

# Installation/Operating Instructions

## AeroLift 50/150 by Draper

### Caution:

- ① Read instructions completely before proceeding. Follow instructions carefully. Installation contrary to instructions invalidates warranty.
- ② Do not obstruct operation of AeroLift 50/150 with fingers or any other object. Serious injury or damage could result.
- ③ It is not uncommon to overheat the motor during initial installation when setting limits. The motor is thermally protected and will stop working. Once it has cooled to a safe temperature, it will begin operating again.
- ④ The AeroLift 50 and 150 are designed to accommodate ceiling suspended equipment. Equipment should not be allowed to rest on ceiling closures during operation (see "Installing Projector").
- ⑤ Entire bottom of unit must be unobstructed to permit proper operation.
- ⑥ Unit must be installed level (use a carpenter's level).
- ⑦ Unit operates on 110-120V AC 60 Hz. current.

**Note:** Unit has been thoroughly inspected and tested at factory and found to be operating properly prior to shipment.

### Planning

- ① Based on screen location and projector specifications, determine proper position for projector installation.
- ② Confirm that there is adequate space for installation and operation. Minimum clearance above ceiling level varies according to height of projector, projector mounting bracket, optional ceiling closure and optional plenum housing.
- ③ Arrange to provide service access to the unit.
- ④ Total maximum capacity of AeroLift 50 is 50 lbs.; capacity for AeroLift 150 is 150 lbs. (including closure, projector and bracket).

### As Soon As AeroLift Arrives

- ① Open carton and inspect for damage.
- ② Locate the following parts:
  - A. The unit itself
  - B. Controls
  - C. Any optional equipment
- ③ Test lift **prior to installation**.

### Hanging Unit

The AeroLift is provided with four (4) mounting angles for suspending or direct mounting the unit from above, or direct mounting from the sides. These angles provide up to 1½" of adjustment (side to side). The unit should be guy wired or blocked to prevent swinging. All installations should observe the following guidelines:

- ① Installer must ensure that all fasteners and supports are of adequate strength to securely support AeroLift 50/150 and projector. It is recommended that hardware structure be able to hold at least four times the combined weight of the lift, projector, plenum, closure and ceiling material attached to closure.
- ② Fastening methods must be suitable for mounting surface, and securely anchored so vibration or abusive pulling on unit will not weaken installation.
- ③ Bottom of unit must be unobstructed after installation. Sufficient clearance must be allowed below projector or optional ceiling closure.
- ④ Do not use unit to support adjacent ceiling, light fixtures, etc.
- ⑤ Do not complete the ceiling below the unit until electrical connections have been completed and unit has been operated successfully.
- ⑥ Use slots on the projector plate and on the closure to adjust the unit to ensure proper alignment of ceiling closure relative to ceiling opening.

### Electrical Connections

Unit operates on 110-120V, 60 Hz. AC current. The AeroLift 50 and 150 are shipped closed, with a temporary field connection provided in the form of a pigtail temporarily wired to the unit. After hanging the unit, make sure power is off and use this pigtail to temporarily connect the unit to power and to a switch, so the unit can be lowered to allow access inside.

**Please note: Make sure electrical supply has been disconnected before attempting to connect AeroLift to electricity.**

Terminal strip for field connections is located inside a junction box on the end of the unit. Unit is shipped with internal wiring complete to the terminal strip. Once the unit has been lowered, **turn off power** and remove the J-box cover. The terminal strip is attached to the cover. Disconnect temporary pigtail from unit, then complete permanent wiring to electricity and to switches. Wire to connect unit to power supply and to switches should be furnished by installer. Connections should be made in accordance with wiring diagram, and wiring should comply with national and local electrical codes. All operating switches should be "off" before power is connected. AeroLift should be operated and checked prior to installing projector and/or optional ceiling closure.

### Operation

When unit is first operated, be cautious! If unit fails to operate when the switch is flipped "down", return switch to "off" and re-check electrical connections before proceeding. Cycle unit down and up several times to confirm satisfactory operation.

**110-120V Single Station Control**—3-position up-off-down switch permits operation to be stopped at any point. Factory adjusted limit switches automatically stop AeroLift when fully down or fully up.

