

# SECO Ni Folding Arm Actuator

Fixed Version - Technical information and operating instructions



## SECO Ni Folding Arm Fixed Version

- 24V dc Fixed Folding Arm
- Smoke & Environmental Ventilation applications
- Configurable:
  - Speed
  - Stroke
  - Seal Relief
  - Volt Free Contact
- Range of Fixing Systems.
- Options for customisation to meet application requirements.
- CE Marked

### Bracket Part Numbers

AKS20000002 - Fixing Bracket Set

AKS20000003 - Pivot/Slider Kit

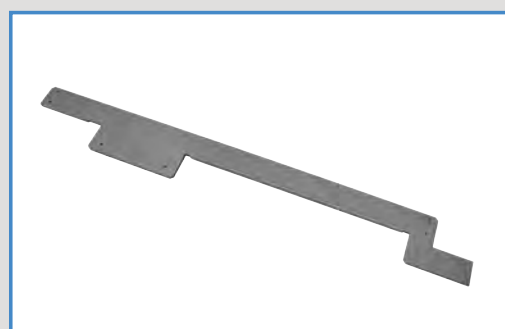
### Extended FD60 Door Bolt - Part Number

FYS18010026 - Extended Door Fixing Bolt FAA  
85mm

### Fixing Template Part Codes for Fixed Actuator

AXS15192001 - Frame Mounted Template -  
Right Hand

AKS15192002 - Frame Mounted Template -  
Left Hand



## Technical Data

<b>Actuator Designation</b>	SECO Ni Folding Arm Actuator
<b>Actuator Type</b>	24V dc Folding Arm Actuator
<b>Voltage (all +/-5%)</b>	24V dc
<b>Current Draw (Amp)</b>	1.0A
<b>Stroke/Opening Angle</b>	0-600mm / 0-90° programmable
<b>Operating Speed</b>	15mm/sec
<b>Ambient Operating Temp</b>	-5°C to +60°C
<b>Thrust Force</b>	400N
<b>Close Force</b>	400N
<b>Soft Close</b>	Yes
<b>Switching</b>	Electronic
<b>Standard Finish</b>	Grey (RAL 9006)
<b>Seal Relief</b>	Programmable up to 20mm
<b>Colour Option</b>	Other RAL colours available on request
<b>Flex Length</b>	2m
<b>Flex Type</b>	5 Core - 2x 0.75mm <sup>2</sup> (Power)/ 3x 0.25mm <sup>2</sup> (Comms)
<b>Flex Colour</b>	Black
<b>Product Warranty</b>	15,000 cycles
<b>Duty Cycle</b>	22% (2 mins on, 7 mins off)
<b>IP Rating</b>	IP20
<b>Bracket</b>	Frame Mounted Roller / Door Mounted Fixed
<b>Synchronisation</b>	Optional in pairs

## 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) and the installation instructions.

Please observe the following warning symbols:



**Warning!**  
**Carefully ready these warnings**



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



**Notice**  
**Indicates important notices to which attention must be paid.**



**Danger!**  
**General danger or precautionary warning with numerous implications.**



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



**Warning!**  
**Danger of electric shock.**

## 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 230V! They are built for 24V! 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!  
Danger of crushing/trapping!

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

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.

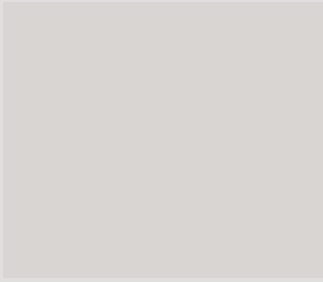


Defective equipment must only be repaired by SE Controls. Only original spare parts are to be used.

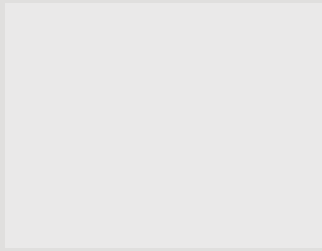
After maintenance, repair or any changes to the system check all functions by a trial run.

## Installation Guide - Door Applications

1. Ensure door is free and clear of all obstructions and debris.



2. Install the Supplied pivot bracket set to the actuator.



3. Offer actuator up to door with the door and actuator fully closed. Take measurement of the fixing height required for the actuator not to touch the opening door when door opens/closes.

4. Power the actuator to the fully open position.

5. Mark up the distance from the hinge to the actuator to allow the door to be opened to the required position.

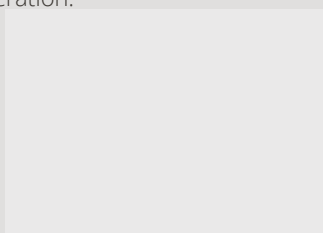
6. Ensure the installation location allows for the actuator to open to the maximum opening angle.

