

Automated Fenestration

Window & Skylight Automation Pages

LM, EM, FM & CDi Chain Actuators	H-4 to H-13
Vega & Quasar Chain Actuators	H-14 to H-18
Ulysses Linear Actuators	H-19
CoreControl Series Control Panels	H-20
RS Series Control Panels	H-21
Control Accessories	H-22 to H-23
MC Series Control Panels	H-24
PSP Power Supply Panels	H-25
Truth Sentry II WLS Motor	H-26
Truth Sentry II HS Motor	H-27
Truth Marvel Motor	H-28
Automation Terminology	H-29

Automated Fenestration Inc. (AFI)

An expert and leader in the motorized actuator market, with a broad range of motors for windows, vents, and skylights. AFI has been providing natural ventilation solutions since 1987, for institutional, commercial and residential applications.

In an age where sustainability and efficiency are paramount, AFI has become the leader in window & skylight actuators as well as automation controls. Low voltage automation systems for natural ventilation provide significant savings over traditional air conditioning systems (HVAC).

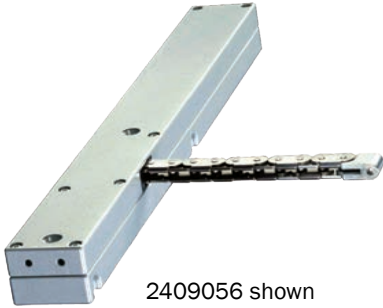


LEED credits for green building projects can be earned under Indoor Environmental Quality for Natural Ventilation, Daylighting and Views. Contact AFI during the project design phase, for technical expertise in choosing a correct system, help with system layout, and budgeting advice.

Contact AFI early in the design phase to help choose the correct system for your project.



- ✓ Natural ventilation
- ✓ Smoke & Heat Extraction (SHE)
- ✓ LEED Credits



LM2 DC CHAIN ACTUATOR

For awning or hopper windows, skylights, or curtain wall vents. The LM2 actuator features an off-center chain and offers quiet operation.

- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Chain orientation is off-center, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	120mm (4¾") to 300mm (12") chain stroke Smaller stroke available - Contact AFI for more information
Force	44 lbf (200N) pull; 80-200N push varies with chain
Speed	Approx. 10mm (¾") per second operation
Voltage	24VDC
Amp rating	Approx. 0.5A
Signal Feedback	Not available
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-8 for mounting accessories
Origin	Germany
Dimensions	Chain stroke: 120-350mm (4¾"-13¾") 30 x 40.8 x 360.5mm (1⅝" x 1⅜" x 14⅜") Chain stroke: 400-500mm (15¾"-19⅜") 30 x 40.8 x 442mm (1⅝" x 1⅜" x 17⅜")

LM2 Actuators

Chain Stroke	Paint Color	Chain Stroke	Paint Color
120mm (4¾")		200mm (7⅞")	
2409031	Grey RAL 9006	2409049	Grey RAL 9006
2408892	White RAL 9016	2408926	White RAL 9016
13324590314	Black RAL 9005	13324590494	Black RAL 9005
Chain Stroke	Paint Color	Chain Stroke	Paint Color
250mm (9⅞")		300mm (11⅜")	
2409056	Grey RAL 9006	2409064	Grey RAL 9006
2408959	White RAL 9016	2408983	White RAL 9016
13324590564	Black RAL 9005	13324590644	Black RAL 9005
Chain Stroke	Paint Color		
500mm (19⅜")			
2409076	Grey RAL 9006		
2409014	White RAL 9016		
13324590764	Black RAL 9005		

LM EASYDRIVE 2 DC CHAIN ACTUATOR

SmartMotion DC chain actuator for awning or hopper windows, skylights, or curtain wall vents. Requires preprogram specifications.



13330024351 shown



13330024353 shown



13330024352 shown

- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Chain orientation is off-center, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	350mm (X4 ³ / ₄ ") to 500mm (X12") chain stroke
Force	350mm stroke model: 33 lbf (150N) push / 44 lbf (200N) pull. 500mm stroke model: 18 lbf (80N) push / 44 lbf (200N) pull.
Speed	Approx. 10mm (3/8") per second operation
Voltage	24VDC
Amp rating	Approx. 0.5A
Signal Feedback	Available; Open or Close
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-8 for mounting accessories
Origin	Germany
Dimensions	Chain stroke: 350mm (13 ³ / ₄ ") 30 x 40.8 x 360.5mm (1 ⁵ / ₈ " x 1 ³ / ₁₆ " x 14 ³ / ₁₆ ") Chain stroke: 500mm (19 ¹¹ / ₁₆ ") 30 x 40.8 x 442mm (1 ⁵ / ₈ " x 1 ³ / ₁₆ " x 17 ³ / ₈ ")

LM EasyDrive 2 Actuators

Chain Stroke Up to 350mm (13 ³ / ₄ ")	Paint Color	Chain Stroke Up to 500mm (19 ¹¹ / ₁₆ ")	Paint Color
13330024351	Grey RAL 9006	13330024501	Grey RAL 9006
13330024352	White RAL 9016	13330024502	White RAL 9016
13330024353	Black RAL 9005 or custom color	13330024503	Black RAL 9005 or custom color

Pre-Programmed EasyDrive

Programming must be specified at order

Chain stroke: From 21mm up to 500mm (varies by model).

Speed adjustment: Programmable from 10mm/sec down to 4mm/sec for quiet operation.

Speed reduction: For the last seconds of closing, as a safety precaution.

Seal relief adjustment: Between 0-20mm to protect sash at closed position.

Up to 4 EasyDrive actuators can operate in tandem.



EM2 DC CHAIN ACTUATOR

For awning or hopper windows, skylights, or curtain wall vents. The EM2 actuator offers up to 68 lbs of push/pull force and quiet operation.

- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Centered chain orientation, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	327mm (12 ⁷ / ₈ ") to 810mm (31 ⁷ / ₈ ") chain stroke
Force	68 lbf (300N) push/pull
Speed	Approx. 9mm (3 ⁸ / ₁₆ ") per second operation
Voltage	24VDC
Amp rating	Approx. 1.0A
Signal Feedback	Open/closed status signal available, see data sheet
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-8 for accessories
Origin	Germany
Dimensions	40mm x 40mm (1 ⁹ / ₁₆ " x 1 ⁹ / ₁₆ "). Length varies with chain length

EM2 Actuators

Chain Stroke	Paint Color
327mm (12⁷/₈")	
13322461023	Grey RAL 9006
13322461063W	White RAL 9016
13322461063	Black RAL 9005 or custom color

Chain Stroke	Paint Color
419mm (16¹/₂")	
13322461443	Grey RAL 9006
13322461463W	White RAL 9016
13322461463	Black RAL 9005 or custom color

Chain Stroke	Paint Color
511mm (20¹/₈")	
13322461853	Grey RAL 9006
13322461823W	White RAL 9016
13322461823	Black RAL 9005 or custom color

Chain Stroke	Paint Color
603mm (23³/₄")	
13322462273	Grey RAL 9006
13322462203W	White RAL 9016
13322462203	Black RAL 9005 or custom color

Chain Stroke	Paint Color
810mm (31⁷/₈")	
13322460033	Grey RAL 9006
13322460003W	White RAL 9016
13322460003	Black RAL 9005 or custom color



EM DC CHAIN ACTUATOR WITH STATUS FEEDBACK

DC chain actuator with status feedback for awning or hopper windows, skylights, or curtain wall vents. .

