SEC_4898
10.25

SELD 24 100 Louvre Actuator

Technical Information and Operating Instructions

The product is shown without the external extrusion installed.

SE CONTROLS

SELD 24 100 Linear Louvre Actuator / 24 V / 1000 N

The SELD 24 100 Linear Louvre Actuator is designed to deliver dependable and secure window locking for smoke and environmental ventilation applications.

This high-quality linear actuator is equipped with the following features:

- Powerful Performance: Delivers up to 1000 N of force, providing strong and reliable performance for various applications
- Tested to the requirements of EN 12101-2 : 2003
- Efficient Operation: Operates on a 24 V dc system, making it energy-efficient while offering consistent power output
- Compact and Robust Design: Built with a compact design, making it suitable for tight spaces without compromising on durability
- Specifically designed for Louvre applications: This ensures smooth and silent operation, ensuring the louvres operate seamlessly while maintaining a tight seal for optimal performance and energy efficiency
- Smooth Operation: The actuator provides smooth linear motion, ideal for applications requiring precise positioning and reliable locking
- High Durability: Designed to withstand demanding conditions, providing long-lasting performance and reducing the need for frequent maintenance
- Product Warranty: 15,000 operational cycles or 12 months[1]

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

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Contents

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 ready 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 compiles 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.

Use a dry, soft cloth to gently remove debris or contamination. Avoid using cleaning agents or solvents.

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

	Louvre Actuator
Actuator Designation	SELD 24 100
Actuator Type	24 V Linear Louvre Actuator
Voltage (all ± 15%)	24 V dc
Current Draw (Amp)	0.7 A Max dc at1000 N
Stroke	28 mm
Operating Speed	~1.1 mm/s (factory pre-program)
Ambient Operating Temp	-5°C to +60°C
Thrust Force	1000 N Max
IP Rating	IP 42
Close Force	1000 N Max
Switching	Electronic
Standard Finish	Anodised
Colour Option	Powder Coated Outer Cover
Flex Length[1]	5 m
Flex Type[1]	2 Core 0.75 mm^2 and 2 Core 0.5 mm^2
Flex Colour	Grey
Duty Cycle	40% (4 minutes on, 6 minutes off)
Product Warranty[2]	15,000 operational cycles or 12 months
Application	Smoke and Environmental Ventilation

[1] Dependant on Louvre Actuator Type
[2] Commercial terms for each project will supersede this warranty information.

