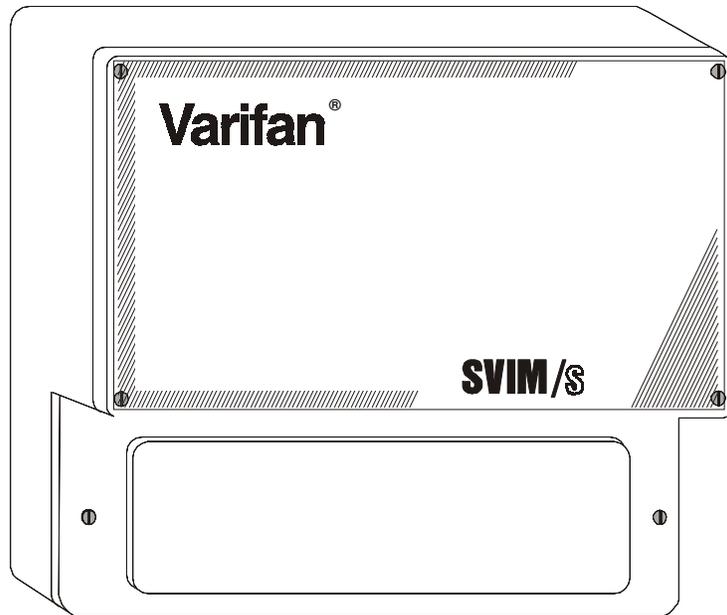


SVIM/S

User's Manual



Although the manufacturer has made every effort to ensure the accuracy of the information contained herein, this document is subject to change without notice due to ongoing product development.

WARNING AND PRECAUTIONS

Equipment, probe failure, blown fuses and/or tripped breakers may prove harmful to the contents of the building. Therefore it is strongly recommended to install backup devices and alarm or warning devices. Spare equipment should also be available at the owner's site. Equipment manufactured by the manufacturer is protected against normal line surges. High surges caused by thunder storms or power supply equipment may damage this equipment. For added security against line voltage surges it is recommended that surge and noise suppression devices be installed at the electrical distribution panel. Use of shielded cable for probes is recommended for protection against lightning. These devices are available from most electrical supply distributors.

RECOMMENDATIONS

The manufacturer recommends that all installation procedures described herein be performed by a qualified electrician or installation technician. Further more the manufacturer recommends to test all the functions and equipment connected to the SVIM/S, including the alarm system and backup devices, after installation, after changes to the installation and every month after that.

Fuse verification and replacement, as well as the proper setting of control values remain the responsibility of the owner of this equipment.

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1. GENERAL

This document provides you the necessary information to install and operate the SVIM/S. The document is presented as follows:

- Introduction
- Installation
- Appendix

1.1 DESCRIPTION

The SVIM/S is a positioner which controls motorized air inlets. The SVIM/S is connected to a master control to position an air inlet according to the ventilation requested.

The SVIM/S can control two different types of air inlet actuators: with or without feedback potentiometer.

- With feedback potentiometer: The positioning is controlled by the feedback potentiometer which delivers a more precise positioning.
- Curtain time positioning (time mode): This method is used when the air inlet system does not have a feedback potentiometer. The time mode positioning uses the the travelling time of the curtain to evaluate its position.

Calibration

The SVIM/S has a calibration function very simple to use. The calibration allows the unit to establish its own position references during installation. The calibration feature is commanded by the master control.

User's Settings

The SVIM/S is easy to use; most settings are automatically set by the master control. Refer to the master control documentation for more details.

Security

The SVIM/S has several security features. In case it loses communication with the master control, the SVIM/S is able to operate autonomously the air inlet by using its own temperature probe.

INTRODUCTION

The SVIM/S is also able to detect problems associated with irregular feedback from a problematic potentiometer. If it happens the SVIM/S switches to time mode, thus allowing normal operation until the problem is solved.

2.1 UNPACKING

Unpack the SVIM/S from its box and inspect contents for damages. Should the contents appear to be damaged, contact your distributor for return procedures.