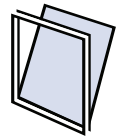
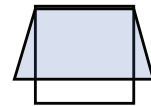
- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Centered chain orientation, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE) with built in OPEN & CLOSE status signal.
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	21mm (7/8") to 810mm (317/8") chain stroke
Force	327 to 603mm stroke models: 68 lbf (300N) push/pull. 810mm stroke model: 22 lbf (100N) push / 68 lbf (300N) pull.
Speed	Approx. 9mm (3/8") per second operation
Voltage	24VDC
Amp rating	Approx. 1.0A
Signal Feedback	Available; Open or Close
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-8 for accessories
Origin	Germany
Dimensions	40mm x 40mm (19/16" x 19/16"). Length varies with chain length

EM Actuators with Status Signal

Chain Stroke	Paint Color	Chain Stroke	Paint Color
327mm (127/8")		419mm (161/2")	
13322473313	Grey RAL 9006	13322473413	Grey RAL 9006
13322473323	White RAL 9016	13322473423	White RAL 9016
13322473333	Black RAL 9005 or custom color	13322473433	Black RAL 9005 or custom color
Chain Stroke	Paint Color	Chain Stroke	Paint Color
Up to 511mm (201/8")		Up to 603mm (233/4")	
13322473513	Grey RAL 9006	13322473613	Grey RAL 9006
13322473523	White RAL 9016	13322473623	White RAL 9016
13322473533	Black RAL 9005 or custom color	13322473633	Black RAL 9005 or custom color
Chain Stroke	Paint Color		
Up to 810mm (317/8")			
13322473813	Grey RAL 9006		
13322473823	White RAL 9016		
13322473833	Black RAL 9005 or custom color		



13322461853 shown



13322461823 shown



13322461823W shown

EM EASYDRIVE 2 DC CHAIN ACTUATOR

SmartMotion DC chain actuator for awning or hopper windows, skylights, or curtain wall vents. Requires preprogram specifications.

- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Centered chain orientation, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	21mm (7/8") to 810mm (317/8") chain stroke
Force	511 & 603mm stroke models: 68 lbf (300N) push/pull. 810mm stroke model: 22 lbf (100N) push / 68 lbf (300N) pull.
Speed	Approx. 9mm (3/8") per second operation
Voltage	24VDC
Amp rating	Approx. 1.0A
Signal Feedback	Available; Open or Close
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-8 for accessories
Origin	Germany
Dimensions	40mm x 40mm (1 9/16" x 1 9/16"). Length varies with chain length

EM EasyDrive 2 Actuators

Chain Stroke Up to 511mm (20 1/8")	Paint Color	Chain Stroke Up to 603mm (23 3/4")	Paint Color
13332024501	Grey RAL 9006	13332024601	Grey RAL 9006
13332024502	White RAL 9016	13332024602	White RAL 9016
13332024503	Black RAL 9005 or custom color	13332024603	Black RAL 9005 or custom color

Chain Stroke Up to 810mm (31 7/8")	Paint Color
13332024801	Grey RAL 9006
13332024802	White RAL 9016
13332024803	Black RAL 9005 or custom color

Pre-Programmed EasyDrive

Programming must be specified at order

Chain stroke: From 21mm up to 810mm (varies by model).

Speed adjustment: Programmable from 10mm/sec down to 4mm/sec for quiet operation.

Speed reduction: For the last seconds of closing, as a safety precaution.

Seal relief adjustment: Between 0-20mm to protect sash at closed position.

Up to 4 EasyDrive actuators can operate in tandem.

FM DC CHAIN ACTUATOR

For larger awning or hopper windows, skylights, or curtain wall vents. The FM actuator offers higher force and quiet operation.



2404958 shown



13324506912 shown



2400675 shown



Double zipper chain for higher weight capacity

- FM is the strongest chain actuator offered in North America
- For awning or hopper windows, skylights, or curtain wall vents
- Ideal for smart buildings; integrate with building and home automation systems
- Very low noise operation
- Double zipper chain for rigidity and durability
- Centered chain orientation, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	501mm (19 ³ / ₄ ") to 800mm (31 ¹ / ₂ ") chain stroke
Force	Up to 158 lbf (700N) push/pull
Speed	Approx. 10mm (3/8") per second operation
Voltage	24VDC
Amp rating	Approx. 1.2-2A (depending on force)
Signal Feedback	Closed status signal available, see data sheet
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see page H-9 for accessories
Origin	Germany
Dimensions	100.5mm x 66mm (3 ¹⁵ / ₁₆ " x 2 ⁵ / ₈ "). Length varies with chain length

FM Actuators

Chain Stroke	Paint Color	Chain Stroke	Paint Color
501mm (19³/₄")		600mm (23⁵/₈")	
113 lbf (500N)		113 lbf (500N)	
2404958	Grey RAL 9006	2409049	Grey RAL 9006
2400675	White RAL 9016	2408926	White RAL 9016
13324506912	Black RAL 9005	13324590494	Black RAL 9005
158 lbf (700N)		135 lbf (600N)	
2400691	Grey RAL 9006	2409320	Grey RAL 9006
2404933	White RAL 9016	2409312	White RAL 9016
13324549582	Black RAL 9005	13324593202	Black RAL 9005
Chain Stroke	Paint Color	Chain Stroke	Paint Color
700mm (27⁹/₁₆")		800mm (31¹/₂")	
68 lbf (300N)		68 lbf (300N)	
2404040	Grey RAL 9006	2409064	Grey RAL 9006
2404024	White RAL 9016	2408983	White RAL 9016
13324540402	Black RAL 9005	13324590644	Black RAL 9005

FM TANDEM CHAIN ACTUATORS

For wide awning or hopper windows, skylights, or curtain wall vents. The FM Tandem actuators accommodate wide openings and allow for individual placement.



FM Tandem shown

- Tandems are two actuators (master and slave) connected by a cable
- Ideal for smart buildings; integrate with building and home automation systems
- Very low noise operation
- Includes 1 meter (3'3") power cable (Black)
- Includes interconnect cable (black), length varies according to actuator model
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [FM Tandem data sheet](#) for more information

Opening	501mm (19 ³ / ₄ ") to 800mm (31 ¹ / ₂ ") chain stroke
Force	158 lbf (700N) push/pull
Speed	Approx. 10mm (3/8") per second operation
Voltage	24VDC
Amp rating	Approx. 1.2-2A x 2 (FM)
Signal Feedback	Status signal available, see data sheet
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9016, Black RAL 9005 Custom powder coat RAL colors available, see page H-9
Mounting	Mounting brackets not included, see pages H-8 & H-9 for accessories
Origin	Germany
Dimensions	See data sheets

FM Tandem Actuators

Chain Stroke	Paint Color	Chain Stroke	Paint Color
501mm (19³/₄")		600mm (23⁵/₈")	
113 lbf (500N)		113 lbf (500N)	
2409833	Grey RAL 9006	2409890	Grey RAL 9006
2409825	White RAL 9016	2409882	White RAL 9016
13324598332	Black RAL 9005	13324598902	Black RAL 9005
158 lbf (700N)		135 lbf (600N)	
2409866	Grey RAL 9006	2409924	Grey RAL 9006
2409858	White RAL 9016	2409916	White RAL 9016
13324598662	Black RAL 9005	13324599242	Black RAL 9005
Chain Stroke	Paint Color	Chain Stroke	Paint Color
700mm (27⁹/₁₆")		800mm (31¹/₂")	
68 lbf (300N)		68 lbf (300N)	
2409957	Grey RAL 9006	2409981	Grey RAL 9006
2409940	White RAL 9016	2409973	White RAL 9016
13324599572	Black RAL 9005	13324599812	Black RAL 9005



CDI EASYDRIVE 2 DC CHAIN ACTUATOR

Low profile SmartMotion DC chain actuator, can be concealed within the window sill for clean appearance. Requires preprogram specifications.