3. Installation Guide

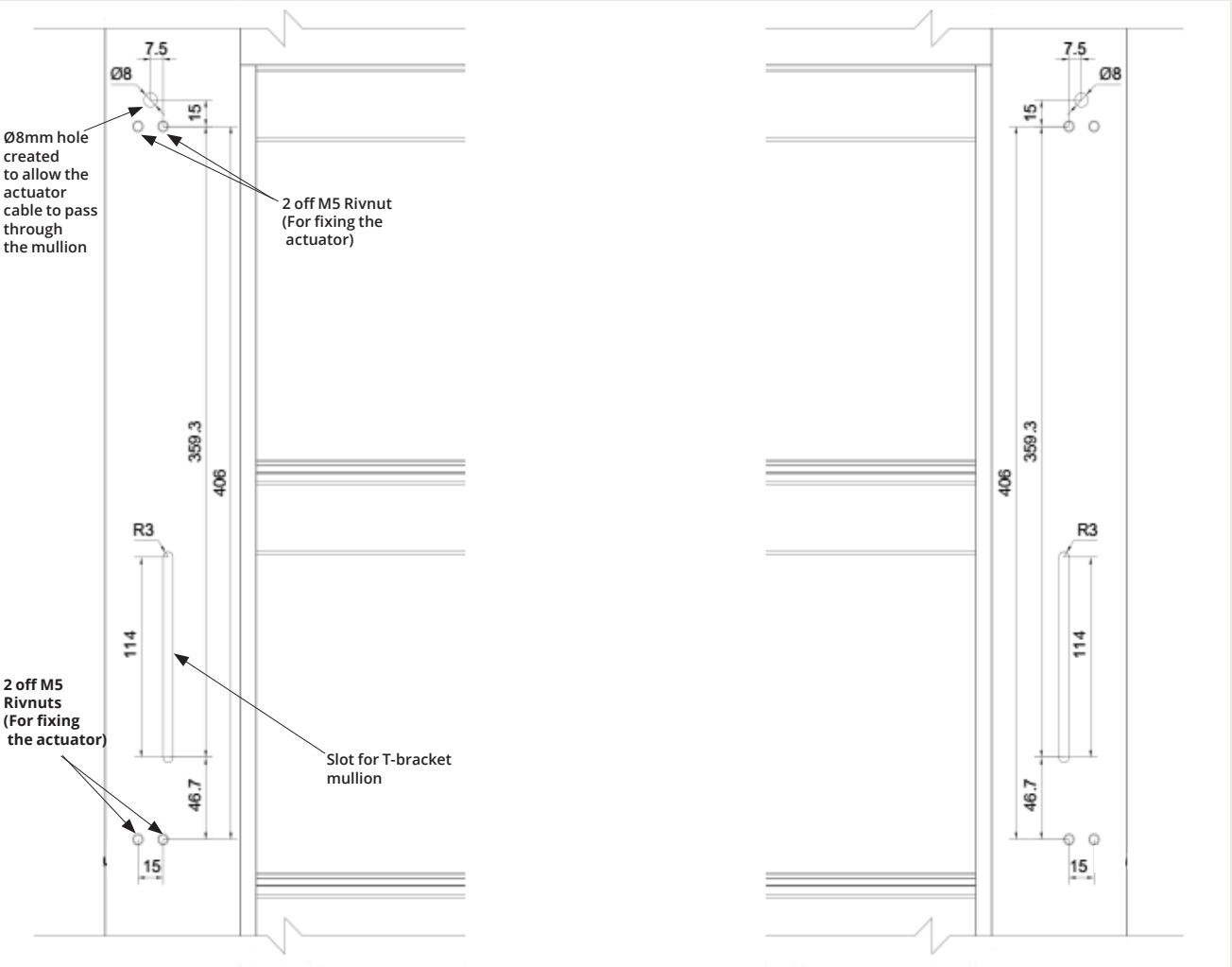
3.1 Preparation

Unbox the SELD 24 100 and ensure that all parts are included, that the unit is complete and in good condition.
It is suggested that the following tools and fixings are assembled prior to installation:

- **Tape measure**
- **Screwdriver**
- **Power drill**
- **Level**
- **Fixings suitable for the installation**
- **Temporary power supply to test the louvre actuator**

3.2 Fixing Hole Position Template

The drawing below is provided to assist in the installation of the SELD 24 100 ensuring precise alignment and consistent placement of the actuators helping to maintain their efficiency and flexibility.



Remove any drill swarf to prevent damage to the seals. Use masking tape to protect the surface from scratches or damage.

3. Installation Guide, continued.

3.3 Bracket Design

The SELD 24 100 Louvre Drive incorporates dual slots and a drive block, allowing the bracket to move linearly.

Bracket Design Guidelines:

- **Maximum Engagement:** The bracket should engage no more than 30 mm from the mounting face. Exceeding this limit may damage the actuator **(see Figure 1)**.
- **Minimum Engagement:** The bracket must engage at least 12 mm from the mounting face. Engagement below this threshold may also result in actuator damage **(see Figure 1)**.
- **Corner Geometry:** Rounded internal corners are recommended to minimize stress concentrations and reduce the risk of failure at sharp edges **(see Figure 2).**

