836E

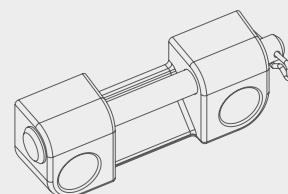
Installation suggestion 2 - Inward opening, frame mounting



WAB 824

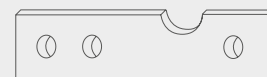
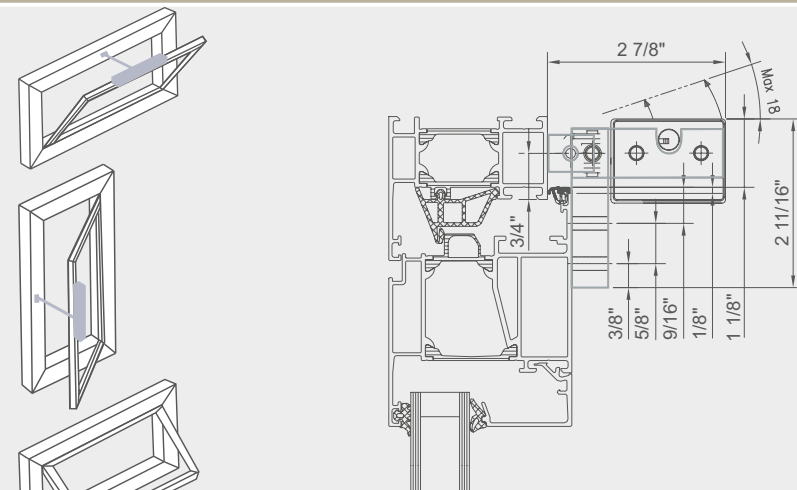


WAB 825

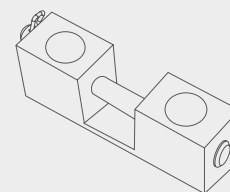


WAB 836E

Installation suggestion 3 - Inward opening, sash mounting

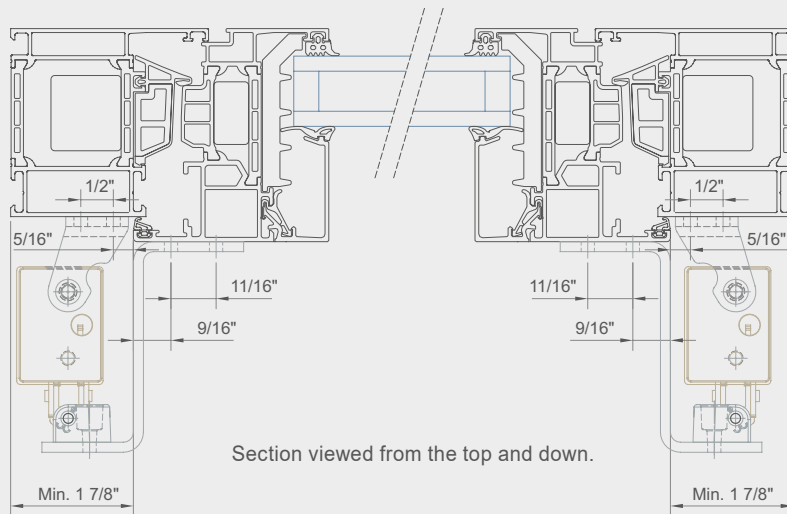


WAB 812

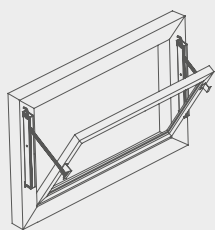


WAB 811

Installation suggestion 4 (frame mounting)



Section viewed from the top and down.



Solution:

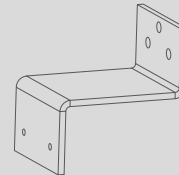
2 x actuator WMU 836-2 xxxx
1 x bracket set WAZ 101.

The actuator cable exit has to turn upward.

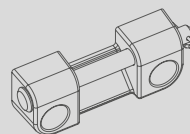
Bracket set WAZ 101 consists of:



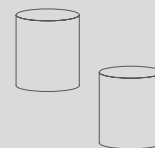
2 x WAB 824



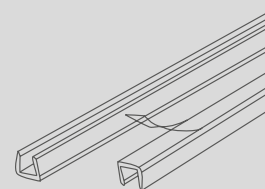
2 x WAB 825



2 x WAB 836E

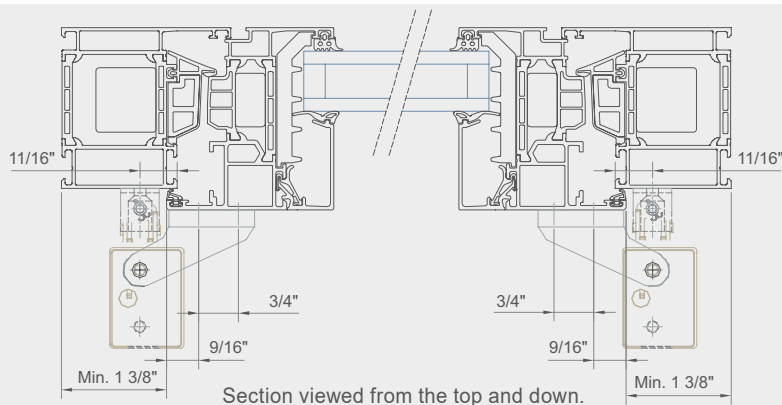


2 x brass tubes

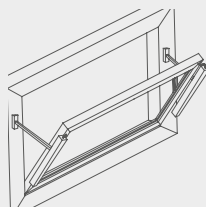
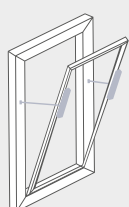


2 x cable channels 1m

Installation suggestion 5 (sash mounting)



Section viewed from the top and down.

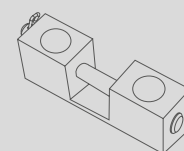


Solution:

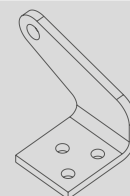
2 x actuators WMU 836-2 xxxx
1 x bracket set WAZ 102.

The actuator cable exit has to turn upward.

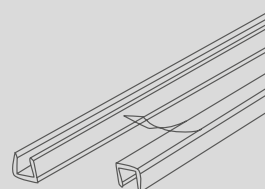
Bracket set WAZ 102 consists of:



2 x WAB 811



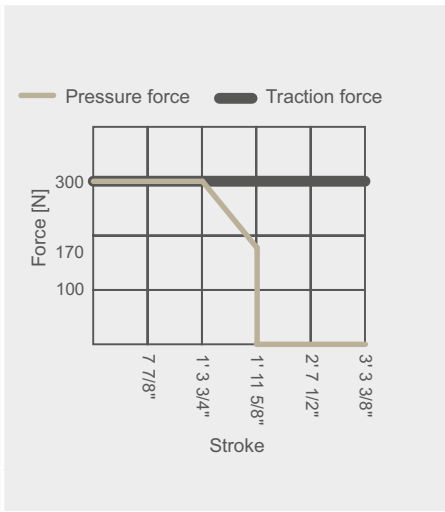
2 x WAB 836P



2 x cable channels på 1m

WMU 836

Chain actuator 300N



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMU 831 / 851 / 852

incl. UL-versions

Chain actuator up to 500N



Natural
ventilation



Smoke ventilation
EN 12101



Smoke ventilation
B300

24V

±24V control



MotorLink®



TrueSpeed™



UL certification
– Actuators

2.25

Description

- Designed for surface mounting
- For comfort ventilation
- To be used with all window types
- To be used together with $\pm 24V$ control units or control units with MotorLink®
- Can be used together with espagnolette WMB
- Available with and without cable:
 - Europe: S = cable/ Z = no cable
 - USA / Canada: Order without cable = Z
- Synchronization of up to four window actuators – no need for an external synchronization module
- Genuine position feedback and three speeds when using control unit with MotorLink®
- Soft close function
- Built-in electronic load switch-off/end stop
- Electronic actuator with micro controller
- The actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- Easy mounting

Actuator variants

The actuator is available in four different versions with or without cable:

single actuator (-1), double actuator (-2), triple actuator (-3) and quad actuator (-4).

