Overview - Components

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BACK PAGE - Wall & Ceiling Bracket Dimensions for Mounting

CAUTION

Read and understand all warnings (Page 2 of this document) before beginning installation.

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Important Safety Information

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., if you have questions about the installation of custom products or any questions about your installation.

Screen operates on 215-240V, 50 Hz. current. Screen ships with internal wiring complete and control switch(es) fully boxed.

Electrical wire for connecting screen to switch(es) and switch(es) to power supply should be furnished by installer

**CAUTION:** All operating switches should be “off” before power is connected.

**Please Note:** Screen must be installed in accordance with requirements of Local Building Codes, Canadian Electrical Code (CEC), CAN/CSA C22.1 and National Electric Code (NEC), NFPA 70. An appropriate disconnect device shall be provided as part of building installation.
Section 2 - Fascia Removal

** MUST BE DONE PRIOR TO REMOVAL OF SHIPPING BRACKETS **

To remove fascia:
1. Remove the screws from bottom from lip at each end of the fascia using ½” hex wrench.
2. Lift fascia off of the top lip of the case spine extrusion.

To install fascia:
1. Hook the top lip of fascia over the top lip of spine extrusion.
2. Push bottom edge of fascia towards the case spine.
3. Align holes in fascia with end cap holes and screw in the attachment screw using ½” hex wrench.

Section 3 - Removing Shipping Brackets *(Tab-Tensioned Screens Only)*

Screen should not be operated until after dowel shipping brackets are removed

Please Note: Before fully operating screen; lower viewing surface enough to fully expose shipping brackets, then remove shipping brackets See Fig. 2.

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Section 4 - Operation

220V 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.

For LVC-IV Controls:

24V Control — Three-button up-stop-down switch(es) stop at any point desired, operate in any sequence. Factory adjusted limit switches automatically stop screen when fully down or fully up.
1. Key-operated power supply switch controls power to unit and switches. When "off", switches will not operate. Key may be removed in either "on" or "off" position.
2. A three-position key switch permits screen to be operated directly by key. In this case, screen operator must always have a key.

RS232 / Ethernet — Serial communication and network communication available.
**Section 5 - Hanging Screen**

**Section 5.1 - General:**

1. **Wall Mounting Brackets** (minimum of 2) must be attached to the case regardless of mounting method.

2. Screen should be lifted into position only by case end caps. Keep case level by lifting case end caps simultaneously to prevent surface damage. Never attempt to lift screen along its length.

3. When locating viewing surface and checking clearance for screen’s operation, remember surface is centered in case. Handle case carefully to protect its finish.

4. Regardless of mounting method, screen should be positively and securely supported so that vibration or even abusive pulling on viewing surface will not cause case to loosen or fall. Installer must ensure that fasteners used are of adequate strength and suitable for mounting surface chosen.

**REFER TO DIAGRAM ON LAST PAGE OF MANUAL FOR WALL BRACKET DIMENSIONS**

**Section 5.2 - Wall Installation:**

1. Secure the Mounting Brackets (minimum of 2) to the wall using appropriate hardware (by others).

   **CAUTION:** Product is very heavy: Installer must provide adequate attachment hardware and anchors as required. Installer must also ensure that structure is of adequate strength.

2. Ensure that mounting brackets are level.

3. Slide all Bracket Locks to the center of case.

4. Holding the case by the endcaps, lift it up and over the cleats on the mounting brackets (see Fig. 5). Wall Bracket Mounting Channels are shown in Fig. 6 below.

5. Once the case is settled on the mounting brackets, slide the Bracket Locks to the center of each mounting bracket (see Fig. 6) and secure set screw on the lock.
Section 5.3 - Ceiling Installation:

1. Attach Ceiling Brackets to Mounting Brackets using the provided hardware (see figure at right).

2. Secure the Ceiling Brackets to the ceiling using appropriate hardware (by others).

**CAUTION:** Product is very heavy: Installer must provide adequate attachment hardware and anchors as required. Installer must also ensure that structure is of adequate strength.

3. Ensure that mounting brackets are level.

4. Slide all Bracket Locks to the center of the case.

5. Holding the case by the endcaps, lift it up and over the cleats on the mounting brackets (see Fig. 7). Wall Bracket Mounting Channels are shown in Fig. 8 below.

6. Once the case is settled on the mounting brackets, slide the Bracket Locks to the center of each mounting bracket (see Fig. 8) and secure set screw on the lock.
Section 6 - Limit Adjustments

Figure 9
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.

Figure 10

Section 6.1 - Standard Motors (Fig. 10)

Section 6.1.1 - "Down" Limit Adjustment (requires 5/32" (4 mm) hex key wrench)

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 6.1.2 - "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.

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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.

⚠️ 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 9

DOWN Limit (I):
Clockwise decreases down travel.

UP Limit (II):
Counterclockwise increases up travel.

