

LM/2

SmartMotion DC chain actuators



Made in Germany

Functional Fenestration Inc (FFI) is an expert and leader in the American motorized actuator market, with a broad range of motors for windows, vents, and skylights. FFI has been providing motorized operators for natural ventilation since 1987, for institutional, commercial and residential applications.

Benefits of motorized actuators

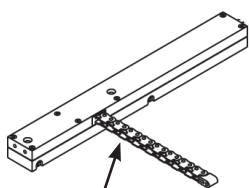
- Automated operation of multiple awning windows, hopper windows, casement windows, curtain wall vents, and skylights.
- Ideal for smart buildings; integrate with building and home automation systems.
- LM/2 actuators are certified for Smoke and Heat Extraction (SHE).
- Natural ventilation enables lower energy consumption, lets in fresh air and daylight, enables LEED credit.
- Low voltage DC motors are energy efficient.

Features

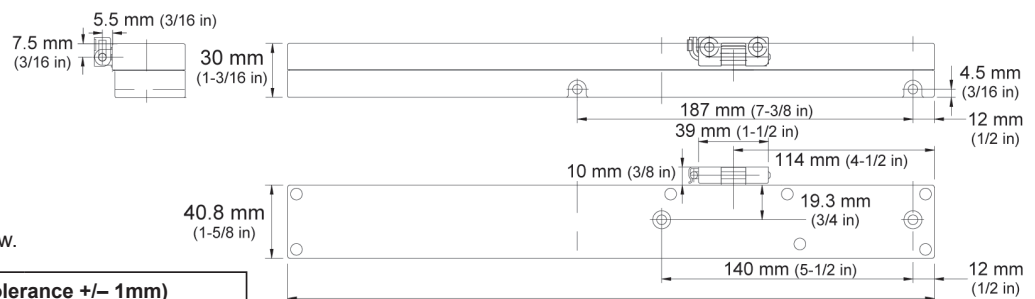
- LM/2 series are light-duty operators, with compact casing and low-noise operation.
- Push/Pull Force up to 200 N (44 lb), to operate 120mm - 300mm chain versions.
- Opening distance ranges from 120 mm to 500 mm approx., according to version.
- Multiple actuators may be linked for simultaneous operation of multiple windows.
- Actuator has stainless steel chain for rigidity and durability. Chain is off-center in casing.
- Tight vent closure using electronic power cut-off.
- UL Recognized.
- Can be concealed in frame or curtain wall.
- Sash connector/hinge bracket for LM is included with the actuator. Mounting brackets are optional; LM actuators can be mounted direct to frame or sill without mounting bracket kit, depending on the application. See LM Brackets & Accessories DataSheet for optional bracket kits.
- Actuators are available in standard grey, white, or black color.
- UL cable 3 meter included, black color.
- Tested to 10,000 cycles.
- 2-year manufacturer's warranty; requires use according to Installation Guide recommendations.



sash connector/hinge bracket



Chain is off-center in case.
Mount with chain centered in window.



X = length (tolerance +/- 1mm)	
at stroke	length
at 120 - 350 mm stroke	360.5 mm (14-3/16 in)
at 400 - 500 mm stroke	442 mm (17-3/8 in)

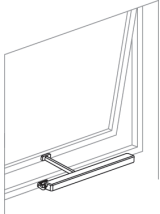
X (length: see chart)