**110-120V Multiple Station Control**—Switches are similar in appearance to 110-120V Single Station Control. AeroLift stops when switch is released and may be restarted in either direction. Factory adjusted limit switches automatically stop AeroLift when up or fully down.

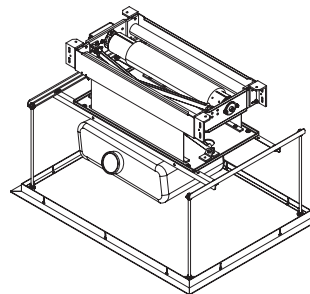
**24V Control**—Three-button up-stop-down switches stop at any point desired, operate in any sequence. Factory adjusted limit switches automatically stop AeroLift when fully up or fully down.

**Infrared or Radio Frequency Remote Control**—If ordered, a three-button transmitter is provided, with "up", "down" and "stop" buttons. Unit starts up or down when appropriate button is pressed, and may be stopped by pressing "off" button. Factory set limit switches stop unit automatically when projector is in "show" position. Multiple Station Control required for this option.

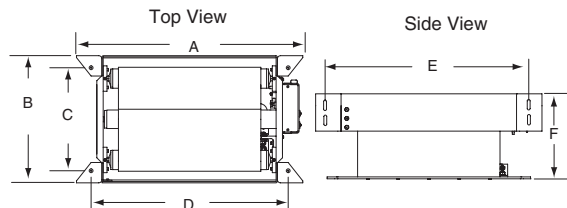
**RS232/Ethernet**—Serial communication and network communication optionally available with wall switches, RF or IR remote.

**Key Operated Switching**—Two kinds of key-operated switches are optionally available with this unit. ① The key-operated power supply switch controls power to the AeroLift 25 and switches. When it is "off", the switches will not operate lift. Key may be removed from the switch in either "on" or "off" position. ② A three-position key switch permits the AeroLift 25 to be operated directly by key. In this case, the screen's operator must always have a key.

**Please Note: As weight is applied to the AeroLift, the projector plate may shift slightly. If this occurs, use setscrews on bottom of fabric roller brackets to compensate for shift and level projector plate (see page 3).**



### AeroLift Mounting Hole Dimensions



Lift	A	B	C	D	E	F
AeroLift 50	28¼"	15"-13½"	10¾"-12¼"	26½"	26¾"	6¼"-38¼"
AeroLift 150	31¼"	14⅜"-17⅞"	11⅝"-13⅞"	29½"	29¾"	6¼"-38¼"

# DRAPER

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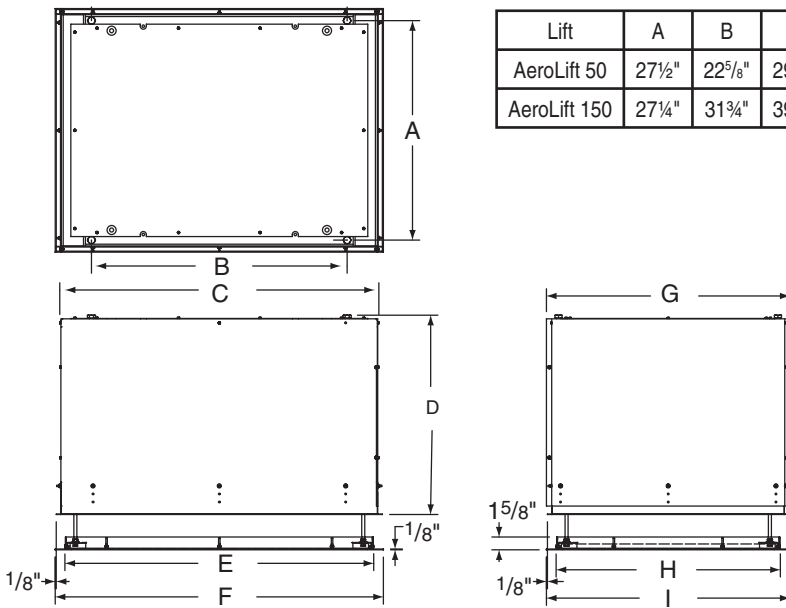
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Form AeroLift50-150\_Inst05-R

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If you encounter any difficulties installing or servicing your AeroLift 50 or 150, call your dealer or Draper, Inc. in Spiceland, Indiana, 765-987-7999, fax 765-987-7142 or e-mail draper@draperinc.com.