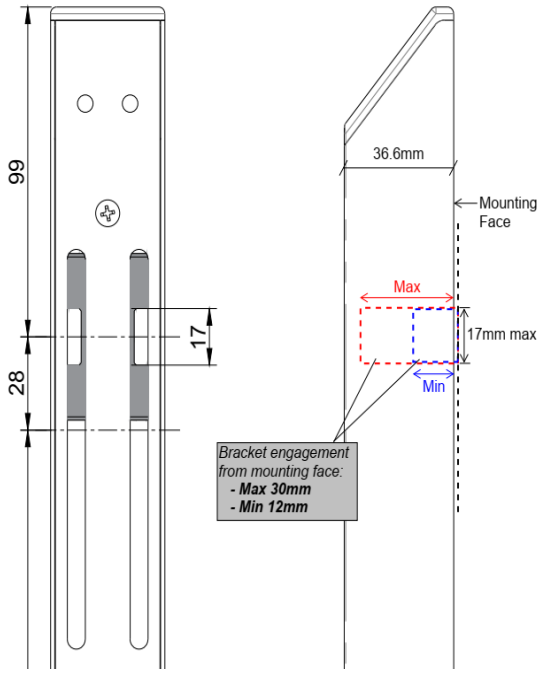


Figure 1 - Max/Min engagement with the bracket

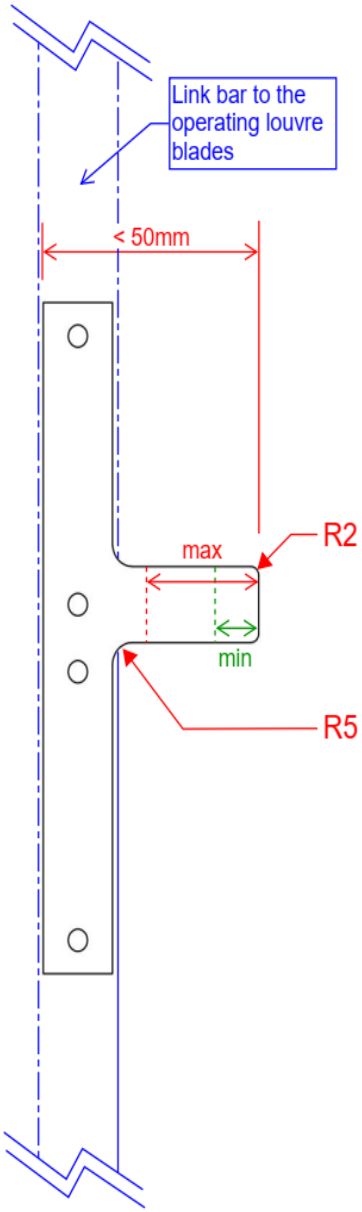
