



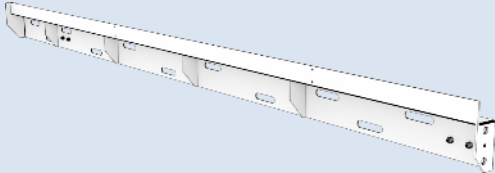
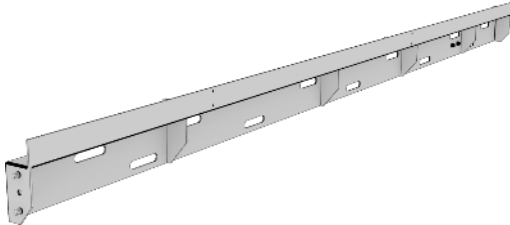

FHDQ135S LED

Assembly SOP

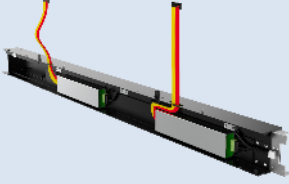

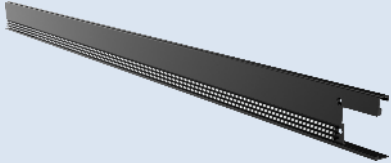



# FHDQ135S LED Display Parts List

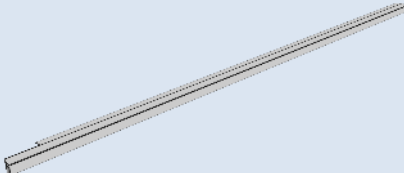
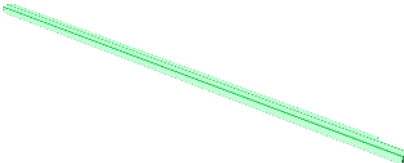
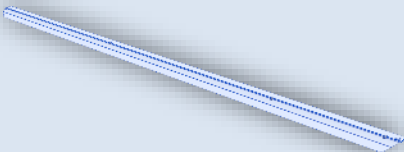
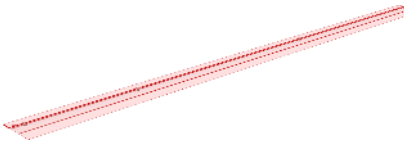
## FHDQ135S LED Display Parts List (1/8)

Item	Parts Name	Image	Quantity	Note
1	Left mount bar		2 PCS	<ul style="list-style-type: none"> <li>Provides left structure for LED display unit to wall or rolling stand.</li> </ul>
2	Right mount bar		2 PCS	<ul style="list-style-type: none"> <li>Provides right structure for LED display unit to wall or rolling stand.</li> </ul>
3	LED display unit		5 PCS	<ul style="list-style-type: none"> <li>Provides mounting structure for LED modules and precision surfaces and features for alignment, labeled 1 through 5.</li> <li>All columns are mechanically or electrically different and are installed in order. The installation positions cannot be swapped.</li> </ul>

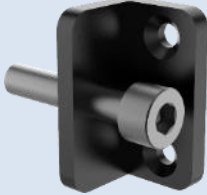


## FHDQ135S LED Display Parts List (2/8)

Item	Parts Name	Image	Quantity	Note
4	Left Smart HW electronics		1 PCS	<ul style="list-style-type: none"> <li>Provides electronic functions for the display.</li> </ul>
5	Right Smart HW electronics		1 PCS	<ul style="list-style-type: none"> <li>Provides electronic functions for the display.</li> <li>This part includes OPTOMA Smart HW module.</li> </ul>
6	Left Smart HW electronics front cover		1 PCS	<ul style="list-style-type: none"> <li>Provides front cover for left electronics and holds screen bottom touch sensor electronics.</li> </ul>
7	Right Smart HW electronics front cover		1 PCS	<ul style="list-style-type: none"> <li>Provides front cover for right electronics and holds screen bottom touch sensor electronics.</li> </ul>

## FHDQ135S LED Display Parts List (3/8)

Item	Parts Name	Image	Quantity	Note
8	Left side bezel		1 PCS	<ul style="list-style-type: none"> <li>Provide display trim on left side and holds screen left side touch sensor electronics.</li> </ul>
9	Right side bezel		1 PCS	<ul style="list-style-type: none"> <li>Provide display trim on right side and holds screen right side touch sensor electronics.</li> </ul>
10	Top left bezel		1 PCS	<ul style="list-style-type: none"> <li>Provide display trim on top left side and holds display top left touch sensor electronics.</li> </ul>
11	Top right bezel		1 PCS	<ul style="list-style-type: none"> <li>Provide display trim on top right side and holds display top right touch sensor electronics.</li> </ul>

## FHDQ135S LED Display Parts List (4/8)

Item	Parts Name	Image	Quantity	Note
12	Jack screw bracket		8 PCS	<ul style="list-style-type: none"> <li>Provide column position adjustment. Attaches to mounting bar and positions jack screw mounting threads.</li> </ul>
13	LED display units alignment plate		4 PCS	<ul style="list-style-type: none"> <li>Provide vertical adjustment for installed LED display unit.</li> </ul>
14	Decorative plates		1 PCS	<ul style="list-style-type: none"> <li>Provides aesthetic front cover for electronics box seam.</li> </ul>

## FHDQ135S LED Display Parts List (5/8)

Item	Parts Name	Image	Quantity	Note
15	Decorative plates bracket		1 PCS	<ul style="list-style-type: none"> <li>Provides structural strength for electronics box attachment.</li> </ul>
16	LED tile removal tool		1 PCS	<ul style="list-style-type: none"> <li>Removes LED tile of the display.</li> </ul>
17	Signal flex cable		3 PCS	<ul style="list-style-type: none"> <li>Provides signal between LED display unit.</li> </ul>

## FHDQ135S LED Display Parts List (6/8)


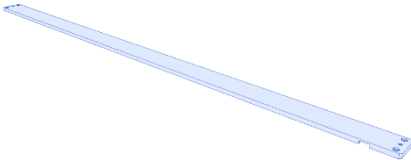
Item	Parts Name	Image	Quantity	Note
18	M4-8 Tab screw		9 PCS	<ul style="list-style-type: none"> <li>Attaches electronics assembly to the bottom of the LED display module and attaches handles to display chassis.</li> </ul>
19	M3-6 pan head screw w/ lock and flat washer		16 PCS	<ul style="list-style-type: none"> <li>Bracket to electronics assembly.</li> </ul>
20	M3-6 flathead screw		40 PCS	<ul style="list-style-type: none"> <li>Attaches side bezel to electronics, bracket to electronics, front cover bracket to front covers, front cover to front cover bracket.</li> </ul>
21	M3-20 flathead screw		2 PCS	<ul style="list-style-type: none"> <li>Attaches top bezel to side bezel.</li> </ul>



## FHDQ135S LED Display Parts List (7/8)

Item	Parts Name	Image	Quantity	Note
22	M4-10 flathead screw		18 PCS	<ul style="list-style-type: none"> <li>Attaches LED display unit alignment plate to top of LED display unit.</li> </ul>
23	M5-10 screw		7 PCS	<ul style="list-style-type: none"> <li>Attaches mount bars together, display unit 4 to display unit 5, and base of LED display module to electronics assembly.</li> </ul>
24	Handles		2 PCS	<ul style="list-style-type: none"> <li>Attaches to LED display unit chassis for optional installation.</li> </ul>
25	4M Hex wrench tool		1 PCS	<ul style="list-style-type: none"> <li>This is a tool that drives the Jack screw bracket to fix the LED display unit to the mount bar.</li> </ul>

## FHDQ135S LED Display Parts List (8/8)

Item	Parts Name	Image	Quantity	Note
26	Phillips screwdriver		1 PCS	<ul style="list-style-type: none"><li>Tools for removing and installing Phillips head screws.</li></ul>
27	Auxiliary positioning bracket		3 PCS	<ul style="list-style-type: none"><li>The auxiliary positioning bracket is specially used for mount bar and is used to help the mount bar quickly position and install.</li></ul>

## Preparation matters

- Number of engineering personnel : **at least two**.
- Tools and equipment needed :
  1. Non-slip gloves. (at least two set)
  2. Anti-static bracelet. (at least two pcs)
  3. Electric screwdriver that can be equipped with 4M and 5M hexagonal tools.
  4. Ladder with height above 100cm.



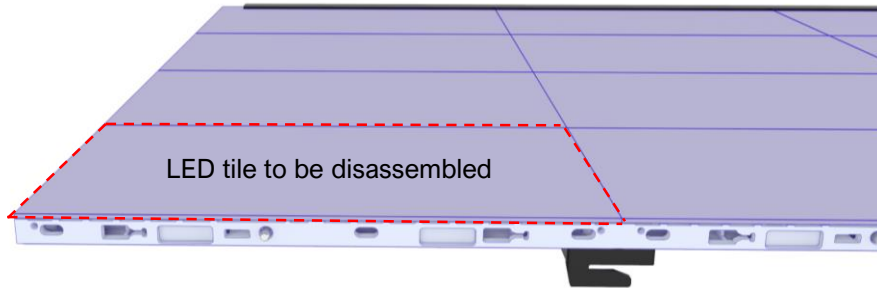
# Instructions for disassembling LED tiles

- Please be sure to use the LED tile removal tool provided by the original manufacturer to disassemble & assemble the LED tile of the FHDQ135SS LED display according to the following operating steps; failure to do so may cause damage to the LED tiles.
- SOP for disassembling LED tiles (1/3)



## Step. 1

- First, accurately locate the position & boundaries of the LED tiles to be disassembled on the LED tiles splicing display.



## Step. 2

- Then, as shown in the picture, carefully place the LED tile removal tool flat on the LED tile to be removed, and make sure it does not exceed its range.



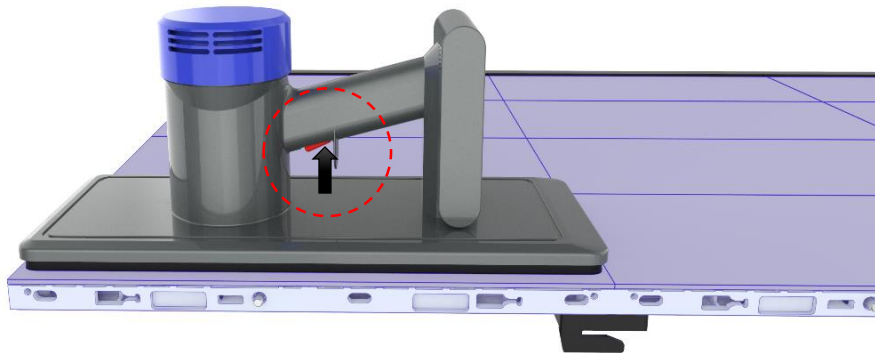
# Instructions for disassembling LED tiles

- Please be sure to use the LED tile removal tool provided by the original manufacturer to disassemble & assemble the LED tile of the FHDQ135SS LED display according to the following operating steps; failure to do so may cause damage to the LED tiles.
- SOP for disassembling LED tiles (2/3)



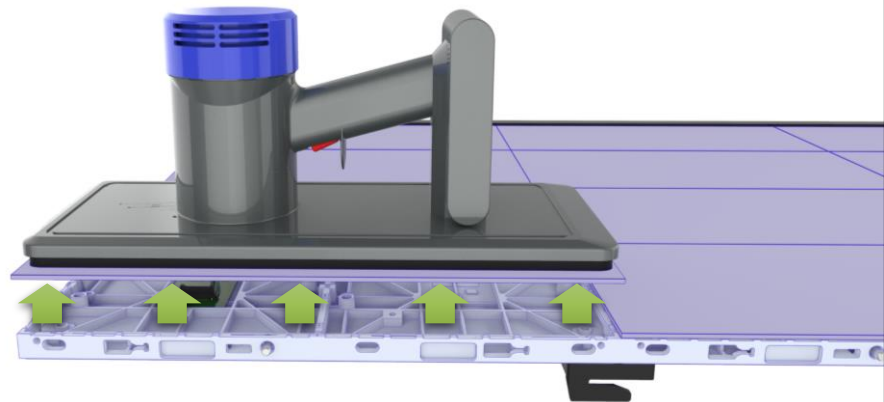
## Step. 3

- Press and hold the trigger switch of the LED tile removal tool to confirm that the motor is started and generates vacuum suction to firmly grasp the LED tile to be removed.



## Step. 4

- Smoothly pull the removal tool firmly attached to the LED tile toward the normal direction of the screen to separate the LED tile from the FHD135S chassis.



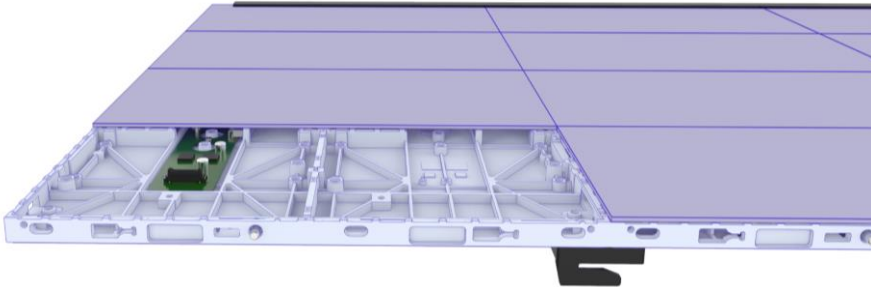
# Instructions for disassembling LED tiles

- Please be sure to use the LED tile removal tool provided by the original manufacturer to disassemble & assemble the LED tile of the FHDQ135SS LED display according to the following operating steps; failure to do so may cause damage to the LED tiles.
- SOP for disassembling LED tiles (3/3)



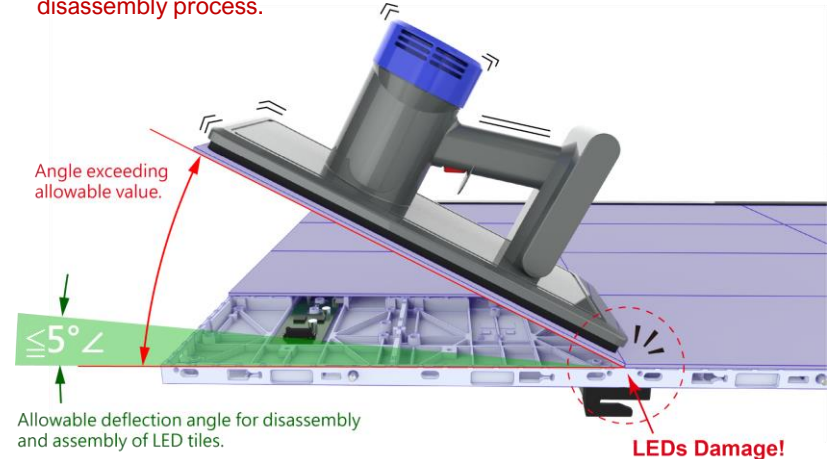
## Step. 5

- After the LED tile is successfully removed from the chassis, you must continue to press and hold the trigger switch of the LED tile removal tool until the LED tile can be held firmly by your hand. Then you can release the trigger switch and stop the tool.



## Notice

- When disassembling the LED tile, please maintain its horizontal angle and avoid flipping it more than  $5^\circ$  to reduce damage caused by collision with adjacent LEDs due to excessive tilt angle of the LED tile during the disassembly process.

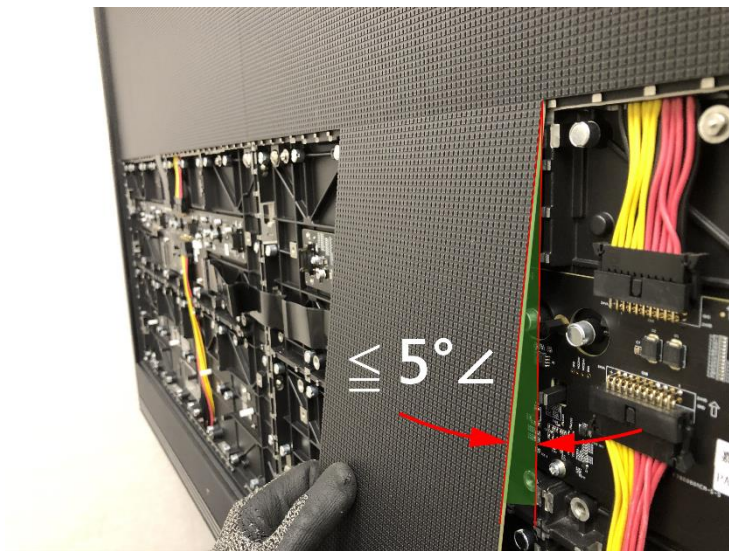


# Instructions for assembling LED tiles

- When assembling the LED tiles on the FHDQ135SS LED display chassis, please keep the angle between it and the installation plane  $\leq 5^\circ$  to avoid damage to neighboring LEDs caused by excessive inclination of the LED tiles during the assembly process.

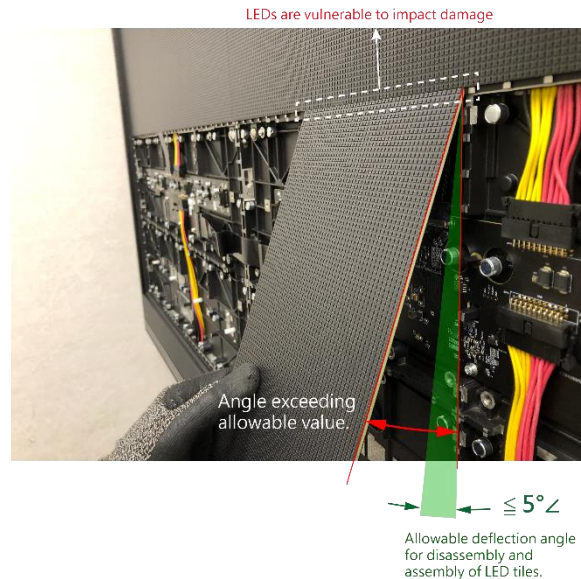
## Correct assembly

- When combining the LED tiles on the FHDQ135SS LED display, please keep the angle between it and the chassis mounting plane  $\leq 5^\circ$ .