## Plenum Housing, Lift and Closure Panel Dimensions



Lift	A	B	C	D	E	F	G	H	I
AeroLift 50	27 $\frac{1}{2}$ "	22 $\frac{5}{8}$ "	29 $\frac{3}{8}$ "	22 $\frac{3}{4}$ "-24 $\frac{3}{4}$ "	28 $\frac{3}{8}$ "	30 $\frac{3}{4}$ "	30 $\frac{1}{2}$ "	28 $\frac{3}{8}$ "	30 $\frac{3}{4}$ "
AeroLift 150	27 $\frac{1}{4}$ "	31 $\frac{3}{4}$ "	39 $\frac{5}{8}$ "	24 $\frac{3}{4}$ "-26 $\frac{3}{4}$ "	38 $\frac{3}{8}$ "	40 $\frac{3}{4}$ "	30 $\frac{1}{4}$ "	27 $\frac{7}{8}$ "	30 $\frac{1}{4}$ "

### Installing Optional Plenum Housing

The Plenum Housing is shipped in pieces, and must be assembled by the installer. The height of the plenum can be adjusted by up to 2" (5 cm) by moving the trim frame to different mounting holes in side panels. It is recommended that an access panel be installed in the ceiling to allow future access.

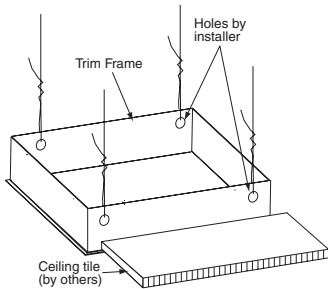
- ① Attach Plenum frame to top of AeroLift.
- ② Install top panel to plenum frame.
- ③ Attach assembly to overhead structure. Allow clearance between plenum top and structure for ease of future access.
- ④ Install side and end panels, and trim frame.
- ⑤ If installing a closure, see page 3.

### Installing Optional Ceiling Finish Kit

The AeroLift is available with a ceiling finish kit, which consists of the lower section of the plenum housing (trim frame) and the closure panel.

- ① Install AeroLift as previously described in these instructions.
- ② Install trim frame in opening. This can be accomplished by suspending with wire or mounting directly to ceiling joists (if space permits).
- ③ Install projector and attach optional ceiling closure panel to AeroLift (see page 3).