- CDi has the smallest mounting profile
- For awning, hopper and casement windows, curtain wall vents and skylights
- Ideal for smart buildings; integrate with building and home automation systems
- Very low noise operation
- Double zipper chain for rigidity and durability
- Centered chain orientation, see data sheet for details
- Includes 1 meter (3'3") power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.Automatedfenestration.com

Opening	21mm (7/8") to 800mm (31½") chain stroke
Force	Up to 68 lbf (300N) push/pull
Speed	Programmable from 10mm/sec down to 4mm/sec
Voltage	24VDC
Amp rating	Approx. 0.9A at full load
Signal Feedback	Available; Open or Close
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Black RAL 9005
Mounting	Frame mounting using integral mounting holes
Origin	Germany
Dimensions	25.4 x 35mm (1" H x 1⅜" W). Length varies with chain length

CDi EasyDrive 2 Actuators

Part #	Color	Stroke	Force (Push/Pull)
13336024500	Black	Up to 500mm	300N/300N
13336024600	Black	Up to 600mm	300N/300N
13336024800	Black	Up to 800mm	300N/300N

Pre-Programmed EasyDrive

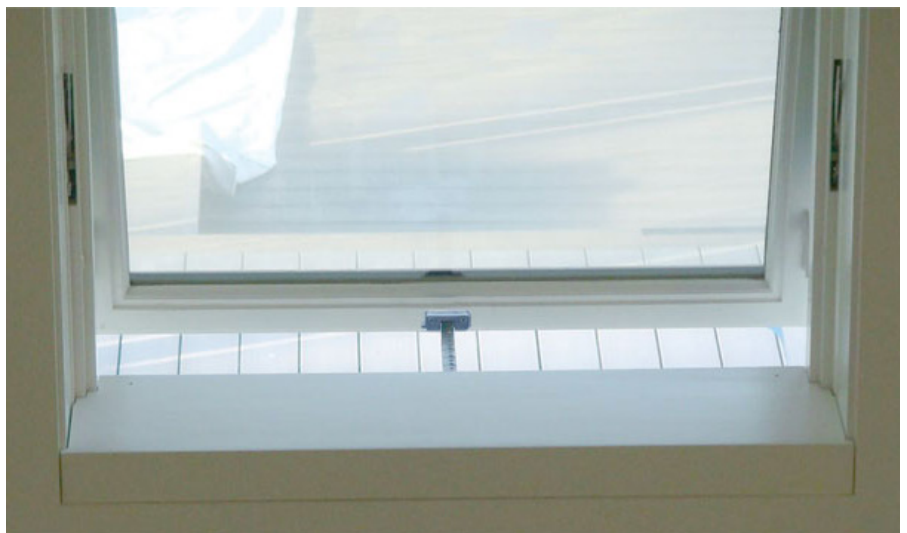
Programming must be specified at order

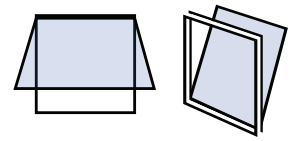
Chain stroke: From 21mm up to 810mm (varies by model).

Speed adjustment: Programmable from 10mm/sec down to 4mm/sec for quiet operation.

Speed reduction: For the last seconds of closing, as a safety precaution.

Seal relief adjustment: Between 0-20mm to protect sash at closed position.





Order 2 sets for tandem actuators



2600443 Swivel Brackets



2600385 Frame Angle Bracket



2502516 Mounting System



2502391 Mounting System

LM2 MOUNTING BRACKETS

See [data sheet](#) for more information at www.Automatedfenestration.com

Part #	Description	Paint Color ¹
2600443		Grey RAL 9006
13382600443	Movable actuator installation for top-hung, bottom-hung and side-hung windows.	Other RAL
2600435		White RAL 9016
2600351		Grey RAL 9006
13202600353	Frame angle bracket for flush mounted frame fitting.	Other RAL
2600344		White RAL 9016
2600385		Grey RAL 9006
13322600383	Frame angle bracket for frame fitting with 10mm (3/8") projection.	Other RAL
2600377		White RAL 9016
2600419		Grey RAL 9006
13202600413	Frame angle bracket for frame fitting with 15mm (5/8") projection.	Other RAL
2600401		White RAL 9016

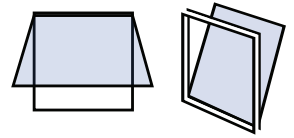
¹ Custom colors are possible, see RAL color ordering information on H-9.

EM MOUNTING BRACKETS

See [data sheet](#) for more information at www.Automatedfenestration.com

Part #	Description	Paint Color ¹
2502516		Grey RAL 9006
13302502513	For frame fitting with 15mm (5/8") projection.	Other RAL
2502508		White RAL 9016
2502482		Grey RAL 9006
13302502483	For flush mount to frame fitting.	Other RAL
2502474		White RAL 9016
2502383		Grey RAL 9006
13302502368	For casement mounting on bottom or side-hung windows.	Other RAL
2502367		White RAL 9016
2600179		Grey RAL 9006
13302600183	Mounting with 10mm (3/8") projection on bottom or side-hung windows.	Other RAL
2600161		White RAL 9016
2502409		Grey RAL 9006
13302502403	Mounting with 15mm (5/8") projection on bottom or side-hung windows.	Other RAL
2502375		White RAL 9016
2502391		Grey RAL 9006
13302502363	For installation on top-hung windows and flat outward opening windows.	Other RAL
2502359		White RAL 9016
2502350		Grey RAL 9006
13002502353	For flush mounting on outward opening vertical pivot casements with small frame.	Other RAL
2502351		White RAL 9016
2600203		Grey RAL 9006
13302600203	For frame fitting with 10mm (3/8") projection.	Other RAL
2600195		White RAL 9016

¹ Custom colors are possible, see RAL color ordering information on H-9.



Order 2 sets for tandem actuators



2600810 Limited Swivel Brackets



67001010 Swivel Bracket Set

FM MOUNTING BRACKETS

See [data sheet](#) for more information at www.Automatedfenestration.com

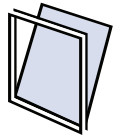
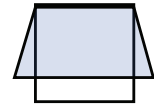
Part #	Description	Paint Color
67001010	Swivel mounting system for FM 194-401 (Tandem). For frame fitting on top-hung windows, opening outwards.	Raw aluminum
67001020	Swivel mounting system for FM 501-800 (Tandem). For frame fitting on top-hung windows, opening outwards.	Raw aluminum
67001040	Swivel mounting bracket. For frame fitting on top-hung windows, opening outwards.	Raw aluminum
2600856	Swivel (limited to 4°) mounting bracket. For frame fitting on top-hung windows, opening outwards.	Raw aluminum
2600810	Swivel (limited to 4°) mounting bracket. For frame fitting on bottom-hung, top-hung and flat windows opening outwards.	Raw aluminum
2600096	Skylight base plate for FM 194-401	Raw aluminum
2600104	Skylight base plate for FM 501-800	Raw aluminum

¹ Custom colors are possible, see RAL color ordering information below.