The synchro actuators (-2, -3 and -4) are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position.

On large windows up to four actuators can be mounted on the

same window – with no need for an external synchronization module.

Opening speeds

The number of window actuator running speeds (up to three) depends on the type of control unit to which the window actuator is connected.

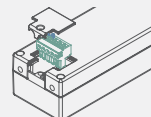
One speed:

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see the following page for opening speed.

Three speeds:

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- Automatically control speed – actuators run slowly and almost soundlessly.
- Manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.



Notice:

Cable is not supplied when actuators are shipped to USA and Canada. Cable connection inside the actuator.

Technical specifications	
Pressure force	See variant table and stroke / force diagram
Traction force	300N
Locking force	3000N mounting front otherwise 2000N
Chain stroke	1' 3 3/4", 1' 7 11/16", 1' 11 5/8" depending on variant
Opening speed	9/32 - 1/2 in/s
Window types	Tophung, bottomhung, pivot and turning window – vent size should be confirmed with the window supplier and WindowMaster
Nominal voltage	24 VDC (max. 10% ripple)
Voltage	20 - 36 VDC
Open circuit voltage	Max. 36 VDC
Current consumption	Min. 1A or Max. 2A depending on variant
Consumption of power	1A = Max. 24W & 2A = Max. 48W
Operating conditions	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch-on-duration	ED 40% (max. 4min. per 10min)
Material	Aluminium housing with steel chain WMU 831 / 851 / 852 S: With 16' 4 7/8" grey silicone cable 3-cores AWG 19 WMU 831 / 851 / 852 Z: Without cable
Colour	Aluminium RAL 9006. RAL colours available at an additional price
Size	1' 11 13/16" x 1 5/8" x 2 1/4" (L x H x D)/(L = 1' 11 13/16" + 11/16" = 2' 1/2" incl. screws)
Weight	1' 3 3/4": 4.9lbs, 1' 7 11/16": 5.3lbs, 1' 11 5/8": 5.7lbs
IP rating	IP32
Fire test	Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2
Life span	Tested with 10,000 opening and closing movements
Delivery includes	WMU 831 / 851 / 852 S: Actuator with 5m cable and plug WMU 831 / 851 / 852 Z: Plug incl. but actuator without cable
To be ordered separately	Actuator, motor and chain bracket
Note	We reserve the right to make technical changes

Description of product code composition					
WMU 831 WMU 851 WMU 852	-n	G	xx	xxxx	01
				Product version: 1	
				Stroke: 0400 = 1' 3 3/4", 0500 = 1' 7 11/16", 0600 = 1' 11 5/8" & Z = Zero cable/ S = Standard cable (0400=400mm)	
				Certification: EN= actuator approved according to EN 12101-2	
				Color: G=Grey	
Actuator variant: 1 = single, 2 = double, 3 = triple, 4 = quad					
Example of product code					
WMU 852-2G 600S 01		WMU 852 actuator, double synchronisation, Grey, S incl. cable, 1' 11 5/8" chain stroke, product version 1			

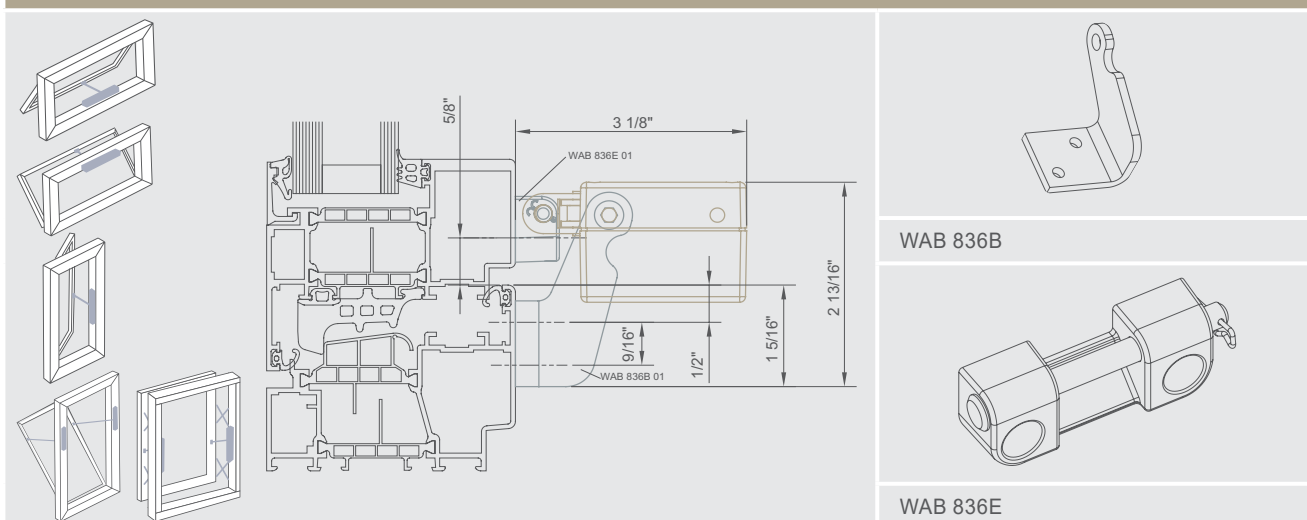
Items 1A<60sec	Chain stroke [ft and in]	Pressure force [N] * (only bottom hung window)	Length (L) [ft and in] (incl. screws = 3/4")	Item no. with cable	Item no. without cable
Single actuator	1' 3 3/4"	300	2' 1/2"	WMU 831-1G 400S 01	WMU 831-1G 400Z 01
	1' 7 11/16"			WMU 831-1G 500S 01	WMU 831-1G 500Z 01
	1' 11 5/8"			WMU 831-1G 600S 01	WMU 831-1G 600Z 01
Double actuator	1' 3 3/4"			WMU 831-2G 400S 01	WMU 831-2G 400Z 01
	1' 7 11/16"			WMU 831-2G 500S 01	WMU 831-2G 500Z 01
	1' 11 5/8"			WMU 831-2G 600S 01	WMU 831-2G 600Z 01
Triple actuator	1' 3 3/4"			WMU 831-3G 400S 01	WMU 831-3G 400Z 01
	1' 7 11/16"			WMU 831-3G 500S 01	WMU 831-3G 500Z 01
	1' 11 5/8"			WMU 831-3G 600S 01	WMU 831-3G 600Z 01
Quad actuator	1' 3 3/4"			WMU 831-4G 400S 01	WMU 831-4G 400Z 01
	1' 7 11/16"			WMU 831-4G 500S 01	WMU 831-4G 500Z 01
	1' 11 5/8"			WMU 831-4G 600S 01	WMU 831-4G 600Z 01

