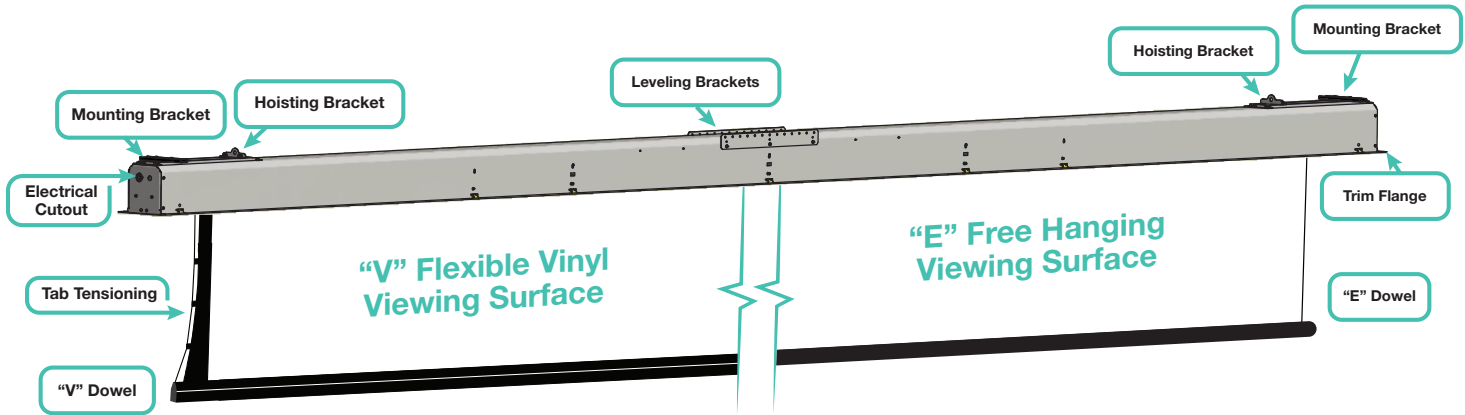


#### Overview - Components

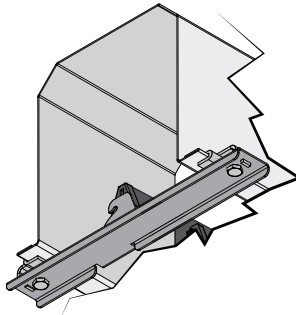


#### Shipping Brackets Attached to Dowel and Screen Case

(V Screens Only)

**Please Note:** Shipping brackets must remain in place until product has been mounted and connected to power (see Sections 1 and 4 in this document.).

Also, DO NOT operate screen before removing shipping brackets from screen case.



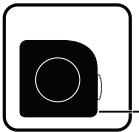
#### TOOLS REQUIRED



PENCIL



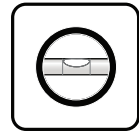
POWER DRILL



TAPE MEASURE



HARDWARE (by others)



LEVEL

### ⚠ CAUTION ⚠

**Read and understand all warnings (Page 2) before beginning installation.**

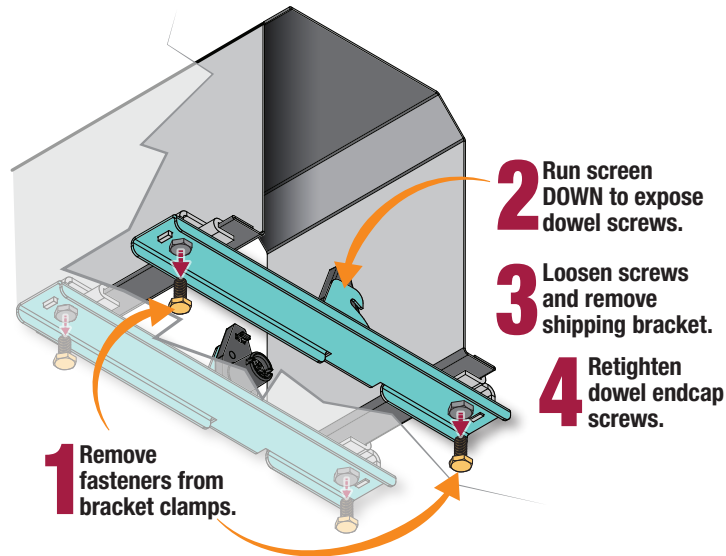
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If you have any difficulties installing or servicing your Access XL screen, call your dealer or Draper, Inc.

## Section 1 - Removing Shipping Brackets (Tab-Tensioned, "V" Surfaces only)

**CAUTION:** DO NOT remove shipping brackets until product has been mounted and connected to power (see Section 4 in this document.). Also, DO NOT OPERATE SCREEN BEFORE REMOVING SHIPPING BRACKETS FROM SCREEN CASE.