The package should contain the following standard items:

- 1 SVIM/S module
- 2 fuses
- 1 temperature probe (part # 2004-5k/sv)
- 1 user's manual

2.2 INSTALLATION

The manufacturer recommends that the following installation instructions be observed very carefully, and that all the work be performed by a certified electrician. Failure to comply may void the warranty!

- Use a screwdriver to remove the faceplate and the power compartment's cover.
- Once both faceplates are off, install the mounting screw on the wall and install the unit on it.
- Secure the SVIM/S in place using the bottom mounting holes.

Mounting hardware is not included with the unit.

INSTALLATION

To limit the unit's exposure to noxious gases install it in a hallway.

Make sure the unit is properly installed, that is, side up with the cable entry holes facing down.

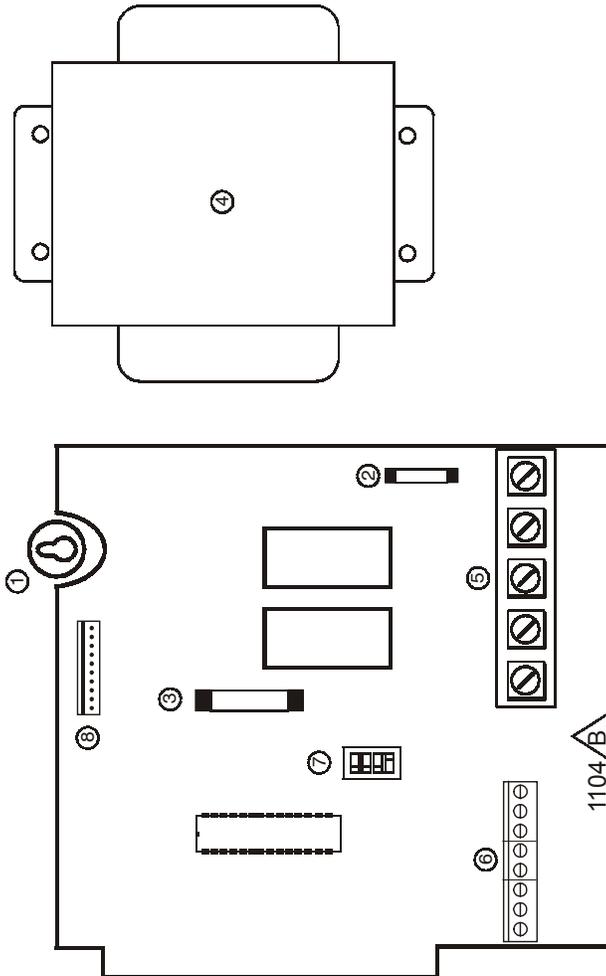
The SVIM/S will operate in a temperature range of 32°F to 120°F (0°C to 50°C).

The enclosure is watertight, it is not splash-proof or immersion-proof. **DO NOT USE PRESSURIZED WATER** on the control. Cover it carefully with plastic before cleaning the room. Also, **DO NOT** drill additional holes in the enclosure.

Install in an area protected from sunlight.

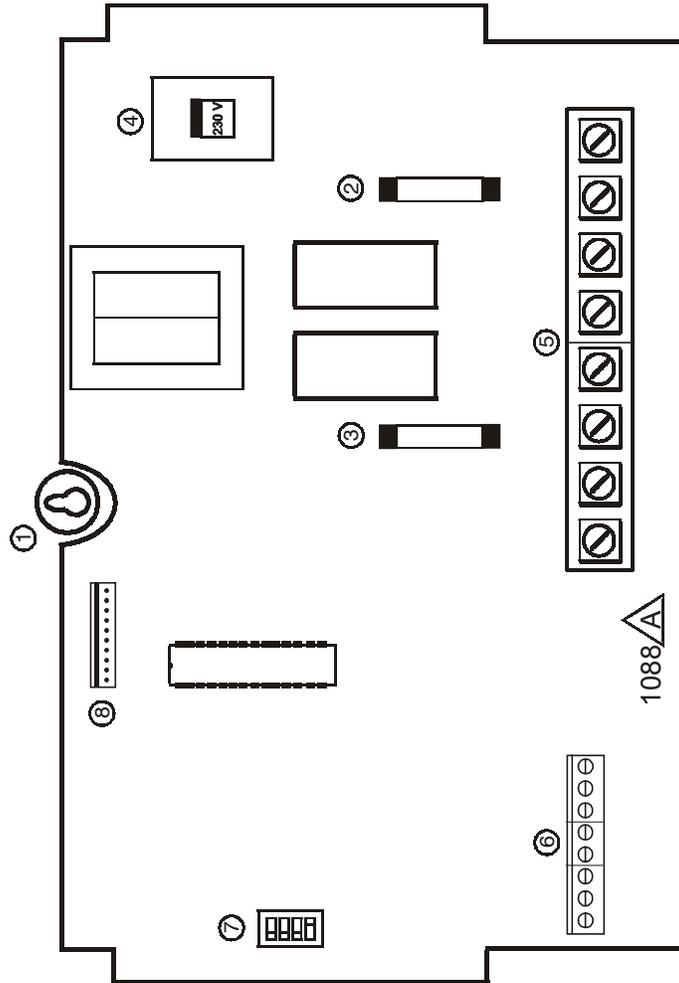
It is prohibited to use overhead cables outside the building.