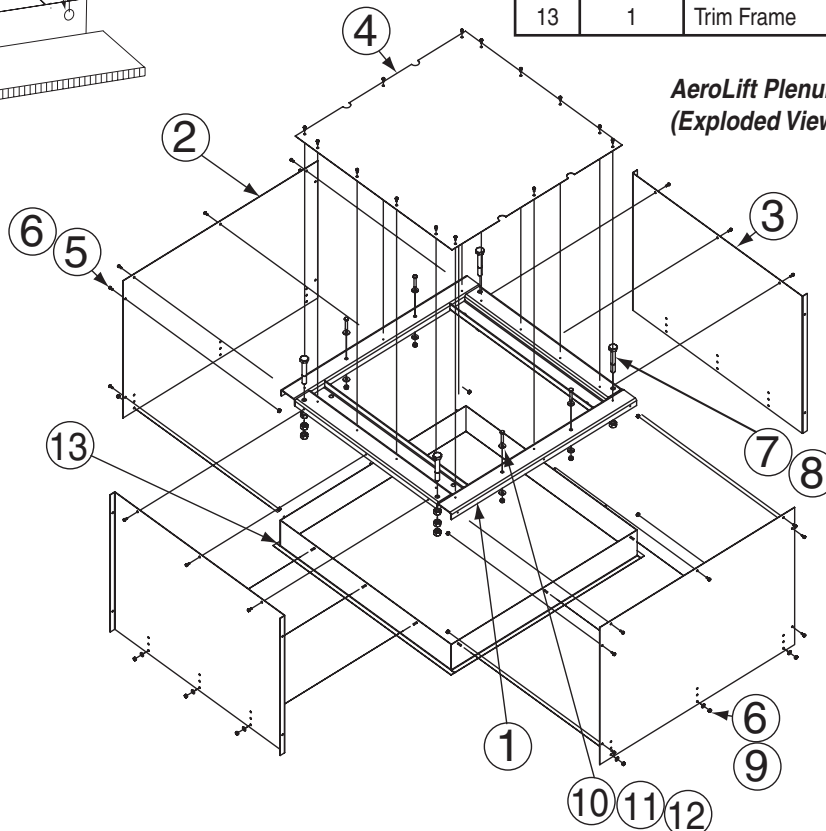
### Ceiling Finish Kit



### Parts List for AeroLift 50/AeroLift 150 Plenum

Item	Quantity	Part
1	1	Plenum Top Frame
2	2	Plenum End Panel
3	2	Plenum Side Panel
4	1	Plenum Top Panel
5	34	#10-32 x $\frac{3}{8}$ " Hex Head Screw with Zinc Washer
6	20	#8-32 Zinc Keps Lock Nut
7	4	$\frac{1}{2}$ "-13 x $3\frac{1}{2}$ " Zinc Hex Head Screw
8	12	$\frac{1}{2}$ "-13 Zinc Hex Grd 2
9	12	$\frac{3}{16}$ " ID x 5" OD x $\frac{1}{16}$ " tk Flat Washer
10	4	$\frac{1}{4}$ "-20 x $1\frac{1}{2}$ " Zinc Hex Head Screw
11	8	$\frac{1}{4}$ " Flat Zinc Washer
12	4	$\frac{1}{4}$ "-20 Zinc Nylon Insert Lock Nut
13	1	Trim Frame

### AeroLift Plenum Housing (Exploded View)



### Installing Projector

Generally, the video projector should be suspended from the bottom pan according to projector manufacturer's instructions. Maximum available space for projector is 18 $\frac{3}{4}$ " x 25 $\frac{1}{2}$ " x height (depends on plenum housing height) (AeroLift 50) and 24 $\frac{3}{4}$ " x 35" x height (depends on plenum housing height) (AeroLift 150).

**The projector plate is not pre-drilled. When drilling initial holes for mounting projector, or if for any reason the hole placement must be changed, completely lower AeroLift before attempting to drill holes.**

Unit and projection system should be operated, checked and adjusted as necessary at this time (see below for limit adjustment procedures).

Video cables and/or power cord can be routed along the stabilizing arm. Cables must not interfere with lift operation.

**Warning:** Keep fingers & other objects away from ceiling closure panel when unit is operating. Serious injury or damage can result.

### Adjustments (see drawing at right)

**CAUTION:** Be sure all switches are in "off" position before adjusting limit switches. Always be prepared to shut lift off manually when new adjustment is being tested. Limit switches for the AeroLift are preset at the factory. The "Up" (closed) limit switch is set for fully closed. The "down" (show) limit switch is set for fully lowered. Once unit is in place, the "down" limit switch may need to be changed to stop the AeroLift closer to the ceiling (that is, to raise the "down" position). Limit switches are located on the end of roller, and are accessible by removing the cover of the junction box at the left end of the unit, using a  $\frac{5}{16}$ " Allen wrench. To adjust the limit switches, use a  $\frac{5}{32}$ " screwdriver/allen wrench.

**Caution:** It is not uncommon to overheat the motor during initial installation when setting limits. The motor is thermally protected and will stop working until it has cooled to a safe temperature before it will start operating again.

**Adjusting "Down" (show) position** — "Down" position may be adjusted by turning the white limit switch adjustment socket. Turning the socket clockwise will stop the AeroLift 25 closer to the ceiling. Turning it counter-clockwise will cause the lift to stop at a lower point.

**Adjusting "Up" (closed) position** — Because the "up" ("closed") position is preset at the factory, Draper does not recommend changing this position using the limit switch. The "up" position of the closure may be changed by changing the length of threaded rod (see instructions for closure installation below). If necessary, however, "up" position may be adjusted by turning the yellow limit switch adjustment socket. Turning the socket counterclockwise creates a higher, or more fully closed position. Turning it clockwise creates a lower "up" (closed) position.

