

AT31 Linear Multi-Point Locking Actuator

Technical Information and Operating Instructions



AT31 Linear Multi-Point Locking Actuator / 24 V / 1 A dc / 600 N

The AT31 has been developed to provide reliable and secure window locking in environmental ventilation.

SE Controls manufacture this high-quality 'Made in Britain' actuator with the following features:

- Seamless two way communication with Building Management Systems via Modbus protocol
- Simple 2 wire open/close 24 V operation for non-BMS applications
- Standard finish is RAL 7016 (Anthracite Grey) but it can be customised to suit installation requirements
- Current draw is 1 A max at 600 N
- Quiet operation with stroke 1-22 mm (configurable)
- Low friction and high torque for consistent and smooth power delivery
- Programmable average opening and closing speed
- Synchronised operation with AT12 Single and Twin Actuators
- Programmable functionality: opening and closing speed, seal relief, stroke
- Inbuilt cycle counting to provide operational frequency to protect warranty
- Product Warranty: 15,000 operational cycles or 12 months¹

¹ Commercial terms for each project will supersede this warranty information.

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1. General Information

1.1 General Safety Information

SE Controls reserves the right to introduce any modifications and improvements to the contents of this publication without the obligation of giving prior notice.

Read and observe the information contained in these safety instructions and respect the order of procedure stated therein.

Please keep these safety instructions for future reference and maintenance. Reliable operation and the prevention of damage and risks are only granted if the equipment is assembled carefully and the settings are carried out according to these instructions and to the operating instructions of the drives.

Please observe the exact terminal assignment, the minimum and maximum power ratings (see technical data)



Danger!
General danger or precautionary warning with numerous implications.



Danger!
Danger that could cause personal injury. Danger of hands been crushed!



Warning!
Carefully read these warnings



Warning!
Draws attention to instructions that must be followed in order to prevent damage to the actuator.



Warning!
Danger of electric shock.



Notice
Indicates important notices to which attention must be paid.

1.2 Health and Safety



Electrical Safety; Warning 230 V ac Dangerous voltage. Can cause death, serious injury or considerable material damage. Disconnect the equipment from the power supply at all poles before opening, assembling or carrying out any structural alterations.

Warning! Never connect the drives to 230 V! They are built for 24 V! Risk of death!



Personal Protective Equipment; It is recommended that suitable PPE is worn at all times during the installation and connection of actuator products in accordance with a recommended safe system of work.

Handling and storage; Care must be taken in transportation to the installation location and during fitting. Actuator products must not be dropped, impacted, allowed to get wet or abused in any other way. Mishandling can result in serious damage.

Competence; Installation and connection must only be carried out by authorised, competent and safety conscious persons.

1.3 Environmental



All actuator products contain metallic, plastic and electronic parts. Redundant electronic products are classified as hazardous waste under the WEEE regulations (Waste Electrical and Electronic Equipment). Electronic parts must be disposed by an authorised and licensed recycler.

They must not be disposed of in 'general waste' skips.

Consult SE Controls for assistance.

1.4 Application and Use



When using the actuator, follow these safety instructions described herein. This equipment is designed for the automatic opening and closing of the stated types of windows.

For further application, please contact SE Controls.

The actuator complies with current safety directives.

Operating safety can be guaranteed only if installers comply with the safety regulations in force in the country where the actuator is used.



Do not install two or more actuators on the same window without using a synchronisation accessory.



Any other application of the actuator must be approved after technical testing of the application. Use only original accessories or accessories approved by SE Controls to install the actuator.

The actuator is not a structural member of the window. Always mount the safety arms in bottom-hung applications. The position of the three-way switch button must be outside the field of action of the moving part of the window.

Do not allow children to play with the fixed or remote controls.



When opening or closing the window, make sure other people are far away from the moving part, even when a fire detection system is closing an open window.

It would be beyond the scope of these safety instructions to list all the valid regulations and guidelines.



Always make sure that your system corresponds to the valid regulations. Pay particular attention to: the aperture cross-section of the window, the opening time and opening speed, the temperature resistance of the cables and equipment, cross-sections of the cables in relation to the cable lengths and power consumption.



Care must be taken to ensure that actuator products are controlled with compatible products; refer to SE Controls. No liability will be accepted and no guarantee nor service is granted if actuator controls are used without such compatibility being confirmed.

