UltraView
dedicated professional display solutions
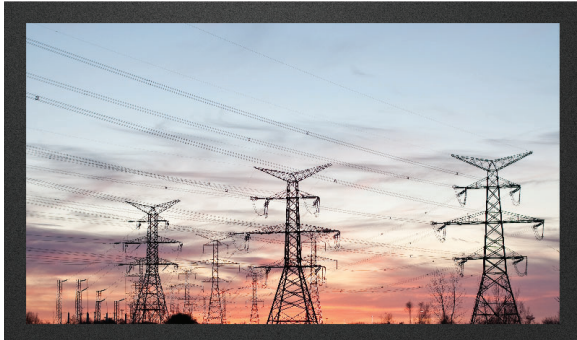
User Manual 31.5" FHD 1920 x 1080 LED-backlit LCD

AP-F32 / HAP-F32
Aluminum front bezel

NAP-F32 / HNAP-F32
Front NEMA4 / IP65

DP-F32 / HDP-F32
Aluminum Front Panel

OP-F32 / HOP-F32
Universal Open Frame

FC CE RoHS REACH

Designed and manufactured by Austin Hughes

Legal Information

Safety Instructions
Please read all of these instructions carefully before you use the device. Save this manual for future reference.

■ Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.

■ Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40º Celsius (104º Fahrenheit).

■ When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.

■ When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.

■ Arrange the equipment's power cord in such a way that others won't trip or fall over it.

■ If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labelled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.

■ Observe all precautions and warnings attached to the equipment.

■ If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.

■ Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.

■ Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.

■ If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

■ Any product, on which the serial number has been defaced, modified or removed.

■ Damage, deterioration or malfunction resulting from:

   ☐ Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.

   ☐ Repair or attempted repair by anyone not authorized by us.

   ☐ Any damage of the product due to shipment.

   ☐ Removal or installation of the product.

   ☐ Causes external to the product, such as electric power fluctuation or failure.

   ☐ Use of supplies or parts not meeting our specifications.

   ☐ Normal wear and tear.

   ☐ Any other causes which does not relate to a product defect.

■ Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in business, industrial and commercial environments.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

■ Re-position or relocate the receiving antenna.

■ Increase the separation between the equipment and receiver.

■ Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Contents

Before Installation

■ It is very important to mount the equipment in a suitable cabinet or on a stable surface.

■ Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

How To Clean Your LCD Monitor

⚠ Caution :

■ To avoid the risk of electric shock, make sure your hands are dry before unplugging your monitor from or plugging your monitor into an electrical outlet.

■ When you clean your monitor, do not press down on the LCD screen. Pressing down on the screen can scratch or damage your display. Pressure damage is not covered under warranty.

■ Use only cleansers made specifically for cleaning monitors and monitor screens. Cleansers not made to clean monitors and monitor screens can scratch the LCD display or strip off the finish.

■ Do not spray any kind of liquid directly onto the screen or case of your monitor. Spraying liquids directly onto the screen or case can cause damage which is not covered under warranty.

■ Do not use paper towels or abrasive pads to clean your monitor. Using an abrasive pad or any wood based paper product such as paper towels can scratch your LCD screen.

Cleaning Your Monitor

To clean your LCD safely, please follow these steps :

① Disconnect the power cord.

② Gently wipe the surface using a clean, dry microfiber cloth. Use as little pressure as possible.

Cleaning Tough Marks and Smudges

To remove tough marks and smudges, please follow these steps :

① Disconnect the power cord.

② Spray a small amount of non-abrasive cleanser on a microfiber cloth.

⚠ **Caution : Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your microfiber cloth first, not directly on the parts you are cleaning.**

③ Gently wipe the surface. Use as little pressure as possible.

④ Wait until your monitor is completely dry before plugging it in and powering it up.

