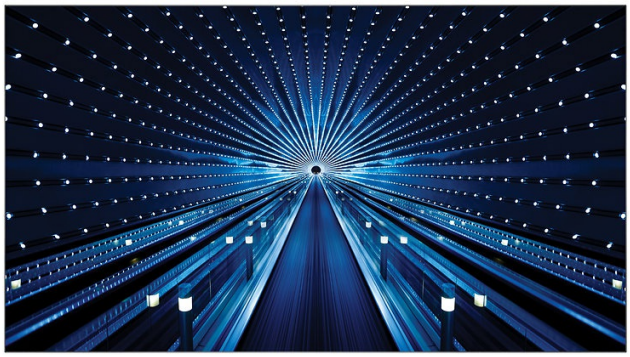
FITXES TÈCNIQUES DELS MODELS DE REFERÈNCIA

ELEMENT 1

SAMSUNG

SMART LED Signage The Wall IAB Serie IA012B

Pixelpitch: 1,26 mm



Artikelinformation

Artikelname	IA012B
Artikelnummer	LH012IABMHS/EN
EAN	8806094322637
Maße	2423,1 x 1364,4 x 49,1 mm
Gewicht	99 kg (pro Screen)
Pixelabstand	1,26 mm
Konfiguration	1.920 x 1.080 Pixel (pro Screen)
Module	12 x 9 (pro Screen)
Maximale Helligkeit	500 nit
Helligkeits-Spitzenwert [1]	1.600 nit
Kontrastverhältnis [2]	24.000:1
Betrachtungswinkel	170° (H) / 155° (V)

Besondere Eigenschaften

Black-Seal-Technologie

Ultra-Chroma-Technologie

Einfacher Installationsprozess

Integrierte S-Box

Lineare Graustufen

Technische Daten
IA012B

Artikelinformationen

Artikelname	IA012B
Artikelnummer	LH012IABMHS/EN
EAN	8806094322637

Physische Parameter

Pixelabstand	1,26 mm
Pixelkonfiguration	1 x Rot, 1 x Grün, 1 x Blau
Konfiguration (B x H)	1.920 x 1.080 Pixel (pro Screen)
Diodentyp	Flip-chip RGB LED
Module	12 x 9 (pro Screen)
Maße ohne Verpackung (B x H x T)	2.423,1 x 1.364,4 x 49,1 mm
Maße mit Verpackung (B x H x T)	2.847 x 1.582 x 398 mm
Gewicht ohne Verpackung	99 kg (pro Screen)
Gewicht mit Verpackung	154 kg (pro Screen)
Bildschirmdiagonale	110 Zoll

Optische Parameter

Maximale Helligkeit (nach der Kalibrierung)	500 nit
Helligkeits-Spitzenwert [1]	1.600 nit
Kontrastverhältnis [2]	24.000:1
HDR Kompatibilität	LED HDR, AI Picture
Betrachtungswinkel - horizontal	170°
Betrachtungswinkel - vertikal	155°
Bit-Tiefe	16 Bit (Systemintern 20 Bit)
Farbtemperatur - Standard	6.500 K ± 500 K (dynamische Anpassung)
Farbtemperatur - anpassbar	2.800 K ~ 10.000 K

Elektrische Parameter

Video-Rate	50/60 Hz 100/120 (FRC) Hz
Eingangsspannungsbereich	100~240 VAC, 50/60 Hz
Leistungsaufnahme max.	900 (W/Screen)
Leistungsaufnahme typ.	650 (W/Screen)
Bildwiederholrate	7.680 Hz [3]
Hitzeentwicklung max.	3.071 (BTU/ pro Screen)
Hitzeentwicklung typ.	2.218 (BTU/ pro Screen)

Konnektivität

Steuerung [4]	LED SBox integriert
Input	1x DP 1.2, 3x HDMI 1.4, 2x USB 2.0
Output	3,5 mm Klinkenanschluss
WLAN	Ja
Bluetooth	Ja

Betriebsbedingungen

Betriebstemperatur (Luftfeuchtigkeit)	0°C ~ +40°C 10 % ~ 80 % RH
Lagerungstemperatur (Luftfeuchtigkeit)	-20°C ~ +45°C 5% ~ 95% RH
IP-Klassifizierung	IP20
LED-Lebensdauer	150.000 Stunden

Zertifizierung

Zertifizierung	Sicherheitsstandard 62368-1, 60950-1
EMV Klasse	A
Sehkomfort	TÜV Low Blue Light

Service

Service	Servicezugang von der Frontseite

Merkmale

Betriebssystem	Tizen 6.5
MagicINFO	Ja
Sensor	Temperatur, Eco Sensor
Smart Funktionen	Automatische Quellenumschaltung mit Recovery-Funktion, Dicom Simulation Mode, SmartView+(PC)

Zubehör

Bezeichnung	Dekorrahmen, Frame Kit, Ersatzteile

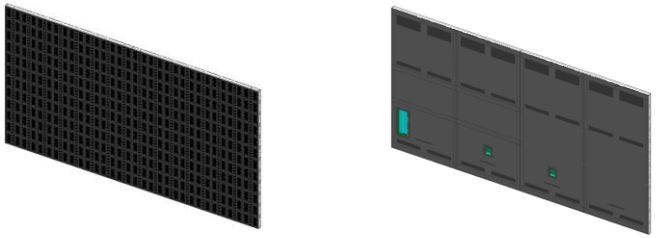
ELEMENT 2

1. Product and installation information

◆ **Model specification**

- This manual is an installation manual for IAB and can be applied to the model below..

(Installation specifications for each pitch are the same)

Model	Product appearance and information
IAB series	
REMARK	IAB Series : CoB Type / 120Hz Refresh Rate

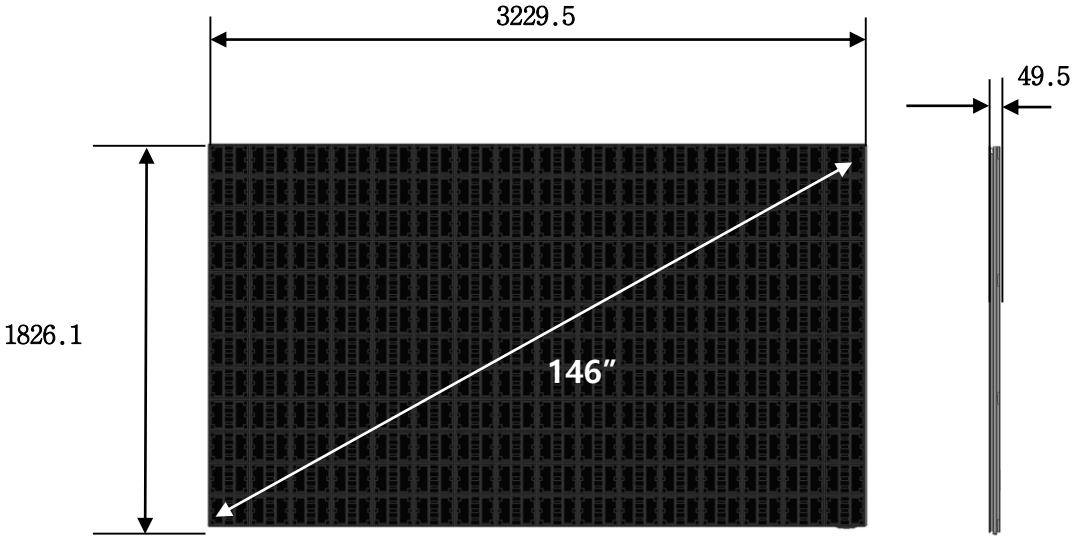
1. Product and installation information

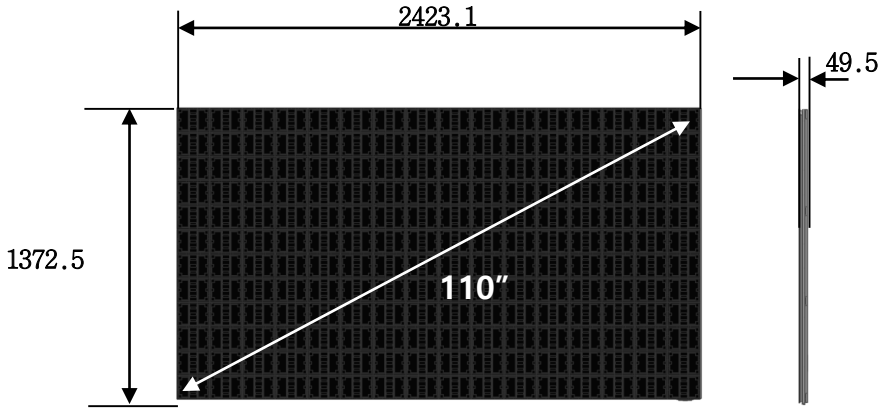
◆ Model specification (IAB)

	Specification		146″		110″
			P0.84 (146″)	P1.68 (146″)	P1.26 (110″)
Cabinet	Size (mm)	Horizontal	3229.5		2423.1
		Vertical	1826.1 (with IR)		1372.5 (with IR)
	Pixels	Horizontal	3840	1920	1920
		Vertical	2160	1080	1080
	Module quantity (EA)		48 X 4 (192)		36 X 3 (108)
	Weight (kg) (Cabinet)		26.5	26.5	20.5
	SET weight (kg)		168		99
	Total weight (kg)		244		154
	Power consumption (W)		1700(Max) / 1100(Typ.)	1240(Max) / 860(Typ.)	900(Max) / 650(Typ.)
	Luminance (nit)	Max	500	500	500
		Peak	1600	1400	1600

1. Product and installation information

◆ Cabinet information





1. Product and installation information

◆ Heat dissipation guide

※ It is written based on Full white, back light 7
Video, created based on back light 10

➢ Installation condition

- Conditions for using SAMSUNG WALL MOUNT

- Solar direct sunlight conditions cannot be installed (including glass window passage conditions)

- It is recommended to use room temperature below 25°C

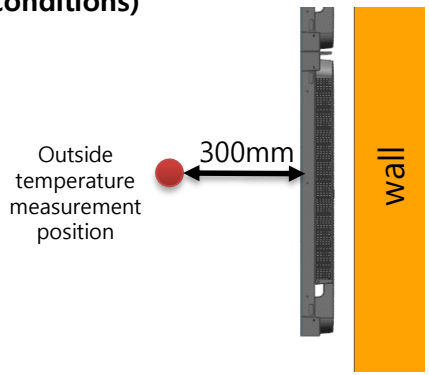
- Effect of Cold/Hot Air Conditioning System

- When cold / hot air is the same air conditioning system,

· Be careful not to let the warm air touch the product.

- Outside temperature measurement position

Measured at a distance of 300mm from the center of the product

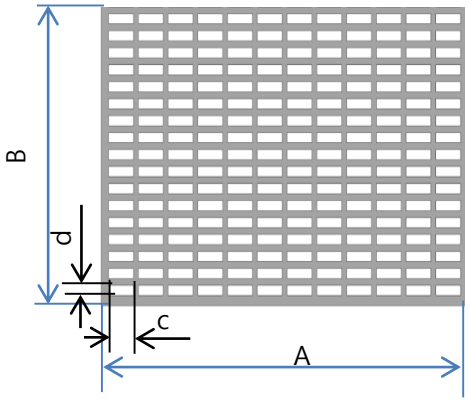


➢ Air vent aperture ratio

- use mesh type air vent

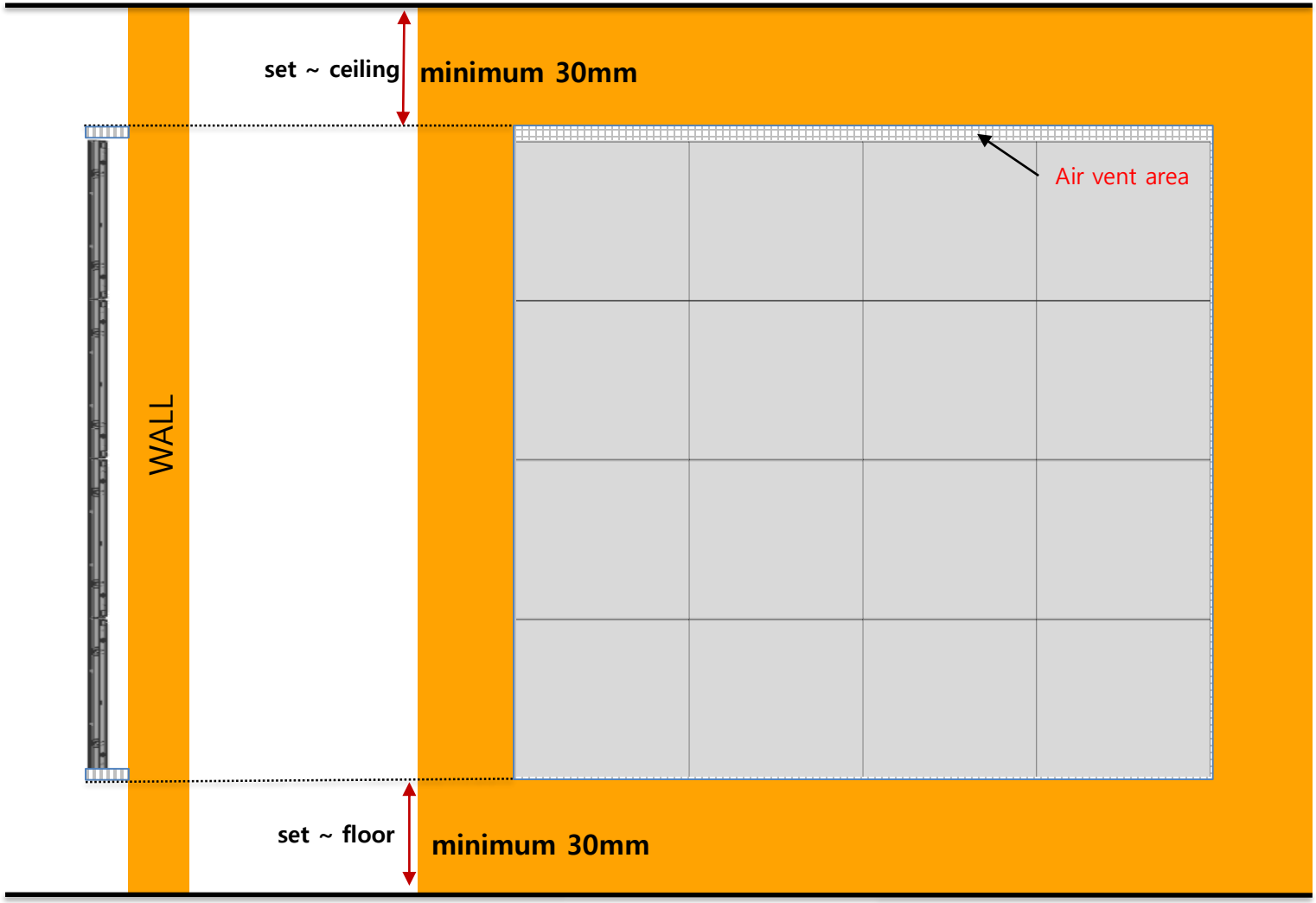
- If the aperture ratio is not 100%, the separation distance = $\frac{\textit{Minimum distance}}{\text{aperture ratio(\%)} / 100}$

- aperture ratio (%) = $\frac{(c\ X\ d) X\ No.\ of\ vent\ hole}{A\ X\ B}$



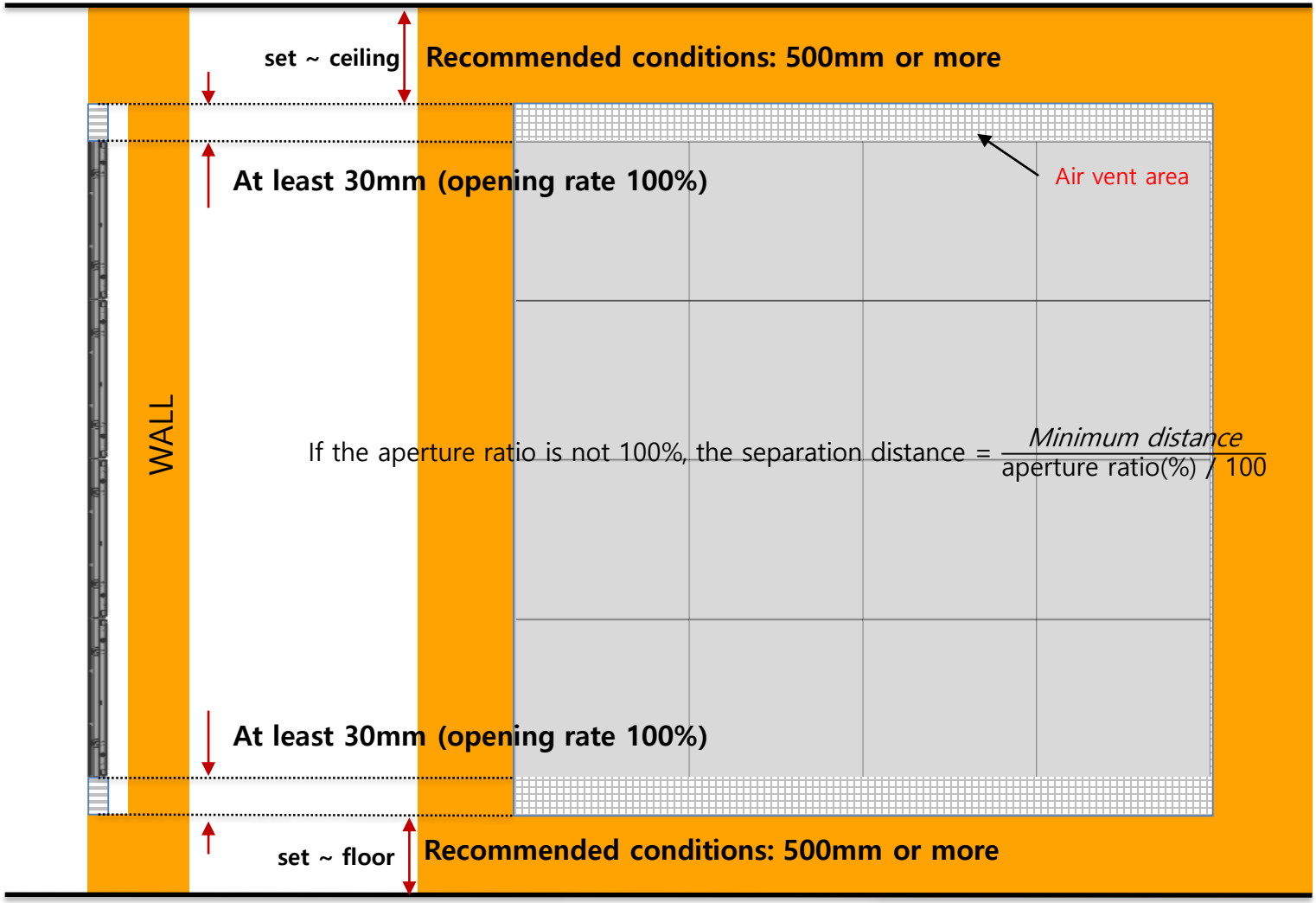
1. Product and installation information

- Vertical wall installation (if Fan is not applied)



1. Product and installation information

- Vertical landfill installation (when Fan is not applied)



1. Product and installation information

- Precautions for Landfill Installation

➢ 150mm left and right space is required for service. (Fig.1)

➢ Fixed screws are placed inside. , it is necessary to secure a field of view of about 150mm. (Fig. 2)

* Like heat dissipation specifications, space of 30mm or more is required up and down

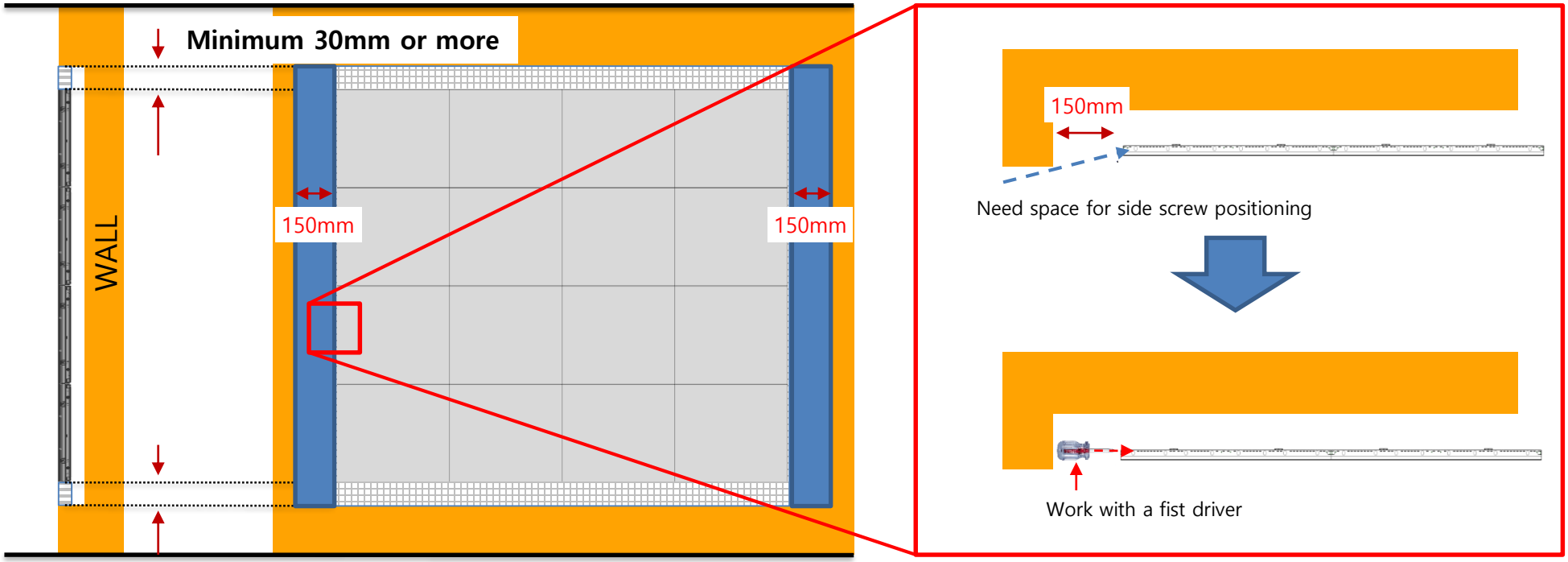


Fig.1 Left and right spaces over 150mm

Fig.2 working guide

1. Product and installation information

☐ **Features when configuring the screen**
(differential specifications compared to the existing ones)

▶ **Connection structure: Connection of signal cable (OCM) and power cable between P-FRAME and P-FRONT**

1) P-FRAME Left/Right Connection

- Cable Connection between AC Inlet Boards for Power On
- Speaker Left/Right Cable Connection

2) Cable connection between P-FRAME + P-FRONT

- Connect 4 OCM cables to the video output port of the main board

→ After assembling the OCM cable according to each P-FRONT location, connect it to the Lower Board OCM connector at the bottom of the P-FRONT

- Connect SMPS output cable and screen power input cable in P-FRONT

2. preparation of Cabinet installation

◆ **Pre-prepare before installation**

① For SET unpacking, we need space at least 600mm higher than SET packing height
② If there is not enough space, unpack the SET in the available space and move it to the installation site.

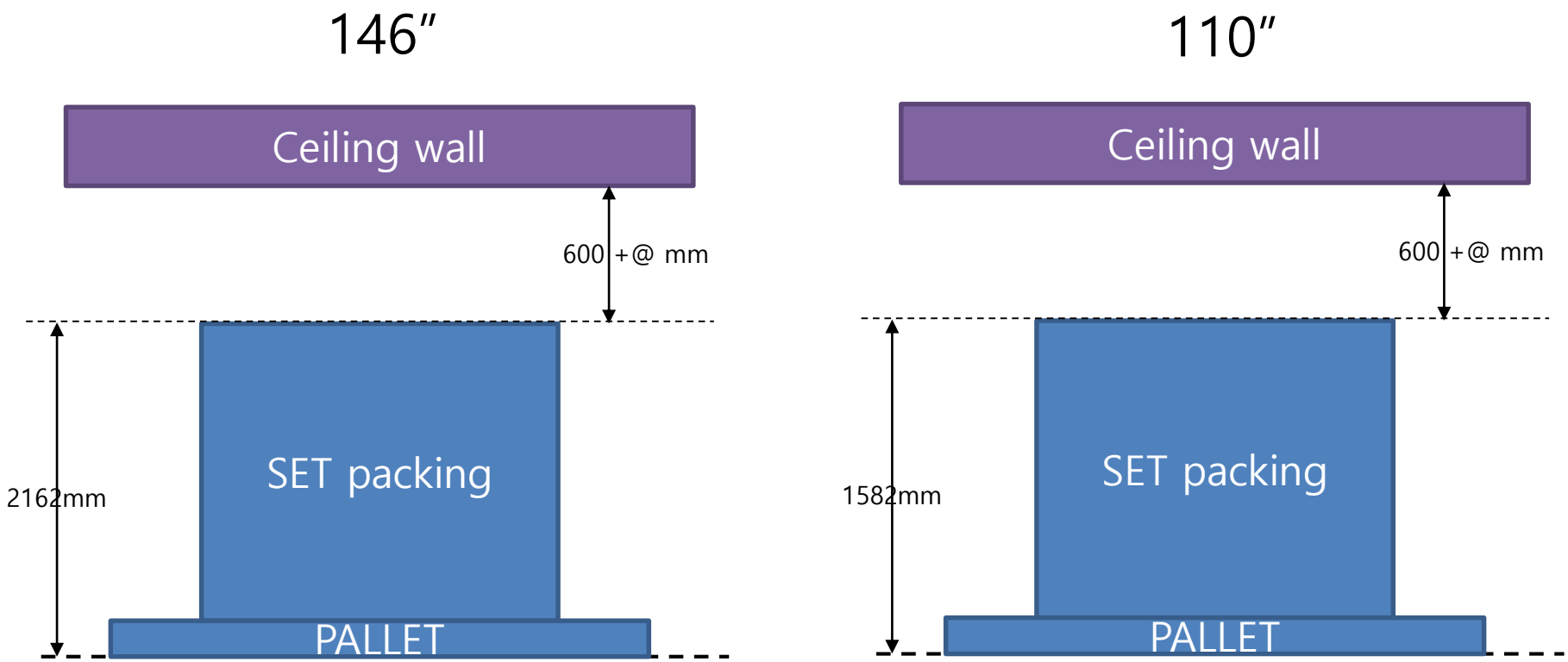


Fig.1 unpacking space required

2. preparation of Cabinet installation

110”

◆ Pre-prepare before installation

① Remove the tape of the upper BOX and open it. (Fig.2)

② Remove the top–cushion and PAD.

③ Check the configuration status of 3 sets. (REAR1, MODULE SET 3) (Fig. 3)

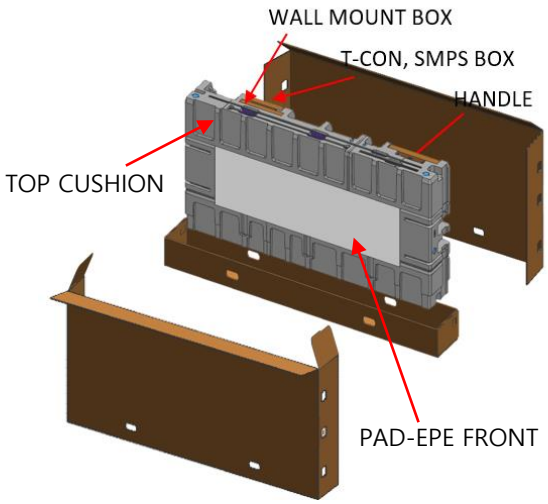


Fig.1 Packing

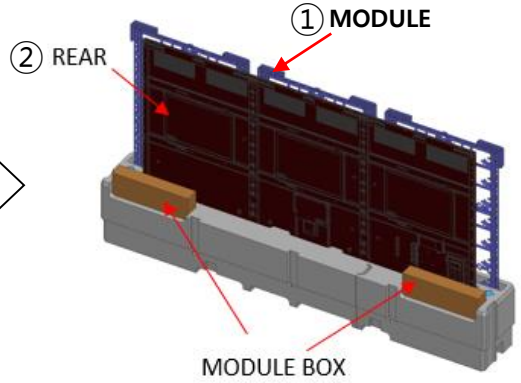


Fig. 2 Open the packing

※ Please be sure to comply with the dismantling order (for the purpose of preventing conduction)

1. Pulling out the Module
2. Pulling out the REAR

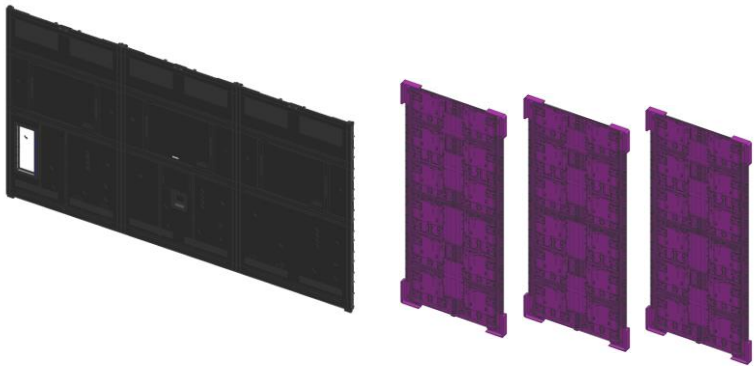


Fig.3 Check the set materials

2. preparation of Cabinet installation

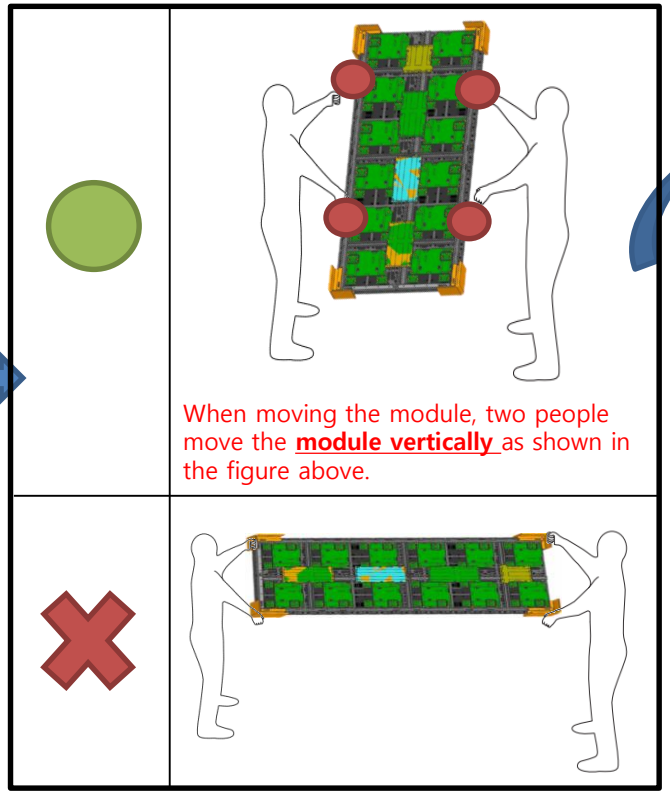
◆ Pre-prepare before installation

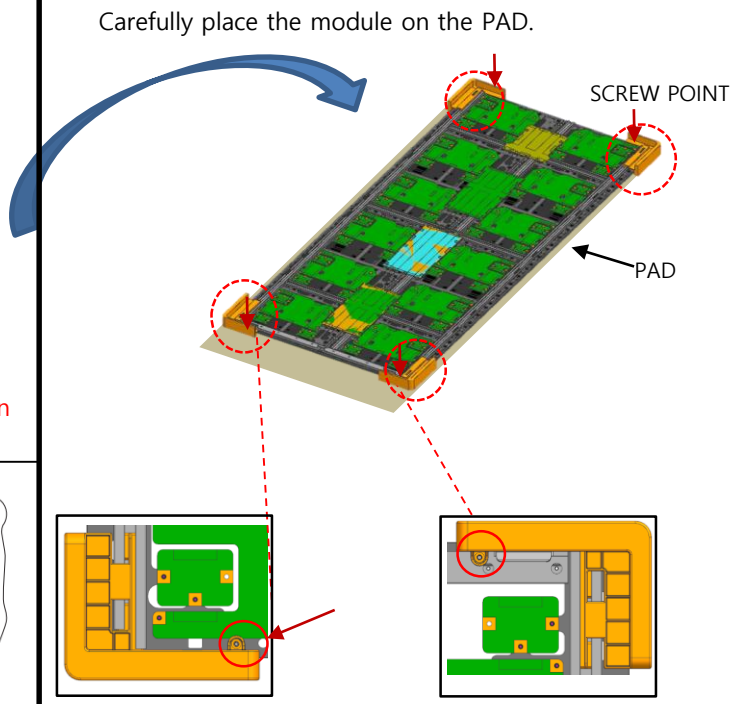
④ Open the bag shielding of the front module. Hold the internal COVER-CORNER, take out the set, and open the AL-Bag and disconnect the AL screws (4 in total). (Fig.4)

⑤ Disconnect the screw of the COVER-CORNER part. (4 locations) (Fig.5)

※ When removing the cover-corner, install the white PAD without disassembling it to prevent damage to the front module.

Fig.4 Before screen check, remove PAD and attach SPACER-EVA



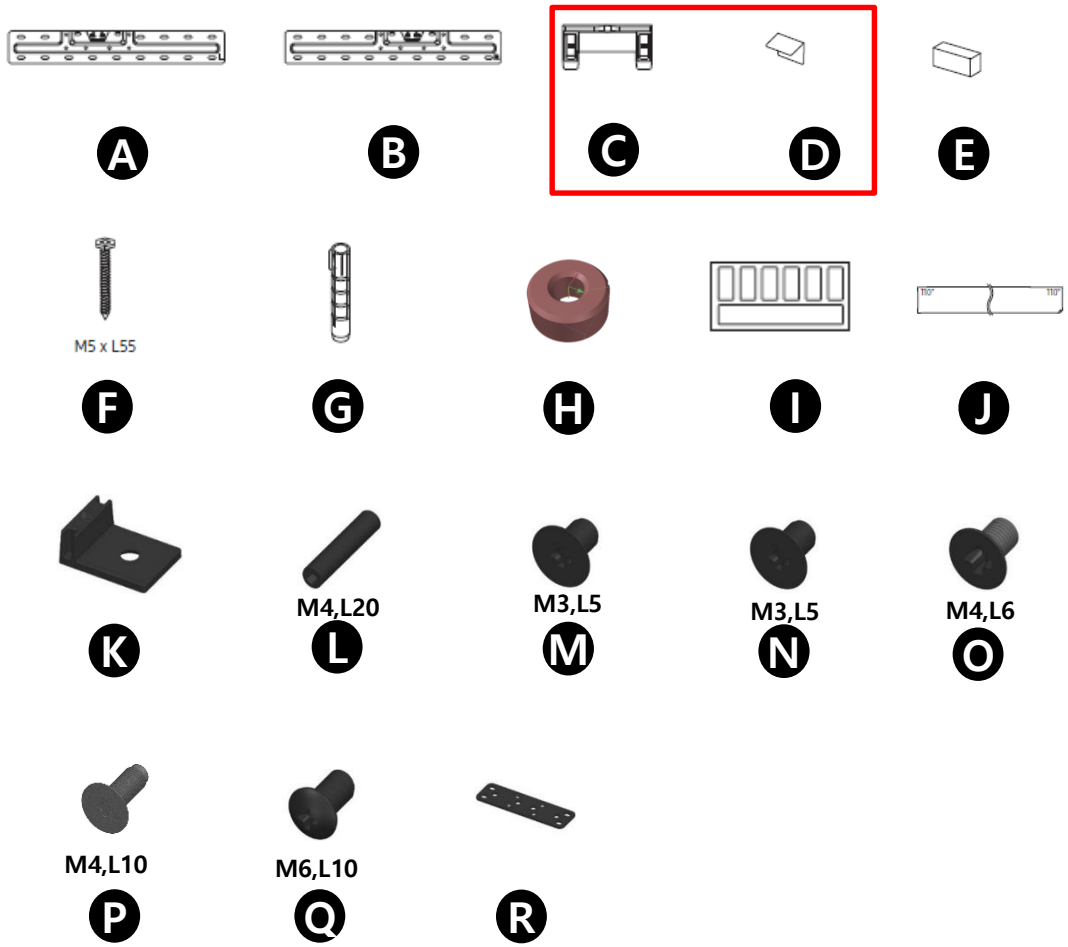


3. Wall Mount

Wall Mount

No	Item	146”	110”
A	ASSY BRACKET P-WALL REAR LEFT	2	1
B	ASSY BRACKET P-WALL REAR RIGHT	2	1
C	ASSY ACCESSORY-HOLDER	4	2
D	ASSY BRACKET P	4	2
E	ASSY ACCESSORY-SPACER	8	4
F	BOLT-ETC	20	8
G	HOLDER-BOLT	20	8
H	HOLDER-WALL RING	4	2
I	LABEL	2	1
J	LEAFLET-WALL MOUNT	1	1
K	BRACKET-SUPPORT LEFT RIGHT	8	8
L	SCREW-SPECIAL; M4,L20 (B/SUPPROT)	8	8
M	SCREW-MACHINE; M3,L5 (BEZEL + B/FRAME)	12	8
N	SCREW-MACHINE; M3,L5 (BEZEL + B/LINK)	8	-
O	SCREW-MACHINE ; M4,L6 (B/FRAME + B/LINK / ONLY 146”) (B/FRAME + B/SUPPORT)	16	8
P	SCREW-TAPTYPE; M4,L10 (BEZEL + B/FRAME)	16	12
Q	BOLT-ETC; M6,L10	8	-
R	BRACKET-LINK	2	-
Set Size (mm)		3229.1*1826.1	2422.7*1372.5

※ The materials (C and D) is deleted!
Because almost installer don`t use that



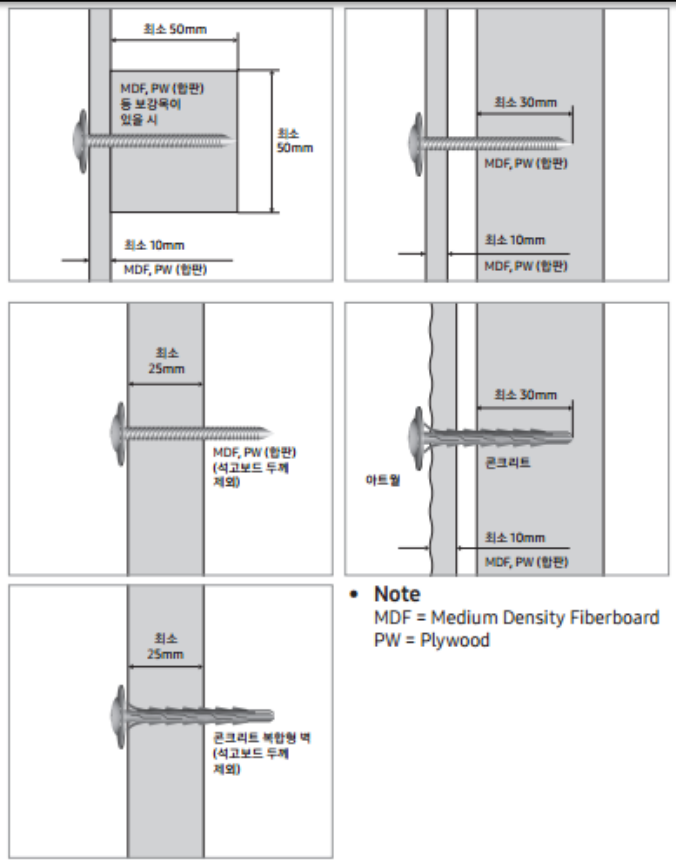
※ 1 No. 18 SCREW (CH, M2 x L2.3) is provided for repairing the CABINET module

4. FRAME installation and cable connection

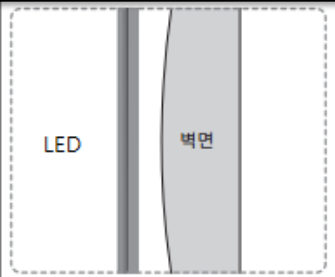
※ Cautions when fixing screws

Standard Conditions for Installation according to the Types of Walls

It can be installed on concrete or interior walls that are thick enough.

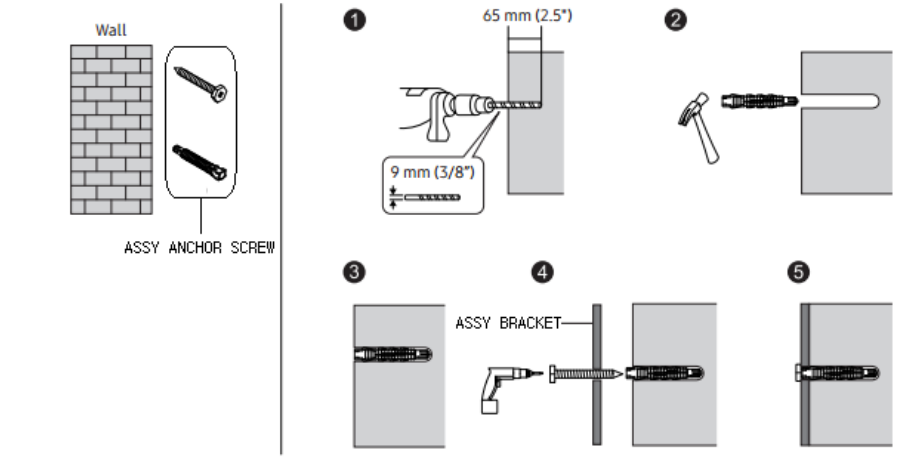


- **Note**
  MDF = Medium Density Fiberboard
  PW = Plywood

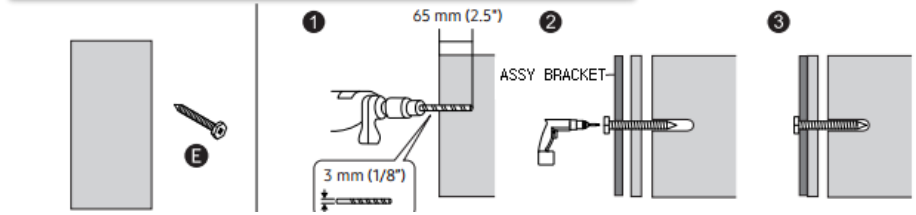


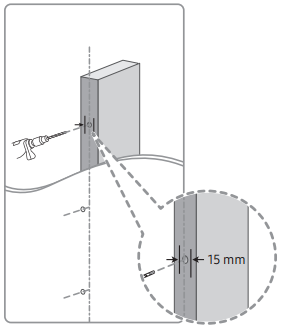
If the wall is not flat, the gap between the walls widens after installation, resulting in poor exterior quality.

1. A concrete or design wall with sufficient thickness;



Wooden pillars or MDF walls in gypsum boards





- Refer to "Standard Installation Requirements by Wall Type" and install the wall mount.
- If you are not sure about your wall surface, please ask an expert for assistance.
- Do not fix it to drywall without any reinforcement.
- Make sure to use screws to fasten to the holes in both left and right areas on each Wall-mount Bracket.
- A standard stud distance is supported. (16", 18", 24")
- Refer to the installation guide for details.

4. FRAME installation and cable connection

① Install the wall mount on the wall. (The same method as WALL 2.0)

- Attach the leaflet to the wall to locate the wall mount.
- Check the horizontal state using a laser leveler
- Fix the left and right two points to the wall using the enclosed screw. (According to the leaflet picture)

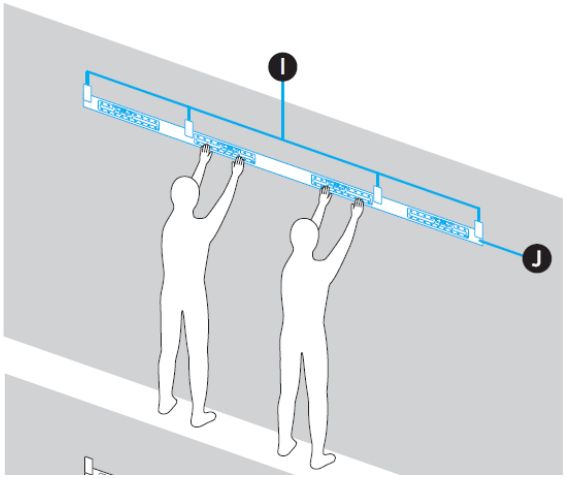


Fig.1 Using leaflet

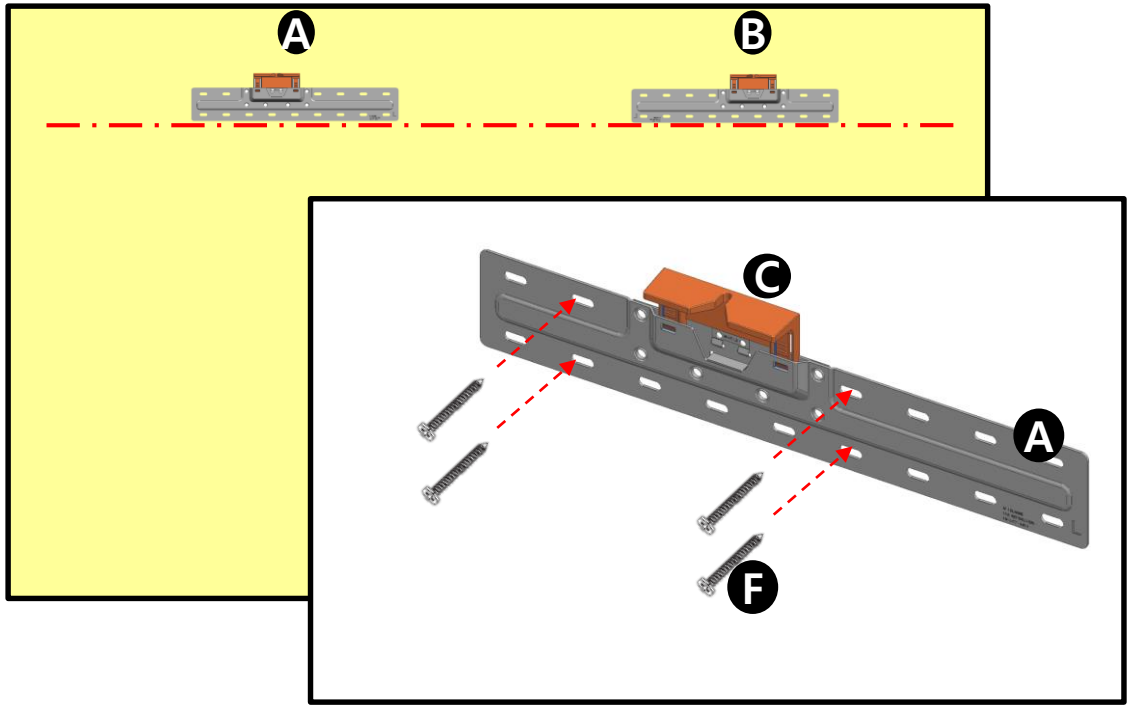


Fig.2 using the screw

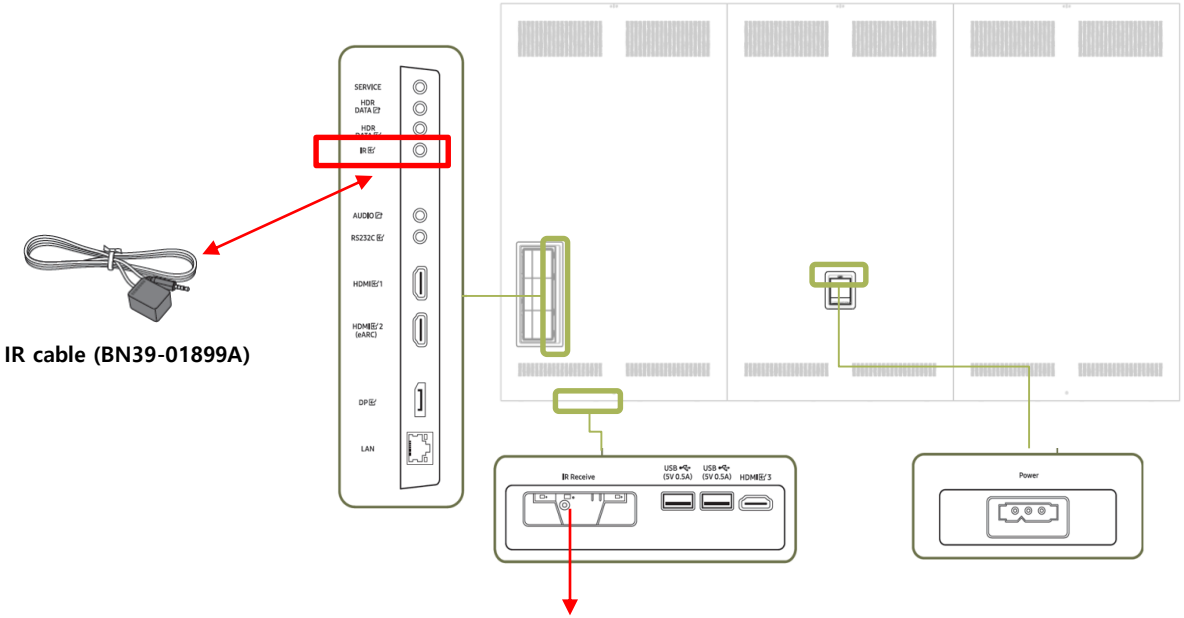
4. FRAME installation and cable connection

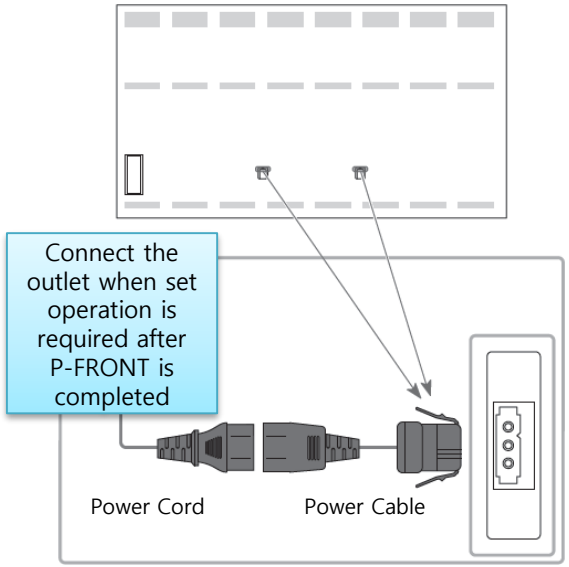
② Before installing FRAME on Wall Mount, the following connection is required

- Connect the power cable to the left frame and right frame, respectively
- Connects 2 Power Cords
- **Since it is difficult to access after installation depending on the environment, connect the external terminal (HDMI, LAN, DP, etc.) cable to be used**

※ IR Cable : For LH016IABMHG, LH008IABMUG, and LH012IABMHG models, there is no function module, Remote control can be operated after connecting the IR cable (BN39-01899A) enclosed in the accessory to the external terminal IR port

※ Power cord : Connect the outlet power when set operation is required, do not connect in advance





※ In case of Function Module, it may not be supported depending on the model or geographical area (exception model: LH016IABMHG, LH008IABMUG, LH012IABMHG)
Therefore, the remote control must be operated after connecting the IR cable(BN39-01899A).

4. FRAME installation and cable connection

③ What should be done when there is a gap between the LEDs (2x3) in the cabinet

- Check the gap between the cabinet (2x3) LED modules before installation.
- if there is a gap, screw the area of Figure 1 to adjust the height of the low part to the high part.

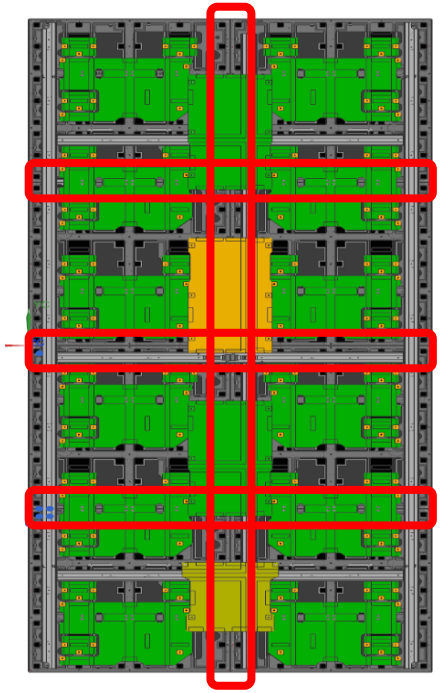


Fig1. LED module gap adjustment area

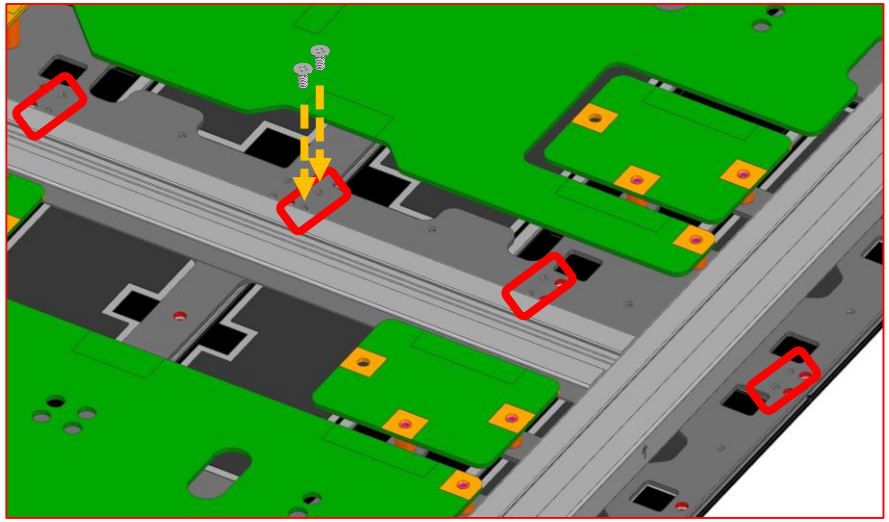


Fig.2 into screw

4. FRAME installation and cable connection

④ Lift the ASSY BRACKET P-FRAME using BRACKET-HANDLE

- Insert HANDLE into FRAME as shown in Figure 1.
- As shown in FIG.2, push it in the direction of the arrow and fix it.
- Fix two points per worker and lift at the same time.