Items 1A>60sec	Chain stroke [mm]	Pressure force [N] * (only bottom hung window)	Length (L) [ft and in] (incl. screws = 3/4")	Item no. wiith cable	Item no. without cable
Single actuator	1' 3 3/4"	500	2' 1/2"	WMU 851-1G 400S 01	WMU 851-1G 400Z 01
Double actuator				WMU 851-2G 400S 01	WMU 851-2G 400Z 01
Triple actuator				WMU 851-3G 400S 01	WMU 851-3G 400Z 01
Quad actuator				WMU 851-4G 400S 01	WMU 851-4G 400Z 01

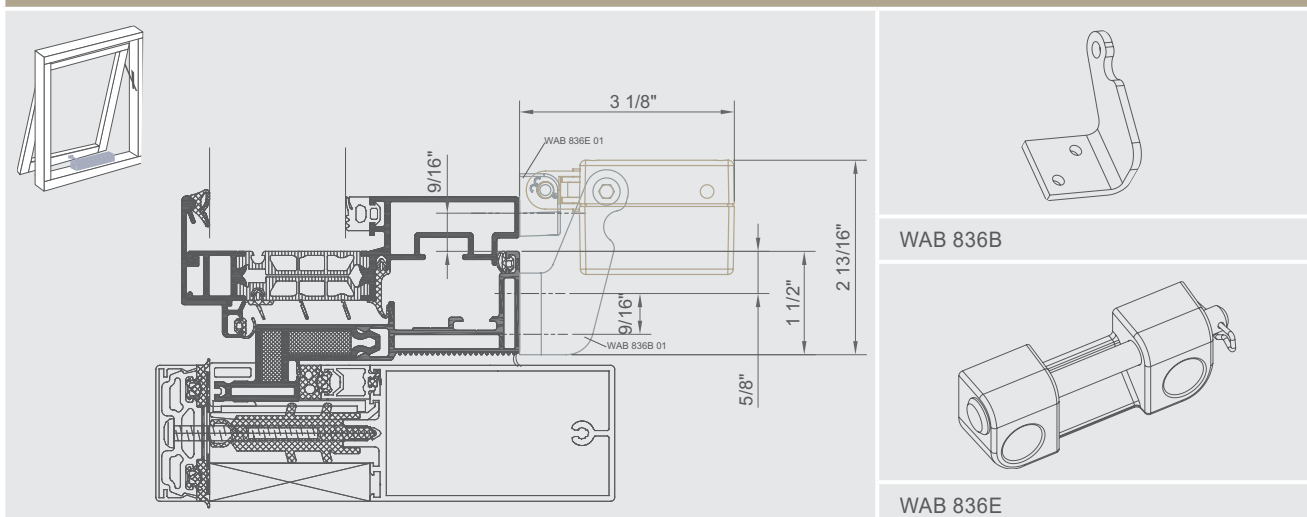
Items 2A<60sec	Chain stroke [mm]	Pressure force [N] * (only bottom hung window)	Length (L) [ft and in] (incl. screws = 3/4")	Item no. with cable	Item no. without cable
Single actuator	1' 3 3/4"	500	2' 1/2"	WMU 852-1G 400S 01	WMU 852-1G 400Z 01
	1' 7 11/16"			WMU 852-1G 500S 01	WMU 852-1G 500Z 01
	1' 11 5/8"			WMU 852-1G 600S 01	WMU 852-1G 600Z 01
Double actuator	1' 3 3/4"			WMU 852-2G 400S 01	WMU 852-2G 400Z 01
	1' 7 11/16"			WMU 852-2G 500S 01	WMU 852-2G 500Z 01
	1' 11 5/8"			WMU 852-2G 600S 01	WMU 852-2G 600Z 01
Triple actuator	1' 3 3/4"			WMU 852-3G 400S 01	WMU 852-3G 400Z 01
	1' 7 11/16"			WMU 852-3G 500S 01	WMU 852-3G 500Z 01
	1' 11 5/8"			WMU 852-3G 600S 01	WMU 852-3G 600Z 01
Quad actuator	1' 3 3/4"			WMU 852-4G 400S 01	WMU 852-4G 400Z 01
	1' 7 11/16"			WMU 852-4G 500S 01	WMU 852-4G 500Z 01
	1' 11 5/8"			WMU 852-4G 600S 01	WMU 852-4G 600Z 01

Accessories	Item no.
Actuator bracket for WMU 852/ 851/ 831	WAB 852A
Actuator bracket for WMU 852/ 851/ 831	WAZ 852i
Z-Bracket for inward opening windows	WAB 827
Actuator bracket for WMU 836 / 852 / 851 / 831 / 936 / 866	WAB 836B
Actuator bracket for WMU 836 / 852 / 851 / 831/ 936 / 866	WAB 836H
Chain bracket for WMU 836 / 852 / 851 / 831 / 936	WAB 836E
See separate product sheets for further information.	

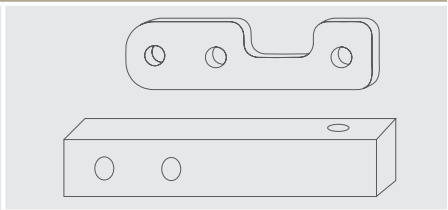
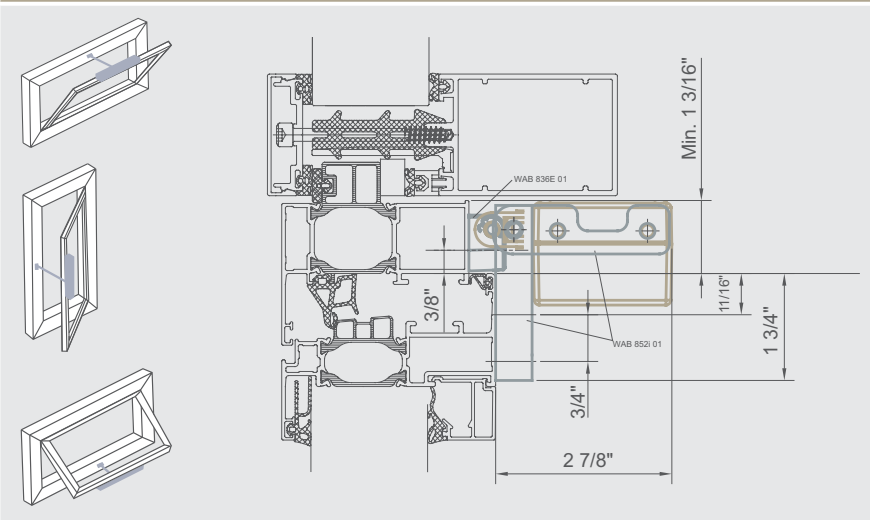
Installation suggestion 1 - Outward opening



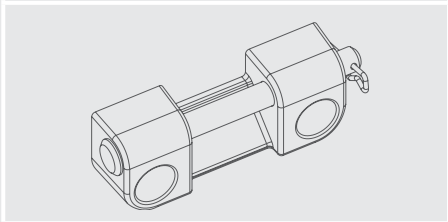
Installation suggestion 2 - Outward opening (friction hinge)