AP-F32 / NAP-F32

HAP-F32 / HNAP-F32

31.5" FHD LCD display X 1
6ft VGA cable X 1
Power cord X 1
Remote controller X 1
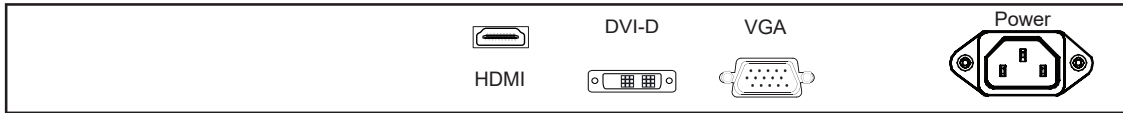
Basic I/O

		DVI-D	VGA	Power
	HDMI			

Upgrade I/O with advanced features

Audio   DP   HDMI   VGA   BNC   Power

Out   in

< 1.2 > Structure Diagram

Front view

AP-F32 / NAP-F32
HAP-F32 / HNAP-F32

Side view

Bottom view

Rear view
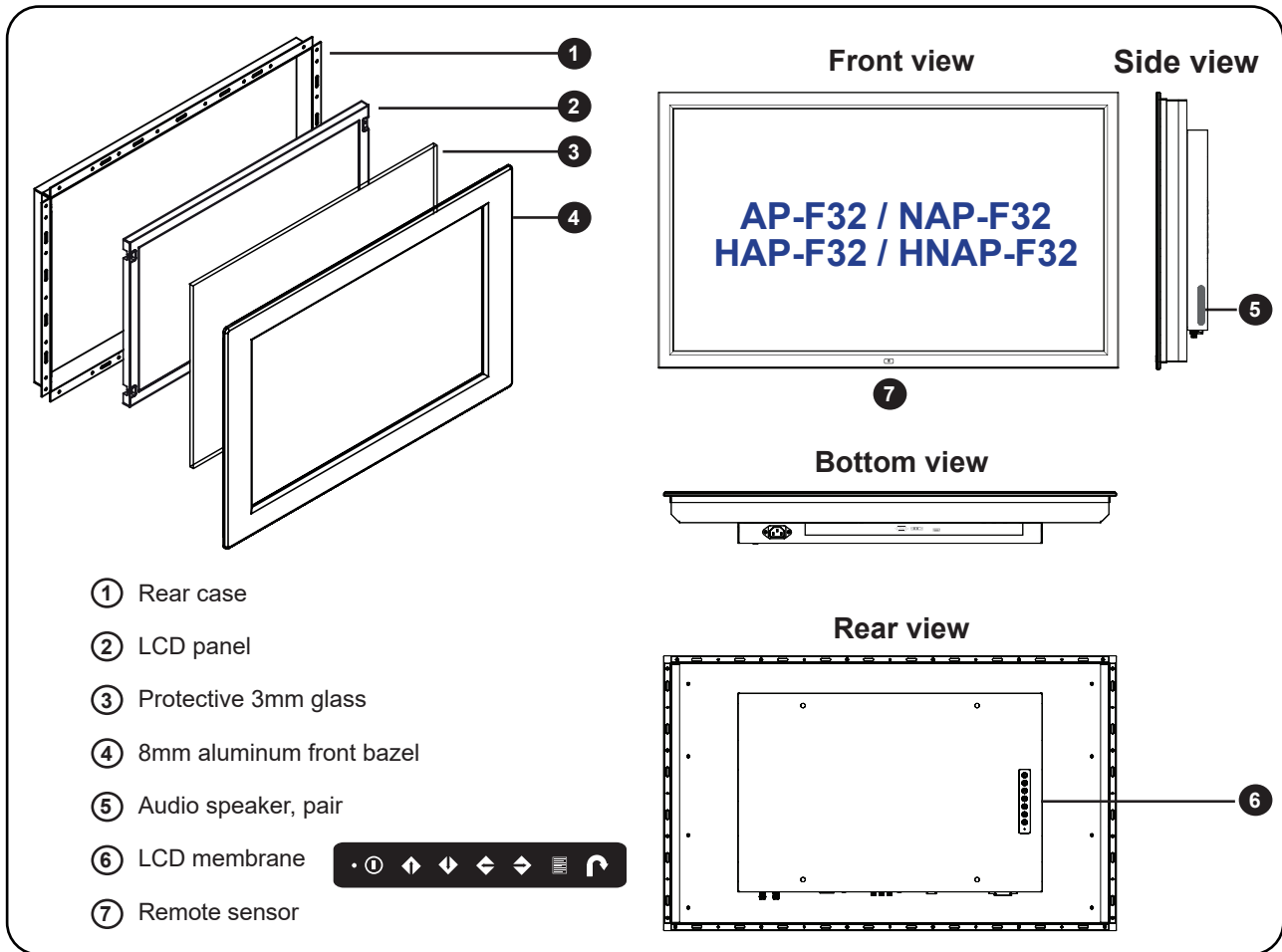
① Rear case

② LCD panel

③ Protective 3mm glass

④ 8mm aluminum front bazel

⑤ Audio speaker, pair

⑥ LCD membrane

⑦ Remote sensor

Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