Fig.1 24 Volts Model Main Board View



1. Mounting hole
2. 1.5A 250V fuse
3. 3A 250V slow blow fuse
4. Line voltage selector switch
5. Power source terminal
6. Input terminal
7. Mini-DIP switch
8. Flat cable connector

Fig.2 110 Volts Model Main Board View



1. Mounting hole
2. 0.125A slow blow fuse
3. 5A slow blow fuse
4. Line voltage selector switch
5. Power source terminal
6. Input terminal
7. Mini-DIP switch
8. Flat cable connector

2.3 CONNECTION PROCEDURE

2.3.1 Cabling

Use a screwdriver to remove cable knock-outs for the installation of cabling to the control panel.

2.3.2 Connecting a Unit

Refer to figures 3 and 4 for standard actuators, to figure 5 for actuators using a Hired Hand switch box (PVR-2) or to figure 6 for a 3 phase actuator.

It is prohibited to use overhead cables outside the building

Note: It is recommended to use the actuator on the longest travel time possible to obtain maximum accuracy in the curtain's positioning.

Some actuators have a maximum functioning time. The calibration must be done within the maximum time, in order to avoid overheating motors.

The maximum actuator travel time (opening or closing) must not exceed 45 minutes.

2.3.3 Connecting to the Master Control

CAUTION: It is recommended to use an air inlet system where the motor is able to work without overheating.

Remember that a bad connection of the cables / pulley between the actuator and the curtain influences the accuracy of the curtain's positioning.

- Install a #22 AWG shielded cable between the SVIM/S and the master control. The cable can extend to a maximum length of 750 ft (230M).
- Connect one end of the cable to the (+) and (-) terminals of the SVIM/S low voltage terminal block. Refer to figures 1 and 2.

2.3.4 Connecting to a Feedback Potentiometer

If a feedback potentiometer is used:

ACTUATOR CONNECTION

Note : the wire connecting the SVIM/S and the actuator can not be longer than 200 ft (60M) and must have a minimum capacity of AWG # 16. It is also recommended to select the better wire depending on the installation. For example, when the distance is too long or the actuator has a strong current, you need to use a bigger conductor, in order to avoid voltage drops.

- Connect the two potentiometer wires to the SVIM/S two terminals indicated as POT on the left hand terminal. Refer to figures 1 and 2.
- Connect the common potentiometer wire to the terminal GNA.
- Connect the other wire to the terminal POT.

Note: The potentiometer's resistance value must increase when the air inlet opens.

2.4 SWITCH SETTINGS

2.4.1 Line Voltage Selector Switch (110 volts model only)

Refer to Figure 2

This switch is located on the surface of the main (bottom) board and adapts the control panel for 115VAC or 230 VAC line voltage.