**Caution:** Do not set limit switch so that the AeroLift motor is still running after the lift is closed. This could result in damage to the motor.

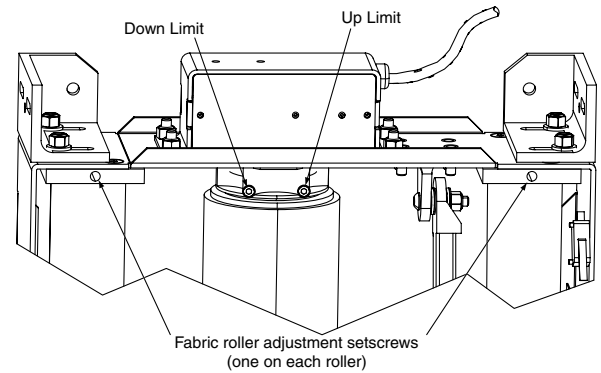
### Installing Ceiling Closure Panel

If your AeroLift 50/150 is equipped with a ceiling closure panel, it can be used as is, or in conjunction with a piece of existing ceiling tile. Please refer to the diagram at right for these instructions.

- ① If installing with ceiling tile, you may need to cut tile so that its overall dimensions are the same as (or slightly less than) the closure panel. Place tile into trim frame. Lay closure panel on top (back side) of ceiling tile, and tighten screws to hold in place.
- ② For AeroLift 150, attach angle brackets to bottom of projector plate (along long ends).
- ③ For AeroLift 50, attach angle brackets to bottom of projector plate (along short ends). For AeroLift 150, attach short angle brackets to ends of long angle brackets.
- ④ Attach  $\frac{5}{16}$ " threaded rods to slots in projector plate or brackets.
- ⑤ Run unit "up" until bottom pan stops at highest position. Mark position on  $\frac{5}{16}$ " rods even with ceiling level and cut rods to length (removing from pan if convenient).
- ⑥ Run unit "down" until bottom pan stops at "show" position.
- ⑦ Attach closure to lower end of  $\frac{5}{16}$ " rods by slipping into four corner slots and secure with nuts above and below slots.
- ⑧ Run unit "up" again to highest position. Measure distance by which panel fails to reach required "closed" height for surrounding ceiling.
- ⑨ Run unit "down" then re-adjust mounting of  $\frac{5}{16}$ " rods in traveling grid to raise panel required distance.
- ⑩ Test unit operation to confirm that panel will stop in closed position just before touching ceiling.

**NOTE:** Immediately upon completion of the surrounding ceiling, unit should be operated to confirm that optional ceiling closure panel stops just short of touching ceiling in closed position.

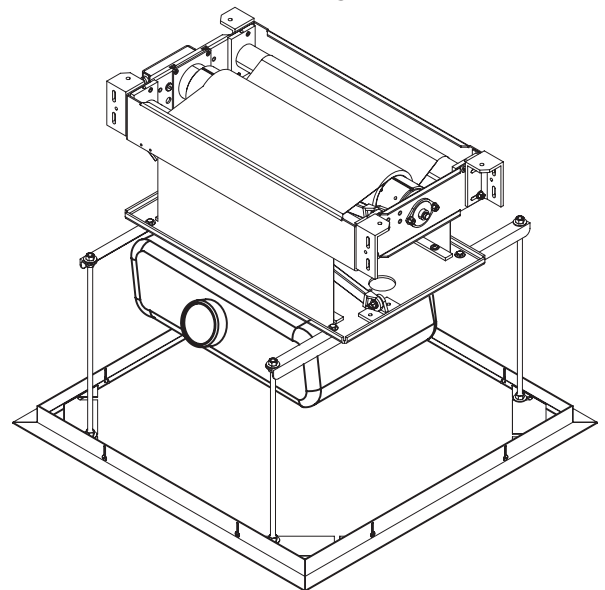
### AeroLift —Limit Switch Adjustment (Bottom View)