AP-F32 HAP-F32	780 x 88.2 x 474 mm 30.7 x 3.5 x 18.7 inch	910 x 195 x 580 mm 35.8 x 7.7 x 22.8 inch	20.9 kg 46 lb	25.7 kg 56.5 lb
NAP-F32 HNAP-F32			23.9 kg 52.6 lb	28.7 kg 63.1 lb

Front View

Side View
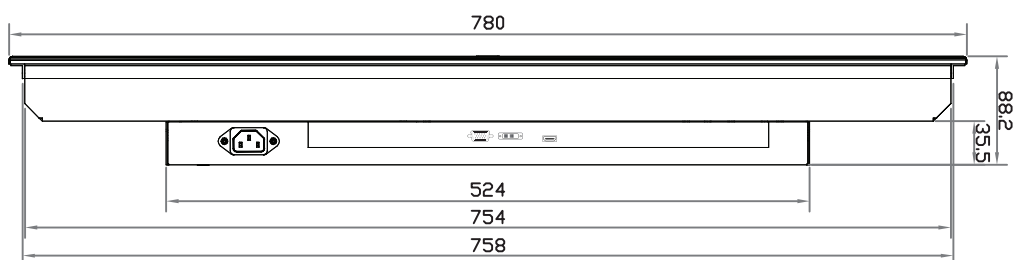
AP-F32 / NAP-F32
HAP-F32 / HNAP-F32

474
394.9
39.5
700.4
39.8
780
35.5
88.2

Rear View

UNIT : mm
1mm = 0.03937 inch

M5*8pcs
100
100
100
300
342.4
100
100
100
M8*4pcs
300
524
587.9

Bottom View

780
88.2
35.5
524
754
758

< 1.3 > VESA Installation

VESA mount (300*300mm)

■ Hardware and M8*4 pcs for VESA mount are not provided

< 2.1 > Package Content
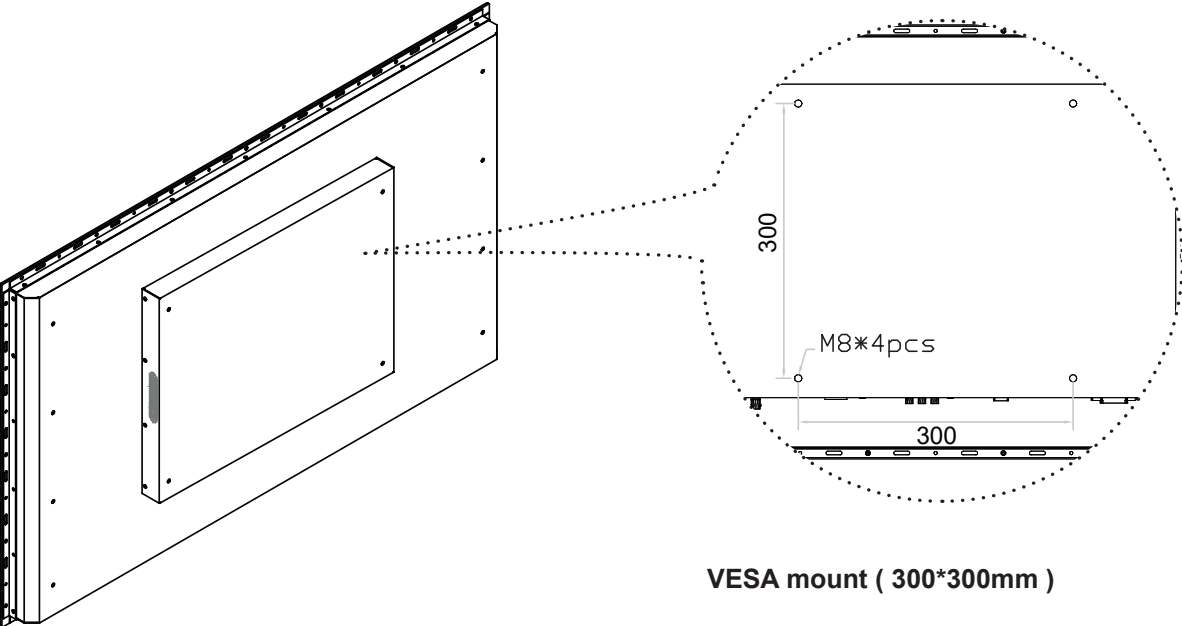
DP-F32 / HDP-F32