## PLEASE READ - Safety Information

### Important Safety Information



### Important Safety Information

**Improper installation and use of Access XL screen can result in serious injury or death. Primarily, injuries can occur if the unit falls due to imprecise installation, mishandling of the unit during installation, or installation on an insufficient wall or ceiling structure. Please use extreme care.**

1. Please read the following installation guidelines thoroughly and follow them carefully. Failure to do so may cause product to fall or otherwise fail, and could result in serious injury.
2. Installation and calibration of the unit should only be performed by an authorized, qualified, and experienced professional. In particular, electrical work and wiring [indicated in diagram by dashed lines] must be completed only by a qualified professional electrician who has read this manual completely and is familiar with the construction and operation of this equipment and the hazards involved.
3. Do not affix the unit to walls or ceilings that have inadequate strength to permanently hold the unit during use. It is the owner's and installer's responsibility to confirm the wall or ceiling to which the unit attaches is sufficient to permanently hold the weight and stress loads of the unit at all times. Draper, Inc., is not responsible for improper installation, application, testing, or workmanship related to the product at place of installation.
4. It is the installer's responsibility to make sure appropriate fasteners are used for mounting.
5. All hardware must be installed level. Unit must be level and square.
6. Never leave the area while operating the unit during installation, maintenance, or normal operation, unless it is secure and safe.
7. Before testing or operation, carefully inspect the entire area and path (especially underneath) of unit to be sure no persons or objects are in the area.
8. During testing or operation, carefully watch the surrounding area for any potential safety concerns including nearby persons or objects.
9. An appropriate disconnect device shall be provided as part of building installation.
10. Suitable for use in environmental air space in accordance with Section 300-22(c) of the National Electric Code, and Sections 2-128, 12-010(3) and 12-100 of the Canadian Electrical Code, Part 1, CSA C22.1
11. Connections must be made in accordance with attached wiring diagram, and wiring must comply with national and local electrical codes.
12. All operating switches should be "off" before power is connected.
13. Do not wire motors in parallel without written permission from Draper, Inc.
14. After installation, the entire system, including all sensors, should be carefully tested to ensure safe and normal operation. Extreme care should be taken during testing to remain clear of moving parts to avoid possible injury.
15. Operation of unit should be performed only by authorized and qualified personnel, who have been trained in its safe and effective operation and understand its safety features.
16. The safety features of the unit should never be disabled, bypassed, or overridden. The system should not be operated until all safety features are properly and completely installed, calibrated, and tested.
17. **Failure to precisely follow installation guidelines invalidates all warranties.**
18. Custom products/installations may not be reflected in this manual. Call Draper, Inc., if you have questions about the installation of custom products or any questions about your installation.

### Before Beginning Installation

1. Look for any job site conditions that could interfere with installation or operation of the system.
2. Read carefully and be sure to understand all installation instructions and all related operations manuals. These instructions are intended to serve as a guide for the installer and owner. They should be followed closely and combined with the expertise of experienced qualified installers. Draper, Inc., is not responsible for improper installation, application, testing, or workmanship related to the product at place of installation. Please retain all instructions for future use.
3. Open cartons lengthwise.
4. Locate and lay out all pieces.
5. Inspect all boxes to make sure you have received the proper unit and parts. Controls may be shipped separately, or in same carton as unit.
6. If you have any difficulties with installing, servicing, or operating your unit, call your dealer or Draper, Inc., 765-987-7999.

## Section 2 - Hanging Access XL Case

### Section 2.1 - Ceiling Installation

**PLEASE NOTE:** It is the installer's responsibility to make sure appropriate fasteners are used for mounting.

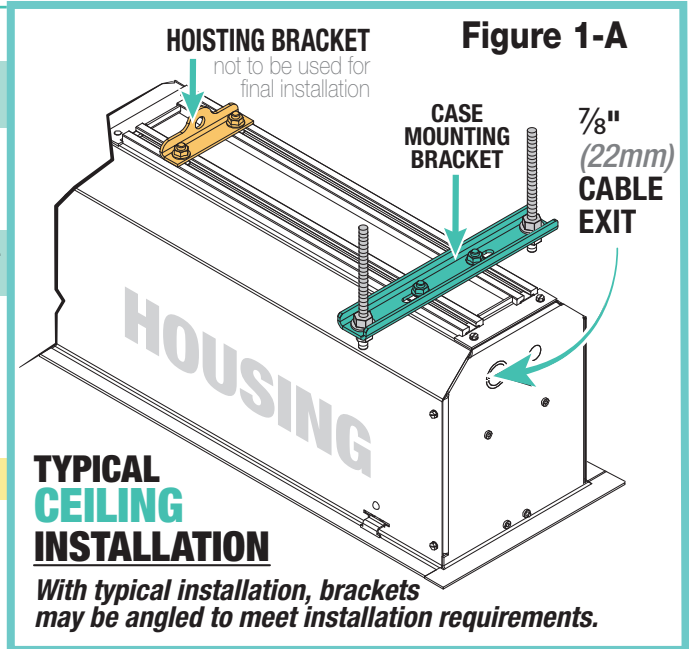
1. Engage each case mounting bracket (attached to case) with top of housing (Fig. 2-A) and tighten set screws.
2. Case should be sufficiently supported to withstand vibration.