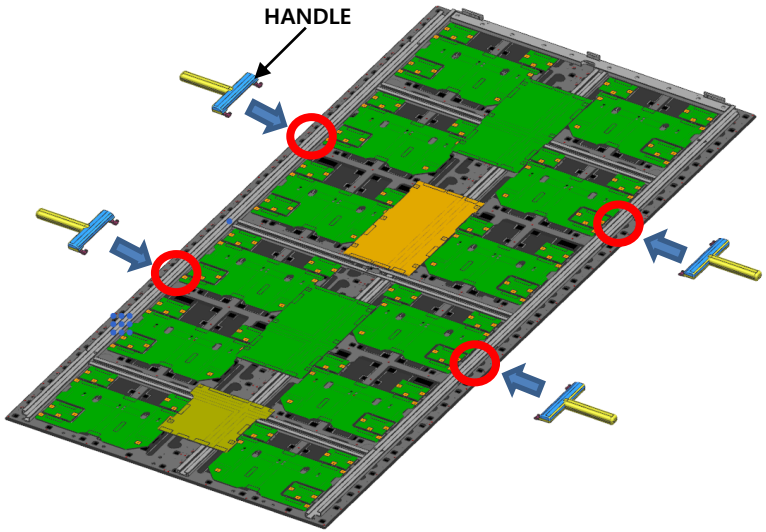


Fig.1 Handle point

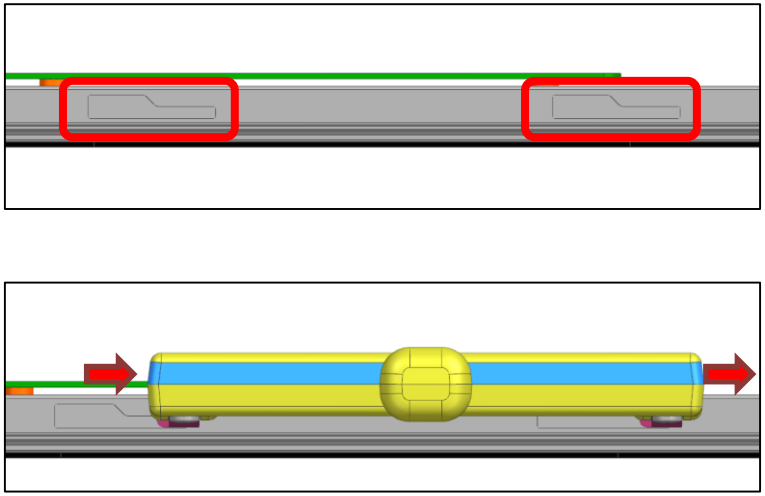
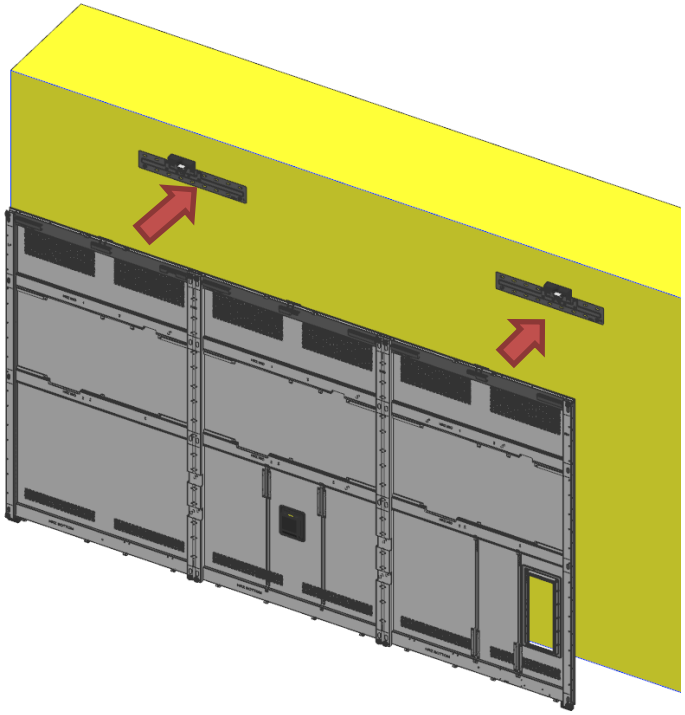


Fig.2 direction of the arrow

4. FRAME installation and cable connection

⑤ Install the ASSY BRACKET P-FRAME on the wall mount.

- Fix it to the wall mount using BRACKET-WALL attached to the rear.
  - BRACKET-WALL SHAFT is used when horizontal adjustment between rear FRAME is required.



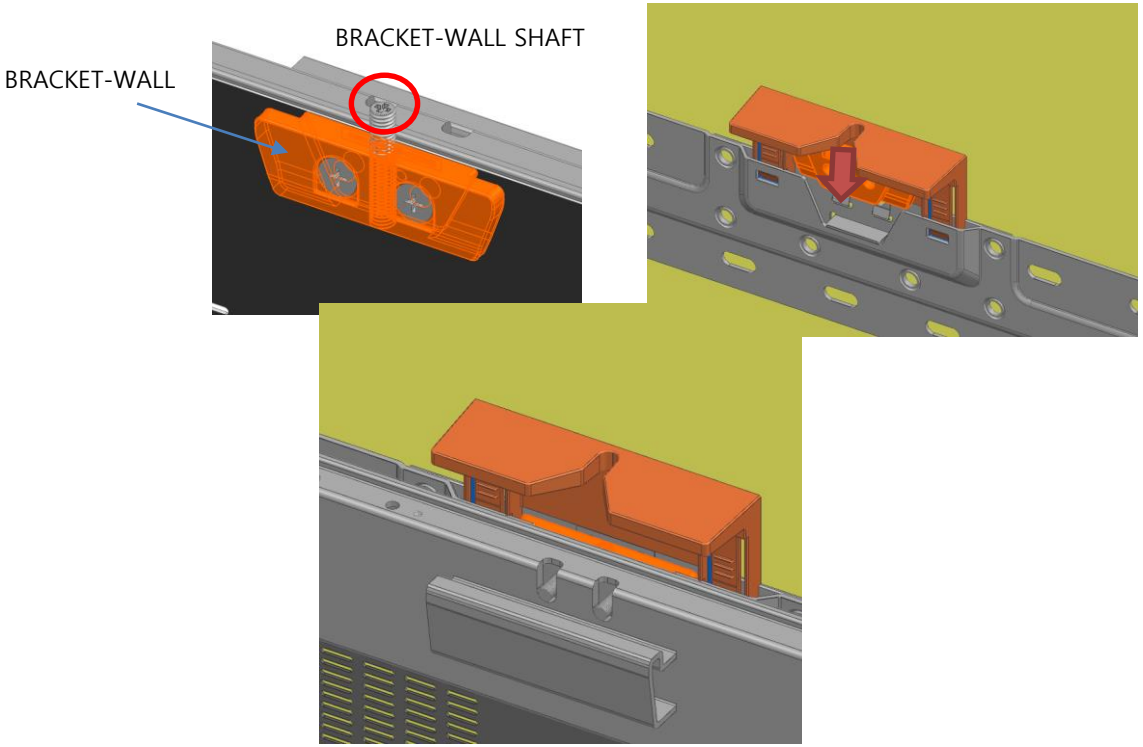


Fig.2 Wall mount fixing

4. FRAME installation and cable connection

⑥-1 Attach SPACER to utilize the space at the bottom of ASSY BRACKET P-FRAME

- **** This course is not an essential course that must be done** **(Attach only when a gap between the bottom of the SET and the wall is required)**
- Attach the SPACER enclosed in the Accessory kit to the bottom of the COVER REAR.

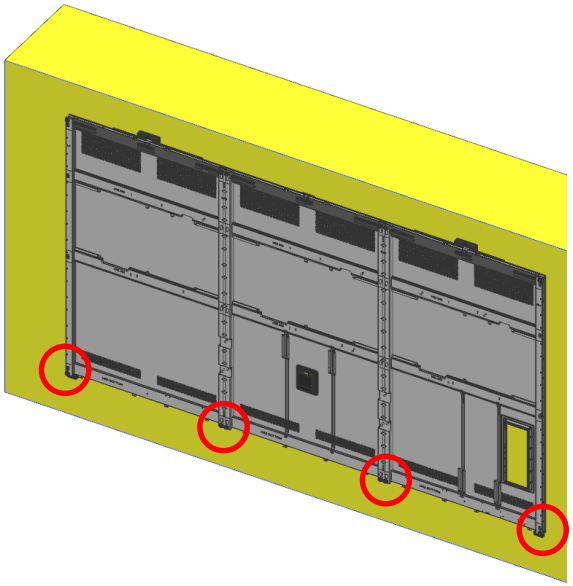


Fig.1 Attaching point

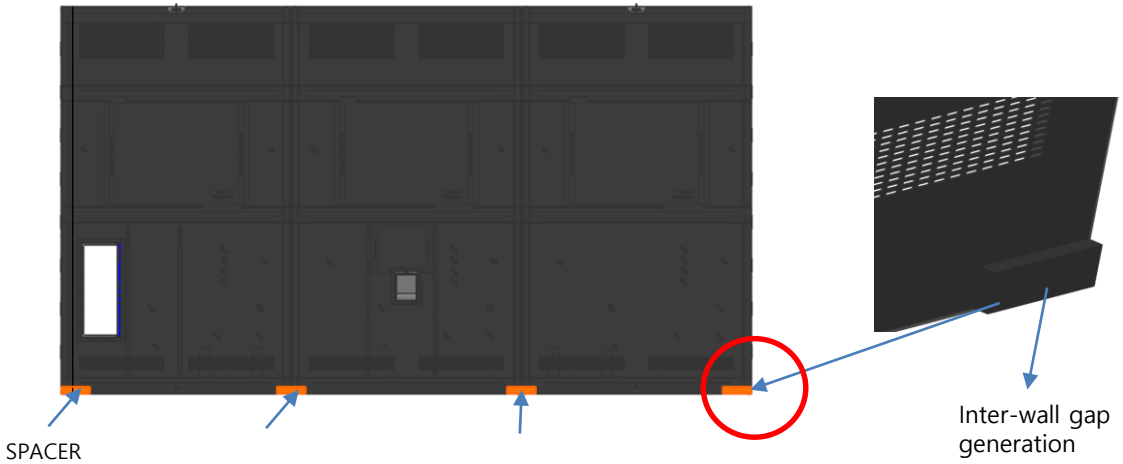


Fig.2 SPACER point

4. FRAME installation and cable connection

⑥-2 Close the bottom of ASSY BRACKET P-FRAME to the wall

- **** This course is not an essential course that must be done (Use only when you need to fix the bottom part completely)**
- Fix the bottom part using the bolt and ring enclosed in the Accessory kit

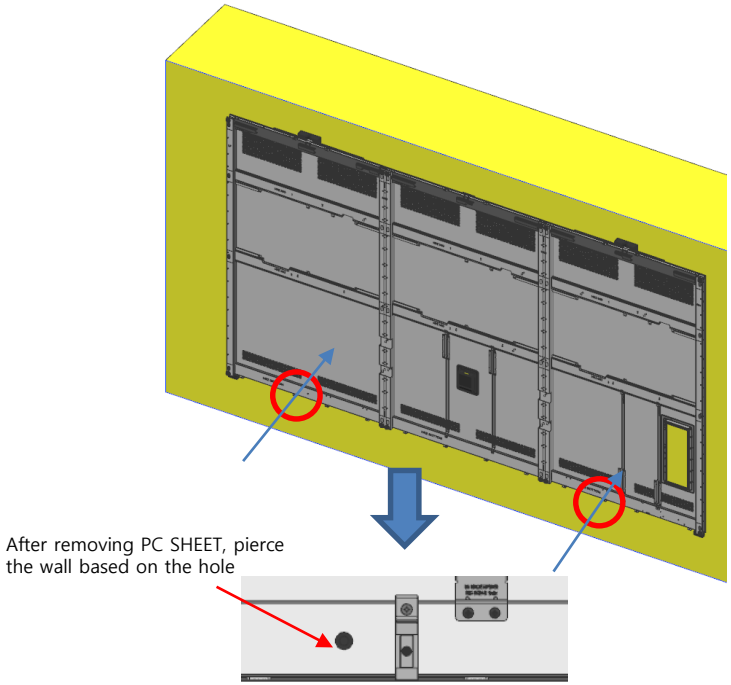


Fig.1 Wall hole opening

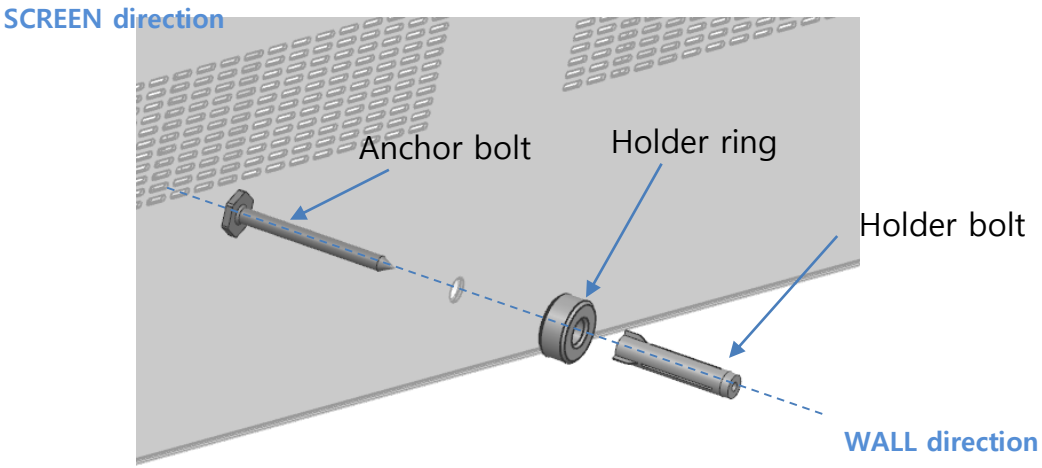


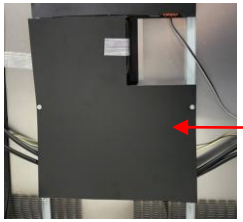
Fig.2 Bolt coupling

4. FRAME installation and cable connection

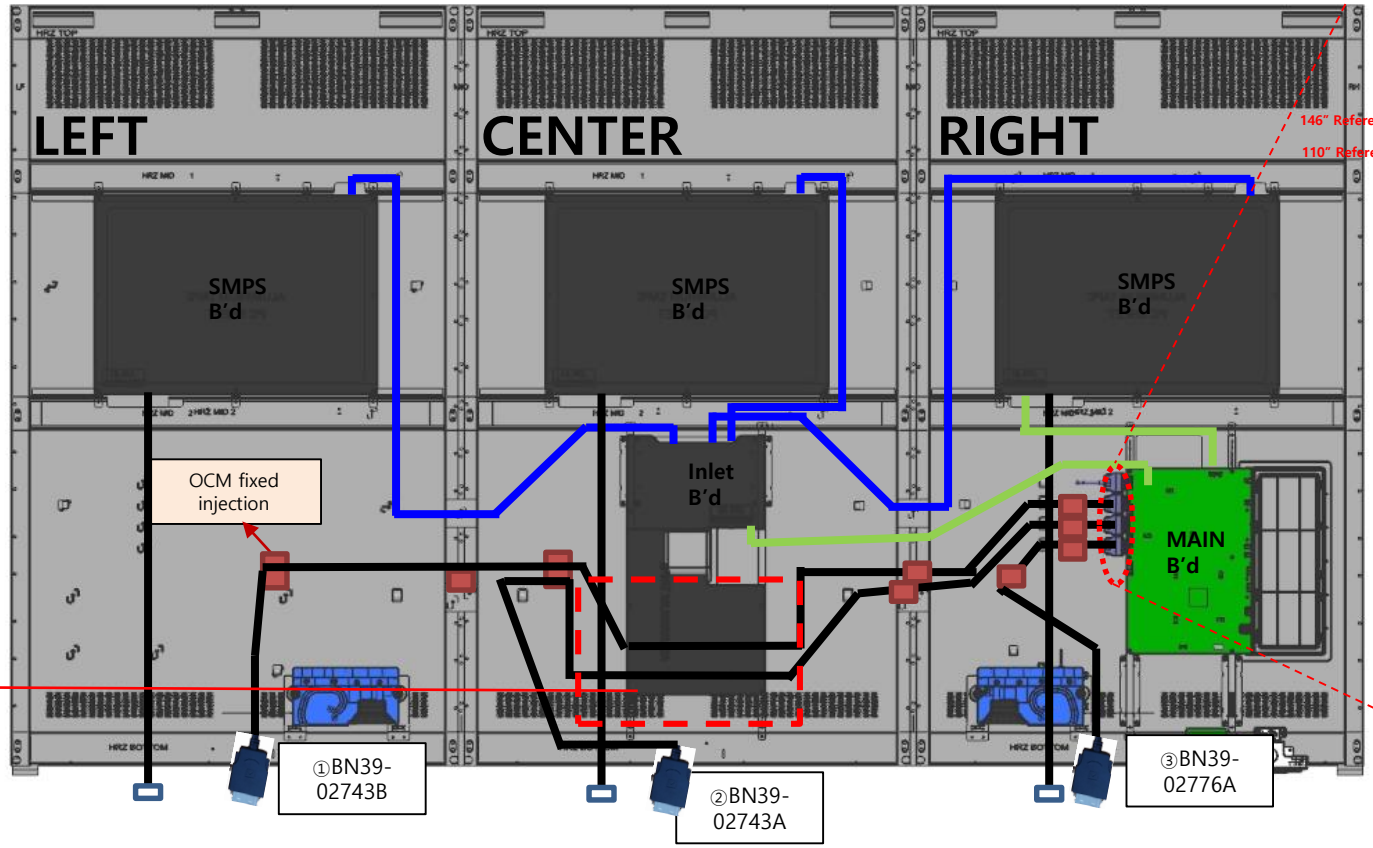
⑦ Cable connection on the frame side(110 inch)

① Connect the BN39-02743B (OCM) to the main OCM2 connector, spread it over the LEFT frame fixed injection, and hang it.
② Connect the BN39-02743A (OCM) to the Main OCM3 connector, then stretch it over the CENTER frame fixed injection
③ BN39-02776A (OCM) is fastened to the main OCM4 connector, and then stretched over the RIGHT frame fixed injection.

※ Mark the OCM cable connection location as SILK at the main b'd OCM connector location



Form the cable under the insulator



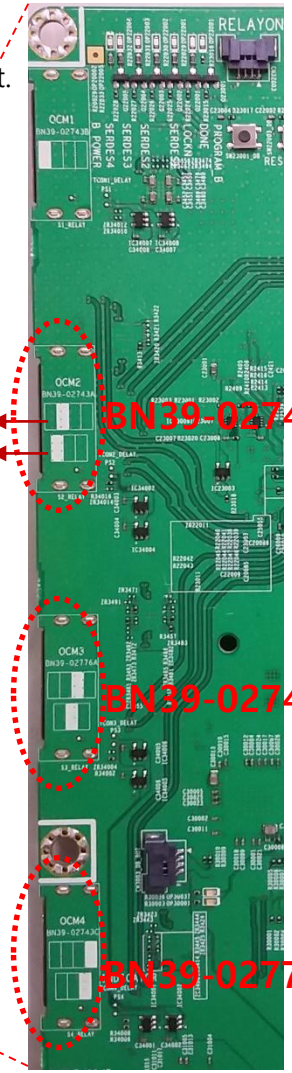
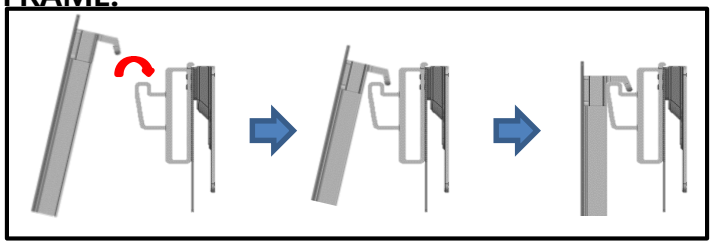


Fig.1 Main b'd Silk

4. FRAME installation and cable connection

⑧ Install the ASSY BRACKET P-FRONT by hanging it on the ASSY BRACKET P-FRAME.

- Remove the HOLDER-GUIDE.
- Install first in the middle and then in the order of 2 and 3.
- Be sure to comply with the installation order
- Since it is installed on foot, it is raised and installed at an angle.



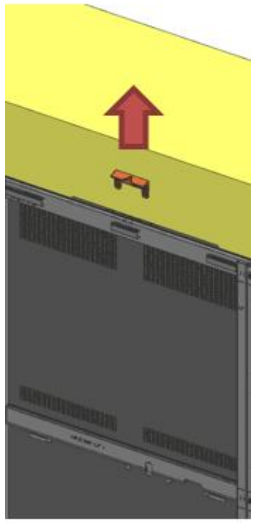


Fig.1 HOLDER-GUIDE REMOVING

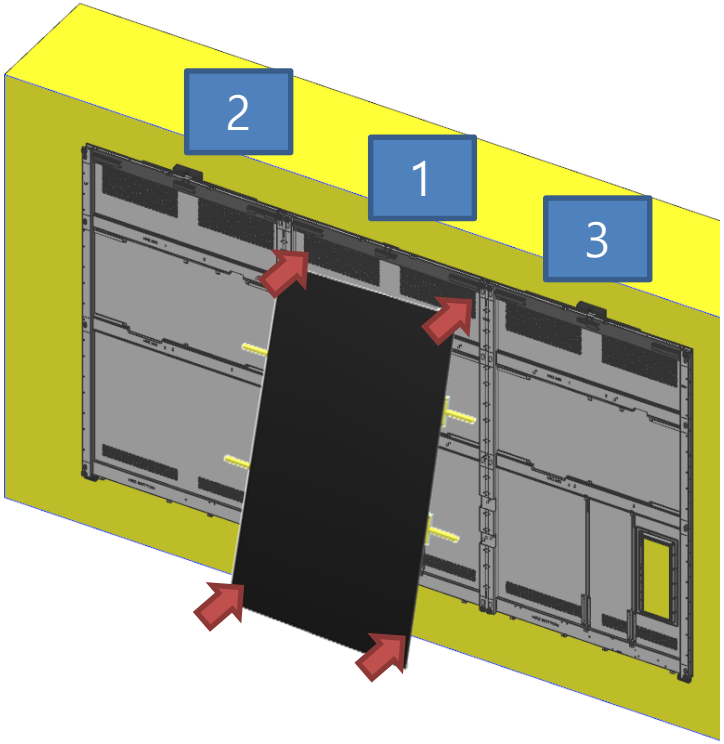


Fig.2 hanging

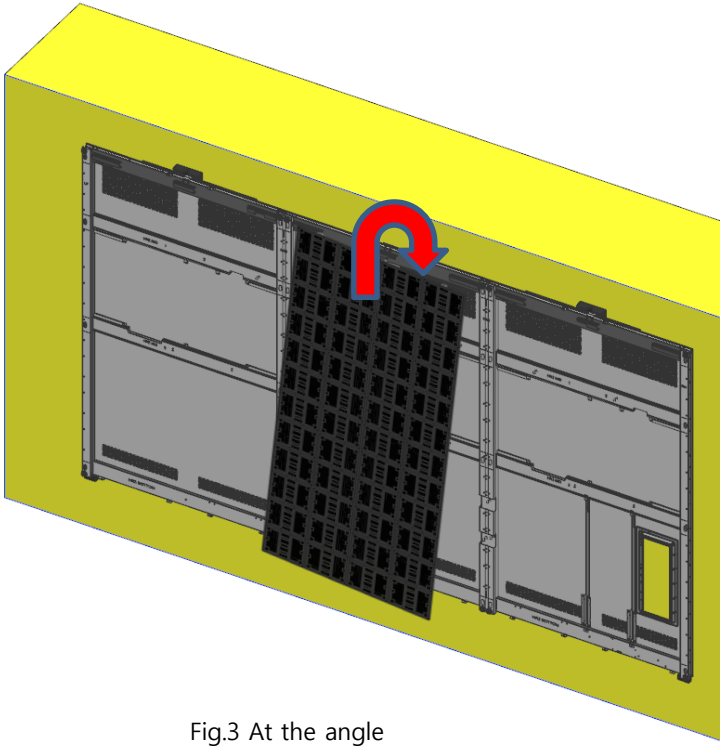


Fig.3 At the angle

4. FRAME installation and cable connection

⑩ **Connect the cable below whenever you hang one ASSY BRACKET P-FRONT to the P-FRAME. (110 inch)**

- After creating a space by pulling the bottom of the P-FRONT, connect the OCM cable to the CN701 of the BN41-03045A board
- After attaching P-FRONT to P-FRAME, connect BN39-02835A of P-FRONT and BN39-02833A of P-FRAME
- The cable dummy exposed to the bottom of the set is pushed into the gap between P-FRONT and P-FRAME

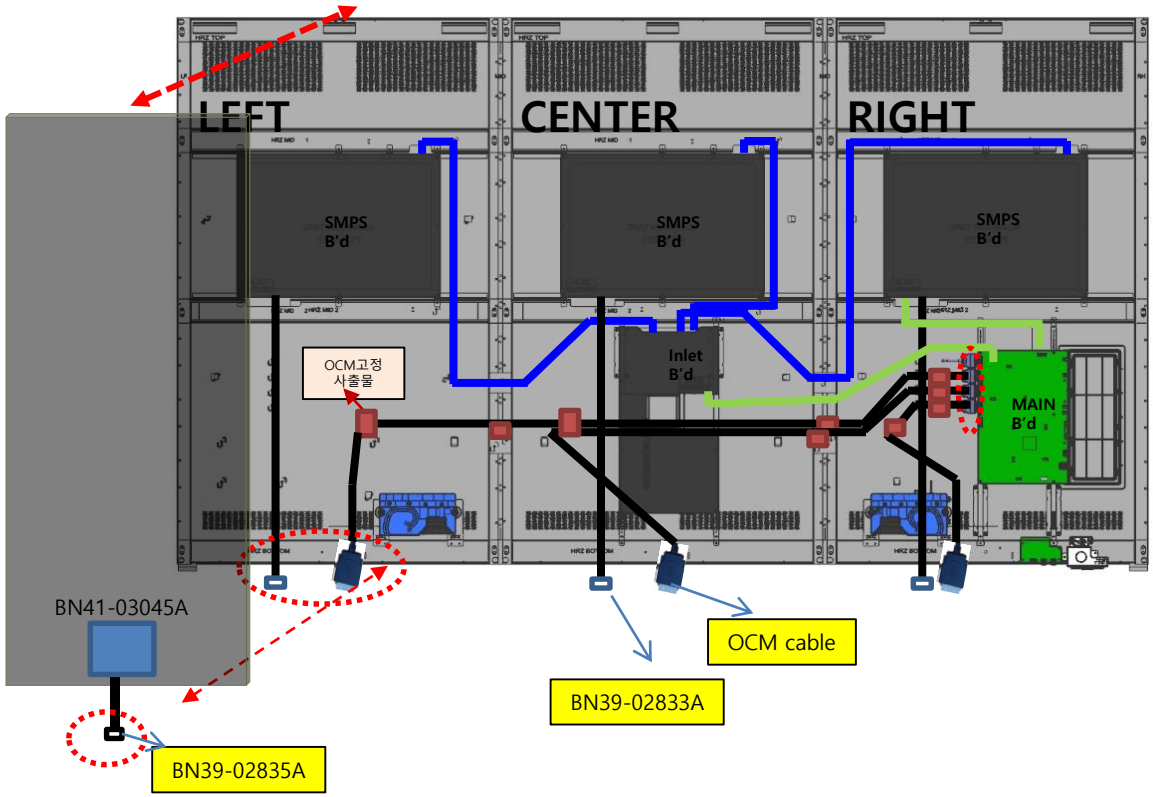


Fig.1 create FRONT space

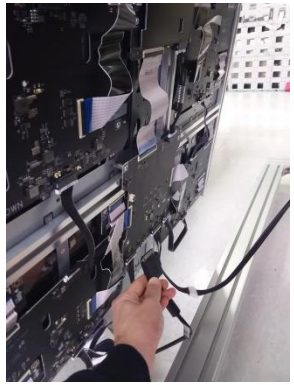


Fig.2 OCM cable connect

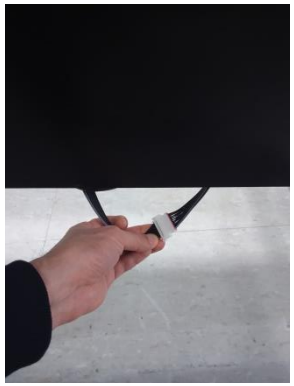


Fig.3 BN39-02835A – BN39-02833A connect

4. Frame 설치 및 케이블 연결

⑩ Check the operation of each ASSY BRACKET P-FRONT installation.

- Connect the power of the SET power cord to check whether the entire LED is damaged or not and check the output.

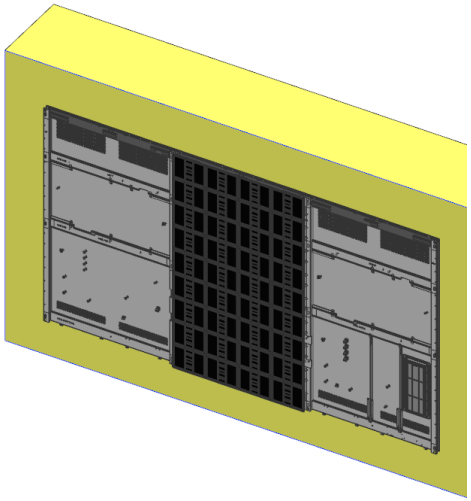


Fig.1 Check the operation
after installing one

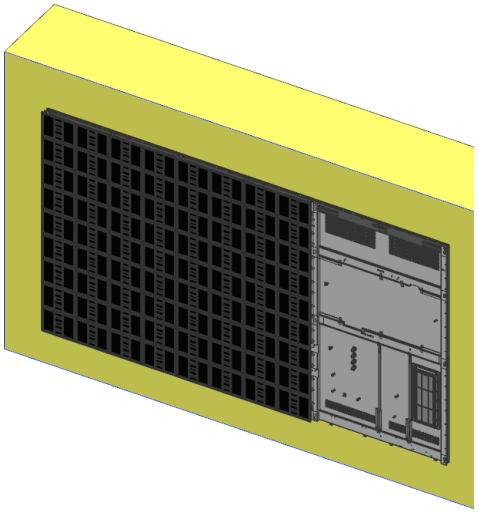


Fig.2 Check the operation
after installing two

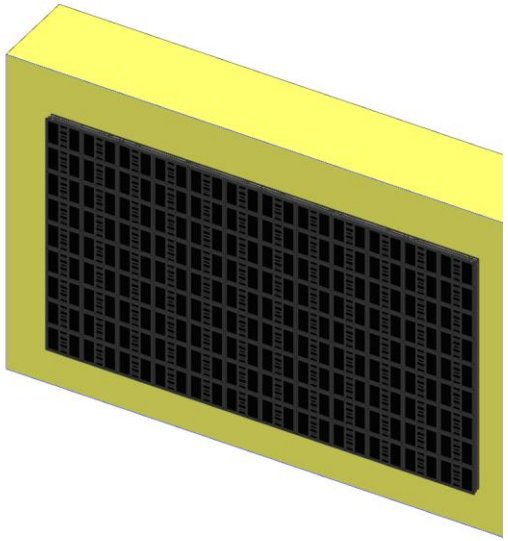


Fig.3 Check the operation
after installing three

4. FRAME installation and cable connection

⑫ After assembling two or more ASSY BRACKET P-FRONTs, match each other's Z seams.

<Z seam control method>

- Use a driver to open the space between the two modules.

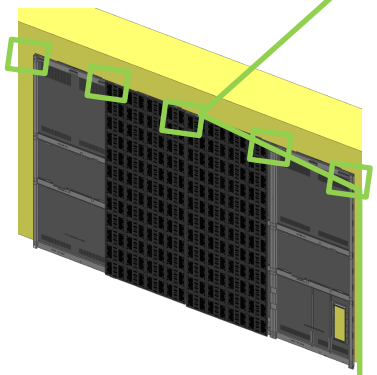
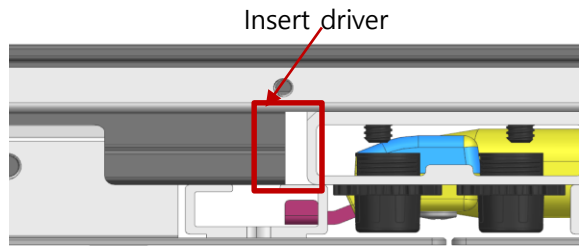
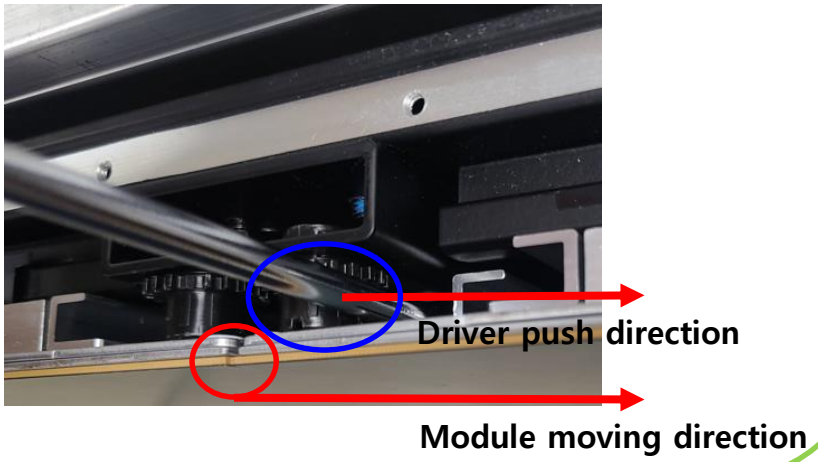


Fig1. Driver usage location





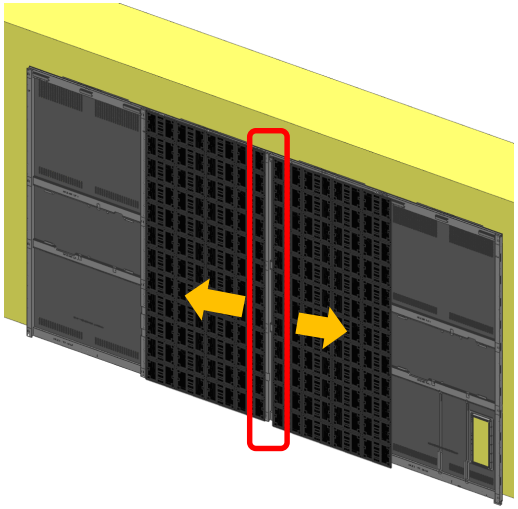


Fig2. making GAP

4. FRAME installation and cable connection

⑬ After assembling two or more ASSY BRACKET P-FRONTs, match each other's Z gaps.

< Z gap control method >

- The concept of pushing up the lower side
- Open the distance between the two modules. Figure 1
- Adjust the gap by turning the middle gear using the straight driver. (Right module: upper gear, left module: lower gear) Fig.2

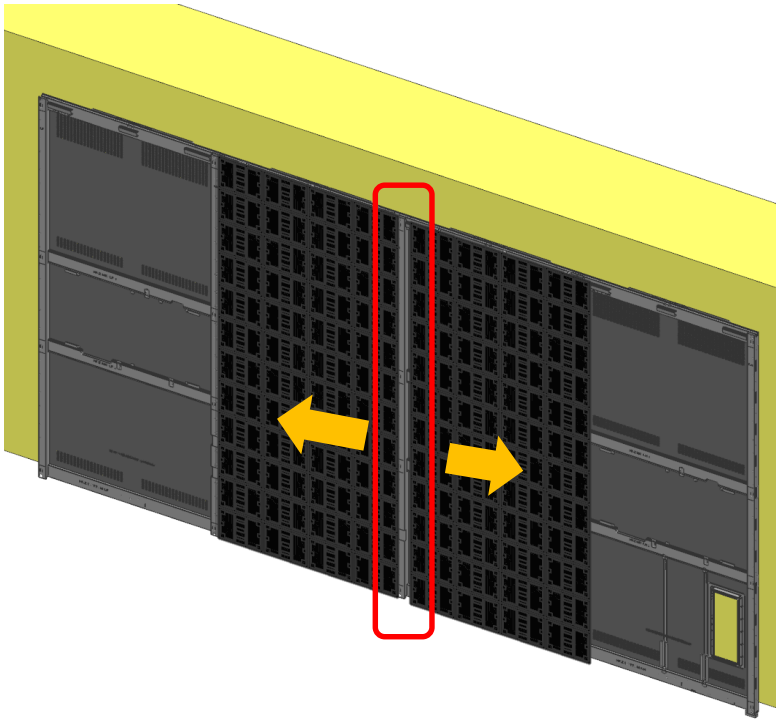


Fig.1 Module

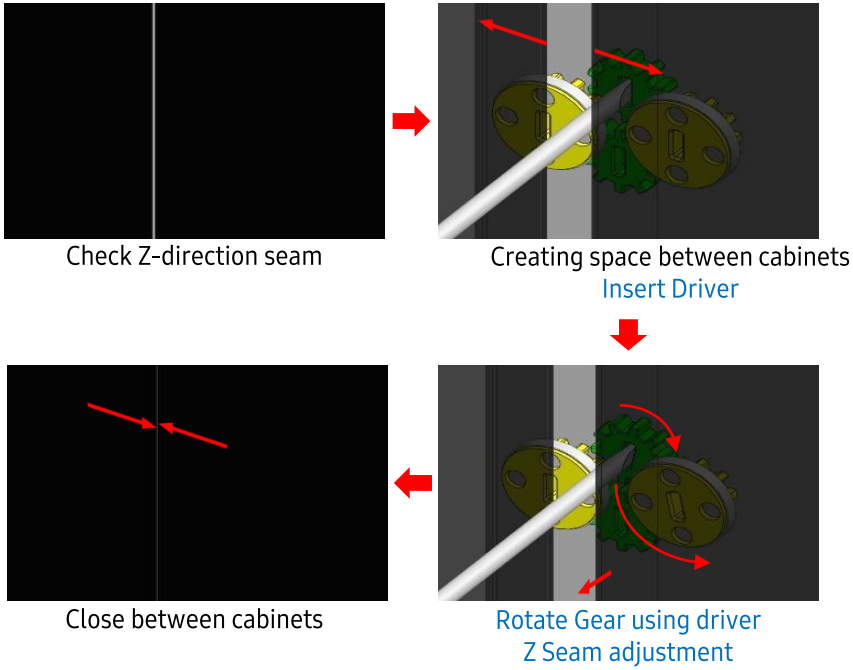


Fig.2 Step control method

4. FRAME installation and cable connection

⑬ LEFT and TOP DECO are assembled first in order to create an environment where SET tilt can be adjusted.

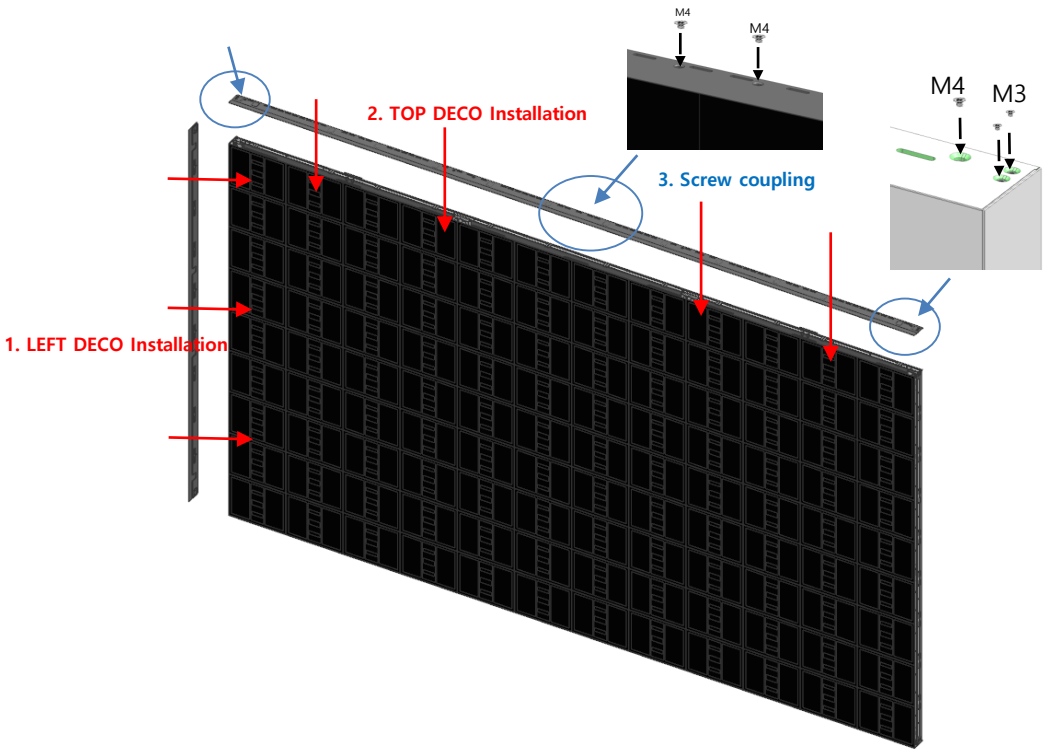


Fig.1 Deco assembling sequence

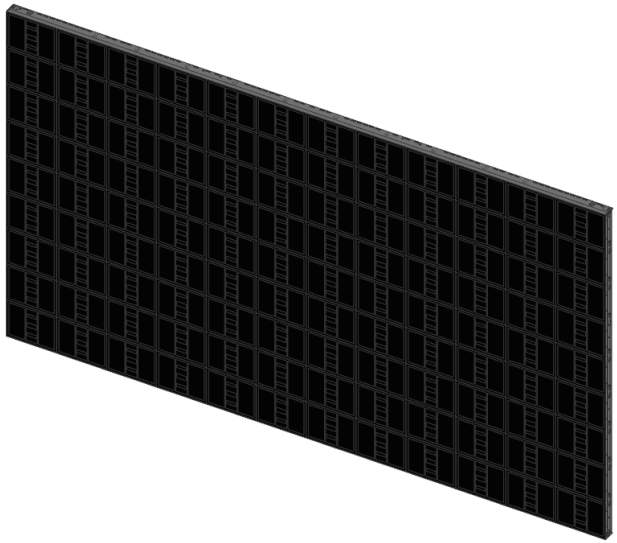


Fig.2 Completion of assembling

4. FRAME installation and cable connection

⑬ **Check if the screen position is correct based on the DECO GAP PAD, and then adjust the screen position.**

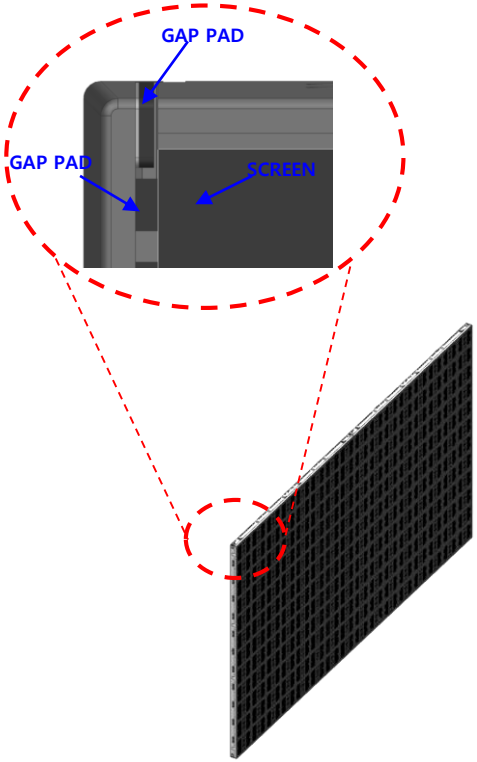


Fig.1 check point

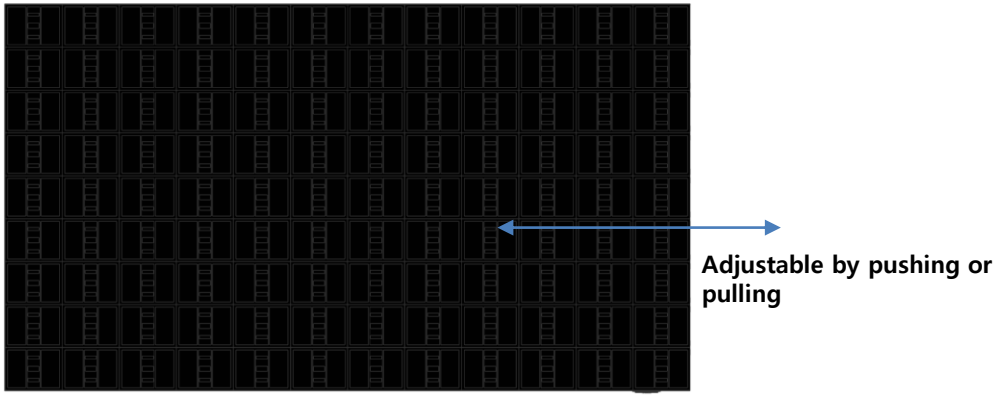


Fig.2 move the screen

4. FRAME installation and cable connection

⑭ Move the headless bolt through the hole of the DECO TOP

- The SET tilt can be removed using a headless bolt and the Y-axis can be adjusted to remain horizontal.
- After adjustment, separate the LEFT and TOP DECO from the SET.

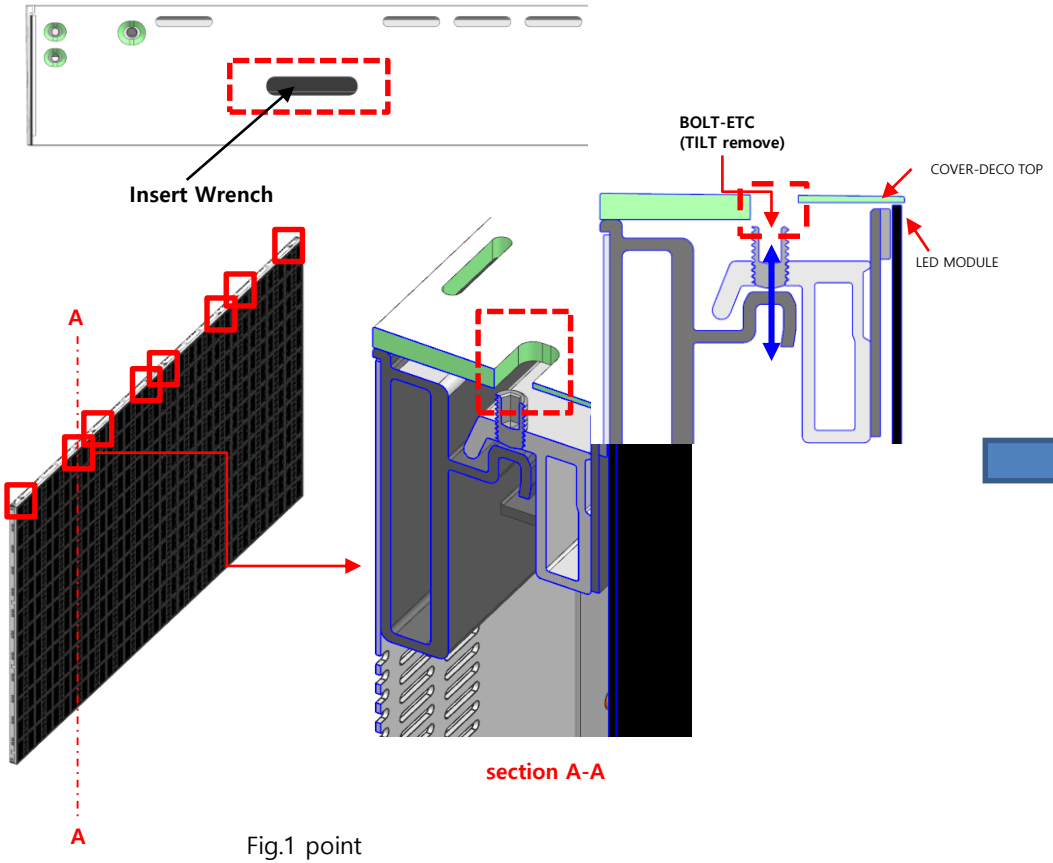


Fig.1 point

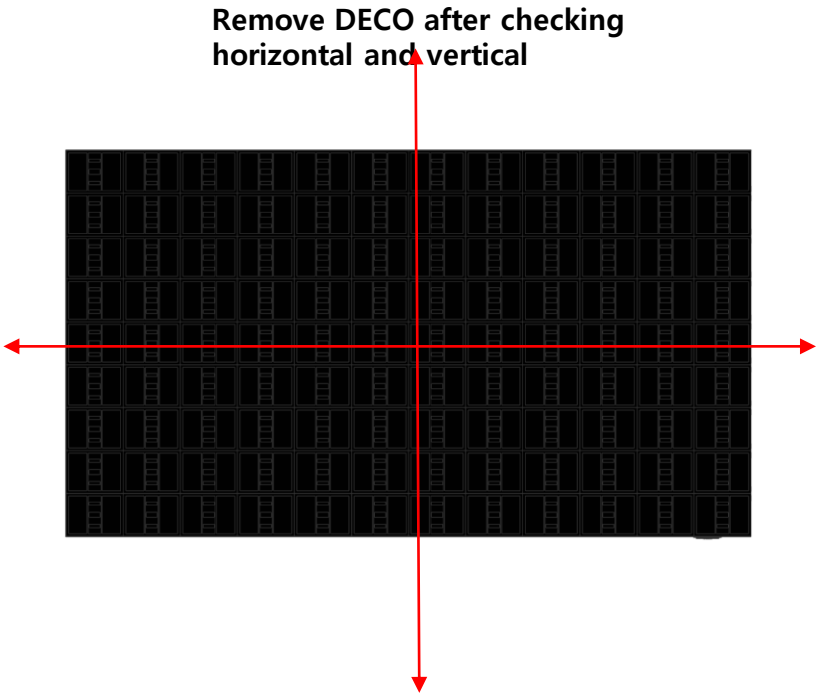
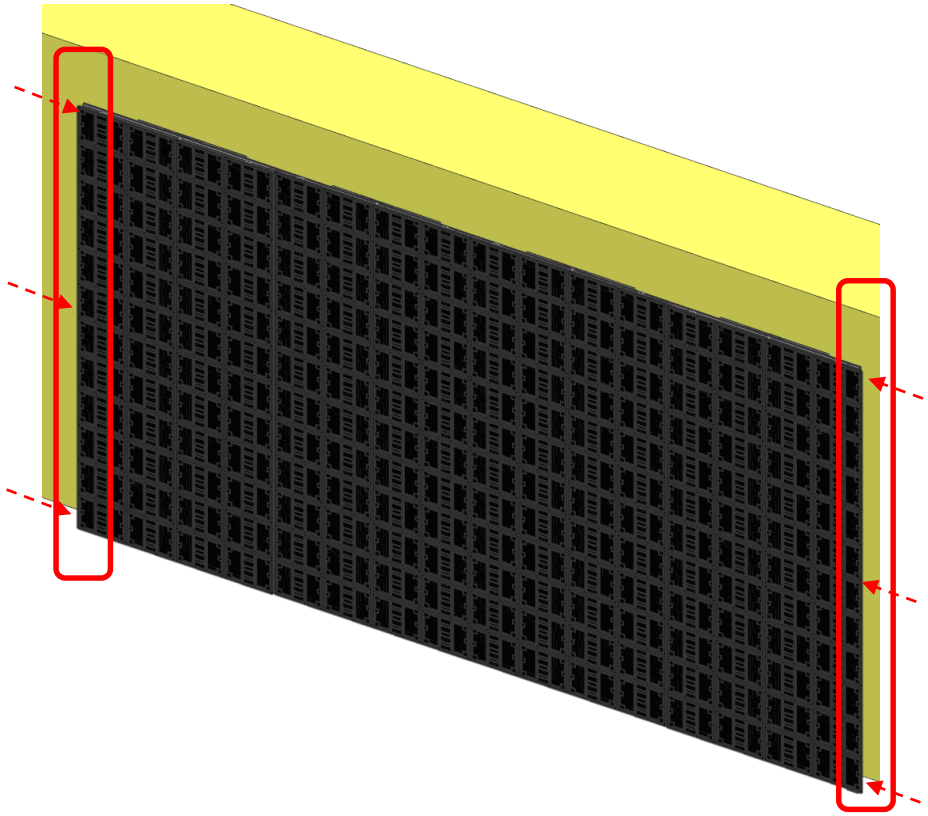


Fig.2 Deco removal after tilt check

4. FRAME installation and cable connection

⑭ When the ASSY BRACKET P-FRONT installation is complete, fix it with the BRACKET SUPPORT on the left and right sides.