31.5" FHD LCD display X 1
6ft VGA cable X 1
Power cord X 1
Remote controller X 1

Basic I/O

HDMI	DVI-D	VGA	Power

Upgrade I/O with advanced features

Audio
Out   in   DP   HDMI   VGA   BNC   Power

< 2.2 > Structure Diagram

1 Rear case

2 LCD panel

3 6mm aluminum front cover

4 Audio speaker, pair

5 LCD membrane
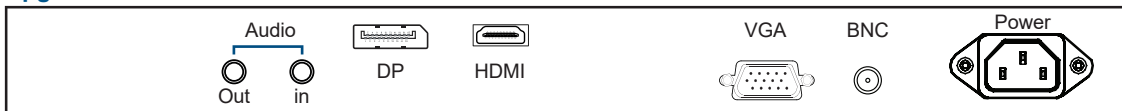
Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
DP-F32 HDP-F32	758 x 84.2 x 452 mm 29.8 x 3.3 x 17.8 inch	910 x 195 x 580 mm 35.8 x 7.7 x 22.8 inch	18.7 kg 41.1 lb	23.5 kg 51.7 lb

Front View

Side View

DP-F32 / HDP-F32

452
394.9
700.4
758
28.6
28.8
35.5
84.2

Rear View

UNIT : mm
1mm = 0.03937 inch

M5*8pcs

M8*4pcs

100
100
100

300
342.4

100
100
100

300
524
587.9

Bottom View

84.2
35.5

524
758

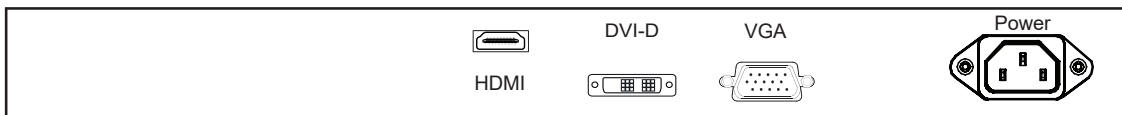## < 2.3 > VESA Installation

VESA mount (300*300mm)