## Wrong assembly

- When the LED tile is assembled on the FHDQ135SS at an angle of  $>5^\circ$ , the LEDs are prone to collision or extrusion resulting in damage, which should be avoided as much as possible.



Assembling the mount bar



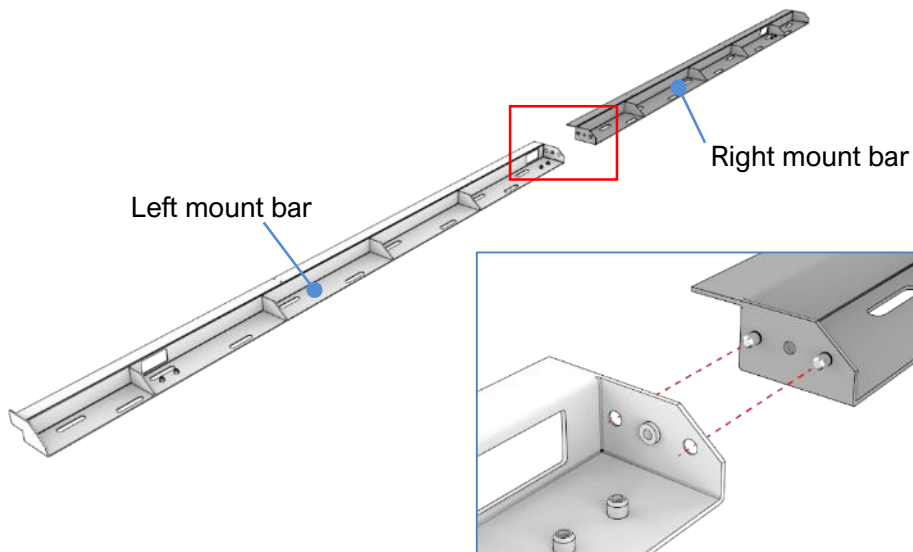
# Assembling the mount bar

- Assemble two pieces of FHDQ135S mount bar.
- Fixed assembled mount bar using M5-10 screws.



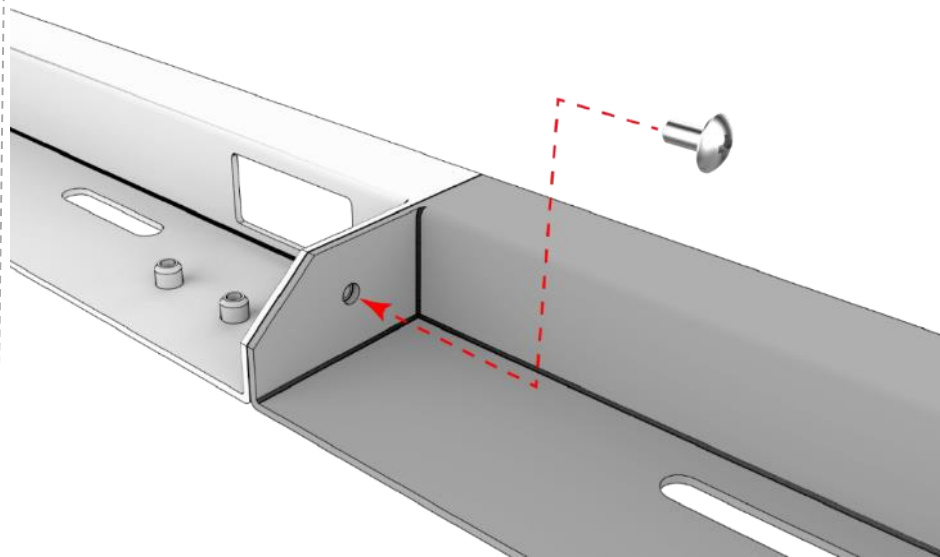
## Step. 1

- Locate the left and right mount bar and place them on a flat surface as shown. Slide together engaging alignment pins.



## Step. 2

- Fixed assembled mount bar using M5-10 screws.
- Torque value of fastening screw: 4 kgf.cm



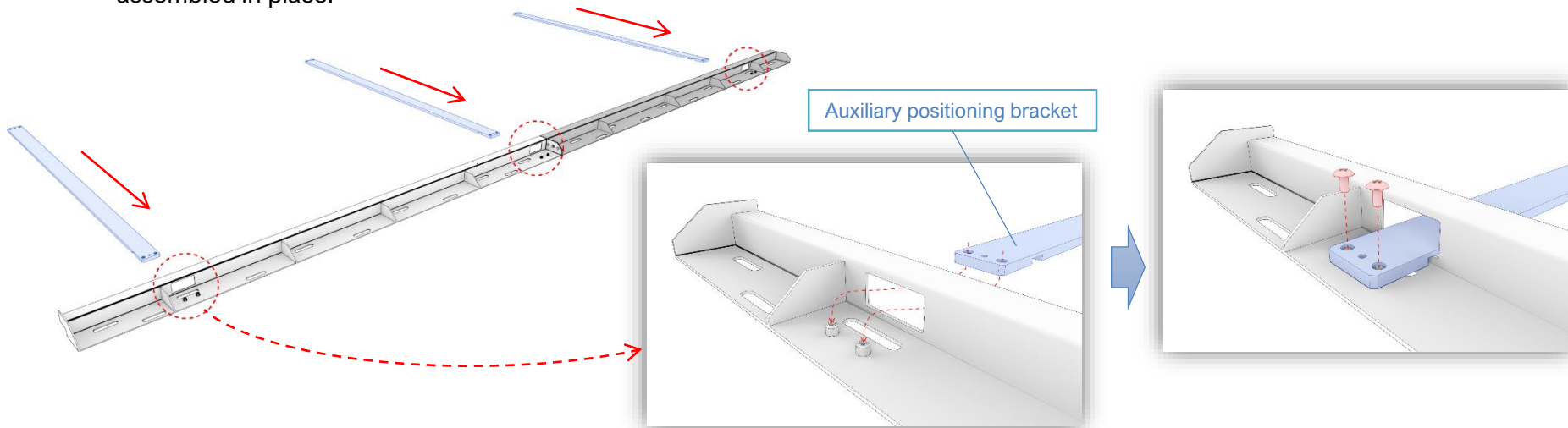
# Assembling the Auxiliary positioning bracket (1/2)

- Suggest to use auxiliary brackets to help positioning for wall mount application.
- Assemble the mount bar and auxiliary positioning bracket into a rectangular frame to facilitate positioning and installation.
- The auxiliary positioning bracket is assembled with M5-10 screws.



## Step. 1

- As shown in the picture, combine the positioning hole at the groove end of the auxiliary positioning bracket with the mount bar pin marked in red circle, and then tighten it with M5-10 screws. There are **three auxiliary positioning brackets** that need to be assembled in place.



## Assembling the Auxiliary positioning bracket (2/2)

- Assemble the mount bar and auxiliary positioning bracket into a rectangular frame to facilitate positioning and installation.
- The auxiliary positioning bracket is assembled with **M5-10 screws**.

### Step. 2

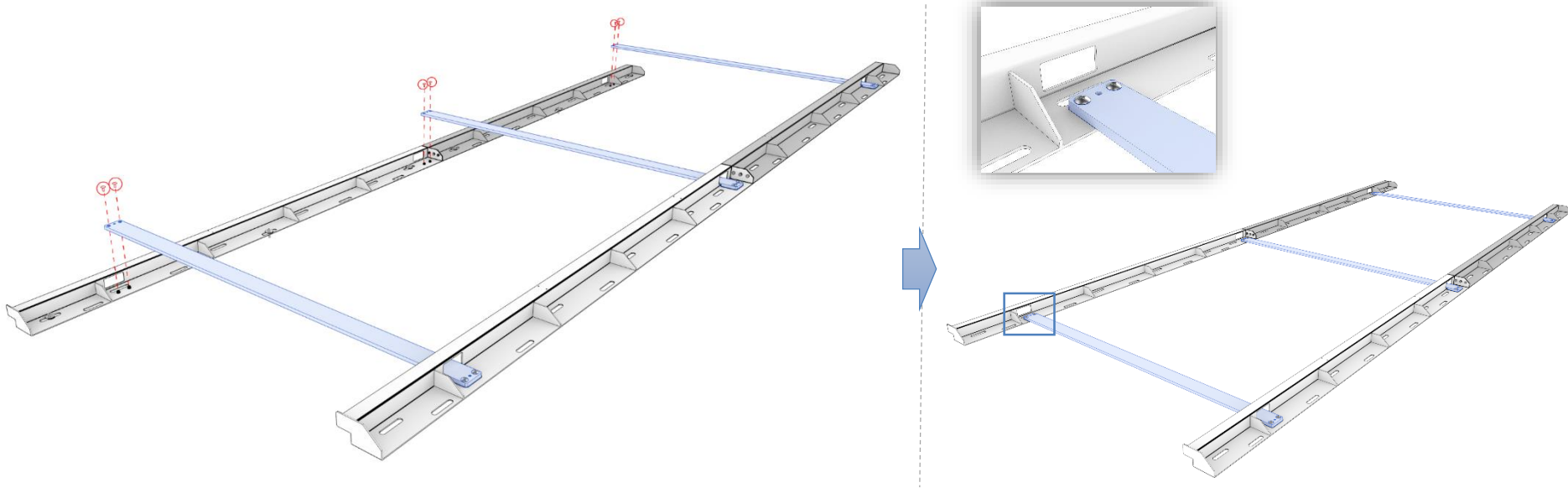
- As shown in the picture, use M5-10 screws to combine the auxiliary positioning bracket with another mount bar to form a solid rectangular frame.



M5-10 screw \* 6

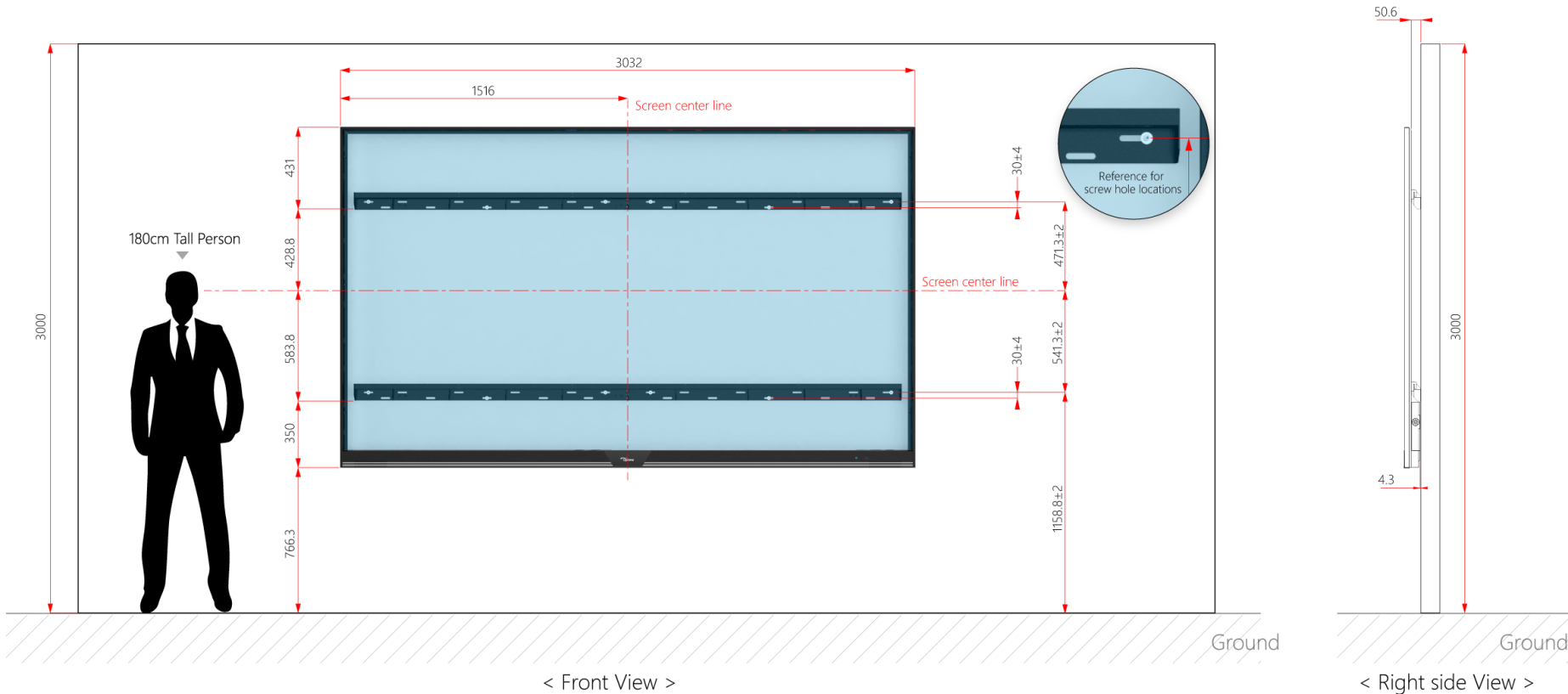


Phillips screwdriver



# Preparing the Wall for Wall Mounting

- This schematic diagram takes the FHDQ135S screen center line 170cm from the ground as an example to illustrate the relative position dimensions of the FHDQ135S LED display and the mount bar.

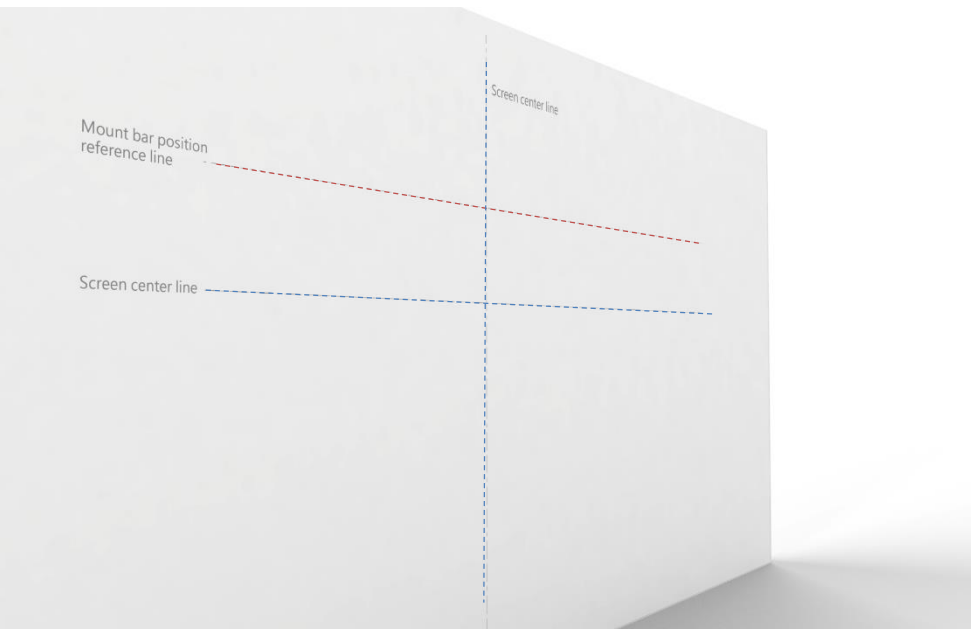


## Steps to install mount bar (1/2)

- The mount bar of the wall-mounted FHDQ135S is a rectangular frame formed by it and a special auxiliary positioning bracket to achieve rapid wall-mounting positioning and installation.

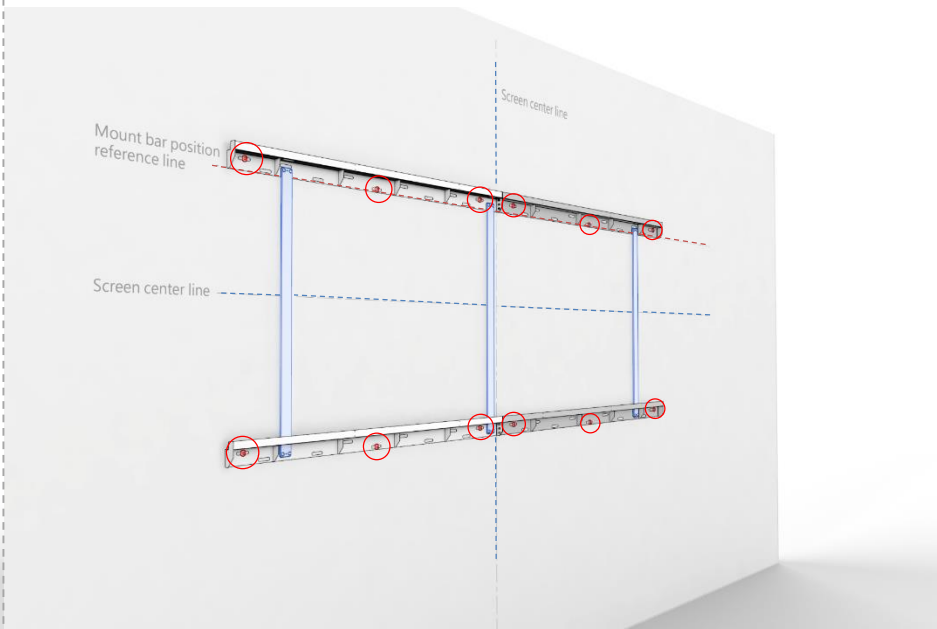
### Step. 1

- Please refer to the installation wall information on the previous page. After determining the height of the upper mount bar, mark the horizontal reference line for the bottom position of the mount bar and the center line of the screen on the wall, as shown in the figure.