- BRACKET-SUPPORT assembly position is generally assembled with top/bottom center 3POINT. (Addable depending on the situation)
- After assembling the SCREW-SPECIAL into the BRACKET-SUPPORT, turn it and push the inside.



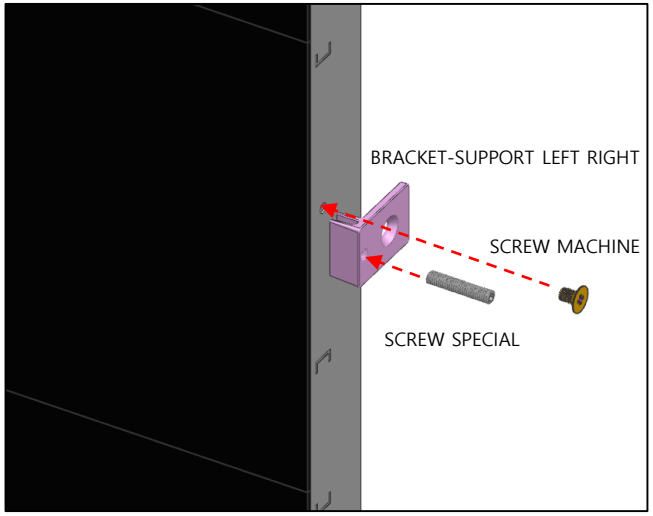


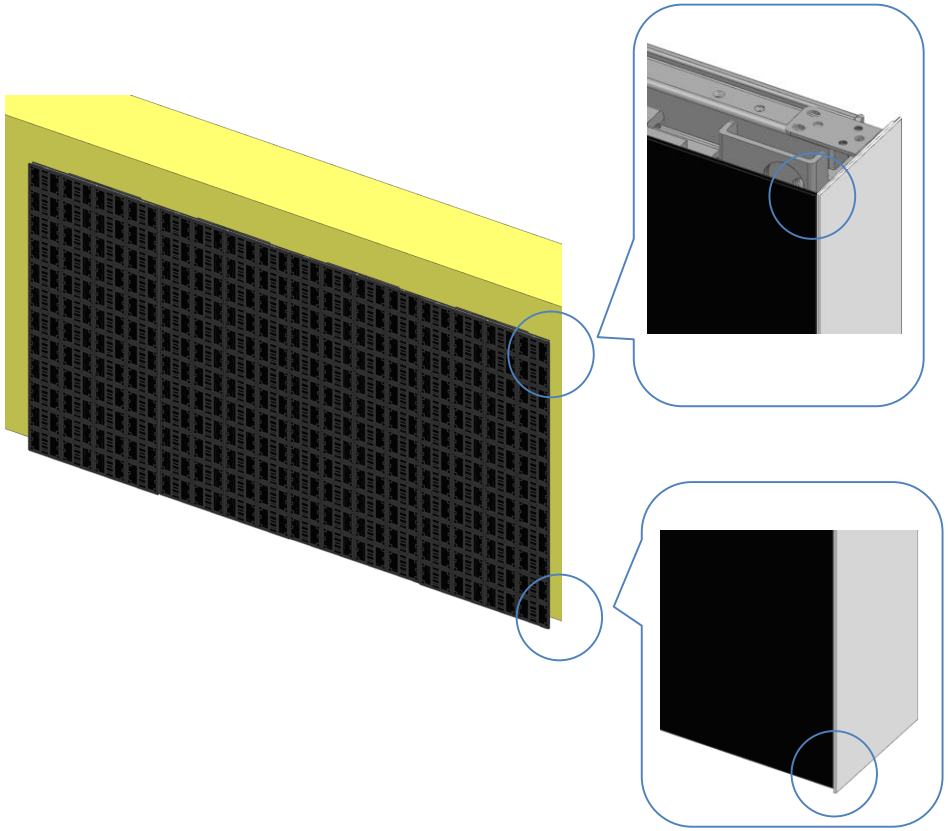
Fig.1 BRACKET-SUPPORT INSTALL

5. Frame Bezel Installation

① Install the left and right side bezels first.

- Check the degree of separation from the screen by facing the FRAME BEZEL SIDE on the left/right side of the CABINET.
- Move the front position according to the degree of separation and attach it

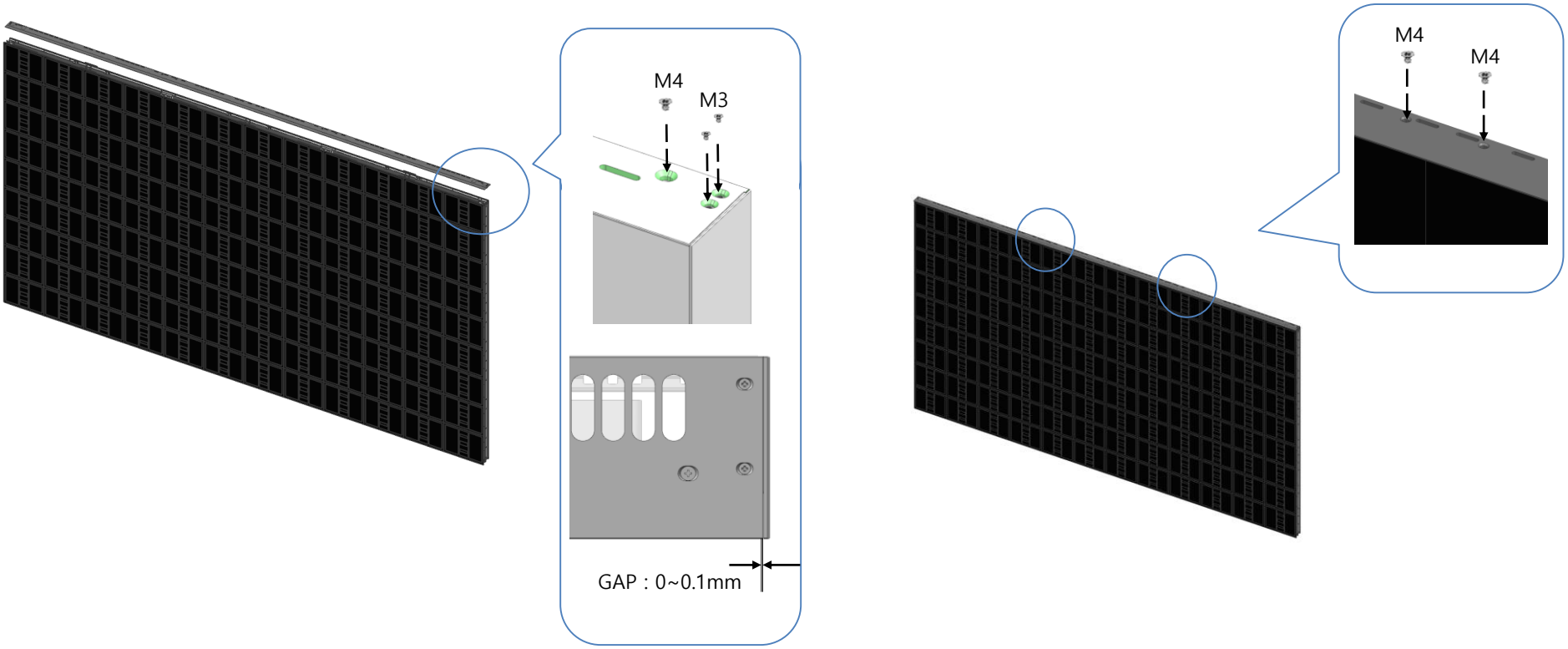
Check the degree



5. Frame Bezel Installation

② Install the FRAME BEZEL TOP at the top and put the screw.

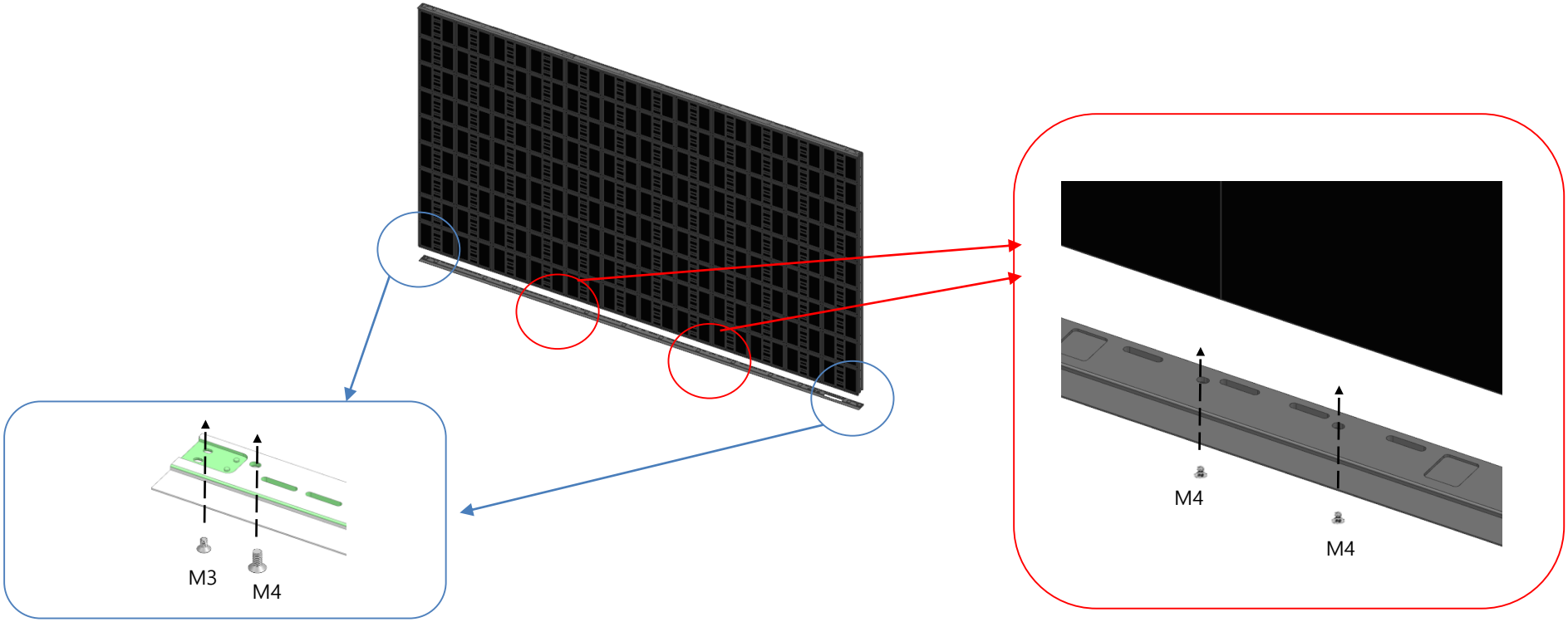
- Place the FRAME BEZEL SIDE and FRAME BEZEL TOP/BOTTOM together so that there is no GAP.
- The M3 screw connects FRAME BEZEL SIDE and TOP/BOTTOM, and the M4 screw connects to CABINET.



5. Frame Bezel Installation

③ Install the FRAME BEZEL BOTTOM at the bottom and screw it up.

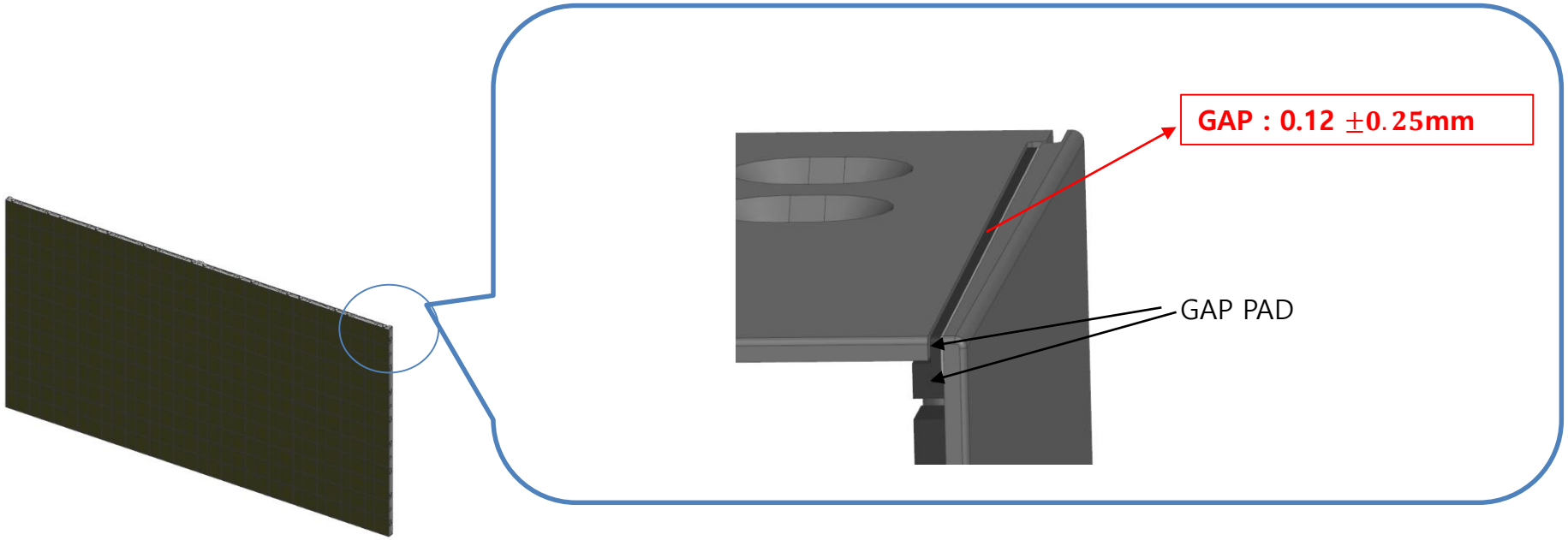
- When assembling the BEZEL BOTTOM, check the IR SENSOR location and attach it.



5. Frame Bezel Installation

④ References related to GAP when installing BEZEL

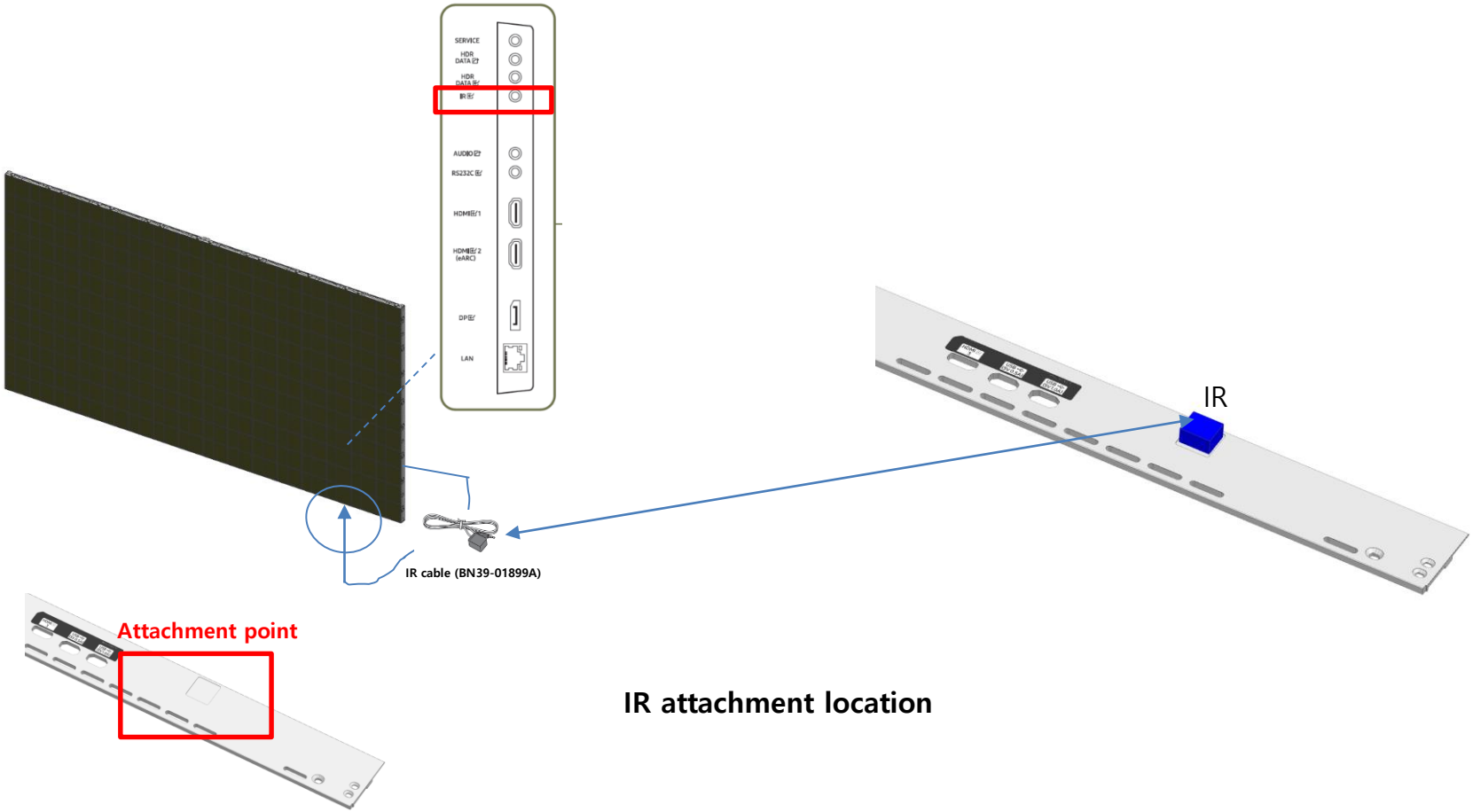
- The BEZEL structure of this model is structurally GAP designed in the SIDE part for extension installation of 2SET or more. (0.65mm)
- Pads for side GAP supplementation are attached to BEZEL by default



5. Frame Bezel Installation

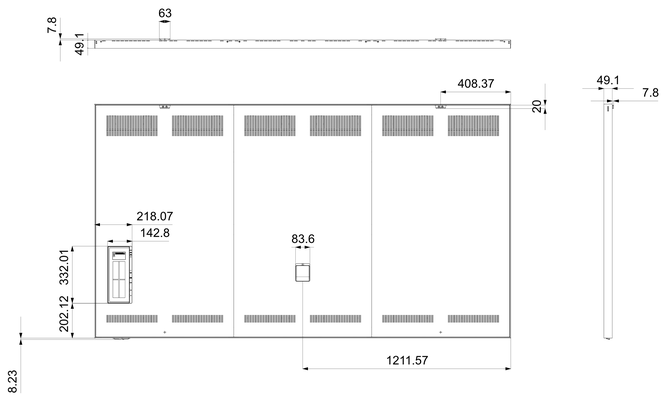
⑤ It is necessary to attach IR separately only models for LH016IABMHG, LH008IABMUG, and LH012IABMHG.

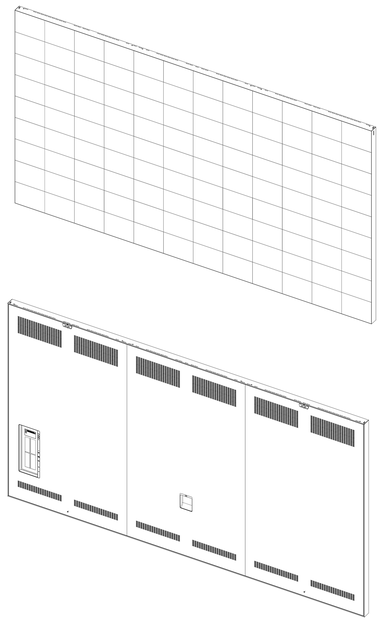
- IR is enclosed separately for the model
- Attach to the displayed part at the bottom right as shown below.

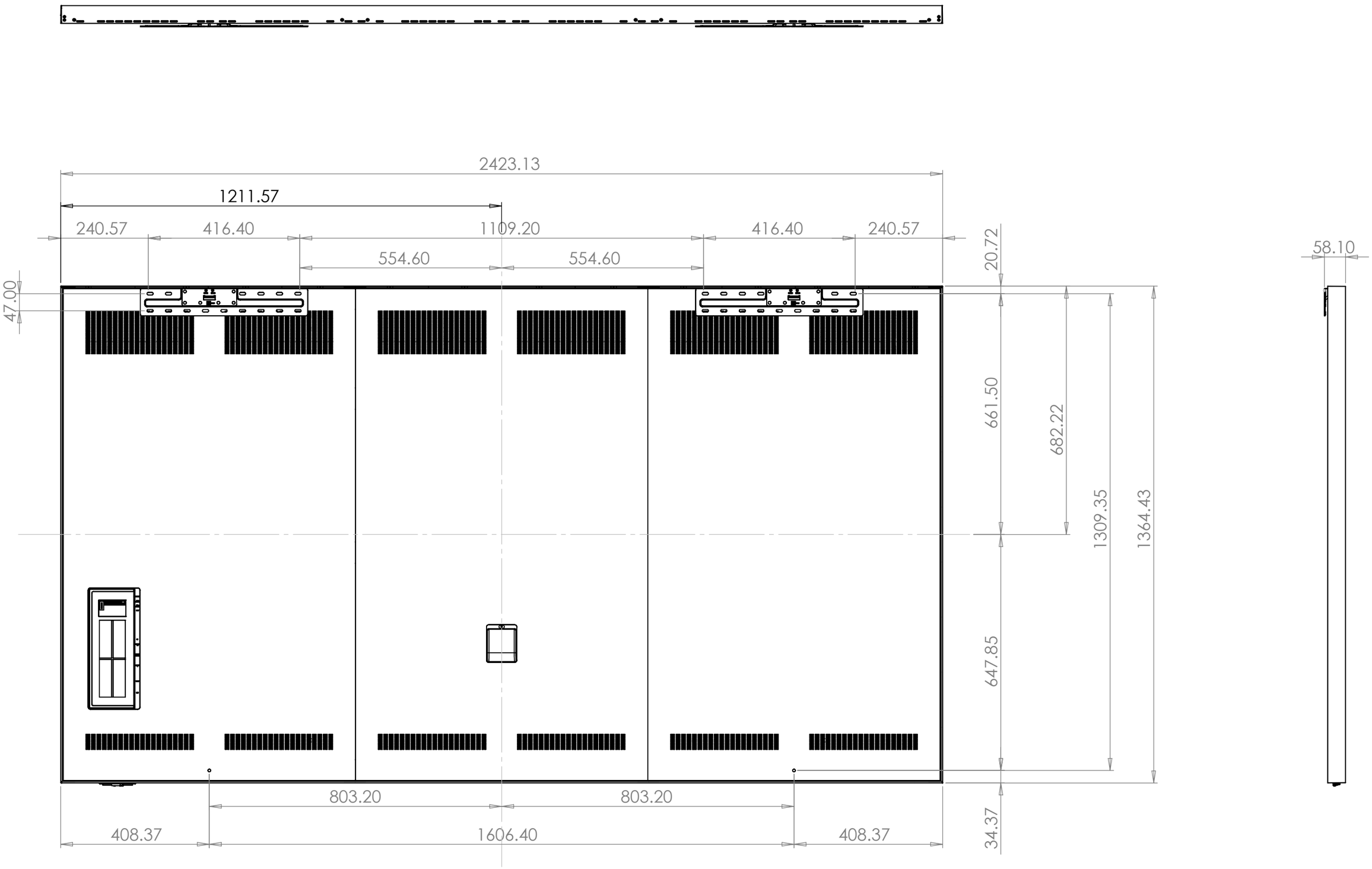


IR attachment location

LED DISPLAY P1.26
IAB 110" SET (with DECORATION)







SAMSUNG
HW Tech EDO

DISCLAIMER NOTE: THIS IS A PRELIMINARY DRAWING; NO ARCHITECTURAL OR MOUNTING POINTS CAN BE BASED ON THIS DRAWING; THEREFORE, IT IS YOUR RESPONSIBILITY TO ADJUST THE DESIGN IN ACCORDANCE WITH THE LOCAL LAWS ON STRUCTURAL ELEMENTS, WIND LOADS ECT.

UNIT OF MEASURE: mm-KG

Drawn by: Carl Worthington	PROJECT:	SCREEN SIZE: IAB 110"	WEIGHT Kg:	TITLE: IAB 110"	REV: A
Date Drawn: 28/03/2024					
Date Printed; 28/03/2024	REFERENT:	NOTES: PRELIMINARY DRAWING	SHEET: 1 of 1	DRAWING NO.	SCALE 1:10

Template: 2023-06-29 - F.Ravn

IAB 1.26P 110" DIMENSION

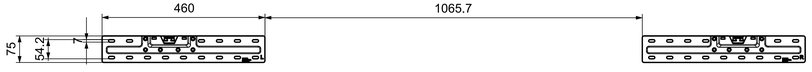
. SET SIZE (W/O Wall Mount) : 2423.1 * 1364.4 * 49.5 mm

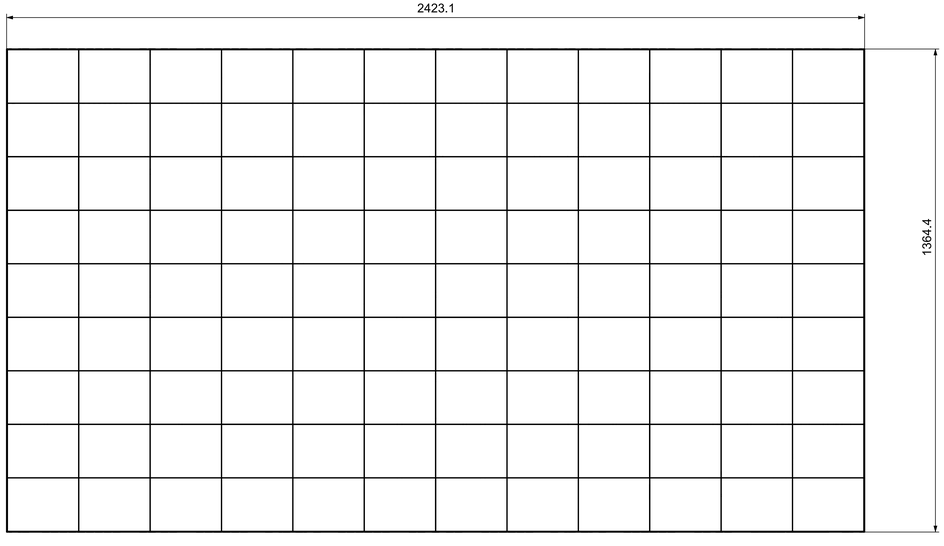
. SET SIZE (W/O Wall Mount) : 2423.1 * 1364.4 * 60.4 mm

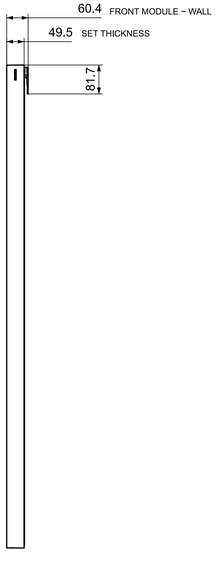
. WALL MOUNT SIZE : 460.0 * 75.0 * 9.5 mm

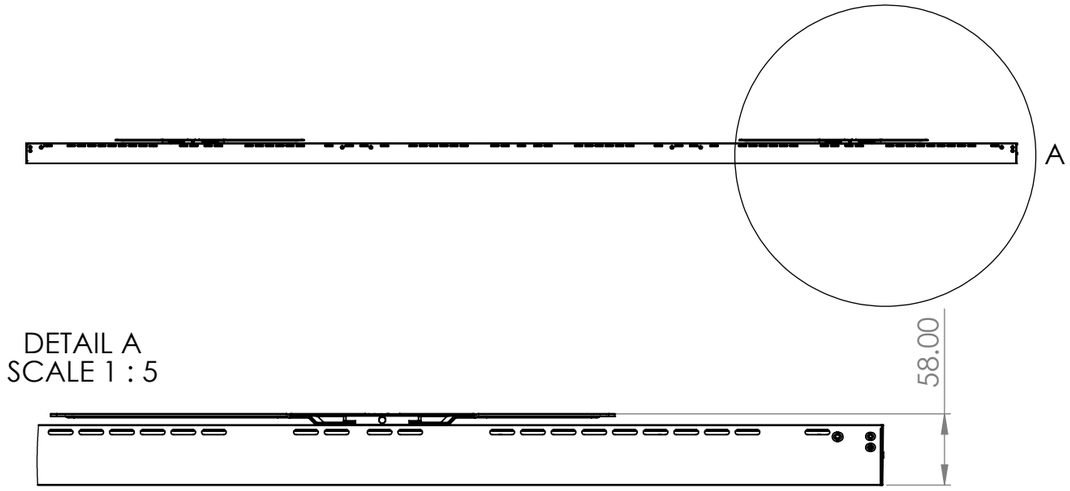
. SCREW SIZE : M5 * L75

. SET WEIGHT : 99Kg

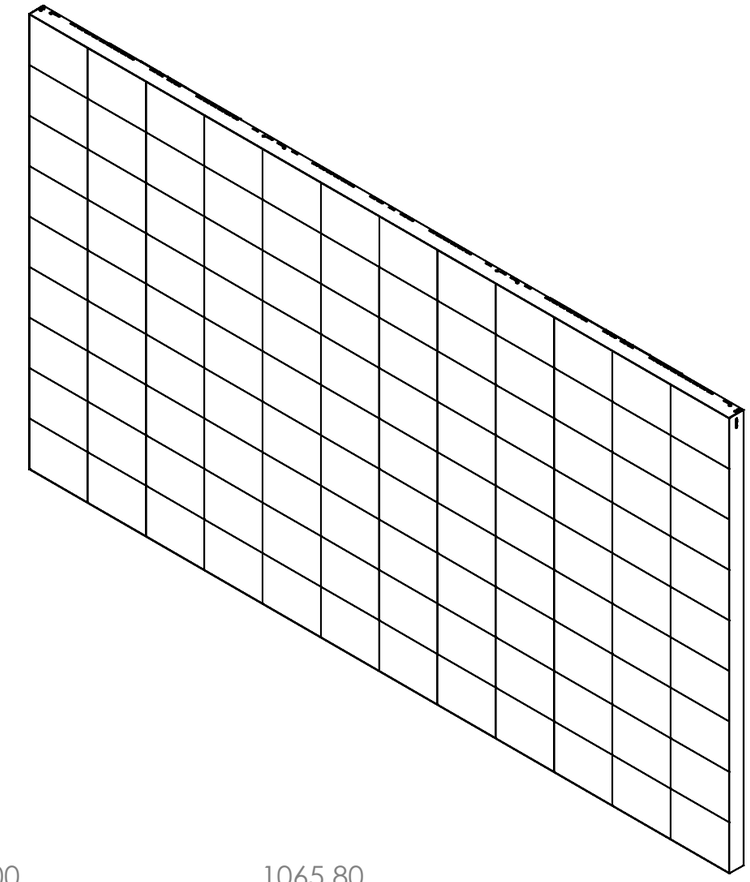


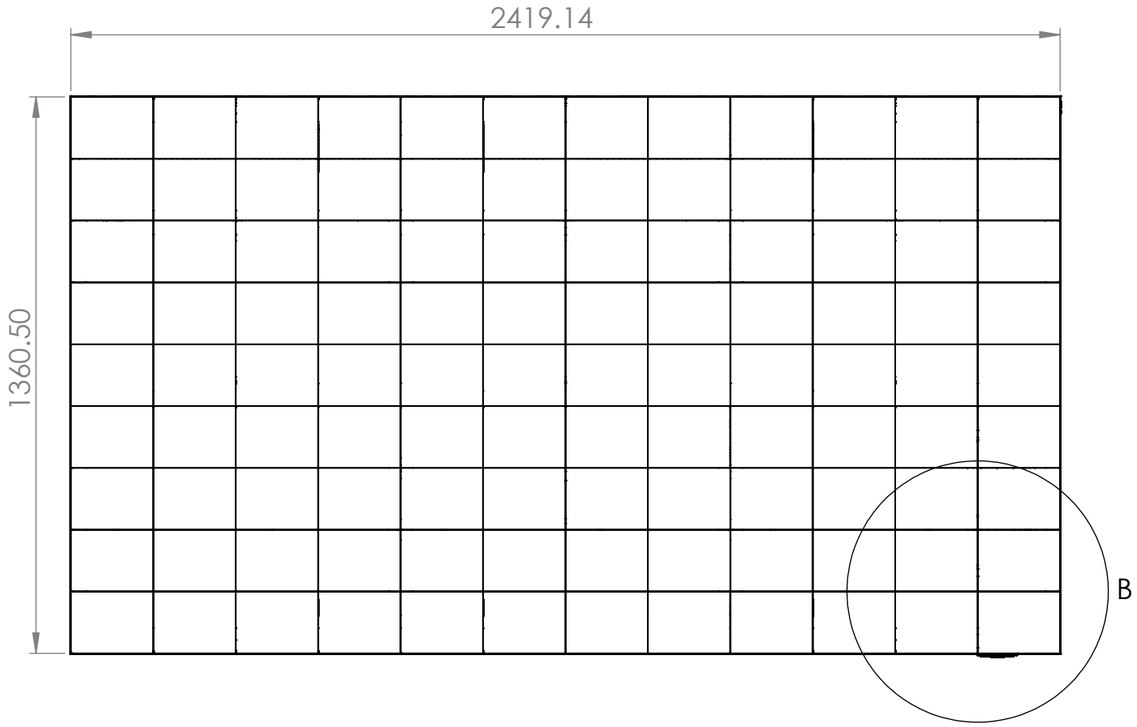


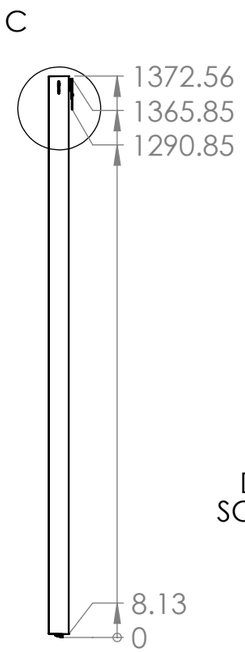




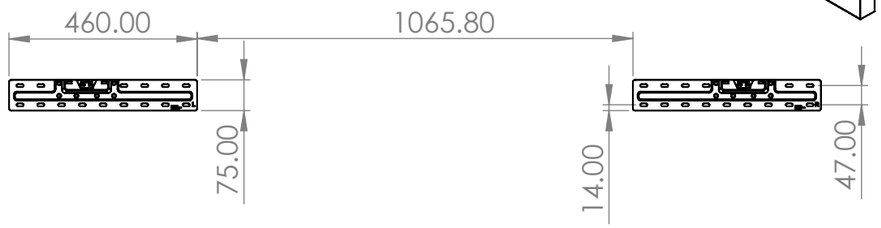
DETAIL A
SCALE 1 : 5

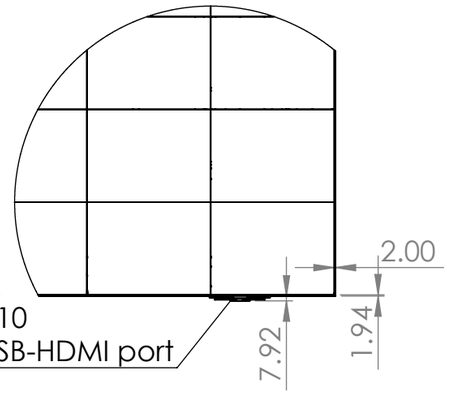






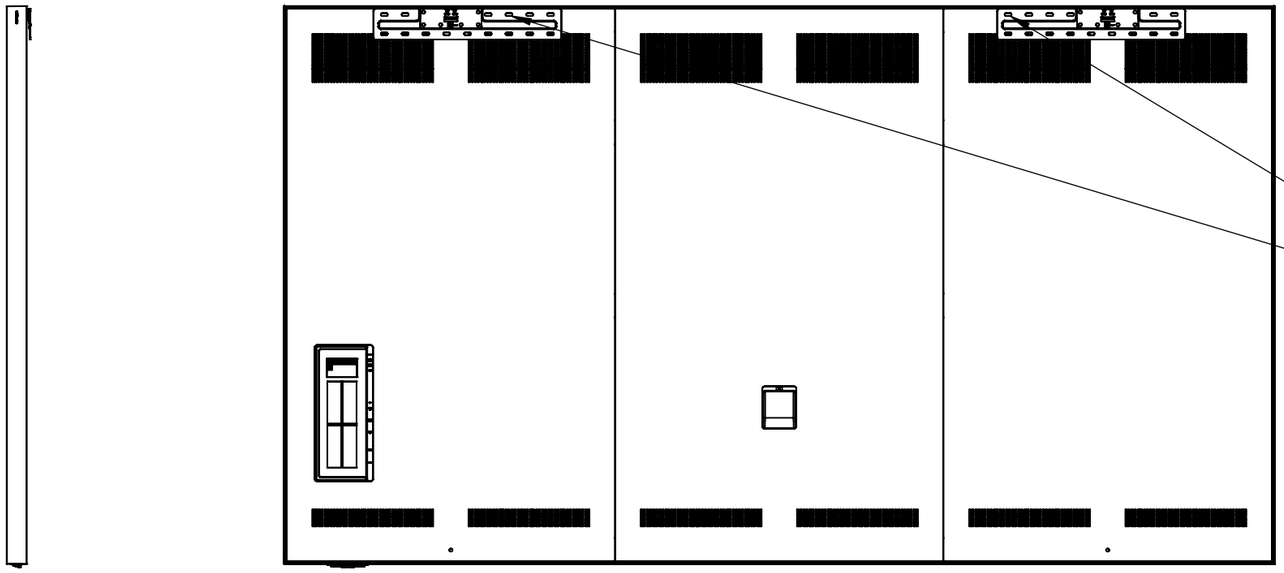
DETAIL C
SCALE 2 : 15

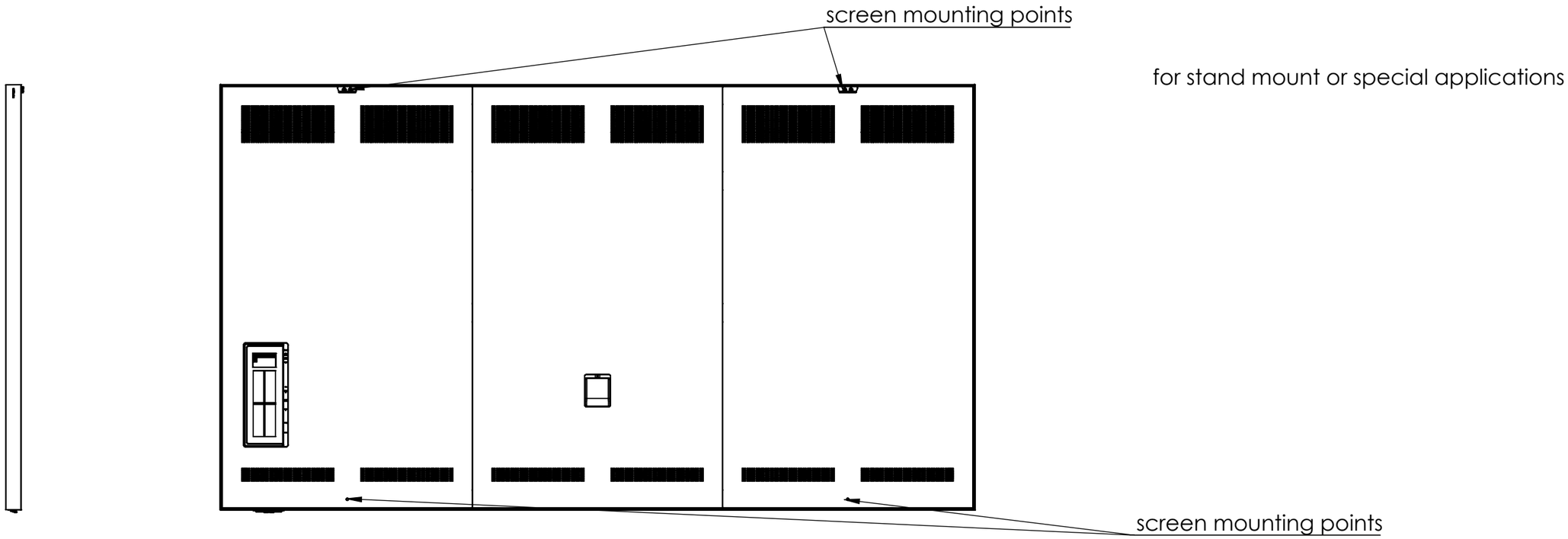




DETAIL B
SCALE 1 : 10

SCREEN SIZE:	LXHXD	DEPARTMENT:	LED Excellence EDO	UNIT OF MEASURE: mm-Kg	DRN: Mazin Bondok DATE DRN: 25/07/2022	SAMSUNG	TITLE: IAB 110"	REV: A
VIDEO WALL WEIGHT:	KG	NOTE:	THIS IS A PRELIMINARY DRAWING NO ARCHITECTURAL OR MOUNTING POINTS CAN BE BASED ON THIS DRAWING, S.I. RESPONSABILITY TO ADJUST THE DESIGN ACCORDING TO THE LOCAL LAWS ON STRUCTURAL ELEMENTS	NOTES: PRELIMINARY DRAWING	DATE PRINTED: 25/07/2022 IF	PROJECT: TBA REFERENT: TBA	DRAWING NO. 110-GA-BD	SCALE 1:20





SCREEN SIZE: LXHXD	DEPARTMENT: LED Excellence EDO	UNIT OF MEASURE: mm-Kg	DRN: Mazin Bondok DATE DRN: 25/07/2022	SAMSUNG	TITLE: XXXXX	REV: A
VIDEO WALL WEIGHT: KG	NOTE: THIS IS A PRELIMINARY DRAWING NO ARCHITECTURAL OR MOUNTING POINTS CAN BE BASED ON THIS DRAWING, S.I. RESPONSABILITY TO ADJUST THE DESIGN ACCORDING TO THE LOCAL LAWS ON STRUCTURAL ELEMENTS	NOTES: PRELIMINARY DRAWING	DATE PRINTED: 25/07/2022 IF	PROJECT: TBA REFERENT: TBA	DRAWING NO. Samsung	SCALE 1:20

Framekit	Model Name	VG-IABPS1(for 110") / VG-IABPS2(for 146")
	Specification	Side by side kit (Side Link) / IAB
Frame Kit Spec.	SET Size after installation (WxHxD, ㎜)	34 * 1234 * 22 / 34 * 1688 * 22 (㎜)
	Set weight (kg, except accessories)	0.6 / 0.7 (kg)
	Safe working load (kgf)	-
Package Spec.	Packaging Size (WxHxD, ㎜)	130 * 1346 * 69 / 130 * 1798 * 69 (㎜)
	Gross weight (kg±5%)	1.8 / 2.3 (kg)
	20ft DC loading size (Standard)	-
	40ft DC loading size (Standard)	-
Standard Cabinet	SAMSUNG LED Signage models	LH008IABMUS / LH012IABMHS / LH016IABMHS
	Counts of cabinets	-

ELEMENT 3

Capítulo 08
Especificaciones

General

Frecuencia horizontal
El tiempo necesario para explorar una única línea de izquierda a derecha de la pantalla recibe el nombre de ciclo horizontal. El número recíproco del ciclo horizontal se denomina frecuencia horizontal. La frecuencia horizontal se mide en kHz.

Frecuencia vertical
El producto muestra una única imagen varias veces por segundo (como una luz fluorescente) para mostrar lo que el espectador ve. La frecuencia con que una única imagen se muestra repetidamente por segundo recibe el nombre de frecuencia vertical o frecuencia de actualización. La frecuencia vertical se mide en Hz.

Nombre del modelo		WM55R	WM65R	WM85R
Panel	Tamaño	Clase 55 (138,7 cm / 54,6 pulgadas)	Clase 65 (163,9 cm / 64,5 pulgadas)	Clase 85 (214,7 cm / 84,5 pulgadas)
	Área de visualización	120,96 cm (H) x 68,04 cm (V)	142,848 cm (H) x 80,352 cm (V)	187,2 cm (H) x 105,3 cm (V)
Sincronización (especif. del panel)	Frecuencia horizontal	30 - 81 kHz		
	Frecuencia vertical	48 - 75 Hz		
Resolución	Resolución óptima	3840 x 2160		
	Resolución máxima			
Alimentación eléctrica		AC100-240V~ 50/60Hz Consulte la etiqueta en la parte posterior del producto, ya que el voltaje estándar puede variar entre los países.		
Consideraciones medioambientales	Funcionamiento	Temperatura : 0 °C a 40 °C (32 °F a 104 °F) * Para instalar la caja, mantenga la temperatura interna a un máximo de 40 °C. Humedad : 10 % al 80 %, sin condensación		
	Almacenamiento	Temperatura : -20 °C a 45 °C (-4 °F a 113 °F) Humedad : 5 % al 95 %, sin condensación * Aplicable antes de desembalar el paquete del producto.		

- Debido a la naturaleza de la fabricación de este producto, aproximadamente 1 píxel por cada millón (1 ppm) puede parecer más brillante o más oscuro en el panel. Esto no afecta al rendimiento del producto.
- Este producto sólo puede establecerse en una resolución para cada tamaño de pantalla, con el fin de obtener una calidad de imagen óptima debido a la naturaleza del panel. El uso de una resolución diferente de la especificada puede reducir la calidad de la imagen. Para evitar que esto ocurra, se recomienda seleccionar la resolución óptima especificada para el producto.
- Para obtener especificaciones detalladas de cada dispositivo, visite el sitio web de Samsung.
- Para acceder a la información del etiquetado energético relativa a este producto en la base de datos de productos con etiquetado energético de la UE (EPREL), visite https://eprel.ec.europa.eu/qr/******
  ****** es el número de registro del producto en EPREL. Puede encontrar el número de registro en la etiqueta de clasificación de su producto.

Modos de temporización predefinidos

La pantalla se ajustará automáticamente si se transmite desde el PC una señal que pertenece a los siguientes modos de señal estándar. Si las señales transmitidas desde el PC difieren del modo estándar, la pantalla puede no visualizarse. En ese caso, consulte el manual del usuario de la tarjeta gráfica para cambiar la configuración de acuerdo con la tabla siguiente.