■ Hardware and M8*4 pcs for VESA mount are not provided

OP-F32 / HOP-F32

31.5" FHD LCD display X 1
6ft VGA cable X 1
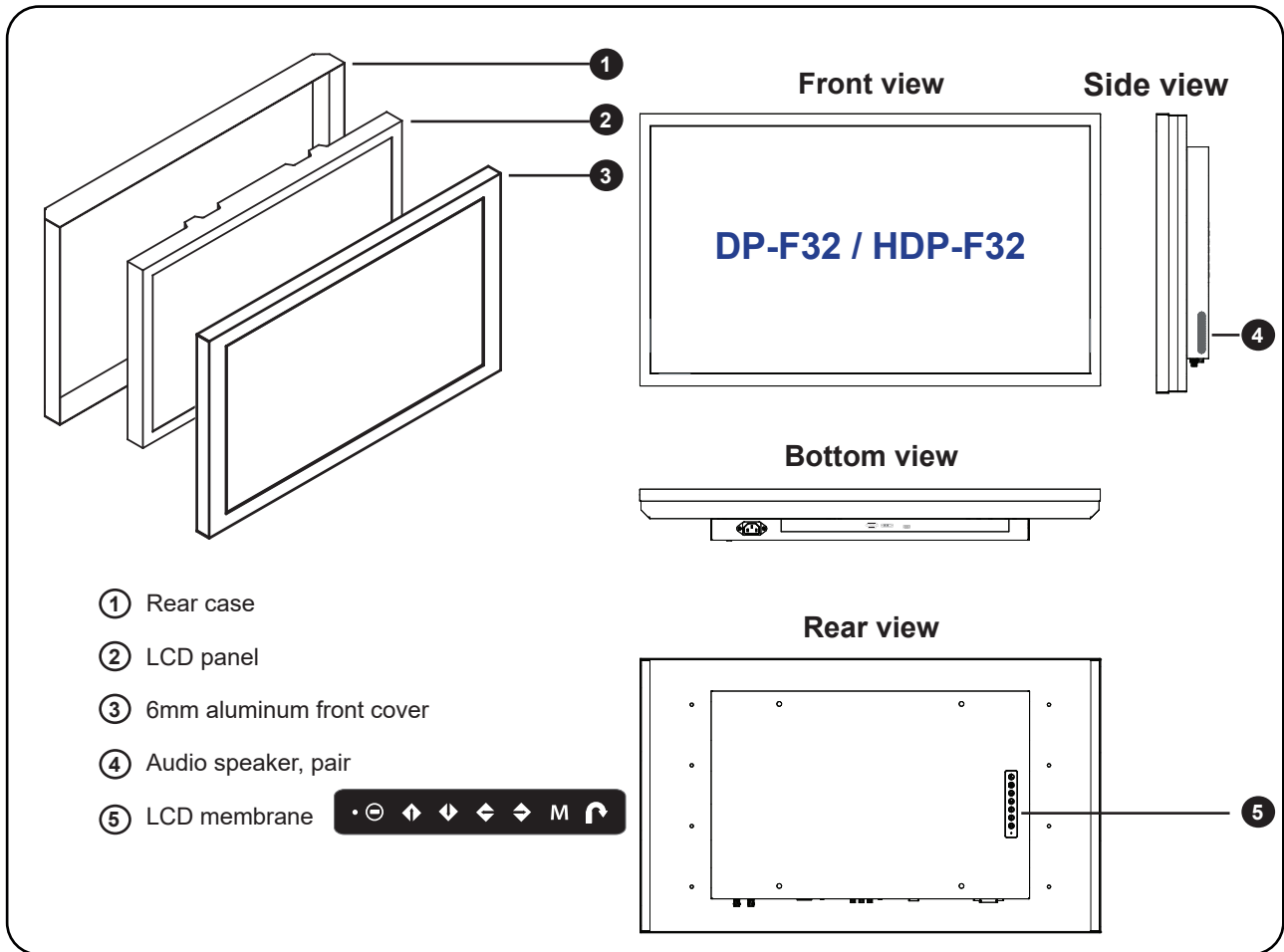**Power cord X 1**
Remote controller X 1
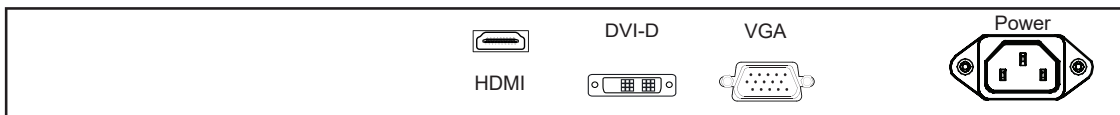
Basic I/O