Installation suggestion 3 - Inward opening (sash mounting)

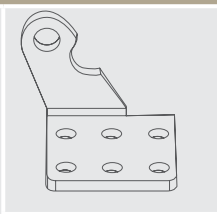
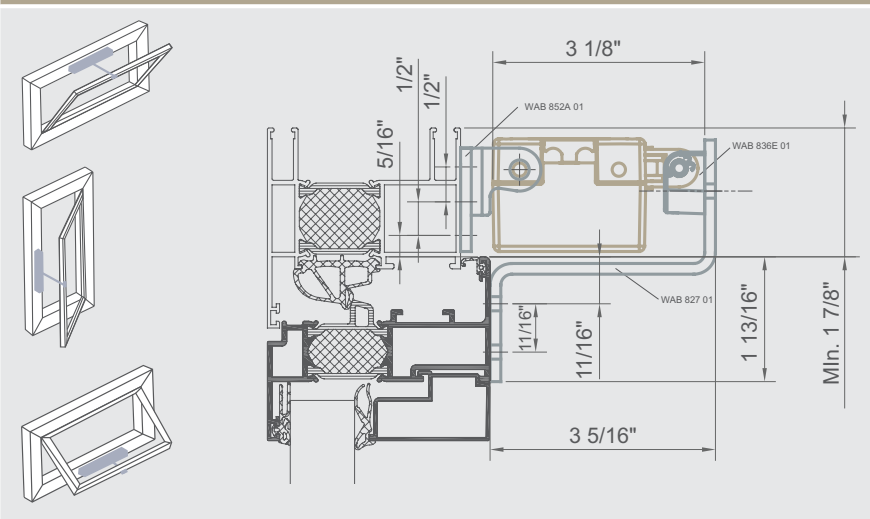


WAB 852i

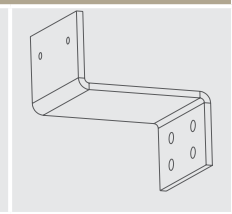


WAB 836E

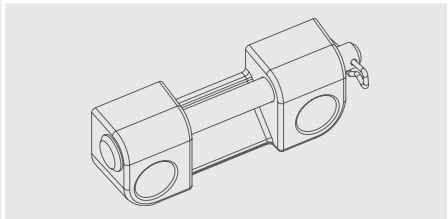
Installation suggestion 4 - Inward opening (frame mounting)



WAB 852A

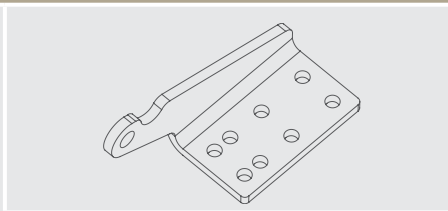
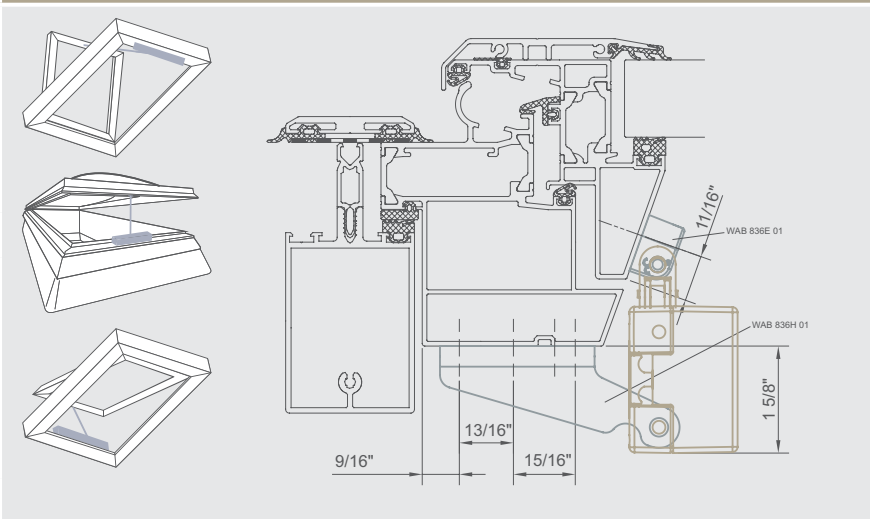