### Step. 2

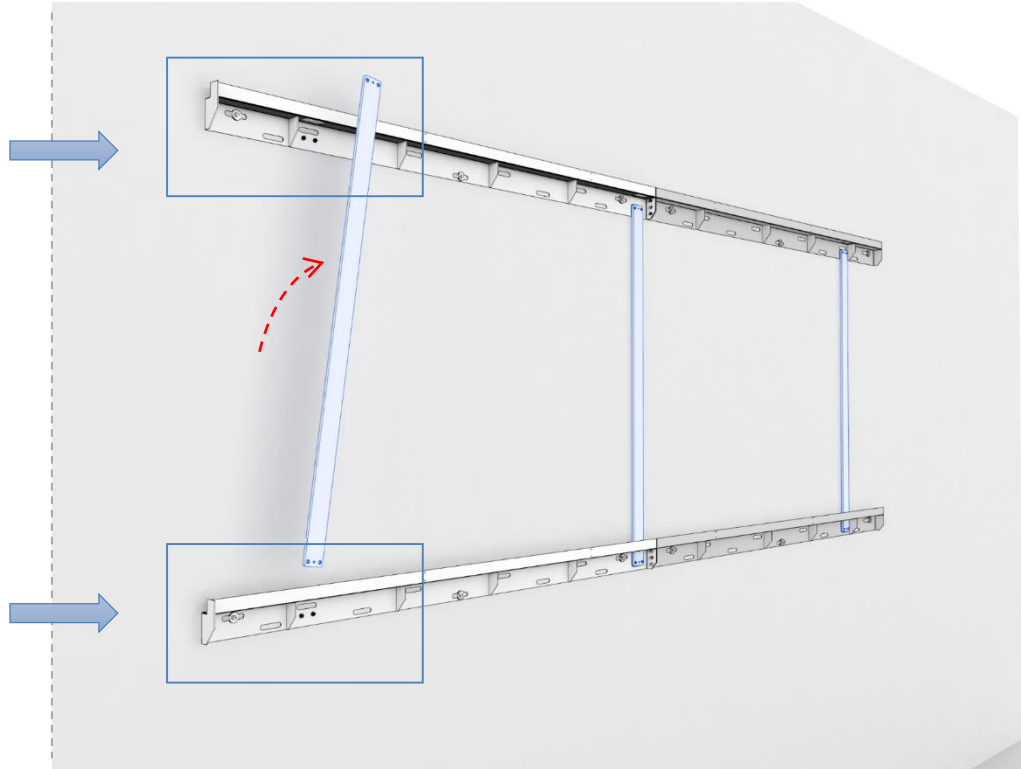
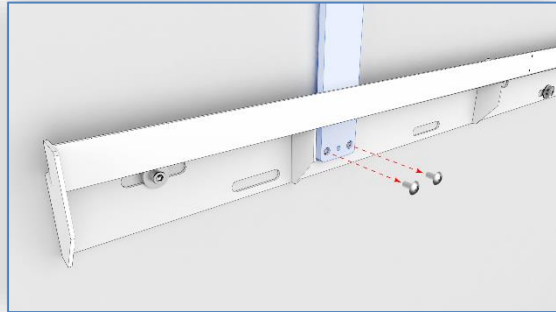
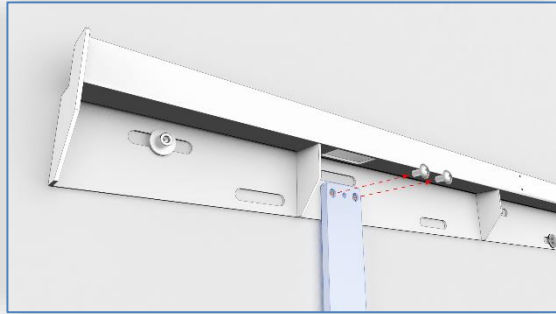
- Lift the mount bar frame module flat against the wall, aligning the lower edge of the upper mount bar with the horizontal mark line; align the center line of the mount bar with the vertical mark line on the wall, and secure the frame with gecko screws Group, the red circle mark is the necessary fixed point.



## Steps to install mount bar (2/2)

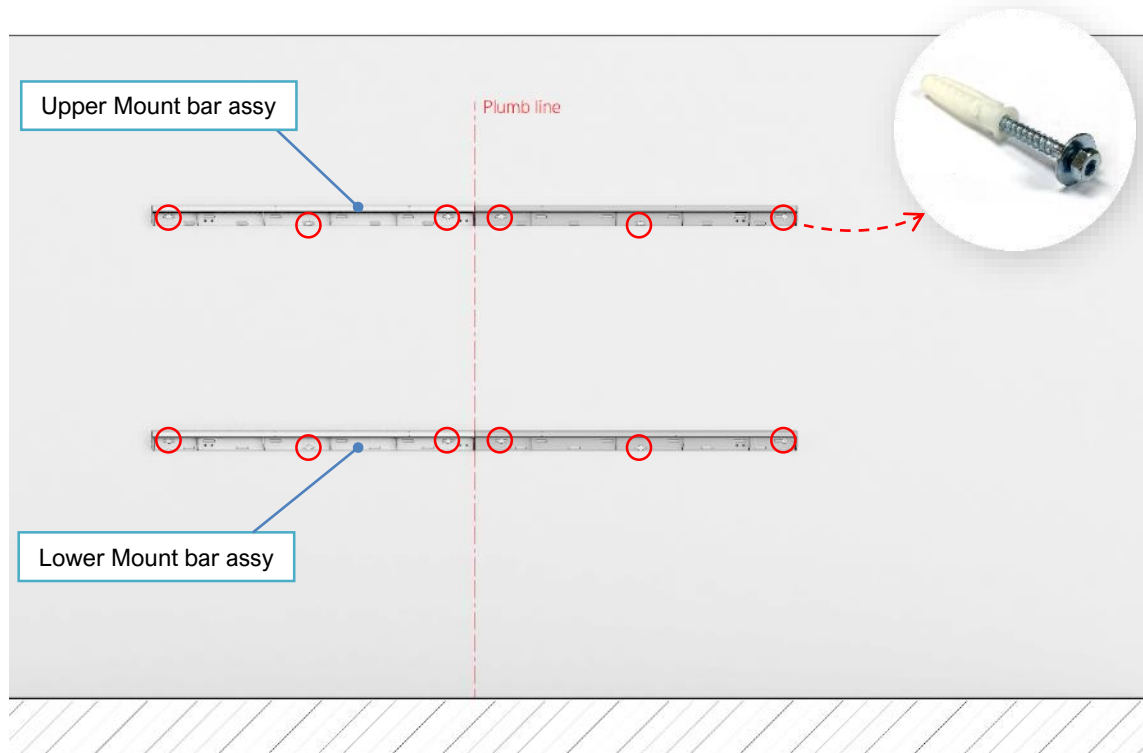
### Step. 3

- After confirming that the mount bar is firmly fixed, remove the M5-10 screws that fix the auxiliary positioning bracket, and remove all the auxiliary positioning brackets in the direction of the arrow in the figure to complete the installation of the FHDQ135S mount bar.



# Key points for installing mounting bar

- Please make sure the mount bar assy remains level.
- Please ensure that the center lines of the upper and lower sets of mount bar assy are aligned with the plumb line.
- The 12 red circle marks in the picture below are the locations where the mounting bar bolts must be installed. **The number of bolts installed cannot be less than this.**



- Please use a level tool to make the mount bar assy horizontal to the ground first, and then tighten the bolts to secure it.

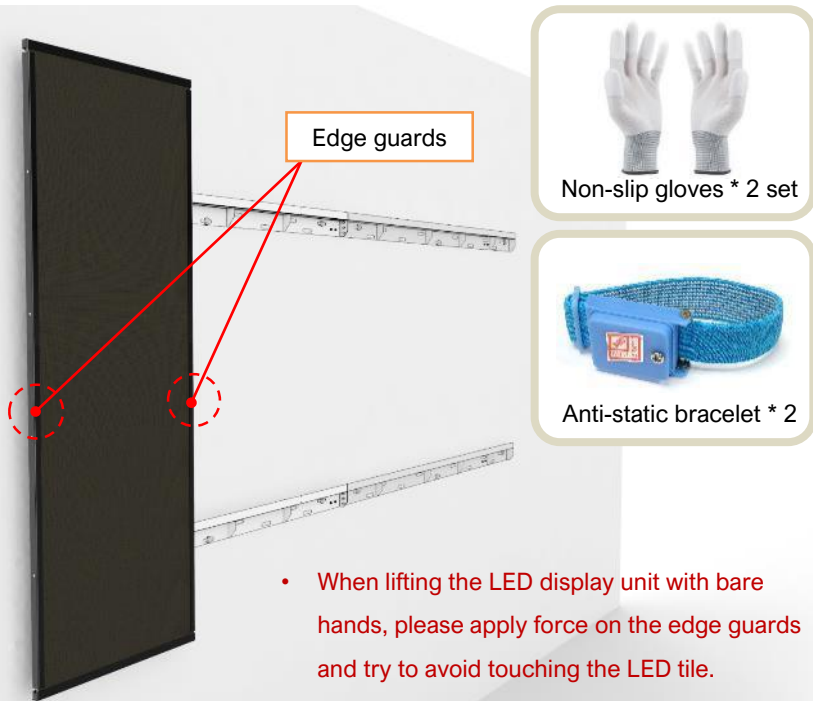
Installing LED display unit



# Installing LED display unit

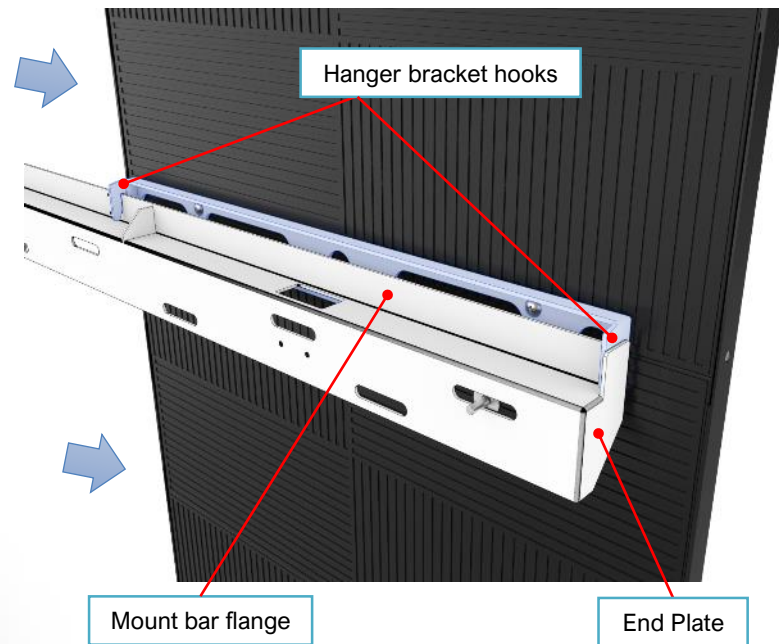
## Step. 1

- Hang display unit 1 near the left edge of the mount bars, ensuring the upper and lower hanger brackets of the display unit are hooked on the mount bar flanges as shown.



## Step. 2

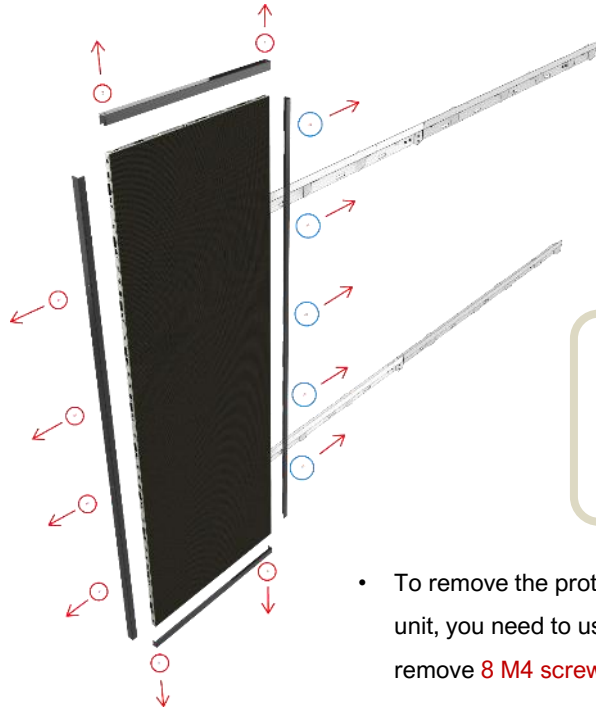
- Slide the display unit all the way to the left until the hanger brackets are against the mount bar end plates.



# Installing LED display unit

## Step. 3

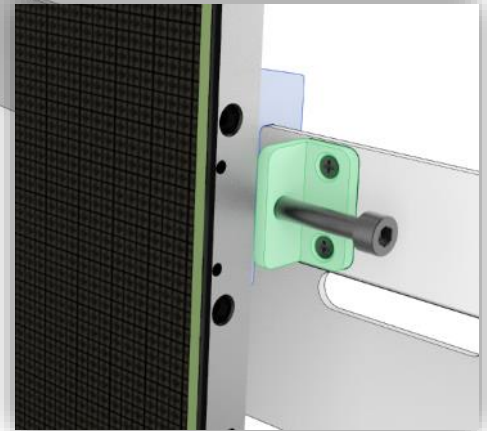
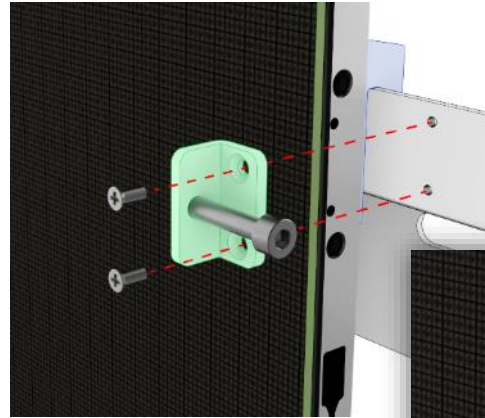
- As shown in the picture, Remove the flathead screws securing a column edge guard. Carefully remove the guard without contacting the LEDs.



- To remove the protective frame of the display unit, you need to use a Phillips screwdriver to remove **8 M4 screws** and **5 M5 screws**.

## Step. 4

- Install display unit jack screw brackets with (2X) M3-6 flathead screw to both the upper and lower mount bars.

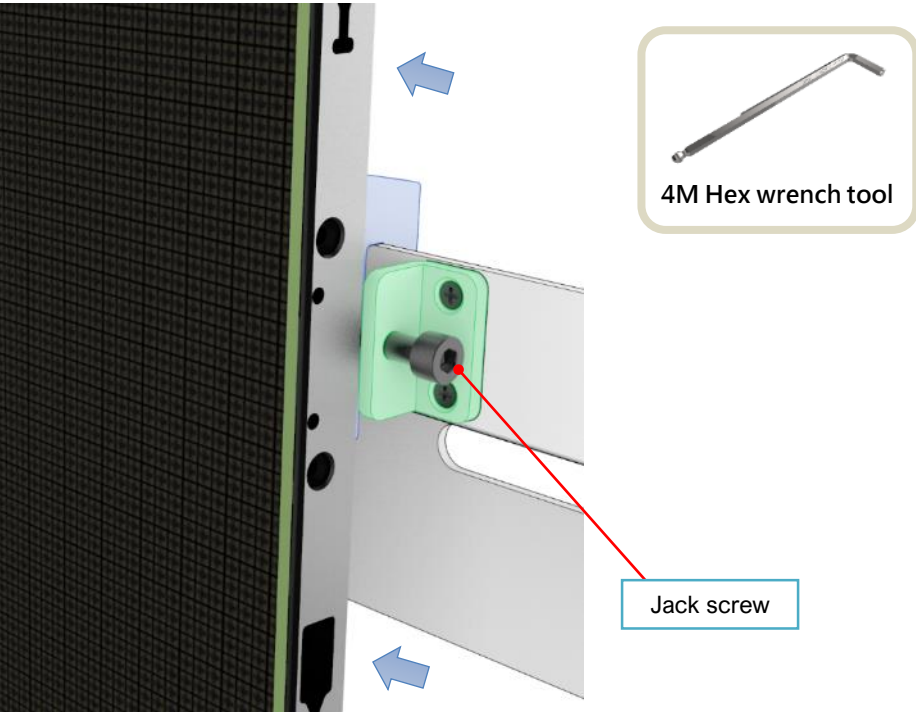


- Appearance with Jack screw brackets installed.

