

## LED Luminous Virtual Window Surface Mount Installation Instructions

### Surface Mount Installation

1. See Drawings W1, S1 and D1 for details.
2. We recommend the LVW to be placed at standard window height. Remember to take into account the lap of the wood trim over the metal frame. Depending on the size, the LVW will take two people to install.
3. If your order included wood trim, remove it and set aside. The wood trim is held by ball-catch hardware. Using both hands, grasp the wood trim and pull directly outward.
4. If at all possible, locate the LVW so it spans at least two studs. If only one stud is available, see step 5.
5. Once the location of the LVW is determined, locate the two 1/8" x 1" x 1" ledgers by measuring down 1/8" below the LVW metal frame and 1/8" above the LVW metal frame and mark two level lines slightly less in length than the width of the LVW metal frame.
6. Find the studs and anchor the ledgers to the wall.
  - a. Ledgers should be oriented so the brackets will lap over the LVW metal frame and hold it to the wall.
  - b. Pre-drill 3/16" holes in the ledgers at the stud locations and use the included #12 x 2" pan head screws.
  - c. If only one stud is available, we recommend using a 3/16" toggle bolt as a second anchor point in each ledger. Place the toggle bolt approximately 3" in from the end of the ledger farthest from the stud location.
  - d. Ledgers should be oriented so the brackets will lap over the LVW metal frame and hold it to the wall.
7. Pre-set the brackets on the bottom ledger and temporarily remove the brackets on the top ledger.
  - a. The brackets have some adjustability. Set the brackets on the bottom ledger so the vertical lip is at its farthest setting from the wall.
  - b. Be sure not to over tighten the bolts, as they are threaded into aluminum.

8. Set LVW metal frame on the bottom ledger.

**Important:**

All wiring, insulation and other materials behind the LVW must not press against the white back panel.

**Pressure on the panel will create light “ghosts” in the image when lit.**

9. While holding the LVW frame in place, install the top brackets. **CAUTION:** If the wall is not flat, do not force the frame to twist when pressing it against the wall with brackets.
  - a. Large LVW's may require a second person to hold the LVW in place while the brackets are installed.
  - b. Holding the LVW frame firmly against the wall, press the brackets against the LVW frame and tighten the bolts.
  - c. **CAUTION:** Do not touch or scratch the image cover when installing the LVW.
  - d. **CAUTION:** Be sure not to over tighten the bolts, as they are threaded into aluminum.
10. Once the upper brackets are firmly in place, loosen the brackets on the bottom ledger. Holding the LVW firmly against the wall, press the brackets to the LVW frame and tighten the bolts. Again, care should be taken not to force the LVW frame to twist when adjusting the brackets.
11. See Wiring below for electrical installation instructions.
12. Once the wiring has been connected and tested, install the trim.
  - a. Installing the LVW wood trim is easiest with two people.
  - b. Have one person lift the trim up so the eye screws in the back of the trim are at the same height as the safety cables on the LVW frame. Have the second person attach the quick clips to the eyes and screw the gates closed.
  - c. Then lower the trim until the ball-catches line up and press the ball-catch locations.
  - d. To adjust holding strength of ball catches loosen or tighten adjustment screws on the two ends of the ball catches attached to the LVW frame.
13. If side panels are included, install them now.
  - a. Remove the bolts and washers from the ends of the upper and lower ledgers.
  - b. Each panel has two angle brackets attached and the top end is labeled on the inside. The upper angle bracket will rest on top of the horizontal leg of

- the upper ledger, and the lower angle bracket will rest against the bottom face of the horizontal leg of the lower ledger. The brackets are adjustable.
- c. The angle brackets have been installed to fit the appropriate spacing of the ledgers. However, slight variations in spacing often occur during installation. Adjust the brackets so the ends of each side panel sit flush to the top and bottom edges of the LVW trim. Then slide the panel in and insert the 8-32 x 3/8" bolts and washers.
  - d. Adjust the panels horizontally so that both panels sit equidistant from the vertical edge of the trim and are as close as possible to the ledgers and LVW frame. Tighten the bolts, being careful not to strip the threads.

