

Draper Lift LVC Low Voltage, Remote Control, Serial and Network Wiring Guide

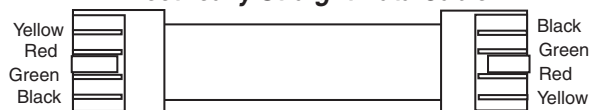
Please Note

- ① Make sure power is disconnected before installing controls.
- ② Lift LVC is a line voltage controller, designed to operate one motor with activation by Low Voltage input commands.
- ③ Avoid static discharge, especially to screw terminals and eye jack.

Please Note:

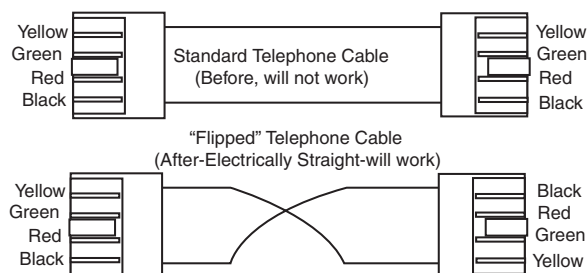
All input devices (low voltage LED switches, IR eye, RF receiver) which connect to the Eye jack must be connected using **electrically straight** 4-conductor modular cable (RJ11). This means colors do not cross over: blue leads to blue, orange to orange, etc. (see diagram below)

Electrically Straight Data Cable



Using Telephone Cable

If you use standard telephone cable, you must first remove one connector, turn it over and re-attach, to ensure that the cable is electrically straight (see diagram below).



All connection wires must conform to the motor manufacturer's recommendation and prevailing electrical codes. The switch and control system wires should be at least 24 AWG and no larger than 18 AWG.

Electrical Specifications—Lift LVC

Input:

DATA: 5V AC (through "Eye" port)
Low Voltage/Serial: Dry Contact—0v AC

Output:

115V AC version: Rated at 6 Amps, 1/3 HP, fuse should be 6.3 Amp 250V 5x20mm fast or slow blow.
230V AC version: Rated at 3 Amps, 1/3 HP, fuse should be 3.15 Amp 250V 5x20mm fast or slow blow.

Note: Holds contact 180 seconds.

Electrical Connections

Screens, AeroLifts and Micro Projector Lifts operate on 110-120V, 60 Hz. AC current.

Screens, AeroLifts and Micro Projector Lifts are shipped with internal wiring complete and control switch(es) fully boxed. Wire to connect screen to switch(es) and switch(es) to power supply should be furnished by installer.

Connections should be made in accordance with approved wiring diagrams, and wiring should comply with national and local electrical codes.

All operating switches should be "off" before power is connected.

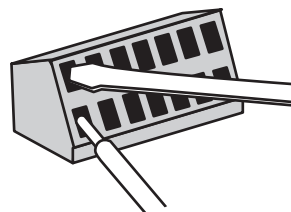
Notes on Cable Lengths:

You can have a total of approximately 100 feet of cable (this includes ALL cables connected to ALL Eye and Aux ports) per Lift LVC, up to a maximum of 1000 feet. However, the RF Receiver can drive up to 1000 feet of cable.

Spring-Loaded Terminals

When running wires to the spring-loaded terminals on the Lift LVC, use the following steps:

- ① Strip outer wire sheathing back 1", then strip insulation of individual wires back $\frac{3}{8}$ ".
- ② Place screwdriver into the top slot to open the spring-loaded terminal.
- ③ Slide wire into terminal connection point.
- ④ Remove screwdriver. Wire is now locked into place.



Notes on Power Consumption:

Any input device may be connected to any available Eye port. All Eye ports are "powered" by the Lift LVC they feed off of. Each Lift LVC Eye port provides 75 milliAmps at 5V of power. You may attach any combination of input devices to an Lift LVC Eye port, as long as the **combined** power requirements do not exceed the available power from the Lift LVC (see chart).