# Installing LED display unit

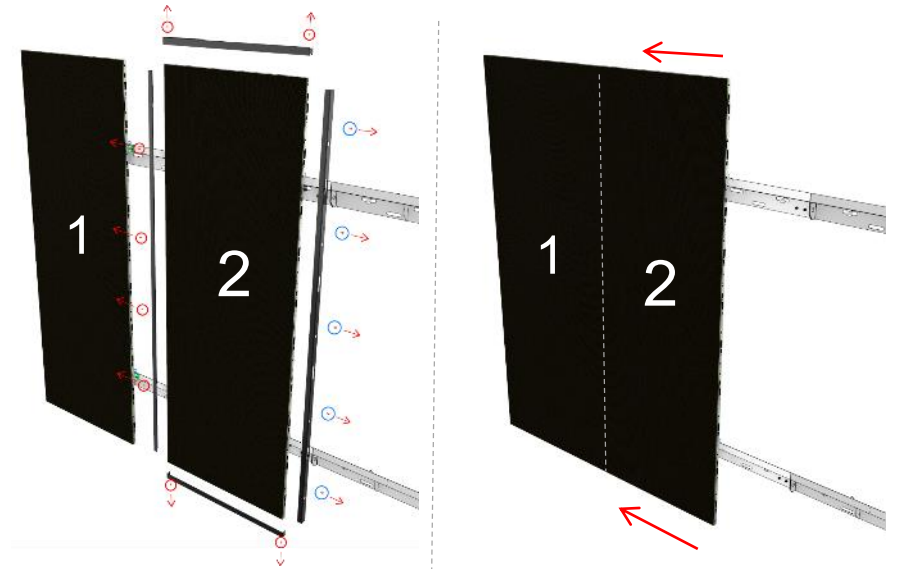
## Step. 5

- Tighten each jack screw against the display unit hanging bracket to push and hold display unit against mount bar endplates.



## Step. 6

- Take out the LED display unit No. 2 from the package and carefully hang it on the mount bar so that it is at a distance from the LED display unit No. 1 that can be used to remove the edge guards.
- Remove the edge guards as shown in the picture, and then gently slide it to the left against the LED display unit numbered 1.



# Installing LED display unit

## Step. 7 (1/2)

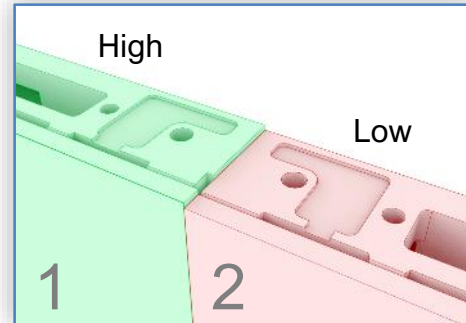
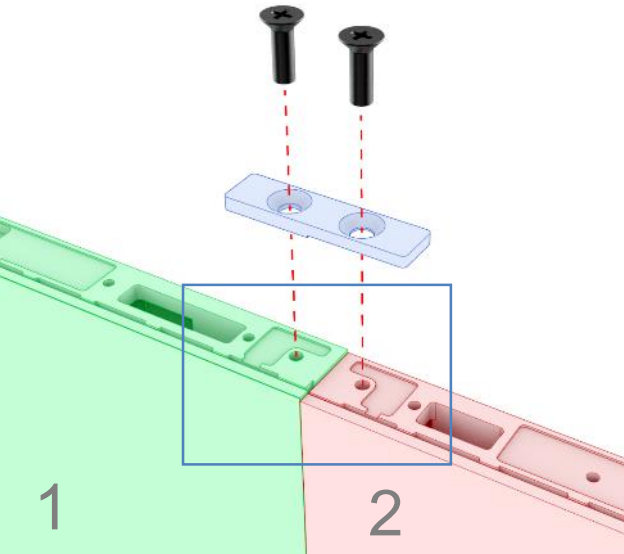
1. To vertically align LED display unit , use the [LED display unit alignment plates](#).
2. When two LED display unit are installed next to each other determine which column needs to be raised to correct alignment.
3. Place the thick side of the LED display unit alignment plate on the taller LED display unit to remain fixed in place and install a M4-10 FHMS screw.



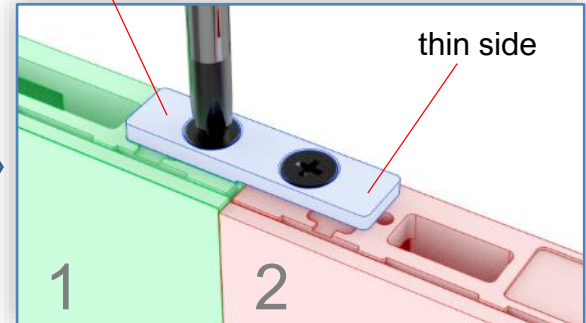
M4-10 screws \* 2



Phillips screwdriver



thick side

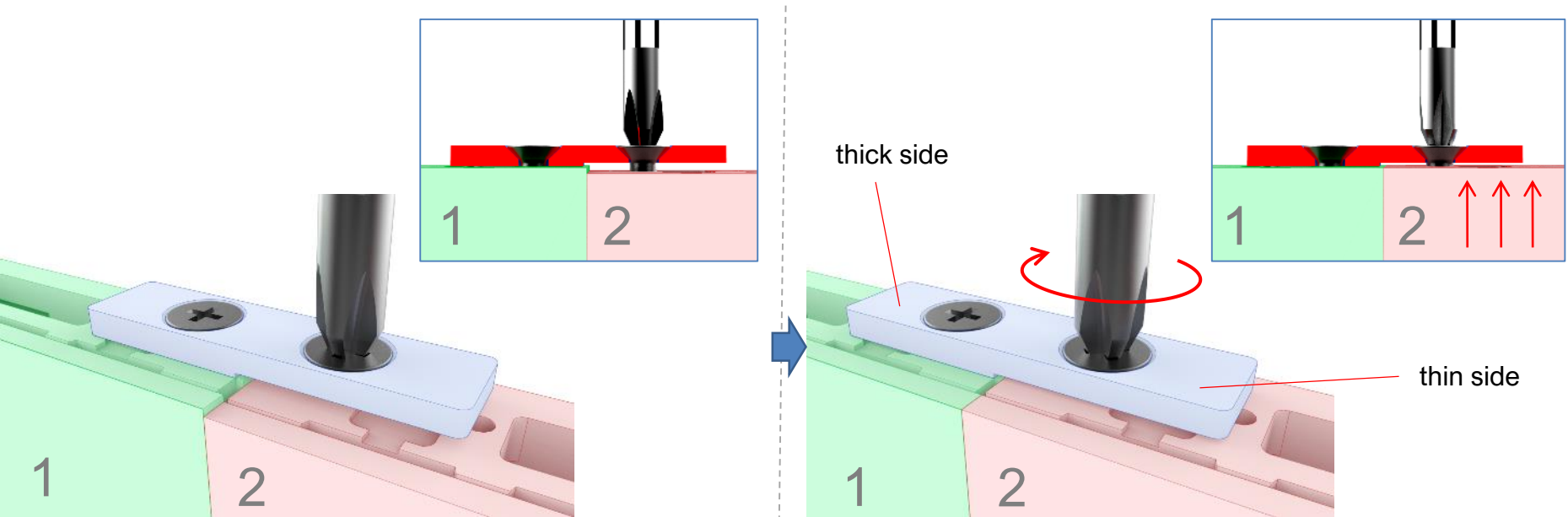


- The LED display unit No. 1 in this example is taller than the LED display unit No. 2, so the thick side of the Alignment plate needs to be installed on the display unit No. 1 and fixed with M4-10 screws.

# Installing LED display unit

## Step. 7 (2/2)

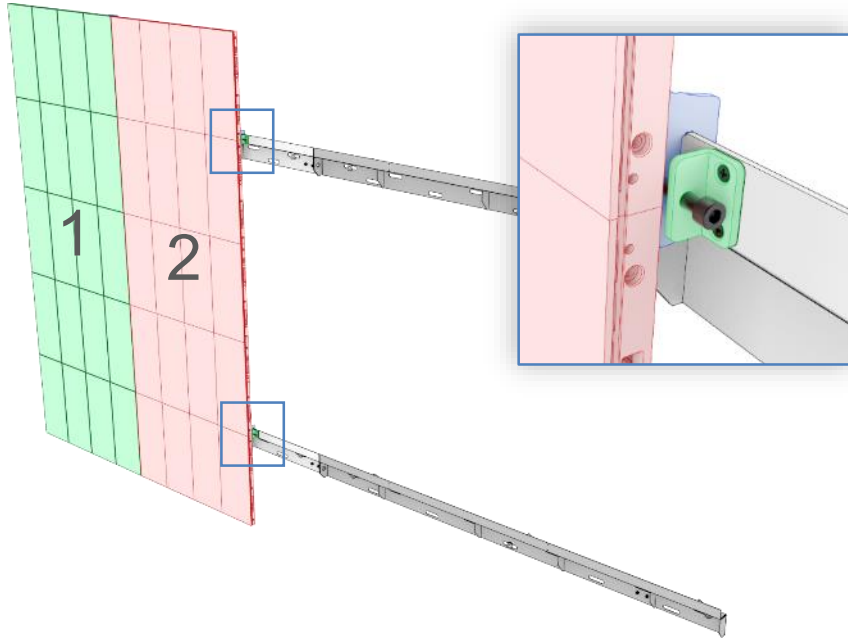
4. Tighten the M4-10 screws on the thin side of the LED display unit alignment plate until the pixels are in alignment with the fixed column.
- Note1, It may be beneficial to help raise a low display unit by lifting from the bottom as the screw is being tightened.
  - Note2, Make the tops of the columns as flush as possible. This avoid any column height alignment issues later.



# Installing LED display unit

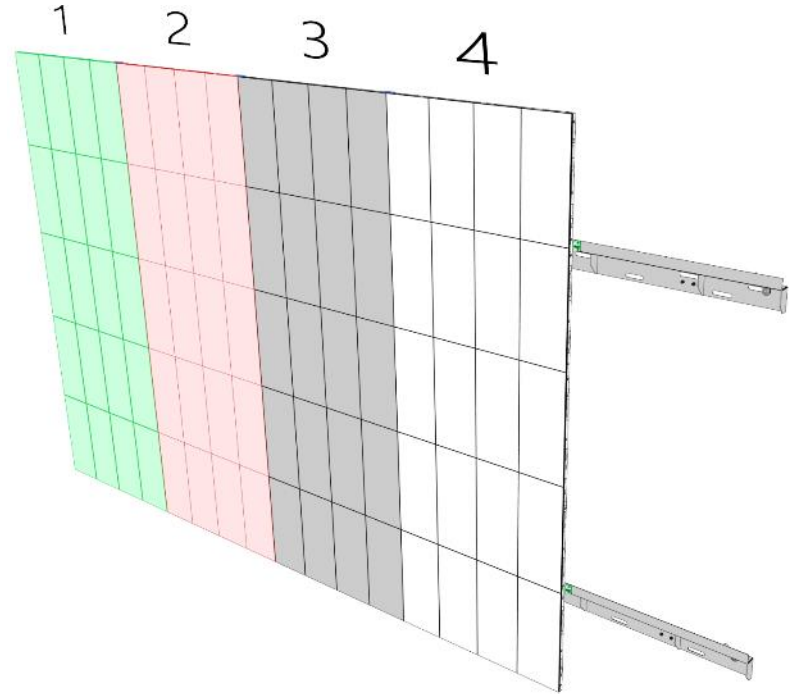
## Step. 8

- Repeat the above steps 4 and 5, and use two sets of Jack screw brackets to tightly connect the LED display units No. 1 and No. 2.



## Step. 9

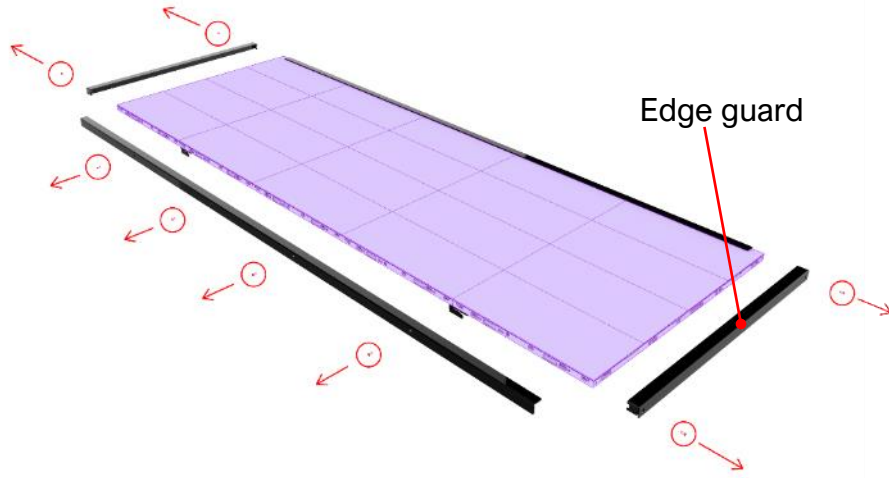
- Repeat the above steps 6 to 8 for LED display unit 3 and 4.



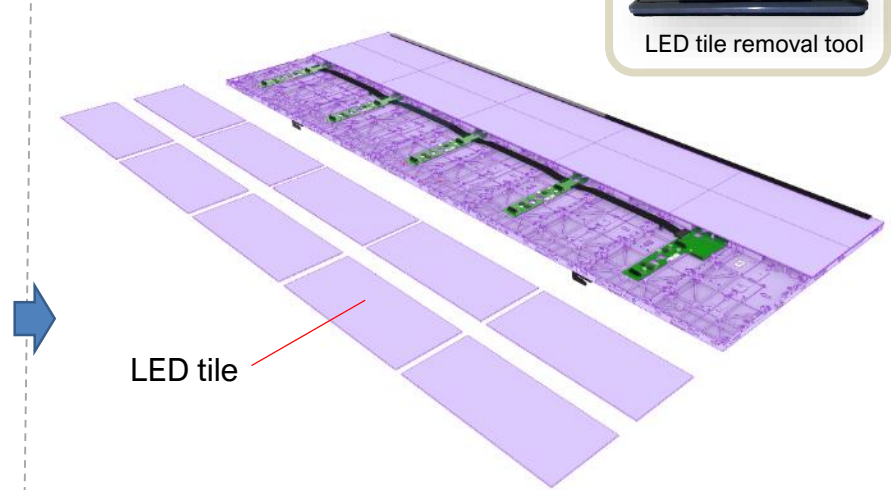
# Installing LED display unit

## Step. 10 (1/2)

- Before hanging the No. 5 LED display unit on the mount bar, the edge guards on the left, top, and bottom sides, as well as the two columns of LED tile shown in the picture, must be removed.



- First, remove the edge guards on the left, top, and bottom sides of the display unit.



- Next, remove the two columns of LED tiles on the left as shown in the picture.



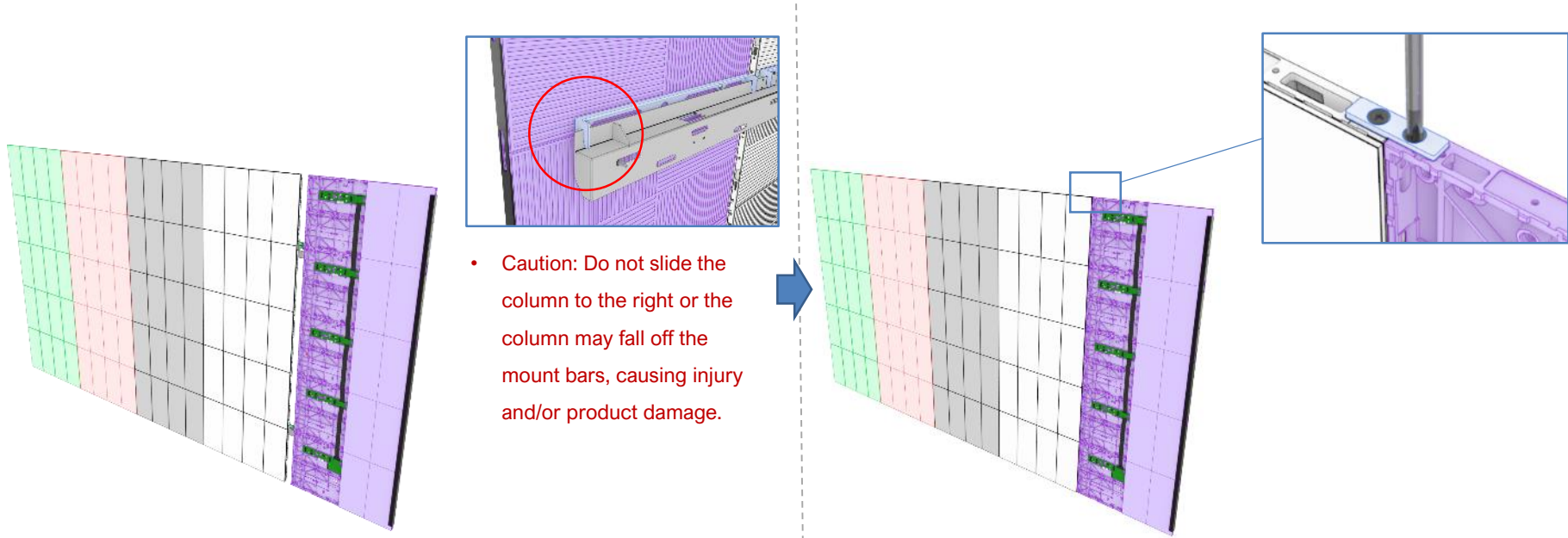
LED tile removal tool



## Installing LED display unit

## Step. 10 (2/2)

- Make sure that both the top and bottom rightmost hangers are hung on the mount bar, and slide No. 5 LED display unit into contact with No. 4 LED display unit.
- Repeat step 7 and use LED display unit alignment plates to align the vertical directions of LED display units No. 4 and No. 5.

