SECURITRON
ASSA ABLOY

Securitron Magnalock Corp. www.securitron.com
Tel 800.624.5625 techsupport@securitron.com
ASSA ABLOY, the global leader in door opening solutions

INSTALLATION AND OPERATING INSTRUCTIONS
Fail Safe UnLatch FSUNL Series

1. INTRODUCTION

Securitron's FSUNL-12 and FSUNL-24 are designed to work in conjunction with the UnLatch family of products (UNL Series or MUNL Series). When interfaced with any UnLatch device the FSUNL will allow the user to select specifically between "Fail Safe" or "Fail Secure" operation.

2. SPECIFICATIONS

Enclosure dimensions: 8"x6"x3" (inches) - Jumper selectable Fail Safe or Fail Secure operation.

Inrush current on power up:
- 1.45Amps for 3 seconds at 12VDC
- 1.2Amps for 3 seconds at 24VDC

Standby current:
- 90mA @ 12VDC at rest
- 140mA @ 24VDC at rest

Voltage Threshold: 12VDC
- Fail safe latch release @ 9.8VDC
- Fail safe latch re-secure @ 10.8VDC

Voltage Threshold: 24VDC
- Fail safe latch release @ 20VDC
- Fail safe latch re-secure @ 22.5VDC

3. RECOMMENDED TOOLS

- Standard and Phillips Screwdriver
- Crimping Tool and Connectors
- Wire Stripper
- Drill Motor (optional)
- Digital Multi-Meter or Volt Ohm Meter

4. INSTALLATION INSTRUCTIONS

The FSUNL should be mounted indoors in an area protected from tampering (i.e. electronics closet or above the drop ceiling at the opening) if possible. The board and enclosure can also be surface mounted to the wall above the opening. For the most attractive surface installation the cabling to the device should be run through the wire access port on the back of the enclosure right into the wall. If this is inconvenient, or esthetics is not a concern the knock out on either side of the enclosure (cover) can also be used.

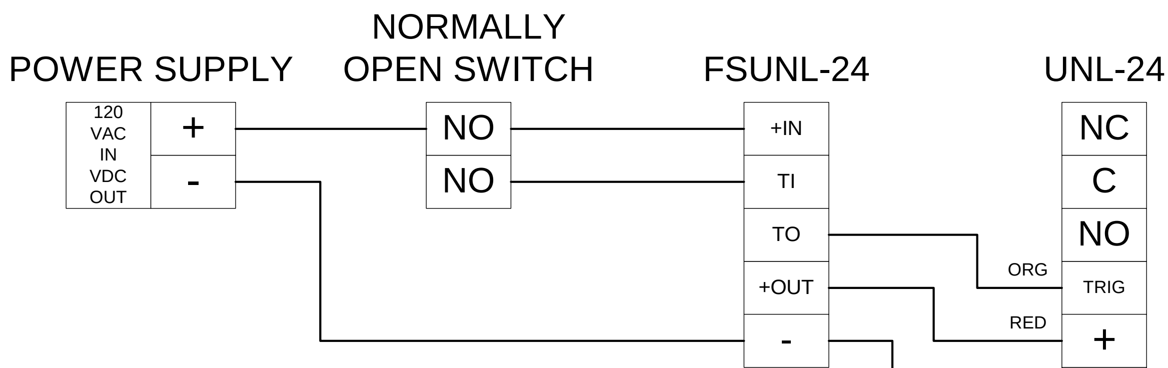
5. OPERATIONAL INSTRUCTIONS

Once wired, as shown in the diagram below, the FSUNL will operate in the following manner: 1) If the jumper selector is set to Fail Safe operation and the power to the system is lost the capacitor energy reservoir will discharge and the trigger input on the UNL/MUNL will be initiated driving the device through it's cycle to the point were the door is unlocked. 2) If the jumper selector is set to Fail Secure and power to the system is lost the capacitor energy reservoir will discharge and the trigger input on the UNL/MUNL will be initiated driving the device through it's cycle to the point were the door is locked.

Definition of terminal strip:

- +IN = Positive 12 or 24VDC continues input
- TI = Trigger input from external switch
- TO = Trigger out to UNL
- +OUT = Positive 12 or 24VDC continues to UNL
- - = Negative 0VDC continues reference

Basic Wiring Diagram (Example24V):



WARNING CAPACITOR SHOCK HAZARD!

PN# 500-19200
Rev. G, 08/11

5.1. WIRE GAUGE SIZING

If the power supply is at a distance from the device, voltage will be lost (dropped) in the connecting wires so that the unit will not receive full voltage. The following chart shows the minimum wire gauge that will hold voltage drop to an acceptable 5% for different device to power supply distances. Proper use of the chart assumes a dedicated pair of wires to power each unit (no common negative). Note that a device operating on 24 volts is a much better choice for long wire runs as it has 4 times the resistance of a 12 volt installation. Also note that the correct calculation of wire sizing is a very important issue as the installer is responsible to insure that adequate voltage is supplied to any load. In multiple unit installations, the calculation can become quite complex so refer to Section 7 Appendix A for a more complete discussion.

Distance	Gauge 12V	Gauge 24V	Distance	Gauge 12V	Gauge 24V
80 FT	20 GA	24 GA	800 FT	10 GA	16 GA
200 FT	17 GA	22 GA	1500 FT	8 GA	14 GA
400 FT	14 GA	20 GA	3000 FT	N/A	12 GA

CALCULATING WIRE GAUGE SIZING - The general practice of wire sizing in a DC circuit is to avoid causing voltage drops in connecting wires that reduce the voltage available to operate the device. As the FSUNL is a very low power device, it can be operated long distances from its power source. For any job that includes long wire runs, the installer must be able to calculate the correct gauge of wire to avoid excessive voltage drops.

This is done by taking the current draw of the lock and multiplying by the resistance of the wire I x R = Voltage drop (i.e. 0.100A x 10.1 Ohms = 1.01 Volts dropped across the wire). For all intents and purposes it can be said that a 5% drop in voltage is acceptable so if this were a 24 Volt system (24 Volts x .05 = 1.2 Volts) a 1.01 Volt drop would be within tolerance.

To calculate the wire resistance, you need to know the distance from the power supply to the FSUNL and the gauge (thickness) of the wire. The following chart shows wire resistance per 1000 ft (305 meters):

To calculate the wire resistance, you need to know the distance from the power supply to the FSUNL and the gauge (thickness) of the wire. The following chart shows wire resistance per 1000 ft (305 meters):

Wire Gauge	Resistance/1,000 ft	Wire Gauge	Resistance/1,000 ft
8 Gauge	.6 Ohms	16 Gauge	4.1 Ohms
10 Gauge	1.0 Ohms	18 Gauge	6.4 Ohms
12 Gauge	1.6 Ohms	20 Gauge	10.1 Ohms
14 Gauge	2.5 Ohms	22 Gauge	16.0 Ohms

6. MAGNACARE® LIFETIME REPLACEMENT WARRANTY

For warranty information visit: www.securitron.com/en/site/securitron/About/MagnaCare-Warranty/