7. Mark up the bracket holes in all four positions.

8. Drive the actuator fully closed and allow the door to close, ensure the opening doesn't clash with the actuator.

9. Fix actuator using screws suitable for the door construction.

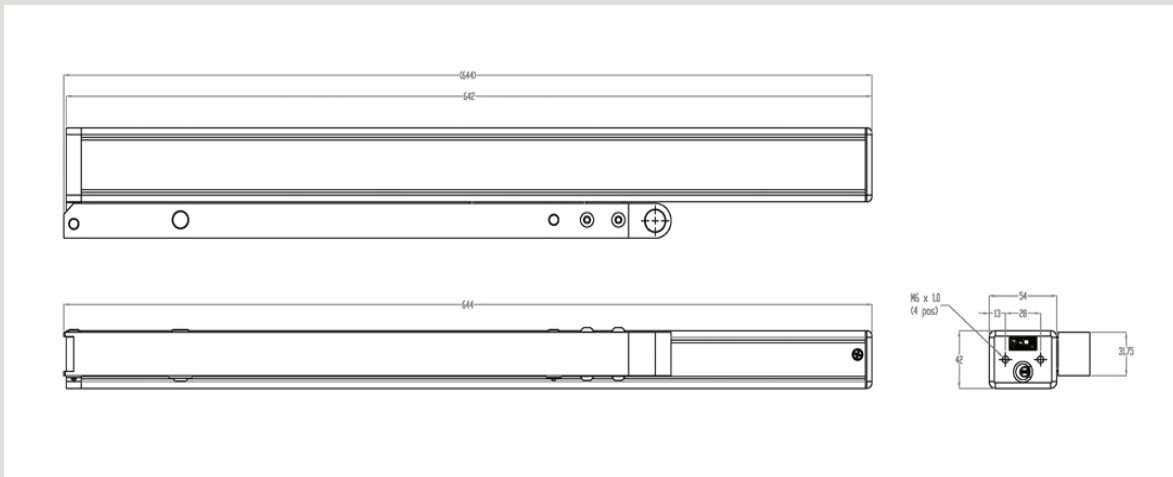
10. Attach the slider bracket and bracket retention cable to the door. Cycle test the door open and closed multiple times to ensure correct operation.



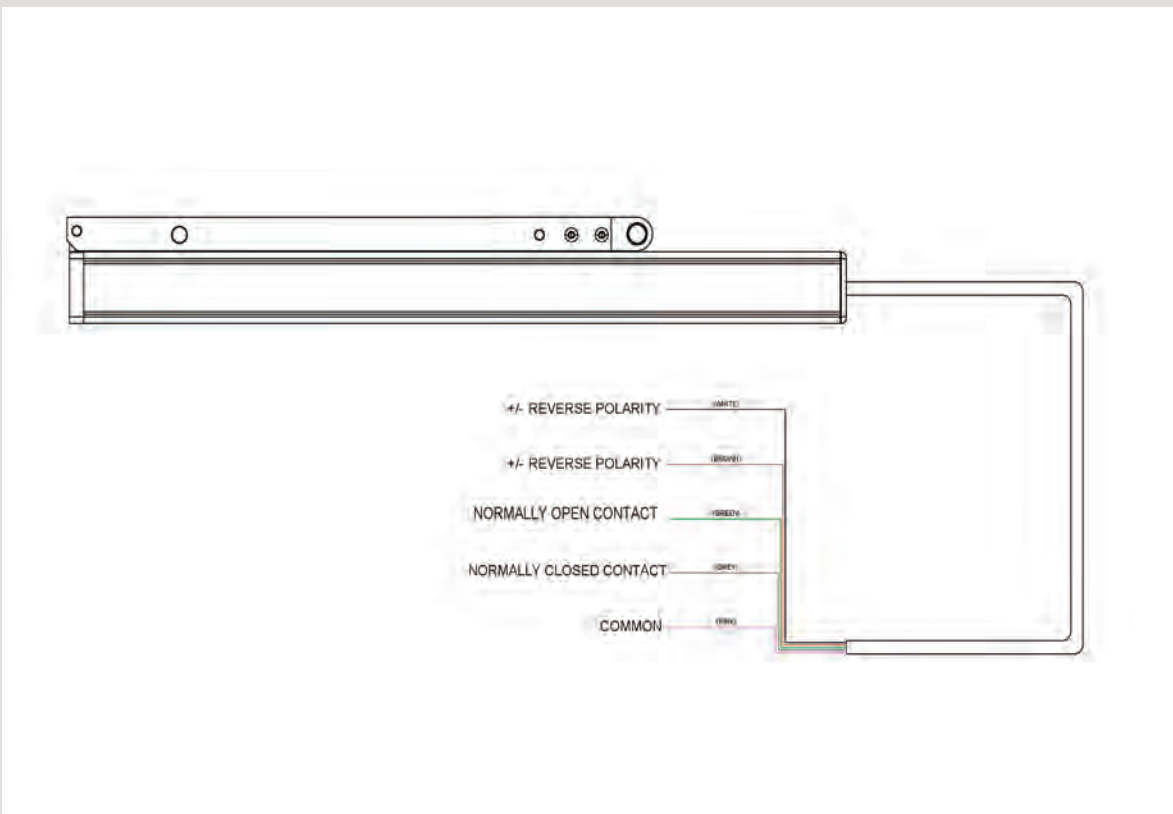
11. Installation is complete, if required add finger entrapment stickers to the door.