Input Device Power Consumption Chart

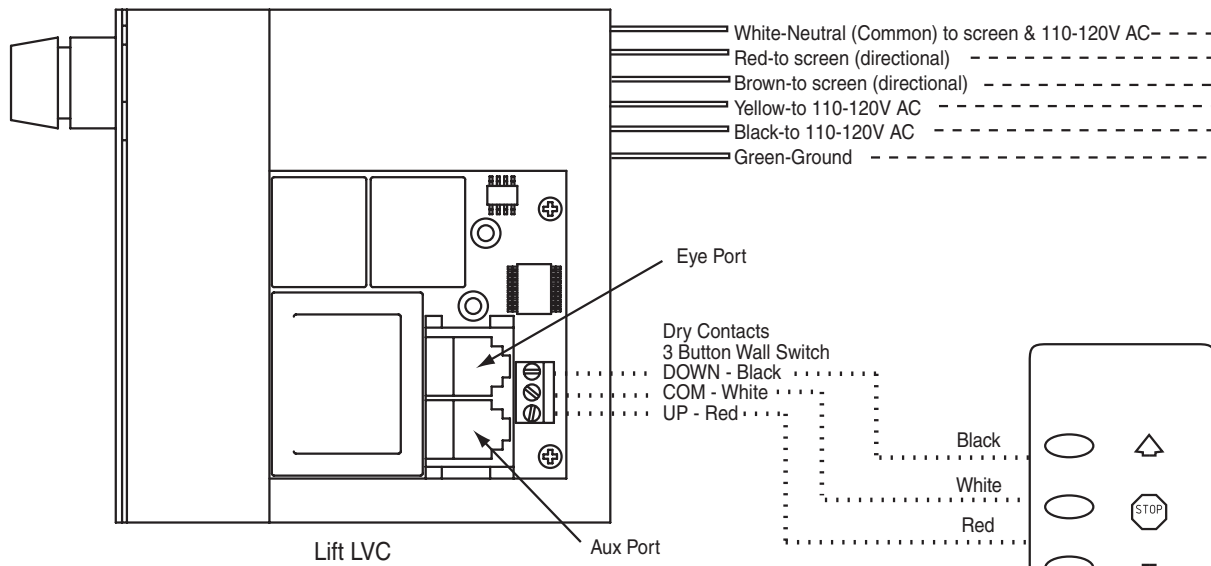
Input Device	Power Consumption (milliAmps)
RF Remote Receiver	33*
IR Receiver Eye	2
LED Wall Switch	24*
Dry Contact Switch	0

* Requires additional, separate power supply.

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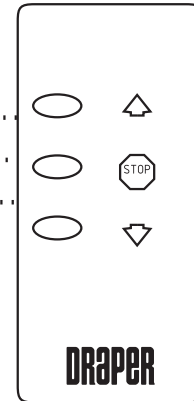
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Wiring Diagram for Lift LVC with Low Voltage Dry Contact Wall Switch