LM/2

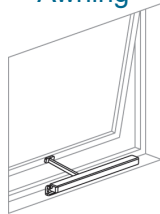


Applications

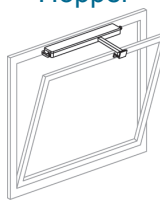
On Wall or Frame



Awning



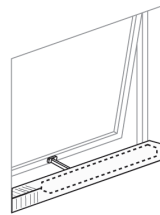
Hopper



Skylight



Concealed in frame or curtain wall



**Mount with chain centered in window

Supply voltage:	24 V DC (-20 % / +50 %)
Normal current amp draw:	approx. 0.5 amp*
Limit stop:	(Open): built-in limit switch (Closed): integrated electronic power cut-off, tandem power cut-off
Chain stroke length (approx):	120 mm (4-3/4 inch) 200 mm (7-7/8 inch) 250 mm (9-13/16 inch) 300 mm (11-13/16 inch) 350 mm (13-3/4 inch) 400 mm (15-3/4 inch) 500 mm (19-11/16 inch)
Chain installation adjustment:	automatic adjustment
Push force (max):	200 N (44 lbf +/- 3%) for 120mm – 300mm chain 150 N (33 lbf +/- 3%) for 350mm chain 120 N (26 lbf +/- 3%) for 400mm chain 80 N (17 lbf +/- 3%) for 500mm chain
Pull force (max):	200 N (44 lbf +/- 3%) for all models
Nominal clamping force (max):	4000 N (899 lbf +/- 3%) force needed to rip chain out of actuator case
vMin. sash height at stroke length:	stroke Hopper-Inward opening Awning-Outward opening 120 mm 350mm (13-3/4 in) sash ht 500mm (19-11/16 in) sash ht 200 mm 450mm (17-11/16 in) sash ht 600mm (23-5/8 in) sash ht 250 mm 500mm (19-11/16 in) sash ht 700mm (27-9/16 in) sash ht 300 mm 550mm (21-5/8 in) sash ht 750mm (29-1/2 in) sash ht 350 mm 600mm (23-5/8 in) sash ht 800mm (31-1/2 in) sash ht 400 mm 650mm (25-9/16 in) sash ht 850mm (33-7/16 in) sash ht 500 mm 750mm (29-1/2 in) sash ht 950mm (37-3/8 in) sash ht
Chain speed:	approx. 10 mm/sec (0.393 in/sec) at rating load and nominal load
Actuator Dimensions (l x h x d):	120-350 mm chain = 360.5 x 30 x 40.8 mm (14-3/16 x 1-3/16 x 1-5/8 in) 400-500 mm chain = 442 x 30 x 40.8 mm (17-3/8 x 1-3/16 x 1-5/8 in)
Power cable:	UL cable 3 meter included, black color
Run/Rest cycle:	For every 60 seconds running (ON), must then rest (OFF) for 120 seconds.
Ambient operating temperature:	-10 °C to +60 °C (14 °F to 140 °F)
Safety marks:	ANSI / UL Recognized : E 306715 , manufacturer STG Beikirch
Protection class:	IP 20
Case:	zinc diecast profile
Colors (standard):	powder-coated: silver grey (RAL 9006), white (RAL 9016), or black (RAL 9005)
Special colors:	other RAL colors on request, see accessory data sheet
Opening mechanism:	stainless steel chain, chain is off-center in case**

* Calculate power supplies and control boxes needed based on peak draw of 2 times normal amp draw.

FFI LM/2 UL Actuators

Stroke (and push/pull Force)	Part Numbers		
	Silver Grey	White	Black
120 mm (200 N) 4-3/4 in (44 lbf +/- 3%)	2409031	2408892	13324590314
200 mm (200 N) 7-7/8 in (44 lbf +/- 3%)	2409049	2408926	13324590494
250 mm (200 N) 9-13/16 in (44 lbf +/- 3%)	2409056	2408959	13324590564
300 mm (200 N) 11-13/16 in (44 lbf +/- 3%)	2409064	2408983	13324590644
350 mm (150/200N) 13-3/4 in (33/44 lbf +/- 3%)	2409072	2409015	13324590724
400 mm (120/200N) 15-3/4 in (26/44 lbf +/- 3%)	2409071	2409013	13324590714
500 mm (80/200N) 19-11/16 in (17/44 lbf +/- 3%)	2409076	2409014	13324590764



LM Accessory Parts

LM brackets see LM Brackets & Accessories DataSheet

Recommendations for FFI Actuators & Controls: FFI only recommends UL compliant systems. FFI is a UL registered firm. Read FFI data sheets & installation guides before specifying project details. Project-specific needs vary depending on the number of actuators, electrical layouts, building management systems, distance between power supplies & actuators, and other details. Project specifications to comply with electric & building codes—for wire gauge, wire connections and run distance, conduits, junction boxes—must be arranged by the project electrical contractors. Distribute this guide to all project parties, including electrical contractors, architects, and building management personnel.