Custom RAL Colors

Powder-coat color options are available for actuators and brackets, using the RAL color code system. Go to www.RALcolor.com for color chart. Minimum order quantities and setup fees will apply.





VEGA AC & DC CHAIN ACTUATORS

For awning or hopper windows, skylights, or curtain wall vents. Both 120VAC line voltage and 24VDC low voltage are offered.



41148SUL shown



41149UUL shown



41150CUL shown

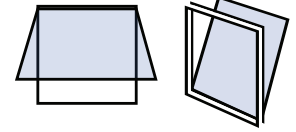
- Ideal for smart buildings; integrate with building and home automation systems
- Centered chain orientation, see data sheet for details
- Includes 1.5 meter (5') UL rated power cable (White)
- Certified for Smoke and Heat Extraction (SHE)
- UL Listed
- Compatible with IR remote control, rain sensor and thermostat when used with CRM3 (for Vega DC) or CRM4 (for Vega AC), see page H-22
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.Automatedfenestration.com

Opening	300mm (12") maximum chain stroke
Force	66 lbf (300N) push/pull
Speed	Approx. 9mm (3/8") per second operation
Voltage	120VAC and 24VDC
Amp rating	Approx. 0.3A (120VAC) or 0.7A (24VDC)
Signal Feedback	Signal status available, see data sheets
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9010, Black RAL 9005 Custom powder coat RAL colors available, see page H-12
Mounting	Mounting brackets available separately, see page H-17
Origin	Italy
Dimensions	45 x 32 x 450mm (1 3/4" x 1 1/4" x 17 3/4")

Vega Actuators

Chain Stroke	Paint Color
300mm (12")	24VDC
	41148SUL Grey RAL 9006
	41149UUL Black RAL 9005
	41150CUL White RAL 9010
	120VAC
	42832RUL Grey RAL 9006
41833SUL Black RAL 9005	
41834TUL White RAL 9010	



QUASAR AC & DC CHAIN ACTUATORS

For awning or hopper windows, skylights, or curtain wall vents. Both 120VAC line voltage and 24VDC low voltage are offered.



41157T shown



41158V shown



41159X shown

- Ideal for smart buildings; integrate with building and home automation systems (DC model only)
- Centered chain orientation, see data sheet for details
- Includes 1.5 meter (5') UL rated power cable (White)
- Certified for Smoke and Heat Extraction (SHE)
- UL Listed (AC model only)
- Compatible with IR remote control, rain sensor and thermostat when used with CRM3 (for Quasar DC) or CRM4 (for Quasar AC), see page H-22
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Opening	380mm (15"), 500mm (20") or 600mm (24") chain stroke
Force	66 lbf (300N) push/pull
Speed	Approx. 15mm (5/8") per second operation
Voltage	120VAC and 24VDC
Amp rating	Approx. 0.4A (120VAC) or 0.9A (24VDC)
Signal Feedback	Signal status available, see data sheets
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9010, Black RAL 9005 Custom powder coat RAL colors available, see page H-12
Mounting	Mounting brackets available separately, see page H-17
Origin	Italy
Dimensions	Quasar: 32 x 47.5 x 676mm (1¼" x 1⅞" x 26⅝") Quasar-L: 37 x 69 x 876mm (1⅞" x 2⅞" x 34½")

Quasar Actuators

Chain Stroke	Paint Color	Chain Stroke	Paint Color
380mm (15")		500mm (20")	
24VDC		24VDC	
41157T	Grey RAL 9006	41160F	Grey RAL 9006
41158V	Black RAL 9005	41161H	Black RAL 9005
41159X	White RAL 9010	41162K	White RAL 9010
120VAC		120VAC	
17140006*	Grey RAL 9006	418290UL	Grey RAL 9006
17140007*	Black RAL 9005	41830PUL	Black RAL 9005
17140008*	White RAL 9010	41831QUL	White RAL 9010

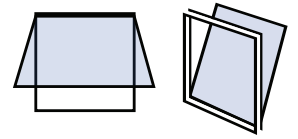
* 10 unit minimum order quantity on 15" chain models

Quasar-L Actuators

Chain Stroke	Paint Color	Chain Stroke	Paint Color
600mm (24")*		600mm (24")*	
24VDC		120VAC	
41163M	Grey RAL 9006	41052C	Grey RAL 9006
41164P	Black RAL 9005	41054G	Black RAL 9005
41165S	White RAL 9010	41053E	White RAL 9010

*30" & 40" chain available by request

*30" & 40" chain available by request



VEGA & QUASAR TWIN & SYNCHRO CHAIN ACTUATORS

For wide awning or hopper windows, skylights, or curtain wall vents. The Synchro Vega and Quasar actuators accommodate wide openings and allow for individual placement, whereas the Twin Synchro Vega and Quasar models offer a single unit for easier installation.



41151E shown



41152G shown



41153J shown

- Ideal for smart buildings; integrate with building and home automation systems
- Aluminum case, double link stainless steel chain, with chrome-plated brass terminal
- Centered chain orientation, see data sheet for details
- Includes 1.5 meter (5') UL rated power cable (White)
- Certified for Smoke and Heat Extraction (SHE)
- UL Recognized
- Compatible with IR remote control, rain sensor and thermostat when used with CRM3 (for Quasar DC) or CRM4 (for Quasar AC), see page H-22
- Mounting brackets available separately, see page H-17
- Voltage: 120VAC and 24VDC
- Compatible with AFI UL listed control panels

See [data sheet](#) for more information at www.automatedfenestration.com

Synchro Vega DC

Chain Stroke 300mm (12")	Paint Color
41151E	Grey RAL 9006
41153J	White RAL 9010
41152G	Black RAL 9005

Twin Synchro Vega DC

Chain Stroke 300mm (12")	Paint Color
41154L	Silver anodized
41156R	White RAL 9010
41155N	Black RAL 9005

Synchro Quasar DC

Chain Stroke 380mm (15")	Paint Color
41172N	Grey RAL 9006
41174T	White RAL 9010
41173R	Black RAL 9005

Twin Quasar Synchro DC

Chain Stroke 500mm (20")	Paint Color
41181P	Silver anodized
41182S	Black RAL 9005
41183U	White RAL 9010

Twin Quasar Synchro AC

Chain Stroke 500mm (20")	Paint Color
40989D	Silver anodized
40990E	Black RAL 9005
40991F	White RAL 9010

Synchro Quasar-L DC

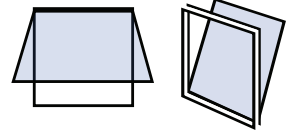
Chain Stroke 600mm (24")*	Paint Color
41249T	Silver anodized
41251V	White RAL 9010
41250U	Black RAL 9005

*30" & 40" chain available by request



Twin Quasar Synchro

Twin Synchro Vega



VEGA RF & RF RAIN CHAIN ACTUATORS

For awning or hopper windows, skylights, or curtain wall vents. The Vega RF actuator offers remote operation via RF remote control with a 30 foot range.