WAB 827

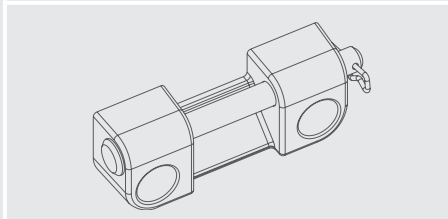


WAB 836E

Installation suggestion 5 - Outward roof opening



WAB 836H

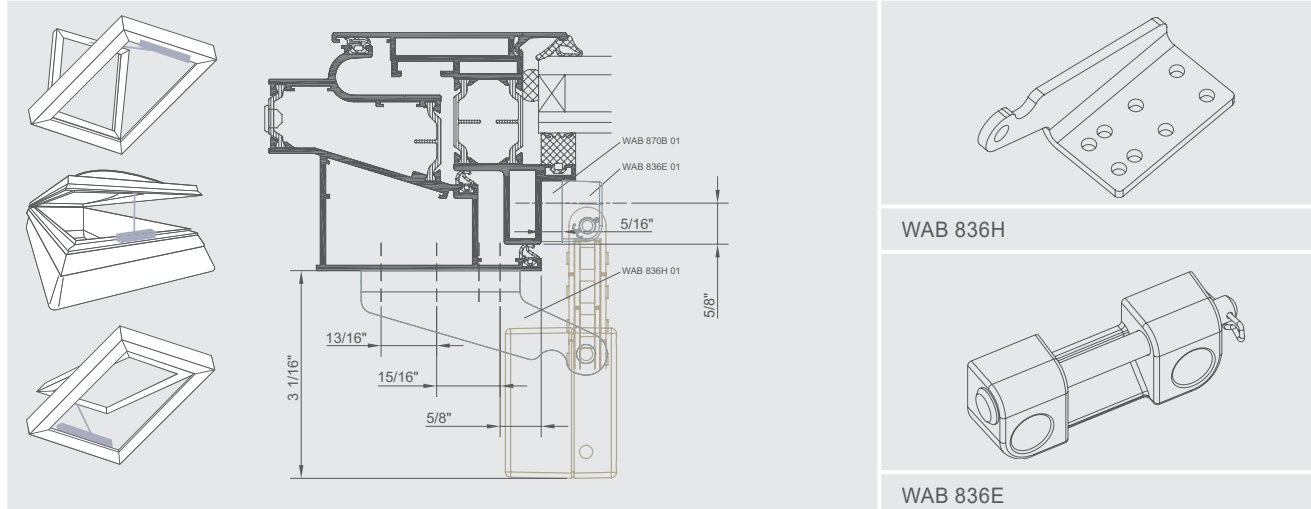


WAB 836E

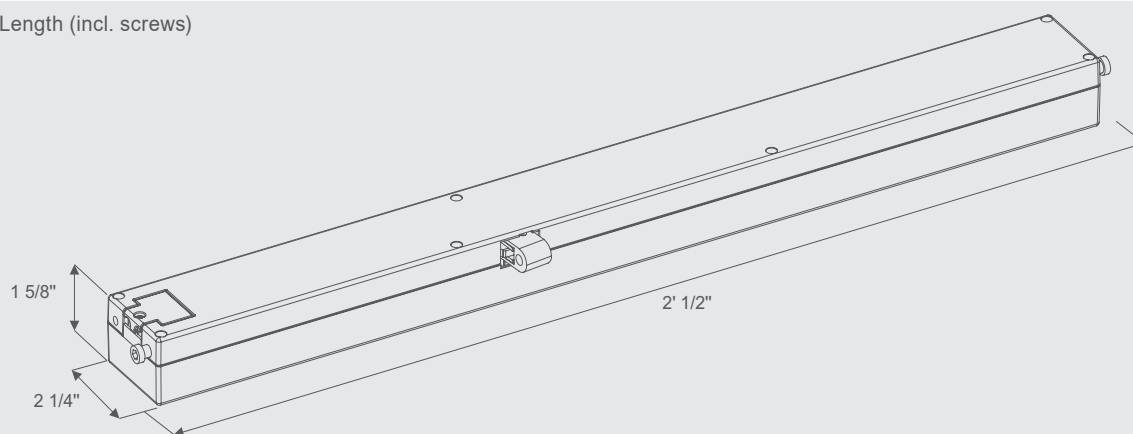
WMU 831 / 851 / 852

Chain actuator up to 500N

Installation suggestion 6 - Outward roof opening

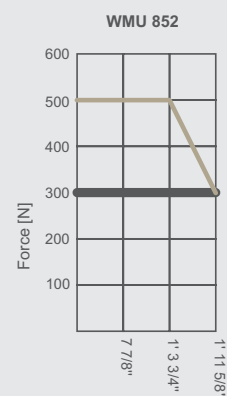
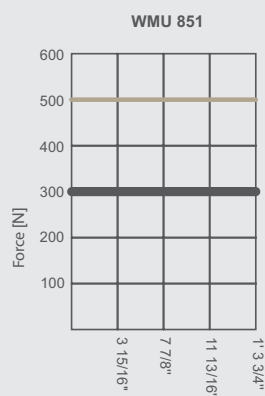
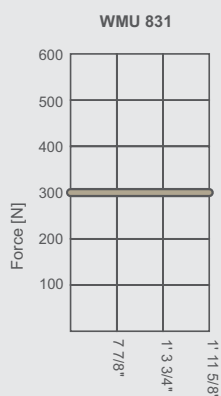


L = Length (incl. screws)



— Pressure force

— Tractive force



All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMU 842 / 861 / 862 / 863 / 864 / 882 / 883 / 884 / 885 / 895

incl. UL-versions

Chain actuator up to 1500N



Natural
ventilation



Smoke ventilation
EN 12101



Smoke ventilation
B300

24V

±24V control



MotorLink®



UL certification
– Actuators

2.45

Description

- the actuator is an extremely strong chain actuator especially developed for large and heavy roof openings and windows in the facades
- an elegant alternative to traditional spindle actuators
- for comfort ventilation
- for smoke ventilation when the actuator opens the window completely within 60sec. (opening time) – approved according to EN 12101-2 with selected profiles
- to be used together with ±24V control units or control units with MotorLink®
- can be used together with espagnolette WMB
- synchronization of up to 4 window actuators – no need for an external synchronization module
- genuine position feedback and 3 speeds when using control unit with MotorLink®
- soft close function
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- the actuator has an integrated reverse function to ensure a prolonged life span of the window gaskets
- easy mounting
- actuators for US and Canada are UL certified and are supplied without cable

Actuator variants

The actuator is available in four different versions: single WMU 86x/88x-1, double WMU 86x/88x-2, triple WMU 86x/88x-3 and quad WMU 86x/88x-4. The actuators are equipped with a patented synchronization function, in which the actuators communicate directly with each other, which ensures the actuators operate at exactly the same speed and position. On large windows up to four actuators can be mounted on the same window – with no need for an external synchronization module.

Pressure safety function

The risk of entrapment is reduced as the actuators are programmed to reverse if they encounter obstacles when closing. The set points determining when the actuators are to reverse are individually adjustable and can be adjusted after installation using the programming box WAT 100.



Notice: Cable is not supplied when actuators that are shipped to USA and Canada.

Opening speed

Actuators connected to ± 24 VDC control units (e.g. WUC) can be run with one speed – see "Opening time" in the table of items.

Actuators connected to control units with MotorLink® (e.g. WCC) can be run with three different speeds:

- automatically control speed – actuators run slowly and almost soundlessly.
- manual control speed – actuators run faster and more audibly.
- H&S and safety control speed – actuators run fastest. H&S control always has highest priority.

Technical specifications

Pressure force		Constant load	Snow load	
	WMU 842	max. 400N	-	
	WMU 86x	max. 600N	max. 600N (programmable 300-600N)	
	WMU 88x	max. 800N	max. 1000N (programmable 300-1000N)	
	WMU 895	max. 1000N	max. 1500N (programmable 300-1500N)	
	– see also the diagrams force/stroke on the last page			
Tractive force	500N (programmable up to 1000N)			
Locking force	3000N			
Chain stroke	Depending on variant – see table of items "Chain stroke" WMU 842/862/864/882/884/885/895: 3' 3 3/8" special version – please contact WindowMaster			
Opening speed	Depending on variant – see table of items "Opening time"			
Window types	Top hung, bottom hung, turning, pivot, roof window and light dome			
Nominal voltage	24V DC (max. 10% ripple)			
Voltage	19 - 32V DC			
Open-circuit voltage	Max. 32V DC			
Current consumption	Depending on variant – see table of items "Current consumption"			
Operating conditions	+23°F – +113°F max. 90% relative humidity (not condensing)			
Switch-on-duration	ED 20% (max. 4min. per 20min.)			
Material	Anodised aluminium housing with zinc cromate passivated steel chain Europe: actuator with 16' 4 7/8" grey silicone cable 3-core AWG 19 US/Canada: actuator without cable			
Colour	Anodised aluminium. RAL colours at an additional price			
Size	2 1/8" x 3 1/8" (H x D). Width depending on variant - see table of items "Width"			
Weight	Depending on variant – see table of items "Weight"			
IP rating	IP54			
Life span	Tested with 10,000 opening and closing movements - lifetime minimum as specified in the table below			
Proposal for EN test modes		10.000 ventilation openings 500mm	1.000 smoke openings	5 smoke openings with snow load
	WMU 862	600N	1' 7 11/16" / 600N	1' 7 11/16" / 600N
	WMU 863	600N	1' 11 5/8" / 600N	1' 11 5/8" / 600N
	WMU 864	600N	2' 5 1/2" / 600N	2' 5 1/2" / 600N
	WMU 883	800N	11 13/16" / 800N	11 13/16" / 1000N
	WMU 884	800N	1' 11 5/8" / 800N	1' 11 5/8" / 1000N
	WMU 885	800N	2' 5 1/2" / 800N	2' 5 1/2" / 1000N
	WMU 895	825N	2' 5 1/2" / 825N	2' 5 1/2" / 1500N