**Please Note:** A hoisting bracket is included on each end of the case to aid in installation. Hoisting Bracket is NOT TO BE USED for final installation.

3. Ensure that fasteners are of adequate strength and suitable for the mounting surface chosen. Supporting hardware such as chains, cables, two  $\frac{3}{8}$ " (9.5 mm) rods, etc., must be precisely vertical.
4. Entire bottom of case must be readily accessible after installation is complete.
5. Front, back, and top of case must be straight—not forced to warp or bow.

**CAUTION:** Screen case and flange are not designed to serve as ceiling support.

6. Do not seal unit in ceiling until electrical connections have been made and screen operates successfully.

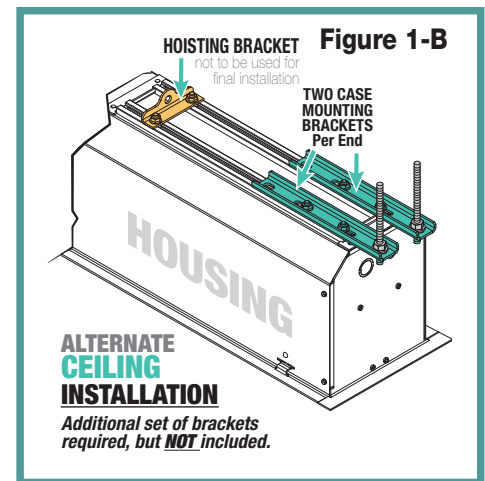


#### Suspended Ceiling Installation—

Chains should be attached to solid beams or rafters above unit. If possible, mounting brackets should be positioned so chains hang vertically. Turnbuckles should be connected between chains and mounting brackets. After the unit has been suspended, turnbuckles should be adjusted so that screen hangs level.

#### Recessed Ceiling Installation—

Recess should be constructed to fit case with brackets (see "Case Dimensions" on pages 6-7). Design recess so that entire bottom of case is unobstructed to permit access to bottom panel, roller and screen for servicing if required.



### Section 2.1 - Wall Installation (wall bracket sold separately)

Wall Brackets should fasten to studding or other structural supports within wall that are capable of supporting weight of case (205 lbs).

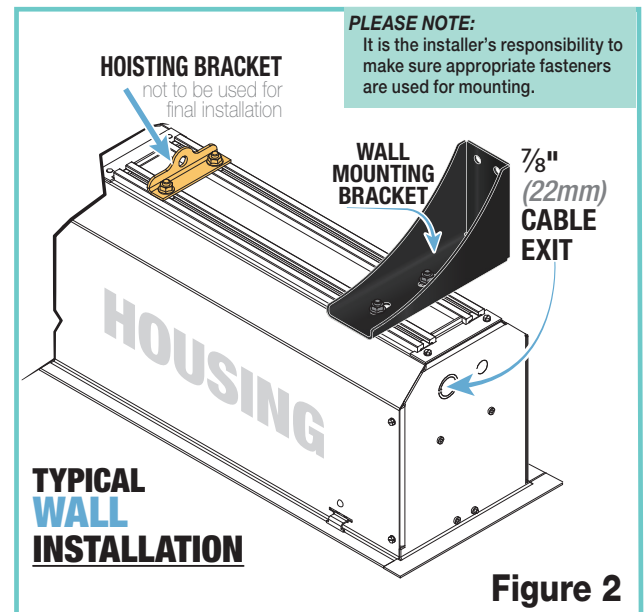
1. Remove each ceiling mounting bracket (attached to case at factory) from top of housing (Fig. 1) and replace with the wall mounting brackets, and tighten set screws.
2. Case should be sufficiently supported to withstand vibration.

**Please Note:** A hoisting bracket is included on each end of the case to aid in installation. Hoisting bracket is NOT TO BE USED for final installation, only to hoist the case up to the mounting location.

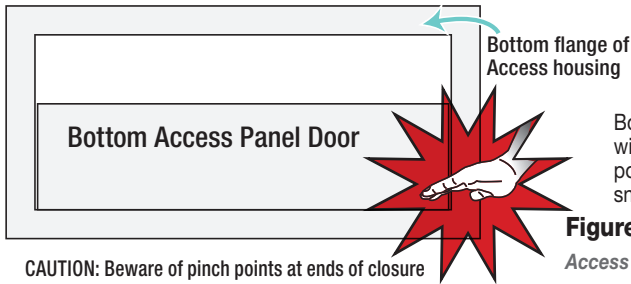
3. Ensure that fasteners are  $\frac{3}{8}$ " (21mm) in diameter, are of adequate strength and suitable for the mounting surface chosen.
4. Entire bottom of case must be readily accessible after installation is complete.
5. Front, back, and top of case must be straight—not forced to warp or bow.