230V
115V

2.4.2 Software Setting DIP Switches Refer to Figure 1 or 2

		OFF	ON
OFF	ON		
	1	Time	Potentiometer
	2	ID=1	ID=2
	3	Inside	---
	4	---	Control

These switches are located on the bottom main board and adjust the following options:

- Switch 1:** Set to ON if a feedback potentiometer is used. Set to OFF if time mode is used.
- Switch 2:** Channel selector: **When 2 SVIM/S's must be used on the same configurable control port (with the appropriate configurations), each #2 dipswitch must be set at different positions.**
- Switch 3:** Determines the SVIM/S's temperature probe location. Only the inside mode is used.
- Switch 4:** Selects the appropriate operating parameters. Only the control mode is use.

2.5 POWERING UP AND CALIBRATION

Before powering up the SVIM/S, attach the faceplates to the casing of the control panel using the screws previously removed.

The SVIM/S has to be calibrated the first time it is started. This calibration enables the SVIM/S to evaluate the maximum and minimum positions of the curtain / inlet.

To activate the calibration to see the user guide of the master control.

Calibration process, consisting in the 8 following operations, begins:

- 1 Inlet closes completely to set minimum position
- 2 Inlet opens completely to set maximum position
- 3 Cooling delay PAUS (if activated)
- 4 Inlet closes once again
- 5 Cooling delay PAUS (if activated)
- 6 Inlet opens in steps
- 7 Cooling delay PAUS (if activated)
- 8 Inlet closes in steps

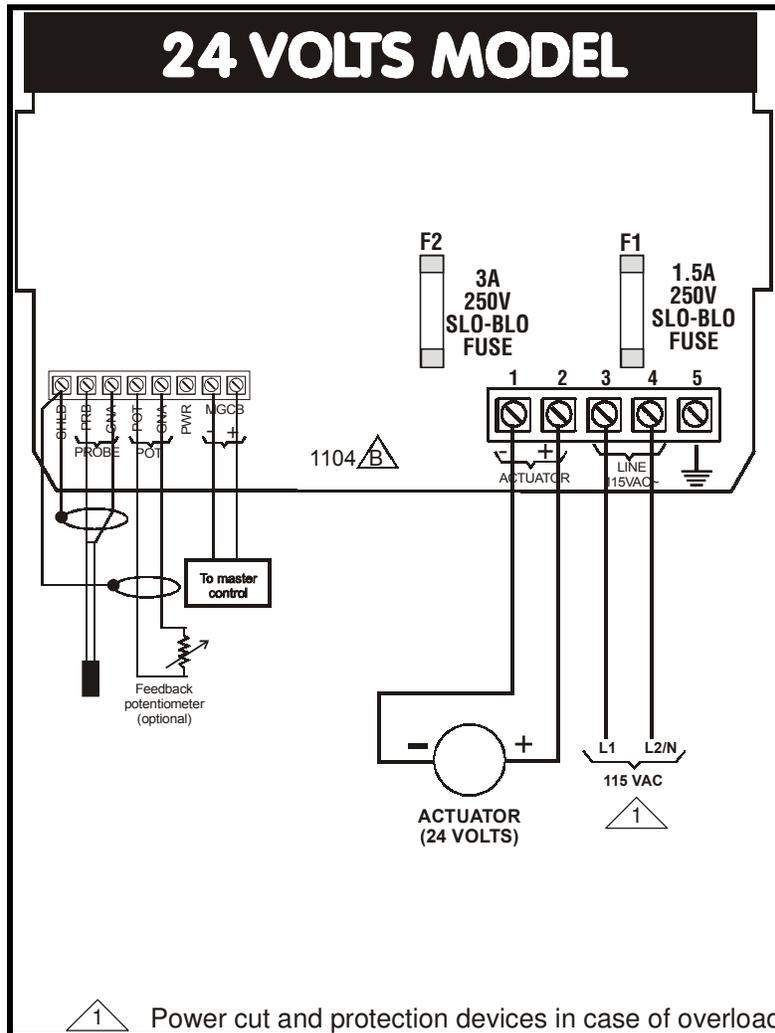
Once the process is successfully completed, the SVIM/S is ready for normal operation.