Resolución	Frecuencia horizontal (kHz)	Frecuencia vertical (Hz)	Reloj de píxeles (MHz)	Polaridad de sincronización (H/V)	Puerto
					HDMI IN
IBM, 720 x 400	31,469	70,087	28,322	-/+	O
MAC, 640 x 480	35,000	66,667	30,240	-/-	O
MAC, 832 x 624	49,726	74,551	57,284	-/-	O
MAC, 1152 x 870	68,681	75,062	100,000	-/-	O
VESA CVT, 3840 x 2160RB	110,500	49,977	442,000	+/-	-
VESA CVT, 3840 x 2160RB	133,313	59,997	533,250	+/-	-
VESA DMT, 640 x 480	31,469	59,940	25,175	-/-	O
VESA DMT, 640 x 480	37,861	72,809	31,500	-/-	O
VESA DMT, 640 x 480	37,500	75,000	31,500	-/-	O
VESA DMT, 800 x 600	37,879	60,317	40,000	+/+	O
VESA DMT, 800 x 600	48,077	72,188	50,000	+/+	O
VESA DMT, 800 x 600	46,875	75,000	49,500	+/+	O
VESA DMT, 1024 x 768	48,363	60,004	65,000	-/-	O
VESA DMT, 1024 x 768	56,476	70,069	75,000	-/-	O
VESA DMT, 1024 x 768	60,023	75,029	78,750	+/+	O
VESA DMT, 1152 x 864	67,500	75,000	108,000	+/+	O
VESA DMT, 1280 x 720	45,000	60,000	74,250	+/+	O
VESA DMT, 1280 x 800	49,702	59,810	83,500	-/+	O
VESA DMT, 1280 x 1024	63,981	60,020	108,000	+/+	O
VESA DMT, 1280 x 1024	79,976	75,025	135,000	+/+	O
VESA DMT, 1366 x 768	47,712	59,790	85,500	+/+	O

Resolución	Frecuencia horizontal (kHz)	Frecuencia vertical (Hz)	Reloj de píxeles (MHz)	Polaridad de sincronización (H/V)	Puerto
					HDMI IN
VESA DMT, 1440 x 900	55,935	59,887	106,500	-/+	O
VESA DMT, 1600 x 900RB	60,000	60,000	108,000	+/+	O
VESA DMT, 1680 x 1050	65,290	59,954	146,250	-/+	O
VESA DMT, 1920 x 1080	67,500	60,000	148,500	+/+	O
VESA DMT, 2560 x 1440RB	88,787	59,951	241,500	+/-	O
CTA-861, 720(1440) x 576i	15,625	50,000	27,000	-/-	O
CTA-861, 720(1440) x 480i	15,734	59,940	27,000	-/-	O
CTA-861, 720 x 576	31,250	50,000	27,000	-/-	O
CTA-861, 720 x 480	31,469	59,940	27,000	-/-	O
CTA-861, 1280 x 720	37,500	50,000	74,250	+/+	O
CTA-861, 1280 x 720	45,000	60,000	74,250	+/+	O
CTA-861, 1920 x 1080i	28,125	50,000	74,250	+/+	O
CTA-861, 1920 x 1080i	33,750	60,000	74,250	+/+	O
CTA-861, 1920 x 1080	27,000	24,000	74,250	+/+	O
CTA-861, 1920 x 1080	28,125	25,000	74,250	+/+	O
CTA-861, 1920 x 1080	33,750	30,000	74,250	+/+	O
CTA-861, 1920 x 1080	56,250	50,000	148,500	+/+	O
CTA-861, 1920 x 1080	67,500	60,000	148,500	+/+	O
CTA-861, 3840 x 2160	54,000	24,000	297,000	+/+	O
CTA-861, 3840 x 2160	56,250	25,000	297,000	+/+	O
CTA-861, 3840 x 2160	67,500	30,000	297,000	+/+	O
CTA-861, 3840 x 2160	112,500	50,000	594,000	+/+	O
CTA-861, 3840 x 2160	135,000	60,000	594,000	+/+	O
CTA-861, 4096 x 2160	54,000	24,000	297,000	+/+	O
CTA-861, 4096 x 2160	67,500	30,000	297,000	+/+	O
CTA-861, 4096 x 2160	112,500	50,000	594,000	+/+	O
CTA-861, 4096 x 2160	135,000	60,000	594,000	+/+	O

	SPEC_ITEM_LOCAL	Value
Pantalla	Tamaño de pantalla	55"
	Tipo de panel	New Edge, 60Hz
	Resolución	3,840 x 2,160
	Tamaño de píxel (HxV)	0.315 x 0.315
	Brillo (Típico)	350cd/m2 (220cd/m2 with glass)
	Contraste	4,000:1
	Ángulo de Visión (H/V)	178/178
	Tiempo de Respuesta	8ms
	Gama de color	72%
	Glass Haze	2.3%(sin cristal)
	Frecuencia H-Scanning	30 ~ 81khz
	Frecuencia máxima de píxel	594Mhz
	Frecuencia V-Scanning	48~75 hz
Conectividad	Entrades HDMI	2
	USB	1
	Sortida Audio	Stereo Mini Jack
	Entrada RS232	Sí
	Entrada RJ45	Sí
	WiFi	Sí
	Bluetooth	Sí
Consumo de energía	Suministro de energía	AC 100~240V 50/60Hz
	Consumo (Encendido)	154W
	Consumo (Reposo)	0.5W
Dimensiones	Dimensiones del set (ancho x alto x profundidad)	1297.4 x 768.2 x 59.9 mm
	Dimensiones embalado (AnxAltxProf)	1464 x 915 x 190 mm
Peso	Peso del set	28.2 kg
	Peso paquete	35.2 kg
Operación	Temperatura	0℃ ~ 40℃
	Humedad	10 ~ 80%, non-condensing
Características mecánicas	Montaje VESA	400 x 400 mm
	Anchura de marco	26.2
	Frame Material	Plástico
Características opcionales	Touch	Sí
	Montura	WMN-4277SE
	Peana	STN-WM55R
Funciones ECO	Clase de eficiencia energética	A+
Touch	Touch Technology	InGlass™

ELEMENT 4

Specifications

Model			WM55R	WM65R
Panel	Diagonal Size		55"	65"
	Type		60Hz New Edge	60Hz New Edge
	Resolution		3,840 x 2,160 (Landscape)	3,840 x 2,160 (Landscape)
	Brightness(Typ.)		350 (without glass), 220 (with glass)	350 (without glass), 220 (with glass)
	Contrast Ratio(Typ.)		4000:1 (Typ.)(without glass)	4000:1 (Typ.)(without glass)
	Viewing Angle(H/V)		178:178	178:178
	Operation Hour		16/7	16/7
	Response Time(G-to-G)		8ms(Typ.)	8ms(Typ.)
Sound	Speaker Type		Built in Speaker (10W x 2)	Built in Speaker (10W x 2)
Connectivity	INPUT	VIDEO	(Basic) HDMI 2, (With Tray) HDMI 3	(Basic) HDMI 2, (With Tray) HDMI 3
		USB	(Basic) USB 1, (With Tray) USB 2, USB External (In/Out) 1	(Basic) USB 1, (With Tray) USB 2, USB External (In/Out) 1
	OUTPUT	Touch Out	(Basic) Touch Out 1 (USB Upstream Type), Audio Out 1 (With Tray) Touch Out 2, Audio Out 1, Screen Share(HDMI-Out) 1	(Basic) Touch Out 1 (USB Upstream Type), Audio Out 1 (With Tray) Touch Out 2, Audio Out 1, Screen Share(HDMI-Out) 1
	INTERNAL	SENSOR	(Basic) Acceleration sensor (With Tray) Acceleration sensor, NFC	(Basic) Acceleration sensor (With Tray) Acceleration sensor, NFC
	EXTERNAL	CONTROL	Touch Input, RS232C, RJ45 (Not for User Control)	Touch Input, RS232C, RJ45 (Not for User Control)
Touch	Type		InGlass™	InGlass™
	# of Drawing		Multi writing up to 4	Multi writing up to 4
	Touch Pen Type		Passive Pen with magnet	Passive Pen with magnet
	Object Recognition Range		2mm/ 4mm / 8mm / 50mm , 1024 Level on Brush Mode	2mm/ 4mm / 8mm / 50mm , 1024 Level on Brush Mode
	Touch Response Time		6.7ms	6.7ms
Power	Type		Internal	Internal
	Power Supply		AC100~240V 50/60Hz	AC100~240V 50/60Hz
	Power Consumption	Max[W/h]	154	181.5
		Typical[W/h]	80	100
		Rating[W/h]	140	165
		Stand-by[W/h]	0.5	0.5
		BTU[W/h]	525.14	618.915
Mechanical Spec	Dimension (mm)	Set	1297.4(W) x 768.2(H) x 59.9(D)	1522.4(W) x 897.6(H) x 62.9(D)
		Package	1464(W) x 915(H) x 190(D)	1691(W) x 1055(H) x 198(D)
	Weight (kg)	Set	28.2	40.0
		Package	35.2	50.6
	Color		Light Gray	Light Gray
	VESA Mount		400 x 400	400 x 400
	Protection Glass		Yes	Yes
	Stand Type		Moving Stand, Wallmount	No-Gap Wall Mount
	Rotation		Available with Flip moving stand (STN-WM55R) (Available with rotation support 3rd party accessory)	N/A with Flip No-Gap Wallmount (WMN-WM65R) (Available with rotation support 3rd party accessory)
	Power Cable Length		3m	3m
	Accessory		Cover-Jack	Cover-Jack
Operation	Operating Temperature		0°C~ 40°C	0°C~ 40°C
	Humidity		10~80%	10~80%
Feature	Key		Flip App	Flip App
	Special	H/W	Super Clear Coating, Temperature Sensor, Pivot Display, Clock Battery(168hrs Clock Keeping), Built in Speaker(10W x 2), WiFi Module Embedded	Super Clear Coating, Temperature Sensor, Pivot Display, Clock Battery(168hrs Clock Keeping), Built in Speaker(10W x 2), WiFi Module Embedded
		S/W	Flip S/W	Flip S/W
		Platform	Muse-M (Tizen 5.0)	Muse-M (Tizen 5.0)
	Internal Player (Embedded H/W)	Processor	CA72 Quad(1.7GHz)	CA72 Quad(1.7GHz)
		On-Chip Cache Memory	L1 (I/D) : 32KB / 32KB, L2 (Unified) : 1MB	L1 (I/D) : 32KB / 32KB, L2 (Unified) : 1MB
		Clock Speed	1.7GHz CPU Quad	1.7GHz CPU Quad
		Main Memory Interface	LPDDR4 1.6GHz 64bit 2.5GB	LPDDR4 1.6GHz 64bit 2.5GB
		Graphics	2D & 3D Graphics Engine - Up to 1920x1080. 32bpp - Supports OpenGL ES"	2D & 3D Graphics Engine - Up to 1920x1080. 32bpp - Supports OpenGL ES
		Storage	8GB(2.65GB Occupied by O/S, 5.35GB Available)	8GB(2.65GB Occupied by O/S, 5.35GB Available)
		IO Ports	USB 2.0	USB 2.0
		Operating System	Samsung Proprietary OS(VDLinux)	Samsung Proprietary OS(VDLinux)
Accessories	Included		Passive Pen(2), Power Cable, Touch Out Cable (USB upstream)	Passive Pen(2), Power Cable, Touch Out Cable (USB upstream)
	Optional	Stand	STN-WM55R	N/A
		Wallmount	WMN4277SE	WMN-WM65R
		Tray	CY-TF65BRC	CY-TF65BRC
		Specialty	Flip UX	Flip UX

Wallmount for WM55R - WMN4277SE

Mechanical Spec	Dimension (mm)	Set	465(W) x 442(H) x 24.5(D) mm
		Package	510(W) x 280(H) x 90(D) mm
	Weight (kg)	Set	5.5
		Package	6.8
	Color		Black
	VESA Mount		400 X 400
	Rotation		N/A
Accessories	Included		Installation Guide, Screws

Wallmount for WM65R - WMN-WM65R

Mechanical Spec	Dimension (mm)	Set	520(W) x 280.3(H) x 15.9(D)
		Package	594(W) x 337(H) x 75(D)
	Weight (kg)	Set	1.75
		Package	3.2
	Color		Light Gray
	VESA Mount		400 X 400
	Rotation		N/A
Accessories	Included		Installation Guide, Screws
Feature	Special	H/W	No-Gap Spacing, Extra Bracket for strong fixation

Stand for WM55R - STN-WM55R

Mechanical Spec	Dimension (mm)	Set	835(W) x 1631.1(H) x 850.6(D)
		Package	1650(W) x 860(H) x 208(D)
	Weight (kg)	Set	34.5
		Package	41.5
	Color		Light Gray
	VESA Mount		400 X 400
	Rotation		Pivot Supports (90°)
Accessories	Included		Installation Guide, Screws
Feature	Special	H/W	Slim Design, No Assembly Required Installation

Tray for Flip 2 - CY-TF65BRC

Mechanical Spec	Dimension (mm)	Set	269.8(W) x 111.3(H) x 56.9(D)
		Package	294(W) x 136(H) x 69(D)
	Weight (kg)	Set	0.5
		Package	0.7
	Color		Light Gray
Connectivity	Extra Connectivity Ports		USB 1
			USB External (In/Out) 1
			Touch Out 1
			HDMI-In 1
			HDMI-Out(Screen Share) 1
			NFC 1
Accessories	Included		Installation Guide, Screws
Feature	Special	H/W	Easy install with dock connector Front facing connector for BYOD usage

※ Specifications on the table are flexible and subject to change under certain circumstances.

ELEMENT 5

CY-TF65BRC

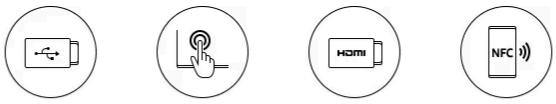
CY-TF65BRCXEN

CY-TF65BRC

CONTACT US

Enjoy Versatile Connectivity

Samsung Flip's connectivity by optional tray empowers a fully synchronized, user-friendly collaborative experience. In front of screen, align your personal devices with the central screen for interactive content visibility, notation and sharing.



CY-TF65BRC

Features Spec Compare

Download

Interface

USB
1 EA

Input & Output

HDMI
HDMI-In 1

USB
USB External (In/Out) 1

Dimension

Set Dimension (WxHxD, mm)
269.8(W) x 111.3(H) x 56.9(D)

Package Dimension (WxHxD, mm)
294(W) x 136(H) x 69(D)

Weight

Set Weight
0.5 kg

Package Weight
0.7 kg

Design

Color
Light Gray

Compare the models

Compare with similar items

CY-TF65BRC

CY-TF65BRCXEN

Wall mount for Video wall

WMN-46VD/EN

STN-WM55R

STN-WM55RXUE

Recently Viewed

ELEMENT 6

VuWall

Datasheet

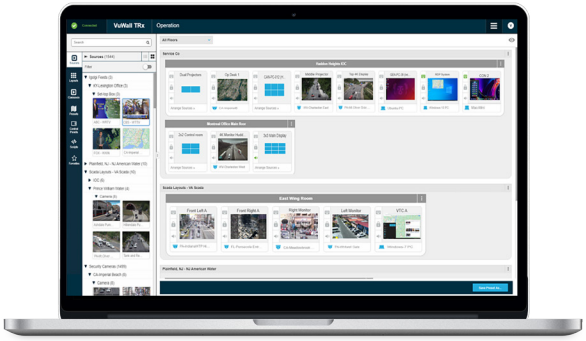
TRx

Centralized Management Software

Powerful Centralized Multi-Video Wall Management Platform

TRx is a unique software that combines AV-over-IP distribution, advanced multi-video wall and KVM management. Designed to manage video walls in professional and mission-critical environments, TRx is deployed in control rooms, security operation centers, and corporate workspaces worldwide.

TRx is used to configure, manage, and distribute virtually any source type to any display with easy drag and drop and without any programming, simplifying the deployment of complex AV-over-IP projects and reducing risk and on-site deployment time. TRx is easy to install and makes it simple to route and service hundreds of sources and displays throughout entire facilities. Thanks to its open architecture, it is scalable, interoperable, and future-proof — by design.



Interoperable
Compatible with 3rd party brands. Supports H.264, H.265, SDVoE, SRT, and more.

Centralized Management
Configure and control all video walls and displays from a single platform.

Secure & Reliable
Encrypted and secure streams for 24/7 mission-critical environments.

Flexible & Scalable
Unlimited number of sources & destinations. Modular design that adapts to your growing needs.

Ease of Use
Easy drag-and-drop interface for configuration and operation.

Access from Anywhere
Web-based management.
No software installation required.

Reduce Risk
Reducing configuration & deployment time in the field.

Redunancy & Availability
Full availability & control of your visualization infrastructure

SCN Installation Product Awards 2023 · best of show 2023 Winner AV Technology · best of show 2023 Winner Sound & Video Contractor · best of show 2022 Winner AV Technology · SCN Installation Product Award Winner 2021

Need help? Talk to a video wall expert!
Contact us at sales@vuwall.com

vuwall.com
Control what you see.

TRx Centralized Management Software Platform

Features

Centralized Web-Based Management
Manage and control the system with any standard browser from anywhere on the network. No software to install.

Multi-Floor, Multi-Site Management
Define zones and floors for easy control of multiple rooms and sites. Each operator can manage local and remote content easily from a single intuitive user interface and bring any content to any destination with a single drag-and-drop operation.

User Rights Management
Administrators can fine-tune permissions to individual users or groups with or without Active Directory. Access restrictions can be set on floors, zones, sources and displays. Permissions can be set to perform joins on video, audio, keyboard/mouse, and USB. Users can also be granted access to create/save/edit/delete presets, control panels, scripts, and more.

Easy Drag-and-Drop Operations
Manage all AV experience through easy drag-and-drop, from source configuration and routing to advanced video wall management.

Advanced Video Wall Management
Control and manipulate content on multiple video wall: move, resize, crop or zoom. Send layouts created on one wall to any other wall. Manage all encoders and decoders via TRx, making it a full AV over IP solution.

Source Management
Manage all sources in the system quickly and efficiently with TRx's intuitive UI. Features include sorting and filtering, active preview mode and individual thumbnail upload. TRx supports a wide range of IP streams, HDMI, DP, and SDI sources, applications, screen captures, pictures, videos, websites, and documents.

KVM Control
KVM devices can be fully integrated, controlled and used in TRx. Enhanced features include private mode and USB device switching. The VuStream 350 and the TRx Capture Server allows operators to convert any PC on the network into a KVM source for KVM control including audio.

VMS Plugin for Genetec™ and Milestone
Control room operators can manage video wall controllers and other AV-over-IP devices directly from the already-familiar Genetec™ Security Center or Milestone XProtect® interfaces without switching applications.

TRx Centralized Management Software Features

Carousel / Source Touring

Ideal for security monitoring, the Carousel feature provides a designated window to show one source at a time for a specified amount of time before displaying the next source in the carousel list.

Audio Management

Manage audio controls for all encoders, decoders and video wall controllers and nodes, including physical inputs and browsers.

Powerful Scripting and Macro Tools

Built-in tool to easily create custom macro-commands and automate series of tasks in a TRx deployment. Tasks include commands such as manipulating layouts and triggers, controlling external devices such as switching displays on/off and controlling audio settings. All commands can conveniently be assigned to control buttons on the ControlVu touch panels.

Supported Devices

TRx supports multiple platforms including:

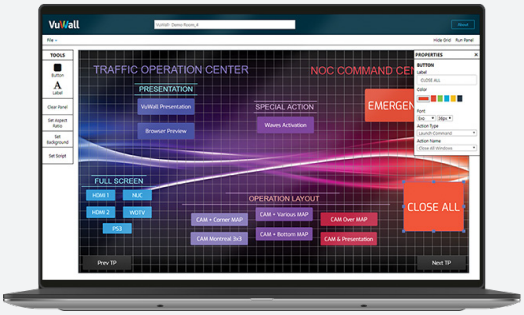
- VuWall's PAK & VuScape video wall processors
- VuWall's VuStream series of encoders/decoders
- VuWall's Application Server
- Adder ipeps+ KVM
- IHSE KVM switches
- IP sources including cameras and VNC
- Third-party encoders/decoders: H.264, SDVoE and SRT

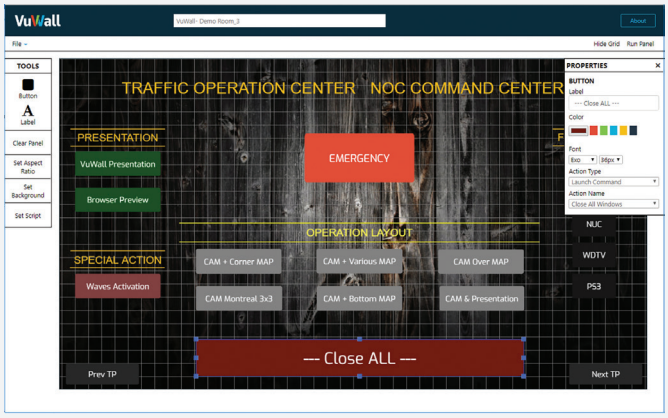
REST API

Extensive REST API with sample code and interactive documentation of every function for third-party integrations. Use easily with various manufacturers like AMX, Crestron, Extron, and Utelogy.

Control Panel Designer

Create a fully customized touch panel with the integrated Control Panel Designer without any programming! Each button can launch layouts, scripts or even control external devices. Multiple panels can be created from the same interface, allowing a single administrator to design a custom panel for every operator station. Users can upload logos, images, backgrounds, and create custom buttons with a variety of shapes and colors. The possibilities are endless.

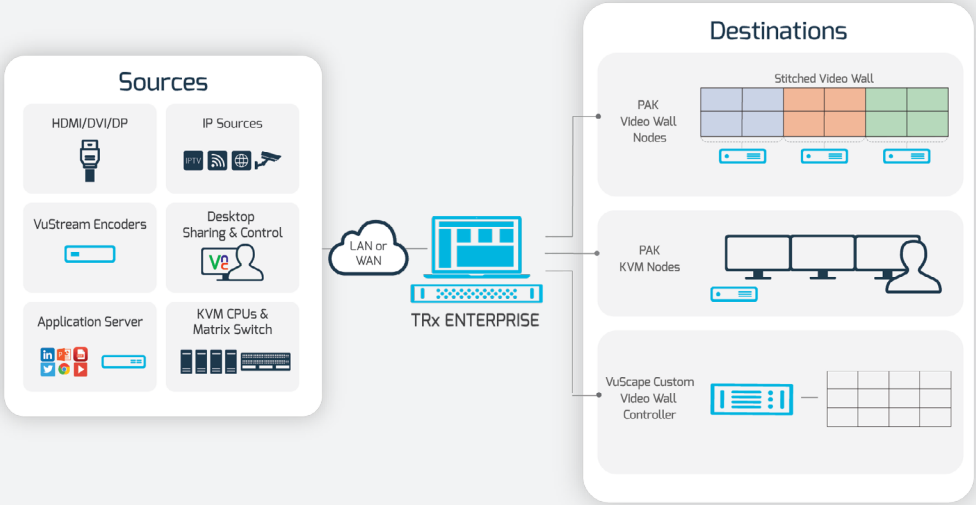




Software Options

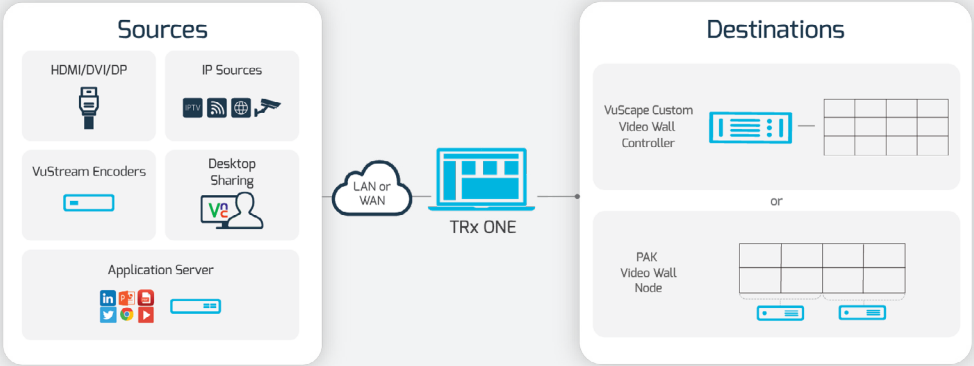
TRx ENTERPRISE

- Projects with AV distribution and one or multiple video walls
- Supports unlimited sources and destinations
- Support for KVM operations
- Support for SDVoE Multiview Mode, Video Wall Mode & USB routing
- Supports entire VuWall ecosystem of products



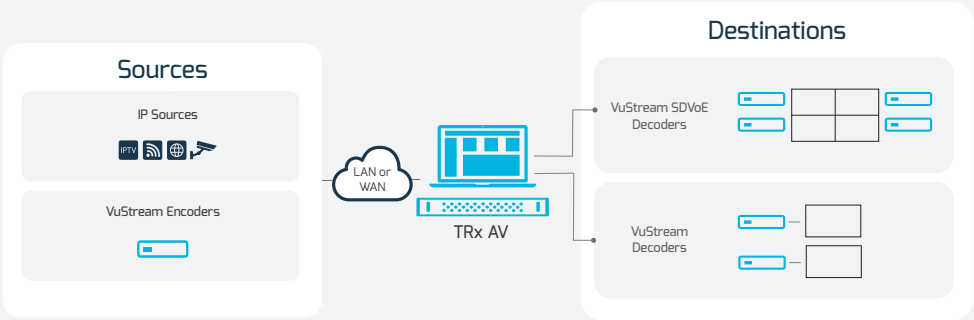
TRx ONE

- Projects with a single video wall
- Supports single VuScape or PAK video wall composed of one or multiple PAK nodes
- Runs directly on VuScape (separate server not required) . If used with PAK, server is required
- Does not support external decoders



TRx AV

- For projects with AV distribution only
- Manage VuStream or 3rd party encoders and decoders
- Support for SDVoE Video Wall Mode and USB routing (No support for SDVoE Multiview Mode)
- Does not support PAK and VuScape video wall processors



TRx Software Features

	TRx AV	TRx ONE	TRx ENT
Device Support			
ControlVu Touch Panels (control panel designer to create custom interfaces)	○	○	○
VuStream encoders, IP cameras and 3rd party streaming devices including SDVoE encoders	○	○	○
VuStream decoders, IHSE Matrix and SDVoE decoders	○		○
PAK Video Wall & KVM Nodes and VuScape Video Wall Controllers		○	○
Control and AV Management Features			
TLS 1.2 support for secured client/server communication	○	○	○
Automatic detection of encoder/decoder devices on the network	○	○	○
Arrange sources and displays across multiple zones and floors	○	○	○
Filter sources and displays based on type or location	○	○	○
Load and save presets for rooms, floors, and walls	○	○	○
Advanced User Profile Management with Active Directory		○	○
Advanced Multi-Display/Multi-Resolution Management		○	○
SDVoE Video Wall Mode & USB routing	○		○
SDVoE Multiview Mode & USB routing			○
Sources Features			
Audio support	○	○	○
Active preview of IP sources	○	○	○
Upload of individual thumbnails for each source	○	○	○
Colored borders and OSD		○	○
Crop IP stream and directly connected sources		○	○
Scrolling text and messages with text, files and RSS feeds		○	○
Embedded viewer to display websites including support of user credentials		○	○
Manage local applications and show pictures, documents and videos on VuScape controller		○	○
Customizable Carousel through different sources within a single window		○	○
Screen & audio capture of computers, over network with 128-bit AES encryption and VNC sources (sold seperately)		○	○
Plugin to Genetec™ Security Center or Milestone XProtect® (sold seperately)		○	○
Scripting & API Features			
REST API for 3rd party devices (Crestron, AMX, etc.)	○	○	○
Control of 3rd party devices (displays, matrix switches, etc.) with powerful scripting languages	○	○	○
Alarm management (scripting) and support for I/O devices	○	○	○
Redundancy module for fault-tolerant systems with dual video wall controllers		○	○
KVM Features			
Control and manage KVM devices and use them as a source	○		○
Private Mode preventing other users to access or view specified sources			○
Support for PAK KVM feature			○

ELEMENT 7

VuWall

Datasheet

VuScape

Custom Video Wall Controller

Visualization solutions for professional and mission-critical applications

VuScape™ is a high-performance video wall processor ideal for small or large video wall deployments with custom requirements, in control rooms and corporate workspaces. Easily control and distribute all content sources to any display on your network with the utmost flexibility and full-featured management software.

Features

- Power up to 96 displays with a single controller
- Capture up to 40x 4K sources with a single controller
- Mix baseband and IP sources on the same controller (Multiple 4K HDMI/Display Port inputs)
- Display up to 160 HD IP streams simultaneously
- Decoding of IP streams through hardware up to 4K
- Display an unlimited number of windows per screen
- NVIDIA Quadro GPU with 3D Acceleration available
- Encoding of HDMI inputs or of the video wall up to 4K
- Single chassis solution for a simplified deployment
- 24-bit true color image processing at full frame rate
- Support for standard Windows applications
- Dependable for 24/7 mission-critical operations

User Friendly

Video wall control made easy. Our systems are easy to deploy, easy to use and easy to manage.

Future Proof

Open architecture, standards-based, and interoperable with 3rd party solutions.

Dependability

Optimized for real-time throughput providing reliable 24/7 operations.

Modular And Scalable

Only buy what you need. Our system can grow with you as you needs change.

Need help? Talk to a video wall expert!
Contact us at sales@vuwall.com

vuwall.com
Control what you see.

Selecting the Right VuScape Video Wall Controller

VuScape	VS10	VS60	VS120	VS280	VS640
IDEAL FOR	Small video wall with limited space and network sources only	Small video wall with limited space and need for GPU and decoding	Midsize video wall with many inputs & outputs requiring GPU and more IP decoding power	Midsize video wall with even more inputs & outputs requiring GPU & more IP decoding power	Large video wall with many inputs, outputs and IP decoding
FORM FACTOR	VESA Mount	Tower	Rackmount 4RU	Rackmount 4RU	Rackmount 4RU each
MAX OUTPUTS	4x 4K	4x 4K	16x 4K	16x 4K	24x 4K or 32x HD
MAX INPUTS	-	4x 4K	12x 4K	24x 4K	32x 4K and/or 64x HD
MAX SIMULTANEOUS IP STREAMS	16x HD / 2x 4K	16x HD / 4x 4K	48x HD / 12x 4K	96x HD / 24x 4K	192x HD / 48x 4K
SOURCES	RTSP, websites, VNC, pictures, text, video files and Windows applications				

Features

Powerful Management Software

Intuitive software, whether it's TRx, benefit from an unlimited number of ways to control and manage video walls.

Big Data Visualization

VuScape can display any kind of content coming from cloud/network based solutions such as websites, data, third-party SCADA, business analytics and social media data.

Bridging AV and IT

VuWall's unique hybrid and interoperable technology, capture all types of sources with one system and seamlessly integrate with the entire ecosystem.

Touch Panel Control

Give operators the freedom to change layouts and control devices with a simple touch. Create fully customized panels from our web-based control panel designer, quickly and easily, without any programming skills.

VuScape Series 2 Technical Specifications

Product Name	VuScape VS120-2	VuScape VS280-2
Hardware		
CPU	Intel® Xeon® 8-core Silver 2.1GHz	Intel® Xeon® 8-core Silver 2.1GHz
RAM	32GB	
SSD	1x 500GB SSD Optional: 2 x 500GB SSD RAID1	2x 500GB SSD RAID1
Backplane	4x Slot PCI Express x16	7x Slot PCI Express x16
Network	1x 10GbE + 1x 1GbE	1x 10GbE + 1x 1GbE + 1x 1GbE IPMI
Weight	21-25 kg (shipping weight: 32 kg) | 46.3-55.1lbs (shipping weight: 70.5lbs)	
Case	19" 4RU case	
Dimensions	428 x 467 x 176 mm (WxDxH) 16.85 x 18.38 x 6.93" (WxDxH)	
Power Supply	100-240 VAC, 650W	100-240 VAC 2x800W Hotplug, Redundant
Operating Conditions	Temperature 0-35°C (32-95°F) | Humidity 20-80%	
MTBF	100,000hrs (Fans = 70,000 hrs)	
BTU	Max. 1700BTU/h to Max. 2500BTU/h	
Noise Level	30dB up to 45dB (Depends on system config + room temperature)	40dB up to 65dB (Depends on system config + room temperature)
Warranty	3 years	
Software		
OS	Windows 10 Enterprise LTSC 64bit	
Management	TRx Centralized Management Software	
Recovery	Easy backup and recovery USB	
Outputs		
Max. Number of Outputs	Up to 12x	Up to 16x (64x with AdScape)
Configuration	High End NVIDIA Quadro GPU with 4x outputs per card / Max. 32,768x32,768 pixel per system	
Resolution	VS-2-4HO card: HDMI, 4x 4096x2160@60Hz per card VS-2-4DO card: DisplayPort 1.4, 4x 5120x3200@60Hz per card	
Inputs		
Display Port 1.2	Up to 6x	Up to 12x
HDMI 1.4	Up to 12x	Up to 24x
SDI	6x3G and 6x12G	12x3G and 12x12G
Resolution	DisplayPort up to 3840x2160 and 4096x2160@60Hz, HDMI up to 3840x2160@30Hz up to 3840x2160@60Hz (4:2:0) 4096x2160@60Hz (4:2:0), 4096x2160@30Hz, SDI up to 3840x2160@60Hz (4:2:2)	
Encoding / Decoding		
Host CPU Decoding Capability	Default software decoding of 16x D1 or 8x HD (H.264/MPEG-4 Part 10, MPEG-2, MPEG-4)	
Optional Card Decoding Capability	48x 1080p30 or 12x 4K30 per system	96x 1080p30 or 24x 4K30 per system
Resolution	4x 4Kp30 / 16x 1080p30 / 8x 1080p60 /48x D1 per encoding or decoding card	
Stream Format	Protocols: RTSP, RTP, MPEG-2-TS, SRT; Distribution: unicast & multicast; Codec: H.264 (MPEG-4 Part 10 AVC) up to Level 5.2; Profiles: Baseline, Main, High, High 10, High 4:2:2, High 4:4:4 Predictive Profile Separate Plane	
Encoding and Recording	Encoding and recording of HDMI input sources and area of interest of the wall Maximum 4K per encoding channel or an area	

VuScape Series

VuScape VS120, VS280, VS640

VuScape VS120-2 Rear

VuScape VS280-2 Rear

VuScape VS640-3 Rear

VuScape VS60-2 Front

VuScape VS10-4 Front

VuScape VS10-4 Rear

*Images shown here are not proportional. Please consult technical specifications for dimensions.

ELEMENT 8

DTP3 T 203

Conmutador 4K/60 de tres entradas con transmisor DTP3 integrado

Se recomienda encarecidamente el cable XTP DTP 22 de par trenzado blindado de Extron

GALERÍA DE IMÁGENES

TOOLS

Inicie sesión para ver precios y disponibilidad

DTP3 T 203 Conmutador 4K/60 de tres entradas - 100 m (330 ft) Referencia	60-1885-52
USBC Pro 8K/12 3,6 m (12 ft) Referencia	26-748-12
USBC Pro 8K/15 4,5 m (15 ft) Referencia	26-748-15
USBC Pro 8K/25 7,6 m (25 ft) Referencia	26-748-25
USBC Pro 8K/30 9,1 m (30 ft) Referencia	26-748-30

Visión global

Vídeo

Descripción

Especificaciones

Diagrama

Ilustraciones

Descargas

Productos similares

DTP DVI 4K 230 Tx
Transmisor DTP para DVI

DTP DVI 4K 330 Tx
Transmisor DTP para DVI de larga distancia

DTP HD DA 4K 230
Amplificadores de distribución DTP de cuatro y ocho salidas

DTP HD DA 4K 330
Amplificadores de distribuc
larga distancia

Receptores compatibles

Extron
Specifications

DTP3 T 203

TRUE 4K specifications

Max. 4K Capabilities		
Resolution and Refresh Rate	**Chroma Sampling**	**Max. Bit Depth per Color**
4096 x 2160 at 60 Hz	4:4:4	8 bit
3840 x 2160 at 60 Hz		
4096 x 2160 at 30 Hz		12 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate[1] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[1]..... 4:4:4, 4:2:2, or 4:2:0
Color bit depth[1] ..... 8, 10, or 12 bits per color
Signal type ..... HDMI 2.0b, DisplayPort 1.2 (Alt Mode), HDCP 1.x, HDCP 2.3
Max. video data rate ..... 18 Gbps (6 Gbps per color)

NOTE: [1]Subject to the maximum data rate limit. Use our calculator at **www.extron.com/8Kdatarate** to determine video parameters supported by this data rate.

Video

Maximum data rate ..... 18 Gbps (6 Gbps per color)
Maximum pixel clock..... 600 MHz
Resolution range..... Up to 1080p @ 120 Hz or 4K @ 60 Hz (4:4:4 subsampling)
5120x1080* @ 30 Hz, 5120x1440* @ 30 Hz, 5120x2160 @ 30 Hz,
5120x2560* @ 30 Hz, 5120x2880* @ 30 Hz

NOTE: *Indicated rates not available via standard 256-byte EDID and may require custom video card configuration.

Color bit depth..... 8, 10, or 12 bits
Formats..... RGB and YCbCr digital video
HDR ..... HDR10, HDR10+, Dolby Vision
Standards..... DV 1.0, HDMI 2.0b, DisplayPort 1.2 (Alt Mode), HDCP 1.x, HDCP 2.3

Video input

Number/signal type ..... 2 HDMI, 1 DisplayPort (Alt Mode, 4 HBR2 lanes)
DisplayPort video ..... 1 DisplayPort Alt mode, DP 1.2 (4 lanes), RBR/1.62 Gbps, HBR/2.7 Gbps, HBR2/5.4 Gbps
Connectors..... 2 female HDMI, type-A; 1 female USB, type-C
Input cable length..... Up to 12' (3.7 m)
Horizontal frequency range..... 15 kHz to 270 kHz for resolutions up to 18 Gbps
Vertical frequency range ..... 24 Hz to 240 Hz for resolutions up to 18 Gbps

NOTE: Extron requires using USB-C cables supporting 4 DisplayPort lanes.

Specifications • DTP3 T 203 (Continued)

Video Outputs

Number/signal type	1 Single link HDMI (or DVI-D*), 1 DTP
Connector	1 female HDMI type A, 1 female RJ-45
Output Power for Active Cables	1.25 watts max for HDMI port

NOTE: *Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.

Interconnection Between Transmitter and Receiver

Connectors	1 female RJ-45
Termination standards	TIA/EIA T568B
Signal transmission distance (using XTP DTP 24 cable)	
1080p @ 60 Hz	Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 cable
4K/UHD @ 30 Hz	Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 cable Using 1 coupler w/ 3'-9' patch cable Using 2 couplers w/ two 3' patch cables (each patch cable cannot exceed 3') Using two punch downs w/ two 3'-9' patch cables
4K/UHD @ 60 Hz	Up to 175' (53 m) using shielded twisted pair (STP) cable or XTP DTP 24 cable w/ no couplers
Cable requirements	Solid conductor, 24 AWG or better
Cable recommendations	400 MHz bandwidth, STP cable
Signal transmission distance (using XTP DTP 22 cable)	
1080p @ 60 Hz	Up to 330' (100 m) using XTP DTP 22 cable
4K/UHD @ 30 Hz	Up to 330' (100 m) using XTP DTP 22 cable
4K/UHD @ 60 Hz	Up to 220' (100 m) using XTP DTP 22 cable Using 1 coupler w/ 3-16' patch Using 2 couplers w/ two 4' patch cables (each patch cable cannot exceed 4') Using two punch downs w/ two 3'-8' patch cables
Cable requirements	Solid conductor, 22 AWG or better
Cable recommendations	500 MHz bandwidth, STP cable

NOTE: Extron XTP DTP 22 shielded twisted pair cable is strongly recommended for optimal performance.

Communications

Serial Control Port	1 RS-232, 3.5 mm captive screw connector, 3-pole, rear panel
Pin Configuration	Pin 1 = Tx, Pin 2 = Rx, Pin 3 = GND
Baud rate and protocol	9600 baud, 8 bit, 1 stop bit, no parity
USB control port	1 female USB, type C, front panel
USB standards	USB 2.0, low speed
Ethernet data rate	10/100Base-T, half/full duplex, with auto detect
Ethernet protocol	ARP, ICMP (ping), IP, TCP, DHCP, HTTP, SMTP, Telnet, IEEE 802.1X
Program control	Extron control/configuration program for Windows®, Extron Simple Instruction Set™ (SIS), Telnet
Contact closure/tallyoutput	(2) 3.5 mm captive screw, 4-pole

Specifications • DTP3 T 203 (Continued)

General

Power supply	Internal Input: 100-240 VAC, 50-60 Hz
Power consumption	90.3 W
Ambient Temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +104 °F (0 to +40 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents
Thermal dissipation	95.7 BTU/hr
USB-C power delivery	5 VDC @ up to 3 A, 9 VDC @ up to 3 A, 15 VDC @ up to 3 A, 20 VDC @ up to 2.25 A or 20 VDC @ up to 3 A

NOTE: USB-C power delivery reduces to 45W when *DTP3 Send Power* feature is active.

Mounting	
Rack mount	Yes, with optional 1U high rack shelf
Enclosure type	Metal
Enclosure dimensions	1.75" H x 8.75" W x 8.50" D (1U high, half rack wide) 44 mm H x 222 mm W x 152 mm D (Depth excludes connectors)
Product weight	2.17 lbs (0.98 kg)
Regulatory compliance	CE, c-UL, UL, CE**, C-tick, FCC Class A**, ICES, VCCI, AS/NZS, RoHS, WEEE
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal levels are at ±10%.
Specifications are subject to change without notice.

6110-D7

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ELEMENT 9

DTP3 R 201

Receptor DTP3 HDMI 4K/60 con desembebido de audio

Se recomienda encarecidamente el cable XTP DTP 22 de par trenzado blindado de Extron

GALERÍA DE IMÁGENES

TOOLS

Inicie sesión para ver precios y disponibilidad

DTP3 R 201
Receptor HDMI 4K/60 - 100 m (330 ft)
Referencia 60-1869-63

Mostrar todas las referencias

- Visión global
- Vídeo
- Descripción
- Especificaciones
- Diagrama
- Ilustraciones
- Descargas

Productos similares

DTP DVI 4K 230 D Rx
Receptor DTP para DVI - Placa mural de estilo Decorator

DTP DVI 4K 230 Rx
Receptor DTP para DVI

DTP DVI 4K 330 Rx
Receptor DTP para DVI de larga distancia

DTP HDMI 4K 230 Rx
Receptor DTP para HDMI

Transmisores compatibles

Nuevo

DTP3 T 202 EU/MK
Transmisor DTP3 4K/60 de dos entradas para USB-C y HDMI – Cajas de conexiones Flex55 y EU/MK

DTP3 T 203
Conmutador 4K/60 de tres entradas con transmisor DTP3 integrado

Nuevo

DTP3 T 212 D
Transmisor DTP3 4K/60 de dos entradas para USB-C y HDMI – Placa mural de estilo Decorator

DTP3 T 101 D
Transmisor DTP3 para HDM
Decorator

Matrices y conmutadores compatibles

Nuevo

DTP3 CrossPoint 622

Nuevo

DTP3 CrossPoint 642

Nuevo

DTP3 CrossPoint 662

Nuevo

D

Enviar su opinión

Extron
Specifications

DTP3 R 201

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	**Chroma Sampling**	**Max. Bit Depth per Color**
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3840 x 2160 at 60 Hz		
4096 x 2160 at 30 Hz		12 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate[1] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[1]..... 4:4:4, 4:2:2, or 4:2:0
Color bit depth[1] ..... 8, 10, 12 bits per color
Signal type ..... HDMI 2.0b, HDCP 2.3
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5120x1080* @ 30 Hz, 5120x1440* @ 30 Hz, 5120x2160 @ 30 Hz,
5120x2560* @ 30 Hz, 5120x2880* @ 30 Hz (4:4:4 subsampling)

NOTE: *Indicated rates not available via standard 256-byte EDID and may require custom video card configuration.

Horizontal frequency range..... 5 kHz to 270 kHz for resolutions up to 18 Gbps
Vertical frequency range ..... 24 Hz to 240 Hz for resolutions up to 18 Gbps
Color bit depth..... 8, 10, or 12 bits — subject to the maximum data rate limit
Formats..... RGB and YCbCr digital video
HDR ..... HDR10, HDR10+, Dolby Vision
Standard ..... DVI 1.0, HDMI 2.0b, HDCP 1.x, HDCP 2.3

NOTE: Extron strongly recommends compatibility testing while designing, and before installing, any 3D system. There are several unique 3D formats in use by source devices and display manufacturers. The level of 3D product support is governed by pixel clock, signal format, and communication between source and sink devices. Please contact an Extron Applications Engineer for more information.

Specifications • DTP3 R 201 (Continued)

Video Input

Number/signal type

DTP3 ..... 1 DTP3

Connector

DTP3 input ..... 1 female RJ-45

Video Output

Number/signal type..... 1 single link HDMI or DVI-D*

Connector ..... 1 female HDMI

NOTE: *Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.

Interconnection Between Transmitter and Receiver

Connector ..... 1 female RJ-45 per unit

Termination standard ..... TIA/EIA T568B

Signal Transmission Distance (using XTP DTP 24 cable)

1080p @ 60 Hz ..... Up to 330' (100 m) using shielded twisted pair STP or XTP DTP 24 cable

4K/UHD@ 30 Hz ..... Up to 330' (100 m) using shielded twisted pair STP or XTP DTP 24 cable

4K/UHD@ 60 Hz (1)..... Up to 150' (45 m) using shielded twisted pair STP or XTP DTP 24 cable
Using 1 coupler with 3' (0.9 m) to 9' (2.7 m) patch cable
Using 2 couplers with two 3' (0.9 m) (max) patch cables (each patch cable cannot exceed 3')
Using two punch downs with two 3' (0.9 m) to 9' (2.7 m) patch cables

4K/UHD@ 60 Hz (2)..... Up to 175' (53 m) using shielded twisted pair STP or XTP DTP 24 cable with no couplers

Cable requirements ..... Solid conductor, 24 AWG or better

Cable recommendations ..... 400 MHz bandwidth, STP (shielded twisted pair)

Signal Transmission Distance (using XTP DTP 22 cable)

1080p @ 60 Hz ..... Up to 330' (100 m) using XTP DTP 22 cable

4K/UHD@ 30 Hz ..... Up to 330' (100 m) using XTP DTP 22 cable

4K/UHD@ 60 Hz (1), (2)..... Up to 330' (100 m) using XTP DTP 22 cable
Using 1 coupler with 3' (0.9 m) to 16' (4.9 m) patch cable
Using 2 couplers with 4' (1.2 m) (max) patch cables (each patch cable cannot exceed 4')
Using two punch downs with 3' (0.9 m) to 8' (2.4 m) patch cables

Cable requirements ..... Solid conductor, 22 AWG or better

Cable recommendations ..... 500 MHz bandwidth, STP (shielded twisted pair)

NOTE: Extron XTP DTP 22 shielded twisted pair cable is strongly recommended for optimal performance.
(1) With coupler(s), (2) No couplers

Specifications • DTP3 R 201 (Continued)

Communications

Control/Remote — Transmitter

USB control port	1 front panel, female USB type C
USB standards	USB 2.0, low speed
Program control	Extron Simple Instruction Set (SIS™) Extron Product Configuration Software (PCS)

Control/Remote — External Device (pass-through, unidirectional or bidirectional)

Serial control pass-through ports	1 RS-232, 3.5 mm, 3-pole captive screw connector
Baud rate	300 to 115200 baud
Protocol	8 or 7 data bits 1 or 2 stop bits No parity (default), even or odd parity
Serial control pin configuration	1 = Tx, 2 = Rx, 3 = GND

NOTE: Protocol is mirrored between the connected DTP3 Rx endpoints and the "Over TP". Signals from a control device pass into each "Over TP" port are embedded with the DTP signal, and sent to the individual DTP3 endpoints for control of remote sink or source devices. The "Over TP" ports are simply pass-through connections to DTP endpoints. There is no RS-232 insertion from any DTP3 control port to the "Over TP" ports.

General

Power supply	External (included with Tx) Input: 100 to 240 VAC, 50-60 Hz Output: 12 VDC, 1.5 A, 18 watts
Power consumption	
Device	7.37 watts
Device and power supply	8.62 watts
Remote power budget	18.0 watts

NOTE: The receiver can be powered either locally by an external power supply or remotely by a transmitter on the other end of the twisted pair cable.

Ambient temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, vents on top and sides
Thermal dissipation	
Device	24.20 BTU/hr
Device and power supply	28.48 BTU/hr
Mounting	
Rack mount	Optional 1U high rack shelf
Furniture mount	Optional under-desk mount kit
Enclosure type	Metal
Enclosure dimensions	1.0" H x 4.3" W x 6.0" D (quarter rack wide) (25 mm H x 109 mm W x 152 mm D) (Depth excludes connectors.)
Product weight	0.6 lbs (0.27 kg)
Regulatory compliance	CE, C-tick, C-UL, UL, FCC Class A, ICES, VCCI Complies with the appropriate requirements of RoHS, WEEE
Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal levels are at ±10%.
Specifications are subject to change without notice.

6233-D8

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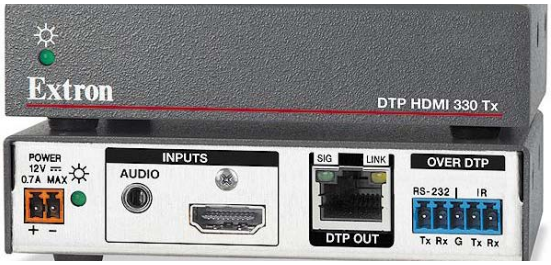
ELEMENT 10

DTP HDMI 4K 330 Tx

Transmisor DTP para HDMI de larga distancia



Se recomienda encarecidamente el uso del cable XTP DTP 24 de par trenzado blindado de Extron

GALERÍA DE IMÁGENES

TOOLS

Inicie sesión para ver precios y disponibilidad

DTP HDMI 4K 330 Tx Transmisor HDMI - 100 m (330 ft) Referencia	60-1331-12
DTP HDMI 4K 230 Tx Transmisor HDMI - 70 m (230 ft) Referencia	60-1271-12

Visión global

Vídeo

Descripción

Especificaciones

Diagrama

Ilustraciones

Descargas

Productos similares

DTP HDMI 4K 230 Tx
Transmisor DTP para HDMI

DTP T HWP 4K 331 D
Transmisor DTP para HDMI de larga distancia - Placa mural de estilo Decorator

DTP HD DA 4K 330
Amplificadores de distribución DTP de cuatro y ocho salidas para larga distancia

DTP T DP 4K 330
Transmisor DTP para Displa

Receptores compatibles

DTP R DP 4K 330
Receptor DTP para DisplayPort de larga distancia

NAV E 101 DTP
Codificador de AV profesional sobre IP 1G con entrada DTP

DTP2 R 212
Conmutador y receptor DTP2 HDMI 4K/60 con desembebido de audio

DTP R HWP 4K 331 D
Receptor DTP para HDMI de Decorator

Matrices y conmutadores compatibles

Extron

Specifications

DTP HDMI 330 4K Tx/Rx

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	**Chroma Sampling**	**Max. Bit Depth per Color**
4096 x 2160 at 30 Hz	4:4:4	8 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate[1] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[1]..... 4:4:4, 4:2:2, or 4:2:0
Color bit depth[1] ..... 8 bits per color
Signal Type ..... HDMI 1.4, HDCP 2.3
Max. video data rate ..... 10.2 Gbps (3.4 Gbps per color)

NOTE: [1]Subject to the maximum data rate limit. Use our calculator (**www.extron.com/8Kdatarate**) to determine video parameters supported by this data rate.

NOTE: This product consists of a transmitter (DTP HDMI 4K 330 Tx) and a receiver (DTP HDMI 4K 330 Rx), sold separately, with twisted pair cables linking the transmitter and receiver.

NOTE: *Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.

Video

Maximum data rate ..... 10.2 Gbps (3.4 Gbps per color)
Maximum pixel clock ..... 300 MHz
Resolution range..... Up to 2560x1600* @ 60 Hz or
4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz,
4K/UHD @ 60 Hz with 4:2:0 chroma subsampling
(* reduced blanking)
Color bit depth..... 8, 10, or 12 bits — subject to the maximum data rate limit
Formats ..... RGB and YCbCr digital video
Standards..... DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E

Video Input — transmitter

Number/signal type..... 1 single link HDMI (or DVI-D*)
Connectors..... 1 female HDMI type A

Interconnection Between Transmitter and Receiver

Connectors..... 1 female RJ-45 per unit
Termination standard ..... TIA/EIA T568B
Signal transmission distance
1080p @ 60 Hz ..... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable
2560x1600 @ 60 Hz..... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable
4K/UHD @ 30Hz and 60 Hz... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable

Specifications • DTP HDMI 330 4K Tx/Rx (Continued)

Cable requirements ..... Solid conductor, 24 AWG or better
Cable recommendations ..... 400 MHz bandwidth, STP (shielded twisted pair)

NOTE: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

Video Output — receiver

Number/signal type ..... 1 single link HDMI (or DVI-D*)
Connectors..... 1 female HDMI type A

Audio

Gain ..... Unbalanced output: 0 dB; balanced output +6 dB
Frequency response ..... 20 Hz to 20 kHz, ±0.5 dB
THD + Noise ..... 0.03% @ 20 Hz to 20 kHz at maximum output
S/N ..... >90 dB, at maximum output (15 dBu), balanced (unweighted)
Stereo channel separation ..... >80 dB @ 1 kHz to 20 kHz

Audio input

Number/signal type ..... 1 PC level stereo, unbalanced

NOTE: Analog audio is not embedded onto the digital video signal. Embedded digital audio is not de-embedded from the digital video signal.

Connectors..... (1) 3.5 mm stereo jack, 2 channel; tip (L), ring (R), sleeve (ground)
Impedance ..... >10k ohms, DC coupled
Nominal level ..... -10 dBV (316 mVrms)
Maximum level ..... +6 dBV (unbalanced)

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

Audio output

Number/signal type ..... 1 stereo (2 channel), balanced/unbalanced
Connectors..... (1) 3.5 mm captive screw connector, 5 pole
Impedance ..... 50 ohms unbalanced, 100 ohms balanced
Gain error..... ±0.1 dB channel to channel
Maximum level (600 ohm)..... >+11 dBu, balanced

Communications — External Device (pass-through, unidirectional or bidirectional)

Serial control port input/output
- Transmitter ..... RS-232 via (1) 3.5 mm, 5 pole captive screw connector for RS-232 control (±5 V) (connector is shared with IR control port)
- Receiver ..... 1 set of proprietary signals on a female RJ-45 jack

Serial control port output/input
- Transmitter ..... 1 set of proprietary signals on a female RJ-45 jack
- Receiver ..... RS-232 via a 3.5 mm, 3 pole captive screw connector

Baud rate and protocol..... 300 to 115200 baud, 8 or 7 data bits, 1 or 2 stop bits, non-parity (default), even or odd parity
Serial control pin configuration..... 1 = Tx, 2 = Rx, 3 = Gnd
IR control port ..... (1) 3.5 mm, captive screw connector, 5 pole (connector is shared with RS-232 control port)
TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
IR control pin configuration ..... 3 = Gnd, 4 = IR Tx, 5 = IR Rx

General

Power supply ..... External
Input: 100-240 VAC, 50-60 Hz
Output: 12 VDC, 1.5 A, 18 watts

Specifications • DTP HDMI 330 4K Tx/Rx (Continued)

Power consumption	
Transmitter	
Device	2.5 watts
Device and power supply	3.4 watts
Remote power budget	12 watts
Receiver	
Device	4.2 watts
Device and power supply	5.8 watts
Remote power budget	12 watts

NOTE: Each transmitter or receiver can be powered either locally by an external power supply or remotely by receiver or transmitter on the other end of the twisted pair cable.

Ambient temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents
Thermal dissipation	
Transmitter	
Device	7.4 BTU/hr
Device and power supply	10.4 BTU/hr
Receiver	
Device	13.0 BTU/hr
Device and power supply	18.7 BTU/hr
Mounting	
Rack mount	Yes, with optional 1U high rack shelf
Furniture mount	Yes, with optional under-desk mounting kit
Enclosure type	Metal
Enclosure dimensions	
Transmitter	1.0" H x 4.3" W x 3.0" D (quarter rack wide) (2.5 cm H x 10.9 cm W x 7.6 cm D) (Depth excludes connectors.)
Receiver	1.0" H x 4.3" W x 6.0" D (quarter rack wide) (2.5 cm H x 10.9 cm W x 15.2 cm D) (Depth excludes connectors.)
Product weight	
Transmitter	0.5 lbs (0.3 kg)
Receiver	1.0 lb (0.5 kg)
Regulatory compliance	CE, c-UL UL, CE**, C-tick, FCC Class A**, ICES, VCCI, Complies with the appropriate requirements of RoHS, WEEE UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply.

NOTE: **CE and FCC testing is conducted with STP (shielded twisted pair) I/O cable.

Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

NOTE: Shipping weights and dimensions are available at **www.extron.com**.

5452-D19

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ELEMENT 11

DTP HDMI 4K 330 Rx

Receptor DTP para HDMI de larga distancia

Se recomienda encarecidamente el uso del cable XTP DTP 24 de par trenzado blindado de Extron

GALERÍA DE IMÁGENES

TOOLS

Inicie sesión para ver precios y disponibilidad

DTP HDMI 4K 330 Rx Receptor HDMI - 100 m (330 ft) Referencia	60-1331-13
DTP HDMI 4K 230 Rx Receptor HDMI - 70 m (230 ft) Referencia	60-1271-13

- Visión global
- Vídeo
- Descripción
- Especificaciones
- Diagrama
- Ilustraciones
- Descargas

Productos similares

DTP HDMI 4K 230 Rx
Receptor DTP para HDMI

DTP DVI 4K 330 Rx
Receptor DTP para DVI de larga distancia

Transmisores compatibles

DTP T DP 4K 330
Transmisor DTP para DisplayPort de larga distancia

DTP HDMI 4K 330 Tx
Transmisor DTP para HDMI de larga distancia

DTP DVI 4K 330 Tx
Transmisor DTP para DVI de larga distancia

DTP T HWP 4K 331 D
Transmisor DTP para HDMI estilo Decorator

Matrices y conmutadores compatibles

Enviar su opinión

Extron

Specifications

DTP HDMI 330 4K Tx/Rx

TRUE 4K specification

Max. 4K Capabilities		
Resolution and Refresh Rate	**Chroma Sampling**	**Max. Bit Depth per Color**
4096 x 2160 at 30 Hz	4:4:4	8 bit
3840 x 2160 at 30 Hz		
4096 x 2160 at 60 Hz	4:2:0	
3840 x 2160 at 60 Hz		

Frame rate[1] ..... 24, 25, 30, 50, or 60 fps
Chroma sampling[1]..... 4:4:4, 4:2:2, or 4:2:0
Color bit depth[1] ..... 8 bits per color
Signal Type ..... HDMI 1.4, HDCP 2.3
Max. video data rate ..... 10.2 Gbps (3.4 Gbps per color)

NOTE: [1]Subject to the maximum data rate limit. Use our calculator (**www.extron.com/8Kdatarate**) to determine video parameters supported by this data rate.