**CAUTION:** Screen case and flange are not designed to serve as ceiling support.

6. Do not seal unit until electrical connections have been made and screen operates successfully.



## Section 3 - Bottom Access XL Panel Installation/Removal



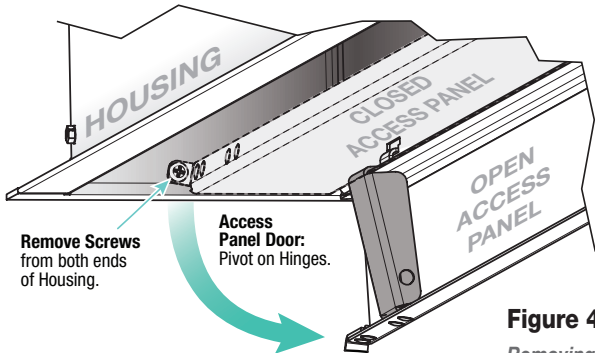
Bottom access panel secures to the screen housing with two screws (one on each end), and held in the closed position by engagement brackets with ball detents that snap into case support brackets (Fig. 3).

**Figure 3**  
Access case as seen from below

**CAUTION:** Beware of pinch points at ends of closure

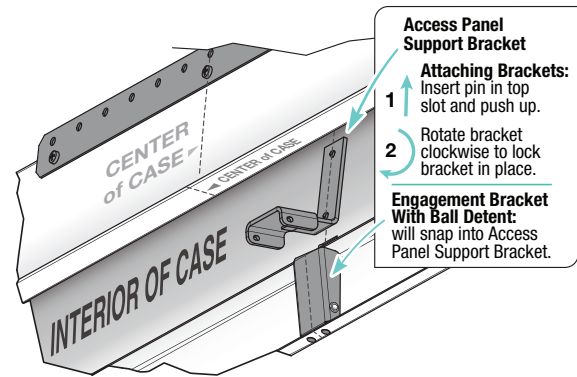
**CAUTION:** The following requires two people to perform safely.

1. Press up on access panel and pull toward the front of the screen housing to disengage hinges and remove access panel.



**Figure 4**  
Removing Access Panel

2. To Remove/Install support brackets:



## Section 4 - Motorized Roller/Fabric Installation (Roller and Fabric standardly ship already attached in place for new unit shipments)

1. Remove bottom access panel (See Section 3).
2. Back out the two set screws in bracket until they are flush with top side of bracket (See Fig 5).
3. To engage motor end bracket flange (above the two channels in the top of the screen housing), rotate bracket approximately 45° counterclockwise to allow top surface of motor bracket to rest flat against top inside housing.
4. Rotate bracket clockwise until it engages in channel.
5. Engage idler end bracket in same manner as motor end bracket and slide toward opposite end of screen housing.

**CAUTION:** Step 6 requires two people to perform safely.

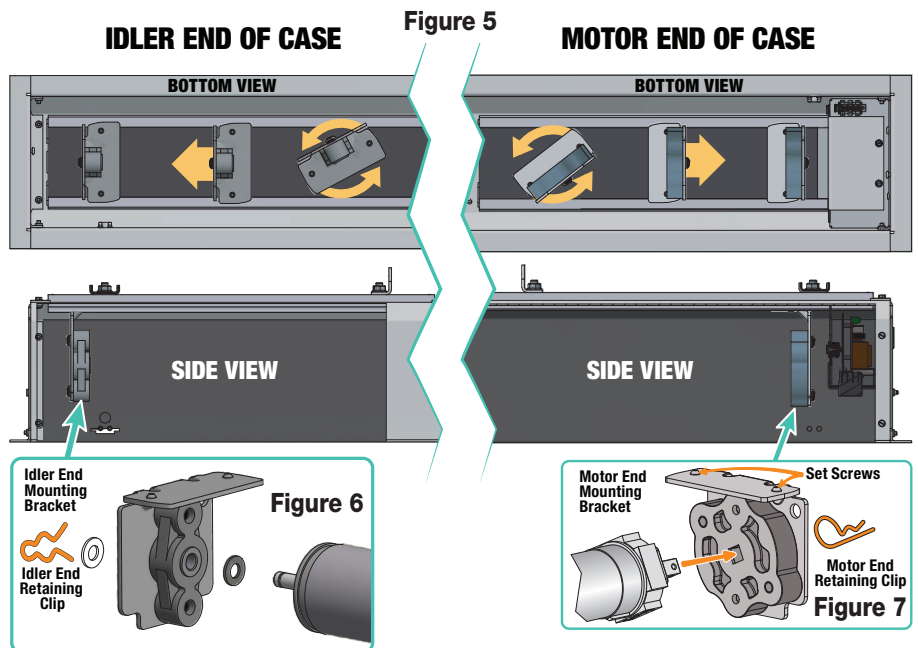
6. Locate retaining clips attached to instruction sheet. Lift roller/fabric assembly into screen housing and engage motor head completely into motor bracket, making sure limit switch adjusting knobs are visible from bottom of screen housing (Fig. 7).

**Please Note:** If snap ring is provided, make sure it engages with motor. If retaining clip is provided instead, install to lock motor end in place.