41895CUL shown



41896DUL shown



41897EUL shown

- Ideal for smart buildings; integrate with building and home automation systems
- Centered chain orientation, see data sheet for details
- Includes 1.5 meter (5') UL rated power cable (White)
- Certified for Smoke and Heat Extraction (SHE)
- UL Listed (AC RF models only)
- RF remote (included) has 30 foot range
- Use momentary contact switch only
- Can connect directly to thermostat part #40675K (See page H-22)
- Vega AC RF is compatible with thermostat #40675K when used with CRM4, see page H-22
- Vega AC RF Rain is compatible with rain sensor #40690 (See accessories below)

See [data sheet](#) for more information at www.Automatedfenestration.com

Opening	300mm (12") maximum chain stroke
Force	66 lbf (300N) push/pull
Speed	Approx. 9mm (3/8") per second operation
Voltage	120VAC
Amp rating	Approx. 0.3A
Material	Aluminum case, double link stainless steel chain, chrome plated brass terminal
Paint Color	Grey RAL 9006, White RAL 9010, Black RAL 9005 Custom powder coat RAL colors available, see page H-12
Mounting	Mounting brackets available separately, see page H-17
Origin	Italy
Dimensions	45 x 32 x 450mm (1 ³ / ₄ " x 1 ¹ / ₄ " x 17 ³ / ₄ "

Vega AC RF Actuators

Chain Stroke 300mm (12")	Voltage	Paint Color
41895CUL	120VAC	Grey RAL 9006
41896DUL	120VAC	Black RAL 9005
41897EUL	120VAC	White RAL 9010

Vega AC RF Rain Actuators

Chain Stroke 300mm (12")	Voltage	Paint Color
41015D	120VAC	Grey RAL 9006
41016E	120VAC	Black RAL 9005
41017F	120VAC	White RAL 9010

Rain Sensor (Required)

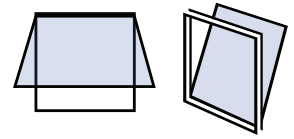
40450K



40956W

Radio Frequency (RF) Accessory Controls

- 40956W** Replacement RF Remote Control for Vega RF (Frequency must be specified to match actuator)



Order 2 sets for synchro actuators



Mounting brackets ordered separately



40843F Pivot Brackets



41455L Long Brackets



41200C Adjustable Bracket



83621F Standard-L Brackets



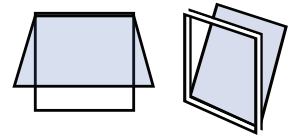
41197Z Long-L Brackets

VEGA, QUASAR, SYNCHRO MOUNTING BRACKETS

See [data sheet](#) for more information at www.Automatedfenestration.com

Part #	Description	Compatibility	Paint Color
41898F		Vega	Grey RAL 9006
41899G	Stamped steel long slim	Quasar	Black RAL 9005
41900H		Synchro	White RAL 9010
41901I		Vega	Grey RAL 9006
41902J	Stamped steel short slim	Quasar	Black RAL 9005
41903K		Synchro	White RAL 9010
40843F		Vega	Grey RAL 9006
40844G	Pivot mounting brackets	Quasar	Black RAL 9005
40845H		Synchro	White RAL 9010
41455L		Vega	Grey RAL 9006
41456M	Long mounting brackets	Quasar	Black RAL 9005
41454K		Synchro	White RAL 9010
83621F			Grey RAL 9006
83622G	Standard L brackets	Quasar-L	Black RAL 9005
83623I		Synchro Quasar-L	White RAL 9010
41197Z			Grey RAL 9006
41198A	Long L brackets	Quasar-L	Black RAL 9005
41199B		Synchro Quasar-L	White RAL 9010
41200C*	Adjustable bracket for hopper window, connects to sash bracket.	Vega Quasar Synchro	Anodized aluminum (Silver)

¹ Custom colors are possible, see RAL color ordering information.



LINEAR ACTUATORS

Ulysses linear actuators: For skylights, awning windows and louvers.

- For wet or humid environments and outdoor use
- IP65 Rated and stainless steel spindles
- Very high force: Up to 650N (143 lbf)
- Suitable for louver windows
- Includes 1 meter (3.3') UL rated power cable (Black)
- Certified for Smoke and Heat Extraction (SHE)

See [data sheet](#) for more information at www.Automatedfenestration.com



Ulysses

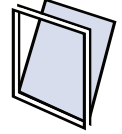
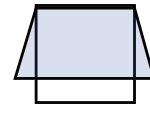
Opening	Up to 300mm (12") maximum stroke
Force	143 lbf (650N) push/pull
Speed	Approx. 6mm (¼") per second operation
Voltage	24VDC
Amp rating	Approx. 1.0A (Ulysses)
Signal Feedback	Not available
Material	Aluminum case, stainless steel spindles
Paint	Silver anodized
Mounting	Louver brackets available, see below for accessories
Origin	Italy
Dimensions	34mm dia x 515mm (1¾" x 20 ⁵ / ₁₆ ") 34mm dia x 635mm (1¾" x 25")

Ulysses Linear Actuators

Ulysses	Stroke	Voltage	Force	Paint Color
40759Z	180mm (7")	24VDC	143 lbf (650N)	Silver anodized
40760A	300mm (12")	24VDC	143 lbf (650N)	Silver anodized

Mounting Accessories

40760A	Back bracket for Ulysses linear actuator
35697P	Ulysses: Back bracket for louver applications



CORECONTROL SERIES CONTROL PANELS

AFI CoreControl control panels act as an interface between AFI DC Actuators and Direct Digital Control (DDC) systems such as Building Automation or management systems (BAS or BMS), Home Automation Systems or Heating/Ventilation/Air Conditioning Systems (HVAC).



- UL Listed, self-contained, installation ready unit
- Programmable features include actuator range of motion, signal feedback and one-touch open/close control using AFI switch #SW5657-2W see page H-22
- Multiple panels communicate with each other using standard ethernet cable, Cat 5 or above
- Quick connect input and output terminals
- Each unit contains a fully regulated DIN rail mounted power supply along with appropriate mounting terminals for a complete UL listed solution.
- Controls up to 12 actuators 2.5A Max per channel (See Fig. A below)

See [data sheet](#) for more information at www.Automatedfenestration.com

Available protocols

CoreControl Control Panels

Item Code	Panel Type	Description	Channels
CC-M	Main Panel	Stand Alone Panel	4
CC-M-B	Main Panel	BACnet Protocol	4
CC-SUB	Sub Control Panel	Use with Stand Alone or BACnet Protocol	4



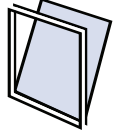
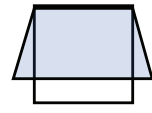
Each channel accepts up to 2.5A. Refer to actuator amp ratings below for required operation.

0-0.9A	
LM2	0.7A ea
Vega DC	0.7A ea
EM	0.8A ea
Quasar DC	0.8A ea
Quasar L DC	0.9A ea
CDi	0.9A ea

1-1.5A	
LM2 Tandem	2 x 0.5A
Ulysses	1.0A ea
FM (300N)	1.2A ea
Twin Vega Synchro	1.4A ea

1.5-1.9A	
EM Tandem	2 x 0.8A
FM (500N)	1.6A ea
FM (600N)	1.8A ea
Synchro Vega	1.8A/pair
Quasar L Synchro	1.8A/pair
Quasar Synchro	1.8A/pair
Quasar Twin Synchro	1.8A ea

2-2.9A	
FM (700N)	2.0A ea
FM (300N) Tandem	2 x 1.2A



RS SERIES CONTROL PANELS

AFI RS control panels act as an interface between AFI DC Actuators and Direct Digital Control (DDC) systems such as Building Automation or management systems (BAS or BMS), Home Automation Systems or Heating/Ventilation/Air Conditioning Systems (HVAC).