How to calculate the calibration:

Calculate the time needed by the actuator to completely open (in minutes) and complete the following calculation:

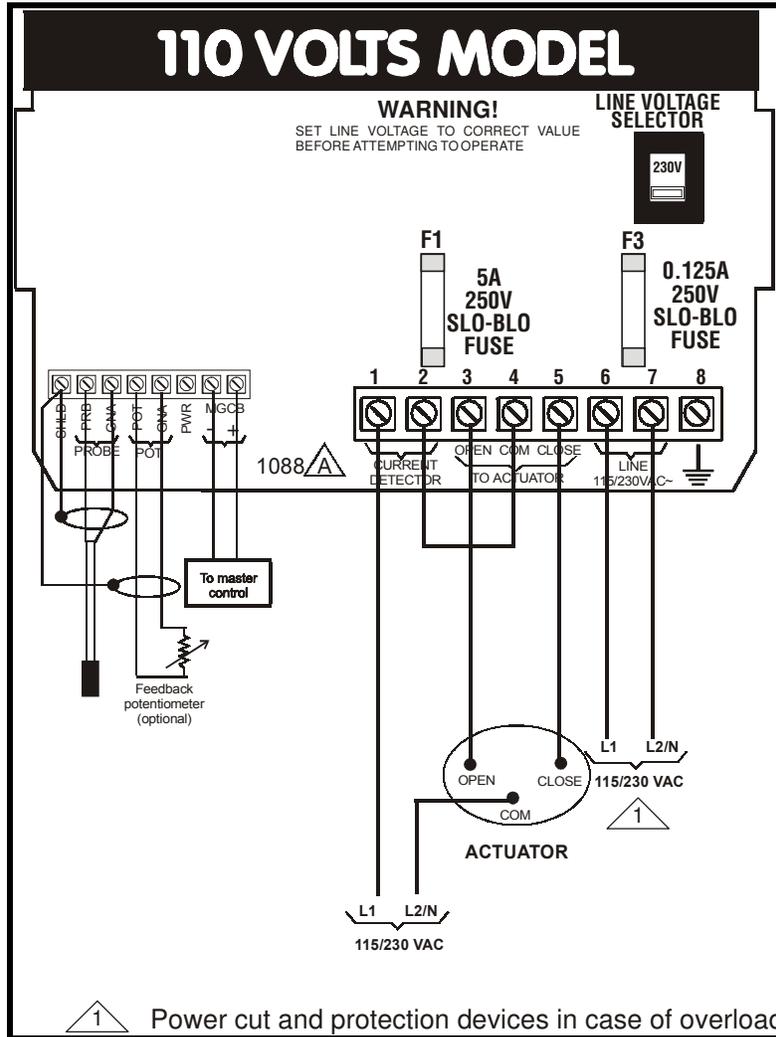
$$\begin{aligned} & \text{(Opening time x 4)} && \text{_____minutes} \\ + & \text{(Parameter PAUS setting time delay x 3)} && + \text{_____minutes} \\ = & \text{Calibration total time} && = \text{_____minutes} \end{aligned}$$