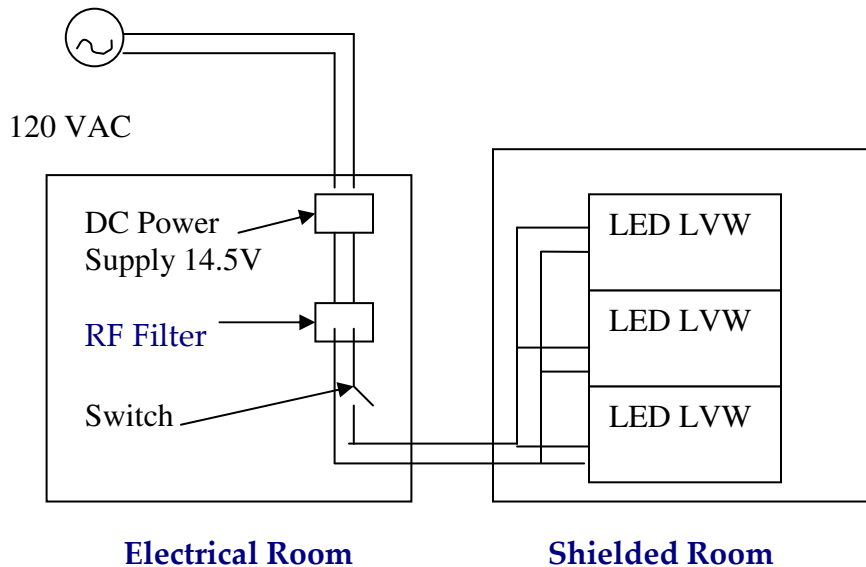
## Wiring

1. Open LVW front face snap-frame doors, and remove image cover and image panel and store in a safe location.
2. Power is connected to the 3 - 6" conductors inside the aluminum frame, bottom right (as viewed from the front). Fasten the Snap-It shielded cable connector through the 7/8" hole on the outside edge of the LVW frame and make the electrical connection inside the LVW. **Red is DC positive (+), Black is DC negative (-).**
3. Connect power (15 VDC) in conformance to local and national Electrical Codes. See **Figure 2.0** below. The DC Power Supply is powered by 115/230 VAC – factory set to 115 VAC. Check the red slide switch on the side of the power supply to ensure the correct setting. Connect 115 VAC or 230 VAC in, and DC power out. All DC output terminals should be jumpered together (all + together, all – together). Enclosures are not supplied, but are available with mounting brackets if required.
4. Where multiple LVW's are installed, all **MUST** be wired in parallel. Red wire goes to the +, Black wire goes to the –, and the Green (Ground) wire goes to the middle hole marked with the earth ground symbol.
5. The 4022 LVW's draw 4.55 amps each. The 6334 LVW's draw 7.15 amps each. Use a wire gauge appropriate to the amperage as per local and national electrical codes.
6. Use a switch that can carry the full load amperage of the installation.
7. Connect switch so that it is between the RF filter and the load. **Under no circumstance should the Power Supply be switched on the AC side while the load is attached.**

**See Figure 2.0 below.**

8. After wiring is completed and tested, go to Step 10 of the Recessed Installation.

**Figure 2.0**



**IMPORTANT** The Power Supply voltage must be adjusted before powering up the LED LVW(s).

**CHECK** that the output is 15 volts. Note polarity and **MAKE SURE** that the Red wire to the LVW's is connected to the (+) terminals and the Black wire is connected to the (-) terminals.

**CHECK** the polarity of the output of the RF filter. **Damage to the LVW's will occur if reverse polarity is connected.** **MAKE SURE** that the Red wire is connected to the (+) terminal of the filter and the Black wire is connected to the (-) terminal of the filter.

Because the RF filter typically causes a small voltage drop (approximately 2 volts), the output of the power supply **must be adjusted** to compensate. Use a small Philips screwdriver to carefully turn the small white plastic screw on the front of the Power Supply (+V ADJ), while monitoring the voltage **at the load** with a voltmeter. Adjust until the reading is 15 volts.

For technical support please call us toll free at 866-759-3228. We want your installation to go as smoothly as possible. Thank you for choosing The Sky Factory.