- - - - - Dashed wiring by electrician
 Low voltage wiring to switch by others

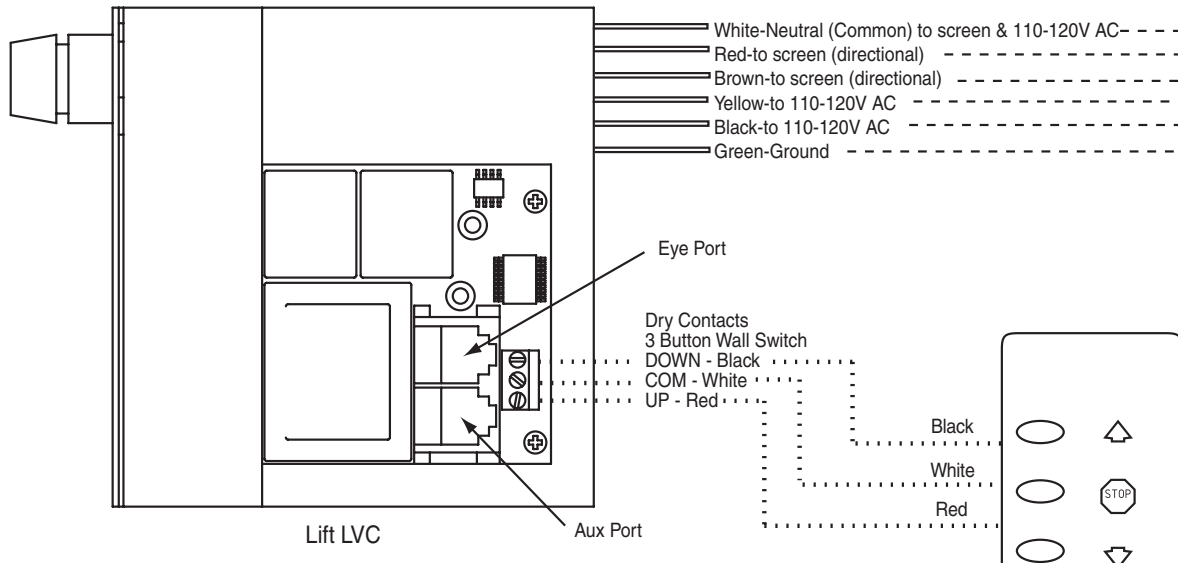
- ① Wire Screen according to diagram.
- ② Press "Up." If screen goes down, switch red and black wires at switch.
 Motor directions will now be reversed.



Wall Switch

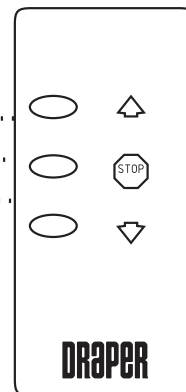
Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the "open" and "close" leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). Wire to connect the switch to the dry contacts on the Lift LVC must be 3-conductor.

Wiring Diagram for Lift LVC with Low Voltage LED Wall Switch



- - - - - Dashed wiring by electrician
 Low voltage wiring to switch by others

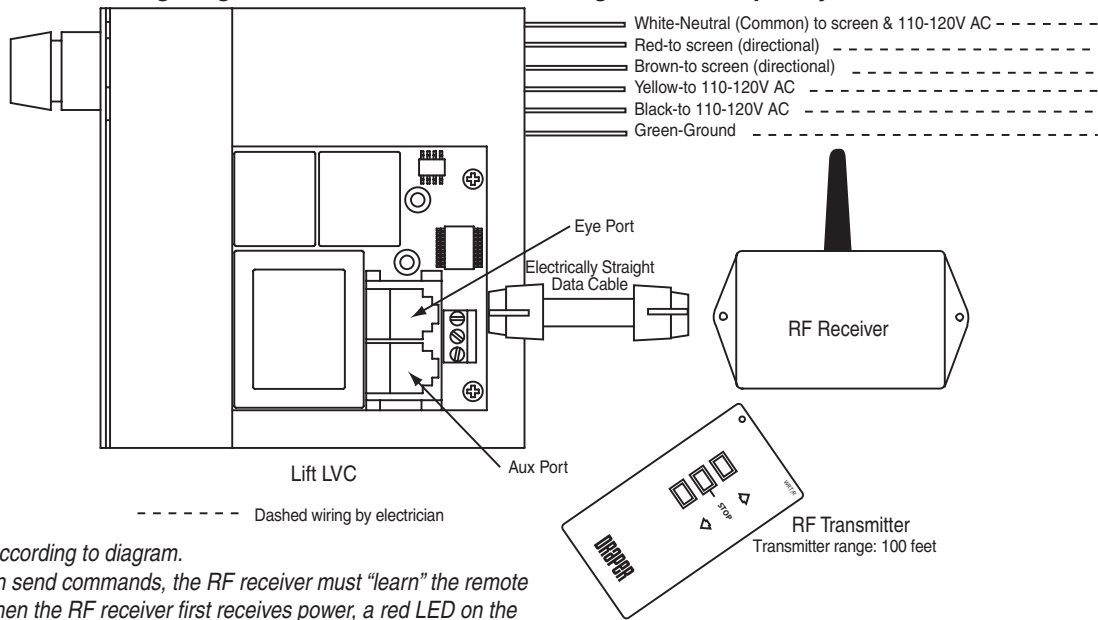
- ① Wire Screen according to diagram.
- ② Press "Up." If screen goes down, up and down wires from motor should be switched. Motor directions will now be reversed.



Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the "open" and "close" leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). LED switch connects to Lift LVC using modular data or telephone cord (RJ11), which must be isolated from the AC power line. This wire is commonly called Silver Satin. It must be electrically straight (see explanation on page 2). LED switch must be within 1,000 feet of the Lift LVC. A dry contact wall switch may also be connected to the Lift LVC using 3-conductor wire.

When a button is pressed, the LED next to the button turns from green to red, and remains red until another button is pressed.

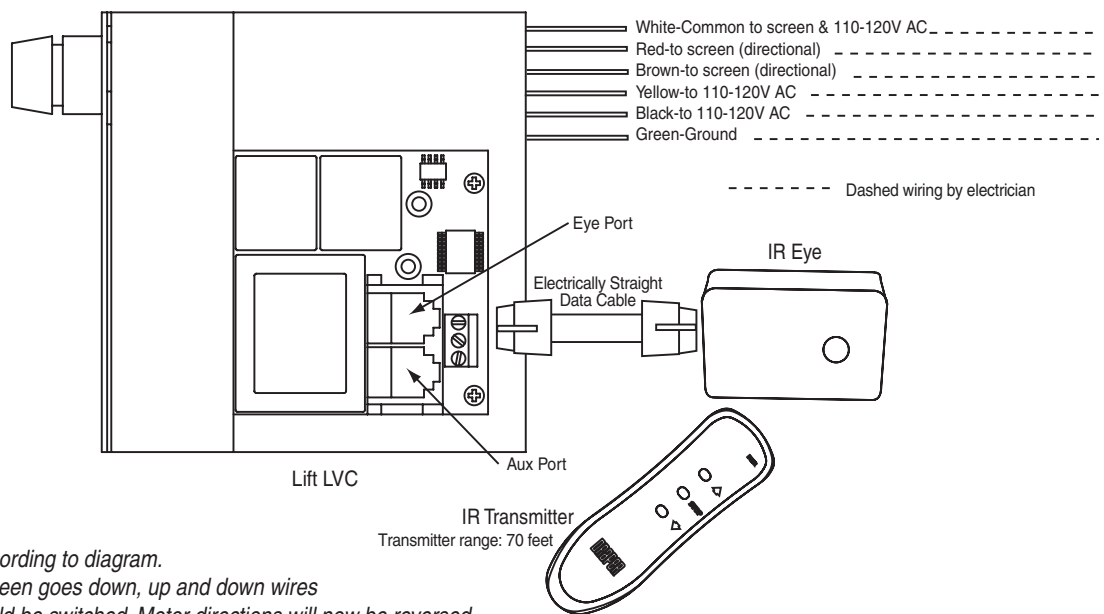
Wiring Diagram for Lift LVC with Low Voltage Radio Frequency Remote Control



- ① Wire Screen according to diagram.
- ② Before you can send commands, the RF receiver must “learn” the remote transmitter. When the RF receiver first receives power, a red LED on the bottom of the receiver activates. This means it is in learning mode. To “learn” the transmitter, simply point it at the RF receiver and hold down the “up” button until the red LED goes out.
- ③ Once the remote is learned, press “Up” to test the screen. If screen goes down, up and down wires from motor should be switched. Motor directions will now be reversed.
- ④ To learn a second transmitter (up to five total allowed), press the “learn” button on the bottom of the receiver, and repeat step 2 (you will have 10 seconds after pressing the “learn” button).

Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the “open” and “close” leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). RF receiver is connected to Lift LVC using low voltage modular data or telephone cord (RJ11), which is isolated from the AC power line. This wire is commonly called Silver Satin. It must be electrically straight (see explanation on page 2). The RF receiver must be within 1,000 feet of the Lift LVC.

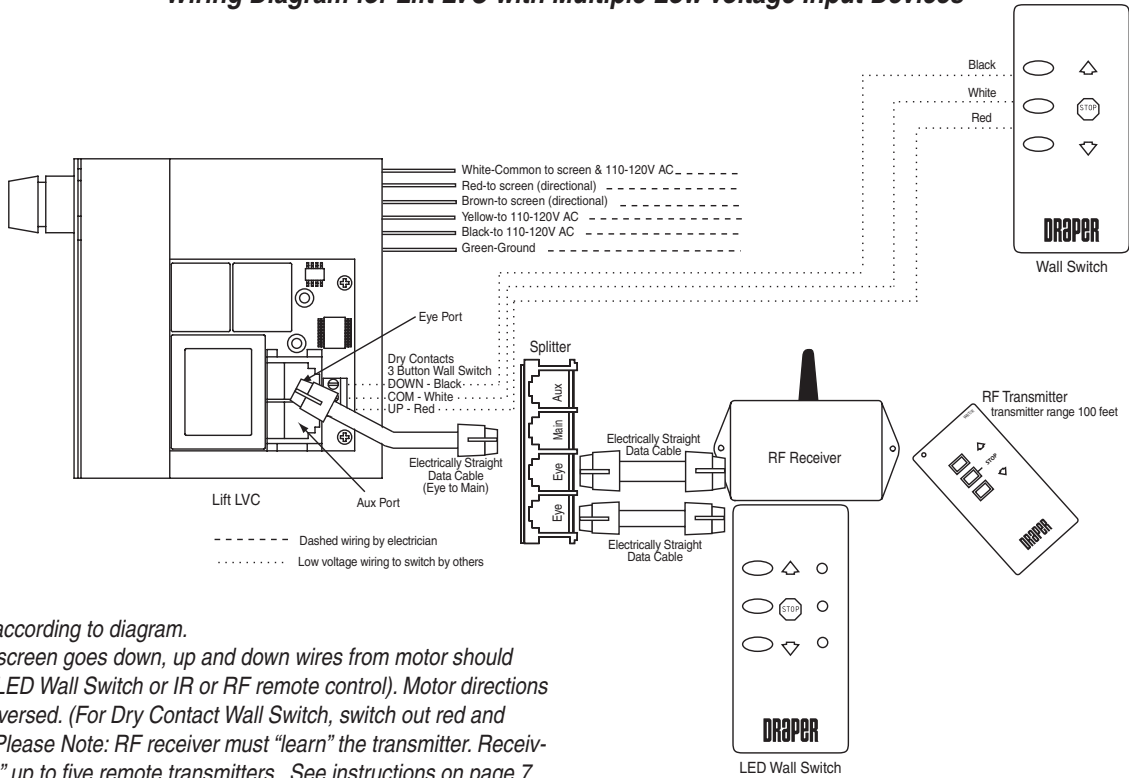
Wiring Diagram for Lift LVC with Low Voltage Infrared Remote Control



- ① Wire Screen according to diagram.
- ② Press “Up.” If screen goes down, up and down wires from motor should be switched. Motor directions will now be reversed.

Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the “open” and “close” leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). IR Eye is connected to Lift LVC using low voltage modular data or telephone cord (RJ11), which is isolated from the AC power line. This wire is commonly called Silver Satin. It must be electrically straight (see explanation on page 2). The IR eye must be within 100 feet of the Lift LVC. A dry contact wall switch may also be connected to the Lift LVC using 3-conductor wire.