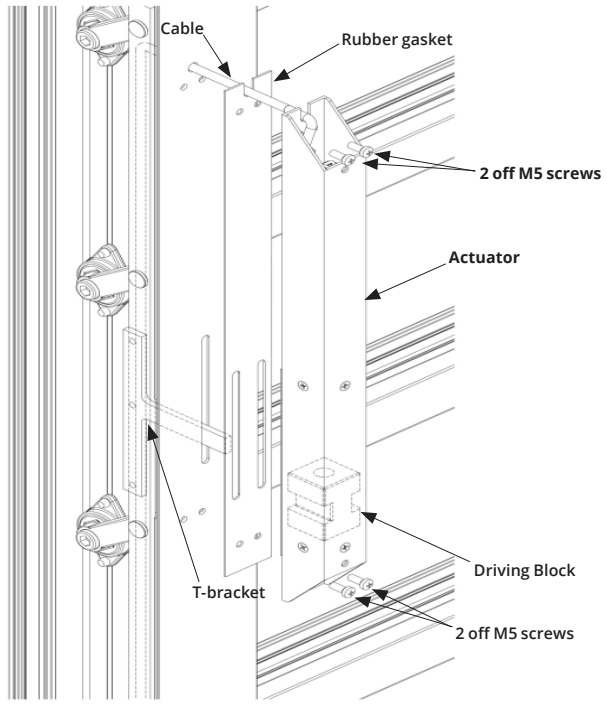
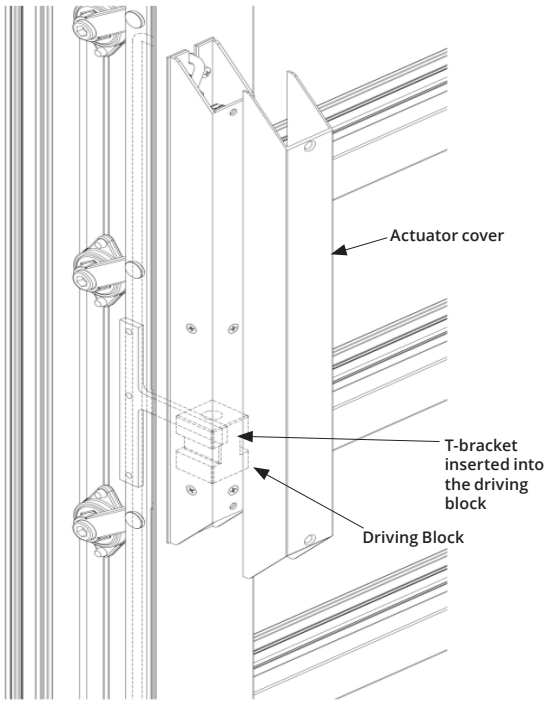
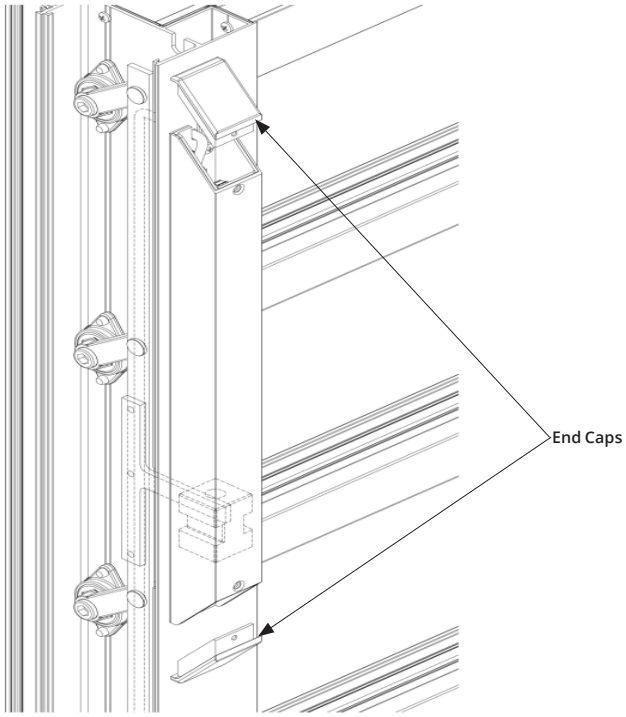