**Please keep these operating instructions for future reference and maintenance. Subject to technical modifications. Diagram is not binding.**

## Technical Drawing

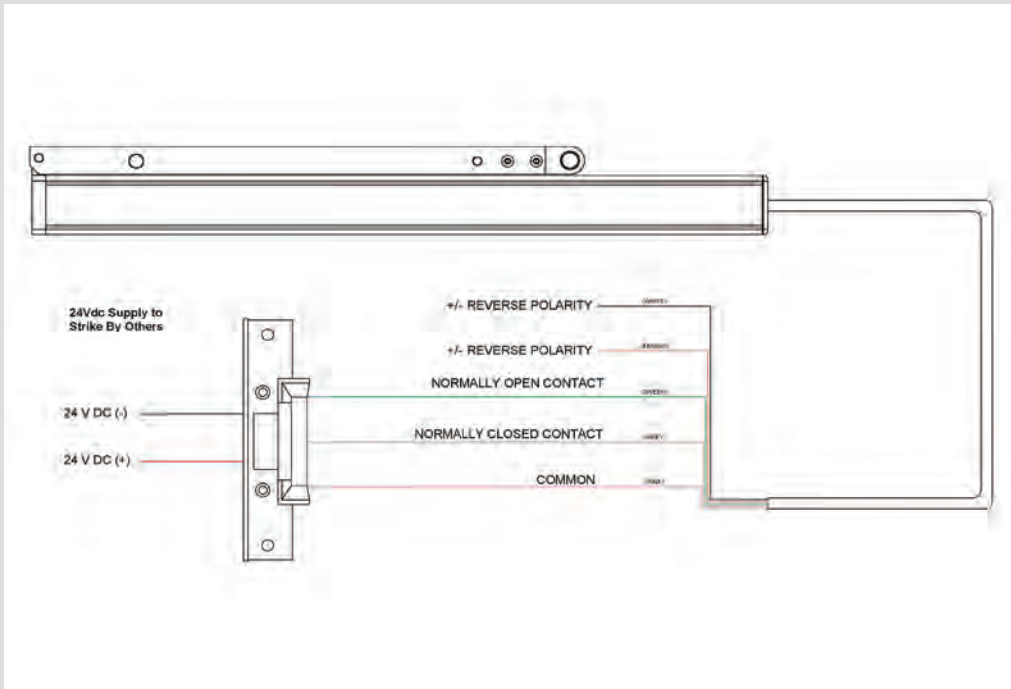


## Wiring

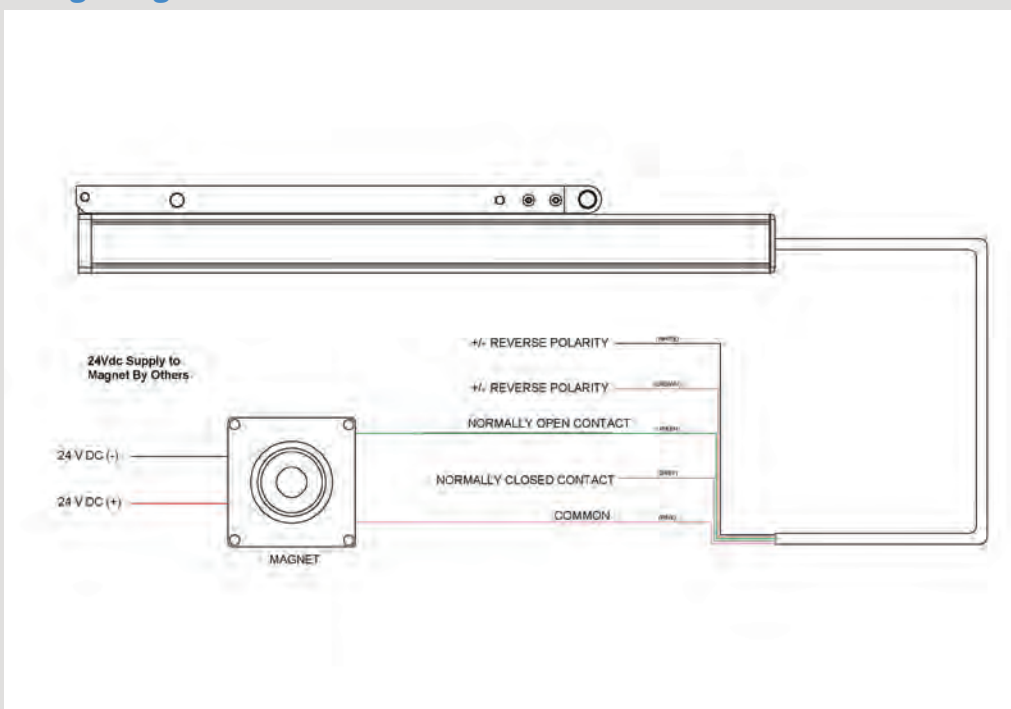


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## Wiring - Electric Strike



## Wiring - Magnet



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