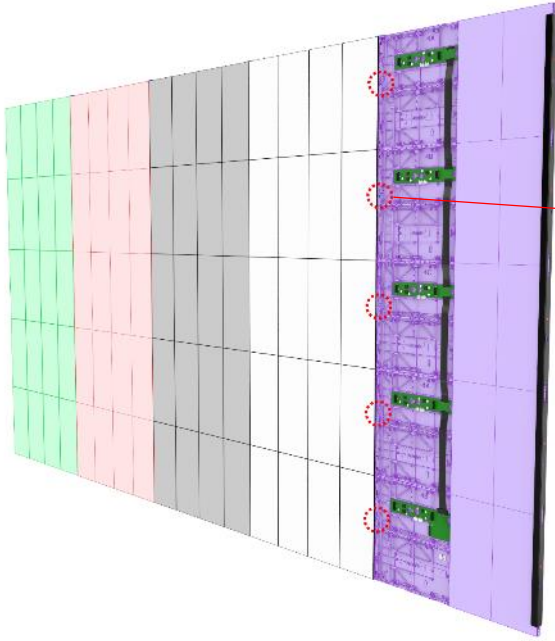




# Installing LED display unit

## Step. 11

- In the removed module areas in column 5, finger tighten (5X) M5-10 screws at the seam between columns 4 and 5 as shown.



M5-10 screw \* 5



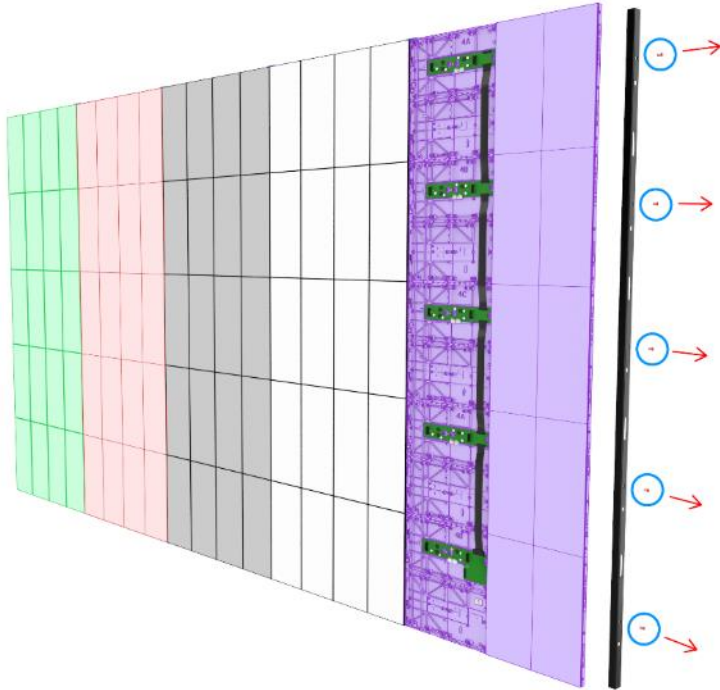
Phillips screwdriver

- The red circle mark is the locking point of the M5-10 screw.

# Installing LED display unit

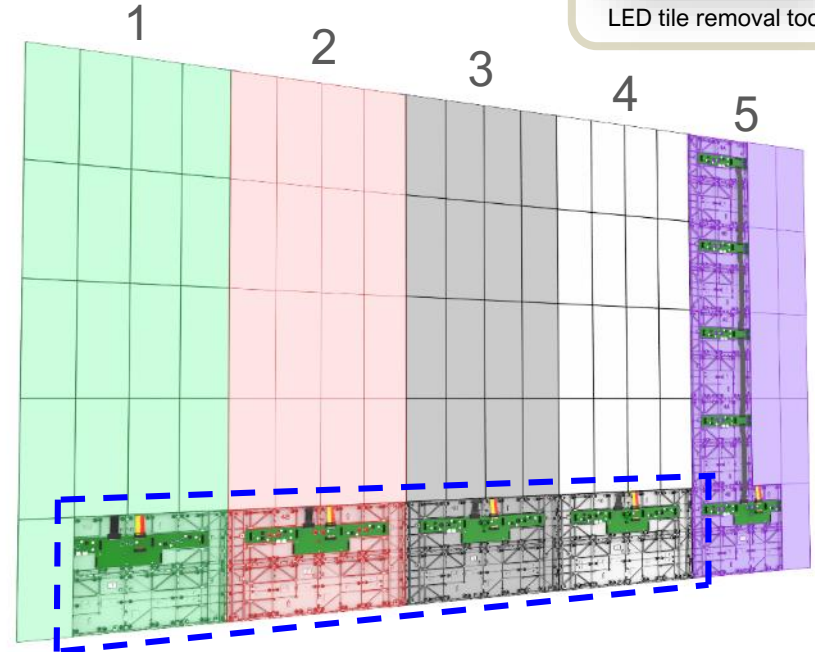
## Step. 12

- Remove the edge guards on the right side of No. 5 LED display unit.



## Step. 13

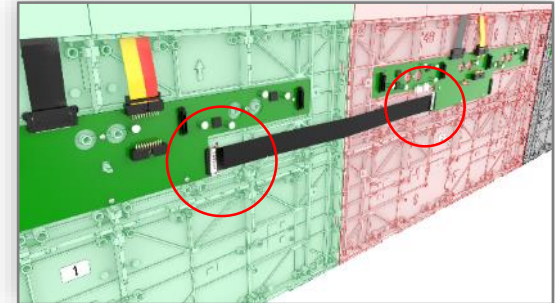
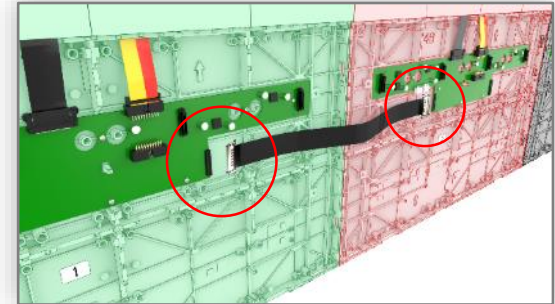
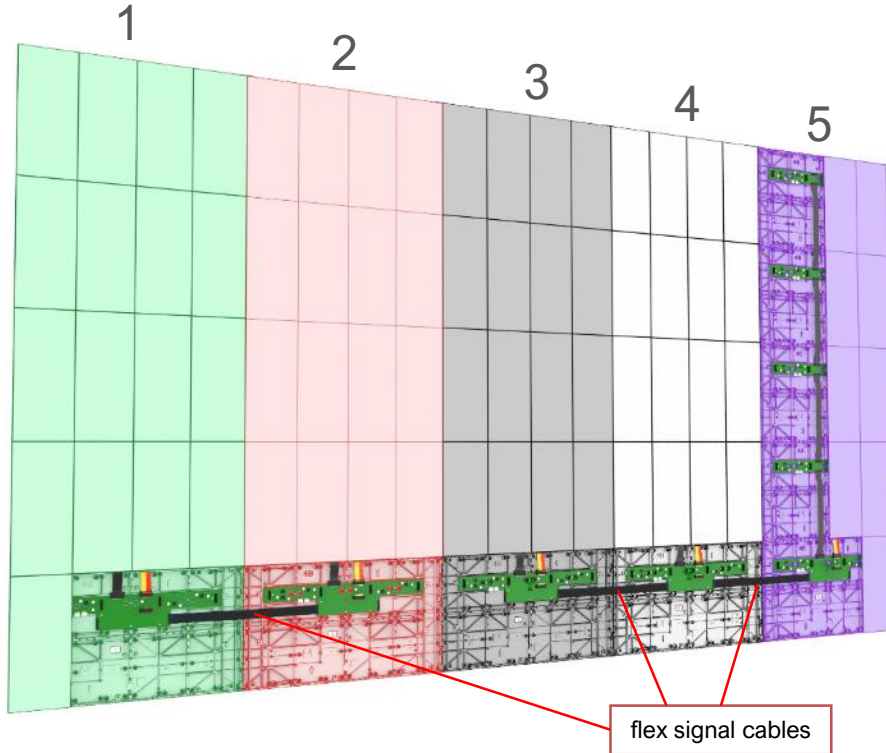
- Please use the LED tile removal tool to remove the 15 LED Tile shown in the picture.



# Installing LED display unit

## Step. 14

- Connect (3X) flex signal cables between columns 1 and 2, 3 and 4, and 4 and 5 electronic boards.

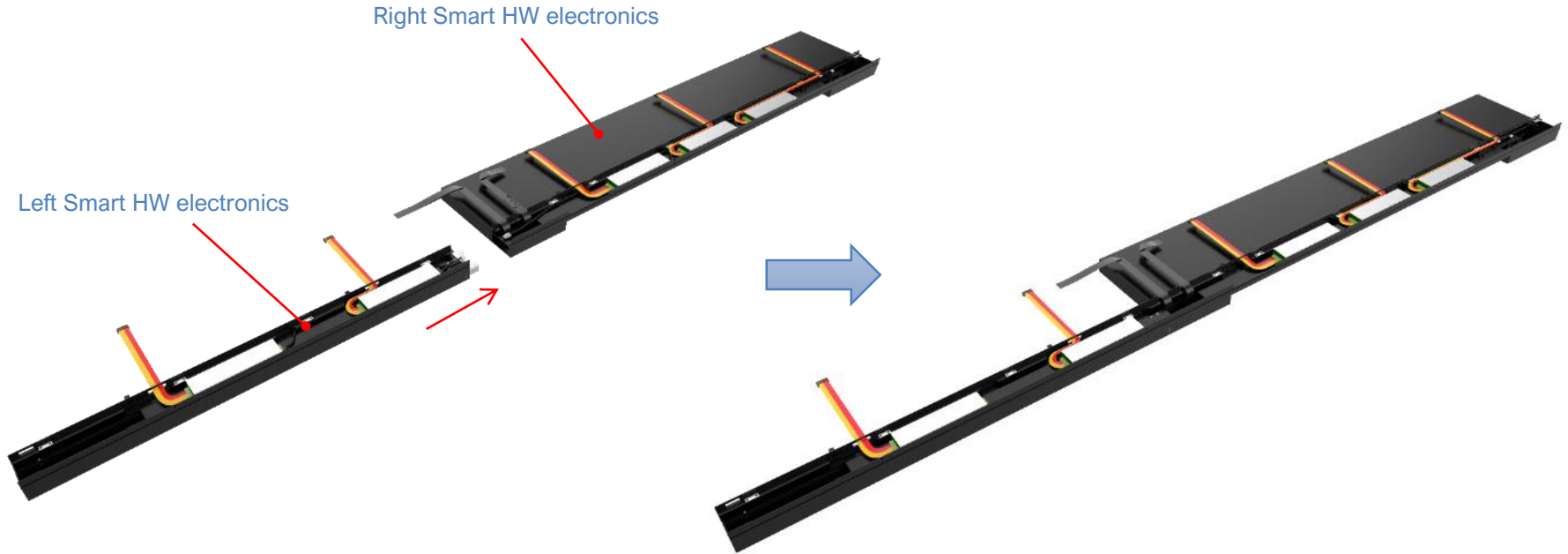


# Assembling and Installing Electronic Box

# Assembling and Installing Electronic Box

## Step. 1

- Align the Left Smart HW electronics and Right Smart HW electronics assemblies as shown and push the pieces together over the bracket on a flat surface.



# Assembling and Installing Electronic Box

## Step. 2

- Install (4X) M3-6 PHMS screws and (2X) M3-6 FHMS BLK to secure the Left Electronics and Right Electronics assemblies.



M3-6 PHMS screws \* 4



M3-6 FHMS screws \* 2

## Step. 3

- Connect power cables between left and right electronics assemblies as shown

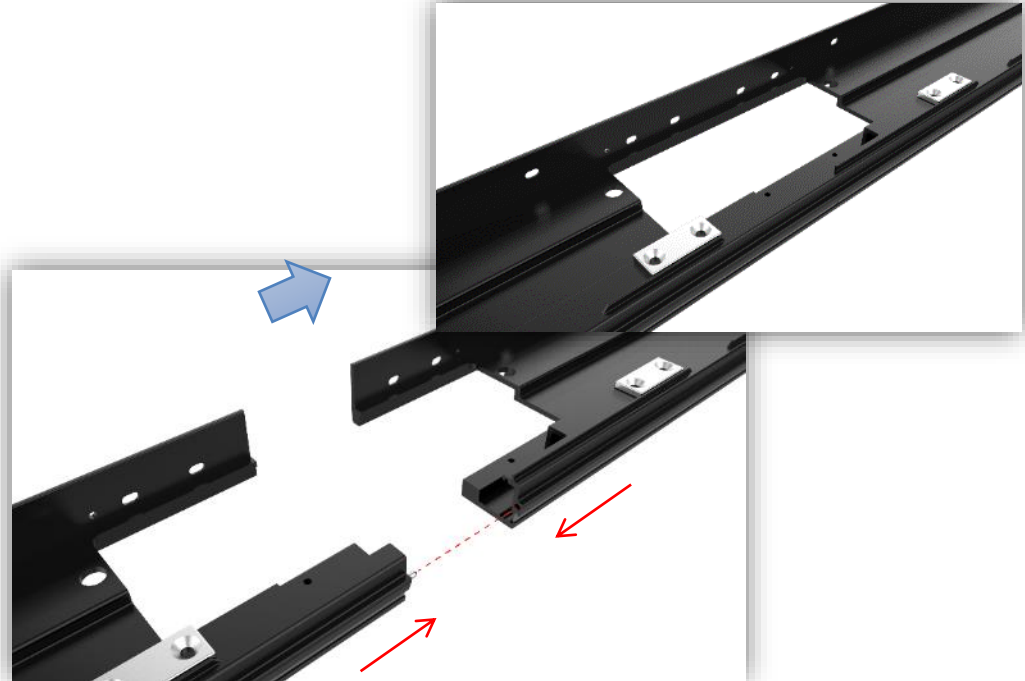
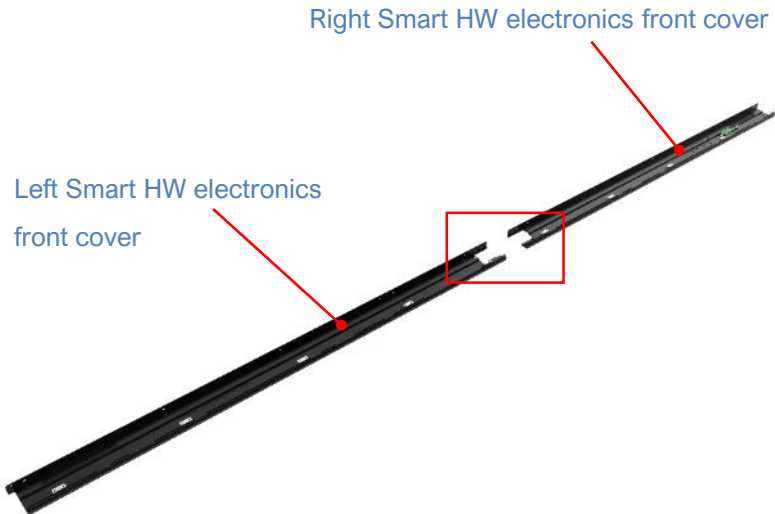


Assembling electronics front cover module

# Assembling electronics front cover module

## Step. 1

- Place the right front cover and left front cover on a soft, flat surface as shown.
- Slowly slide the extrusion pieces together using the alignment pin for positioning.

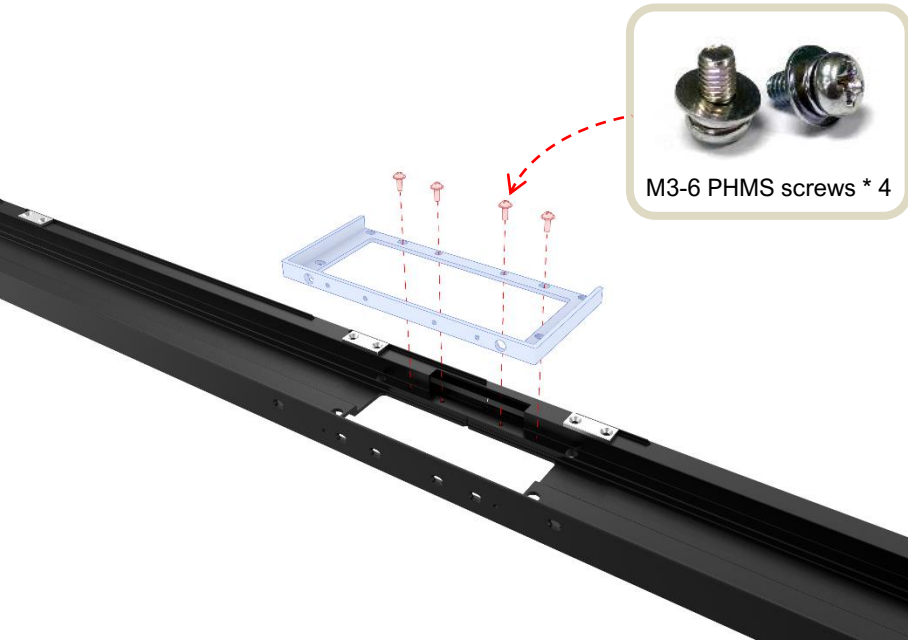




# Assembling electronics front cover module

## Step. 2

- Once the left and right front covers are assembled, place the front cover bracket over the seam and secure with (4X) M3-6 PHMS screws as shown.