7. Support idler end of roller and slide mounting bracket toward roller. Insert roller pin into nylon bushing on idler bracket (Fig. 6).
8. Roller idler pin goes through idler bracket. Reinstall washer and retaining clip.

**CAUTION:** Failure to replace washer and retaining clip could result in separation of roller from brackets.

9. Center roller/fabric assembly by sliding mounting brackets left or right.
10. Securely tighten set screws on roller mounting brackets.
11. Connect electrical plug from motor to mating socket on junction box.
12. Attach door support brackets.
13. Reinstall bottom access panel as previously described.

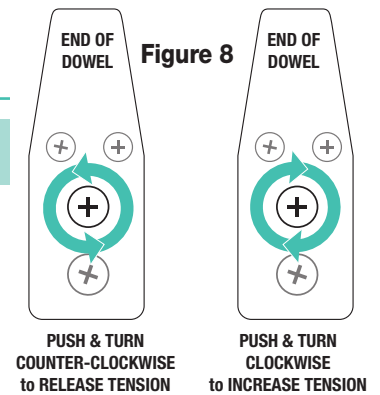


## Section 5 - Motorized Roller/Fabric Removal

Reverse the previous instructions ("*Motorized Roller/Fabric Installation*") for removal of unit.

## Section 6 - Tab-Tension Adjustment Procedure

**Please Note:** Draper Tab-Tensioning System is factory-set, and under normal circumstances will not require field adjustments. If wrinkles are observed, follow the adjustment procedure shown in Fig. 8.



## Section 7 - Operation

**CAUTION:** When operating for the first time, cycle unit down and up several times to confirm satisfactory operation. Be prepared to cut POWER if necessary.

- **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 screen when fully down or fully up.
- **24V CONTROL** - 3-button UP-STOP-DOWN switches stop at any point desired, operate in any sequence. Factory adjusted limit switches automatically stop screen when fully up or fully down. Installer should incorporate an all-pole disconnect in fixed wiring available with RF or IR remote.
- **RS232 / ETHERNET** - Serial communication and network communication optionally available.
- **KEY OPERATED SWITCHING** - Two key-operated switches optionally available with this unit:
  - Key-operated power supply switch controls power to screen and switches. When "off", switches will not operate screen. Key may be removed from switch in either "on" or "off" position.
  - 3-position key switch permits the screen to be operated directly by key. Requires screen operator to have a key.

## Section 8 - Electrical Connections

**CAUTION:** All operating switches should be "off" before power is connected. Plug-in power cord option available with built-in low-voltage motor.

- Screen operates on 110-120V, 60 Hz., 1.3 Amp current draw. Duty cycle: On 28 seconds/Off 4 minutes.
- Junction box is located inside left endcap and cover plate secures to endcap with two screws which may be removed with star key or small flat head screwdriver. Junction box contains red, black, and white pigtail leads and green internal ground wire, per wiring diagram.
- Screen ships complete with internal wiring. Control switch(es) may be packed in cartons separate from screen. Wire connecting screen to switch(es) and switch(es) to power supply furnished by installer. Connections must be made in accordance with attached wiring diagram(s), and wiring must comply with national and local electrical codes.

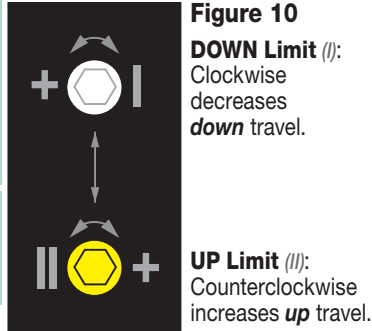
**Please Note:** Screen must be installed in accordance with the requirements of the Local Building Codes, the Canadian Electrical Code (CEC), CAN/CSA C22.1, and the National Electric Code (NEC), NFPA 70. An appropriate disconnect device shall be provided as part of the building installation.

**Please Note:** Do NOT wire motors in parallel.

## Section 9 - Limit Adjustments

**Please Note:** Screen limits are factory set for optimum performance of the screen. Any adjustment of these limits could void the warranty. Please check with Draper prior to resetting screen limits.

**Please Note:** If screen is "Right Hand Motor," the WHITE/DOWN (I) and YELLOW/UP (II) limit screws are reversed (Fig. 11).



### Section 9.1 - Standard Motors Limit Adjustments (Fig. 10)

#### Section 9.1.1 - "Down" Limit Adjustment (requires 5/32" (4 mm) Hex key)

##### To Reduce Screen Drop:

1. Raise screen surface approximately 1' (30 cm) above desired setting and turn off.
2. Turn DOWN (I) limit screw clockwise (3 screw turns = 1/2 roller revolution).
3. Test by lowering screen. Repeat steps 1 & 2 until desired position is reached.

##### To Increase Screen Drop:

1. Lower screen to down limit.
2. With down switch on, turn DOWN (I) limit screw counterclockwise (3 screw turns = 1/2 roller revolution) to increase drop.
3. Test by raising screen approximately 1' (30 cm) then down to new down limit.
4. Repeat steps 2 and 3 until desired position reached.