- UL Listed, self-contained, installation ready unit
- One-touch open/close control using switch #SW-5686 switch (See accessories)
- Quick connect input and output terminals
- DIN rail mounted 120VAC/24VDC power supply
- Master and Sub group control via SPDT switches or relays
- Full range of sizes from single actuator control to multiple groups of actuators.

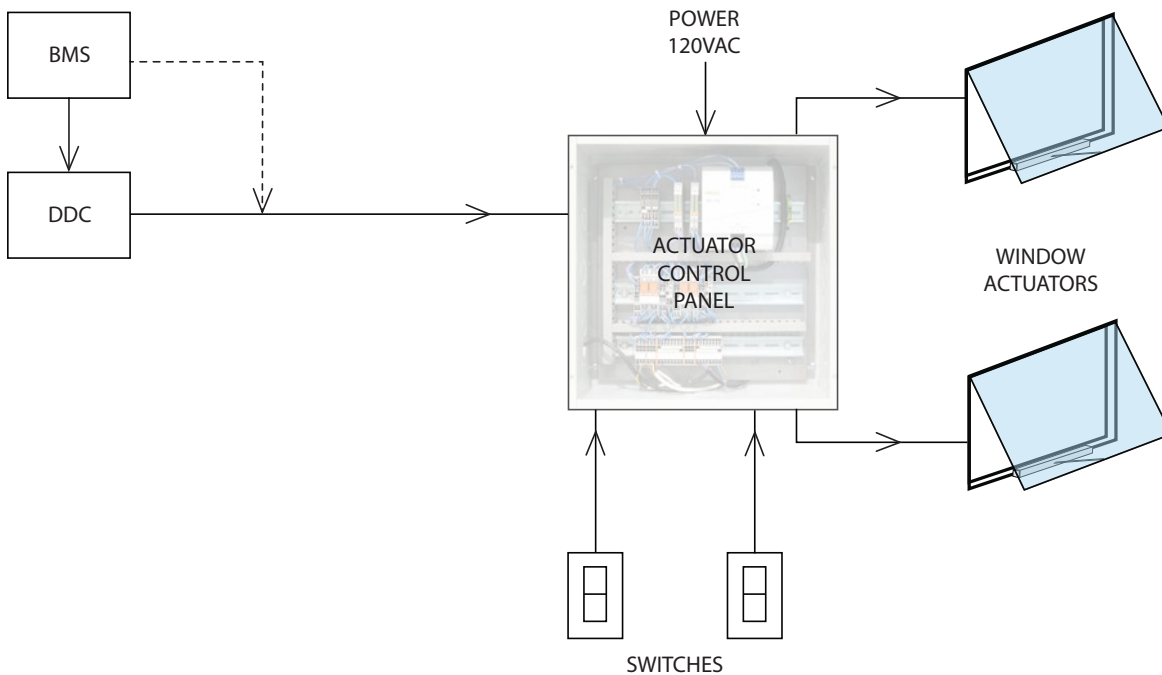
See [data sheet](#) for more information at www.Automatedfenestration.com

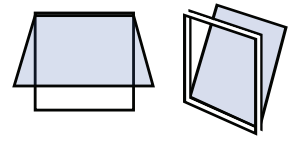


RS-4 shown

RS Series Control Panels

Item Code	120VAC/24VDC	Groups	Outputs	Use
RS-2	2 x 96W Control Panel	2	2	2 - 8 Actuators
RS-4	4 x 96W Control Panel	4	4	4 - 16 Actuators





CONTROL ACCESSORIES



T5-5000

T1-5000



T5-3300RF

Part #	Description
T5-5000	Infrared Remote Control. Operates channels 1-5 or all
T1-5000	Infrared Remote Control. Operates channel 1 only
REB-V2	IR Receiver Eye, in White wall mount base
REJ	IR Receiver Eye, jbox mounted
RE 2 FT	IR Receiver Eye, on 2ft White modular cable
RE 6 IN	IR Receiver Eye, on 6 inch White modular cable



REJ IR receiver



REB-V2 IR receiver

Radio Frequency (RF) Accessory Controls

T5-3300RF	RF Remote Control. Operates channels 1-5 or all
------------------	---

SOLAR POWER BANK



Item Code	Description	Outputs	Dimensions
41870D	Solar panel with battery back up	1	21.40" x 3.42" x 1.45"
41871E	RF Remote control - 1 channel		
41872F	RF Remote control - 9 channel		



Field Power Switch



DW.FPS.01
For job-site testing 24VDC actuators during installation.

FIELD POWER SWITCH

Switches	Max Capacity*	Details
SW.FPS.01	1A @ 24VDC	Field power switch, maintained contact switch Double-pole, double-throw (DPDT), center off For use with AFI 24VDC actuators (0.9A Max) Excludes FM chain actuators, twin, tandem or linear actuators.

* Do not exceed 80% of maximum current rating.

CONTROL ACCESSORIES FOR VEGA AND QUASAR

Part #	Description
40995J	RB24 Relay box - Use with SW5657-2W switch
40733T	Control box - Controls 2 motors
40821J	CRM3 Control panel for DC motors (keypad required) Controls optional remote, rain, wind, thermostat sensors
40822K	CRM4 Control panel for AC motors (keypad required) Controls optional remote, rain, wind, thermostat sensors
37185V	Wind sensor - Option for CRM3 or CRM4
40450K	Rain sensor - Option for CRM3 or CRM4
40771L	IR Remote - Option for CRM3 or CRM4 Maximum range: 30 foot
40770K	Keypad - Required for CRM3 or CRM4
40675K	Thermostat - Option for CRM3 or CRM4



40995J



40733T



40821J (for DC)



40822K (for AC)



40450K



37185V



40771L



40770K



40675K



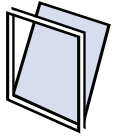
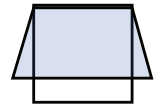
Educational



Residential



Commercial



MC SERIES CONTROL PANELS

MC control panels act as an interface between AFI DC Actuators and Direct Digital Control (DDC) systems such as Building Automation or management systems (BAS or BMS), Home Automation Systems or Heating/Ventilation/Air Conditioning Systems (HVAC).