⚠️ CAUTION:
- Motor must be installed so that limit switches are pointed down.
Section 6.2 - Limit Adjustments for Motors with Internal Low-Voltage Controllers

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

1. Connect internal low-voltage 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 8.)

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.

### Table: Position and Function

<table>
<thead>
<tr>
<th>POSITION</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOWN</td>
<td>Set LOWER limit</td>
</tr>
<tr>
<td>UP</td>
<td>Set UPPER limit</td>
</tr>
<tr>
<td>CENTER</td>
<td>Normal Operation</td>
</tr>
</tbody>
</table>

**Please Note:** 5V DC must be connected to be able to set limits using the wall switch.
Section 7 - Wiring Diagrams: 220V Motor and Quiet Motor

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

* These wiring diagrams are for Acumen screens with motor on audience left (standard), and fabric unrolling from the back of the roller (standard).

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**Single Station Control**

*CE Approved*

Internal Screen Wiring
- Blue-220V (Common)
- Brown-220V (Down)
- Black-220V (Up)
- Green/Yellow (Motor Ground)

Control switch

Dashed wiring by installer.

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**220V Motor and Quiet Motor with Internal Low-Voltage Controller**

Internal Screen Wiring
- Blue (Neutral)
- Brown (Directional)
- Green (Ground)

Data Cables

Wall Switches, RF or IR Receivers, or integrated control systems.

To 220V Line

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**Connecting Switch to ILT Motor**

ILT Data Cable Connection

Data Cables to switches or additional motors

Please Note: This Splitter/Jack is located inside the junction box of your screen.

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ILT Dry Contacts Connection

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

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

Internal Screen Wiring
- Blue (Common)
- Brown (Down)
- Black (Up)
- Green/Yellow (Motor Ground)

White-Common to screen & 230V AC Neutral

Red-to screen (directional)

Brown-to screen (directional)

Yellow-to 220V AC-Hot

Black-to 230V AC-Hot

Green/Yellow (Ground)

Location of key operated On-off switch if furnished.

Dashed wiring by electrician

Low-voltage wiring by others

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3 Button Wall Switch
- DOWN - Black
- COM - White
- UP - Red

Electrically Straight Data Cable to more LVC-IV modules.*

RS232/485 Inputs/Outputs

IR Eye Input

Low-Voltage Trigger 4-38 VDC

* A maximum of six (6) LVC-IV modules can be linked together.
Section 8 - Accessing Internal Low-Voltage Control Unit (LVC-IV)

**PLEASE NOTE:** Applies ONLY if Unit is built into case.

1. Using a \( \frac{3}{32} \)" (3mm) Hex Wrench, remove the screw from the wiring access door on the motor end of the case.
2. Remove the wiring access door and locate the Low Voltage Wiring Whip.
3. Make appropriate Low Voltage wiring connections (see Section 8). Low Voltage wiring should exit through the Low Voltage connection hole on the either the top or back of case. (nearest to the motor endcap).
4. Replace the access door and secure with screw using \( \frac{3}{32} \)" (3mm) Hex Wrench.

**Two electrical connection holes are included in the screen housing to separate Low-Voltage and High-Voltage Wiring.**

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

**INTERNAL SCREEN WIRING**

- Green/Yellow (Motor Ground)
- Black (Up)
- Brown (Down)
- Blue (Common)
- White - Common to screen & 230v AC Neutral
- Yellow - to 230v AC Hot
- Black - to 230v AC Hot
- Green/Yellow (Motor Ground)

**Factory wiring**

- Dash wiring by electrician
- Low-voltage wiring by others
- Dashed wiring by electrician
- Location of key operated on-off switch if furnished.

**Wiring Diagram**

- Receiver Button
- 3 Button Wall Switch
- COM - White
- UP - Red
- IR Eye Input
- Electrically Straight Data Cable to more LVC-IV modules.*

**Notes:**

- A maximum of six (6) LVC-IV modules can be linked together.
- *IR Eye Input
- Low-Voltage Trigger 4-28 VDC
- To 230 VAC Line
- GND
- N
Section 9 - Tab-Tension Adjustment Procedure

Please Note: The Draper Tab-Tensioning System is factory-set, and under normal circumstances will not require field adjustment. If wrinkles are observed, however, follow the adjustment procedure shown in Figure 9.

⚠️ CAUTION: Do not touch or bend surface.
Section 10 - Dimensions *(Tab-Tensioned Surface Shown)*

Case Length Varies
Centered Ceiling Bracket

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**End of Case Dimensions - Shown with Ceiling Bracket**

- **4 1/2"**
  - **114mm**
- **8 1/4"**
  - **210mm**
- **3/4"**
  - **19mm**
- **5 15/16"**
  - **151mm**
- **6 11/16"**
  - **170mm**
- **5 7/8"**
  - **(149 mm)**
- **7 1/8"**
  - **(181 mm)**
Note: It is the responsibility of the installer to select mounting hardware appropriate for the mounting surface.

Mounting Hardware (by others)