#### Section 9.1.2 - "Up" Limit Adjustment

##### If Screen Raises Too High:

1. Lower screen surface approx. 1' (30 cm) below desired setting and turn off.
2. Turn UP (II) limit screw clockwise (3 screw turns = 1/2 roller revolution).
3. Test by advancing screen up.
4. Repeat steps 1 through 3 until desired position is reached.

##### If Screen Needs to Raise Higher:

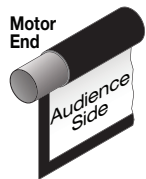
1. Lower screen surface approx. 1' (30 cm) below desired setting and turn off.
2. With UP switch on, turn UP (II) limit screw counterclockwise (3 screw turns = 1/2 roller revolution).
3. Repeat steps 1 and 2 until desired position is reached.

**CAUTION:** DO NOT allow dowel to wrap over roller when operating screen! This could damage screen.

#### CAUTION:

- Be sure all switches are in "off" position before adjusting limit switches.
- Be prepared to shut off manually while testing.
- Screen may be damaged by lowering it too far and exposing roller.
- Motor must be installed so that limit switches are pointed down.

Figure 11



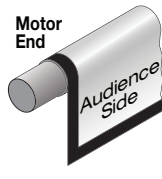
#### Standard Roll

**Left hand motor:**  
White Socket—Down  
Yellow Socket—Up  
**Right hand motor:**  
White Socket—Up  
Yellow Socket—Down



#### Reverse Roll

**Left hand motor:**  
White Socket—Down  
Yellow Socket—Up  
**Right hand motor:**  
White Socket—Up  
Yellow Socket—Down



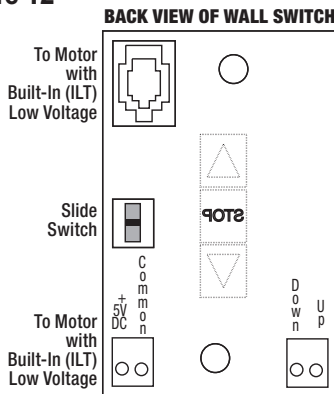
#### Waterfall Roll

**Left hand motor:**  
White Socket—Up  
Yellow Socket—Down  
**Right hand motor:**  
White Socket—Down  
Yellow Socket—Up

## Section 9.2 - ILT Motors with Internal Low-Voltage Control Limit Adjustments (Fig. 12)

**Please Note:** Hold STOP button for 3-5 seconds while in programming mode to reverse motor direction.

Figure 12



POSITION	FUNCTION
DOWN	Set LOWER limit
UP	Set UPPER limit
CENTER	Normal Operation

1. Connect ILT switch to motor via terminal blocks, or via modular port using a four conductor modular cable. When using modular cable, cable connectors MUST NOT be crimped in reverse, as with standard telephone cable. (For Dry Contacts Wiring Diagram, see Section 12.)
2. Set slide switch to lower position. Hold DOWN button to move viewing surface to desired lower limit. If screen moves in opposite direction, release DOWN button and hold STOP button for 4 seconds. This reverses operation of UP and DOWN switches.
3. Move slide switch into center position. Wait several seconds.