Technical specifications continued	
EN approval	Approved according to EN 12101-2 with selected profiles – please contact WindowMaster for further information B300 tested according to EN 12101-2
Certification	Actuators with “UL” in the article no. are UL certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14. The actuators are primarily used in US and Canada.
Delivery includes	Europe: actuator with 5m connection cable US/Canada: actuator without cable
Note	we reserve the right to make technical changes

Description of product code composition	
WMU 8	x
	x
	-n
	xx
	xxxx
0104	
Produkt version: 4	
Chain stroke: 0300 = 11 13/16", 0500 = 1' 7 11/16", 0600 = 1' 11 5/8", 0750 = 2' 5 1/2", 1000 = 3' 3 3/8" *	
Certification EN: For actuator approved according to EN 12101-2 the item number must contain EN EN 12101-2 approved actuator variants are only available as 'Single' and 'Double'. UL: For UL certified actuator the item number must contain "UL". The actuators are marked with the UL logo on the actuator label and are not supplied with cable. WMU 842 and WMU 895 are not available as UL certified version.	
Actuator variant: 1=single, 2=double, 3=triple, 4=quad	
Power consumption: 1 = 1A, 2 = 2A, 3 = 3A, 4 = 4A, 5 = 5A	
Pressure force: 4 = 400N*, 6=600N, 8=1000N, 9=1500N**	

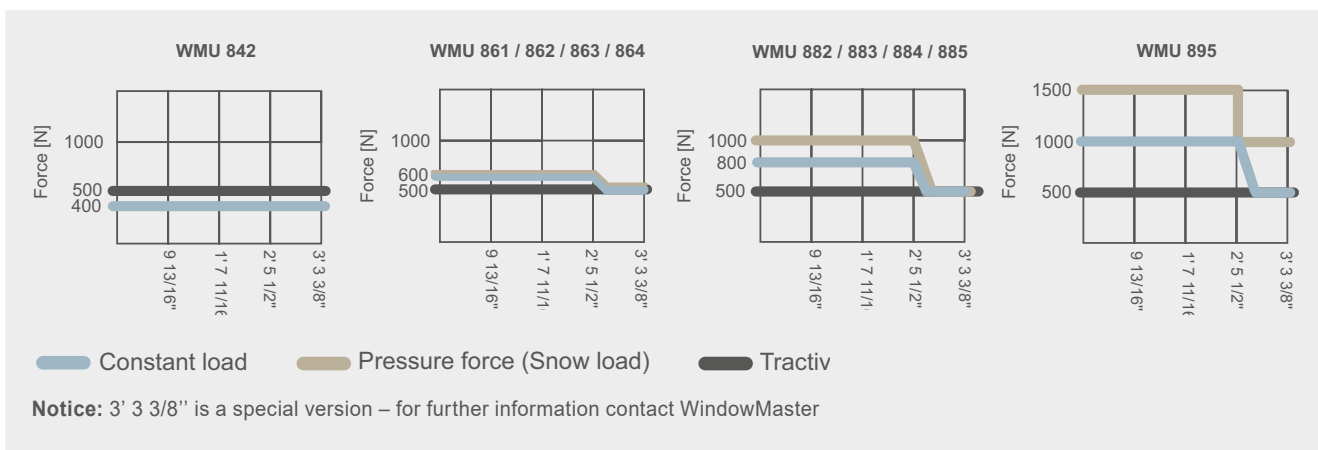
* Special version – for further information please contact WindowMaster.

** Pressure force at snowload

Explanation of product code structure

WMU 861-1 0300 0104 WMU 861 actuator, pressure force 600N, power consumption 1A, single variant, not certified, chain stroke 11 13/16", product version 4.

WMU 883-2 UL 0500 0104 WMU 883 actuator, pressure force 1000N, power consumption 3A, double variant, UL certified, chain stroke 1' 7 11/16", product version 4.



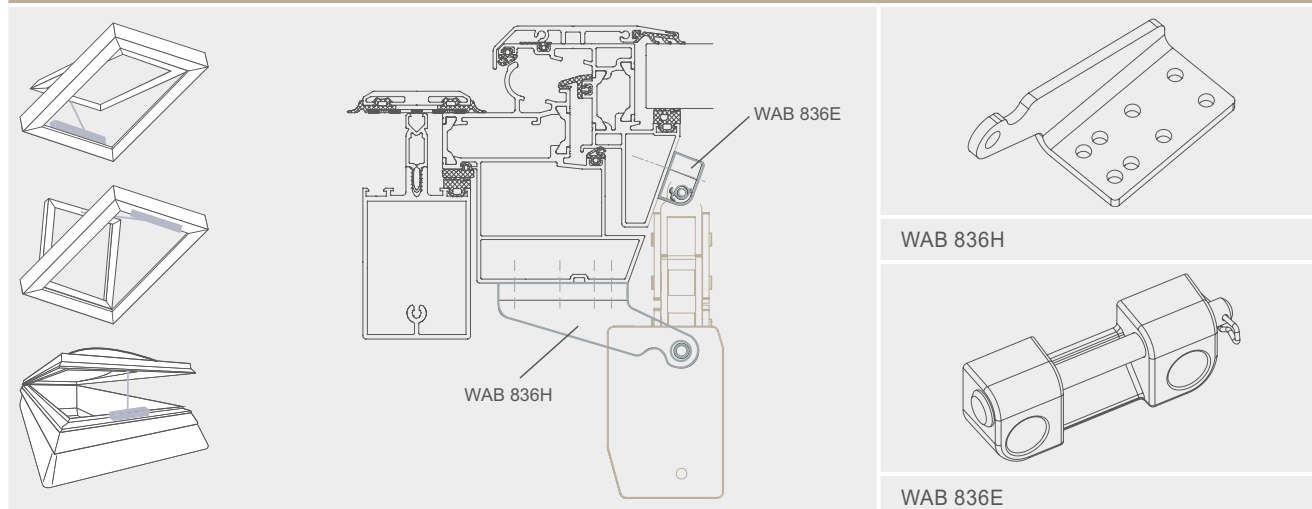
WMU 842 / 861 / 862 / 863 / 864 / 882 / 883 / 884 / 885 / 895