## Step. 3

- As shown in the picture, tighten 4 M3-6 FHMS screws.



# Assembling electronics front cover module

## Step. 4

- As shown in the picture, assemble the decorative plates and fix them with 4 M3-6 PHMS screws



M3-6 PHMS screws \* 4

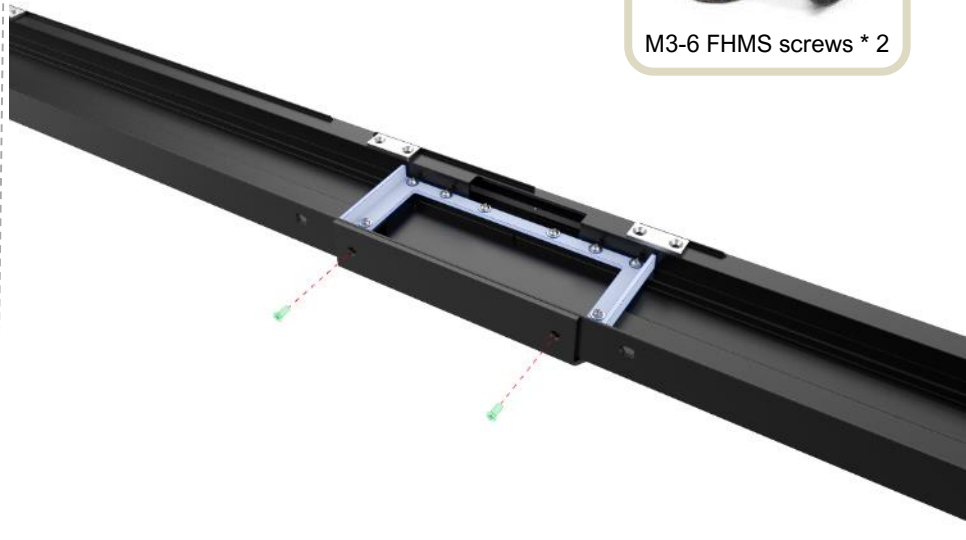


## Step. 5

- As shown in the picture, use two M3-6 FHMS screws to fix the decorative plates to complete the electronics front cover module assembly.



M3-6 FHMS screws \* 2

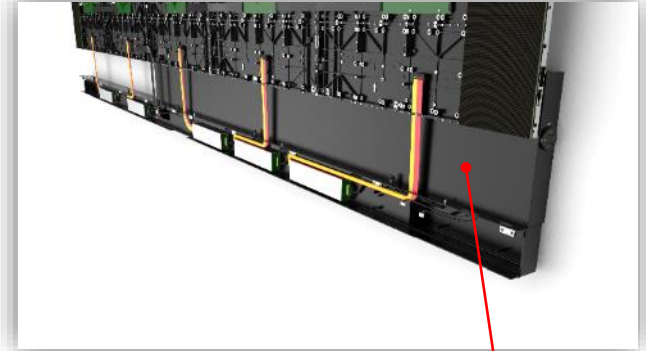
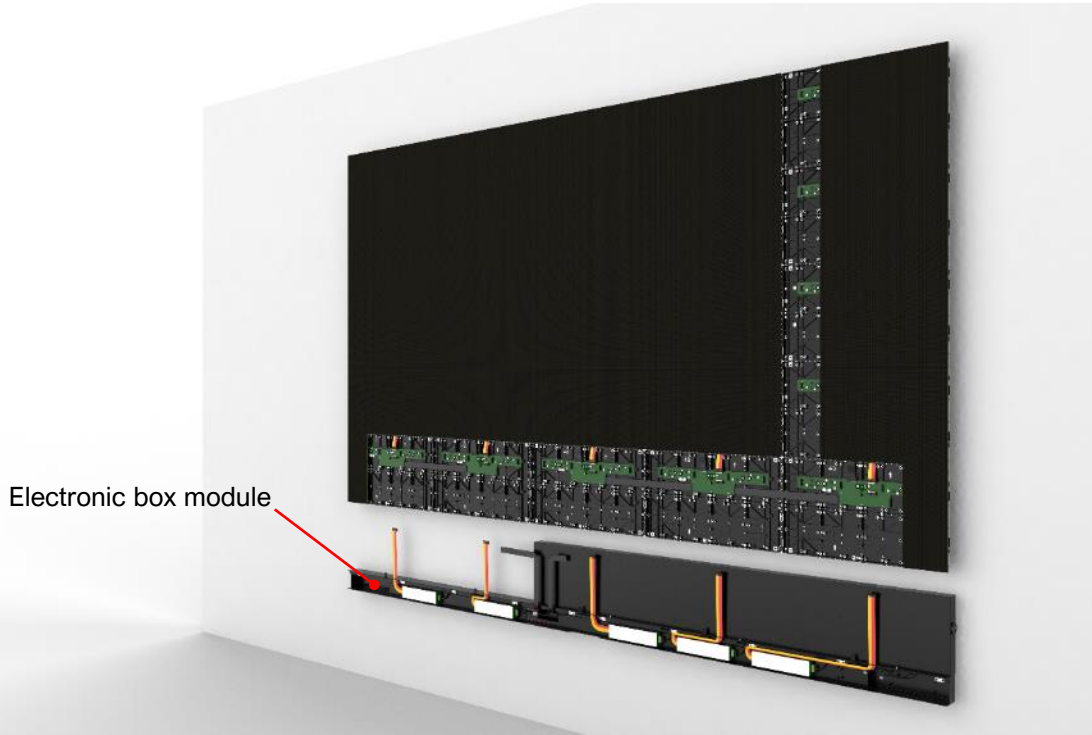


Assemble LED display module & electronic box module

# Assemble LED display module and electronic box module

## Step. 1

- Move the electronic box module to the position shown in the picture, so that the Smart HW module is placed on the back side of the LED display



# Assemble LED display module and electronic box module

## Step. 2 (1/3)

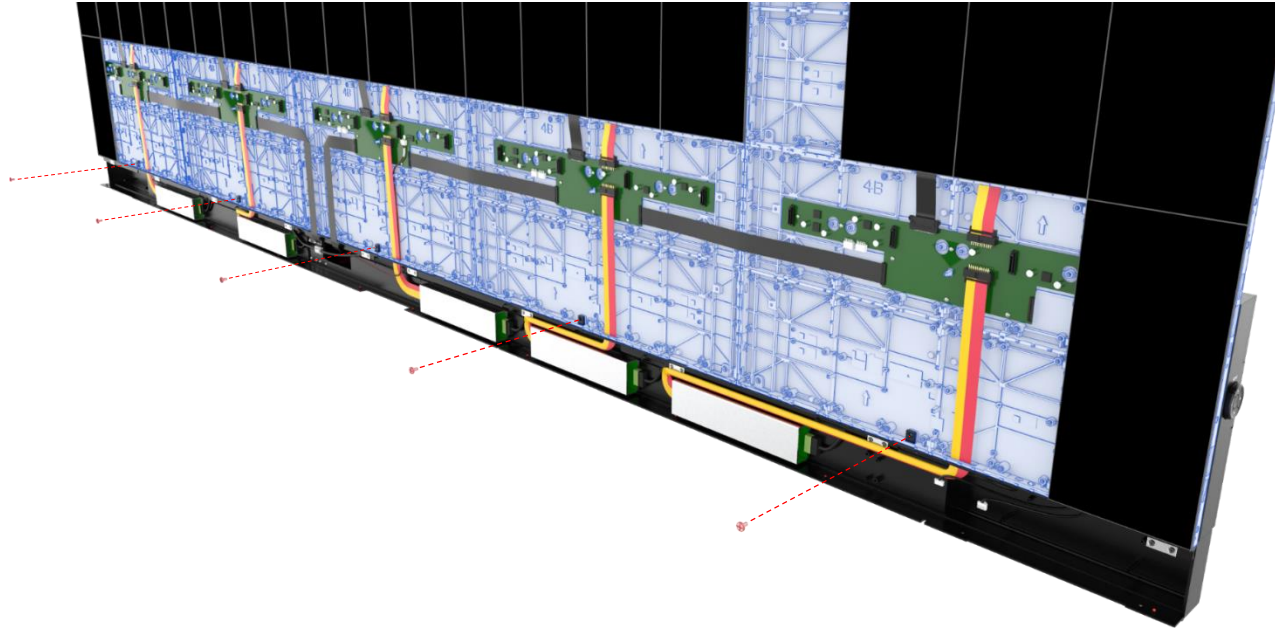
- The electronic box module is assembled and fixed on the LED display by (5X) M4-8 Tab screws.
- These five M4-8 Tab screws can finely adjust the assembly gap between the electronic box module and the LED display by tightening or loosening it.
- First, Install (5X) M4-8 Tab Screws hand tight as shown.



M4-8 Tab screws \* 5



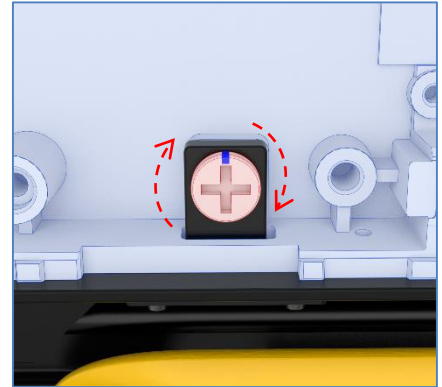
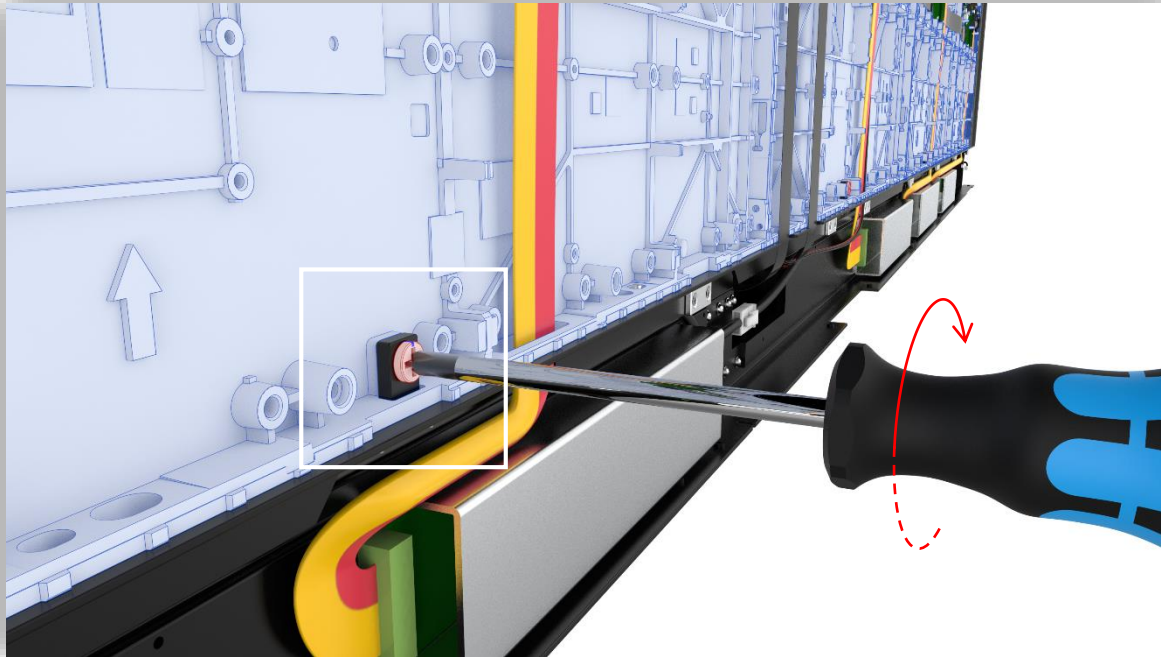
Phillips screwdriver



# Assemble LED display module and electronic box module

## Step. 2 (2/3)

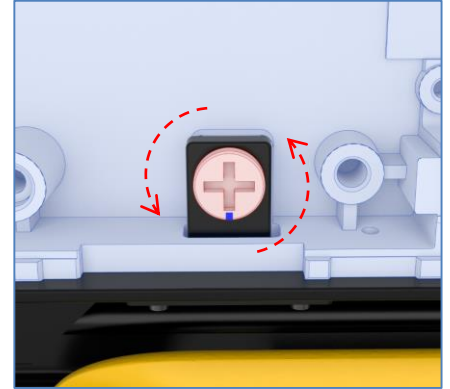
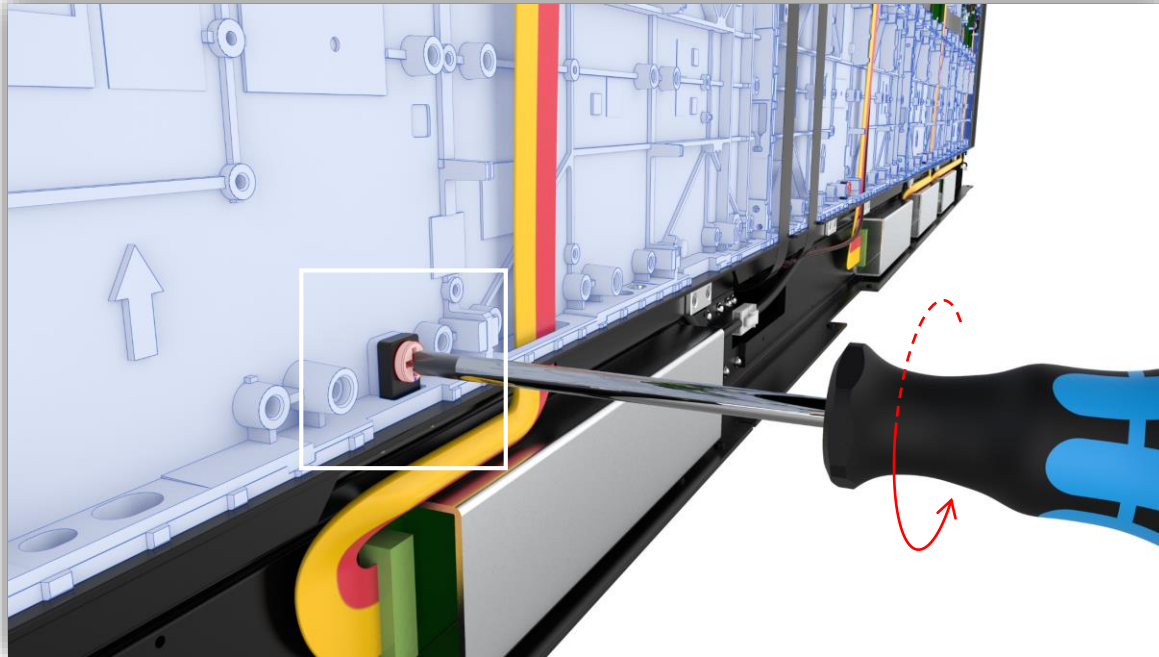
- First, Install (5X) Tab screws hand tight as shown.
- The tightening screw torque value is 40 kgf.cm.



# Assemble LED display module and electronic box module

## Step. 2 (3/3)

- Rotate the five fastened Tab screws **180° counterclockwise** to complete the assembly gap setting between the electronic box module and the LED display.

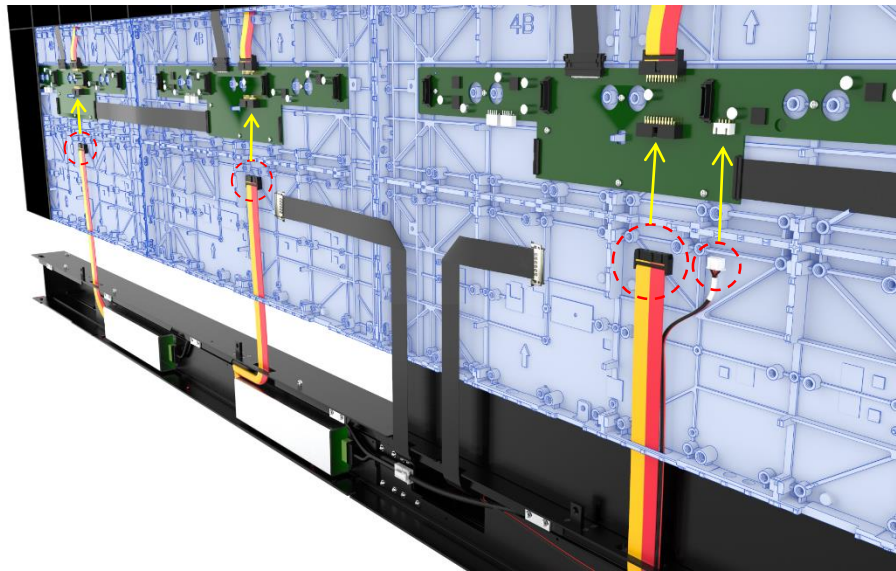




# Assemble LED display module and electronic box module

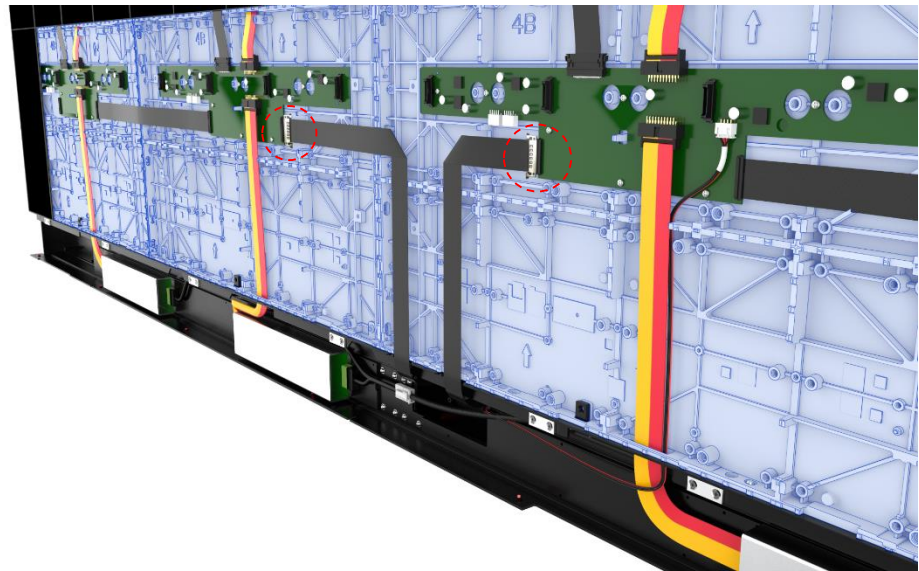
## Step. 3

- As shown in the red circle mark in the picture, connect the electronic box module power cable to the LED display hub board. There are 6 connections in total.