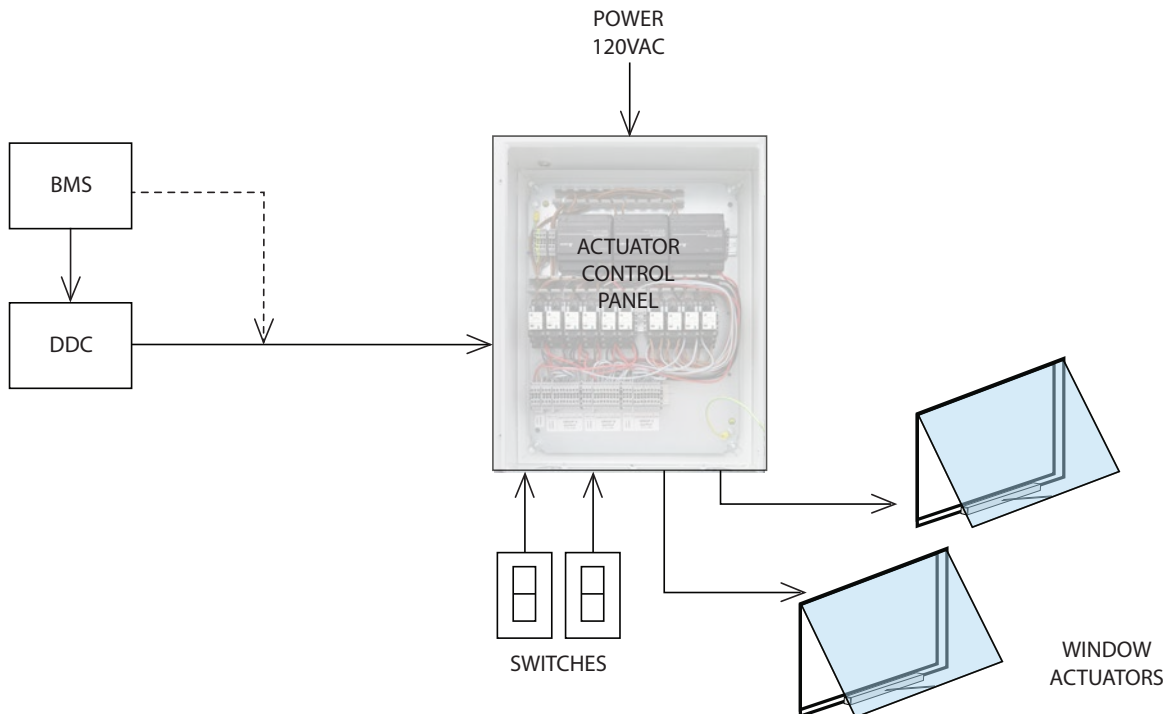
- UL Listed, self-contained, installation ready unit
- Configuration to be specified on order.
- Each unit contains fully regulated DIN rail mounted power supplies along with appropriate mounting terminals for a complete UL listed solution.
- Full range of sizes from single actuator control to multiple groups of actuators.

See [data sheet](http://www.automatedfenestration.com) for more information at www.automatedfenestration.com



MC Series Control Panels

Part #	Description	Groups	Outputs	Use
41720K	100W Control panel	1	1	1-4 Actuators
417240	200W Control panel	2	2	2-8 Actuators
41701R	300W Control panel	3	3	3-12 Actuators
41727R	400W Control panel	4	4	4-16 Actuators
41798K	500W Control panel	5	5	5-20 Actuators





PSP SERIES POWER SUPPLY PANELS

AFI UL Power Supply Panels provide power for all scenarios according to specified requirements. Fully compatible with AFI 24VDC actuators and standard line voltage switches. For BMS and HVAC interfacing control panels, please see page H-16.



PSP-5A.DC-UL



PSP-10A.DC-UL



PSP-20A.DC-UL

- UL Listed, self-contained, installation ready unit
- Fully UL listed for commercial and residential projects that interface with a standard line voltage power switch.
- Each unit contains a fully regulated DIN rail mounted power supply along with appropriate mounting terminals for a complete UL listed solution.
- Flexibility to meet almost any project design needs, for single or multiple actuators and multiple groups.

See [data sheet](#) for more information at www.Automatedfenestration.com

Power Supply Panels

AFI UL Power Supply Panels 120VAC/24VDC

PSP-5A.DC-UL	Panel Unit with 5A power supply and connection terminals
PSP-10A.DC-UL	Panel Unit with 10A power supply and connection terminals
PSP-20A.DC-UL	Panel Unit with 20A power supply and connection terminals



SW5686



SW5685

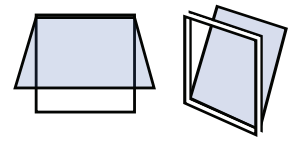


SW.CK.KEY-02

SWITCHES

Switches	Max Capacity*	Details
SW5686-2W	15A @ 24VDC	Maintained contact switch Double-pole, double-throw (DPDT), center off
SW5657-2W	15A @ 24VDC	Momentary contact switch
SW5685-2W	15A @ 120VAC	Maintained contact switch Single-pole, double-throw (SPDT), center off
SW.CK.KEY-02	20A @ 120VAC	Keyed switch (maintained contact) with faceplate Single-pole, single-throw (SPST)

* Do not exceed 80% of maximum current rating.



TRUTH SENTRY II WLS MOTOR

The Sentry II WLS (Window & Light Skylights) system is a retrofit solution for manually controlled (hand crank) Truth operators. System runs on standard line voltage using included switch box.

- Must be mounted to a Truth window or Skylight operator (replaces crank handle)
- Rain sensor is included with all WLS and HS kits
- Optional RF hand-held remote control can operate any number of motors, as well as motorized blind systems. Also features built in thermostat.
- Can connect to home/building automation systems and security systems.
- ETL/CE rated.
- Low voltage 24VDC motor includes power converter for line voltage 120VAC.
- Basic setup requires a motor and cover (sold separately).
- One control switch included with each WLS system, one switch must be installed for each WLS motor (multiple units cannot be wired in parallel).

WLS motor system contains:



1 Motor unit with spline adapter



1 Control unit with cover plate



1 Mounting bracket, fasteners & grommets



1 Rain sensor



1 Strain relief



1 Screen interlock



12490.03 (Bronze)



12490.24 (Beige)

WLS applications - for wood, PVC or metal sashes

- Casement windows meeting AAMA-101 hardware load specs.
- Awning windows with loose rivet type hinge and Truth operator.
- For skylights weighing up to 80 lbs (WLS is load rated at 40 lbs).
- For skylight installation, order Truth angle drive module type 42.65 (sold separately).

See [data sheet](#) for more information at www.Automatedfenestration.com

Sentry II WLS System

***When ordering, select a WLS system and a cover box.**

Sentry II WLS System

43.51.00.005	Sentry II WLS system (with motor), switch included
43.54.00.005	Sentry II WLS system (with motor), for Pella window

Sentry II WLS Cover Box

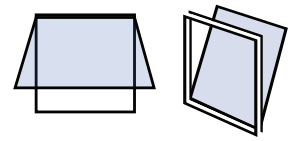
12490.01	Aluminum	12490.23	Chestnut Bronze
12490.02	Black	12490.32	White
12490.03	Bronze	12490.24	Beige
12490.09	Gold	12490.FB	Faux ORB
12490.11	Coppertone	12490.72	Pella White

Accessories

43.53.00.002	RF Hand held remote control with built in thermostat
12802	Replacement hardware pack
12478	Replacement hardware pack (Pella)
13024	Replacement switch for WLS, operates one motor
12488	Replacement switch double-gang faceplate
12547.00.0001	Replacement Sentry II motor

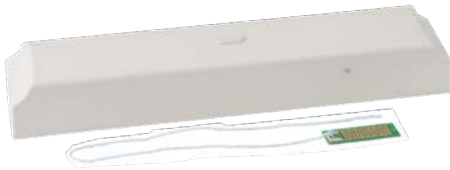


43.53.00.002 Remote control



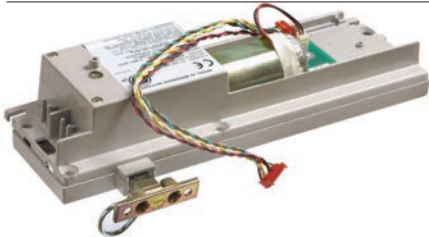
TRUTH SENTRY II HS (HEAVY SKYLIGHT) MOTOR

The Sentry II HS system is a motorize solution for heavy skylight applications. System runs on standard line voltage using included switch box.