**Please Note:** Do Not move slide switch from DOWN to UP in one motion. This will set limits in same position.

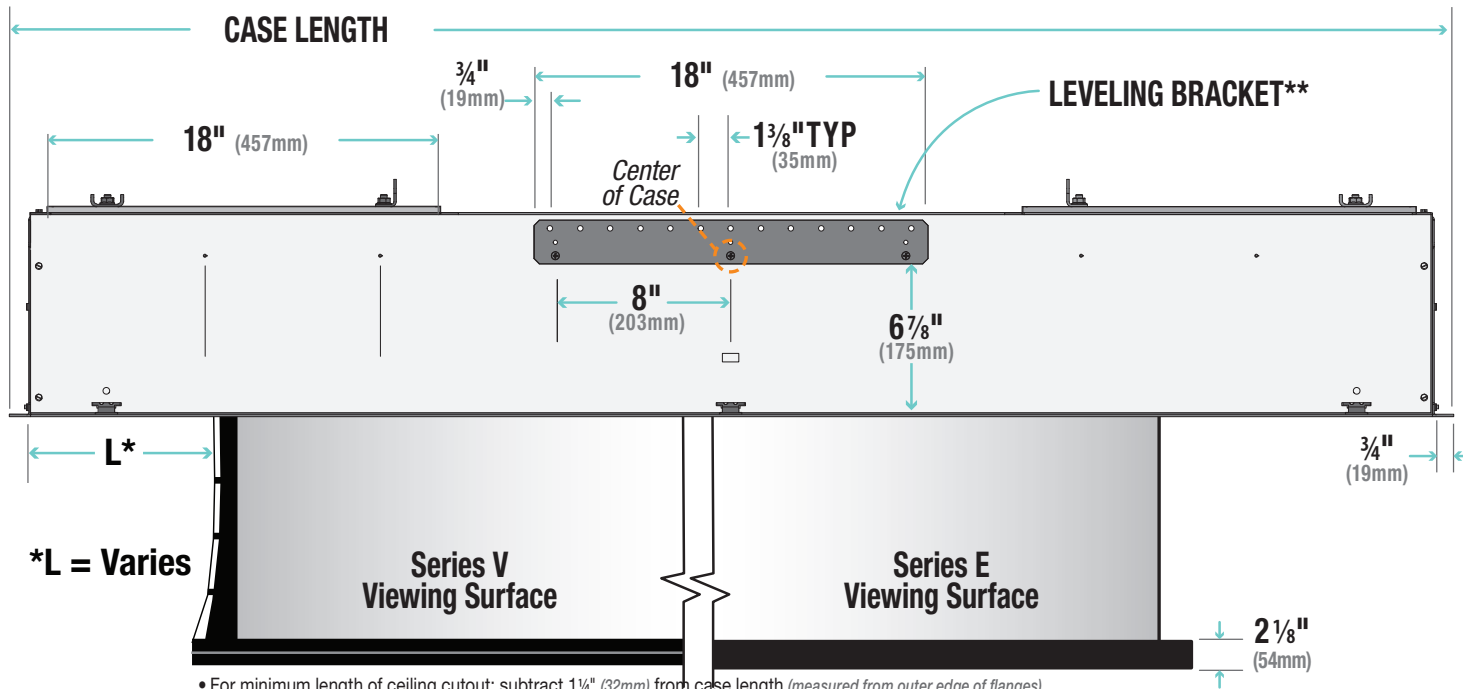
4. Set slide switch to higher position. Move viewing surface to desired upper limit by holding UP button on wall switch.
5. Return slide switch to center position to resume normal operation.
6. To set viewing surface to alternate format position, move viewing surface to desired position and press STOP button. Hold STOP button for at least 3 seconds to record position.

**Please Note:** Press and release UP button on switch to move screen to upper limit. Press and release DOWN button to move screen to lower limit.

- While motor is in motion, press STOP button for less than 2 seconds to stop viewing surface at present position.
- Once motor is stopped, press STOP button to move viewing surface to alternate format position.
- Hold STOP button, when motor is at rest or in motion, for 3-5 seconds to record new alternate format position.
- Hold STOP button for 3-5 seconds while in programming mode to reverse motor direction.

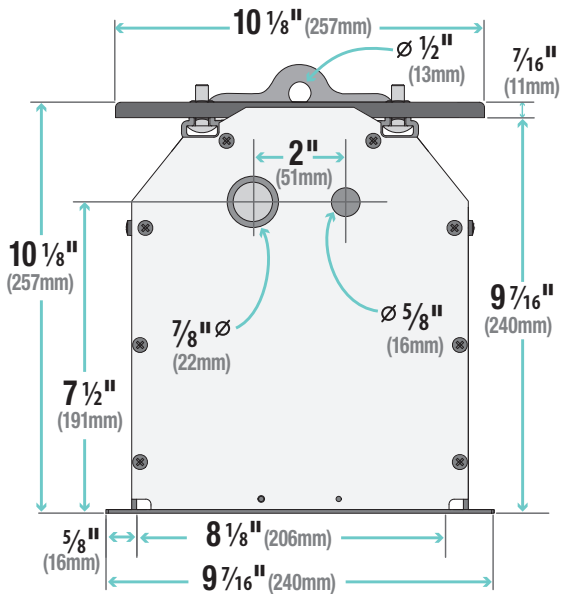
**Please Note:** 5V DC must be connected to be able to set limits using the wall switch.

## Section 10 - Case Length Dimensions



- For minimum length of ceiling cutout: subtract 1/4" (32mm) from case length (measured from outer edge of flanges).
- For minimum width of cutout (front to back): see case width dimensions below.
- \*\*Leveling bracket is used to level the case and should NOT be used to support the weight of the unit.
- The leveling bracket is screwed to the side of the case. Hardware used for leveling provided by others.
- There are several knock-outs in the screen housing to allow the Leveling Bracket to be adjusted laterally up to 16" (40.6cm) in either direction.