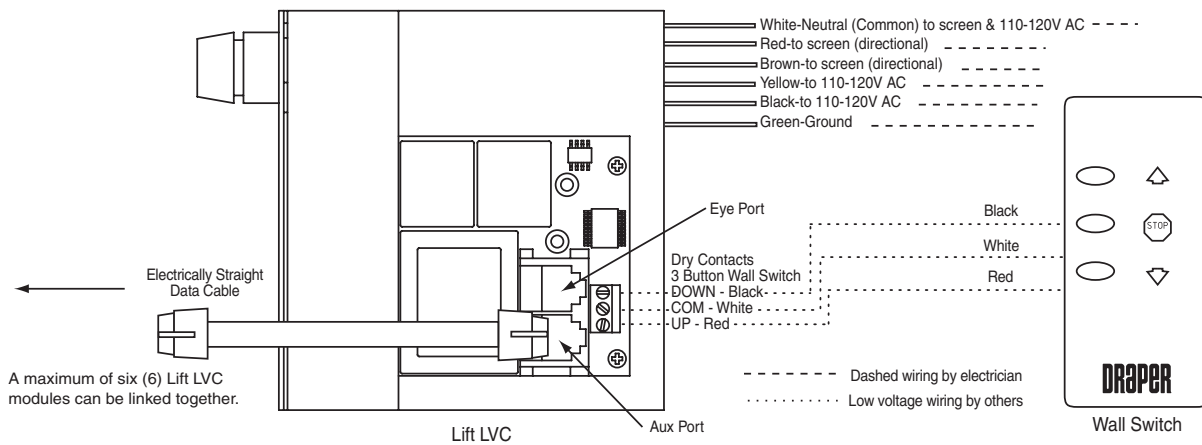
Wiring Diagram for Lift LVC with Multiple Low Voltage Input Devices



- ① Wire Screen according to diagram.
- ② Press "Up." If screen goes down, up and down wires from motor should be switched (LED Wall Switch or IR or RF remote control). Motor directions will now be reversed. (For Dry Contact Wall Switch, switch out red and black wires.) Please Note: RF receiver must "learn" the transmitter. Receivers can "learn" up to five remote transmitters. See instructions on page 7.

Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the "open" and "close" leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). If using RF receiver, IR Eye LED wall switch, connect to Lift LVC using low voltage modular data or telephone cord (RJ11), which is isolated from the AC power line. This wire is commonly called Silver Satin. It must be electrically straight (see explanation on page 2). LED Wall Switch or RF receiver must be within 1,000 feet of Lift LVC; IR eye must be within 100 feet of Lift LVC. If using more than one device that requires modular cable, use a splitter. A dry contact wall switch may be connected to the Lift LVC using 3 conductor wire with ground. RS232 connection to AV Integration systems is also through dry contacts. Use splitters to add control input devices.

Wiring Diagram for Multiple Lift LVCs with One or More Low Voltage Input Devices



- ① Wire Screen according to diagram.
- ② Press "Up." If screen goes down, up and down wires from motor should be switched. Motor directions will now be reversed.

Please Note: In above configuration, the dry contact switch controls only one Lift LVC; dry contact switches must be wired to each Lift LVC.

Wire to connect power to Lift LVC should be between 18 AWG and 12 AWG (solid or stranded) 2 conductors with ground. Wire size needs to be sufficient to carry the motor load. Red and Black wires are the "open" and "close" leads from the motor. The Lift LVC comes enclosed in a metal box conforming to the National Electric Code (NEC). If using RF receiver, IR Eye LED wall switch, connect to Lift LVC using low voltage modular data or telephone cord (RJ11), which is isolated from the AC power line. This wire is commonly called Silver Satin. It must be electrically straight (see explanation on page 2). If using more than one device that requires modular cable, use a splitter. A dry contact wall switch may be connected to the Lift LVC using 3 conductor wire with ground. RS232 connection to AV Integration systems is also through dry contacts. Use splitters to add control input devices. Use electrically straight modular cable to connect additional Lift LVC modules. Connect Lift LVCs by going FROM "Aux" port TO "Eye" port. Up to six Lift LVC modules may be linked in this way.