incl. UL-versions

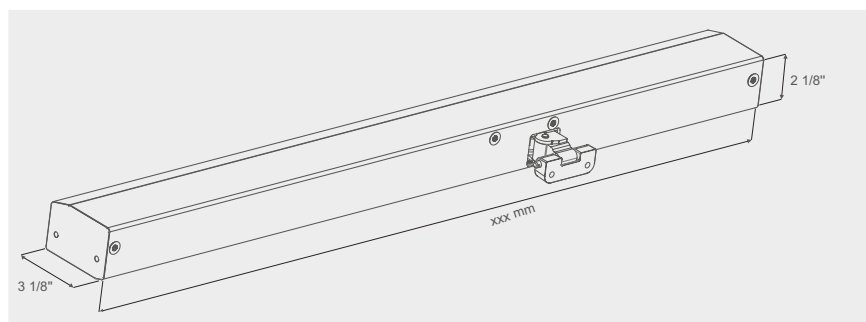
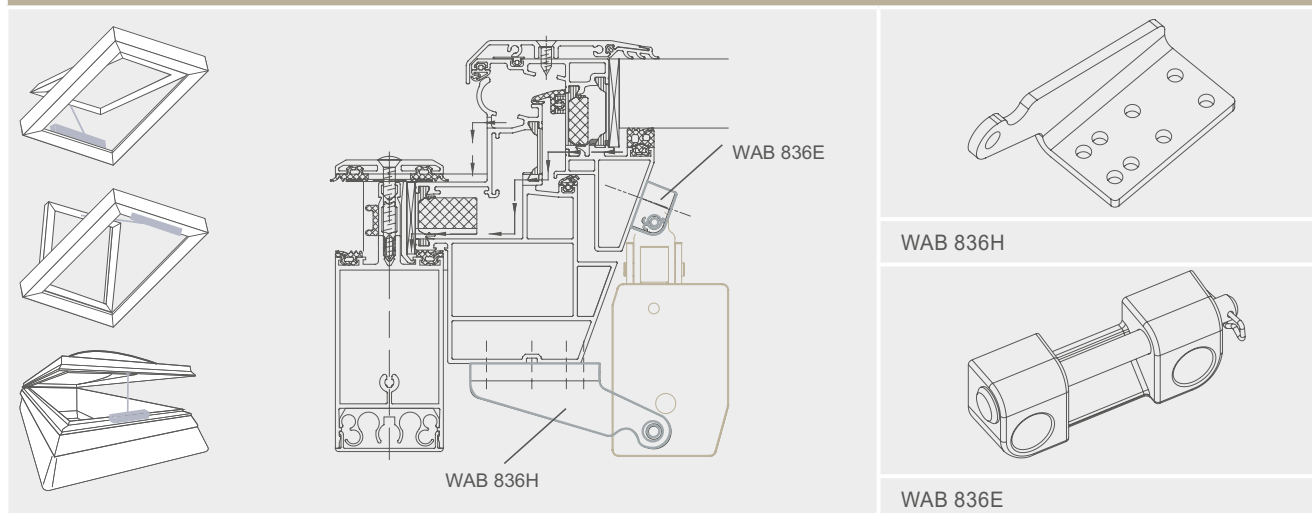
Chain actuator up to 1500N

Accessories	Item no.
Electronically shortening of chain	WKK – WMU actuator
Actuator bracket for WMU 8xx, heavy bracket (EN approved)	WAB 836H
Chain bracket for WMU 8xx	WAB 836E
See separate product sheets for further information	

Installation suggestion 1 - Top-hung / bottom-hung / side-hung, outward opening window



Installation suggestion 2 - Top-hung / bottom-hung / side-hung, outward opening window



Width (xxx) depending on variant – see table of items

All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



WMB 811 / WMB 812

Espagnolette actuator



Natural
ventilation



Smoke ventilation
B300

24V

±24V control



MotorLink®



UL certification
– Actuators

5.20

Description

- for smoke and comfort ventilation
- locking actuator for windows with espagnolette system
- to be surface mounted or concealed
- discreet and slim line design
- cable connection hidden in the actuator cavity – no need for junction box
- to be used together with $\pm 24V$ control units or control units with MotorLink®
- used together with window actuators with MotorLink®
- 3 speeds when using control unit with MotorLink®
- soft close
- built-in electronic load switch-off/end stop
- electronic actuator with micro controller
- easy mounting
- the actuator is UL recognized

Compact 24 VDC espagnolette, which automatically locks/opens the espagnolette system on the window, in such a way that the CE approval of the window is maintained. This unit can also be used should increased protection against weather or break in be desired.

Closing force of 2000N per espagnolette.

The espagnolette is fitted on windows with an espagnolette system without handles, together with electric window actuators with MotorLink®. The espagnolette can be surface mounted on or concealed in aluminium, timber or plastic window frames.

The espagnolette system can be set in two positions: locked/open.

The espagnolette bracket can be fitted in two different positions and thereby adjusted to the window profile. The bracket is supplied with the espagnolette.

Actuator variants

The espagnolette is available in single and double version, meaning up to two espagnolette actuators can be mounted on the same window.

Both the single and the double version can be used with up to four window actuators on the same window.

Single WMB (one WMB)

WMB 811-1 L: single, locking to the left

WMB 811-1 R: single, locking to the right

Double WMB (two WMB on the same window)

WMB 811-2 L: double, first WMB, locking to the left

WMB 811-2 R: double, first WMB, locking to the right

WMB 812-2 L: double, second WMB, locking to the left

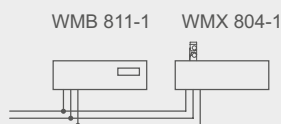
WMB 812-2 R: double, second WMB, locking to the right



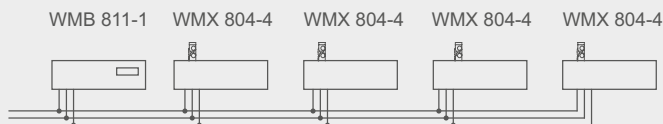
**Cable connection
hidden in the
actuator cavity**

Technical data	
Pressure force / load	500N (programmeable)
Tractive force	500N (programmable)
Closing force	2000N (break in force)
Espagnolette movement	11/16" (programmable 1/16"- 13/16")
Opening speed	depending on the connected window actuator (min. 7sec and max. 20sec)
Window types	top, bottom and side hung windows
Nominal voltage	24 VDC (max. 10% rippel)
Voltage	19 - 32 VDC
Open circuit voltage	max. 32 VDC
Current consumption	max. 1A
Power consumption	max. 24W
Temperature	+23°F – +113°F, max. 90% relative humidity (not condensing)
Switch on duration	ED 40% (2min. per 5min.)
Material	zinc housing protected against corrosion
Colour	powder paint RAL 9006 (grey), other colours against additional cost
Dimension	11 1/4" x 1 3/16" x 1 5/8" (W x H x D)
Weight	2.2lbs
Connection	3 15/16" grey 3-core AWG 22 silicone cable with connector
IP rating	IP20
Certification	certified accordingly to UL 325 and CAN/CSA-22.2 No. 247-14,
Fire test	B300 tested according to EN 12101-2:2003
Lifetime	11,000 open and close movements, full stroke
Delivery includes	espagnolette with 3 15/16" cable with fast-in /fast-on stick and espagnolette bracket
Note	we reserve the right to make technical changes

Combination options (here shown with WMX 804-n window actuator)



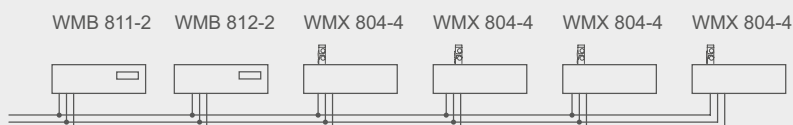
WMB 811-1 single espagnolette actuator with one window single actuator