NOTE: This product consists of a transmitter (DTP HDMI 4K 330 Tx) and a receiver (DTP HDMI 4K 330 Rx), sold separately, with twisted pair cables linking the transmitter and receiver.

NOTE: *Appropriate HDMI to DVI-D cables or adapters are required for DVI signal input/output.

Video

Maximum data rate ..... 10.2 Gbps (3.4 Gbps per color)
Maximum pixel clock ..... 300 MHz
Resolution range..... Up to 2560x1600* @ 60 Hz or
4K (4096x2160) @ 30 Hz, UHD (3840x2160) @ 30 Hz,
4K/UHD @ 60 Hz with 4:2:0 chroma subsampling
(* reduced blanking)
Color bit depth..... 8, 10, or 12 bits — subject to the maximum data rate limit
Formats ..... RGB and YCbCr digital video
Standards..... DVI 1.0, HDMI 1.4, HDCP 2.3, CEA-861E

Video Input — transmitter

Number/signal type..... 1 single link HDMI (or DVI-D*)
Connectors..... 1 female HDMI type A

Interconnection Between Transmitter and Receiver

Connectors..... 1 female RJ-45 per unit
Termination standard ..... TIA/EIA T568B
Signal transmission distance
1080p @ 60 Hz ..... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable
2560x1600 @ 60 Hz..... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable
4K/UHD @ 30Hz and 60 Hz... Up to 330' (100 m) using shielded twisted pair (STP) cable or XTP DTP 24 STP cable

Specifications • DTP HDMI 330 4K Tx/Rx (Continued)

Cable requirements ..... Solid conductor, 24 AWG or better
Cable recommendations ..... 400 MHz bandwidth, STP (shielded twisted pair)

NOTE: Extron XTP DTP 24 shielded twisted pair cable is strongly recommended for optimal performance.

Video Output — receiver

Number/signal type ..... 1 single link HDMI (or DVI-D*)
Connectors..... 1 female HDMI type A

Audio

Gain ..... Unbalanced output: 0 dB; balanced output +6 dB
Frequency response ..... 20 Hz to 20 kHz, ±0.5 dB
THD + Noise ..... 0.03% @ 20 Hz to 20 kHz at maximum output
S/N ..... >90 dB, at maximum output (15 dBu), balanced (unweighted)
Stereo channel separation ..... >80 dB @ 1 kHz to 20 kHz

Audio input

Number/signal type ..... 1 PC level stereo, unbalanced

NOTE: Analog audio is not embedded onto the digital video signal. Embedded digital audio is not de-embedded from the digital video signal.

Connectors..... (1) 3.5 mm stereo jack, 2 channel; tip (L), ring (R), sleeve (ground)
Impedance ..... >10k ohms, DC coupled
Nominal level ..... -10 dBV (316 mVrms)
Maximum level ..... +6 dBV (unbalanced)

NOTE: 0 dBu = 0.775 Vrms, 0 dBV = 1 Vrms, 0 dBV ≈ 2 dBu

Audio output

Number/signal type ..... 1 stereo (2 channel), balanced/unbalanced
Connectors..... (1) 3.5 mm captive screw connector, 5 pole
Impedance ..... 50 ohms unbalanced, 100 ohms balanced
Gain error..... ±0.1 dB channel to channel
Maximum level (600 ohm)..... >+11 dBu, balanced

Communications — External Device (pass-through, unidirectional or bidirectional)

Serial control port input/output
- Transmitter ..... RS-232 via (1) 3.5 mm, 5 pole captive screw connector for RS-232 control (±5 V) (connector is shared with IR control port)
- Receiver ..... 1 set of proprietary signals on a female RJ-45 jack

Serial control port output/input
- Transmitter ..... 1 set of proprietary signals on a female RJ-45 jack
- Receiver ..... RS-232 via a 3.5 mm, 3 pole captive screw connector

Baud rate and protocol..... 300 to 115200 baud, 8 or 7 data bits, 1 or 2 stop bits, non-parity (default), even or odd parity
Serial control pin configuration..... 1 = Tx, 2 = Rx, 3 = Gnd
IR control port ..... (1) 3.5 mm, captive screw connector, 5 pole (connector is shared with RS-232 control port)
TTL level (0 to 5 V) modulated infrared control from 30 kHz up to 60 kHz
IR control pin configuration ..... 3 = Gnd, 4 = IR Tx, 5 = IR Rx

General

Power supply ..... External
Input: 100-240 VAC, 50-60 Hz
Output: 12 VDC, 1.5 A, 18 watts

Specifications • DTP HDMI 330 4K Tx/Rx (Continued)

Power consumption	
Transmitter	
Device	2.5 watts
Device and power supply	3.4 watts
Remote power budget	12 watts
Receiver	
Device	4.2 watts
Device and power supply	5.8 watts
Remote power budget	12 watts

NOTE: Each transmitter or receiver can be powered either locally by an external power supply or remotely by receiver or transmitter on the other end of the twisted pair cable.

Ambient temperature/humidity	Storage: -40 to +158 °F (-40 to +70 °C) / 10% to 90%, noncondensing Operating: +32 to +122 °F (0 to +50 °C) / 10% to 90%, noncondensing
Cooling	Convection, no vents
Thermal dissipation	
Transmitter	
Device	7.4 BTU/hr
Device and power supply	10.4 BTU/hr
Receiver	
Device	13.0 BTU/hr
Device and power supply	18.7 BTU/hr
Mounting	
Rack mount	Yes, with optional 1U high rack shelf
Furniture mount	Yes, with optional under-desk mounting kit
Enclosure type	Metal
Enclosure dimensions	
Transmitter	1.0" H x 4.3" W x 3.0" D (quarter rack wide) (2.5 cm H x 10.9 cm W x 7.6 cm D) (Depth excludes connectors.)
Receiver	1.0" H x 4.3" W x 6.0" D (quarter rack wide) (2.5 cm H x 10.9 cm W x 15.2 cm D) (Depth excludes connectors.)
Product weight	
Transmitter	0.5 lbs (0.3 kg)
Receiver	1.0 lb (0.5 kg)
Regulatory compliance	CE, c-UL UL, CE**, C-tick, FCC Class A**, ICES, VCCI, Complies with the appropriate requirements of RoHS, WEEE UL rated for use in plenum airspaces: meets UL 2043 for heat and smoke release, excluding the power supply.

NOTE: **CE and FCC testing is conducted with STP (shielded twisted pair) I/O cable.

Product warranty	3 years parts and labor
Everlast power supply warranty	7 years parts and labor

NOTE: All nominal levels are at ±10%.

NOTE: Specifications are subject to change without notice.

NOTE: Shipping weights and dimensions are available at **www.extron.com**.

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ELEMENT 12

logitech

HOJA DE DATOS

LOGITECH RALLY BAR

HABILITE EL VÍDEO EN SALAS MEDIANAS Y GRANDES. VIDEOCONFERENCIA TODO EN UNO CON SOLO TOCAR UN BOTÓN.

BARRA DE VÍDEO TODO EN UNO PARA SALAS MEDIANAS Y GRANDES

Logitech Rally Bar establece un nuevo estándar para las reuniones de vídeo en salas medianas y grandes. Rally Bar es muy fácil de implementar, usar y administrar de forma remota.

Utilice la función plug and play de Rally Bar con cualquier PC o portátil, o aproveche su ordenador integrado y utilícelo en modo appliance. Rally Bar es compatible con la mayoría de las plataformas que usa para conectar a los equipos híbridos, lo que garantiza una experiencia fluida desde el hogar hasta la oficina, entre otros.

Además, Rally Bar se integra fácilmente con controladores de reunión como Tap IP y otros dispositivos como Sight, lo que facilita la creación de una experiencia de videoconferencia ideal tanto para los asistentes a reuniones virtuales como para quienes están en la oficina.

QUE A TODOS SE LES VEA Y SE LE ESCUCHE CON CLARIDAD

La IA de vídeo, la captación avanzada del sonido, la cancelación de ruido y las mejoras continuas de software proporcionan una experiencia de reunión clara y natural a los teletrabajadores.

FUNCIONA CON LAS PRINCIPALES PLATAFORMAS DE VÍDEO

Rally Bar es compatible con la mayoría de las plataformas que usa para conectar a los equipos híbridos, lo que garantiza una experiencia fluida desde el hogar hasta la oficina, entre otros.

Microsoft

zoom

Google Meet

腾讯会议 Tencent Meeting

RÁPIDA DE INSTALAR, FÁCIL DE ADMINISTRAR

Diseñada para ofrecer fácilmente reuniones de vídeo en salas medianas y grandes, Rally Bar es rápida de configurar, fácil de administrar y fácil de integrar con Tap o Tap IP a través de CollabOS. Además, puede usar accesorios opcionales en la pared, la mesa o la pantalla.

Utilice Rally Bar Huddle como un appliance de sala de reunión, en modo USB conectado a un PC de la sala de reunión o conéctelo a través de un portátil.

PC

APPLIANCE

DISPOSITIVOS PROPIOS (BYOD)

ESPECIFICACIONES DE PRODUCTO Y VÍNCULOS

UN PLAN DE SERVICIO PARA TODAS SUS SALAS DE REUNIÓN

Asegure la continuidad del negocio y simplifique la administración con nuestro plan de servicio integral Select. Con acceso directo 24 horas al día, 7 días a la semana, a expertos en productos, asistencia en el plazo de una hora y rápidas sustituciones de productos, le ayudamos a mantener sus salas y soluciones Logitech listas para la próxima reunión. Select cubre Rally Bar y todos los demás dispositivos Logitech en la sala bajo una garantía activa.

MICRÓFONOS

Respuesta de frecuencia: 90 Hz–16 kHz

Sensibilidad: ≥36 dBFS ±1 dB a 1 Pa

Velocidad de salida de datos de micrófono: 48 kHz

Radio de captación: 7 m

Elementos de formación de haces: 6 micrófonos omnidireccionales digitales MEMS que forman 5 haces acústicos adaptativos de radiación transversal

Procesamiento de audio: AEC (Acoustic Echo Cancellation), VAD (Voice Activity Detector)

Cancelación de ruido: filtro de inteligencia artificial

Micrófonos adicionales: admite hasta cuatro Rally Mic Pod adicionales para salas de conferencia más grandes

INTERFACES

Salida HDMI: 2 (hasta 1080p)

Entrada HDMI: 1

USB 3.0: 3 de tipo A, 1 de tipo C

Red: 10/100/1G Ethernet

Wifi: 802.11 a/b/g/n/ac (MIMO)

Entrada de micrófono externa: sí (la entrada propia admite Rally Mic Pod, Rally Mic Pod Hub y un cable de extensión de Rally Mic Pod opcionales)

Mando a distancia: Bluetooth® de bajo consumo

ALIMENTACIÓN Y CABLES

Fuente de alimentación: detección automática

Voltaje/potencia de funcionamiento: 100-240 V, 19 V, 4,74 A

Dimensiones de la fuente de alimentación: 127 mm x 51 mm x 30 mm

Cable de CC: 1,5 m

Cable de CA: 1 m

Cable HDMI 1.4: 2 m

Cable USB A a USB C 3.0: 2,2 m

CONDICIONES DEL ENTORNO

Temperatura de funcionamiento: 0° a 40° C
Temperatura de almacenamiento: -40° a 70 °C
Humedad: 10 % a 95 %
BTU/h: 57 (en inactividad), 64 (durante reuniones)

SEGURIDAD

Cifrado de disco completo: AES-128
Cifrado de datos: claves simétricas, infraestructura de clave pública (PKI)
Identidad de dispositivos: protección mediante confirmación de dispositivos
Acceso a dispositivos: autenticación mediante API
Protección mediante clave: Arm TrustZone, RPMP

GARANTÍA

Estándar: incluye 2 años de garantía de hardware limitada.

Ampliada: garantías adicionales de un año y tres años disponibles en el momento de la compra del hardware. Póngase en contacto con su distribuidor local para obtener más información sobre la disponibilidad.

CONTENIDO DE LA CAJA

Rally Bar
Fuente de alimentación
Cable de alimentación de CA
Cable HDMI
Cable USB
Mando a distancia
Tapas para lente principal y visor con inteligencia artificial
Documentación del usuario

ESPECIFICACIONES DE PRODUCTO

Rally Bar - Grafito	Rally Bar - Blanco	Rally Bar - Cumple con TAA
N.º de referencia: 960-001311	N.º de referencia: 960-001323	N.º de referencia: 960-001564

SOSTENIBILIDAD

Hecha con plástico reciclado: las piezas de plástico de la versión grafito de Rally Bar incluyen un 40 % de plástico reciclado posconsumo con certificación*. Logitech ofrece una segunda vida al plástico procedente de la electrónica de consumo con el objetivo de reducir su huella de carbono.*

*Excluye cables, PWA y embalaje. Se mide según el peso.

logitech

www.logitech.com/RallyBar

Póngase en contacto con su canal o con nosotros en www.logitech.com/vcsales

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Publicado en enero de 2024

ELEMENT 13

HOJA DE DATOS

LOGITECH TAP IP

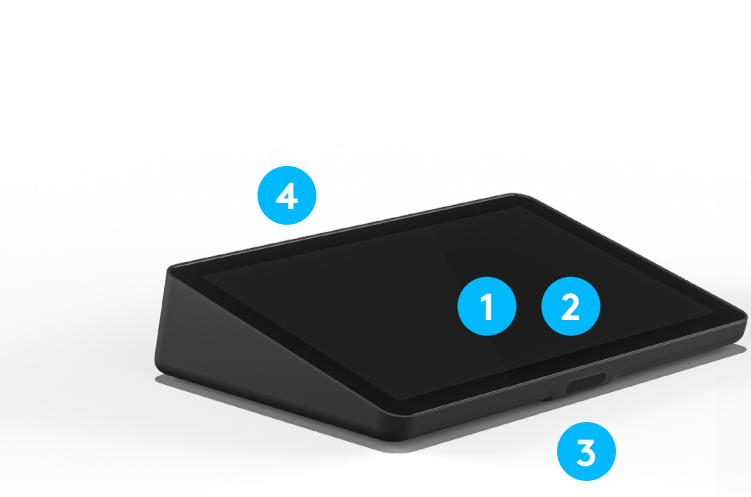
Logitech Tap IP es un mando táctil conectado a la red diseñado para soluciones Logitech para salas de reunión que permite incorporarse a las reuniones con un solo toque. Gracias a su distribución de cables despejada y a la variedad de montajes disponibles, Tap IP se instala fácilmente y se mantienen en funcionamiento.

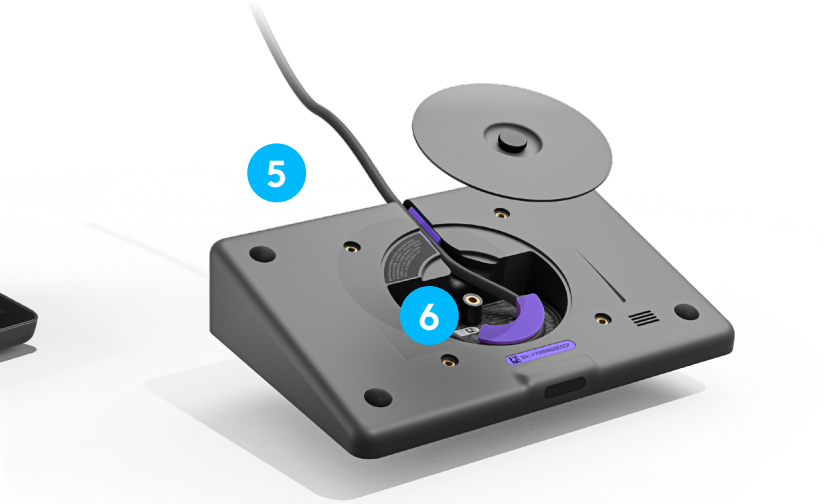
MANDO TÁCTIL PARA SALAS DE REUNIÓN CON CONECTIVIDAD POE

Lejos de ser un simple mando táctil para salas de reunión, Logitech Tap IP le ayuda a lograr una experiencia de usuario uniforme y fluida en toda la implementación de videoconferencia.

Este mando táctil de diseño específico tiene el aspecto más idóneo gracias a una pantalla grande de 10,1" y un perfil elegante y discreto. Saque provecho de su conexión de alimentación a través de Ethernet (PoE) y su amplia gama de opciones de montaje para instalar el mando táctil en cualquier parte de la sala. Evite las desconexiones accidentales con ayuda del sistema integrado de retención de cables y alivio de tensión; además, disfrute de la tranquilidad de saber que todas las salas están listas para la próxima reunión de vídeo.

CARACTERÍSTICAS DEL PRODUCTO





FÁCIL DE USAR

1. **Incorporación con un solo toque:** inicie reuniones e incorpórese a ellas fácilmente con un solo toque.

2. **Pantalla táctil de 10,1":** pantalla táctil de gran tamaño y capacidad de respuesta a prueba de huellas dactilares para ofrecer una legibilidad alta; además, está sellada para proteger los componentes.

3. **Sensor de movimiento:** el sensor de movimiento integrado permite estar siempre listo cuando se acerca un usuario y ahorra energía cuando está inactivo.

4. **Perfil bajo elegante:** el cómodo ángulo de 14° permite una visión fácil y proporciona un aspecto en la sala sin obstrucciones.

FÁCIL DE INSTALAR

5. **Un solo cable PoE:** al tener solo un cable para la alimentación y los datos, se puede colocar en cualquier parte de la sala, independientemente del sistema de la sala y sin necesidad de tender cables largos.

6. **Distribución de cables despejada:** el sistema integrado de retención de cables y alivio de tensión oculta el cable PoE por completo dentro de su caja, además de asegurarlo para evitar desconexiones inoportunas.

7. **Varias opciones de montaje:** fije Tap IP en casi cualquier lugar de la sala con los soportes elevador, de mesa y pared disponibles, que permiten una colocación cómoda cerca de los participantes que se encuentran en la sala.

7

Eleve el ángulo de visión con el **soporte elevador de Tap.**

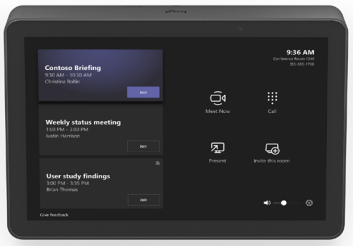
Colóquelo en posición horizontal y fíjelo en su sitio con el **soporte de mesa de Tap.**

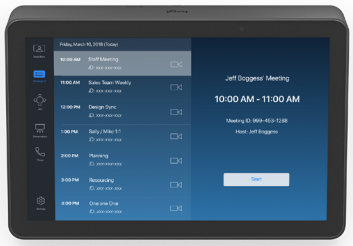
Ahorre espacio en la mesa con el **soporte de pared de Tap.**

SOLUCIONES PARA SALAS DE REUNIÓN PARA SU LUGAR DE TRABAJO

ELIJA SU PLATAFORMA

Tap IP se puede configurar con los principales servicios de videoconferencia para ofrecer una experiencia de reunión uniforme y fluida en toda la implementación.





Microsoft

zoom

REUNIONES DE VÍDEO PARA CUALQUIER SALA

Transforme fácilmente salas de reunión en espacios de videocolaboración con Tap IP y las soluciones Logitech para salas de reunión. Comience con las soluciones preconfiguradas que incluyen barras de vídeo, cámaras para conferencias, ordenadores y otros dispositivos; además, añada paneles de planificación, pizarras digitales y accesorios para impulsar una colaboración eficaz. Para obtener más información, visite logitech.com/room-solutions.

Se adapta a salas de prácticamente cualquier forma o tamaño

Desde el interior hasta el exterior de la sala, las soluciones Logitech para salas de reunión funcionan con las plataformas de nuestros *partners* para ofrecer una experiencia de reunión uniforme y fluida.

Equipe sus salas de reunión

Las soluciones Logitech para salas de reunión incluyen todo lo necesario para crear y personalizar las salas de reunión de vídeo.

Incluyen Tap Scheduler, Tap IP, RoomMate, Scribe y nuestras barras de vídeo y cámaras para conferencias Rally.

ESPECIFICACIONES

ESPECIFICACIONES DE PRODUCTO

Dispositivo:
Altura x anchura x profundidad total
2,21 x 9,69 x 6,74 in
56,1 × 246,2 × 171,3 mm
1,0 kg (2,2 lbs)

Pantalla táctil
Pantalla diagonal de 10,1"
Ángulo de pantalla: 14°
Ángulo de visión: 85° (arriba/abajo/izquierda/derecha)
Resolución: 1280 x 800
Tipo de pantalla: IPS (conmutación en el plano)

Panel LCD con retroiluminación LED
Multitáctil capacitiva de 10 puntos
Brillo: 400 nits
Contraste: 1000:1
Resistente a las huellas dactilares: revestimiento oleofóbico

ALIMENTACIÓN Y PUERTOS

Dispositivo de alimentación a través de Ethernet (PoE), IEEE 802.3af Tipo 1, Clase 3
Ethernet: 10/100 mbps
WiFi: 802.11a/b/g/n/ac
Bluetooth 5.0

INTERFACES

Sistema interno de retención de cables y alivio de tensión
Altavoz ultrasónico integrado
Sensor de movimiento PIR integrado
Acelerómetro integrado
Sensor de luz ambiental integrado
100 mm x 100 mm; VESA FDMI

CONTENIDO DE LA CAJA

Mando táctil Tap IP
Tornillos de montaje VESA (4)
Paño de microfibra
Documentación

COMPATIBILIDAD Y CERTIFICACIONES

Logitech Tap IP está certificado y es compatible como mando táctil para soluciones de salas de videoconferencia como, por ejemplo:
- Microsoft Teams en Android
- Zoom Rooms (cualquiera)

Visite el sitio web www.logitech.com/support/tap-compatibility para consultar la información más reciente sobre compatibilidad y certificaciones.

CONDICIONES DEL ENTORNO

Temperatura de funcionamiento: 0 °C a 40 °C
Temperatura de almacenamiento: -40 °C a 70 °C
Humedad: 10 % al 95 %

ACCESORIOS OPCIONALES

Pieza de soporte de mesa
Pieza de soporte elevador
Pieza de soporte de pared

SEGURIDAD

Cifrado de disco completo: AES-128
Cifrado de datos: claves simétricas, infraestructura de clave pública (PKI)
Identidad de dispositivos: protección mediante confirmación de dispositivos
Protección mediante clave: Arm TrustZone, RPMP
Seguridad del dispositivo: bloqueo Kensington

ADMINISTRACIÓN DE DISPOSITIVOS

Supervise y gestione con las plataformas de administración remota Logitech Sync, el Centro de administración de Microsoft Teams y la Administración de dispositivos de Zoom.

SOSTENIBILIDAD

Plástico en grafito: 56 % de material reciclado posconsumo
Con certificación de carbono neutro

56 % Recycled Plastic — **56 %** de material reciclado posconsumo[4]

FSC — Embalaje de papel con certificación FSC™

Con certificación de carbono neutro

GARANTÍA

Asegure su tranquilidad durante el típico ciclo de depreciación y sustitución de la mayoría de los equipos de salas de conferencias mediante la compra de una garantía ampliada, que añade 1 o 3 años adicionales a la garantía estándar de dos años.*

Incluye dos años de garantía limitada de hardware

*No disponible en todas las ubicaciones. Contáctenos para conocer la disponibilidad.

NÚMEROS DE REFERENCIA

Logitech Tap IP en color grafito
952-000085
Logitech Tap IP en color blanco
952-000088

logitech

www.logitech.com/TapIP

Póngase en contacto con su distribuidor o con nosotros en https://www.logitech.com/es-es/business.html

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Publicado en diciembre de 2023

ELEMENT 14

ACCESORIOS PARA LA FAMILIA RALLY

SOPORTE COLGANTE PARA BASE DE MICRÓFONO

Soporte colgante para micrófono Rally.

El soporte colgante para micrófono permite colgar micrófonos Rally en salas con techos altos y en mesas en las que no se le pueden instalar micrófonos o que tienen características particulares. Colgar micrófonos del techo ayuda a garantizar que todos puedan ser escuchados por igual, incluso en los espacios más grandes.

Dimensiones: Pieza de montaje de techo

Altura: 80 mm

Anchura: 82 mm

Dimensiones: Soporte para micrófono

Altura: 56 mm

Anchura: 145 mm

Contenido de la caja

Pieza de montaje de techo

Soporte para micrófono

Accesorios para instalación

Guía de inicio rápido

Color

Blanco

Número de referencia

952-000123

Garantía

Dos años de garantía de hardware limitada

HUB DE MICRÓFONO RALLY

Conecta hasta 3 micrófonos Rally para distribuciones en estrella flexibles con tendido de cables eficaz.

Puedes personalizar la instalación para casi cualquier configuración de mesas de reuniones

Reduce la presencia de múltiples cables sobre la mesa

Conecta micrófonos y hubs adicionales

Especificaciones generales

Tres conexiones de 12 patillas para cualquier combinación de micrófono Rally o hubs de micrófono Rally adicionales

Accesorios para montaje bajo la mesa

Cable cautivo de 12 patillas y 2,95 m (9,6 ft)

Requisitos del sistema

Rally o Rally Plus

Rally Bar o Rally Bar Mini en configuración con micrófonos Rally externos

Dimensiones de producto

Altura: 16 mm/0,63 in

Anchura: 102 mm/4,01 in

Profundidad: 102 mm/4,01 in

Contenido de la caja

Hub de micrófono

Accesorios para instalación

Documentación

Número de referencia

939-001647

ELEMENT 15

ACCESORIOS PARA LA FAMILIA RALLY

RALLY MIC POD

Amplíe la cobertura de audio con micrófonos de formación de haces modulares dotados de tecnología RightSound™ para conversaciones claras y naturales.

Nivela automáticamente las voces, suprime el ruido de fondo y amortigua las vibraciones para producir audio nítido

Práctico control de silencio e indicador luminoso

Disponible en grafito o blanco

Especificaciones generales

Respuesta de frecuencia: 90 Hz-16 kHz

Sensibilidad: ≥27 dB ±1 dB a 1 Pa

Velocidad de salida de datos de micrófono: 48 kHz

Radio de captación: 4,5 m

Elementos de formación de haces: cuatro micrófonos omnidireccionales que forman ocho haces acústicos

Procesamiento de audio: AEC (Acoustic Echo Cancellation), VAD (Voice Activity Detector)

Cancelación de ruido: filtro de inteligencia artificial

Control de silenciamiento: mando táctil con indicador LED identificado por colores

Interfaces y cables

Salida: cable cautivo de 12 patillas y 2,95 m

Entrada: interfaz de 12 patillas para conectar en serie bases de micrófono o conectar a Rally Mic Pod Hub

Certificaciones

Rally Mic Pod, blanco: clasificación plenum, conformidad con Eca/IEC 60332-1-2

Rally Mic Pod, grafito: N/A

Requisitos del sistema

Rally: hasta 7 bases de micrófono (una Rally Mic Pod incluida con el sistema)

Rally Plus: hasta 7 bases de micrófono (dos Rally Mic Pod incluidas con el sistema)

Rally Bar: hasta 4 bases de micrófono (complemento de matriz de micrófono integrado)

Rally Bar Mini: hasta 3 bases de micrófono (complemento de matriz de micrófono integrado)

Nota: las Rally Mic Pod no son compatibles con la cámara USB Rally independiente.

Dimensiones de producto

Altura: 21 mm

Anchura: 102 mm

Profundidad: 102 mm

Contenido de la caja

Rally Mic Pod

Documentación

Números de referencia

Grafito: 989-000430

Blanco: 952-000038

SOPORTE DE RALLY MIC POD

El soporte de Rally Mid Pod asegura las conexiones y oculta los cables para contribuir al aspecto profesional del espacio de reunión.

Oculte los cables y fije los micrófonos a la mesa o al techo

Apto para la mayoría de mesas

Disponible en grafito o blanco

Especificaciones generales

Dispositivos compatibles: Rally Mic Pod

Grosor de mesa: 20-50 mm

Diámetro de pasacables: 25-65 mm

Dimensiones de producto

Altura: 90 mm

Anchura: 146 mm

Profundidad: 146 mm

Contenido de la caja

Copa de soporte de base de micrófono

Varilla roscada

Tuerca

Carrete de cable

Placa de montaje

Tornillos

Documentación

Números de referencia

Grafito: 952-000002

Blanco: 952-000020

ELEMENT 16

ACCESORIOS PARA LA FAMILIA RALLY

RALLY MIC POD

Amplíe la cobertura de audio con micrófonos de formación de haces modulares dotados de tecnología RightSound™ para conversaciones claras y naturales.

Nivela automáticamente las voces, suprime el ruido de fondo y amortigua las vibraciones para producir audio nítido

Práctico control de silencio e indicador luminoso

Disponible en grafito o blanco

Especificaciones generales

Respuesta de frecuencia: 90 Hz-16 kHz

Sensibilidad: ≥27 dB ±1 dB a 1 Pa

Velocidad de salida de datos de micrófono: 48 kHz

Radio de captación: 4,5 m

Elementos de formación de haces: cuatro micrófonos omnidireccionales que forman ocho haces acústicos

Procesamiento de audio: AEC (Acoustic Echo Cancellation), VAD (Voice Activity Detector)

Cancelación de ruido: filtro de inteligencia artificial

Control de silenciamiento: mando táctil con indicador LED identificado por colores

Interfaces y cables

Salida: cable cautivo de 12 patillas y 2,95 m

Entrada: interfaz de 12 patillas para conectar en serie bases de micrófono o conectar a Rally Mic Pod Hub

Certificaciones

Rally Mic Pod, blanco: clasificación plenum, conformidad con Eca/IEC 60332-1-2

Rally Mic Pod, grafito: N/A

Requisitos del sistema

Rally: hasta 7 bases de micrófono (una Rally Mic Pod incluida con el sistema)

Rally Plus: hasta 7 bases de micrófono (dos Rally Mic Pod incluidas con el sistema)

Rally Bar: hasta 4 bases de micrófono (complemento de matriz de micrófono integrado)

Rally Bar Mini: hasta 3 bases de micrófono (complemento de matriz de micrófono integrado)

Nota: las Rally Mic Pod no son compatibles con la cámara USB Rally independiente.

Dimensiones de producto

Altura: 21 mm

Anchura: 102 mm

Profundidad: 102 mm

Contenido de la caja

Rally Mic Pod

Documentación

Números de referencia

Grafito: 989-000430

Blanco: 952-000038

SOPORTE DE RALLY MIC POD

El soporte de Rally Mid Pod asegura las conexiones y oculta los cables para contribuir al aspecto profesional del espacio de reunión.

Oculte los cables y fije los micrófonos a la mesa o al techo

Apto para la mayoría de mesas

Disponible en grafito o blanco

Especificaciones generales

Dispositivos compatibles: Rally Mic Pod

Grosor de mesa: 20-50 mm

Diámetro de pasacables: 25-65 mm

Dimensiones de producto

Altura: 90 mm

Anchura: 146 mm

Profundidad: 146 mm

Contenido de la caja

Copa de soporte de base de micrófono

Varilla roscada

Tuerca

Carrete de cable

Placa de montaje

Tornillos

Documentación

Números de referencia

Grafito: 952-000002

Blanco: 952-000020

ELEMENT 17

SHURE

0

MXN5W-C Networked Loudspeaker

Descripció **Suport de producte** Parlar amb un expert de Shure

+ 1 Més i vídeo

MXN5W-C

Networked Loudspeaker SKU: MXN5W-C

Parlar amb un expert de Shure

Certified for Microsoft Teams · works with Google Meet · zoom Certified · CISCO Collaboration Devices Verified · Certified for ClickShare BARCO

Descripció +

Detalls ×

Configuració i control basats en programari

- Amb el programari de configuració de sistemes Designer de Shure es pot dissenyar i desplegar fàcilment cada dispositiu del sistema dàudio
- **És compatible amb els protocols de seguretat basats en estàndards per gestionar l'accés i protegir les dades, com ara 802.1x, l'arrencada/emmagatzematge segur, així com l'encriptació AES per a les dades de control i àudio.**
- Compatible amb Dante Domain Manager.
- Compatible amb AES67.

Característiques tècniques de l'altaveu

- Resposta en freqüència preajustada i optimitzada per a la intel·ligibilitat de la veu en aplicacions de conferència audiovisual.

- Disseny de perfil baix, ideal per a la majoria de les instal·lacions en fals sostre.
- Sistema de 2 vies, amb woofer de 5,25 polzades.
- Compatible amb PoE/PoE+, per tant no necessita un amplificador extern.
- Utilitats de DSP Shure integrades: equalitzador, retard, limitador i generador de senyal.
- 2 entrades Dante i 1 sortida Dante.

Disseny depurat

- El disseny depurat permet una integració discreta en falsos sostres.
- La reixeta magnètica extraïble i pintable cobreix tota la superfície de l´altaveu.
- Logo magnètic de Shure extraïble.
- Certificat UL 2043 per a instal·lació en fals sostre.
- Amb accessoris com un bastidor de reforç o un ancoratge d´obra nova, per a un muntatge ràpid i fàcil.

L'altaveu de sostre de xarxa Microflex™ MXN5W-C proporciona una alta qualitat de reproducció de la veu en aplicacions de conferències A/V. S'ha acabat la necessitat d'un amplificador o d'un DSP extern! El MXN5, alimentat per PoE, és la solució d'altaveu ideal quan es fa servir formant part d'un sistema d'àudio en xarxa Shure destinat a conferències. Combinat amb els micròfons Array Microflex Advance i IntelliMix® DSP, l'ecosistema complet en xarxa de Shure ofereix un excel·lent rendiment d'àudio i una facilitat de desplegament sense igual, amb la confiança addicional del sistema d'encriptació Shure Audio Encryption i la compatibilitat amb Dante Domain Manager.

ELEMENT 18

SHURE

0

IntelliMix P300 Procesador de audio para conferencias

Descripción **Soporte de producto** Hablar con un experto de Shure

IntelliMix P300

Procesador de audio para conferencias SKU: P300-IMX

Hablar con un experto de Shure

zoom Certified | Certified for Microsoft Teams | CISCO Collaboration Devices Verified | works with Google Meet | Certified for ClickShare BARCO

Descripción +

Detalles ×

Mezcla automática. Instalación rápida.

- Conecta 10 entradas de audio Dante, 2 entradas analógicas, USB y un dispositivo móvil a un sistema de conferencia AV o a una aplicación de videoconferencia basada en PC.
- Incluye los algoritmos DSP desarrollados por Shure para mejorar la calidad de audio en conferencias audiovisuales: 8 canales de procesado de micrófonos con cancelación automática de eco, reducción de ruido y control automático de ganancia, además de mezcla automática IntelliMix, mezcla matricial, retardo, compresor y ecualizador paramétrico.
- Encaminamiento de señal y conectividad flexibles: audio analógico (2 entradas + 2 salidas con conectores tipo bloque) para conectar al sistema de conferencia AV de la sala, USB (1 entrada / 1 salida) para conectar a un ordenador portátil o PC de sala, 1 jack TRSS de 3,5 mm para conectar un dispositivo móvil y permitir integrar otro participante al debate.
- Alimentación por Ethernet (PoE+), lo que elimina la necesidad de una fuente de alimentación externa.

- Diseño compacto, fácil de montar sin rack.

Ver la demo del software P300.

El procesador de audio para conferencias IntelliMix P300 ofrece una matriz predefinida y presets para simplificar el proceso de configuración, lo que reduce el largo tiempo de puesta en marcha a menudo asociado con DSP. El formato discreto permite instalaciones también discretas, por lo que es compatible con una variedad más amplia de salas de reuniones. Sus versátiles opciones de conectividad proporcionan libertad de elección al incorporar un sistema de vídeo para control de salas, vía códecs de software o conectando ordenadores portátiles y dispositivos móviles. Con las funciones de cancelación acústica de eco, reducción de ruido y control automático de ganancia para hasta 8 canales Dante, el P300 garantiza un audio sin ruido ni eco en la sala de conferencias.

ELEMENT 19

CP4N

4-Series™ Control System

- *4-Series™ control system with 2 GB SDRAM and 8 GB flash memory*
- *Embedded 4-Series multicore CPU processor*
- *iPhone®, iPad®, and Android™ device control app support*
- *XPanel computer and web based control*
- *Modular programming architecture*
- *Onboard IR/serial, COM, I/O, relay, Cresnet® network, and high-speed gigabit Ethernet control ports*
- *Control subnet port providing a dedicated local network for Crestron® devices*
- *High-speed USB 2.0 host port memory card slot*
- *Support for Crestron Fusion® software and XiO Cloud® service*
- *Enterprise-class network security and authentication*
- *SNMP V3 remote IT management support*
- *Native BACnet network/IP support*
- *Installer setup via software, web browser, or cloud*
- *IPv6 ready*
- *Integrates with Apple® HomeKit® technology*
- *Rack mountable*

The CP4N is a secure, high-performance control processor with a powerful 4-Series™ control engine. The CP4N is designed to integrate and automate technology within any modern networked home, commercial building, or government facility. An isolated control subnet port provides a Gigabit Ethernet LAN dedicated to Crestron devices.

4-Series Control Engine

4-Series control systems come equipped with an upgraded multicore CPU, delivering a sizable speed and performance increase compared to all Crestron 3-Series® control processors. The improved performance allows 4-Series control systems to handle the increasing demands of an advanced automated system. Crestron 4-Series delivers a dynamic and secure control system platform capable of managing a room full of disparate technologies.

Reliable networking and IP control afford seamless integration with other systems and devices, with add-on control capability using Crestron touch screens, wireless remotes, and mobile device apps, as well as remote management through Crestron Fusion® software and the XiO Cloud® service.

Modular Programming Architecture

The CP4N provides a modular programming architecture that allows the CP4N to run up to ten programs simultaneously. Programmers can develop and run independent, device-specific programs, enabling each program to be optimized for a specific function and allowing for changes to be made to one program without affecting the whole system.

Dedicated Control Subnet

The Crestron Control Subnet is a Gigabit Ethernet network dedicated to Crestron devices. Via the Control Subnet port, an installer can connect a single touch screen or wireless gateway or can add a Crestron PoE switch (CEN-SW-POE-5 or CEN-SWPOE-16, both sold separately) to handle multiple touch screens, gateways, AV components, and other devices. Automatic configuration of the entire subnet is performed by the CP4N, discovering each device and assigning IP addresses without any extra effort from the installer.

> **NOTE:** The Control Subnet port does not supply any PoE power to connected devices

A separate LAN port provides a single-point connection to the local network, requiring only one IP address for the entire control system. The LAN port allows for interconnectivity between devices on the local subnet and other devices, systems, servers, and WAN/internet connections outside the local subnet. For sensitive applications that require heightened security, the entire Control Subnet can be isolated completely from the local network.

Onboard Control Ports

Through a full complement of onboard control ports, the CP4N can be integrated with a wide variety of audio, video, lighting, motorized shades, thermostats, door locks, sensors, security systems, and other equipment.

- Gigabit Ethernet provides an interface for connecting to the building network and controlling Crestron AV switchers, audio processors, power controllers, and other IP controllable equipment.
- Cresnet® network connectivity provides support for Crestron lighting dimmers, motorized shades, sensors, thermostats, keypads, and more.
- Onboard RS-232, IR/serial, relay, and Versiport I/O control ports enable direct integration with all types of third-party equipment.

Expanded connectivity can be provided to the CP4N via Crestron control port expansion modules, Ethernet to Cresnet bridges, wired Ethernet I/O modules, wireless network I/O modules, or infiNET EX® network wireless gateways (all sold separately).

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Crestron Fusion Room Monitoring and Scheduling

Crestron Fusion provides an integrated platform for creating smart buildings that save energy and enhance worker productivity. As part of a complete managed network in a corporate enterprise, college campus, convention center, or any other facility, the CP4N works with Crestron Fusion to enable remote scheduling, monitoring, and control of rooms and technology from a central help desk or mobile app. It also enables organizations to reduce energy consumption by tracking real-time usage and automating control of AV, lighting, shades, and HVAC. For more information about Crestron Fusion, visit www.crestron.com/fusion.

XiO Cloud Provisioning and Management

4-Series control systems leverage the power and flexibility of XiO Cloud services, enabling users to remotely provision, monitor, and manage Crestron devices across an enterprise network. XiO Cloud can be used to configure and load programs to the control system before it is received, making the control system fully functional as soon as it is connected to the network. XiO Cloud is built on the Microsoft® Azure® software platform and utilizes Microsoft's industry leading Azure IoT Hub technology. XiO Cloud enables installers and IT managers to deploy and manage thousands of devices in the time it previously took to manage just one. Unlike other virtual machine based cloud solutions, Azure services provide unlimited scalability to suit the ever growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Enhanced Enterprise-Grade Security

The CP4N is an enterprise-class control processor that can be deployed across hundreds of spaces and set up easily using a web browser, Crestron Toolbox™ software, or XiO Cloud. It employs standard network security protocols, including 802.1X network access control, Active Directory® service authentication, SSH, TLS, and HTTPS to ensure reliability and compliance with your organization's IT policies.

The CP4N is configured to meet Crestron's enhanced security standards right out of the box. The CP4N ships with authentication enabled and requires that an administrator account be created before access is granted to device configuration and control interfaces.

SNMP V3 Support

Built-in SNMP V3 support enables integration with third-party IT management software, allowing network administrators to manage and control Crestron systems on the network in an IT-friendly format.

BACnet Support

Native support for the BACnet communication protocol provides a direct interface to third-party building management systems over Ethernet, simplifying integration with HVAC, security, and other systems. Using BACnet, each system runs independently but communicates together on one platform.[1]

Apple HomeKit Integration

The CP4N supports integration with an Apple® HomeKit® technology system. Once the CP4N is paired with a HomeKit system via SIMPL programming, a Crestron TSR-310 can be used to control supported Apple devices. A pairing QR code is affixed to the CP4N that makes it easy to pair the control system directly to the Apple Home app.[2]

CP4N

4-Series™ Control System

Specifications

Control Engine

Crestron® 4-Series™; real-time, preemptive multithreaded/multitasking kernel; Transaction-Safe Extended FAT file system; supports up to 10 simultaneously running programs

Communications

Ethernet	100/1000 Mbps, autoswitching, autonegotiating, autodiscovery, full/half duplex, industry-standard TCP/IP stack, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), FIPS 140-2 compliant encryption, IEEE 802.1X, SNMP, BACnet and IP[1], IPv4 or IPv6, Active Directory® service authentication, HTTPS web server, HTTPS web browser setup and XiO Cloud® client, SMTP email client
Control Subnet	100/1000 Mbps Ethernet, autoswitching, autonegotiating, autodiscovery, full/half duplex, DHCP server, DNS server, port forwarding, isolation mode
Cresnet® Network	Cresnet primary mode
USB	Supports USB mass storage class devices via the rear panel USB 2.0 host port, supports computer console via the front panel USB 2.0 device port
RS-232/422/485	For 2-way device control and monitoring, COM port supports RS-232 up to 115.2k baud with software handshaking, one port also supports RS-422 or RS-485 and hardware handshaking
IR/Serial	Supports 1-way device control via infrared up to 1.2 MHz or serial TTL/RS-232 (0–5V) up to 115.2k baud

Memory

SDRAM	2 GB
Flash	8 GB
Memory Card	Supports SD and SDHC cards up to 32 GB
External Storage	Supports USB storage devices up to 1 TB

Connectors and Card Slots

RELAY OUTPUT 1–8	(2) 8-pin 3.5 mm detachable terminal blocks; Comprises (8) normally open, isolated relays; Rated 1A, 30VAC/VDC; MOV arc suppression across contacts
I/O 1–8	(1) 9-pin 3.5 mm detachable terminal block; Comprises (8) Versiport digital input/output or analog input ports (referenced to GND); Digital Input: Rated for 0–24VDC, input impedance 20k Ω, logic threshold >3.125V low/0 and <1.875V high/1; Digital Output: 250 mA sink from maximum 24VDC, catch diodes for use with real world loads; Analog Input: Rated for 0–10VDC, protected to 24VDC maximum, input impedance 21k Ω with pull-up resistor disabled; Programmable 5V, 2k Ω pull-up resistor per pin
IR - SERIAL OUTPUT 1–8	(2) 8-pin 3.5 mm detachable terminal blocks; Comprises (8) IR output ports; IR output up to 1.2 MHz; 1-way serial TTL/RS-232 (0–5V) up to 115.2k baud; IRP2 IR emitters sold separately
COM 1	(1) 5-pin 3.5 mm detachable terminal block; Bidirectional RS-232/422/485 port; Up to 115.2k baud; hardware and software handshaking support
COM 2–3	(2) 3-pin 3.5 mm detachable terminal blocks; Bidirectional RS-232 ports; Up to 115.2k baud; software handshaking support
MEMORY	(1) SD memory card slot; Accepts one SD or SDHC card up to 32 GB for storage of log files
USB	(1) USB Type A connector, female; USB 2.0 port for storage devices
LAN	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port;
CONTROL SUBNET	(1) 8-pin RJ-45 connector, female; 100BASE-TX/1000BASE-T Ethernet port; Provides a dedicated local network for Crestron devices

CP4N

4-Series™ Control System

NET	(1) 4-pin 3.5 mm detachable terminal block; Cresnet primary port; Outputs power to Cresnet devices only if the included power pack is connected to the 24VDC power input jack; Alternately functions as a Cresnet power input to power the unit from a Cresnet power supply; See "Power" section below for additional details
24VDC 2.0A	(1) 2.1 x 5.5 mm DC power connector; 24VDC power input; PW-2420RU power pack included; Passes through to the NET port to power Cresnet devices; See "Power" section below for additional details
G	(1) 6-32 screw; Chassis ground lug
COMPUTER (front)	(1) USB Type B connector, female; USB 2.0 computer console port; For setup only

Controls and Indicators

PWR	(1) Green LED, indicates operating power is supplied from the power pack or Cresnet power supply
NET	(1) Amber LED, indicates communication with Cresnet devices
MSG	(1) Red LED, indicates control processor has generated an error message
HW-R	(1) Recessed push button, initiates hardware reset
SW-R	(1) Recessed push button, initiates software reset
LAN (rear)	(1) Bicolor green/amber and (1) Amber LEDs; Green/amber LED indicates Ethernet link status and connection speed; Amber LED indicates Ethernet activity
CONTROL SUBNET (rear)	(1) Bicolor green/amber and (1) Amber LEDs; Green/amber LED indicates Ethernet link status and connection speed; Amber LED indicates Ethernet activity

Power

Power Source Options	Power pack or Cresnet (connect only one)
Power Pack (included)	Input: 100–240VAC, 50/60 Hz; Output: 2.5A @ 24VDC; Model: PW-2420RU
Cresnet Power Usage	15 W (0.625A @ 24VDC) when powered by a Cresnet power supply only
Available Cresnet Power	24 W (1A @ 24VDC) when powered by the included power pack only
Power Consumption	15 W (not including any connected Cresnet devices)

Environmental

Temperature	41 to 113°F (5 to 45°C)
Humidity	10% to 90% RH (noncondensing)
Heat Dissipation	50 BTU/hr

Enclosure

Chassis	Metal, aluminum, black finish
Faceplate	Extruded metal, black finish, polycarbonate label overlay
Mounting	Freestanding or 1 RU 19-in. rack mountable (adhesive feet and rack ears included)

Dimensions

Height	1.70 in. (44 mm) without feet
Width	17.28 in. (439 mm); 19.00 in. (483 mm) with rack ears
Depth	6.56 in. (167 mm)

Weight

3.12 lb (1.42 kg)

Compliance

Regulatory Model: M201903003;
UL® Listed for US & Canada, CE, IC, FCC Part 15 Class B digital device

Models

CP4N
4-Series™ Control System

Included Accessories

PW-2420RU
Desktop Power Pack, 24VDC, 2.5A, 2.1 mm, Universal

Available Accessories

For supported accessories, visit the CP4N product page at www.crestron.com.

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CP4N

4-Series™ Control System

Notes:

1. A BACnet and IP license is required. A free license is available to support up to 50 BACnet objects on a single 4-Series control system. Enabling support for more than 50 BACnet objects requires the purchase of one SW-3SERIES-BACNET-50+ license. The CP4N supports a maximum of 1000 BACnet objects when dedicated for BACnet use only. Actual capabilities are contingent upon the overall program size and complexity. To obtain the license, visit www.crestron.com/bacnetlicense.
2. This feature is only available when using the TSR-310. Other Crestron touch screens, handheld remotes, and keypads are not supported. For these interfaces, traditional IR or CEC control must be used to control supported Apple devices.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or contact us for additional information by visiting www.crestron.com/contact/our-locations for your local contact.

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ELEMENT 20

TS-1070

10.1 in. Tabletop Touch Screen

- *Next generation Crestron® tabletop touch screen*
- *10.1 in. (257 mm) widescreen active-matrix color display and 1920 x 1200 WUXGA display resolution*
- *Capacitive touch screen display*
- *Custom-programmable virtual control buttons*
- *Supports Crestron HTML5 and Smart Graphics® software custom user projects*
- *Built-in Rava® SIP intercom*
- *Built-in speakers and microphone*
- *H.265, H.264, or MJPEG streaming video display*
- *Native apps for Crestron Home™ OS, Sonos® home sound control, Zoom Rooms™ conferencing control, Microsoft Teams® online meeting solution, and various room scheduling services*
- *Built-in Bluetooth® communications beacon*
- *Built-in web browsing*
- *Single wire Ethernet connection with PoE or PoE+ power*
- *Wi-Fi® network connectivity*
- *USB 2.0 port*
- *Enterprise grade security and authentication*
- *Web, cloud, or device-based configuration*

The Crestron® TS-1070 is a stylish and versatile tabletop touch screen that is ideal for residential and enterprise applications. The TS-1070 features a 10.1 in. (257 mm) capacitive touch screen display with custom-programmable control buttons and support for Smart Graphics® software and HTML5-based custom UI projects. PoE and Wi-Fi® network connectivity and a modern tabletop design allow the touch screen to be deployed just about anywhere.

Advanced Touch Screen Control

The TS-1070 offers a sleek and powerful user interface for controlling technology in a home, boardroom, classroom, or command center. The touch screen provides an intuitive interface that is fully customizable with easy-to-use capacitive controls, true feedback, and real-time status display. A built-in proximity sensor wakes the screen without requiring any user interaction, and automatic brightness controls ensure optimal visibility under varying lighting conditions.

Custom-Programmable Virtual Buttons

The TS-1070 provides a universal status bar that is populated with virtual buttons for quick access to common touch screen functions. The touch screen comes preconfigured with virtual buttons for Power, Home, Lights, Up, Down, and Microphone. Each button can be programmed via a Crestron control system to provide custom functionality, and unused buttons can be hidden individually. The universal status bar is expanded or hidden using simple swipe gestures on touch screen display.

Dynamic User Interfaces

The TS-1070 supports custom user interfaces created with Crestron HTML5 User Interface and Smart Graphics technologies, allowing greater flexibility for UI developers and programmers.

- Crestron HTML5 User Interface enables UI designers to develop rich, front-end user interfaces with increased reusability and efficiency using modern web methodologies. Crestron HTML5 User Interface development tools are provided to simplify creating user interfaces built on standard web technologies
- Smart Graphics enables programmers to integrate fluid gesture-driven controls, animated feedback, rich metadata, embedded apps and widgets, and full-motion video into their user interfaces. Smart Graphics provides dynamic features such as graphical buttons and sliders, lists and toolbars, drag-and-drop objects, dashboard widgets, screensavers, and customizable themes.

Voice Recognition

With built-in voice recognition, spoken commands can be issued to the TS-1070 to quickly turn devices on or off, select and play a specific media source, change the channel, choose a lighting scene, lower the window shades, lock the doors, arm the security system, or enter a password. Simply say a command and Crestron does the rest.[1,2]

Streaming Video

Native support for H.265, H.264, and MJPEG formats allows the TS-1070 to display live streaming video from an IP camera, a streaming encoder (Crestron DM-TXRX-100-STR, or similar), or a DigitalMedia™ switcher.[3] Video is delivered to the touch screen over Ethernet, eliminating the need for any extra video wiring.

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Rava SIP Intercom

Rava SIP Intercom Technology enables hands-free VoIP communication with other Rava-enabled touch screens and door stations. Rava works over Ethernet, supporting 2-way intercom and paging without requiring any special wiring. VoIP phone capability is also possible through integration with a SIP-compatible IP phone system or SIP server, allowing hands-free telephone functionality complete with speed-dialing, caller ID, custom ringers, and other enhancements. Built-in echo cancellation affords full-duplex performance for clear, seamless voice communication using the integrated microphone and speakers.[2]

Sonos App

Sonos and Crestron have partnered to provide a powerful whole-house music experience. From any touch screen in the house, browse for tracks, artists, or playlists using all the services available from Sonos and instantly play them in any room using Sonos® wireless speakers or a Crestron Sonnex® multiroom audio system. The Sonos app runs natively on the TS-1070, enabling enhanced control of Sonos products as part of a complete Crestron system. The app checks for updates nightly so it's always current, and support for the Sonos S2 App is provided.[1]

Crestron Room Scheduling App

As part of a complete enterprise room scheduling solution, the TS-1070 can be deployed as a scheduling panel via the Crestron room scheduling app. A Crestron scheduling panel can be installed at the entrance of a meeting room to provide indication of the room's availability and a view of its schedule for the day. If desired, the room can be reserved on the spot for an ad hoc meeting. A CEN-ODT-C-POE occupancy sensor can also be paired to the touch screen, allowing for occupancy status to be reported instantly to the scheduling app for no-shows and unscheduled room usage.[3,4]

Running the Crestron Scheduling App, the TS-1070 integrates directly with Crestron Fusion® software, Microsoft Exchange Server® software (for users of Outlook® software and Office 365® software), the Google Calendar™ calendaring app (including G Suite™ software), CollegeNET® 25Live® scheduling software, or Ad Astra™ software. IBM® Notes® software is also supported through a Crestron Fusion on-premises server.