Fig.4 24 Volts Wiring Diagram



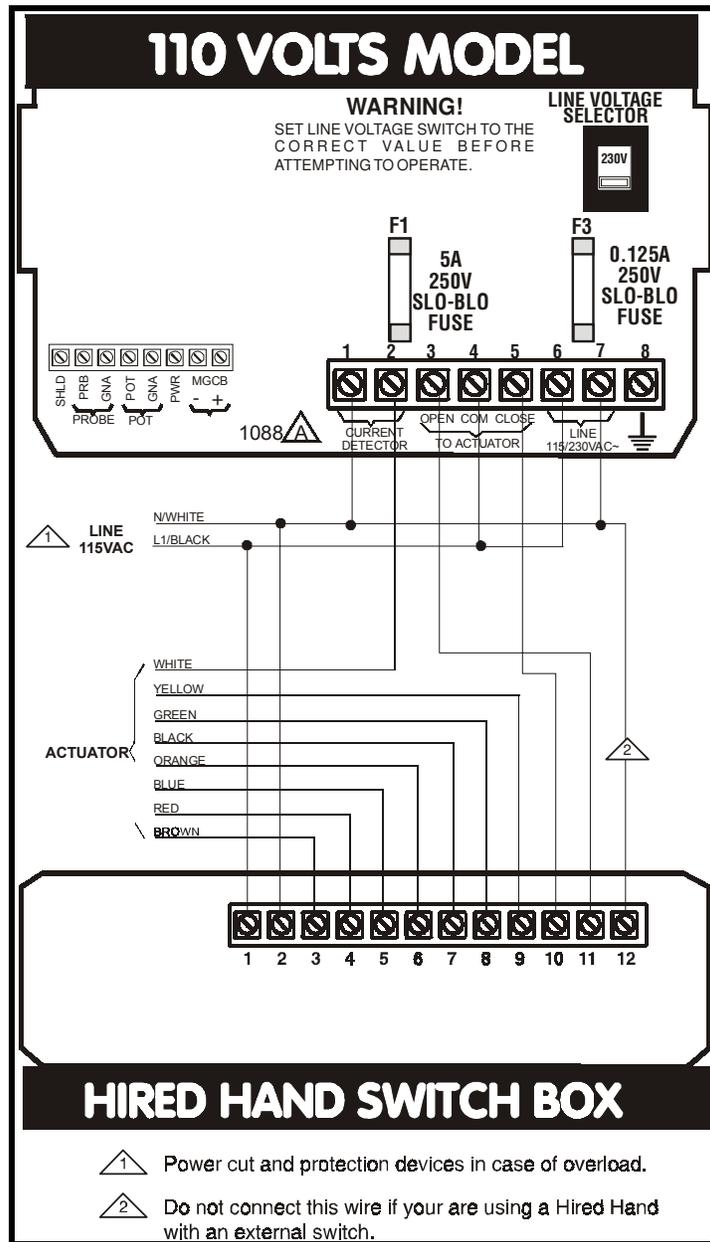
Do not apply power to the control panel until all connections have been completed. The current draw of the load should be in the range of 100mA to 2.5A when it is activated.

Fig.4 110 Volts Wiring Diagram



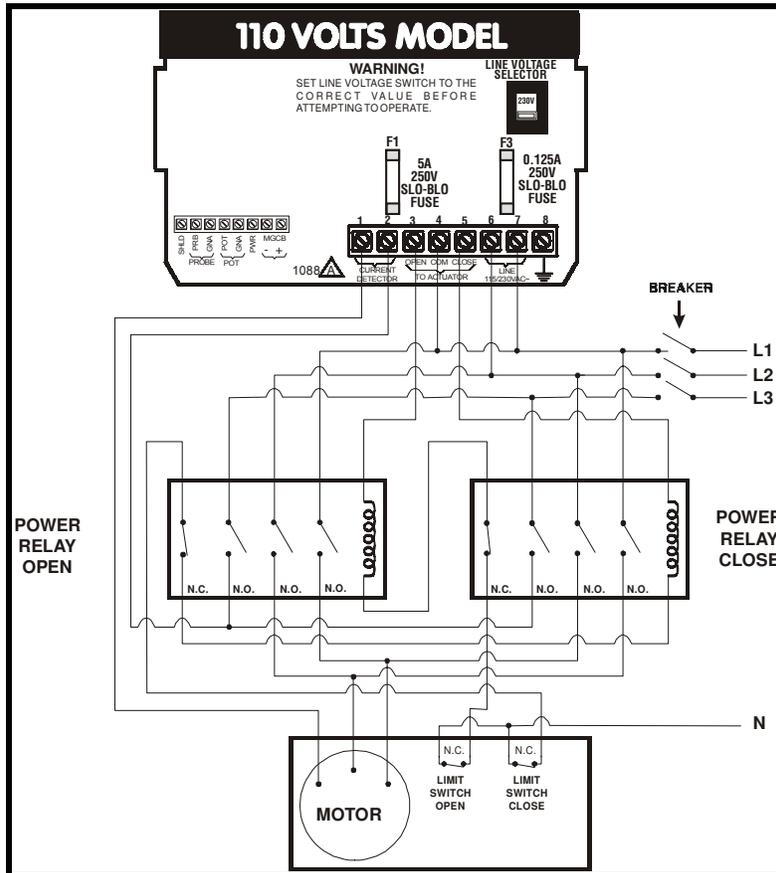
Do not apply power to the control panel until all connections have been completed. The current draw of the load should be in the range of 100mA to 5A when it is activated. Set the voltage switch inside the SVIM/S to the correct value before power up.