WMB 811-1 single espagnolette actuator with up to four quad window actuators



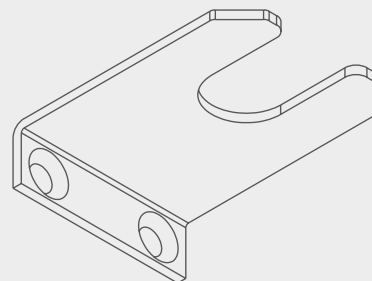
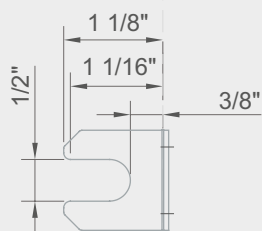
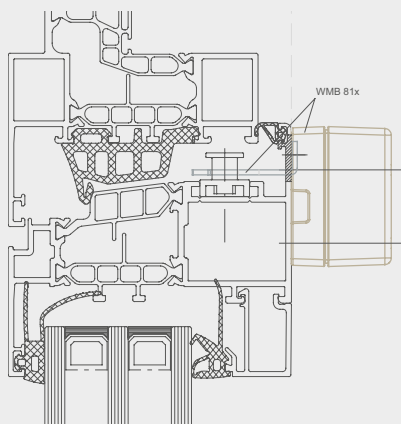
WMB 811-2 + WMB 812-2 double espagnolette actuators with one single window actuator



WMB 811-2 + WMB 812-2 double espagnolettes with up to four quad window actuators

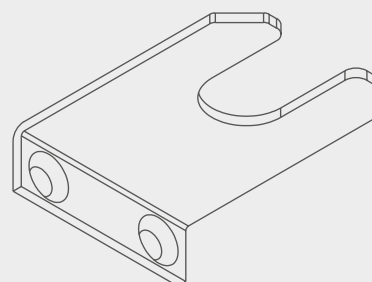
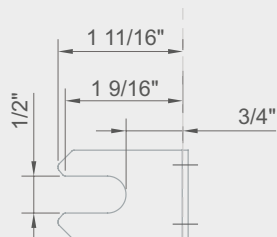
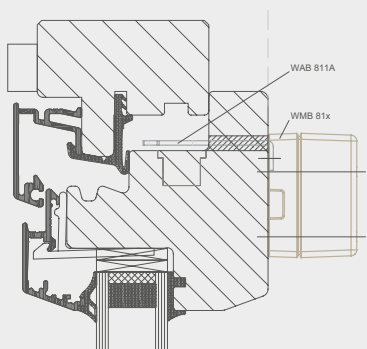
WLL connection cable is to be ordered separately

Installation suggestion 1



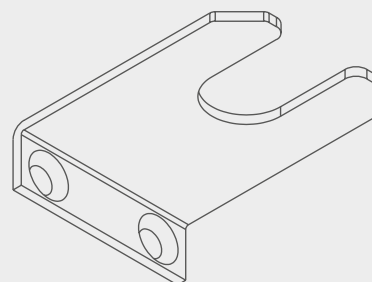
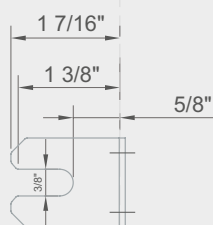
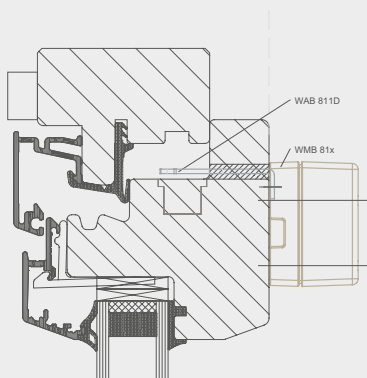
Bracket included with the actuator

Installation suggestion 2



WAB 811A

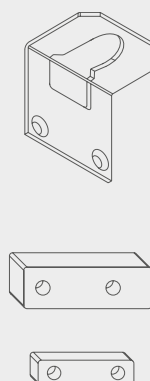
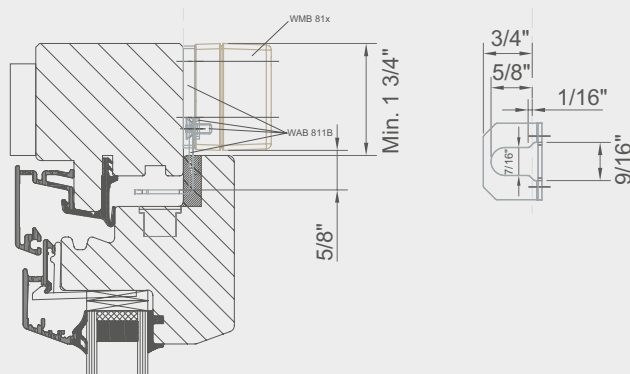
Installation suggestion 3



WAB 811D

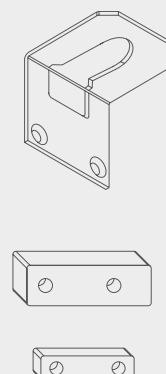
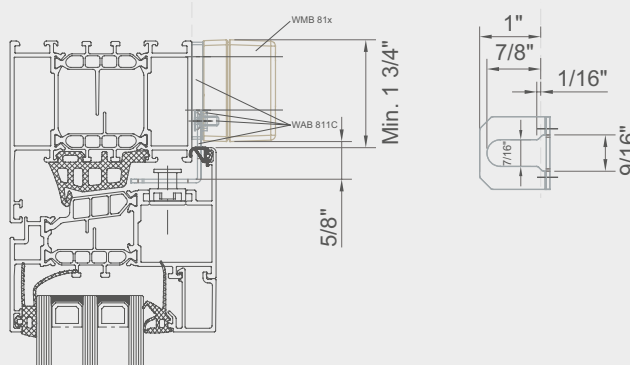
Espagnolette actuator

Installation suggestion 4



WAB 811B

Installation suggestion 5



WAB 811C

Items	Item no.
Espagnolette actuator single, locking to the left (seen from the inside)	WMB 811-1 L
Espagnolette actuator single, locking to the right (seen from the inside)	WMB 811-1 R
Espagnolette double, first WMB, locking to the left (seen from the inside)	WMB 811-2 L
Espagnolette actuator double, first WMB, locking to the right (seen from the inside)	WMB 811-2 R
Espagnolette actuator double, second WMB, locking to the left (seen from the inside)	WMB 812-2 L
Espagnolette actuator double, second WMB, locking to the right (seen from the inside)	WMB 812-2 R

Accessories	Item no.
Bracket for WMB 811	WAB 811A
Bracket for WMB 811	WAB 811B
Bracket for WMB 811	WAB 811C
Bracket for WMB 811	WAB 811D

All dimensions are originally in metric units and converted into imperial units.
For exact measurements please refer to documentation with metric values.



DK
Sensorer

UK
Sensors

F
Detecteurs

D
Sensoren

SE
Sensorer



DK
Beslag

UK
Brackets

F
Fixations

D
Beschläge

SE
Beslag



Ceiling bulkhead

UP

C50/4

06

P2

DK
Tilbehør

UK
Accessories

F
Accessoires

D
Zubehör

SE
Tillbehör





DK
Referencer

UK
References

F
References

D
Referenzen

SE
Referenser

WindowMaster aspires to protect people and the environment by creating a healthy and safe indoor climate, automatically ventilating spaces with fresh air through facade and roof windows in buildings. We offer the construction industry foresighted, flexible and intelligent window actuators and control systems for natural ventilation, mixed-mode ventilation, and smoke ventilation – of the highest quality.

WindowMaster employs around 135 highly experienced cleantech specialists in Denmark, Norway, Germany, the United Kingdom, Ireland, Switzerland, and the United States. In addition, we work with a vast network of certified partners. With our extensive expertise built up since 1990, WindowMaster is ready to help the construction industry meet its green obligations and achieve their architectural and technical ambitions.

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