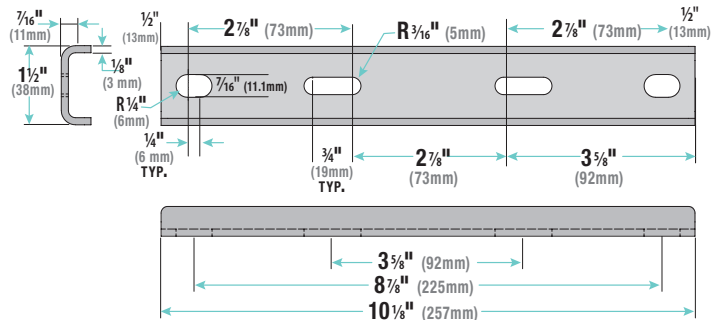
## Section 11 - Case Width Dimensions



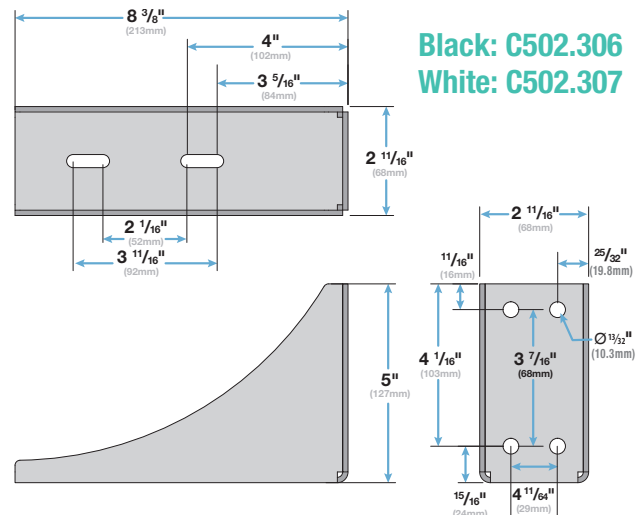
Standard Motor Wiring is on the AUDIENCE LEFT END of Screen Case.

## Section 12 - Mounting Bracket Dimensions

### Section 12.1 - Ceiling Mounting Bracket



### Section 12.2 - Wall Mounting Bracket (sold separately)

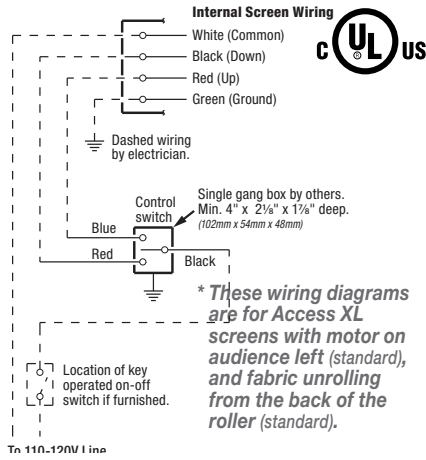


Black: C502.306  
White: C502.307

## Section 13 - Wiring Diagrams

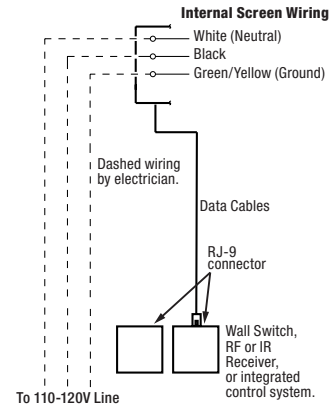
**Please Note:** Do not wire motors in parallel.

### 110-120V MOTOR STANDARD Single Station Control

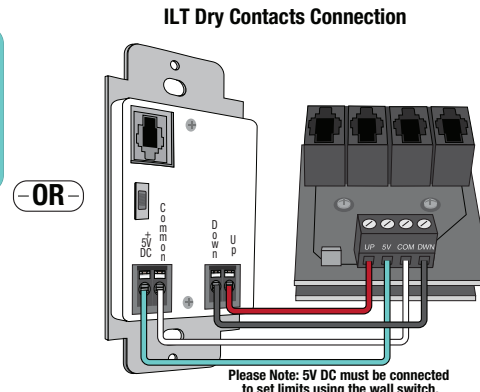
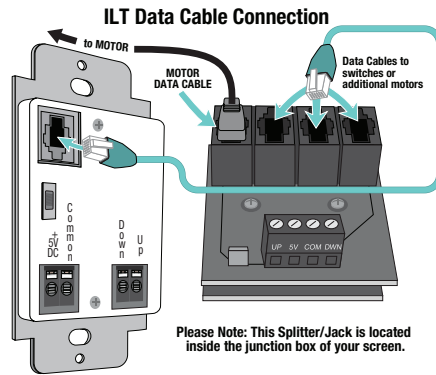


### 110-120V Motor with Internal Low-Voltage Controller

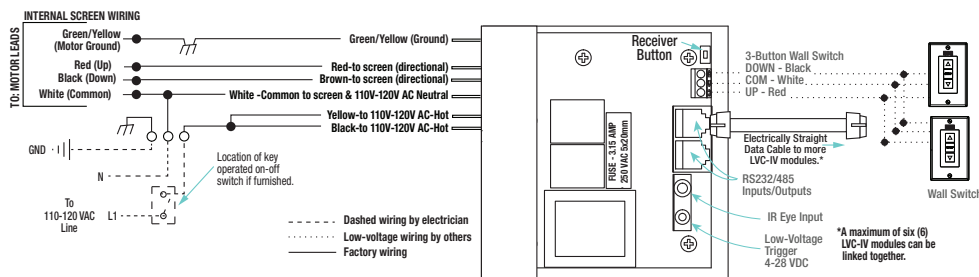
#### Multiple Station Control



### Connecting Switch to Motor with Internal Low-voltage Controller



### Internal LVC-IV - Single or Multiple Projection Screen Wiring Diagram



### External LVC-IV - Single or Multiple Projection Screen Wiring Diagram