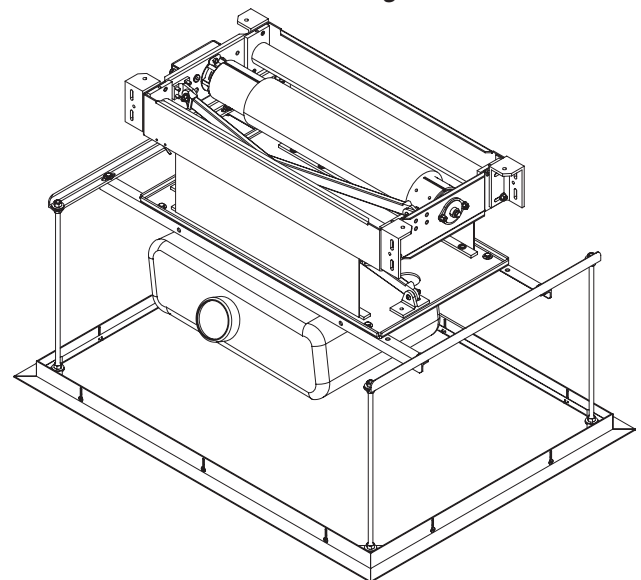
#### Please Note:

If load is off-center of pan, you may need to adjust the pitch of the fabric rollers. One setscrew is provided on each end of both fabric rollers (see above drawing). Use these to adjust roller pitch to keep entire fabric panel taut, so load is evenly distributed. Use  $\frac{1}{8}$ " hex key to adjust.