Third-Party Scheduling Apps

The TS-1070 also includes support various third-party scheduling applications. New providers are made available via firmware updates. Whatever provider you choose, setup is as simple as connecting the touch screen to the network and choosing an app from the web-based setup menu or built-in setup screens. The selected app downloads from the cloud and installs on the touch screen without any programming or control system required.[5,6]

Zoom Rooms App

The Zoom Rooms™ conferencing control application enables the TS-1070 to be used as a touch screen control panel for a Zoom Rooms software-based conferencing and collaboration solution. The TS-1070 offers a superior alternative to a consumer tablet device, providing a more reliable and secure platform. The TS-1070 may be configured to run the Zoom Rooms app exclusively, or to allow toggling between the Zoom Rooms app and touch screen control mode. The latter option is used to integrate Zoom Rooms conferencing into a larger AV system while providing touch screen control for both.[7]

NOTE: The Zoom ultrasonic proximity signal is supported up to an average of 9 ft (2.74 m) from the TS-1070 touch screen to an end user device. The range will vary based on environmental noise, the sensitivity of the end user device, and the orientation to the touch screen.

Microsoft Teams App

The Microsoft Teams® online meeting solution is the hub for teamwork in Office 365® software, engaging people through messaging, voice over IP, online meetings, conferencing, content sharing, and collaboration. The Microsoft Teams application on the TS-1070 enables presentation, calling, conferencing, and collaboration — all through a single touch screen console, with exceptional full-duplex wideband audio and HD video. A consistent user experience in every meeting space is provided via the familiar and intuitive Microsoft Teams UI, affording simple operation, built-in calendaring, and one-touch meeting joins.

NOTE: The TS-1070 must be operated in Microsoft Teams mode in conjunction with a UC-ENGINE or UC-BRKT-100-ASSY.

Crestron Home OS Control

The TS-1070 may be used to control a Crestron Home™ OS whole home solution. Select the Crestron Home app from the touch screen to control lighting, shades, climate, media, security, and cameras, including the ability to create and recall scenes that create a desired ambiance throughout a home. A TS-1070 may be installed in each room to provide easy access to various Crestron Home functions for both the room and the home.

Bluetooth Beacon

The built-in Bluetooth® proximity detection beacon enhances the intelligence and personalization of a Crestron system by enabling a smartphone or tablet device to always know what room it is in. It works with the Crestron Go App and Crestron App to determine when the mobile device is in or near the same room as the beacon, and signals the mobile app to automatically display the appropriate controls and information for the room.[2,8]

TS-1070

10.1 in. Tabletop Touch Screen

Web Browsing

Using its built-in web browser, the TS-1070 provides access to online program guides and other web-based services, and it can be used to control DVRs and other devices without having to pick up a separate tablet or smartphone.[1]

Wired and Wi-Fi Connectivity

An Ethernet LAN connection is all that is required to wire the TS-1070, containing all control, video, intercom, and power signals within a single wire.

For deployments without access to Ethernet, the touch screen can also be connected the network over Wi-Fi communications via a local wireless access point (WAP).

Power over Ethernet

Using PoE technology, the TS-1070 gets its operating power directly through the network cable. PoE (Power over Ethernet) eliminates the need for a local power supply or any dedicated power wiring. Crestron PoE switches (CEN-SW-POE-5 or CEN-SWPOE-16[3]) offer a total networking solution with built-in PoE for multiple touch screens. A PoE Injector (PWE-4803RU[3]) is also available to support a single touch screen.

NOTE: PoE+ is required when connecting a light bar or hallway sign via USB. Refer to the "Power" specifications for more details.

High-Speed USB Port

The TS-1070 provides a high-speed USB 2.0 port for connecting supported Crestron accessories to the touch screen.[3]

Enterprise-Grade Security

Crestron touch screens employ enterprise-grade networking with robust security features such as 802.1X authentication, TLS encryption, HTTPS connectivity, and Active Directory® service integration. These features are imperative to protect your network against service interruptions and malicious intrusions, and to ensure compliance with your organization's network policies. Cloud-based provisioning and management streamlines the process of configuring, monitoring, and updating every touch screen on the network. Additional support for SNMP allows the touch screen to be monitored by your IT administrator.

XiO Cloud Service

The TS-1070 is compatible with the XiO Cloud® service, which is an IoT (Internet of Things) based platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. Built on the Microsoft® Azure® software platform and utilizing Microsoft's industry-leading Azure IoT Hub technology, XiO Cloud enables installers and IT managers to deploy and manage thousands of devices in the time it previously took to manage just one. Unlike other virtual machine-based cloud solutions, Azure services provide unlimited scalability to suit the ever-growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Crestron One™ App Support

The TS-1070 is compatible with the Crestron One™ mobile room control app. The Crestron One app creates a peer-to-peer network over Bluetooth communications between a mobile device and the TS-1070 in the room, allowing mobile-optimized room controls to be pushed to the device from the touch screen. Programmers can specify the controls that display on the mobile app by mapping joins from Smart Graphics projects to the mobile project. A SW-MOBILITY license is required to enable mobile room control functionality.

Optional Mounting Accessories

The TS-770/1070-SMK allows the touch screen to be mounted permanently to a tabletop and permits up to 330 degree swivel rotation.

TS-1070

10.1 in. Tabletop Touch Screen

Specifications

Touch Screen Display

Display Type	TFT active matrix color LCD
Size	10.1 in. (257 mm) diagonal
Aspect Ratio	16:10 WUXGA
Resolution	1920 x 1200 pixels
Brightness	400 nits (cd/m^2)
Contrast	1000:1
Color Depth	24 bit, 16.7M colors
Illumination	Edgelit LED with auto brightness control
Viewing Angle	±80° horizontal, ±80° vertical
Touch Screen	Projected capacitive, 5-point multitouch capable

Buttons

Virtual Buttons	(6) Virtual buttons in collapsible universal tool bar, per-button show/hide, preconfigured with icons for Power, Home, Lights, Up, Down, and Microphone, optional custom programming via control system for additional functions
Reset	(1) Pin hole on bottom for hardware reset

Graphics Engine

Crestron HTML5 and Smart Graphics® software technology, multilanguage web browser[1], multilanguage onscreen keyboard, screensaver, single scalable streaming video window, native room scheduling applications[4,5,6], native Sonos® app[1], native Zoom Rooms™ app[7], native Microsoft Teams® app, native Crestron Home™ OS app, setup and diagnostics via web browser, cloud, or onscreen UI

Room Scheduling Support

Crestron Scheduling App	Crestron Fusion® software, Microsoft Exchange Server® and Office 365® software, Google Calendar™ calendaring app and G Suite™ software, CollegeNET® 25Live® software, and Ad Astra™ software (IBM® Notes® software is also supported through Crestron Fusion on-premises server only)[4]
Third-Party Apps	Includes support for various third-party scheduling applications.[5,6]

Languages

Smart Graphics	Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, Dutch, English (UK), English (US), Finnish, French, German, Greek, Hebrew, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Portuguese (Brazilian), Romanian, Russian, Slovak, Spanish, Swedish, Thai
Onscreen Keyboard	Arabic, Chinese (Simplified), Croatian, Czech, Danish, Dutch, English (UK), English (US), Finnish, French (Canada), French (Switzerland), German, Hebrew, Hungarian, Italian, Japanese, Norwegian Bokmal, Polish, Portuguese, Russian, Serbian, Spanish, Swedish, Turkish
Voice Recognition[1]	Afrikaans (South Africa); Chinese, Mandarin (China, Simplified); Chinese, Mandarin (Hong Kong, Simplified); Chinese, Mandarin (Taiwan, Traditional); Chinese, Yue (Hong Kong, Traditional); Czech (Czech Republic); Dutch (Netherlands); English (Australia); English (Canada); English (Generic); English (India); English (New Zealand); English (South Africa); English (UK); English (US); French (France); German (Germany); isiZulu (South Africa); Italian (Italy); Japanese (Japan); Korean (South Korea); Polish (Poland); Portuguese (Brazil); Russian (Russia); Spanish (Spain); Turkish (Turkey)
Web Browser[1]	Arabic, Bulgarian, Catalan, Chinese, Croatian, Czech, Danish, Dutch, English, Filipino, Finnish, French, German, Greek, Hebrew, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Latvian, Lithuanian, Norwegian Bokmal, Pashto, Persian, Polish, Portuguese, Romanian, Romansh, Russian, Serbian, Slovak, Slovenian, Spanish, Swedish, Thai, Turkish, Ukrainian, Vietnamese
Room Scheduling[4]	Chinese (Simplified), Chinese (Traditional), Danish, Dutch (Netherlands), English (US), English (UK), French, German, Hebrew, Italian, Japanese, Korean, Norwegian, Portuguese (Brazil), Portuguese (Portugal), Russian, Spanish, Swedish

Memory

RAM	2 GB LPDDR3
Storage	Firmware/Application: 16 GB eMMC pSLC
Maximum Project Size	600 MB

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TS-1070

10.1 in. Tabletop Touch Screen

Wired Communications

Ethernet	100 Mbps, auto switching, auto negotiating, auto discovery, full/half duplex, TCP/IP, UDP/IP, CIP, DHCP, SSL, TLS, SSH, SFTP (SSH File Transfer Protocol), IEEE 802.1X, SNMP, IPv4 or IPv6, Active Directory® service authentication, HTTPS web browser setup, XiO Cloud® client, IEEE 802.3at compliant

Wireless Communications

Transceiver	IEEE 802.11a/b/g/n/ac Wi-Fi (2.4 or 5 GHz 2-way RF), static IP or dynamic IP via DHCP
Security	64 and 128-bit WEP, WPA and WPA2-PSK with TKIP and AES
Range	Up to 50 ft (15 m), subject to site-specific conditions
Bluetooth® Hardware	Crestron Bluetooth beacon[2,8]

Streaming Decoder

Video Formats	H.265, H.264 (MPEG-4 part 10 AVC, MJPEG)
Audio Formats	AAC Stereo
Bitrates	Up to 25 Mbps (20 Mbps maximum recommended)
Input Resolutions	Up to 1920x1080@30fps
Protocol	RTSP

Audio

Features	Built-in microphone and speakers, Rava® SIP Intercom, voice recognition[1,2]
Audio Feedback Formats	MP3

Connectors

LAN PoE	(1) 8-pin RJ45 connector, female, with 2 LED indicators; 100BASE-TX Ethernet port; PoE+ PD port; Green and yellow LEDs indicate Ethernet port status
USB	(1) USB Type A connector, female; USB 2.0 host port

Power

PoE (Power over Ethernet)	IEEE 802.3at Type 2 compliant PoE+ PD (Powered Device); Normally requests 15 W from an 802.3at Type 2 PSE with LLDP advanced power management; With room scheduling and USB enabled, requests 18 W from an 802.3at Type 2 PSE with LLDP; Requests 30 W (PoE+ Class 4) from an 802.3at Type 2 PSE without LLDP; Requests 15.4 W (PoE Class 0) from an 802.3af (or 802.3at Type 1) PSE

NOTE: Enabling the USB port requires use of an 802.3at Type 2 PoE+ PSE.

Environmental

Temperature	32 to 104 °F (0 to 40 °C)
Humidity	10% to 95% RH (noncondensing)
Heat Dissipation	44 BTU/hr

Construction

Housing	Plastic, smooth black or white finish, edge-to-edge glass with black or white surround

Dimensions

Height	5.29 in. (134 mm)
Width	9.63 in. (245 mm)
Depth	4.67 in. (119 mm)

Weight

2.44 lb (1105 g)

Compliance

Regulatory Model: M201923006
IC, CE, FCC Part 15 Class B digital device

Models

TS-1070-B-S
10.1 in. Tabletop Touch Screen, Black Smooth

TS-1070-W-S
10.1 in. Tabletop Touch Screen, White Smooth

Crestron Electronics Inc.
15 Volvo Drive | Rockleigh, NJ 07647
www.crestron.com | 800.237.2041

TS-1070

10.1 in. Tabletop Touch Screen

Available Accessories

For supported accessories, visit the appropriate TS-1070 product page at www.crestron.com.

Notes:

1. Voice recognition, web browsing, weather information, and certain other functions require an Internet connection.
2. The microphone and Bluetooth® transceiver may be defeated programmatically at any time.
3. Item(s) sold separately. Refer to each product's spec sheet for complete information.
4. Room scheduling mode requires the TS-1070 to be designated exclusively for room scheduling use, which precludes use of certain features and functions described in this spec sheet. For design assistance, contact the Crestron True Blue support team at www.crestron.com/support.
5. Refer to the firmware release notes for a list of all scheduling apps that are supported by that firmware release.
6. Additional subscriptions and/or licenses may be required. Refer to each provider's website for details about the capabilities and requirements of its scheduling application and services. Third-party apps typically run on the TS-1070 as they do on a tablet device. The TS-1070 runs only one app, which is selected at setup. Only the apps approved and delivered by Crestron can run on the TS-1070.
7. A complete Zoom Rooms solution requires a mini PC or Mac computer running Zoom software, a Zoom Rooms subscription, plus additional peripherals and cables. Visit zoom.us/zoomrooms for more information about Zoom Rooms capabilities, hardware requirements, and subscription plans. For design assistance, contact the Crestron True Blue support team at www.crestron.com/support.
8. The TS-1070 provides an integrated, equivalent alternative to the standalone PP-100-W beacon. For more details, refer to the PP-100-W spec sheet. Bluetooth technology is used solely for proximity detection and does not transmit or receive any control, multimedia, or personal data. Crestron Bluetooth beacons are only visible to Bluetooth enabled devices that are specifically programmed and configured to work with them.

This product may be purchased from select authorized Crestron dealers and distributors. To find a dealer or distributor, please contact the Crestron sales representative for your area. A list of sales representatives is available online at www.crestron.com/How-To-Buy/Find-a-Representative or by calling 855-263-8754.

This product is covered under the Crestron standard limited warranty. Refer to www.crestron.com/warranty for full details.

The specific patents that cover Crestron products are listed online at patents.crestron.com.

Certain Crestron products contain open source software. For specific information, please visit www.crestron.com/opensource.

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Specifications are subject to change without notice.

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ELEMENT 21

Documentación

iPad (9.ª generación) - Especificaciones técnicas

Año de presentación: 2021

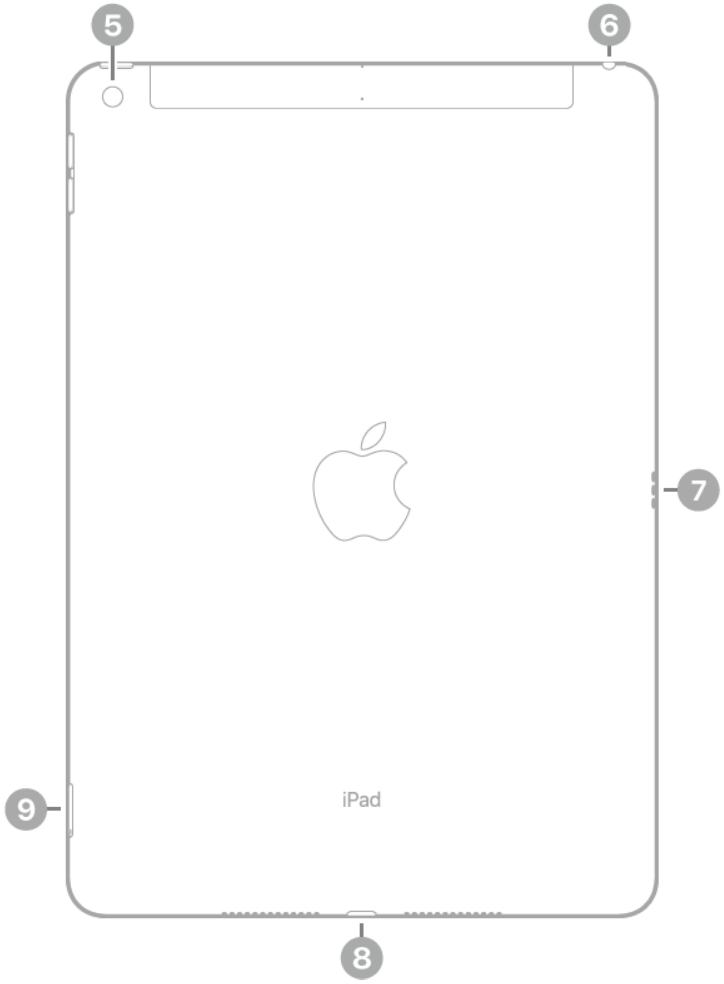
Identificar el modelo de iPad

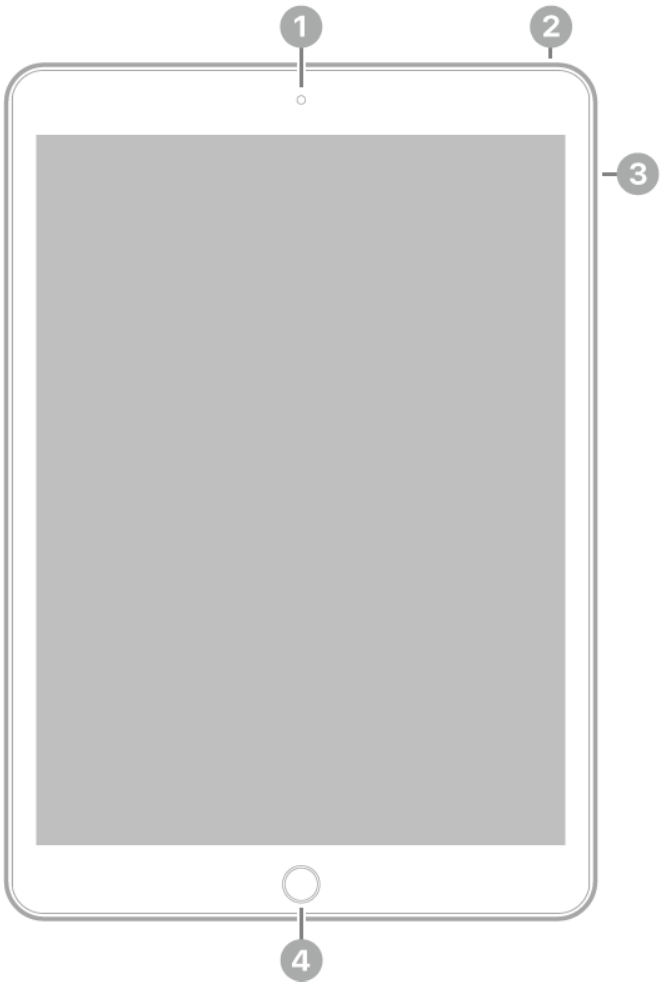
Acabado	• Plata • Gris espacial
Capacidad[1]	• 64 GB • 256 GB

Dimensiones y peso[2]

- **Modelos Wi-Fi**
  - Alto: 25,06 cm
  - Ancho: 17,41 cm
  - Fondo: 0,75 cm
  - Peso: 487 g
- **Modelos Wi-Fi + Cellular**
  - Alto: 25,06 cm
  - Ancho: 17,41 cm
  - Fondo: 0,75 cm
  - Peso: 498 g

Botones y conectores





1. Cámara delantera
2. Botón superior
3. Botones de volumen
4. Botón de inicio/Touch ID
5. Cámara trasera
6. Conector de auriculares
7. Smart Connector
8. Conector Lightning
9. Bandeja de la tarjeta SIM (Wi-Fi + Cellular)

Contenido de la caja

- iPad (9.ª generación)
- Cable de conector Lightning a USB-C
- Adaptador de corriente USB-C de 20 W

Pantalla	• Pantalla Retina • Pantalla Multi-Touch de 10,2 pulgadas (25,91 cm) en diagonal retroiluminada por LED con tecnología IPS • Resolución de 2.160 por 1.620 píxeles a 264 p/p • Pantalla True Tone • Brillo de 500 nits • Cubierta oleófuga antihuellas • Compatible con el Apple Pencil (1.ª generación)
Chip	• Chip A13 Bionic • Neural Engine
Cámara	• Gran angular de 8 Mpx • Apertura de ƒ/2,4 • Zoom digital hasta x5 • Lente de cinco elementos • Fotos panorámicas (hasta 43 Mpx) • HDR para fotos • Geoetiquetado de fotos • Estabilización automática de imagen • Modo ráfaga
Grabación de vídeo	• Grabación de vídeo en 1080p HD a 25 o 30 f/s • Grabación de vídeo en 720p HD a 30 f/s • Zoom de 3 aumentos para vídeo • Vídeo a cámara lenta en 720p a 120 f/s • Vídeo en time-lapse con estabilización • Estabilización de vídeo • Estabilización de vídeo con calidad de cine (1080p y 720p) • Enfoque automático continuo • Reproducción con zoom • Grabación de vídeo en formato HEVC y H.264

Cámara frontal	• Ultra gran angular de 12 Mpx y campo de visión de 122º • Apertura de ƒ/2,4 • HDR para fotos • Grabación de vídeo en 1080p HD a 25, 30 o 60 f/s • Vídeo en time-lapse con estabilización • Rango dinámico ampliado para vídeo hasta 30 f/s • Estabilización de vídeo con calidad de cine (1080p y 720p) • Corrección del objetivo • Retina Flash • Estabilización automática de imagen • Modo ráfaga
Videollamadas[3]	• Videollamadas con FaceTime • Encuadre Centrado • Del iPad a cualquier dispositivo con FaceTime vía wifi o red móvil
Llamadas de voz[3]	• Llamadas de voz con FaceTime • Del iPad a cualquier dispositivo con FaceTime vía wifi o red móvil
Altavoces	• Altavoces estéreo
Micrófonos	• Doble micrófono para llamadas y grabación de vídeo y audio

Redes móviles e inalámbricas	• **Todos los modelos**
	  ○ Wi-Fi 5 (802.11ac) con MIMO 2x2; velocidades de hasta 866 Mb/s
	  ○ Bluetooth 4.2
	• **Modelos Wi-Fi + Cellular**
	  ○ Modelo A2603:
	  ○ UMTS/HSPA/HSPA+/DC-HSDPA (850, 900, 1.700/2.100, 1.900 y 2.100 MHz)
	  ○ LTE de clase Gigabit (bandas 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 17, 18, 19, 20, 21, 25, 26, 29, 30, 34, 38, 39, 40, 41, 66 y 71)[4]
	  ○ Solo datos[5]
	  ○ Llamadas vía wifi[4]
	  ○ eSIM[6]
	Más información sobre los datos móviles

Tarjeta SIM	• Nano SIM • eSIM[6]

Geolocalización	• **Todos los modelos**
	  ○ Brújula digital
	  ○ Wifi
	  ○ Microlocalización iBeacon
	• **Modelos Wi-Fi + Cellular**
	  ○ GPS/GNSS
	  ○ Redes móviles

Sensores	• Touch ID • Giroscopio de tres ejes • Acelerómetro • Barómetro • Sensor de luz ambiental
Touch ID	• Desbloqueo del iPad • Protección de datos personales en las apps • Compras en el iTunes Store, App Store y Apple Books
Apple Pay	• Usa Touch ID para pagar en apps y páginas web con tu iPad Más información sobre Apple Pay
Siri[7]	• Envía mensajes, añade recordatorios y mucho más con tu voz • Recibe sugerencias proactivas • Usa el modo manos libres • Escucha e identifica canciones Más información sobre Siri

Compatibilidad con monitores

- Salida de vídeo digital
  - Salidas VGA, HDMI y DVI mediante adaptadores (se venden por separado)
- Vídeo en espejo
  - AirPlay para duplicación de pantalla y salida de fotos y vídeo a través del Apple TV (2.ª generación o posterior) o de un televisor inteligente con AirPlay 2
  - Compatibilidad con vídeo en espejo y salida de vídeo: hasta 1080p a través del adaptador de conector Lightning a AV digital y el adaptador de conector Lightning a VGA (se venden por separado)

Batería y alimentación[8]

- **Todos los modelos**
  - Batería recargable integrada de polímeros de litio de 32,4 vatios hora
  - Hasta 10 horas de navegación por internet vía wifi o de reproducción de vídeo
  - Carga por adaptador de corriente o por conexión USB-C a un ordenador
- **Modelos Wi-Fi + Cellular**
  - Hasta 9 horas de navegación por internet a través de redes móviles

Sistema operativo

iPadOS

iPadOS está repleto de prestaciones y apps integradas que se han diseñado para aprovechar toda la potencia del iPad.

Más información sobre iPadOS

Manual de uso del iPad

Accesibilidad

Prestaciones de accesibilidad integradas para que las personas con problemas de visión, audición, motricidad y aprendizaje le saquen todo el partido al iPad.

Obtén más información sobre Accesibilidad

Prestaciones incluidas:

- VoiceOver
- Zoom
- Lupa
- Contenido Leído
- Control por Voz
- Control por Botón
- AssistiveTouch
- Siri y Dictado
- Escribir a Siri
- Texto en Tiempo Real
- Audiodescripciones
- Subtítulos Opcionales
- Subtítulos en Vivo (beta)

Apps integradas	• App Store • Libros • Calendario • Cámara • Reloj • Contactos • FaceTime • Freeform • Archivos • Buscar • Casa • iTunes Store • Lupa • Mail • Mapas • Medidas • Mensajes • Música • Notas • Photo Booth • Fotos • Podcasts • Recordatorios • Safari • Ajustes • Atajos • Siri • Bolsa • Consejos • Traducir • TV • Notas de Voz • Tiempo
Apps gratuitas de Apple	*Pages, Numbers, Keynote, iMovie, GarageBand, Clips y la app Apple Store vienen preinstaladas en el iPad.*

- Pages
- Numbers
- Keynote
- iMovie
- GarageBand
- Apple Store
- Clips
- Swift Playgrounds
- Soporte

Requisitos del sistema

- ID de Apple (para algunas prestaciones)
- Acceso a internet[9]
- La sincronización con un Mac o PC requiere:
  - macOS Catalina 10.15 o posterior con el Finder
  - De macOS El Capitan 10.11.6 a macOS Mojave 10.14.6 con iTunes 12.8 o posterior
  - Windows 10 o posterior con iTunes 12.12.10 o posterior (descarga gratuita desde itunes.com/es/download)

Idiomas

- **Idiomas compatibles**
  - Alemán, árabe, búlgaro, catalán, checo, chino (simplificado, tradicional y de Hong Kong), coreano, croata, danés, eslovaco, español (de España y Latinoamérica), finés, francés (de Canadá y Francia), griego, hebreo, hindi, húngaro, indonesio, inglés (de Australia, Estados Unidos y Reino Unido), italiano, japonés, kazajo, malayo, neerlandés, noruego, polaco, portugués (de Brasil y Portugal), rumano, ruso, sueco, tailandés, turco, ucraniano y vietnamita
- **Idiomas compatibles con el teclado QuickType**
  - Ainu, albanés, alemán (de Alemania, Austria y Suiza), amárico, apache (occidental), árabe, árabe (najdí), armenio, asamés, asirio, azerí, bengalí, bielorruso, birmano, bodo, búlgaro, cachemir (árabe y devanagari), canarés, cantonés tradicional (cangjie, fonético, manual, sucheng y wubihua), catalán, checo, cheroqui, chino simplificado (manual, pinyin de 10 teclas, pinyin QWERTY, shuangpin y wubihua), chino tradicional (cangjie, manual, pinyin de 10 teclas, pinyin QWERTY, shuangpin, sucheng, wubihua y zhuyin), cingalés, coreano (estándar y de 10 teclas), croata, danés, divehi, dogri, dzongkha, emoji, eslovaco, esloveno, español (de España, Latinoamérica y México), estonio, feroés, filipino, finés, flamenco, francés (de Bélgica, Canadá, Francia y Suiza), fula (adlam), gaélico irlandés, galés, georgiano, griego, gujarati, hawaiano, hebreo, hindi (devanagari, latino y transliteración), húngaro, igbo, indonesio, inglés (de Australia, Canadá, Estados Unidos, India, Japón, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), islandés, italiano, japonés (kana y romaji), jemer, kazajo, kirguís, konkaní (devanagari), kurdo (árabe y latino), laosiano, letón, lituano, macedonio, maithili, malayalam, malayo (árabe y latino), maltés, manipurí (bengalí y alfabeto meetei), maorí, maratí, mongol, navajo, neerlandés, nepalí, noruego (bokmål y nynorsk), oriya, pastún, persa, persa (de Afganistán), polaco, portugués (de Brasil y Portugal), punyabí, rohinyá, rumano, ruso, sánscrito, santali (alfabeto Ol Chiki y devanagari), serbio (cirílico y latino), sindi (árabe y devanagari), suajili, sueco, tailandés, tamil (anjal y tamil 99), tayiko, telugu, tibetano, tongano, turco, turcomano, ucraniano, uigur, urdu, uzbeko (árabe, cirílico y latino) y vietnamita
- **Idiomas compatibles con el teclado QuickType y el autocorrector**
  - Alemán (de Alemania, Austria y Suiza), árabe, árabe (najdí), bengalí, búlgaro, catalán, checo, cheroqui, chino simplificado (pinyin QWERTY), chino tradicional (pinyin QWERTY y zhuyin), coreano (estándar y de 10 teclas), croata, danés, eslovaco, esloveno, español (de España, Latinoamérica y México), estonio, filipino, finés, francés (de Bélgica, Canadá, Francia y Suiza), gaélico irlandés, griego, gujarati, hawaiano, hebreo, hindi (devanagari, latino y transliteración), húngaro, indonesio, inglés (de Australia, Canadá, Estados Unidos, India, Japón, Reino Unido, Nueva Zelanda, Singapur y Sudáfrica), islandés, italiano, japonés (kana y romaji), letón, lituano, macedonio, malayo, maratí, neerlandés, neerlandés (de Bélgica), noruego (bokmål y nynorsk), persa, persa (de Afganistán), polaco, portugués (de Brasil y Portugal), punyabí, rumano, ruso, serbio (cirílico y latino), sueco, tailandés, tamil (anjal y tamil 99), telugu, turco, ucraniano, urdu y

vietnamita (telex)

- **Idiomas compatibles con el teclado QuickType y la escritura predictiva**
  - Alemán (de Alemania, Austria y Suiza), árabe, árabe (najdí), cantonés (tradicional), chino (simplificado y tradicional), coreano, español (de España, Latinoamérica y México), francés (de Bélgica, Canadá, Francia y Suiza), hindi (devanagari y latino), inglés (de Australia, Canadá, Estados Unidos, India, Japón, Reino Unido, Singapur y Sudáfrica), italiano, japonés, neerlandés, portugués (de Brasil y Portugal), ruso, sueco, tailandés, turco y vietnamita
- **Idiomas compatibles con el teclado QuickType y la escritura multilingüe**
  - Alemán (de Alemania, Austria y Suiza), chino simplificado (pinyin), chino tradicional (pinyin), español (de España, Latinoamérica y México), francés (de Bélgica, Canadá, Francia y Suiza), hindi (latino), inglés (de Australia, Canadá, Estados Unidos, India, Japón, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), italiano, japonés (romaji), neerlandés (de Bélgica y Países Bajos), portugués (de Brasil y Portugal) y vietnamita
- **Idiomas compatibles con el teclado QuickType y las sugerencias contextuales**
  - Alemán (de Alemania, Austria y Suiza), árabe, árabe (najdí), chino (simplificado), español (de España, Latinoamérica y México), francés (de Bélgica, Canadá, Francia y Suiza), hindi (devanagari y latino), inglés (de Australia, Canadá, Estados Unidos, India, Japón, Reino Unido, Singapur y Sudáfrica), italiano, neerlandés (de Bélgica y Países Bajos), portugués (de Brasil), ruso, sueco, turco y vietnamita
- **Idiomas compatibles con el teclado QuickPath**
  - Alemán (de Alemania, Austria y Suiza), árabe, árabe (najdí), chino simplificado (pinyin QWERTY), chino tradicional (pinyin QWERTY), español (de España, Latinoamérica y México), francés (de Canadá, Francia y Suiza), hindi (devanagari y latino), inglés (de Australia, Canadá, Estados Unidos, India, Japón, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), italiano, neerlandés (de Países Bajos), portugués (de Brasil y Portugal), sueco y vietnamita
- **Idiomas de Siri**
  - Alemán (de Alemania, Austria y Suiza), árabe (de Arabia Saudí y Emiratos Árabes Unidos), coreano (de Corea del Sur), cantonés (de China continental y Hong Kong), chino mandarín (de China continental y Taiwán), danés (de Dinamarca), español (de Chile, España, Estados Unidos y México), finés (de Finlandia), francés (de Bélgica, Canadá, Francia y Suiza), hebreo (de Israel), inglés (de Australia, Canadá, Estados Unidos, India, Irlanda, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), italiano (de Italia y Suiza), japonés (de Japón), malayo (de Malasia), neerlandés (de Bélgica y Países Bajos), noruego (de Noruega), portugués (de Brasil), ruso (de Rusia), sueco (de Suecia), tailandés (de Tailandia) y turco (de Turquía)
- **Idiomas de Dictado**
  - Alemán (de Alemania, Austria y Suiza), árabe (de Arabia Saudí, Catar, Emiratos Árabes Unidos, Kuwait), cantonés (de China

continental y Hong Kong), catalán, checo, chino mandarín (de China continental y Taiwán), coreano, croata, danés, eslovaco, español (de Chile, Colombia, España, Estados Unidos y México), francés (de Bélgica, Canadá, Francia, Luxemburgo y Suiza), finés, griego, hebreo, hindi, húngaro, indonesio, inglés (de Arabia Saudí, Australia, Canadá, Emiratos Árabes Unidos, Estados Unidos, Filipinas, India, Irlanda, Malasia, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), italiano (de Italia y Suiza), japonés, malayo, neerlandés (de Bélgica y Países Bajos), noruego (bokmål), polaco, portugués (de Brasil y Portugal), rumano, ruso, shanghainés (de China continental), sueco, tailandés, turco, ucraniano y vietnamita

- **Idiomas con diccionario monolingüe**
  - Alemán, chino (simplificado, tradicional y tradicional de Hong Kong), coreano, danés, español, francés, hebreo, hindi, inglés (de Estados Unidos y Reino Unido), italiano, japonés, neerlandés, noruego, portugués, ruso, sueco, tailandés y turco
- **Idiomas con diccionario de frases hechas**
  - De chino simplificado y tradicional a inglés y de cantonés a inglés
- **Idiomas con diccionario bilingüe**
  - De alemán a inglés, de árabe a inglés, de bengalí a inglés, de chino (simplificado) a inglés, de chino (tradicional) a inglés, de checo a inglés, de coreano a inglés, de español a inglés, de finés a inglés, de francés a inglés y alemán, de gujarati a inglés, de hindi a inglés, de húngaro a inglés, de indonesio a inglés, de italiano a inglés, de japonés a inglés y chino (simplificado), de neerlandés a inglés, de polaco a inglés, de portugués a inglés, de ruso a inglés, de tailandés a inglés, de tamil a inglés, de telugu a inglés, de urdu a inglés y de vietnamita a inglés
- **Idiomas con diccionario de sinónimos**
  - Chino simplificado e inglés (de Estados Unidos y Reino Unido)
- **Revisión ortográfica**
  - Alemán (de Alemania, Austria y Suiza), árabe, árabe (najdí), búlgaro, checo, danés, español (de España, Latinoamérica y México), finés, francés (de Bélgica, Canadá, Francia y Suiza), gaélico irlandés, griego, hindi (devanagari), húngaro, inglés (de Australia, Canadá, Estados Unidos, India, Japón, Nueva Zelanda, Reino Unido, Singapur y Sudáfrica), italiano, neerlandés (de Bélgica y Países Bajos), noruego (b), polaco, portugués (de Brasil y Portugal), punyabí, rumano, ruso, sueco, telugu, turco y vietnamita
- **Países compatibles con Apple Pay**
  - Alemania, Arabia Saudí, Argentina, Armenia, Australia, Austria, Azerbaiyán, Baréin, Bielorrusia, Bélgica, Brasil, Bulgaria, Canadá, Catar, China continental,[10] Chipre, Ciudad del Vaticano, Colombia, Costa Rica, Croacia, Dinamarca, Emiratos Árabes Unidos, Eslovaquia, Eslovenia, España, Estados Unidos, Estonia, Finlandia, Francia, Georgia, Grecia, Groenlandia, Guernsey, Hong Kong, Hungría, Irlanda, Isla de Man, Islandia, Islas Feroe, Israel, Italia, Japón, Jersey, Kazajistán, Letonia, Liechtenstein, Lituania, Luxemburgo, Macao, Malasia, Malta, México, Moldavia, Mónaco, Montenegro, Noruega, Nueva Zelanda, Países Bajos, Palestina, Perú, Polonia, Portugal, Reino Unido, República Checa, Rumanía, Rusia, San Marino, Serbia, Singapur, Sudáfrica, Suecia, Suiza

Rusia, San Marino, Serbia, Singapur, Sudáfrica, Suecia, Suiza, Taiwán y Ucrania

Reproducción de vídeo

- Formatos compatibles: HEVC y H.264 (entre otros)
- Compatibilidad con contenido Dolby Vision y HDR10

Reproducción de audio

- Formatos compatibles: AAC, MP3, Apple Lossless, FLAC, Dolby Digital, Dolby Digital Plus y Dolby Atmos (entre otros)
- Límite de volumen configurable por el usuario

Adjuntos de correo compatibles

- **Tipos de documento visibles**
  - .jpg, .tiff y .gif (imágenes); .doc y .docx (Microsoft Word); .htm y .html (páginas web); .key (Keynote); .numbers (Numbers); .pages (Pages); .pdf (Vista Previa y Adobe Acrobat); .ppt y .pptx (Microsoft PowerPoint); .txt (texto); .rtf (formato de texto enriquecido); .vcf (información de contacto); .xls y .xlsx (Microsoft Excel); .zip; .ics, .usdz y .pkpass (Cartera)

Requisitos ambientales

- Temperatura de funcionamiento: de 0 a 35 °C
- Temperatura de almacenamiento: de -20 a 45 °C
- Humedad relativa: del 5 al 95 % sin condensación
- Altitud máxima de funcionamiento: probado hasta 3.000 m

El iPad y el medio ambiente

El iPad se ha diseñado con las siguientes características para reducir su impacto medioambiental.[11]

Más información sobre el informe medioambiental del iPad (PDF)

Mejores materiales

- Carcasa de aluminio 100 % reciclado
- Tierras raras 100 % recicladas en los imanes de la carcasa
- Estaño 100 % reciclado en la soldadura de la placa base principal
- Varios componentes con un 35 % o más de plástico reciclado

Eficiencia energética

- Certificación ENERGY STAR®[12]

Química inteligente[13]

- Vidrio de la pantalla sin arsénico
- Sin mercurio, BFR, PVC ni berilio

Producción ecológica

- El programa de cero residuos de Apple ayuda a nuestros proveedores a no desechar ningún material en vertederos
- Todos nuestros proveedores de montaje final están adoptando el uso exclusivo de energía renovable en la fabricación de productos Apple

Embalaje sostenible

- El 100 % de la fibra virgen de madera procede de bosques gestionados de forma responsable
- Embalaje compuesto por un 90 % o más de fibra

Apple y el medio ambiente

Queremos fabricar nuestros productos sin extraer recursos de la tierra, y ser neutros en carbono en todas nuestras actividades y productos para 2030.

Más información sobre el compromiso de Apple con el medio ambiente

◊ Las pantallas tienen las esquinas redondeadas. Si se mide como un rectángulo en diagonal, la pantalla del iPad Pro de 12,9 pulgadas tiene 12,9 pulgadas, la del iPad Pro de 11 pulgadas tiene 11 pulgadas, la del iPad Air y el iPad (10.ª generación) tiene 10,86 pulgadas y la del iPad mini tiene 8,3 pulgadas. La superficie real de visión es inferior.

◊◊ Se requiere un plan de datos. Las redes 5G y 4G LTE solo están disponibles en algunos países y con determinados operadores. La velocidad se basa en datos teóricos y puede variar según el operador y las condiciones del lugar. Para obtener más información sobre la compatibilidad con redes 5G y LTE, ponte en contacto con tu operador y consulta la página apple.com/es/ipad/cellular.

◊◊◊ Para usar el Apple Pencil con el iPad de 10.ª generación se requiere un adaptador de USB-C.

1. El espacio disponible es menor y depende de muchos factores. La capacidad puede variar según la versión de software, los ajustes y el modelo de iPad. 1 GB = 1.000 millones de bytes. 1 TB = 1 billón de bytes. La capacidad formateada real es inferior.
2. El peso y las dimensiones pueden variar según la configuración y el proceso de fabricación.
3. Las llamadas FaceTime requieren un dispositivo compatible con FaceTime y conexión wifi tanto para quien realiza la llamada como para quien la recibe. La disponibilidad a través de la red móvil depende de las condiciones de cada operador. Consulta las tarifas de datos aplicables.
4. Se requiere un plan de datos. Las redes LTE de clase Gigabit y las llamadas vía wifi solo están disponibles en algunos países y con determinados operadores. La velocidad se basa en datos teóricos y puede variar según el operador y las condiciones del lugar. Para obtener más información sobre la compatibilidad con redes LTE, ponte en contacto con tu operador y consulta la página apple.com/es/ipad/cellular/networks.
5. El plan de datos móviles se vende por separado. El modelo que compres está configurado para funcionar con una determinada red de telefonía móvil. Consulta a tu operador la compatibilidad y la disponibilidad del plan de datos móvil.
6. La eSIM no es compatible con todos los operadores. Consulta los detalles con tu operador. No está disponible en China continental.
7. Siri no está disponible en todos los idiomas ni países, y sus prestaciones pueden variar en función del país. Requiere acceso a internet. Consulta las tarifas de datos aplicables.
8. Pruebas realizadas por Apple en agosto de 2021 con prototipos del iPad (9.ª generación) y versiones beta de software. Las pruebas consistieron en agotar la batería realizando las siguientes tareas: reproducción de vídeo y navegación por internet a través de redes wifi o móviles (los modelos con conexión móvil estaban conectados a redes LTE). El contenido de vídeo era una película de 2 horas y 23 minutos adquirida en el iTunes Store que se reprodujo repetidamente. Las pruebas de uso de internet por wifi o redes móviles se realizaron empleando servidores web dedicados y navegando por versiones guardadas de 20 páginas web populares. Se utilizaron los ajustes por omisión, con las siguientes excepciones: la conexión wifi, que estaba asociada a una red (salvo en la navegación por internet a través de redes móviles); las opciones Preguntar para Acceder y Brillo Automático, que estaban desactivadas; el brillo, que estaba ajustado al 50 %; y el cifrado WPA2, que estaba activado. La duración de la batería depende de los ajustes del dispositivo, el uso, la red y otros muchos factores. Las pruebas de batería se realizan con unidades de iPad específicas; los resultados reales pueden variar.
9. Se recomienda conexión inalámbrica de banda ancha (se aplicarán las tarifas correspondientes).
10. En China continental puedes usar Apple Pay a través de Safari solo en los modelos de iPhone y iPad compatibles con iOS 11.2 o posterior.
11. Información actualizada a fecha del lanzamiento del producto.
12. ENERGY STAR y el distintivo ENERGY STAR son marcas comerciales registradas de la Agencia de Protección Ambiental de Estados Unidos.
13. Apple define sus restricciones en materia de sustancias nocivas, incluidas las relativas a lo que Apple considera «sin», en la Especificación sobre Sustancias Reguladas de Apple. Ningún producto Apple contiene PVC ni ftalatos, salvo los cables de

ELEMENT 22

IPORT DATA SHEET

CONNECT PRO Case and Stations

WIRELESS CHARGING & MOUNTING SYSTEM

With our all-new comprehensive selection of stationary and removable CONNECT PRO solutions, we introduce next-level charging abd hardwire data technology that can be simply executed through a single Cat5 cable with CONNECT PRO PoE+ Network Adapter.

THE SYSTEM

CONNECT PRO is the completely redesigned system for holding, charging, and protecting iPad. This direct replacement for IPORT LAUNCH includes the familiar components: BaseStation, WallStation, and Case, now with an optional CONNECT PoE+ Network Adapter. The electrical charging enhancements and a uniquely modular design provide a powerful and more flexible charging capability that supports all iPad models, including iPad Pro.

CASE **STATIONS** **THE SYSTEM**

CASE

DEVICE ACCESSIBILITY
Access to All iPad Buttons, Speakers, Cameras and Microphones

MODULAR DESIGN
Ability to Upgrade Case for Future iPad Generations without Replacing Electrical Component

SYMMETRICAL BEZEL DESIGN

INTEGRATED HAND STRAP
Optional

MULTIPLE CHARGING INTERFACES
Allow for Single Charging or Multi Unit Charging in Large Scale Deployments

PROTECTIVE CASE
Protects iPad from Drops and Falls Up to 2 Meters

*Available in Black and White

IPAD MINI (A17 PRO)

72329 BLACK
72330 WHITE

IPAD 10.2-INCH (8TH - 9TH GEN)

72300 BLACK
72301 WHITE

IPAD (10TH GEN)

72340 BLACK

72341 WHITE

72447 V3 BLACK ***(OPTIMIZED FOR DOCKING FOR ENTERPRISE USE)***

IPAD AIR 11” (M2)

72324 BLACK
72325 WHITE

IPAD AIR 13” (M2)

72326 BLACK
72327 WHITE

ELEMENT 23

IPORT DATA SHEET

CONNECT PRO Case and Stations

WIRELESS CHARGING & MOUNTING SYSTEM

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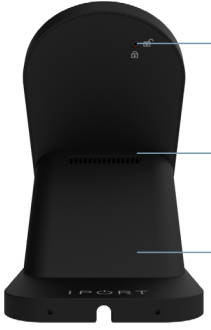
CASE **STATIONS** **THE SYSTEM**

BASESTATION

CHARGING PINS
Engage with CONNECT PRO Case to Power iPad

ORIENTATION
Easily Place iPad in Landscape or Portrait Orientation

BASE LOCK SECURITY
Optional Locking to Secure BaseStation to Table or Hard Surface



INTEGRATED CASE LOCK
Option to secure the Case to BaseStation with a Key Lock

OPTIONAL POE+ POWER
Connect a PoE+ Switch or Injector from Cat5 Cable for Power

POWER
DC or Optional PoE+

*Available in Black and White

BASESTATION

72352 BLACK

72353 WHITE

ACCESSORIES

72101 CONNECT POE+ NETWORK ADAPTER

72106 CONNECT POE+ INJECTOR

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iPad is a registered trademark of Apple Inc. in the United States and other countries.

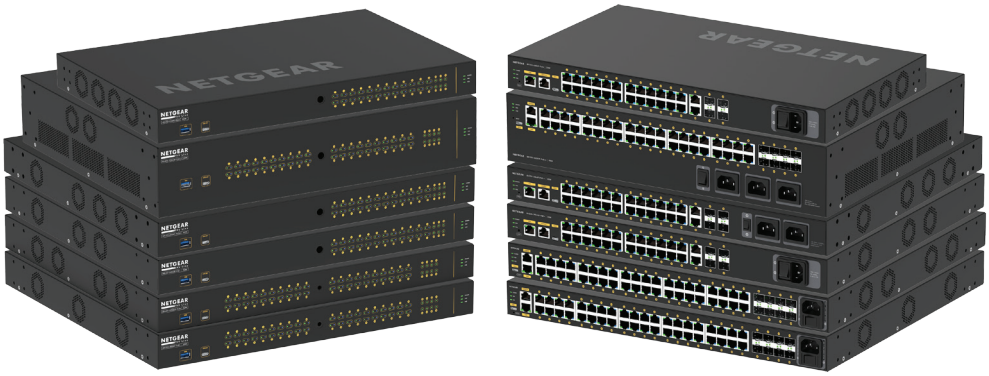
ELEMENT 24

NETGEAR®

AV Line

Datasheet | **M4250 series**

AV Line Managed Switches



Switching Engineered for AV over IP

Introducing the NETGEAR AV Line of M4250 Switches, developed and engineered for audio/video professionals with dedicated service and support. M4250 has been built from the ground up for the growing AV over IP market, combining years of networking expertise in AV with M4300 and M4500 series with best practices from leading experts in the professional AV market. AV codecs generally use 1Gbps or 10Gbps per stream and the AV Line of M4250 targets the widespread 1Gbps codecs.

PoE+, Ultra90 PoE++ and rear-facing ports ensure a clean integration in AV racks. M4250 switches come pre-configured for standard audio and video signals. When requirements are more specific, an AV user interface offers customization with port-based profiles. For audio, Dante, Q-SYS, AES67, and AVB profiles are available. For video the M4250 offers profiles for NVX, AMX, Q-SYS, NDI, Dante etc. as well as audio/video/control mixed profiles. When multiple switches are used, NETGEAR IGMP Plus™ brings automation for you to just connect them together, or with M4300 and M4500 switches.

Highlights

Extended AV features

- Dedicated AV web-based GUI interface for more specific AV installations
- Color-based AV profiles can be applied to the different ports
- Dante, Q-SYS, AES67 and AVB audio profiles
- NVX, SVSI, Q-SYS, NDI and Dante video profiles
- Audio / video / control mixed profiles
- Automatic switch interconnect with NETGEAR Auto-Trunk, Auto-LAG and IGMP Plus
- Common Layer 2 and Layer 3 switching engine across all M4250 models
- Built-in IT web GUI, console, telnet and SSH consistent with other NETGEAR M4300 and M4500 series
- Feature set includes static, RIP and PIM routing, DHCP Server and PTPv2

Audio Video Bridging (AVB) services

- AVB is one of the many features designed into the M4250 product line
- AVB is an industry standard for transporting content over a network
- AVB is used most often when very low latency is required such as in live performances when lip sync is critical

Other IT use cases

- Standard or recessed mounting with all ports in the back, or all ports in the front
- Fully featured L2/L3/L4 platform for midsize Enterprise campus networks, IoT and IPTV

Industry standard management

- Industry standard command line interface (CLI), main NETGEAR IT web interface (GUI), SNMP, sFlow and RSPAN
- The NETGEAR Engage™ Controller manages all M4250, M4300, M4350, and M4500 switches for your AV installations.

Industry leading warranty

- NETGEAR M4250 series is covered under NETGEAR ProSAFE Limited Lifetime Hardware Warranty*
- 90 days of Technical Support via phone and email, Lifetime Technical Support through online chat and Lifetime Next Business Day hardware replacement

Hardware-at-a-Glance

			REAR (REVERSIBLE)*					LEDs	MANAGEMENT	
Model Name	Form-Factor	Switching Fabric	10/100/1000 BASE-T RJ45 ports	100/1000/2.5G BASE-T RJ45 ports	1000BASE-X SFP ports	1000/10G BASE-X SFP+ ports	PSU	Status Information	Out-of-band Console	Model Number
M4250-9G1F-PoE+	Desktop 210 x 40 x 140mm	20 Gbps	8 ports PoE+ (110W) 1 additional port	-	1 port SFP 1G	-	1 x External Power Adapter (130W)	In Front: Power LED PoE Max LED Fan LED (GSM4210PX only)	Ethernet: 1G Out-of-band (Rear) Console: USB-C (Front) Storage: USB-A (Rear)	GSM4210PD
M4250-8G2XF-PoE+	Desktop 210 x 40 x 140mm	56 Gbps	8 ports PoE+ (220W)	-	-	2 ports SFP+ 1G; 10G	1 x External Power Adapter (254W)			GSM4210PX
M4250-10G2F-PoE+	1U rackmount 440 x 43.2 x 200mm	24 Gbps	8 ports PoE+ (125W) 2 additional ports	-	2 ports SFP 1G	-	1 x Fixed (C14) On/off switch	Available both in front and in the rear: Power LED PoE Max LED (PoE models) Fan LED Port LEDs	Ethernet: 1G Out-of-band (Rear) Console: RJ45 RS232 (Rear) Console: USB-C (Rear) Storage: USB-A (Front) LED Ext: USB-C (Front)	GSM4212P
M4250-10G2XF-PoE+	1U rackmount 440 x 43.2 x 200mm	60 Gbps	8 ports PoE+ (240W) 2 additional ports	-	-	2 ports SFP+ 1G, 10G	1 x Fixed (C14) On/off switch			GSM4212PX
M4250-10G2XF-PoE++	1U rackmount 440 x 43.2 x 257mm	60 Gbps	8 ports PoE++** (720W) 2 additional ports	-	-	2 ports SFP+ 1G, 10G	1 x Fixed (C14) On/off switch			GSM4212UX
M4250-26G4F-PoE+	1U rackmount 440x43.2x257mm	60 Gbps	24 ports PoE+ (300W) 2 additional ports	-	4 ports SFP 1G		1 x Fixed (C14) On/Off switch			GSM4230P
M4250-26G4F-PoE++	1U rackmount 440x43.2x400mm	60 Gbps	24 ports PoE++ (1,440W)** (1 PSU/720W; 2 PSU/1,440W) 2 additional ports	-	4 ports SFP 1G		2 x Fixed (C14) On/Off switch			GSM4230UP
M4250-26G4XF-PoE+	1U rackmount 440x43.2x400mm	132 Gbps	24 ports PoE+ (480W) 2 additional ports	-	-	4 ports SFP+ 1G; 10G	1 x Fixed (C14) On/Off switch			GSM4230PX
M4250-40G8F-PoE+	1U rackmount 440x43.2x400mm	96 Gbps	40 ports PoE+ (480W)	-	8 ports SFP 1G		1 x Fixed (C14) On/Off switch			GSM4248P
M4250-40G8XF-PoE+	1U rackmount 440x43.2x400mm	240 Gbps	40 ports PoE+ (960W)	-	-	8 ports SFP+ 1G; 10G	1 x Fixed (C14) On/Off switch			GSM4248PX
M4250-40G8XF-PoE++	2U rackmount 440x86.4x350mm	240 Gbps	40 ports PoE++ (2,880W)** (1 PSU/720W; 2 PSU/1,650W; 3 PSU/2,880W)	-	-	8 ports SFP+ 1G; 10G	3 x Fixed (C14) On/Off switch			GSM4248UX
M4250-12M2XF	1U rackmount 440x43.2x100mm	100 Gbps	-	12 ports 100M, 1G, 2.5G	-	2 ports SFP+ 1G, 10G	1 x Fixed (C14) On/Off switch			MSM4214X
M4250-16XF	1U rackmount 440x43.2x200mm	320 Gbps	-	-	-	16 ports SFP+ 10G only (First 12 ports support 1G)	1 x Fixed (C14) On/Off switch			XSM4216F

* Reversed mounting is possible when ports are desired on the front of the rack by using the standard rackmount ears, or the included alternate rackmount ears to mount the switch recessed by 2-Inches to allow for the cabling.