Fig. 5 Connection of actuator motor with HIRED HAND (PVR-2) switch box.



INSTALLATION

Fig. 6 Connection of actuator motor with a 3 phase motor



2.6 SAFETY FEATURES

A few additional safety features have been added to the SVIM/S so livestock is less affected during extraordinary situations.

2.6.1 Stand-Alone Operation

The stand-alone operation of the SVIM/S can provide safe operation during control failure. With their own temperature probe, each SVIM/S can control the inlet position according to ambient temperature.

2.6.2 Potentiometer Failure Detection

If the feedback potentiometer is defective, the SVIM/S automatically switches to time mode, thus allowing normal operation until the problem is solved.

2.6.3 Actuator Jam

In the event of a curtain jam, the master control is immediately informed and takes the appropriate action.

APPENDIX

SPECIFICATIONS (24 volts model)

Description	Value
Power Consumption	90 W max.
Power Source	115 VAC 50/60Hz, -20%, +10 %
Current Detector	2.5 Amps. max.

Storage temperature range: -22 to 130°F (-30 to 55°C)

Operating temperature range: 32 to 122°F (0 to 50°C)

Temp. range read by probe: -3.5 to 121°F (-19.5 to 49.5°C)

Weight: 5 lb (2.25 kg)

Size: 8 ¼ X 8 X 3 ¾ in (21.3 X 20.3 X 9.5 cm)

Standards: CSA & NRTL

Fuse F2: 3A, 250V, Slow Blow

Fuse F1: 1.5A, 250V

Operating range of the SVIM/S current detector

- When **OFF**, the actuator current draw must be under 1 mA.
- When **ON**, the actuator current draw must be between 100mA and 2.5 A.

SPECIFICATIONS (110 volts model)

Description	Value
Power Consumption	12 W max.
Power Source	115/230 VAC, 50/60Hz, -20%, +10 %
Output (relays)	115/230 VAC, 10 Amps.
Current Detector	5 Amps. max.

Storage temperature range: -22 to 130°F (-30 to 55°C)

Operating temperature range: 32 to 122°F (0 to 50°C)

Temp. range read by probe: -3.5 to 121°F (-19.5 to 49.5°C)

Weight: 2.4 lb (1.1 kg)

Size: 8 ¼ X 8 X 3 ¾ in (21.3 X 20.3 X 9.5 cm)

Standards: CSA & NRTL

Fuse F1: 5A, 250V, Slow Blow

Fuse F3: 0.125A, 250V

Operating range of the SVIM/S current detector

- When **OFF**, the actuator current draw must be under 1 mA.
- When **ON**, the actuator current draw must be between 100mA and 5 A.

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WARRANTY

Limited Warranty

The manufactured equipment and supplied components have gone through rigorous inspection to assure optimal quality of product and reliability. Individual controls are factory tested under load, however the possibility of equipment failure and/or malfunction may still exist.

For service, contact your local retailer or supplier. The warranty period shall be for two years from manufacturing date. Proof of purchase is required for warranty validation.

In all cases, the warranty shall apply only to defects in workmanship and specifically exclude any damage caused by over-voltage, short circuit, misuse, acts of vandalism, fortuitous events, acts of God, flood, fire, hail, lightning or any other natural disaster. Any unauthorized work, modification or repair on this product automatically voids the warranty and disclaims the manufacturer from all responsibility.

The manufacturer assumes only those obligations set forth herein, excluding all other warranties or obligations. This warranty stipulates that in all cases the manufacturer shall be liable only for the supply of replacement parts or goods and shall not be liable for any personal injury, damages, loss of profits, interrupted operations, fine contravention of the law or damages to the production of the PURCHASER and the PURCHASER shall take up the defense and hold the manufacturer faultless regarding any legal or extra legal proceedings, notice, or claim by the customer or by a third party, and regarding any legal and extra legal expenses and fees brought forward on by such damages.

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