1.5 Installation



Warning! Incorrect installation may render the actuator dangerous! Follow all the instructions set out below and the instructions applied to the motor.

Installation of this equipment must only be carried out by authorised, competent and safety conscious persons.



The actuator must be assembled and connected only by specialised staff who have been properly trained and who are familiar with the problems associated with automatic window opening and closing systems, technical reference standards and safety standards.



The window closes automatically. When opening and closing, the drive unit is stopped by the power cut-off. The corresponding pressure force is listed in the technical data.



Take care - the pressure force is high enough to cause injury!



During assembly and operation do not obstruct the window opening!

Routing of cables and electrical connections only to be done by a qualified electrician.



Power supply leads 230 V ac to be fused separately by the customer. Keep power supply leads sheathed until the mains terminal.



All low voltage cables (24 V dc) to be installed separately from high voltage cables. Flexible cables should not be plastered in. Provide strain relief for freely suspended cables.

The cables must be installed in such a way that they cannot be severed off, twisted or bent off during operation.

Junction boxes must be accessible for maintenance work.



Adhere to the type of cables, cable lengths and cross-sections as stated in the technical information.

After installation and any changes to the system check all functions by a trial run.

1.6 Maintenance

Always disconnect the motor's supply voltage and batteries during cleaning or maintenance operations, especially if the actuator is equipped with an automatic control device.



The system must be protected against unintentional re-starting.

All smoke ventilation systems must be periodically (annually) checked, serviced, maintained and, if necessary, repaired and re tested by a authorised, trained and competent, safety conscious persons.

Maintenance shall be carried out in accordance with the requirements of;



- Building regulations 2002
- Health and Safety at Work Act 1974
- I.E.E Regulations
- Regulatory Reform (Fire Safety) Order 2005
- Building Regulations etc. (Amendment) (England) Regulations 2023

In order to keep the equipment in optimum operating condition it is recommended that ventilation systems are similarly maintained.

There are no user repairable parts in this equipment.

Basic checks that can be carried out include;



- At least once a year, check that the power cable and connection has not been damaged and that it shows no sign of wear
- Check that no object obstructs the window movement.
- If faults arise, never work on the actuator and never open or dismantle parts of the actuator that deny access to the inside of the mechanism.
- If the actuator fails to function or is damaged, contact SE Controls.
- Do not use the actuator until it has been repaired.

A suitable service contract with SE Controls is recommended for this purpose.

The gear system is greased for life and is maintenance free.



Defective equipment must only be repaired by SE Controls. Only original spare parts are to be used.

After maintenance, repair or any changes to the system check all functions by a trial run.

2. Specification

Actuator Designation	AT31
Actuator Type	24 V Linear Multi-Point Locking Actuator
Voltage (all ± 5%)	24 V
Current Draw (Amp)	1 A max dc at 600 N
Stroke	1 - 22 mm (configurable) (18 mm default)
Operating Speed	2.5 mm/s (configurable)
Ambient Operating Temp	-5°C to +60°C
IP Rating	IP42
Thrust Force	600 N max
Close Force	600 N max
Switching	Electronic
Standard Finish Powder coated	RAL 7016 (Anthracite Grey) RAL 9005 (Jet Black) RAL 9006 (White Aluminium) RAL 9010 (Pure White)
Colour Option	Other colours available on request
Flex Length	3 m
Flex Type	4 core silicone
Flex Colour	Grey or White ¹
Duty Cycle	30% (3 minutes on, 7 minutes off)
Product Warranty	15,000 operational or 12 months from the date of invoice ²
Drive Forks	Please contact Façade Technical for further details
Application	Environmental Ventilation

¹ This information is provided as guidance as raw materials and manufacturing processes differ therefore we cannot guarantee a precise match with the actuator body colour.

² Commercial terms for each project will supersede this warranty information.

2.1 Drive Fork



The AT31 MPL requires a drive fork which is not included.

These forks are specific to the system profile into which the AT31 is installed.