## Step. 4

- As shown in the red circle mark in the picture, connect the electronic box module signal cable to the LED display hub board. There are 2 wires in total.

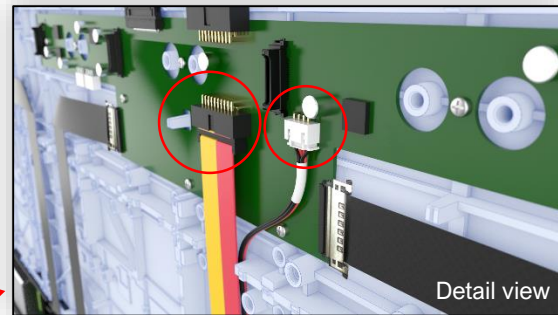




# Assemble LED display module and electronic box module

## Step. 5

- The picture on the left is a schematic diagram of the wiring and fixing points after the LED display module and electronic box module are assembled; the red circle mark is the wiring position of the power cable; the yellow frame mark is the wiring position of the signal cable; the pink frame mark is the Tab screws tightened location.
- Please confirm that there are no missing parts and the connections are tight before proceeding to the next step of assembly.

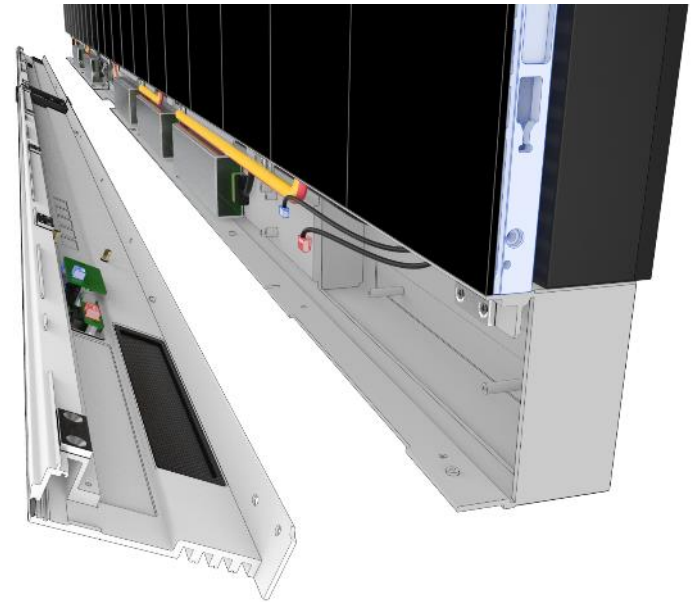
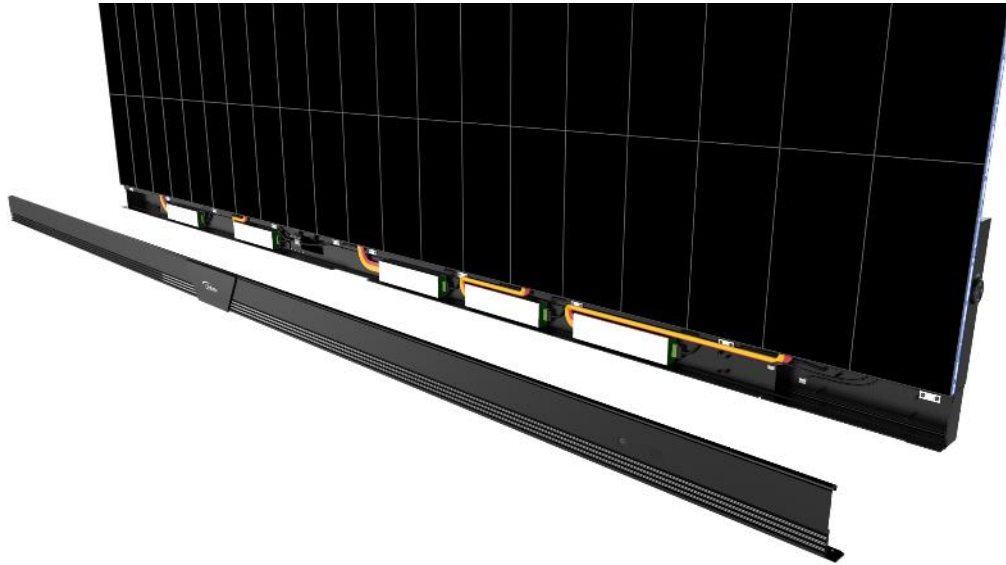


# Installing Front Cover

# Installing Front Cover

## Step. 1

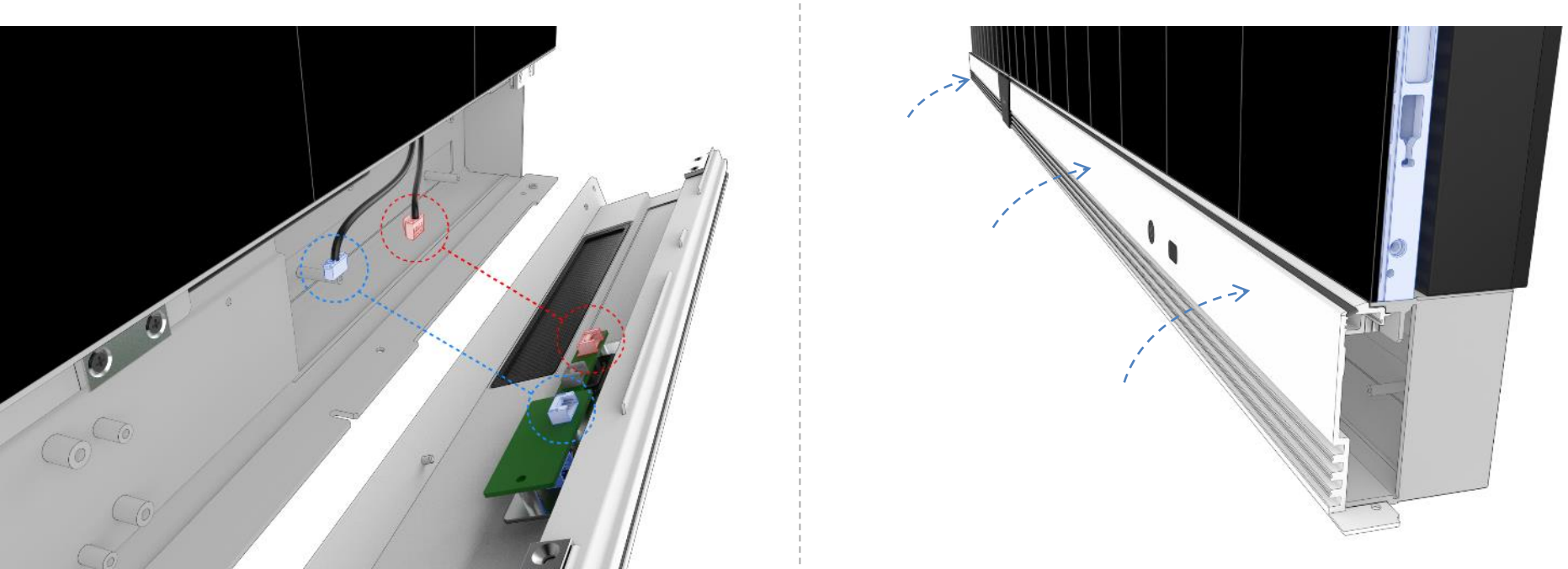
- As shown in the picture, lift the front cover and move it close to the electronic box module.
- Find the blue and red connectors in the picture and prepare to connect the switch wires and IR sensor signal wires.



# Installing Front Cover

## Step. 2

- As shown in the picture, connect the cables marked with blue and red marks.
- Install the front cover on the electronic box module according to the direction of the arrow in the figure. It is equipped with magnetic positioning and fixation.



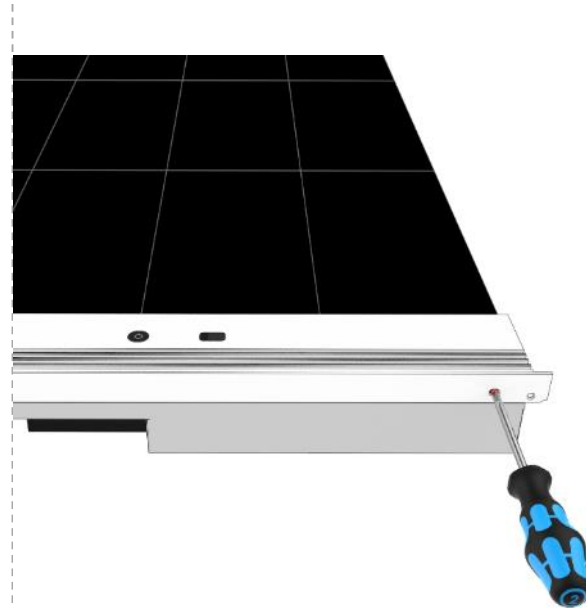
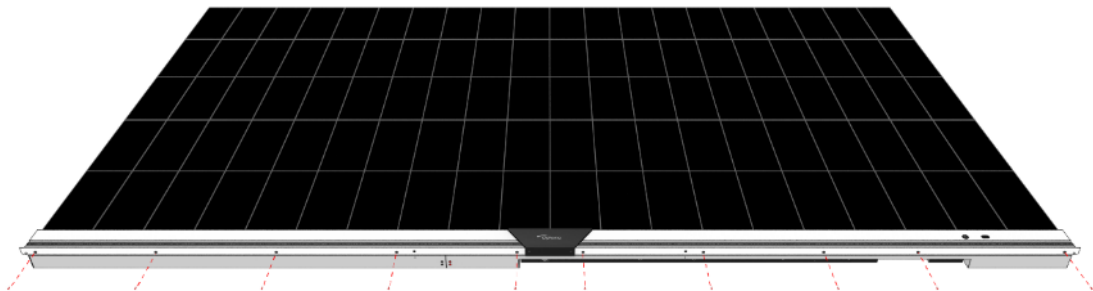
# Installing Front Cover

## Step. 3 (1/2)

- As shown in the picture, use 10 M3-6 FHMS screws to fix the front cover so that it is firmly combined with the electronic box module.



M3-6 FHMS screws \* 10

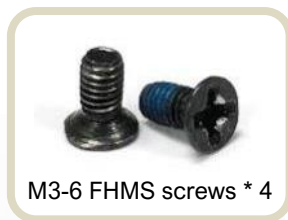


Installing side and top bezel parts

# Installing side and top bezel parts

## Step. 1

- As shown in the picture, use 4 M3-6 FHMS screws to fix the Top left bezel .



## Step. 2

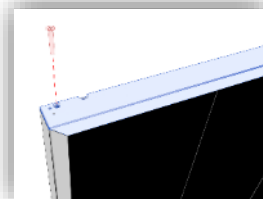
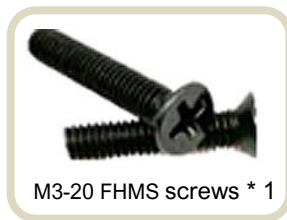
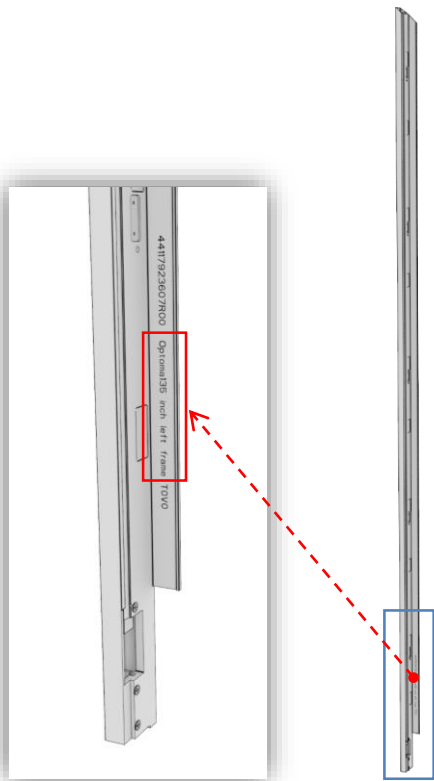
- As shown in the picture, use 4 M3-6 FHMS screws to fix the Top right bezel .



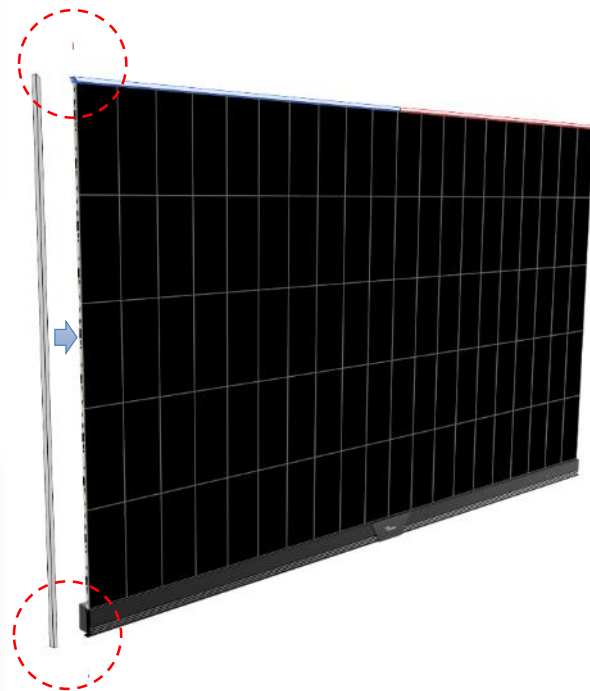
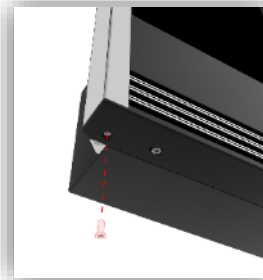
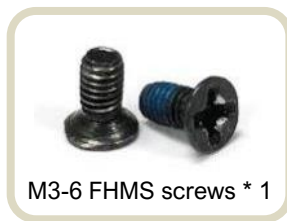
# Installing side and top bezel parts

## Step. 3

- Then assemble the Left side bezel, which is engraved with the words **Optoma135 inch left frame** at the position shown in the picture.
- As shown in the figure, use M3-6 FHMS screws and M3-20 FHMS screws to fix the Left bezel.



M3-6 FHMS screws \* 1

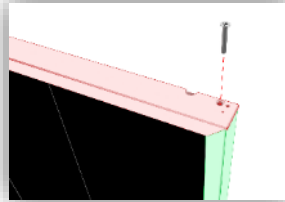
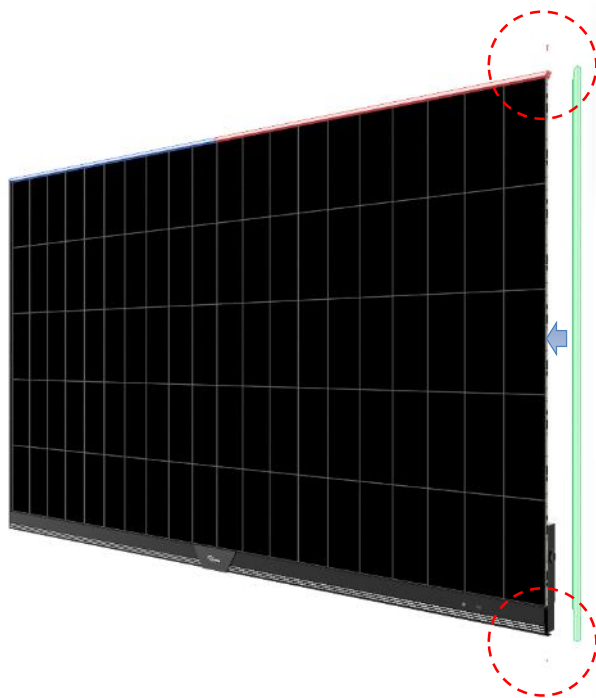




# Installing side and top bezel parts

## Step. 4

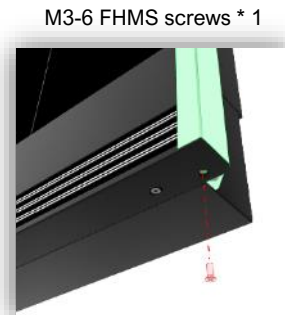
- Then assemble the Left side bezel, which is engraved with the words **Optoma135 inch right frame** at the position shown in the picture.
- As shown in the figure, use M3-6 FHMS screws and M3-20 FHMS screws to fix the Right bezel.