### AeroLift 50 with Ceiling Closure Panel

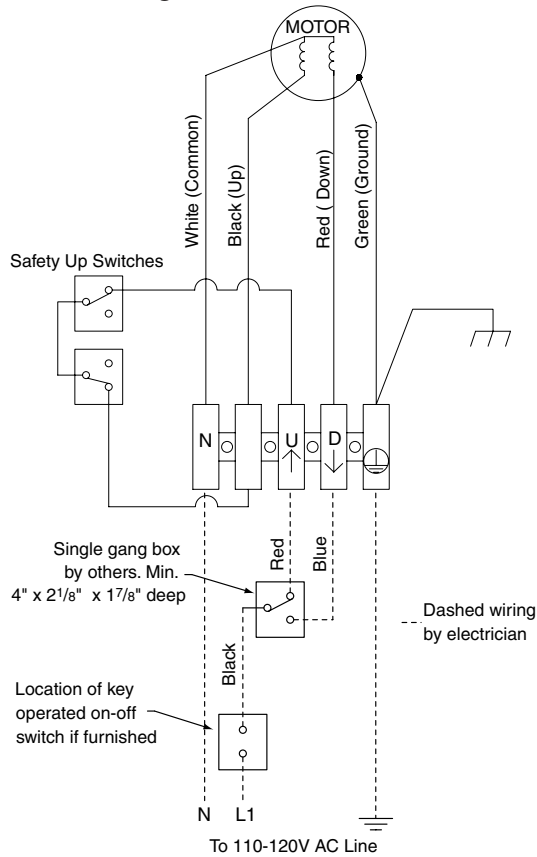


### AeroLift 150 with Ceiling Closure Panel

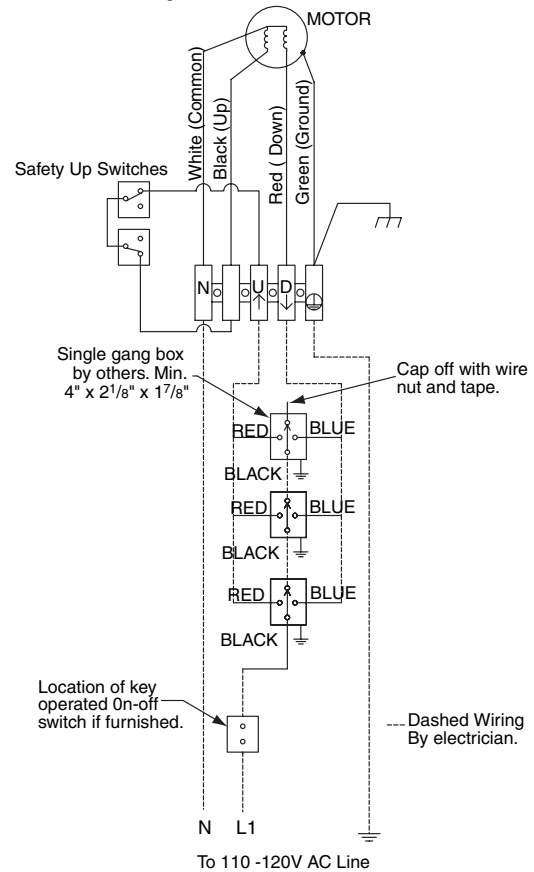


## Wiring Diagrams

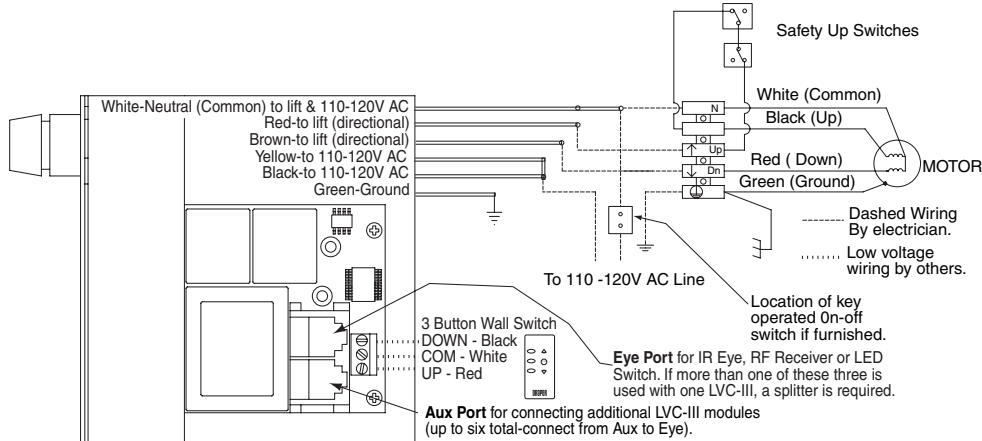
### Single Station Control



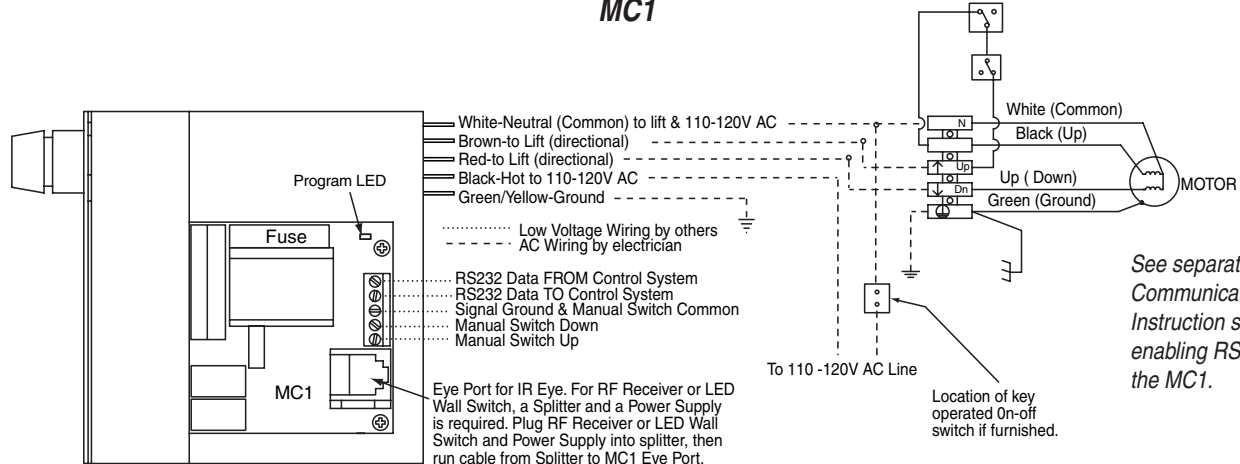
### Multiple Station Control



### Low Voltage (& Wireless) Control



### MC1



See separate Serial Communication-RS232 Instruction sheet for enabling RS232 with the MC1.