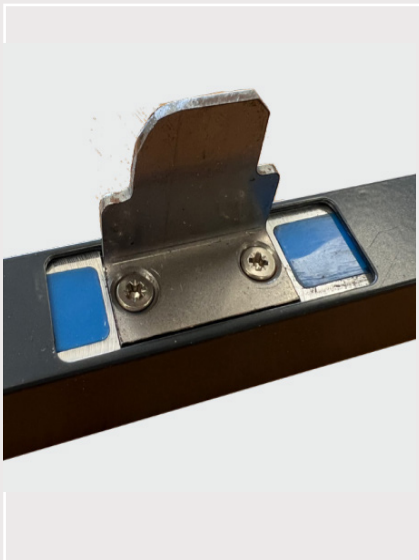
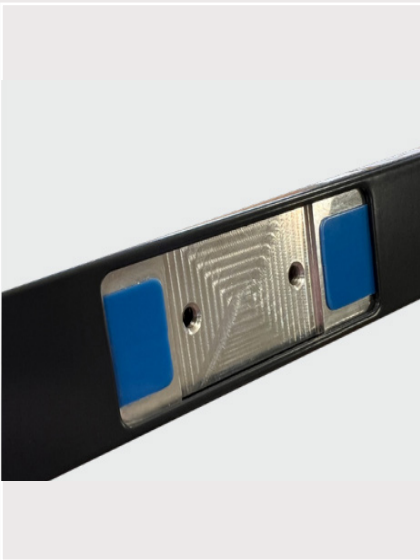
Please contact the Façade Team to discuss your application in more detail.

3. Installation Guide

The below renders show both an AT31 MPL and AT12 Chain Actuator in situ. For installation information on the AT12 Chain Actuator please refer to either of the following documents SEC_4275 or SEC_4297.



i. Remove the screws from both end caps (2 no each end cap, 4.no in total).



ii. Attach the required drive pin fork[†] using 2no screws.

[†]These forks are specific to the system profile into which the AT31 is installed. Please contact SE Controls to discuss your application in more detail.

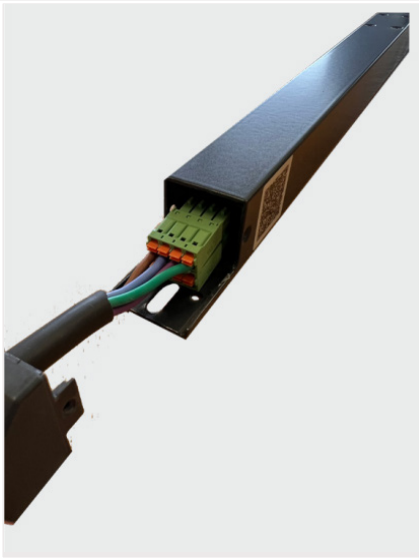
iii. Ensure that the drive pin fork is set in the window/vent locking mechanism and that the locking mechanism operates correctly (locking/unlocking of the window/vent) by sliding from left/right/left.



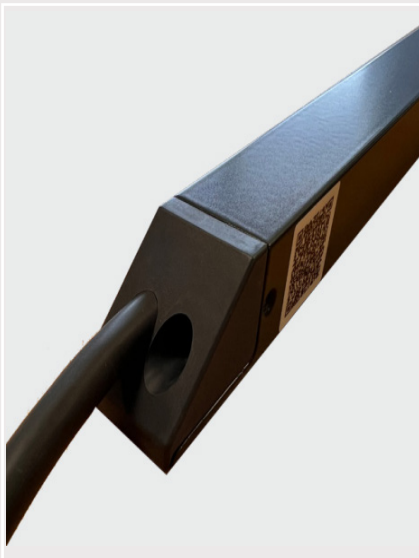
iv. Installation of the fixings will either be via a prep detail done for the specific system or during site installation ensure that once the MPL actuator is fixed to the profile the MPL is in the fully open position as is the vent/window locking mechanism.

v. Install the actuator to the fixed frame via the fixing points shown highlighted.

Installation Guide, Continued



vi. Connect the MPL to the actuator or power supply depending on your wiring configuration..



vii. Reinsert the end caps on both sides and secure with the fixing screws (2no each end cap, 4no in total).

viii. Test the actuator and MPL to ensure the MPL unlocks the locking mechanism first, then the actuator drives open. Actuator drives close and then the MPL locks the locking mechanism.



Creating a healthier & safer environment

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