** Ultra90 PoE++ 802.3bt is compatible with 802.3af PoE (15.4W), 802.3at PoE+ (30W) and 802.3bt (60W, 75W and 90W).

GSM4210PX
GSM4210PD

Acoustic-at-a-Glance

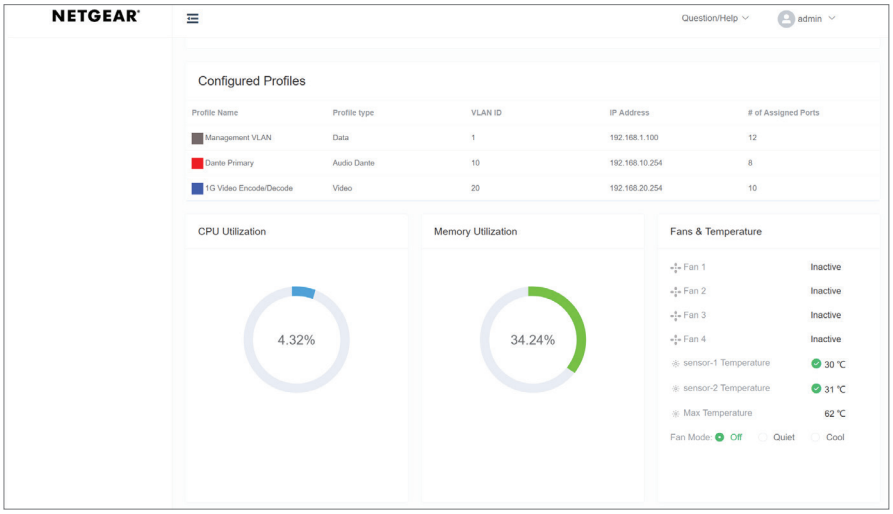
	FAN OFF MODE Setting / maximum loading*					QUIET MODE Setting at 25°C ambient**					COOL MODE Setting at 25°C ambient**			
Model Name	Fanless State	Ambient	Sensor	PoE Power Load	Conditions	PoE Power Load	Fan Duty	Sensor	Case Temp (Top)	Acoustic	Fan Duty	Case Temp (Top)	Acoustic	Model Number
M4250-9G1F-PoE+	The switch is fanless	25°C	50°C	110W	All ports can be used	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	GSM4210PD
M4250-8G2XF-PoE+	0dBA / 37.4°C Case Temp	25°C	S1&2 <= 60°C S3 <= 58°C	180W	RJ45 ports only (no SFP+)	220W	10	<= 60°C	33.6°C	19.3dBA	100	28.8°C	35.3dBA	GSM4210PX
M4250-10G2F-PoE+	0dBA / 41.8°C Case Temp	25°C	<= 42°C	80W	All ports can be used	125W	25	<= 36°C	35.9°C	27.38dBA	100	27.2°C	55dBA	GSM4212P
M4250-10G2XF-PoE+	0dBA / 39.6°C Case Temp	25°C	<= 44°C	90W	All ports can be used	240W	25	<= 37°C	40.6°C	27.4dBA	100	30.9°C	56dBA	GSM4212PX
M4250-10G2XF-PoE++	0dBA / 44.6°C Case Temp	25°C	<= 67°C	45W	All ports can be used	0-250W	25	<= 49°C	42.9°C	34.57dBA	100	41.8°C	66.23dBA	GSM4212UX
						250-380W	30	<= 49°C	43.3°C	40dBA				
						380W-500W	35	<= 49°C	44.9°C	44.22dBA				
						500W-720W	40	<= 49°C	52.1°C	47.19dBA				
M4250-26G4F-PoE+	0dBA / 40.5°C Case Temp	25°C	S1<= 43°C S2<= 47°C	45W	8 ports PoE (no SFP)	0-200W	25	S1<= 43°C S2<=47°C	43.5°C	28dBA	100	36.7°C	57dBA	GSM4230P
						200W-300W	30	S1<= 44°C S2<=48°C	51.3°C	34dBA				
M4250-26G4F-PoE++	Not Supported					0-280W	20	S1<= 37°C S2<=39°C	52.9°C	28dBA	100	720W 36.7°C 1,440W 46°C	69dBA	GSM4230UP
						280W-360W	25	S1<= 38°C S2<=40°C	57.4°C	36dBA				
						360W-420W	30	S1<= 39°C S2<=41°C	54.4°C	41dBA				
						420W-480W	35	S1<= 40°C S2<=42°C	53.3°C	47dBA				
						480W-540W	40	S1<= 41°C S2<=43°C	52.3°C	50dBA				
						540W-600W	45	S1<= 42°C S2<=44°C	54.4°C	54dBA				
						600W-660W	50	S1<= 43°C S2<=45°C	53.6°C	57dBA				
						660W-1,440W	55	S1<= 44°C S2<=46°C	55.7°C	60dBA				
M4250-26G4XF-PoE+	0dBA / 43.4°C Case Temp	25°C	S1<= 41°C S2<= 46°C	45W	8 ports PoE (no SFP+)	0-350W	20	S1<= 41°C S2<=46°C	39.3°C	25dBA	100	32.3°C	67dBA	GSM4230PX
						350W-480W	30	S1<= 42°C S2<=47°C	36.8°C	42dBA				
M4250-40G8F-PoE+	0dBA / 45.2°C Case Temp	25°C	S1<= 37°C S2<= 50°C	30W	8 ports PoE (No SFP)	0-150W	20	S1<= 37°C S2<=50°C	43.1°C	30dBA	100	35.4°C	68dBA	GSM4248P
						150W-200W	25	S1<= 38°C	42.1°C	36dBA				
						200W-340W	30	S1<= 39°C S2<=51°C	44°C	40dBA				
						340W-480W	35	S1<= 40°C	47.6°C	47dBA				

Acoustic-at-a-Glance

	FAN OFF MODE Setting / maximum loading*					QUIET MODE Setting at 25°C ambient**					COOL MODE Setting at 25°C ambient**			
Model Name	Fanless State	Ambient	Sensor	PoE Power Load	Conditions	PoE Power Load	Fan Duty	Sensor	Case Temp (Top)	Acoustic	Fan Duty	Case Temp (Top)	Acoustic	Model Number
M4250-40G8XF-PoE+	Not Supported					0-400W	20	S1<= 33°C S2<=46°C	54.2°C	29dBA	100	36.1°C	69dBA	GSM4248PX
						400W-480W	25	S1<= 34°C S2<=47°C	42.8°C	35dBA				
						480W-560W	30	S1<= 35°C S2<=48°C	41.9°C	41dBA				
						560W-640W	35	S1<= 36°C S2<=49°C	42.1°C	48dBA				
						640W-720W	40	S1<= 37°C S2<=50°C	40.9°C	51dBA				
						720W-800W	45	S1<= 38°C S2<=51°C	40.7°C	54dBA				
						800W-880W	50	S1<= 39°C S2<=52°C	40.4°C	57dBA				
						880W-960W	55	S1<= 40°C S2<=53°C	40.5°C	59dBA				
M4250-40G8XF-PoE++	Not Supported					0-160W	20	S1<= 37°C S2<=49°C	41.3°C	30dBA	100	720W 31.4°C 1,650W 33.5°C 2,880W 35.4°C	71dBA	GSM4248UX
						160W-240W	25	S1<= 38°C	38.8°C	36dBA				
						240W-320W	30	S1<= 39°C S2<=50°C	36.4°C	42dBA				
						320W-400W	35	S1<= 40°C	35.3°C	49dBA				
						400W-480W	40	S1<= 41°C S2<=51°C	34.4°C	51dBA				
						480W-560W	45	S1<= 42°C	34.3°C	55dBA				
						560W-640W	50	S1<= 43°C S2<=52°C	35.1°C	57dBA				
						660W-2,880W	55	S1<= 44°C	36.5°C	60dBA				
M4250-12M2XF	0dBA / 56°C Case Temp	25°C	<= 64°C	-	8 ports 2.5G (no SFP+)	-	25	<= 58°C	53.5°C	28.5dBA	100	33.2°C	55dBA	MSM4214X
M4250-16XF	0dBA / 41.3°C Case Temp	25°C	<= 78°C	-	8 ports SFP+	-	25	<= 67°C	41.6°C	27.44dBA	100	30.3°C	57dBA	XSM4216F

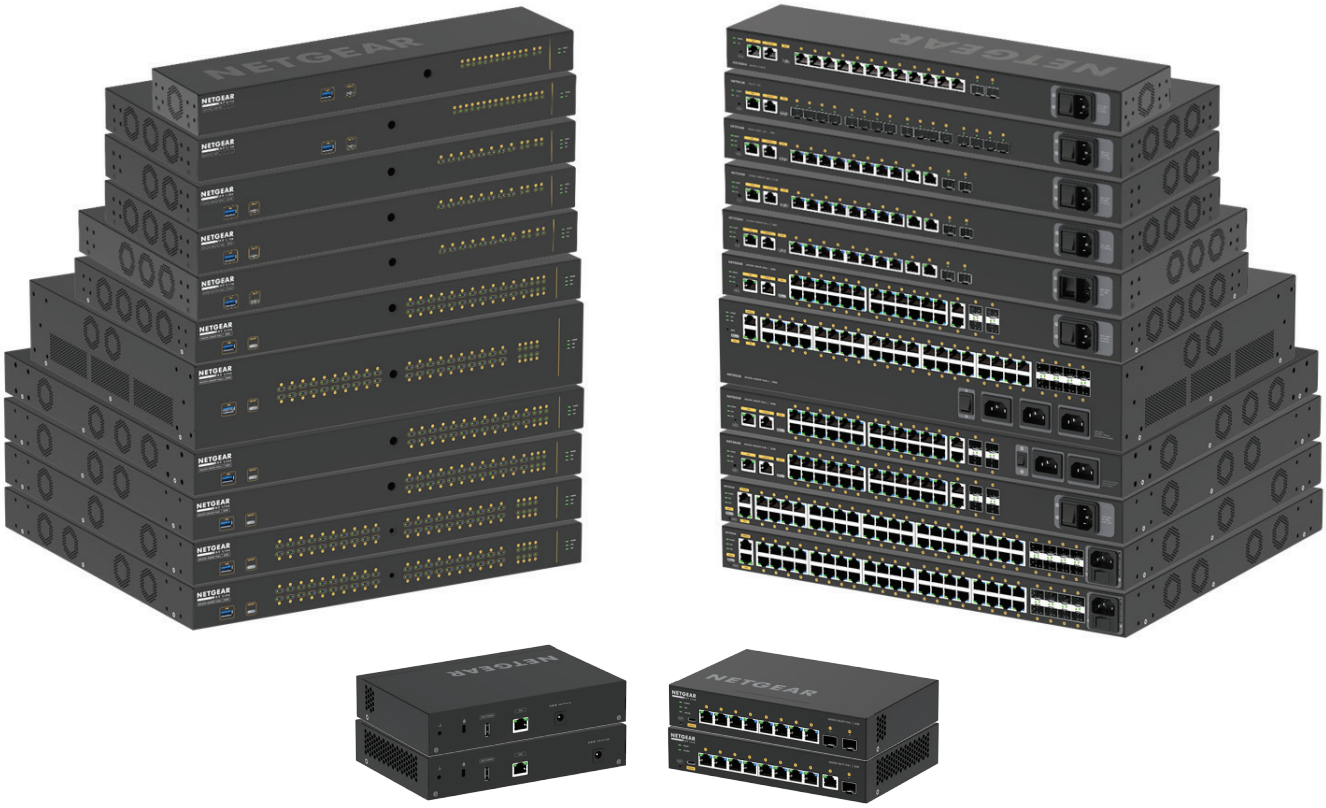
* Software-controlled fan adjustments enable the fans to be turned off when ambient temperature and PoE loads are appropriate for a totally fanless operation.

** dBA values are SPL (Sound Pressure Level) values, testing following the ISO-7779 standard. Bystander Mode. Chamber Temp 25°C during testing. Full, 100%, Data and PoE loaded. Worst case.



Software-at-a-Glance

	LITE LAYER 3 PACKAGE											
Model Name	Management	AV Dedicated UI	IPv4 / IPv6 ACL and QoS, DiffServ	IPv4 / IPv6 Multicast Filtering	IPv4 / IPv6 Policing and Convergence	Spanning Tree Green Ethernet	VLANs	Trunking Port Channel	IPv4 / IPv6 Authentication Security	IPv4 / IPv6 Static Routing	IPv4 / IPv6 Dynamic Routing	Model Number
M4250 series	Out-of-band IT Web GUI (main) HTTPs CLI; Telnet; SSH SNMP, MIBs RSPAN Radius Users, TACACS+	AV web-based GUI Designed for AV installers AV-related controls Audio over IP profiles AVB profile Video over IP profiles Mixed Audio and Video profiles	Ingress/ egress 1 Kbps shaping Time-based Single Rate Policing	NETGEAR IGMP™ Plus for automated IGMP between switches IGMPv3 MLDv2 Snooping, Proxy ASM & SSM IGMPv1,v2 Querier (compatible v3) Control Packet Flooding	Auto-VoIP Policy-based routing (PBR) LLDP-MED IEEE 1588 PTPv2 1-Step End-to-End Transparent Clock AVB*: 802.1AS, 802.1Qav, 802.1Qat MSRP, 802.1ak MMRP, 802.1ak MVRP	STP, MTP, RSTP PV(R)STP BPDU/STRG Root Guard EEE 802.3az (EEE is disabled by default)	Static, Dynamic, Voice, MAC GVRP/ GMRP Double VLAN mode Private VLANs	Auto-Trunk and Auto-LAG between M4250 Switches Static LAG, or Dynamic LACP (LACP automatically reverts to and from Static LAG) Seven (7) L2/ L3/L4 hashing algorithms	Successive Tiering (DOT1X; MAB; Captive Portal) DHCP Snooping Dynamic ARP Inspection IP Source Guard	Port, Subnet, VLAN routing Multicast static routes DHCPv4 Server DHCP Relay Stateful DHCPv6 Server	IPv4: RIP IPv4/IPv6: PIM-SM PIM-DM SSM	All models



Performance-at-a-Glance

	TABLE SIZE													
Model Name	MAC ARP/NDP	Routing/ Switching Capacity	Throughput 64-byte	Application Route Scaling	Packet Buffer	Latency	CPU	IP Multicast Routing Entries	Jumbo Frames	Multicast IGMP Group membership	VLANs	DHCP	sFlow	Model Number
M4250-9G1F-PoE+	16K MAC 4K ARP/ NDP	20 Gbps Line-Rate	14.88 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.27µs 1G	ARM A9 1.25Ghz 32-Bit 2GB RAM	512 IPv4 128 IPv6	Up to 12K	2K IPv4 2K IPv6	4K VLANs	DHCP Server: 2K leases IPv4: 256 pools IPv6: 16 pools	16 samplers 16 pollers 8 receivers	GSM4210PD
M4250-8G2XF-PoE+	16K MAC 4K ARP/ NDP	56 Gbps Line-Rate	41.67 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.14µs 1G <0.84µs 10G								GSM4210PX
M4250-10G2F-PoE+	16K MAC 4K ARP/ NDP	24 Gbps Line-Rate	17.86 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.27µs 1G								GSM4212P
M4250-10G2XF-PoE+	16K MAC 4K ARP/ NDP	60 Gbps Line-Rate	44.64 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.14µs 1G <0.84µs 10G								GSM4212PX
M4250-10G2XF-PoE++	16K MAC 4K ARP/ NDP	60 Gbps Line-Rate	44.64 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<1.84µs 1G <0.81µs 10G								GSM4212UX
M4250-26G4F-PoE+	16K MAC 4K ARP/NDP	60 Gbps Line-Rate	44.64 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.15.µs 1G	Quad-Core Cortex-A57 ARMv8 1.8Ghz 64-bit 2GB RAM							GSM4230P
M4250-26G4F-PoE++	16K MAC 4K ARP/NDP	60 Gbps Line-Rate	44.64 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.15µs 1G								GSM4230UP
M4250-26G4XF-PoE+	16K MAC 4K ARP/NDP	132 Gbps Line-Rate	98.21 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.29µs 1G <0.83µs 10G								GSM4230PX
M4250-40G8F-PoE+	16K MAC 4K ARP/NDP	96 Gbps Line-Rate	71.42 Mpps	Static: 894v4/126v6 RIP: 32v4	32Mb	<2.46µs 1G								GSM4248P
M4250-40G8XF-PoE+	16K MAC 4K ARP/NDP	240 Gbps Line-Rate	178.56 Mpps	Static: 894v4/126v6 RIP: 32v4	32Mb	<2.74µs 1G <0.73µs 10G								GSM4248PX
M4250-40G8XF-PoE++	16K MAC 4K ARP/NDP	240 Gbps Line-Rate	178.56 Mpps	Static: 894v4/126v6 RIP: 32v4	32Mb	<2.78µs 1G <0.73µs 10G								GSM4248UX
M4250-12M2XF	16K MAC 4K ARP/ NDP	100 Gbps Line-Rate	74.40 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<2.84.µs 1G <6.02µs 2.5G <0.81µs 10G	ARM A9 1.25Ghz 32-Bit 2GB RAM							MSM4214X
M4250-16XF	16K MAC 4K ARP/ NDP	320 Gbps Line-Rate	238.08 Mpps	Static: 894v4/126v6 RIP: 32v4	16Mb	<1.30µs 1G <0.86µs 10G								XSM4216F

Product Brief

The NETGEAR AV Line M4250 series was designed with input from AV Professionals. The result is a line of switches built from the ground up to support 1Gb audio and video over IP with customized hardware and software along with dedicated service and support.

NETGEAR M4250 series key features:

- Ranges from 8 to 48 ports with a variety of PoE+ and Ultra90 PoE++ options for 15.4W, 30W, 60W, 75W and 90W AVoIP endpoints
- Uplink options include 1G for audio installations or standalone video installations as well as 10G uplinks for larger scale video deployments
- Also includes 12-port multi-gigabit Ethernet and 16-port 1G/10G fiber models for plug and play aggregation in a star topology
- Rackmount models designed for a clean integration with traditional, rack-mounted, AV equipment
- The M4250 switches come with a sleek, black display panel with status in front and all cabling plus additional status in the back
- Reversed mounting is possible when ports are desired on the front of the rack
- A second pair of rackmount ears allows the switches to be mounted recessed by 2-inches to allow for the cabling
- Software-controlled fan adjustments enable the fans to be turned off when ambient temperature and PoE loads are appropriate for a totally fanless operation
- Threaded holes on the bottom (4xM5 for 50x100mm VESA) and in front (1xM10 for clamps) allow for universal mounting options outside the rack as well
- New! M4250 desktop versions for use outside of the AV racks in conference rooms, mobile studios, on the wall, under a table or behind a screen

NETGEAR M4250 series AV software features:

- Pre-configured for audio and video over IP out of the box, the M4250 switches enable encoders and decoders to be connected with zero configuration
- When more configuration is required, an AV web-based GUI is available
- This interface has been specially designed for AV installers with specific AV-related controls made more accessible and with port-based profiles
- For audio, profiles for Dante, Q-SYS, AES67, and AVB are built-in
- For video, the M4250 offers profiles for NVX, SVSI, Q-SYS, NDI, Kramer KDS, Aurora Multimedia, ZeeVee, Atlona, Dante and SDVoE
- Other AV CODECs and manufacturers are supported as well as audio/video/control mixed profiles
- IGMP Plus™ means AV-over-IP multicasting will work out of the box and not flood your network
- The Engage™ Controller manages all M4250, M4300, M4350, and M4500 switches for your AV installations with Auto-LAG / Auto-Trunk

NETGEAR M4250 series other software features:

- All M4250 switches share the same high-end NETGEAR Layer 2 / Layer 3 switching engine for a consistent experience
- All switches in the M4250 series have another main, IT web-based GUI for midsize Enterprise campus networks, IoT and IPTV

- Additional features include static, RIP and PIM-SM, DM and SSM multicast routing, DHCP Server and PTPv2 Transparent Clock (1-step E2E)
- Advanced classifier-based, time-based hardware implementation for L2 (MAC), L3 (IP) and L4 (UDP/TCP transport ports) security and prioritization
- Selectable Port-Channel / LAG (802.3ad - 802.1AX) L2/L3/L4 hashing for fault tolerance and load sharing with any type of Ethernet channeling
- Voice VLAN with SIP, H323 and SCCP protocols detection and LLDP-MED IP phones automatic QoS and VLAN configuration
- Efficient authentication tiering with successive DOT1X, MAB and Captive Portal methods for streamlined BYOD
- Comprehensive IPv4/IPv6 static and dynamic routing including Policy-based routing and 6-to-4 tunneling
- Advanced IPv4/IPv6 security implementation including malicious code detection, DHCP Snooping, IP Source Guard protection and DoS attacks mitigation

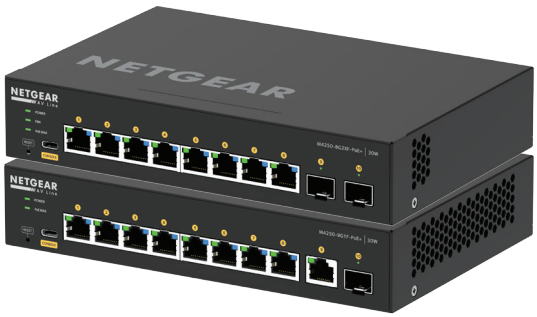
NETGEAR M4250 series management features:

- DHCP/BootP innovative auto-installation including firmware and configuration file upload automation
- Industry standard SNMP, RMON, MIB, LLDP, AAA, sFlow, RSPAN and PTPv2
- Service port for out-of-band Ethernet management (OOB)
- Standard RS232 straight-through serial RJ45 and USB Type-C ports for local management console
- Standard USB-A port for local storage, logs, configuration or image files
- Dual firmware image for updates with minimum service interruption
- Single-pane-of-glass NMS300 management platform with mass configuration support
- Industry standard command line interface (CLI) for IT admins used to other vendors commands
- Fully functional Web console (main GUI) for IT admins who prefer an easy to use graphical interface
- Dedicated AV web-based GUI interface available at [switch IP address:8080] for AV installations

NETGEAR M4250 series warranty and support:

- NETGEAR ProSAFE Limited Lifetime Hardware Warranty**
- Included Lifetime Technical Support
- Included Lifetime Next Business Day Hardware Replacement
- Offering free network design services and installation support, the NETGEAR Engineering Services Team is ready to help ensure your 1G deployments with the M4250 AV over IP switches go as smooth as possible. Just drop us an email at ProAVDesign@netgear.com to get started!

GSM4210PX
GSM4210PD

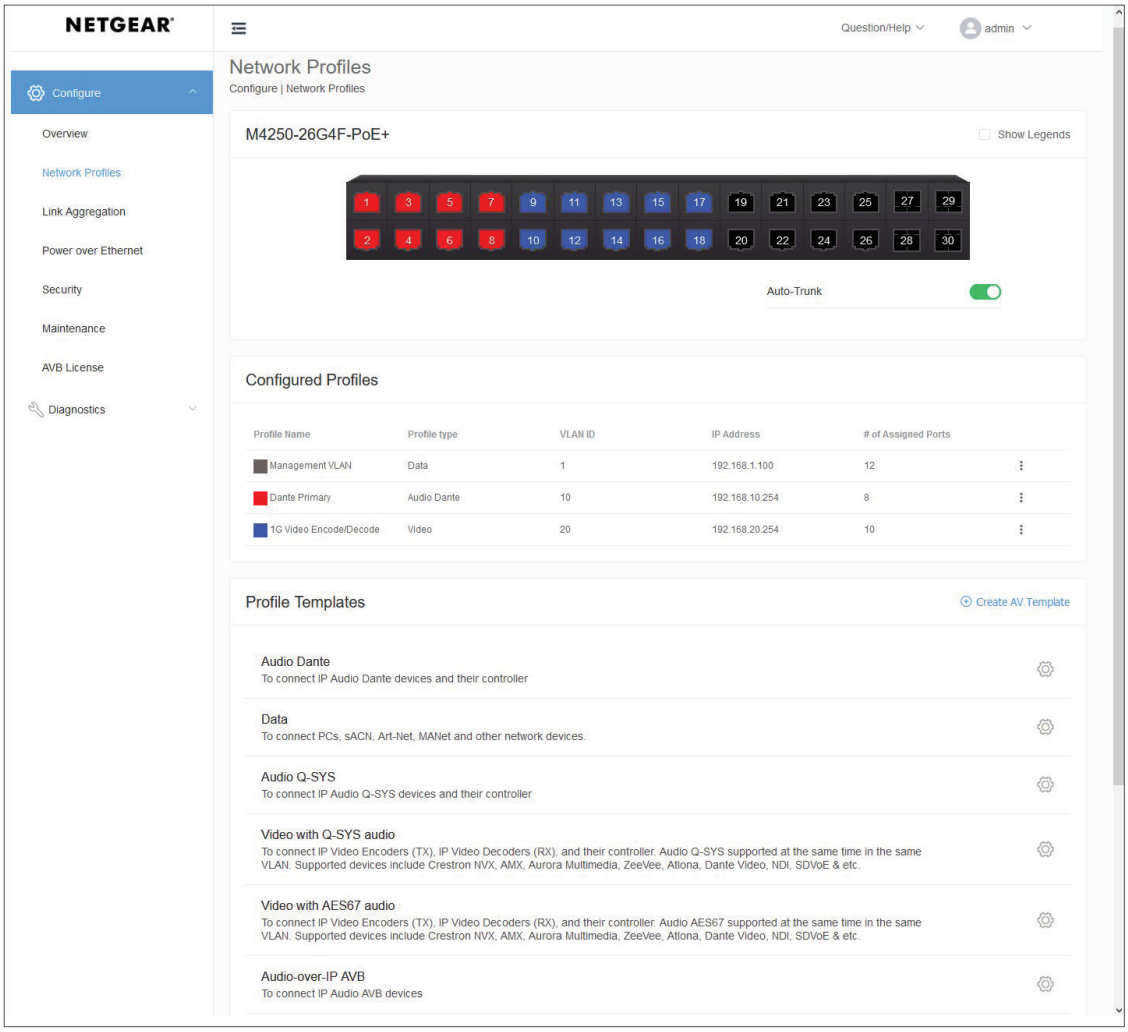


Features highlights

Dedicated AV UI for AV installations

M4250 switch series is pre-configured for Audio and Video over IP out of the box with a dedicated AV web-based GUI interface for more specific AV installations

- Color-based AV profiles can be applied to the different ports
- Dante, Q-SYS, AES67 and AVB audio profiles
- NVX, AMX, Q-SYS, NDI, Kramer KDS, Aurora Multimedia, ZeeVee, Atlona, Dante, etc. video profiles
- Audio / video / control mixed profiles



Best value switching performance:

16K MAC address table, 4K ARP and 4K concurrent VLANs for typical midsize environnements

Low latency at all network speeds, including 10 Gigabit fiber interfaces

Jumbo frames support of up to 12KB accelerating performance with compatible nodes

Ranges from 8 to 48 ports with a variety of PoE+ and Ultra90 PoE++ 802.3bt options for 15.4W, 30W, 60W, 75W and 90W AVoIP (1G) endpoints

Components and Modules

M4250-26G4F-PoE+
AV Line Managed Switch

Ordering information

- Americas: GSM4230P-100NAS
- Europe: GSM4230P-100EUS
- Asia Pacific: GSM4230P-100AJS
- China: GSM4230P-100PRS
- Warranty: Lifetime ProSAFE Hardware Warranty

- 24-port 10/100/1000BASE-T (RJ45) PoE+ with 300W PoE budget
- 2-port 10/100/1000BASE-T (RJ45)
- 4-port 1000BASE-X (SFP)
- 60 Gbps non-blocking fabric across 30 ports
- Out-of-band 1G Ethernet management port
- USB-C and RJ45 RS232 console ports and USB-A storage port
- Front black display panel and all ports in the back
- Possible reversed mounting with ports in the front
- Rack-mounting standard brackets
- Longer brackets for recessed mounting (2 inches / 5 cm)
- Threaded hole in front (1xM10) for clamps
- Threaded holes on the bottom (4xM5) for 50x100mm VESA plates
- Selectable fan modes for fanless, quiet, or cool operation
- Dimensions (WxDxH): 440 x 43.2 x 257 mm
- Weight: 4.30Kg (9.47lb)

Technical Specifications

Requirements based on 13.0.4 software release

Model Name	Description	Model number
M4250-9G1F-PoE+	AV Line Desktop 8x1G PoE+ 110W 1x1G and 1xSFP Managed Switch	GSM4210PD
M4250-8G2XF-PoE+	AV Line Desktop 8x1G PoE+ 220W and 2xSFP+ Managed Switch	GSM4210PX
M4250-10G2F-PoE+	AV Line 8x1G PoE+ 125W 2x1G and 2xSFP Managed Switch	GSM4212P
M4250-10G2XF-PoE+	AV Line 8x1G PoE+ 240W 2x1G and 2xSFP+ Managed Switch	GSM4212PX
M4250-10G2XF-PoE++	AV Line 8x1G Ultra90 PoE++ 720W 2x1G and 2xSFP+ Managed Switch	GSM4212UX
M4250-26G4F-PoE+	AV Line 24x1G PoE+ 300W 2x1G and 4xSFP Managed Switch	GSM4230P
M4250-26G4F-PoE++	AV Line 24x1G Ultra90 PoE++ 1,440W 2x1G and 4xSFP Managed Switch	GSM4230UP
M4250-26G4XF-PoE+	AV Line 24x1G PoE+ 480W 2x1G and 4xSFP+ Managed Switch	GSM4230PX
M4250-40G8F-PoE+	AV Line 40x1G PoE+ 480W and 8xSFP Managed Switch	GSM4248P
M4250-40G8XF-PoE+	AV Line 40x1G PoE+ 960W and 8xSFP+ Managed Switch	GSM4248PX
M4250-40G8XF-PoE++	AV Line 40x1G Ultra90 PoE++ 2,880W and 8xSFP+ Managed Switch	GSM4248UX
M4250-12M2XF	AV Line 12x2.5G and 2xSFP+ Managed Switch	MSM4214X
M4250-16XF	AV Line 12x1G/10G SFP+ and 4x10G SFP+ Managed Switch	XSM4216F

Physical Interfaces

Gigabit and 10 Gigabit Ethernet Ports	Auto-sensing RJ45 PoE 10/100/1000BASE-T	Auto-sensing RJ45 10/100/1000BASE-T	Auto-sensing RJ45 100/1000/2.5GBASE-T	Auto-sensing SFP 1000BASE-X	Auto-sensing SFP+ 1000/10GBASE-X
M4250-9G1F-PoE+	8 ports PoE+ (110W)	1	-	1	-
M4250-8G2XF-PoE+	8 ports PoE+ (220W)	-	-	-	2
M4250-10G2F-PoE+	8 ports PoE+ (125W)	2	-	2	-
M4250-10G2XF-PoE+	8 ports PoE+ (240W)	2	-	-	2
M4250-10G2XF-PoE++	8 ports Ultra90 PoE++ (720W)	2	-	-	2
M4250-26G4F-PoE+	24 ports PoE+ (300W)	2	-	4	-
M4250-26G4F-PoE++	24 ports Ultra90 PoE++ (1,440W)	2	-	4	-
M4250-26G4XF-PoE+	24 ports PoE+ (480W)	2	-	-	4
M4250-40G8F-PoE+	40 ports PoE+ (480W)	-	-	8	-
M4250-40G8XF-PoE+	40 ports PoE+ (960W)	-	-	-	8
M4250-40G8XF-PoE++	40 ports Ultra90 PoE++ (2,880W)	-	-	-	8
M4250-12M2XF	-	-	12	-	2
M4250-16XF	-	-	-	-	16 (only Ports 1-12 support 1G)

Total Usable Port Count	1G Ports	2.5G Ports	10G Ports
M4250-9G1F-PoE+	10	-	-
M4250-8G2XF-PoE+	8	-	2
M4250-10G2F-PoE+	12	-	-
M4250-10G2XF-PoE+	10	-	2
M4250-10G2XF-PoE++	10	-	2
M4250-26G4F-PoE+	30	-	-
M4250-26G4F-PoE++	30	-	-
M4250-26G4XF-PoE+	26	-	4
M4250-40G8F-PoE+	48	-	-
M4250-40G8XF-PoE+	40	-	8
M4250-40G8XF-PoE++	40	-	8
M4250-12M2XF	-	12	2
M4250-16XF	-	-	16

Management Ports	Console ports	Service port (Out-of-band Ethernet)	Storage port
M4250-9G1F-PoE+, M4250-8G2XF-PoE+ desktop models	USB-C (front)	1 x RJ45 10/100/1000BASE-T (rear)	1 x USB-A (rear)
All rackmount other models	Serial RS232 RJ45 (rear); USB-C (rear)	1 x RJ45 10/100/1000BASE-T (rear)	1 x USB-A (front)
Fixed Power Supplies			
M4250-9G1F-PoE+, M4250-8G2XF-PoE+ desktop models	1 external power adapter with C14 inlet for standard AC power cord (C13)		
M4250-26G4F-PoE++	2 internal PSU (C14 inlets) with 1 on/off switch		
M4250-40G8XF-PoE++	3 internal PSU (C14 inlets) with 1 on/off switch		
All rackmount other models	1 internal PSU (C14 inlet) with 1 on/off switch		
Fixed fans			
M4250-9G1F-PoE+	Fanless		
All other models	Side-to-side airflow		

Power over Ethernet

PSE Capacity	PoE+ Ports (802.3at)	Ultra90 PoE++ Ports (802.3bt)
M4250-9G1F-PoE+	8	-
M4250-8G2XF-PoE+	8	-
M4250-10G2F-PoE+	8	-
M4250-10G2XF-PoE+	8	-
M4250-10G2XF-PoE++	-	8
M4250-26G4F-PoE+	24	-
M4250-26G4F-PoE++	-	24
M4250-26G4XF-PoE+	24	-
M4250-40G8F-PoE+	40	-
M4250-40G8XF-PoE+	40	-
M4250-40G8XF-PoE++	-	40

Ultra90 PoE++ 802.3bt is compatible with: 802.3af PoE (15.4W), 802.3at PoE++ (30W), and 802.3bt (60W, 75W and 90W).

PoE Budget	PoE Budget @ 110V AC in
M4250-9G1F-PoE+	110 Watts
M4250-8G2XF-PoE+	220 Watts
M4250-10G2F-PoE+	125 Watts
M4250-10G2XF-PoE+	240 Watts
M4250-10G2XF-PoE++	720 Watts
M4250-26G4F-PoE+	300 Watts
M4250-26G4F-PoE++	1 used PSU: 720Watts / 2 used PSU: 1,440 Watts
M4250-26G4XF-PoE+	480 Watts
M4250-40G8F-PoE+	480 Watts
M4250-40G8XF-PoE+	960 Watts
M4250-40G8XF-PoE++	1 used PSU: 720Watts / 2 used PSU: 1,650 Watts / 3 used PSU: 2,880 Watts

Features Support	M4250-9G1F-PoE+ / M4250-8G2XF-PoE+ M4250-10G2F-PoE+ / M4250-10G2XF-PoE+ M4250-26G4F-PoE+ / M4250-26G4XF-PoE+ M4250-40G8F-PoE+ / M4250-40G8XF-PoE+	M4250-10G2XF-PoE++/M4250-26G4F-PoE++ M4250-40G8XF-PoE++
IEEE 802.3af (up to 15.4W per port)	Yes	Yes
IEEE 802.3at (up to 30W per port)	Yes	Yes
IEEE 802.3bt (up to 90W per port)	No	Yes
IEEE 802.3at Layer 2 (LLDP) method	Yes	Yes
IEEE 802.3at 2-event classification	Yes	Yes
IEEE 802.3bt Layer 2 (LLDP) method	No	Yes
IEEE 802.3bt auto-classification method	No	Yes
Pre-802.3bt standard method	No	Yes
PoE timer / schedule (week, days, hours)	Yes	Yes
Processor/Memory		
CPU		
M4250-26G4F-PoE+, M4250-26G4F-PoE++, M4250-26G4XF-PoE+, M4250-40G8F-PoE+, M4250-40G8XF-PoE+, M4250-40G8XF-PoE++	Dedicated Quad-Core Cortex-A57 ARMv8 1.8Ghz CPU (64-bit)	
All other models	Integrated ARM A9 1.25Ghz CPU in switching silicon (32-bit)	
System memory (RAM) - all models	2 GB	
Code storage (flash) - all models	256 MB	Dual firmware image
Packet Buffer Memory		
M4250-40G8F-PoE+, M4250-40G8XF-PoE+, M4250-40G8XF-PoE++	32 Mb	Dynamically shared across only used ports
All other models	16 Mb	
Performance Summary		
Switching fabric		
M4250-9G1F-PoE+	20 Gbps	Line-rate (non blocking fabric)
M4250-8G2XF-PoE+	56 Gbps	
M4250-10G2F-PoE+	24 Gbps	
M4250-10G2XF-PoE+, M4250-10G2XF-PoE++	60 Gbps	
M4250-26G4F-PoE+, M4250-26G4F-PoE++	60 Gbps	
M4250-40G8F-PoE+	96 Gbps	
M4250-12M2XF	100 Gbps	
M4250-26G4XF-PoE+	132 Gbps	
M4250-40G8XF-PoE+, M4250-40G8XF-PoE++	240 Gbps	
M4250-16XF	320 Gbps	

Throughput (64-byte frames)				
M4250-9G1F-PoE+	14.80 Mpps			
M4250-8G2XF-PoE+	41.67 Mpps			
M4250-10G2F-PoE+	17.86 Mpps			
M4250-10G2XF-PoE+, M4250-10G2XF-PoE++	44.64 Mpps			
M4250-26G4F-PoE+, M4250-26G4F-PoE++	44.64 Mpps			
M4250-40G8F-PoE+	71.42 Mpps			
M4250-12M2XF	74.40 Mpps			
M4250-26G4XF-PoE+	98.21 Mpps			
M4250-40G8XF-PoE+, M4250-40G8XF-PoE++	178.56 Mpps			
M4250-16XF	238.08 Mpps			
Latency - 10G Fiber	**64-byte frames**	**512-byte frames**	**1024-byte frames**	**1518-byte frames**
M4250-9G1F-PoE+	-	-	-	-
M4250-8G2XF-PoE+	0.838µs	0.821µs	0.820µs	0.819µs
M4250-10G2F-PoE+	-	-	-	-
M4250-10G2XF-PoE+	0.838µs	0.821µs	0.820µs	0.819µs
M4250-10G2XF-PoE++	0.807µs	0.791µs	0.790µs	0.789µs
M4250-26G4F-PoE+	-	-	-	-
M4250-26G4F-PoE++	-	-	-	-
M4250-26G4XF-PoE+	0.834µs	0.818µs	0.817µs	0.816µs
M4250-40G8F-PoE+	-	-	-	-
M4250-40G8XF-PoE+	0.709µs	0.717µs	0.730µs	0.714µs
M4250-40G8XF-PoE++	0.708µs	0.716µs	0.728µs	0.713µs
M4250-12M2XF	0.807µs	0.791µs	0.790µs	0.789µs
M4250-16XF	0.811µs	0.834µs	0.860µs	0.831µs
Latency - 1G Fiber	**64-byte frames**	**512-byte frames**	**1024-byte frames**	**1518-byte frames**
M4250-9G1F-PoE+	2.271µs	2.257µs	2.267µs	2.266µs
M4250-8G2XF-PoE+	1.169µs	1.174µs	1.159µs	1.154µs
M4250-10G2F-PoE+	2.271µs	2.257µs	2.267µs	2.266µs
M4250-10G2XF-PoE+	1.169µs	1.174µs	1.159µs	1.154µs
M4250-10G2XF-PoE++	1.148µs	1.141µs	1.137µs	1.156µs
M4250-26G4F-PoE+	1.164µs	1.129µs	1.124µs	1.146µs
M4250-26G4F-PoE++	1.141µs	1.126µs	1.119µs	1.140µs
M4250-26G4XF-PoE+	1.130µs	1.123µs	1.119µs	1.120µs
M4250-40G8F-PoE+	1.074µs	1.109µs	1.106µs	1.102µs
M4250-40G8XF-PoE+	1.106µs	1.120µs	1.107µs	1.128µs
M4250-40G8XF-PoE++	1.084µs	1.103µs	1.098µs	1.115µs
M4250-12M2XF	1.186µs	1.178µs	1.156µs	1.173µs
M4250-16XF	1.274µs	1.292µs	1.291µs	1.297µs

Latency - 1G Copper	64-byte frames	512-byte frames	1024-byte frames	1518-byte frames
M4250-9G1F-PoE+	2.133µs	2.136µs	2.131µs	2.142µs
M4250-8G2XF-PoE+	2.140µs	2.140µs	2.137µs	2.144µs
M4250-10G2F-PoE+	2.133µs	2.136µs	2.131µs	2.142µs
M4250-10G2XF-PoE+	2.140µs	2.140µs	2.137µs	2.144µs
M4250-10G2XF-PoE++	1.837µs	1.829µs	1.828µs	1.826µs
M4250-26G4F-PoE+	2.146µs	2.148µs	2.140µs	2.150µs
M4250-26G4F-PoE++	2.139µs	2.140µs	2.133µs	2.146µs
M4250-26G4XF-PoE+	2.280µs	2.282µs	2.270µs	2.288µs
M4250-40G8F-PoE+	2.027µs	2.343µs	2.462µs	2.358µs
M4250-40G8XF-PoE+	2.220µs	2.595µs	2.744µs	2.613µs
M4250-40G8XF-PoE++	2.251µs	2.625µs	2.775µs	2.641µs
M4250-12M2XF	2.843µs	2.836µs	2.834µs	2.836µs
M4250-16XF	-	-	-	-
Latency - 2.5G Copper	**64-byte frames**	**512-byte frames**	**1024-byte frames**	**1518-byte frames**
M4250-9G1F-PoE+	-	-	-	-
M4250-8G2XF-PoE+	-	-	-	-
M4250-10G2F-PoE+	-	-	-	-
M4250-10G2XF-PoE+	-	-	-	-
M4250-10G2XF-PoE++	-	-	-	-
M4250-26G4F-PoE+	-	-	-	-
M4250-26G4F-PoE++	-	-	-	-
M4250-26G4XF-PoE+	-	-	-	-
M4250-40G8F-PoE+	-	-	-	-
M4250-40G8XF-PoE+	-	-	-	-
M4250-40G8XF-PoE++	-	-	-	-
M4250-12M2XF	6.013µs	6.014µs	6.012µs	6.016µs
M4250-16XF	-	-	-	-
Green Ethernet				
Energy Efficient Ethernet (EEE)	Compliant with IEEE 802.3az Energy Efficient Ethernet Task Force		Deactivated by default	

Other Metrics		
Forwarding mode	Store-and-forward	
Addressing	48-bit MAC address	
Address database size	16K MAC addresses	
Number of VLANs	4,093 VLANs (802.1Q) simultaneously	
Number of multicast groups filtered (IGMP)	4K total (2,048 IPv4 and 2,048 IPv6)	
Number of Link Aggregation Groups (LAGs)	8 LAGs with up to 8 ports per group	802.3ad / 802.1AX-2008
Number of hardware queues for QoS	8 queues	
Number of routes IPv4 IPv6	894 IPv4 Unicast Routes in Default IPv4 Basic SDM Template 126 IPv6 Unicast Routes in Default IPv4 Basic SDM Template	SDM (System Data Management, or switch database) templates allow for granular system resources distribution depending on IPv4 or IPv6 applications
Number of static routes IPv4 IPv6	 64 64	
RIP application route scaling IPv4	 32 in Default IPv4 Basic SDM Template	
Number of IP interfaces (port or VLAN)	128	
Jumbo frame support	up to 12KB packet size	
Acoustic noise	@ 25°C ambient (77°F)	
Testing method	Following the ISO-7779 standard. Bystander Mode. Chamber Temp 25°C during testing unless noted otherwise. Full, 100%, Data and PoE loaded. Worst case.	
SPL (Sound Pressure Level)	dBA values are SPL (Sound Pressure Level) values, testing following the ISO-7779 standard	
Fan management	Three modes are configurable using the AV GUI or the CLI: Fan Off mode, Quiet mode (default), and Cool mode	

Fan Off mode @ 25° C ambient (77° F) Maximum Conditions:	PoE Power Load	Internal Sensors	Case Temperature (Top)	Fan Duty	Acoustic Noise
M4250-9G1F-PoE+	110W (fanless)	50°C	35.3°C	N/A	0dBA
M4250-8G2XF-PoE+	180W (RJ45 only, no SFP+)	0dBA / 37.4°C Case Temp	S1&2 <= 60°C S3 <= 58°C	0	0dBA
M4250-10G2F-PoE+	80W (all ports can be used)	<= 42°C	41.8°C	0	0dBA
M4250-10G2XF-PoE+	90W (all ports can be used)	<= 44°C	39.6°C	0	0dBA
M4250-10G2XF-PoE++	45W (all ports can be used)	<= 67°C	44.6°C	0	0dBA
M4250-26G4F-PoE+	45W (no SFP)	S1<= 43°C S2<= 47°C	40.5°C	0	0dBA
M4250-26G4F-PoE++	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
M4250-26G4XF-PoE+	45W (8 ports PoE+, no SFP+)	S1<= 41°C S2<= 46°C	43.4°C	0	0dBA
M4250-40G8F-PoE+	30W (8 ports PoE+, no SFP)	S1<= 37°C S2<= 50°C	45.2°C	0	0dBA
M4250-40G8XF-PoE+	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
M4250-40G8XF-PoE++	Not Supported	Not Supported	Not Supported	Not Supported	Not Supported
M4250-12M2XF	(4 ports 2.5G used in block 1-6 and 4 ports 2.5G used in block 7-12, no SFP+)	<= 64°C	56°C	0	0dBA
M4250-16XF	(8 ports SFP+)	<= 78°C	41.3°C	0	0dBA

Quiet mode @ 25° C ambient (77° F) Conditions:	PoE Power Load	Internal Sensors	Case Temperature (Top)	Fan Duty	Acoustic Noise
M4250-9G1F-PoE+	N/A	N/A	N/A	N/A	N/A
M4250-8G2XF-PoE+	0-220W	<= 60°C	33.6°C	10	19.3dBA
M4250-10G2F-PoE+	0-125W	<= 36°C	35.9°C	25	27.38dBA
M4250-10G2XF-PoE+	0-240W	<= 37°C	40.6°C	25	27.4dBA
M4250-10G2XF-PoE++	0-250W	<= 49°C	42.9°C	25	34.57dBA
	250-380W	<= 49°C	43.3°C	30	40dBA
	380-500W	<= 49°C	44.9°C	35	44.22dBA
	500-720W	<= 49°C	52.1°C	40	47.19dBA
M4250-26G4F-PoE+	0-200W	S1<= 43°C S2<=47°C	43.5°C	25	28dBA
	200W-300W	S1<= 44°C S2<=48°C	51.3°C	30	34dBA
M4250-26G4F-PoE++	0-280W	S1<= 37°C S2<=39°C	52.9°C	20	28dBA
	280W-360W	S1<= 38°C S2<=40°C	57.4°C	25	36dBA
	360W-420W	S1<= 39°C S2<=41°C	54.4°C	30	41dBA
	420W-480W	S1<= 40°C S2<=42°C	53.3°C	35	47dBA
	480W-540W	S1<= 41°C S2<=43°C	52.3°C	40	50dBA
	540W-600W	S1<= 42°C S2<=44°C	54.4°C	45	54dBA
	600W-660W	S1<= 43°C S2<=45°C	53.6°C	50	57dBA
	660W-1,440W	S1<= 44°C S2<=46°C	55.7°C	55	60dBA
M4250-26G4XF-PoE+	0-350W	S1<= 41°C S2<=46°C	39.3°C	20	25dBA
	350W-480W	S1<= 42°C S2<=47°C	36.8°C	30	42dBA
M4250-40G8F-PoE+	0-150W	S1<= 37°C S2<=50°C	43.1°C	20	30dBA
	150W-200W	S1<= 38°C	42.1°C	25	36dBA
	200W-340W	S1<= 39°C S2<=51°C	44°C	30	40dBA
	340W-480W	S1<= 40°C	47.6°C	35	47dBA
M4250-40G8XF-PoE+	0-400W	S1<= 33°C S2<=46°C	54.2°C	20	29dBA
	400W-480W	S1<= 34°C S2<=47°C	42.8°C	25	35dBA
	480W-560W	S1<= 35°C S2<=48°C	41.9°C	30	41dBA
	560W-640W	S1<= 36°C S2<=49°C	42.1°C	35	48dBA
	640W-720W	S1<= 37°C S2<=50°C	40.9°C	40	51dBA
	720W-800W	S1<= 38°C S2<=51°C	40.7°C	45	54dBA
	800W-880W	S1<= 39°C S2<=52°C	40.4°C	50	57dBA
	880W-960W	S1<= 40°C S2<=53°C	40.5°C	55	59dBA
M4250-40G8XF-PoE++	0-160W	S1<= 37°C S2<=49°C	41.3°C	20	30dBA
	160W-240W	S1<= 38°C	38.8°C	25	36dBA
	240W-320W	S1<= 39°C S2<=50°C	36.4°C	30	42dBA
	320W-400W	S1<= 40°C	35.3°C	35	49dBA
	400W-480W	S1<= 41°C S2<=51°C	34.4°C	40	51dBA
	480W-560W	S1<= 42°C	34.3°C	45	55dBA
	560W-640W	S1<= 43°C S2<=52°C	35.1°C	50	57dBA
	660W-2,880W	S1<= 44°C	36.5°C	55	60dBA
M4250-12M2XF	-	<= 58°C	53.5°C	25	28.5dBA
M4250-16XF	-	<= 67°C	41.6°C	25	27.44dBA

Cool mode @ 25 °C ambient (77 °F)	Case Temperature (Top)	Fan Duty	Acoustic Noise
M4250-9G1F-PoE+	N/A	N/A	N/A
M4250-8G2XF-PoE+	28.8°C	100	35.3dBA
M4250-10G2F-PoE+	27.2°C	100	55dBA
M4250-10G2XF-PoE+	30.9°C	100	56dBA
M4250-10G2XF-PoE++	41.8°C	100	66.23dBA
M4250-26G4F-PoE+	36.7°C	100	57dBA
M4250-26G4F-PoE++	(720W PoE) 36.7°C (1,440W PoE) 46°C	100	69dBA
M4250-26G4XF-PoE+	32.3°C	100	67dBA
M4250-40G8F-PoE+	35.4°C	100	68dBA
M4250-40G8XF-PoE+	36.1°C	100	69dBA
M4250-40G8XF-PoE++	(720W PoE) 31.4°C (1,650W PoE) 33.5°C (2,880W PoE) 35.4°C	100	71dBA
M4250-12M2XF	33.2°C	100	55dBA
M4250-16XF	30.3°C	100	57dBA