M3-20 FHMS screws \* 1



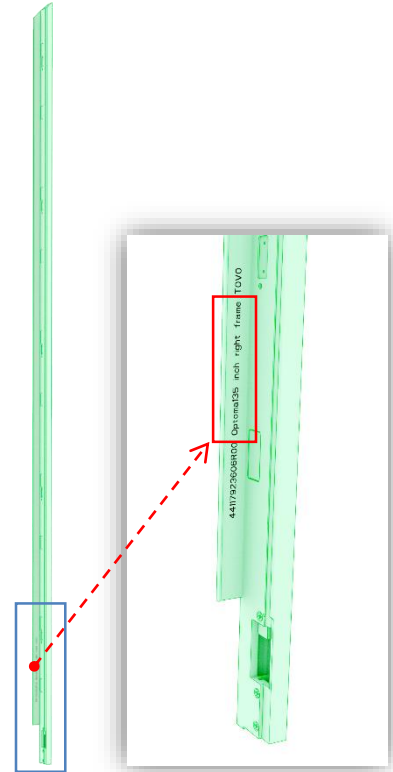
M3-20 FHMS screws \* 1



M3-6 FHMS screws \* 1



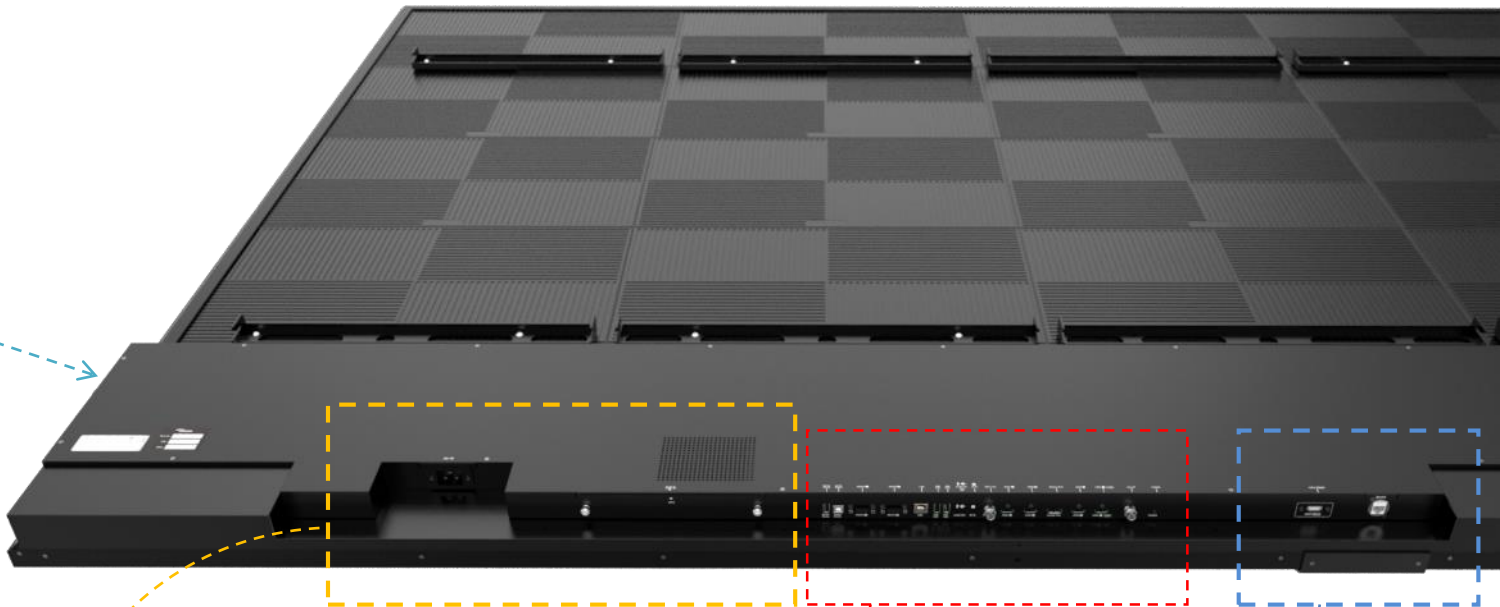
M3-6 FHMS screws \* 1



# Location map of I/O connection point

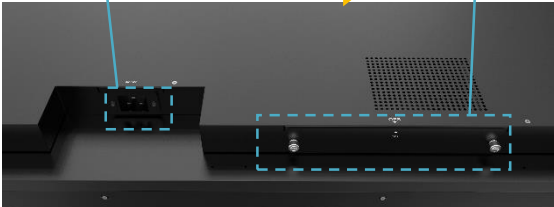


- Operating keypad



- AC Inlet

- OPS Slot



- AC Inlet & OPS Slot.



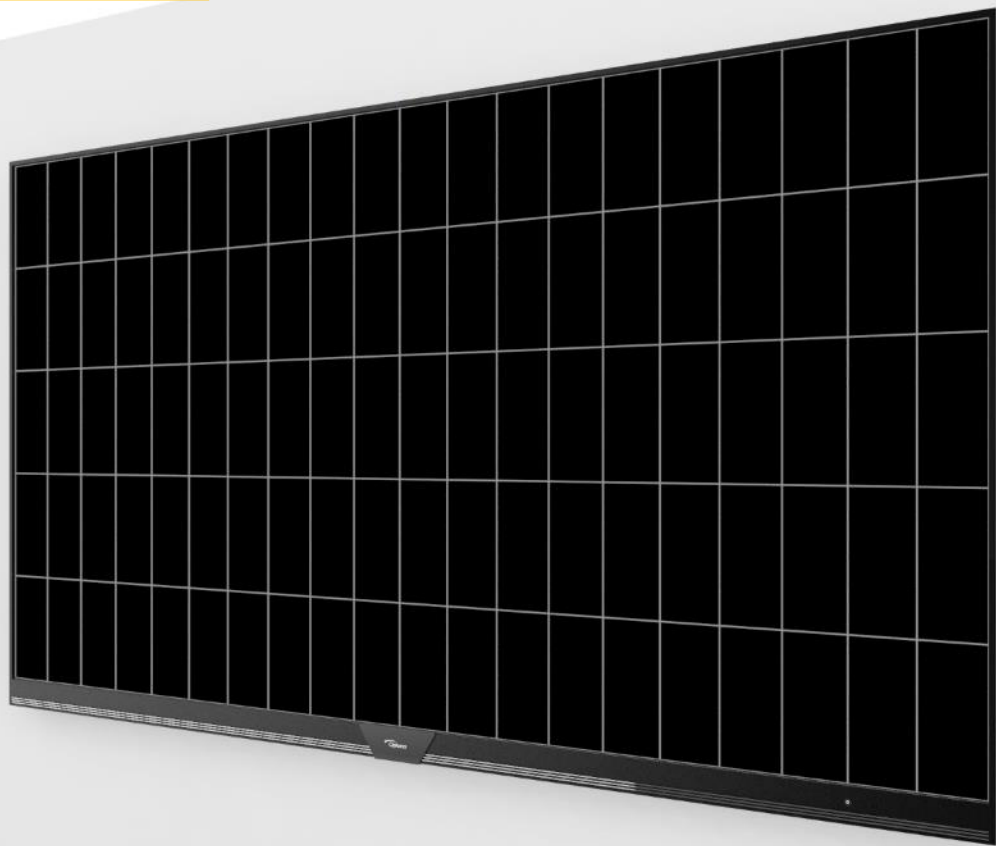
- Power switch, Audio out, IR in and various signal I/O ports.



- HDMI output & service port.

## Complete FHDQ135S installation

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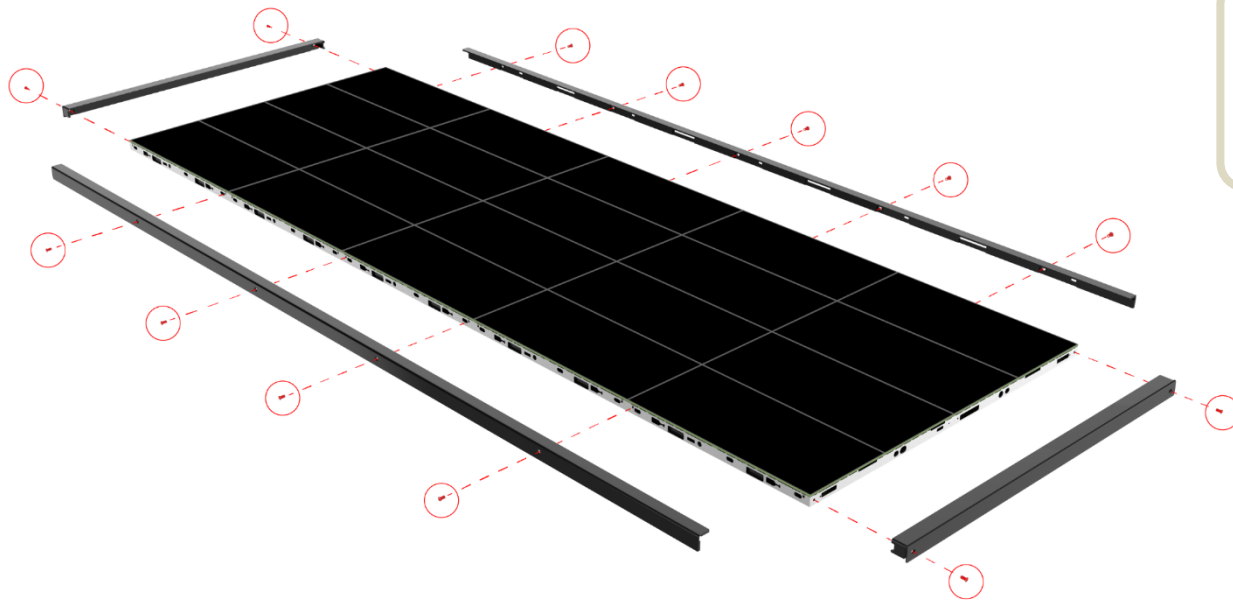
Use the handle to install the LED display unit

## Use the handle to install the LED display unit

- The handle attached to FHDQ135S is an auxiliary tool specially designed for alcove-mounted FHDQ135S. This device is an important tool that can help construction workers safely move and mount the LED display unit on the mount bar in a small installation environment.

### Step. 1

- Before using the handle tool, you must place the LED display unit flat on a safe flat surface and remove the four protective frames as shown in the picture.

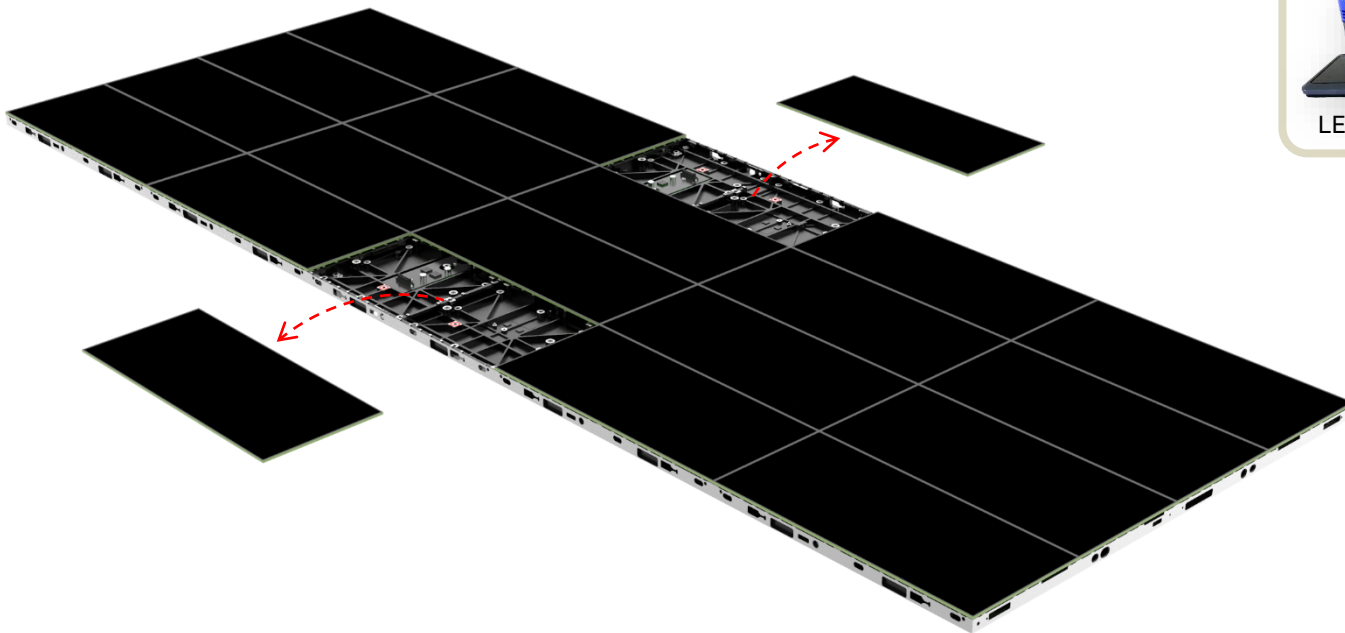


Phillips screwdriver

# Use the handle to install the LED display unit

## Step. 2

- Next, use the [LED tile removal tool](#) to remove the two LED tiles at the positions shown in the picture, and protect and place them properly.



# Use the handle to install the LED display unit

## Step. 3

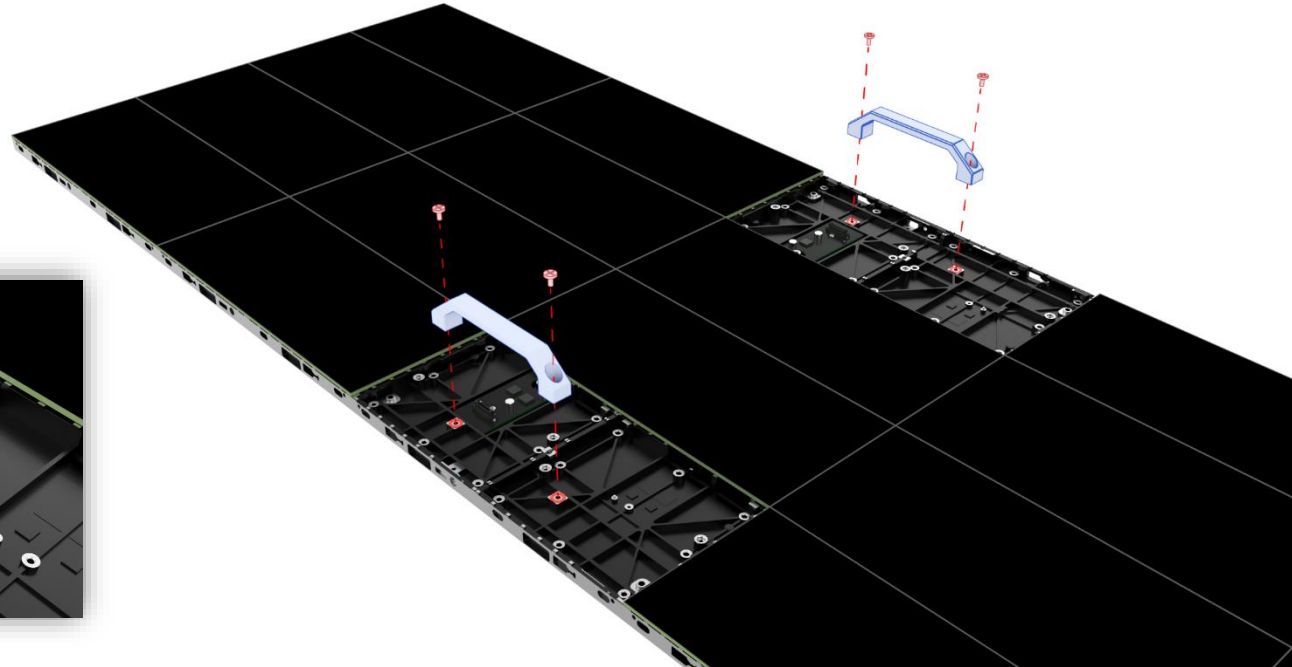
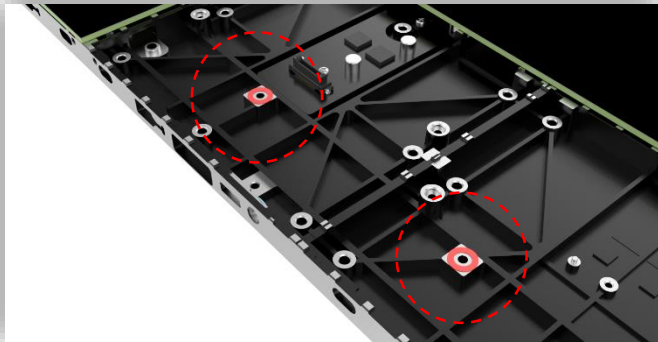
- Find the red circle mark label screw holes labeled with the hand position fixing devices, and use [M4-8 Tab screws](#) to firmly fix the two handle positions on the LED display unit chassis.



M4-8 Tab screws \* 4



Phillips screwdriver



## Use the handle to install the LED display unit

### Step. 4

- Arrange two construction workers to hold the handle and display chassis firmly without touching the LED tile. Carefully lift the LED display unit and mount it safely on the mount bar.
- For the remaining four-sided LED display unit, please repeat steps 1 to 4 to complete the process of mounting it to the mount bar.





Thank you.

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Suggestion?



Optoma