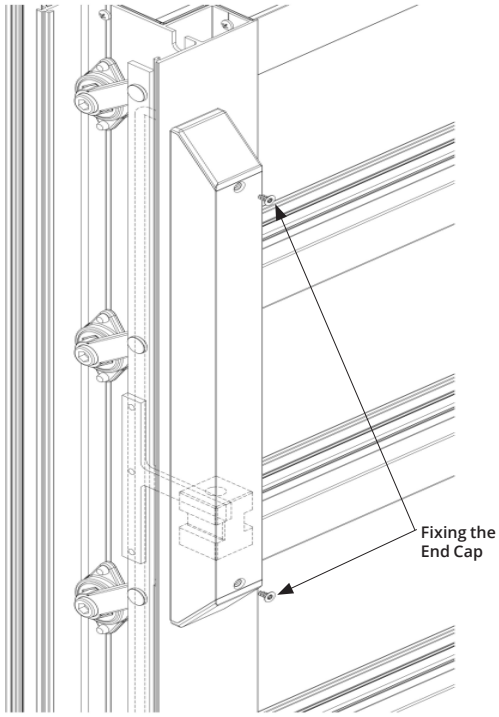
Figure 2 - Example of the bracket

3. Installation Guide, continued.





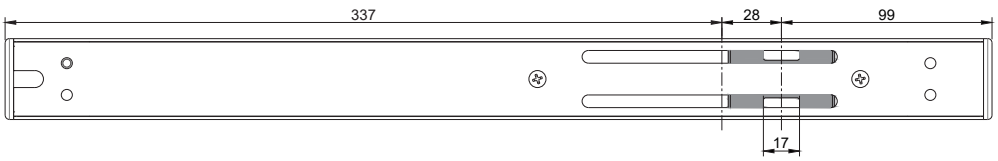


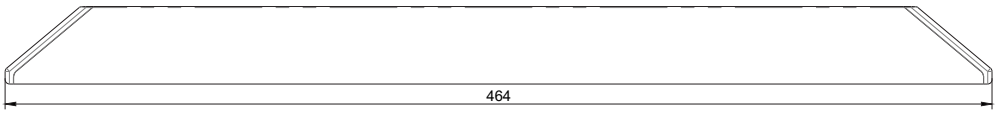


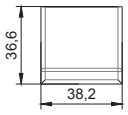
3.4 Installation Stages

1. Pre-drill a hole in the mullion using an appropriate drill following the specification outlined in **Section 3.2.**
2. Use an M5 Rivnut on the mullion.
3. Ensure that the T-bracket is inserted correctly into the driving block.
4. Use M5 screws to secure the actuator in place.
5. Pass the actuator cable through the mullion.
6. Connect the cable to the terminal block on the PCB. **Refer to Section 5, Figure 5.1.**
7. Secure the cable using a cable tie. Refer to **Section 5, Figure 5.2.**.
8. Refer to **Section 5, Figure 5.3** for guidance on termination details.
9. Power the actuator and check the louvre operates correctly.
10. Close the cover and fix the end caps using the screws provided.
11. Fix the cover using the screws provided.

4. Technical Drawing







Overall H36.6 x W38.2 when powder coated extrusion is fitted.

All dimensions in millimetres
The AutoCAD drawing for this product can be found at www.secontrols.com