Heat Dissipation (BTU)	Without PoE, all ports	With Max PoE, all ports	Standby without any port connection
M4250-9G1F-PoE+	9.88W - 33.73 BTU/hr	132.25W - 451.5 BTU/hr	6.4W - 22.02 BTU/hr
M4250-8G2XF-PoE+	18.14W - 61.93 BTU/hr	257.9W - 880.47 BTU/hr	9.51W - 32.47 BTU/hr
M4250-10G2F-PoE+	17.32W - 59.13 BTU/hr	163.9W - 559.55 BTU/hr	8.53W - 29.12BTU/hr
M4250-10G2XF-PoE+	25W - 85.35 BTU/hr	306.4W - 1046.05 BTU/hr	12.96W - 44.24BTU/hr
M4250-10G2XF-PoE++	26.3W - 89.79 BTU/hr	837.7W - 2859.91 BTU/hr	18W - 61.45BTU/hr
M4250-26G4F-PoE+	35.8W - 122.22 BTU/hr	401W - 1369.01 BTU/hr	23.4W - 79.89 BTU/hr
M4250-26G4F-PoE++	48.8W - 166.6 BTU/hr	1 PSU: 889W - 3035.05 BTU/hr	36.9W - 125.98 BTU/hr
		2 PSU: 1734W - 5919.88 BTU/hr	
M4250-26G4XF-PoE+	46.8W - 159.78 BTU/hr	614W - 2096.2 BTU/hr	33.9W - 115.73 BTU/hr
M4250-40G8F-PoE+	59.5W - 203.13 BTU/hr	624.8W - 2133.07 BTU/hr	46.4W - 158.41 BTU/hr
M4250-40G8XF-PoE+	89.2W - 304.53 BTU/hr	1197W - 4086.56 BTU/hr	74.5W - 254.34 BTU/hr
M4250-40G8XF-PoE++	82.6W - 282 BTU/hr	1 PSU: 912W - 3113.57 BTU/hr	68.5W - 233.86 BTU/hr
		2 PSU: 1998W - 6821.17 BTU/hr	
		3 PSU: 3523W - 12027.52 BTU/hr	
M4250-12M2XF	37.9W - 129.39 BTU/hr	-	14.1W - 48.14BTU/hr
M4250-16XF	47.84W - 163.33 BTU/hr	-	19.27W - 65.78BTU/hr

Mean Time Between Failures (MTBF)	@ 25 °C ambient (77 °F)	@ 45 °C ambient (113 °F)	@ 50 °C ambient (122 °F)
M4250-9G1F-PoE+	1020,808 hours (~116.5 years)	501,447 hours (~57.2 years)	-
M4250-8G2XF-PoE+	1484,652 hours (~169.5 years)	725,337 hours (~82.8 years)	-
M4250-10G2F-PoE+	778,769 hours (~88.9 years)	530,659 hours (~60.6 years)	-
M4250-10G2XF-PoE+	576,889 hours (~65.9 years)	562,708 hours (~64.2 years)	-
M4250-10G2XF-PoE++	947,871 hours (~108.2 years)	493,860 hours (~56.4 years)	-
M4250-26G4F-PoE+	511,054 hours (~58.3 years)	342,368 hours (~39.1 years)	-
M4250-26G4F-PoE++	491,282 hours (~56.1 years)	262,204 hours (~29.9 years)	-
M4250-26G4XF-PoE+	509,057 hours (~58.1 years)	285,719 hours (~32.6 years)	-
M4250-40G8F-PoE+	341,680 hours (~39 years)	342,368 hours (~39.1 years)	-
M4250-40G8XF-PoE+	487,900 hours (~55.7 years)	285,719 hours (~32.6 years)	-
M4250-40G8XF-PoE++	304,916 hours (~34.8 years)	262,204 hours (~29.9 years)	-
M4250-12M2XF	720,892 hours (~82.3 years)	-	416,021 hours (~47.5 years)
M4250-16XF	844,633 hours (~96.4 years)	-	490,265 hours (~56 years)

ELEMENT 25

Lenovo ThinkCentre M70s Gen 5 Intel® Core™ i7 i7-14700 16 GB DDR5-SDRAM 512 GB SSD Windows 11 Pro SFF PC Negro

Marca : Lenovo

Familia de productos: ThinkCentre

Código del producto: 12U8000ASP

Nombre del producto : M70s Gen 5

- Intel Core i7-14700, 20C (8P + 12E)/28T, Max Turbo up to 5.4GHz, P-core 2.1/5.3GHz, E-core 1.5/4.2GHz, 33MB
- 1x 16GB UDIMM DDR5-5600
- 512GB SSD M.2 2280 PCIe 4.0x4 NVMe Opal 2.0
- Intel UHD Graphics 770
- Windows 11 Pro

Intel Core i7-14700, 20C (8P + 12E)/28T, Max Turbo up to 5.4GHz, P-core 2.1/5.3GHz, E-core 1.5/4.2GHz, 33MB, 1x 16GB UDIMM DDR5-5600, 512GB SSD M.2 2280 PCIe 4.0x4 NVMe Opal 2.0, Intel UHD Graphics 770, Windows 11 Pro

Lenovo ThinkCentre M70s Gen 5 Intel® Core™ i7 i7-14700 16 GB DDR5-SDRAM 512 GB SSD Windows 11 Pro SFF PC Negro:

Formato pequeño, gran impacto
- Ordenador de sobremesa, rápido y potente de formato pequeño
- Funciones aceleradas por IA para mejorar el rendimiento
- Procesadores hasta Intel Core™ de 14.ª generación con Intel vPro® Enterprise
- Soluciones de seguridad ThinkShield para proteger tus datos y tu empresa

Processor	
Processor manufacturer *	Intel
Processor family *	Intel® Core™ i7
Processor generation	Intel® Core™ i7 (14th gen)
Processor model *	i7-14700
Processor cores	20
Processor threads	28
Processor boost frequency	5.4 GHz
Performance cores	8
Efficient cores	12
Performance-core Max Turbo Frequency	5.3 GHz
Efficient-core Max Turbo Frequency	4.2 GHz
Performance-core base frequency	2.1 GHz
Efficient-core base frequency	1.5 GHz
Processor cache	33 MB
Processor cache type	Smart Cache
Number of processors installed	1
Processor base power	65 W
Maximum turbo power	219 W

Memory	
Internal memory *	16 GB
Maximum internal memory *	64 GB
Internal memory type	DDR5-SDRAM
Memory layout (slots x size)	1 x 16 GB
Memory slots	2x DIMM
Memory clock speed	5600 MHz

Storage	
Total storage capacity *	512 GB

Ports & interfaces	
USB 2.0 ports quantity *	4
USB 3.2 Gen 1 (3.1 Gen 1) Type-A ports quantity *	4
USB 3.2 Gen 1 (3.1 Gen 1) Type-C ports quantity *	1
HDMI ports quantity *	1
HDMI version	2.1
DisplayPorts quantity	1
Ethernet LAN (RJ-45) ports	1
Microphone in	✔
Combo headphone/mic port	✔

Design	
Chassis type *	SFF
Colour name	Black
Volume	8.2 L
Cable lock slot	✔
Cable lock slot type	Kensington
Product colour *	Black

Performance	
Motherboard chipset	Intel Q670
Audio chip	Realtek ALC623-CG
Audio system	High Definition Audio
Number of speakers	1
Trusted Platform Module (TPM)	✔
Product type *	PC

Software	
Operating system installed *	Windows 11 Pro

Storage	
Storage media *	SSD
Optical drive type *	DVD±RW
Total SSDs capacity	512 GB
Number of SSDs installed	1
SSD capacity	512 GB
SSD interface	PCI Express 4.0
NVMe	✔
SSD form factor	M.2
Card reader integrated	✔

Graphics	
Discrete graphics card *	✘
On-board graphics card *	✔
Discrete graphics card model *	Not available
On-board graphics card family	Intel® UHD Graphics
On-board graphics card model *	Intel UHD Graphics 770

Network	
Ethernet LAN *	✔
Ethernet LAN data rates	100,1000 Mbit/s
Wi-Fi *	✘

Software	
Operating system architecture	64-bit

Power	
Power supply *	260 W
Power supply input voltage	100 - 240 V
Power supply input frequency	50 - 60 Hz

Operational conditions	
Operating temperature (T-T)	5 - 35 °C
Storage temperature (T-T)	-40 - 60 °C
Operating relative humidity (H-H)	20 - 80%
Storage relative humidity (H-H)	10 - 90%
Operating altitude	0 - 3048 m
Non-operating altitude	0 - 12192 m

Weight & dimensions	
Width *	92.5 mm
Depth *	297.7 mm
Height *	339.5 mm
Weight *	5.3 kg

Packaging content	
Display included *	✘
Mouse included	✔
Keyboard included	✔

ThinkCentre M70s Gen 5

Performance

Processor
13th / 14th Gen Intel Core i3 / i5 / i7

Operating System
Windows 11 Pro 64
Windows 11 Home 64
Windows 11 Home 64 Single Language
Windows 11 DG Windows 10 Pro 64
Ubuntu Linux

Graphics
Intel UHD graphics 730 / 770 (Integrated)
Intel Arc A310 4GB

Chipset
Intel Q670 Chipset

Memory [1]
Up to 64GB DDR5, two DIMM slots

[1]The max memory is based on the test results with current Lenovo memory offerings.

Storage [2 3]
Up to three drives, 1x 3.5" HDD + 1x 2.5" HDD + 1x M.2 SSD
2.5" HDD bay is only for customer self upgrade
3.5" HDD up to 2TB
M.2 SSD up to 2TB

[2]The max capacity of each disk type is based on the test results with current Lenovo storage offerings.

[3]ODD and optional 2.5" bay are mutually exclusive.

Optical*
DVD-ROM or DVD±RW*

Audio
High Definition (HD) Audio
Single speaker, 1W x1

Power Supply*
310W 92%, 260W 90%, 180W 85% PSU

Design

Form factor
SFF (8.2L)

Dimensions [4]
92.5 x 297.7 x 339.5 mm (3.6 x 11.7 x 13.4 inches)

[4]The system dimensions may vary depending on configurations.

Weight [5]
Around 5.3 kg (11.7 lbs)

[5]The system weight is approximate and may vary depending on configurations

Color
Black

Bays [6]
1x 2.5" disk bay*
1x 3.5" disk bay
1x slim ODD bay

[6]ODD and optional 2.5" bay are mutually exclusive.

Expansion Slots
One PCIe 3.0 x16, low-profie
One PCIe 3.0 x1, low-profile
Two M.2 slots (one for WLAN, one for SSD)

Connectivity

Ethernet
Gigabit onboard Ethernet

WLAN + Bluetooth* [7]
802.11ax (Wi-Fi 6 / Wi-Fi 6E), up to Bluetooth 5.3
Up to Intel Wi-Fi 6E AX211, Bluetooth 5.3

[7]Wi-Fi 6E is only enabled on Windows 11 and operates as Wi-Fi 6 with Windows 10.

Front ports
1x USB-C (USB 5Gbps / USB 3.2 Gen 1), with 15W charging
4x USB-A (USB 5Gbps / USB 3.2 Gen 1)
1x headphone / microphone combo (3.5mm)
1x microphone (3.5mm)
1x card reader*

Rear ports
4x USB-A (Hi-Speed USB / USB 2.0)
1x HDMI 2.1 TMDS
1x DisplayPort 1.4a (HBR2, DSC)
1x Ethernet (RJ-45)
2x USB-A (USB 5Gbps / USB 3.2 Gen 1) via PCIe x1 card*
1x serial*
1x 2nd serial*
4x serial (via PCIe x1 card)*
1x parallel*
2x PS/2*

Security & Privacy

Security
Discrete TPM 2.0
Kensington Security Slot
Padlock Loop
E-lock*
Smart Cable Clip*
Chassis Intrusion Switch*

Manageability

System Management* [8]
Intel vPro Enterprise*

[8]Intel vPro offers a superset of DASH's defined capabilities.

Lenovo services

Base Warranty
Up to 3-year limited onsite service

Certifications

Green Certifications [9 10]
EPEAT Gold Registered*
EPEAT Silver Registered*
ENERGY STAR 8.0*
ErP Lot 3
GREENGUARD
TCO Certified 9.0
RoHS compliant

[9]The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration.

[10]EPEAT is registered where applicable, please see epeat.net for registration status by country.

Other Certifications
TÜV Rheinland Ultra Low Noise*
MIL-STD-810H

Items with * are optional and only available on selected models. Information presented here may represent the maximum possible configurations for this product, but it does not necessarily reflect what is available in your region. Please ask your rep or check the specifications for specific Part Numbers in your region. © 2024 Lenovo. Products are available while supplies last. Lenovo is not responsible for photographic or typographic errors. Lenovo, the Lenovo logo, ThinkPad, ThinkCentre, ThinkBook, ThinkStation and ThinkVision are trademarks or registered trademarks of Lenovo. 3rd party product and service names may be trademarks of others. Depending on factors such as the processing capability of peripheral devices, file attributes, system configuration and operating environments, the actual data transfer rate of USB connectors will vary and is typically slower than published standards.

ELEMENT 26

OVERVIEW

1. HDMI 1.4	3. VGA
2. DisplayPort 1.2	

Lenovo

Lenovo

Lenovo

PERFORMANCE

Panel

Panel

3-side NearEdgeless, In-Plane Switching

Backlight

WLED

Display Size

23.8 inches

Max View Area

WxH: 527 x 296.5 mm

Resolution

1920 x 1080

Aspect Ratio

16:9

Pixel Pitch

0.275 x 0.275 mm

Dot / Pixel Per Inch

93 dpi

Brightness

250 cd/m²

Contrast Ratio

- Dynamic Contrast Ratio: 3000000:1
- Contrast Ratio: 1300:1

View Angle (H / V)

Horizontal: 178°, Vertical: 178°

Response Time

- Extreme Mode: 4 ms
- Normal Mode: 6 ms
- Off Mode: 14 ms

Refresh Rate

100Hz

Color Gamut

Coverage Ratio: 99% sRGB

Color Support

16.7 Million

Color Depth

8-bit (6-bit+FRC)

Screen Surface Treatment

Anti-glare

Curvature

Flat Panel

Operating System

Operating System

- Windows® 11 Support
- Windows® 10 Support

Multi-Media

Speakers

Integrated Speakers, 2W x2

Power Supply

Power Consumption

- Typical / Max: 12W / 29W
- Sleep / Off mode: <0.5W
- Switch-off Mode: <0.3W
- Energy Star Power On: 11W
- Energy Star TEC: 35.4kWh
- Internal Power Supply

Voltage Required

AC 100 to 240 V (50-60Hz)

Special Features

Special Features

Natural Low Blue Light

DESIGN

Mechanical

ThinkCentre® M Series Support

ThinkCentre® M Series Tiny, ThinkCentre® M Series Nano
For supporting Tiny devices, additional Tiny VESA mount II (PN: 4XF0N03161) are needed (sold separately).
For supporting Nano devices, additional Nano VESA mount (PN: 4XF0V81630) are needed (sold separately).

Bezel Width

- Side: 1.8mm
- Top / Bottom: 1.8mm / 18.3mm

Cable Management

Support

Case Color

Raven black

Dimensions (WxDxH)[1]

Models	Dimensions
Lowest Position	539.4 x 178.6 x 342.2 mm (21.24 x 7.03 x 13.47 inches)
Highest Position	539.4 x 178.6 x 497.2 mm (21.24 x 7.03 x 19.57 inches)
Head Only	539.4 x 46 x 322 mm (21.24 x 1.81 x 12.68 inches)

Packaging Dimensions (WxDxH)

621 x 126 x 385 mm (24.45 x 4.96 x 15.16 inches)

Weight[2]

Models	Weight
Monitor With Stand	4.7 kg (10.4 lbs)
Monitor Head Only	3.1 kg (6.9 lbs)

Packaging Weight

6.7 kg (14.8 lbs)

Mounting

Supports VESA mount 100 x 100 mm

Stand

Supports -5° to +22° tilt, left & right 360° swivel, -90° to +90° pivot, up to 155mm lift

In the Box

- Monitor with Stand
- 1x HDMI® Cable (1.8m)
- 1x Power Cable (1.8m)
- 1x Quick Setup Guide

- 4x Screws

Notes:

[1] The system dimensions may vary depending on configurations.

[2] The system weight is approximate and based on results in Lenovo® lab, which varies depending on the source of component, variance of the distribution of each component, and manufacturing process. It may not be the exact weight for each specific model.

CONNECTIVITY

Ports[1]

Rear Ports

- 1x HDMI® 1.4[2]
- 1x DisplayPort™ 1.2
- 1x VGA

Notes:

[1] The transfer speed of following ports will vary and, depending on many factors, such as the processing speed of the host device, file attributes and other factors related to system configuration and your operating environment, will be slower than theoretical speed.
USB 2.0: 480 Mbit/s;
USB 3.2 Gen 1 (SuperSpeed USB 5Gbps, formerly USB 3.0 / USB 3.1 Gen 1): 5 Gbit/s;
USB 3.2 Gen 2 (SuperSpeed USB 10Gbps, formerly USB 3.1 Gen 2): 10 Gbit/s;
USB4® 20Gbps / USB 3.2 Gen 2x2 (SuperSpeed USB 20Gbps): 20 Gbit/s;
USB4® 40Gbps (USB 40Gbps): 40 Gbit/s;
Thunderbolt™ 3/4: 40 Gbit/s.

[2] Supports 1920x1080@100Hz as specified in HDMI® 1.4

SECURITY & PRIVACY

Security

Physical Locks

Kensington® Security Slot™ (3 mm x 7 mm)

SERVICE

Warranty

Base Warranty

3-year limited warranty

CERTIFICATIONS

Green Certifications[1]

Green Certifications

- ENERGY STAR® Certified
- EPEAT™ Gold Registered
- EU Energy Label (C-class)
- RoHS (2011/65/EU)
- TCO Certified 9.0
- TCO edge 2.0
- Volatile Organic Compound Certification

Notes:

[1] The items listed under the "Green Certifications" section may not only refer to certification but also registration or self-declaration. For ESG & regulatory compliance documents, please visit https://compliance.lenovo.com.

Other Certifications

Other Certifications

- Eyesafe® Certified 2.0
- TÜV Rheinland® Eye Comfort Certification
- TÜV Rheinland® Flicker Free
- TÜV Rheinland® Low Blue Light
- TÜV Rheinland® Low Blue Light (Hardware Solution)

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- The specifications on this page may not be available in all regions, and may be changed or updated without notice.

ELEMENT 27

SPR618

19" rack cabinet - 18 units - 600mm W x 600mm D

Highlights:

- Stores up to 18 units of 19" Equipment
- Standard keylock for both doors
- Integrated ventilation grid on top
- 50 mm Wheels + leveling feet included
- Removable sides for easy installing & cabling
- Punched square holes for use with snap-in cage nuts
- Tempered glass door with keylock
- front and rear in depth adjustable 19" profiles (max 540 mm)
- Reversible door position

The SPR618 is a professional 19" rack compliant to the ANSI/EIA RS-310D, DIN41491 and IEC60297 standards. A cold rolled steel 2 mm thick frame and 1,2 mm thick plates provides a solid and stable construction making it suitable for heavy equipment, storing up to 18 units inside. The SPR618 comes fully assembled including 50 mm wheels for easy moving and adjustable feet for fixing and leveling once correctly positioned. The 19" mounting profile with punched square holes for use with snap-in cage nuts in combination with the printed unit measurement indicators ensure an easy fitting of the equipment. Adjustable 19 " profiles provide great flexibilty for installing equipment depending on its depth. Both front and rear doors are fitted with a standard keylock.

We reserve the right to change specifications without notice, this is part of our policy to continually improve our products.

Product Features:

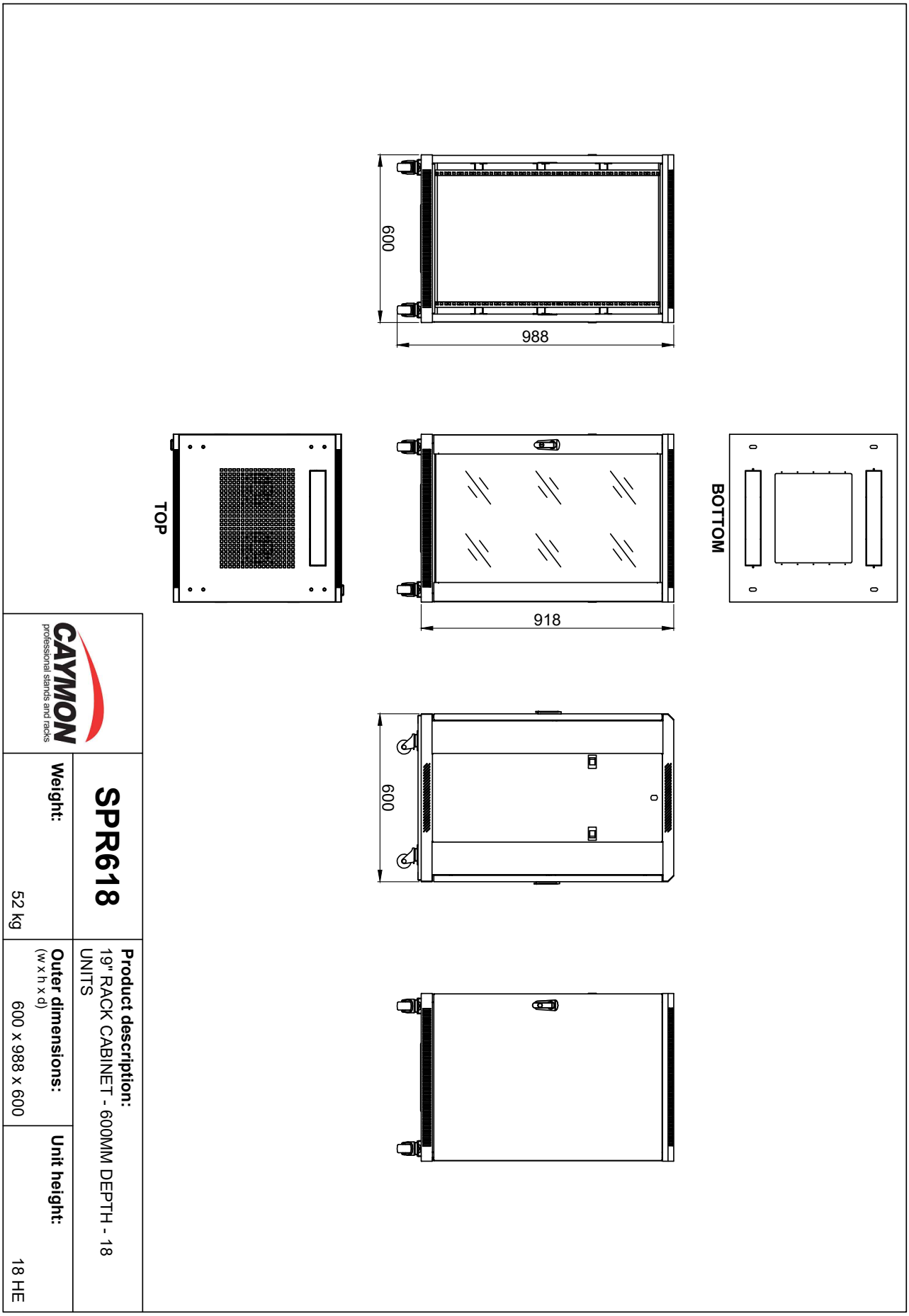
Dimensions		600 x 918 (988) x 600 mm (W x H (incl. feet) x D)
Unit height		18 HE
Max. usable depth		540 mm
Wheel	Diameter	50 mm
Colours		Black (RAL9004)
Weight		49 kg
Static load capacity (adjustable feet)		800 kg
Dynamic load capacity (transport castors)		400 kg
Accessories	Included	4 x Levelling feet
		4 x Key for front/back door
		4 x Key for sidepanel lock
		20 x KS600
		20 x KM600
		1 x Allen key
	Optional	SPR10CS - Rack interconnection slot
		SPR60FS - Fixed shelf
		SPR60SS - Sliding shelf
		SPR60LR - L-rail (horizontal support)
		SPR60PT - Rack plinth
		SPR60RF - Cooling roof fan unit (230V)
		KS600 - M6 x 16 mm bolt DIN7985 Black
		KM600 - M6 Cage nuts

Architects' and Engineers' Specifications:

The rack shall have the following dimensions: Height 918 mm, Depth 600 mm, Width 600 mm, have a Weight of 52 kg and hold up to 18 units. The rack shall comply with ANSI/EIA RS-310D, DIN41491 and IEC60297 standards. 50 mm wheels will be included as well as leveling feet. The frame of the rack shall be constructed out of cold rolled steel of 2 mm thick while for the other parts a thickness of 1.2 mm shall be used . These parts shall have a textured black powder coating (RAL9004) color. The mounting rail shall be adjustable in depth on the front and rear side and have unit measurement indicators on the front side. Rack shall include tempered smokey grey glass door on the front side and a steel door on the rear side, both equipped with standard key-lock. Sides of the rack shall be removable and the top shall have a ventilation grid.

We reserve the right to change specifications without notice, this is part of our policy to continually improve our products.

Technical drawings:



We reserve the right to change specifications without notice, this is part of our policy to continually improve our products.

ELEMENT A

logitech

CABLES ÓPTICOS ACTIVOS USB 3.2

USB LOGITECH STRONG

Disponibles en longitudes de 10, 25 y 45 metros (32,8, 82 y 147,6 ft), los cables USB Logitech Strong conectan ordenadores PC, Mac y Chromebox a dispositivos y hubs con alimentación propia, incluidos Logitech MeetUp, la cámara Logitech Rally y Logitech Tap.

ALCANCE AMPLIADO, RENDIMIENTO FIABLE

Implemente dispositivos USB 2.0 y 3.x en cualquier lugar de la sala a la vez que mantiene el ordenador oculto fuera de la vista con cables USB Logitech Strong. Una alternativa superior a los alargadores USB, el cable USB Logitech Strong elimina puntos de fallo, y reduce el coste y la complejidad.

Diseñados para la instalación comercial en paredes, por encima de techos, a través de canaletas y dentro de conductos, estos largos cables USB ofrecen velocidades de hasta 10 Gbps, y cuentan con clasificación plenum y certificación Eca.

A diferencia de los cables USB normales, el cable USB Logitech Strong está hecho para durar. Con 200 newtons de fuerza de tracción y una carga máxima de 1.000 kg, el cable USB Logitech Strong ofrece un rendimiento fiable para periféricos como cámaras para conferencias, mandos táctiles y hubs USB con alimentación.

logitech

COMPARAR USB LOGITECH STRONG

	USB LOGITECH STRONG	USB 3.0 TÍPICO	USB ÓPTICO TÍPICO
Longitud	**10, 25 y 45 m**	Hasta 3 m	Hasta 100 m
Velocidad máxima de datos	**10 Gbps**	5 Gbps	10 Gbps
Compatible con USB 3.x	✓	✓	✓
Compatible con USB 2.0	✓	✓	-
Con clasificación plenum, conformidad con normativa Eca	✓	-	-
Instalación en paredes, techos, canaletas y conductos	✓	-	-
Funciona con dispositivos y hubs con alimentación propia	✓	✓	✓
Funciona con dispositivos y hubs con alimentación a través de bus	-	✓	-

ESPECIFICACIONES

CABLE		GENERAL		COMPATIBILIDAD	
Tipo de cable	Óptico activo USB 3.2 de 2.° generación	**Números de referencia**	**10 metros** N.° de referencia: 939-001799 **25 metros** N.° de referencia: 939-001802 **45 metros** N.° de referencia: 939-001805	**Puertos USB**	2.0, 3.0, 3.1 y 3.2
Conectores	USB Tipo A (macho) a USB Tipo C (macho)			**Dispositivos USB**	Dispositivos USB con alimentación propia y hubs USB con fuentes de alimentación externas, incluidos Logitech MeetUp, la cámara Logitech Rally y Logitech Tap
Velocidad	10 Gbps				
Fuerza de tracción	200 newtons	**Contenido de la caja**	Cable USB Logitech Strong Extensión de cable flexible USB Tipo C de 152 mm (6 in) Documentación		
Carga máxima	1.000 kg				
Radio de curvatura dinámico (mín.)	25 mm				
Diámetro del conducto (mín.)	19 mm (¾")	**Garantía**	Dos años de garantía de hardware limitada		
Certificaciones	Clasificación plenum Conformidad con normativa Eca/IEC 60332-1-2				

LONGITUDES DISPONIBLES

10 m (32,8 ft)

25 m (82 ft)

45 m (147,6 ft)

logitech

www.logitech.com/Strong-USB

Para realizar un pedido, póngase en contacto con su distribuidor o llámenos al 800-308-8666

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Logitech Inc. 7700 Gateway Blvd. Newark, CA 94560, EE UU

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ELEMENT B

C-UNIKAT

Cable para Video & LAN Ensamblado CAT6A U/FTP

| Ethernet - RJ-45 | DGKat | HDBaseT

El cable Kramer UNIKAT es un cable CAT6a que puede manejar todas las señales de ultima generación. Sobre cuatro pares apantallados individualmente, este cable U/FTP CAT6a puede emplearse para la transmisión de señales DGKat™, 4K HDBaseT™ o aplicaciones LAN, garantizando en todos los casos un funcionamiento óptimo

FEATURES

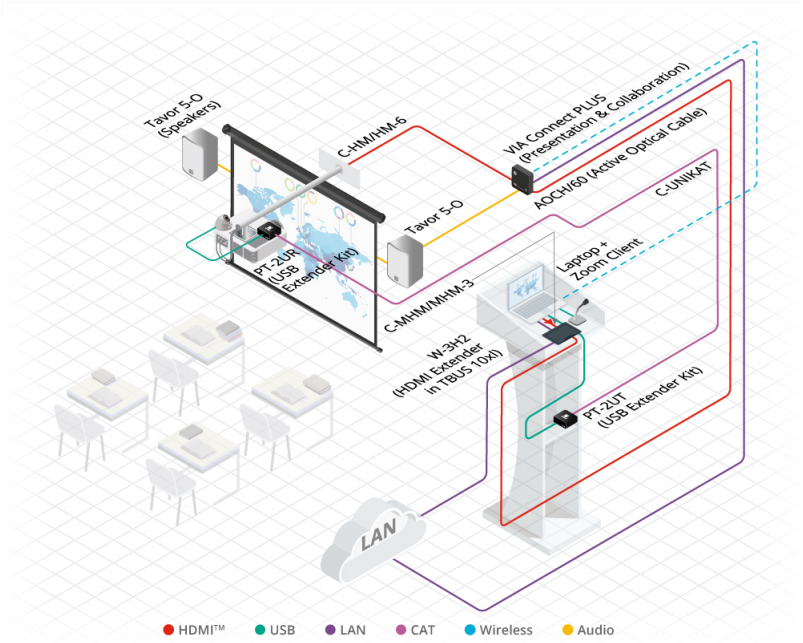
- Construcción de Calidad - 4 pares trenzados blindados (U/FTP) of 23AWG conductores en cobre sólido están cableado junto a una funda exterior sin blindaje
- Optimizado para Hardware Kramer - Utilizado con un amplio rango de conjuntos transmisor-receptor digital de par trenzado (DGKat™ y HDBaseT)
- Conectores de Alta Calidad Blindados RJ-45 - Contactos chapados en oro 50u
- Variada Selección de Longitudes - 1,8 a 100 m (6−328 pies)

TECHNICAL SPECIFICATIONS

CONSTRUCCIÓN	Conductores 4 x 2 x 23AWG, cobre templado
	Diámetro Exterior: 0.56± 0.01mm (0.022pulgadas)
	Material de Aislamiento: Piel/espuma/piel HDPE
	Diámetro Exterior: 1.33 ± 0.10mm (0.052pulgadas)
	Color: Por TIA/EIA 568−B
	Marcado: Alu/PET por par (Alu parte exterior)
	Drenaje del Hilo: 90% cobre estañado, diámetro exterior: 0.4 ± 0.01mm (0.016pulgadas)
	Exterior: LSHF, azul RAL5012
Espesor:	≥0.5mm (0.020pulgadas)
Diámetro:	7.2 ± 0.2mm (0.284pulgadas)
PHYSICAL	Máximo Tensión de Extracción: 100N
	Radio de Curvatura: Instalación 60mm (2.36pulgadas), instalado 50mm (1.97pulgadas)
	Características Térmicas: Almacenamiento/transporte/instalación 0° a 50°C (32° to 122°F), operación −20° a 60°C (−4° a 140°F)
NORMATIVA REGULADORA	Eléctrico: EIA/TIA 568A, ISO/IEC 11801
	Prestaciones de Fuego: IEC 60332−1
	Densidad de Humo: IEC 61034
	Libre de Halógenos: IEC 60754
ELÉCTRICA	Impedancia: 1−100MHz : 100 ± 15Ω 100−250MHz : 100 ± 20Ω 250−500MHz : 100 ± 50Ω
	Velocidad de Propagación: 76%
	Capacitancia Par Mutuo: ≤42pF/m
	Capacitancia No Balanceado Par/Tierra: ≤1500pF/km
	Máx. Resistencia Conductor CC: <79.8Ω/km
	Resistencia del Par No Balanceado: CC <1.5%
	Resistencia Dieléctrica: 2.5kV CC (2s)
	Resistencia de Aislamiento: >5000MΩ/km
	Relación de Tensión: 30V

CONFIGURATIONS

C-UNIKat-2	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-3	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-6	Cable de cuatro pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-10	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-15	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-25	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-35	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-50	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-75	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-100	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-125	Cable Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-150	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-164	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-200	Cable con Cuatro Pares CAT6A U/FTP 4x2x23AWG
C-UNIKat-230	Four-Pair CAT6A U/FTP 4x2x23AWG Cable
C-UNIKat-328	Four-Pair CAT6A U/FTP 4x2x23AWG Cable



ELEMENT C

Extron

Specifications

USBC Pro 8K Series

TRUE 8K specification

Max. 8K Capabilities			
Resolution	**Refresh Rate**	**Chroma Sampling**	**Max. Bit Depth per Color**
7680x4320	30 Hz	4:4:4	8 bit

Max. 4K Capabilities			
Resolution	**Refresh Rate**	**Chroma Sampling**	**Max. Bit Depth per Color**
4096x2160	60 Hz	4:4:4	12 bit
3840x2160	120 Hz		8 bit

Frame rate[1] ..... 24, 25, 30, 50, 60, or 120 fps
Chroma sampling[1] ..... 4:4:4 or 4:2:2
Color bit depth[1] ..... 8, 10, or 12 bits per color
Signal type ..... Up to DisplayPort 1.4 and HDCP 2.3
Max. video data rate ..... 32.4 Gbps (8.1 Gbps Per Lane)

NOTE: [1]Subject to the maximum data rate limit. Use our calculator at **www.extron.com/8Kdatarate** to determine video parameters supported by this data rate.

Video

DisplayPort video ..... DisplayPort Alt Mode, DP 1.4 (4 lanes), up to HBR3/8.1 Gbps per lane with MST
Maximum data rate ..... 32.4 Gbps (8.1 Gbps Per Lane)
Resolution range ..... Up to 7680x4320 @ 30Hz
Color space ..... 4:4:4 or 4:2:2
Color bit depth ..... 8, 10, and, 12 bits per color – (Subject to maximum data rate)
Standards ..... Up to DisplayPort 1.4 and HDCP 2.3
Format ..... RGB and YCbCr digital video

Data

USB specification ..... USB 2.0 and USB 1.1 compatible
USB data rate ..... Up to 480 Mbps
Maximum built-in USB hubs
USB 2.0 2

Power

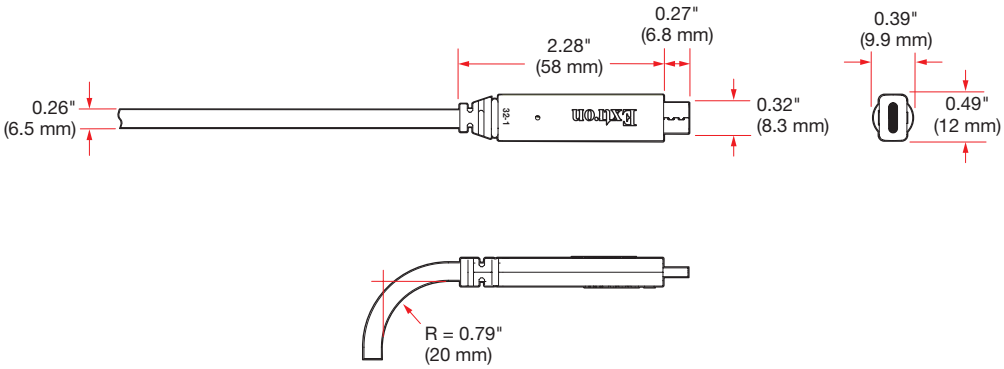
Maximum power delivery ..... 60 W
Maximum current ..... 3 A

Mechanical

Max tensile strength	100 N (10.2 kg, 22.5 lbs)
Max. compression load resistance	200 N (20.4 kg, 45 lbs)
Max pull strength	111 N (11.3 kg, 25 lbs)
Cable outer diameter	0.26" (6.5 mm)
Bend radius	0.79" (20 mm)

General — physical characteristics

Connectors	1 USB-C Male to 1 USB-C Male
Contacts	Gold plated
Material	Conductors: Multi-mode fibers and 24 AWG tinned copper wires Jacket: PVC – Polyvinyl Chloride
Connector dimensions	2.55" L x 0.49" W x 0.39" thick (65 mm L x 12 mm W x 9.9 mm thick)



General

Regulatory compliance	CE, RoHS, UL-CMX, WEEE
Warranty	Limited Lifetime Performance

NOTE: Specifications are subject to change without notice.

NOTE: All nominal levels are at ±10%.

NOTE: Shipping weights and dimensions are available at **www.extron.com**.

6078-D4

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Serie USBC Pro 8K

Cables ópticos de vídeo USB-C® 8K/30 con entrega de datos USB High-Speed y 60 W de potencia

GALERÍA DE IMÁGENES

TOOLS

Inicie sesión para ver precios y disponibilidad

USBC Pro 8K/12 3,6 m (12 ft) Referencia	26-748-12
USBC Pro 8K/15 4,5 m (15 ft) Referencia	26-748-15
USBC Pro 8K/25 7,6 m (25 ft) Referencia	26-748-25
USBC Pro 8K/30 9,1 m (30 ft) Referencia	26-748-30

Debido al precio especial promocional, no se aceptan devoluciones.

Visión global

Vídeo

Descripción

Enviar su opinión

ELEMENT D

MicroConnect CAT6 F/UTP Network Cable 10m, Grey

Micro Connect

MPN	STP610
EAN / UPC	7331990044693
OEM	STP-610

Agregar a favoritos

Longitud del cable: 10 m

Color producto: Grey

Nivel de existencias En stock

Tu precio

CAT6 cables enables a convenient and reliable connection from one network device, such as switch, modem or router, to another or to the infrastructure at large through a patch panel, keystone jack or wall outlet. This cable are also used a lot in small office and home network and entertainment applications. These cables are tested up to 250Mhz (CAT6 standard) and are backwards compatible with CAT5e and CAT5 cables. They are produced with latch protection, which prevents the connector do be damag... Leer descripción completa

- F/UTP Shielding, protects again EMI (Electromagnetic interference)
- LSZH (Low Smoke Zero Halogen)
- with Latch Protection
- with slimline strain relief, with gold plated PINs

Especificaciones del producto

Accesorios recomendados Alternativas

Para este producto tienes 1 accesorios de 2 categorías.

Filtrar categorías

MicroConnect Outdoor Modular CAT6 Connector

MPN KON523

En stock

Tu precio

Especificaciones de STP610

Features

Arranque de cable sin enganche
Yes

Blindaje de cable
F/UTP (FTP)

Cable estándar
Cat6

Color producto
Grey

Conector 1
RJ45

Conector 1 género
Male

Conector 2
RJ45

Conector 2 género
Male

Conformidad RoHS
Yes

Frecuencia
250 MHz

Libre de halógeno

Material conductor

Copper

Material cubierta

Low smoke zero halogen (LSZH)

Tamaño de cable AWG

26

Tipo de conductor

Stranded

Velocidad de transferencia de datos

10000 Mbit/s

Other features

Características técnicas

Kink Protection, strain relief and Latch Protection

Serie producto

Round Cable

Package dimensions (verified)

Depth Verified

20,3 cm

Gross Weight Verified

0,374 kg

Height Verified

4,8 cm

Width Verified

— Mostrar menos

Variantes de STP610

Longitud del cable	Grey	Red	White	Yellow	Black	Blue	Green
0,5 m	STP6005	STP6005R		STP6005Y	STP6005S	STP6005B	STP6005G
1 m	STP601	STP601R					STP601G
1,5 m	STP6015	STP6015R		STP6015Y			
2 m	STP602	STP602R		STP602Y	STP602S	STP602B	STP602G
3 m	STP603	STP603R		STP603Y		STP603B	STP603G
5 m		STP605R	STP605W	STP605Y		STP605B	STP605G
7 m	STP607	STP607R	STP607W	STP607Y		STP607B	STP607G
10 m	**STP610**	STP610R		STP610Y	STP610S	STP610B	
15 m	STP615	STP615R	STP615W	STP615Y	STP615S	STP615B	STP615G
20 m		STP620R		STP620Y	STP620S	STP620B	STP620G
25 m	STP625						

Otros clientes también vieron A menudo comprado junto con Productos populares ahora mismo

ELEMENT E

C-HM/HM

Cable HDMI de Alta Velocidad PREMIUM

| HDMI | 4K/60 UHD (4:2:0) | 4K/60 UHD (4:4:4) | 4K HDR

El cable Kramer C−HM/HM es la elección perfecta si necesita un cable HDMI de altas prestaciones. Admite señales de hasta 4K@60Hz (4:4:4), Profundidad de Color, x.v.Color™, Lip Sync,7.1 PCM, Dolby TrueHD, DTS−HD y CEC

FEATURES

Prestaciones de Calidad - Los cables Kramer HDMI proporcionan un enlace sin compresión digital entre los equipos de consumo tales como reproductores DVD, decodificadores y monitores de audio/vídeo como pantallas de plasma para Televisores de alta definición

Máx. Resolución - 4K@60Hz (4:4:4)

Conectores Alta Calidad - Conectores dorados 24K para resistir la corrosión, y ofrecer la mejor conectividad posible

Conectores K-Lock Resistentes a la Extracción - Proporcionan 15lbs de fuerza de extracción para una conexión sin deslizamiento

Premium certified (up to 15ft)

Variada Selección de Longitudes - Disponible en versiones de 0.9 a 15.2m (3, 6, 10, 15, 25, 35 y 50 pies)

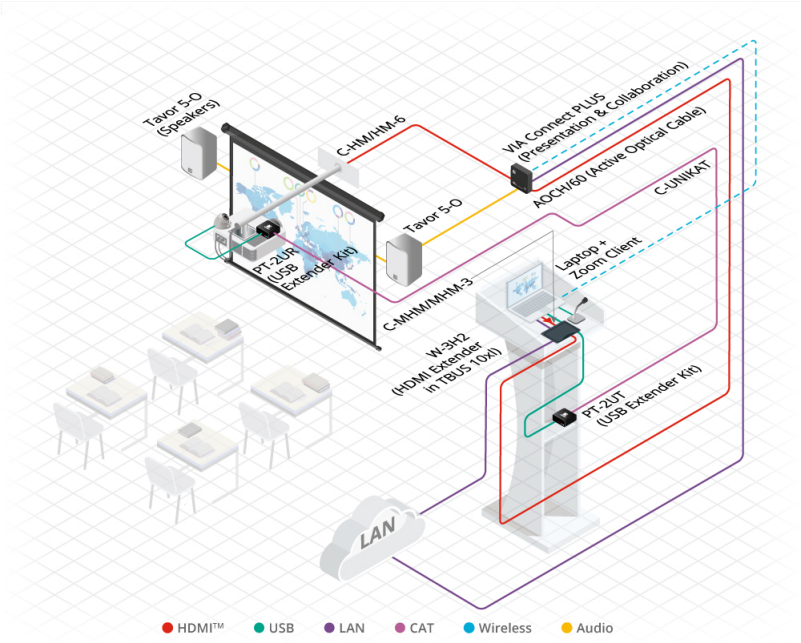
Note - The cable's color can vary in some cases

TECHNICAL SPECIFICATIONS

Video	Max Resolution for 3–15ft (.9–4.6m) lengths: 4K@60Hz (4:4:4)
	Max Resolution for 25–35ft (7.6–10.7m) lengths: 4K@60 (4:2:0)
	Max Resolution for 50ft (15.2m) lengths: 1080p
	Max Data Rate for 3–15ft (.9–4.6m) lengths: 18 Gbps
	Max Data Rate for 25–35ft (7.6–10.7m) lengths: 8.91 Gbps
	Max Data Rate for 50ft (15.2m) lengths: 4.95Gbps
	Supported Color Spaces: RGB, YCbCr, xvYCC, Adobe sRGB, sYCC601, BT.2020
	HDMI Compliance: HDR,HDCP 2.2, EDID and CEC
Audio	Supported Audio Formats: Dolby Digital Plus™, Dolby TrueHD™, DTS-HD Master Audio™, DVD Audio, SA-CD
PHYSICAL	HDMI Source: On a male HDMI type A, 24K gold-plated K-Lock connector
	HDMI Display: On a male HDMI type A, 24K gold-plated K-Lock connector
CONDUCTORS	Material: Tinned Copper/Bare Copper
	3–35ft (.9–10.7m) lengths: 28AWG (7/0.127)
	50ft (15.2m) lengths: 26AWG (7/0.160)
SCREENING	Type: Triple shielding
JACKET	Material: PVC
	Color: Gray
	Diameter for 3–35ft (.9–10.7m) lengths: 6.50 ± 0.15mm
	Diameter for 50ft (15.2m) lengths: 9 ± 0.25
MECHANICAL	Cable Bending Radius for 3–35ft (.9–10.7m) lengths: 60mm
	Cable Bending Radius for 50ft (15.2m) lengths: 90mm
ELÉCTRICA	Temperature Rating: 80°C
	Voltage Rating: 30V
	Conductor Resistance – 28AWG: 237.25Ω/km
	Conductor Resistance – 26AWG: 148Ω/km MAX. at 20°C (68°F)
STANDARDS COMPLIANCE	Safety: Flammability Rating – CL3/FT4
	Environmental: RoHS 2011/65/ EU

CONFIGURATIONS

C-HM/HM-3	Cable HDMI de Alta Velocidad
C-HM/HM-6	Cable HDMI de Alta Velocidad
C-HM/HM-10	Cable HDMI de Alta Velocidad
C-HM/HM-15	Cable HDMI de Alta Velocidad
C-HM/HM-25	Cable HDMI de Alta Velocidad
C-HM/HM-35	Cable HDMI de Alta Velocidad
C-HM/HM-50	Cable HDMI de Alta Velocidad



ELEMENT F

CA-HM

Cable activo de HDMI de alta velocidad con Ethernet

| HDMI | 4K/60 UHD (4:4:4)

El cable de cobre activo de HDMI CA − HM es la solución perfecta para transmitir señales HDMI a largas distancias: 18 Gbps hasta 20 m (66 pies) y 10,2 Gbps hasta 30 m (98 pies). La tecnología innovadora que integra el cable en su conector permite una ecualización superior y una compensación de señal para cumplir con los desafíos más exigentes de las instalaciones de Pro AV. Esta solución simplifica las instalaciones donde se requieren largas distancias mediante el uso de un cable plug & play, que se alimenta de la fuente HDMI, por lo que no exite la necesidad de una fuente de alimentación externa. CA-HM incorpora el exclusivo conector HDMI K-Lock de Kramer, que previene que su desconexión accidental, eliminando las llamadas de soporte relativas al cable. Adicionalmente, el LED del conector indica cuando la señal se transmite con éxito

FEATURES

- Resolución de video - Hasta 4K a 60Hz (4: 4: 4)
- Alta transferencia de datos: - hasta 18 Gbps
- Compatibilidad HDMI: - HDCP 2.2, HDR, EDID, ARC y CEC
- Deep Color, xvColor ™, 5.1 / 7.1 Dolby TrueHD sin pérdida y sonido envolvente DTS-HD
- Conectores de alta calidad: - Conectores chapados en oro de 24K resistentes a la corrosión
- Resistente a la tracción - Conectores K – Lock con 15 lbs. de fuerza de contención
- Triple blindado: - para máxima protección EMI
- Certificado UL - CL3 / FT4 para instalaciones en pared
- Selección de longitudes variadas: - disponible en versiones de 15 a 98 pies (4,6 a 30 m)

TECHNICAL SPECIFICATIONS

Video	Resolución máxima para longitudes de 15−66ft (4.6−20m): 4K @ 60Hz (4: 4: 4)
	Resolución máxima para 82 pies (25 m) de longitud: 4K @ 60Hz (4: 2: 0)
	Resolución máxima para 98 pies (30 m) de longitud: C
	Velocidad máxima de datos para longitudes de 15−66ft (4.6−20m): 18 Gbps (6Gbps por canal)
	Velocidad máxima de datos para 82−98 pies (25−30 m) de longitud: 10.2 Gbps (3.4Gbps por canal)
	Cumple HDMI: HDCP 2.2, HDR, EDID y CEC
Audio	Formatos compatibles: Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio ™, DVD Audio, SA – CD
PHYSICAL	Fuente HDMI: Conector macho tipo A,
	Pantalla HDMI: En un conector macho K − Lock tipo A, chapado en oro de 24 K (entrada de alimentación externa opcional a través del conector micro USB)
CONDUCTORS	15 pies (4,6 m) de longitud: 32AWG
	Longitudes de 25-35 pies (7.6-10.7 m): 28AWG
	Longitudes de 50 pies (15.2 m): 26AWG
	Longitudes de 66 a 98 pies (20-30 m): 24AWG
SCREENING	TMDS dobles: aluminio / mylar
	En general: Aluminio / mylar + trenza de aluminio
JACKET	Material: CLORURO DE POLIVINILO
	Color: Negro
	Diámetro - 15 pies (4,6 m) de longitud: 5,5 ± 0,15 mm
	Diámetro: 25-35 pies (7.6-10.7 m) de longitud: 7.10 ± 0.15mm
	Diámetro - 50 pies (15.2 m) de longitud: 8.5 ± 0.20mm
	Diámetro - longitudes de 66-98 pies (20-30 m): 9.5 ± 0.25 mm
MECHANICAL	Radio de curvatura del cable - 15 pies (4,6 m) de longitud: 27.5mm
	Radio de curvatura del cable: longitudes de 25-35 pies (7.6-10.7 m): 35.5mm
	Radio de curvatura del cable - 50 pies (15.2 m) de longitud: 42.5mm
	Radio de curvatura del cable: longitudes de 66 a 98 pies (20-30 m): 47.5mm
	Conector Max. Fuerza de tracción: 15lbs / 6.8kg
ELÉCTRICA	Consumo de energía: Hasta 90mA / 1mA (modo de espera)
	Índice de temperatura: 80°C
	Voltaje: 30V
	Resistencia - 32AWG: 588 Ω / km
	Resistencia - 28AWG: 237.25588 Ω / km

Resistencia - 26AWG: 148.94 Ω / km

Resistencia - 24AWG: 381 Ω / km

NORMATIVA REGULADORA

Eléctrico: Listado UL, CL3 / FT4

CUMPLIMIENTO DE LA NORMATIVA MEDIOAMBIENTAL: RoHS 2011/65 / EU

CONFIGURATIONS

CA-HM-15	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-25	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-35	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-50	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-66	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-82	Cable Activo HDMI de alta velocidad con Ethernet
CA-HM-98	Cable Activo HDMI de alta velocidad con Ethernet

ELEMENT G

C-USB/AB

Cable USB 2.0 A (M) a B (M)

El Kramer C-USB/AB es un cable de alta velocidad USB 2.0 tipo A macho a tipo B macho utilizado para conectar ordenadores y dispositivos periféricos tales como impresoras, escáneres, cámaras, teclados, ratones y otros dispositivos digitales para transferir señal superior hasta 480Mbps

FEATURES

- USB Tipo A Macho a Tipo B Macho
- Tasas de Transferencia hasta 480Mbps
- La Hoja y el Trenzado Global Proporcionan la Máxima Protección Contra EMI/RFI
- Alivio de Tensión Moldeado
- Compatible con Especificaciones USB 1.0 y 1.1
- Conforme a RoHS
- Disponible en Varias Longitudes - De 0.9 a 4.6m (3 a 15 pies)
- Note - The cable's color can vary in some cases

TECHNICAL SPECIFICATIONS

TOTAL	TIPO: USB 2.0 Alta Velocidad
	MÁX. TASA DE DATOS: 480Mbps
PHYSICAL	CONECTOR A: USB Tipo A macho
	CONECTOR B: USB tipo B macho
	CONECTOR CHAPADO EN: Níquel
	CONDUCTORES: 3-6pies: 28AWG; 10-15pies: 28/24AWG
	DIÁMETRO DEL REVESTIMIENTO GLOBAL: 3-6pies: 3.5mm, 10-15pies: 4.5mm
	COLOR DEL REVESTIMIENTO GLOBAL: Gris
NORMATIVA REGULADORA	ESTÁNDARES: 2011/65/EU

CONFIGURATIONS

C-USB/AB-3	Cable USB 2.0 A (M) a B (M)
C-USB/AB-6	Cable USB 2.0 A (M) a B (M)
C-USB/AB-10	Cable USB 2.0 A (M) a B (M)
C-USB/AB-15	Cable USB 2.0 A (M) a B (M)