- Attaches directly to skylights
- Rain sensor is included with HS system
- Optional RF hand-held remote control can operate any number of motors, as well as motorized blind systems. Also features built in thermostat.
- Can connect to home/building automation systems and security systems.
- ETL/CE rated.
- Low voltage 24VDC motor includes power converter for line voltage 120VAC.
- Operator has 9" (228mm) steel chain.
- One control switch box can control up to 20 Sentry II HS equipped skylights.

HS motor system contains:



1 Motor unit



1 Control unit



Fasteners, grommets and strain relief



1 Rain sensor and screen interlock

HS applications - Heavy Skylights

- For skylights weighing up to 160 lbs (HS is load rated at 80 lbs at chain).
- HS system is power rated at 50 watts.

See [data sheet](#) for more information at www.Automatedfenestration.com

Sentry II HS System

* When ordering, select an HS motor system, switch and a cover box.

Sentry II HS (Heavy Skylight)

43.50.00.006	Sentry II HS motor system
12539	HS wall switch
12481.01	HS Cover - Aluminum color
12481.02	HS Cover - Black color
12481.23	HS Cover - Chestnut Bronze color
12481.24	HS Cover - Beige color
12481.32	HS Cover - White color



12481.23 Chestnut Bronze



12481.32 White

Accessories

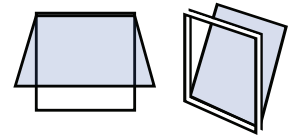
43.53.00.002	RF Hand held remote control with built in thermostat
12473.92	Replacement motor Unit
12482	Hardware kit: Includes Rain sensor, terminal block, screws, screen interlock & strain relief parts
12591	Module HS switch box
11533	HS steel chain 9" (228mm)



12539 HS Switch



43.53.00.002 Remote control



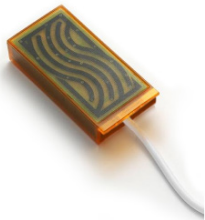
42.90.38.100 shown



Mounting brackets included



42.90.00.201 Remote control (RF receiver required)



42.90.00.202 Rain sensor (Receiver required)

TRUTH MARVEL MOTOR

The Marvel motor is a solution for awning, casement windows or skylights.

- Designed to operate windows or small skylights using a Truth hardware hinge system (See Truth website for details)
- For awning windows, use Marvel with loose-rievet type hinges such as Truth 13 Series or 34 Series 4-bar hinge (Catalog Section I).
- Motor features 9½" steel chain
- Centered chain orientation, see data sheet for details
- Includes 1.5 meter (5') power cable (White)
- 45 lbs of push force, can lift skylights up to 90 lbs, and windows depending on dimensions.

See [data sheet](#) for more information at www.Automatedfenestration.com

Opening	9½" (241mm) maximum chain stroke
Force	45 lbs (200N) push
Voltage	120VAC
Amp rating	Approx. 0.5A
Material	Plastic Case, Steel Chain
Color	White, Bronze
Mounting	Brackets included (3 types are included)
Dimensions	1½" x 1⅞" x 14¼" (33 x 47 x 362mm)

Marvel Motor System

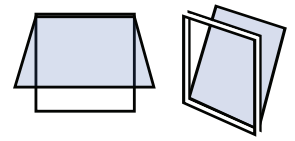
Marvel Motors

42.90.38.100	120VDC	White
42.90.03.100	120VDC	Bronze

Accessories

SW5657-2W	AC wall switch, momentary contact
45580	Manual switch for Marvel
42.90.00.200	RF Receiver pack for Marvel
42.90.00.201	RF Remote control with wall mount (Receiver required) 80 foot range, controls up to 4 motors
42.90.00.202	Rain sensor (Receiver required)





Automation Terminology

AC	Alternating current, typically running at 120VAC in U.S. residential market. Normally supplied to the primary side of a power supply (transformer). Some window/skylight actuators are powered by 120VAC but most are powered by 24VDC (See DC).
Actuator	An electric motor used for automated opening/closing of windows, skylights, vents or other fenestration openings.
AWG	American Wire gauge. A standardized wire gauge system. Increasing gauge numbers denote decreasing wire diameter, similar to other non-metric gauging systems.
BACnet	BACnet stands for Building Automation and Control Networks. It is an ASHRAE, ANSI and ISO standard protocol.
Building Commissioning	Process of testing and verifying systems are fully operational in a new construction environment.
CAT5/CAT5e	CAT5: Basic network cable that handles 10/100Mbps speeds at up to 100MHz bandwidth. CAT5e (enhanced): Capable of handling 1Gbps at 100MHz and greatly reduces crosstalk.
CAT6	CAT6 is suitable for up to 10Gbps speeds at up to 250MHz.
Control Panel	A panel enclosure with integrated transformer (power supply) and actuator control system.
DC	Direct current, typically run at lower voltages 24VDC or 12VDC. Direct current is provided by the secondary side (output) of a power supply (transformer) which is then run to a DC (typically a 24VDC) window/skylight actuator.
Dry Contact	A passive non-digital method of communication of a control signal. No energy is supplied to the contacts. In order for a controller to read it, it needs to have a defined voltage. Typically a 3-wire connection; on, off and neutral. For an AC system or in a DC system that requires the use of a relay.
(Signal) Feedback	A return signal from window/skylight actuator providing information as to the position/state of the actuator.
FPS	Field Power Switch. An auxiliary switch used to test actuators prior to installation or prior to commissioning.
Gateway	Hardware/software translation bridge that connects two different communication protocols.
Group	A set of actuators that open and close
Group Object	A collection of objects and one or more of their properties.
Latch Switch	A switch that turns on a device when the switch is pressed once and turns the device off if pressed again.

Load	Any device that current flows through and produces a voltage drop.
LONworks	Local operating network is a networking platform specifically created to address the needs of control applications.
Maintained Contact	A switch that physically keeps the button and circuit in the actuated position, open or closed. When the switch is pressed, it stays in the on or off position until pressed again.
Momentary Contact	A switch that opens or closes the circuit only when it is activated, then immediately returns to its normal position.
Modbus	A serial connection protocol used with programmable logic controllers.
Node	Point on a network that allows access.
Object	Items that allow communication and organization of data related to inputs and outputs. An item that can be integrated into operation. Examples of objects consist of: <ul style="list-style-type: none"> • Binary Input • Binary Output • Binary Value • Analog Input • Analog Output • Analog Value • Calendar • Loop • Command • Averaging • LifeSafety Zone • LifeSafety Point • Multi-State Input • Multi-State Output • Multi-State Value • Notification Class • File • Program • Schedule • File • Program • Schedule • Trend Log • Group • Event • Enrollment • Device
PLC	Programmable Logic Controller. A control module that is capable of receiving program changes in order to facilitate user customized program executions.
PSP Panel	A panel enclosure with integrated transformer (power supply).
RS-232/485	A standard defining the electrical characteristics of drivers and receivers for use in balanced digital multipoint systems.
Switch	A physical control that is wired either directly or indirectly (through controller) to control a window or skylight actuator.
UL	Underwriters Laboratory. A global independent safety science company that tests for safety for US and Canadian standards, All UL Listed products display UL Listed or in some cases UL recognized identification.
Whip	Also known as a lead wire, comes attached to window/skylight actuators and connects to power (normally a 24VDC power supply output).