5. Connectivity and Wiring

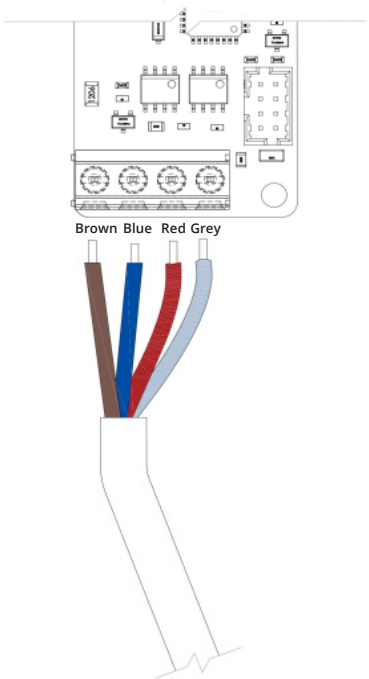


Figure 5.1

Connect the cable to the terminal block on the PCB

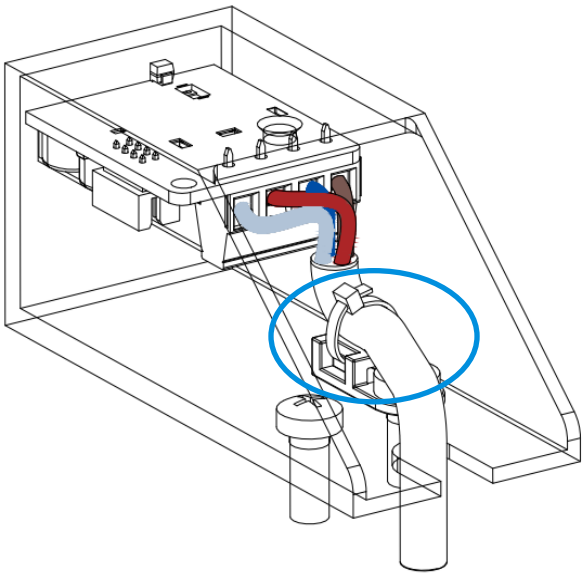


Figure 5.2

Secure the cable using a cable tie

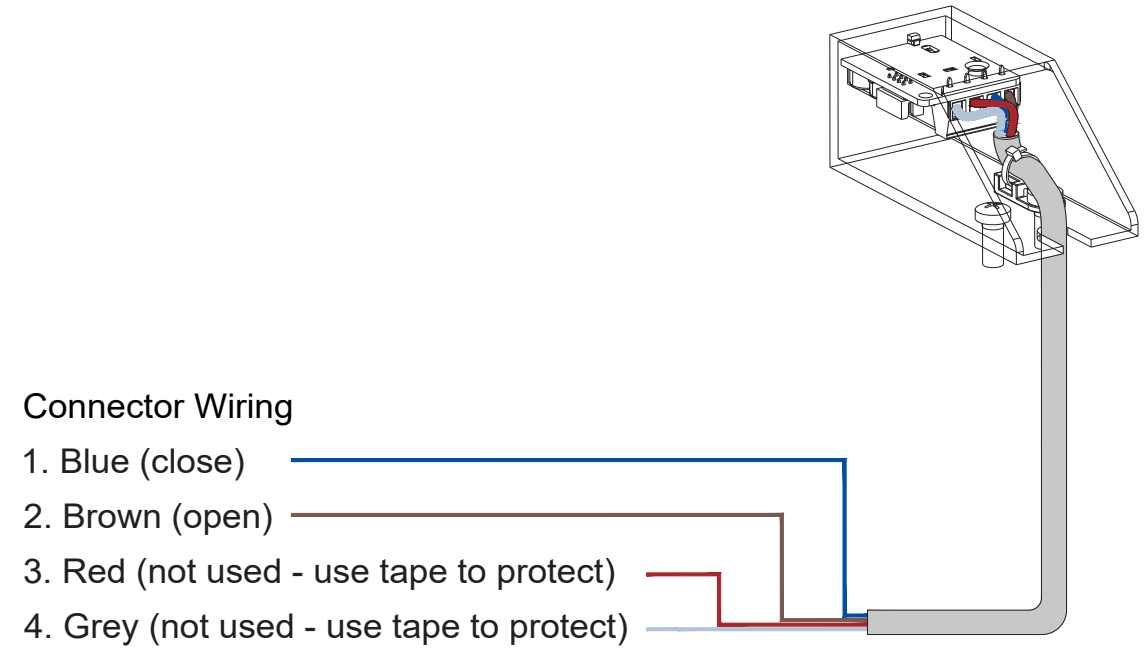


Figure 5.3

Termination Detail

6. Fault Finding

Issue	Action
The actuator is not responding due to a lack of power.	**Check the voltage:** Make sure the actuator is supplied with the appropriate operating voltage. The SELD 24 100 generally functions at 24 V dc ((±15%); 15%); verify that the power supply is consistent. **Check for power interruptions:** Check the wiring for loose connections, damaged wires, or any circuit breakers that may have been activated. **Check the power supply:** In cases where the voltage is low or varies, the power supply may need to be repaired or replaced.
The actuator operates slowly or fails to move.	**Pay attention to the motor sound:** While the actuator is functioning, you should detect a subtle hum or motor noise. If there is no sound or you hear clicking, it may indicate that the motor is damaged. **Monitor for overheating or overloading:** Should the actuator be warm when touched, it might be experiencing overheating from excessive use or a blockage in its system. Allow it to cool down and confirm that the surrounding environment has proper airflow.
There is a mechanical blockage or the actuator is not functioning correctly.	**Check for obstructions:** Assess the actuator and the associated louvre mechanisms for any debris, foreign objects, or other impediments that may hinder movement. **Check for adequate lubrication:** Confirm that all moving components are sufficiently lubricated and free of rust or corrosion. **Check the linear guide rails:** Make sure the rails or tracks are free from dirt, clear of obstructions, and properly aligned.
Inability to provide position feedback status (for Volt-Free Contact version)	**Confirm the integrity of the feedback wiring:** Ensure that the wiring for the position feedback signal is properly connected and undamaged. **Test actuator travel:** In cases where the actuator does not move to the intended position, conduct a manual inspection to ensure that it physically reaches the defined limits and that the position sensor is functioning correctly.
The actuator operates sluggishly or experiences stuttering when under load.	**Check the louvre:** Make sure the louvre, is not excessively heavy or challenging to operate. An overly heavy load may put undue stress on the actuator, leading to reduced movement speed or potential failure. **Inspect the louvre mechanism:** Verify that the louvre is free from any obstructions or seizing, as this could lead to increased resistance and put additional strain on the actuator.
Problems remain unresolved after completing the above stages.	**Contact the supplier** If you've gone through all the checks and the actuator is still malfunctioning, contact the SE Controls Technical Support for assistance at technical.support@secontrols.com

SE CONTROLS

Creating a healthier & safer environment

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