HDMI   DVI-D   VGA   Power

Upgrade I/O with advanced features

Audio   DP   HDMI   VGA   BNC   Power
Out   in

< 3.2 > Structure Diagram

Front view

Side view

OP-F32 / HOP-F32

Bottom view

Rear view

① Rear case

② LCD panel

③ Universal open frame mounting

④ Audio speaker, pair

⑤ LCD membrane

⑥ Extended remote sensor membrane cable
(66cm from AD board to sensor end)
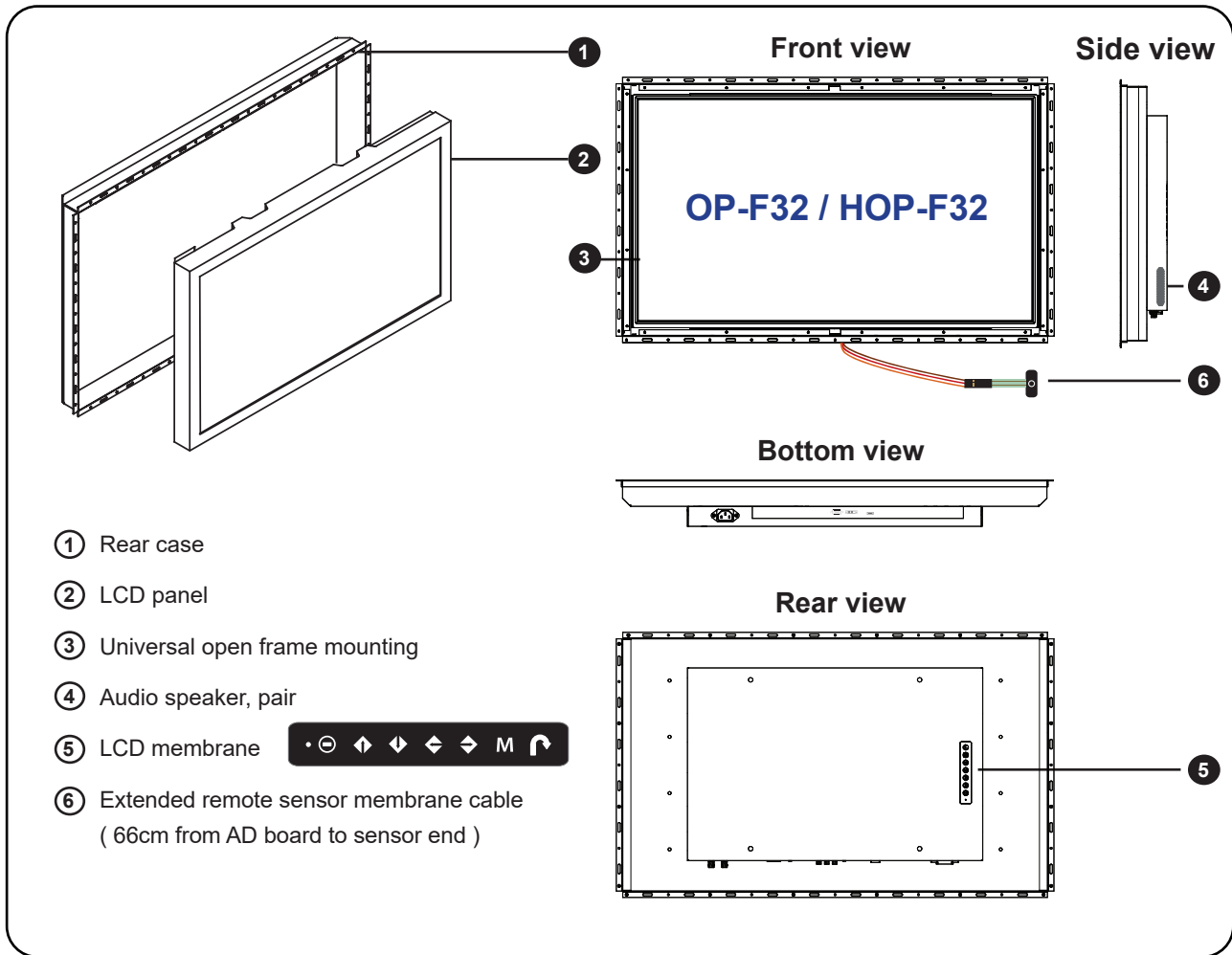
Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
OP-F32 HOP-F32	777 x 82.2 x 471 mm 30.6 x 3.2 x 18.5 inch	910 x 195 x 580 mm 35.8 x 7.7 x 22.8 inch	16.4 kg 36.1 lb	21.2 kg 46.6 lb

Front View

Side View

OP-F32 / HOP-F32

Rear View

M5✳8pcs
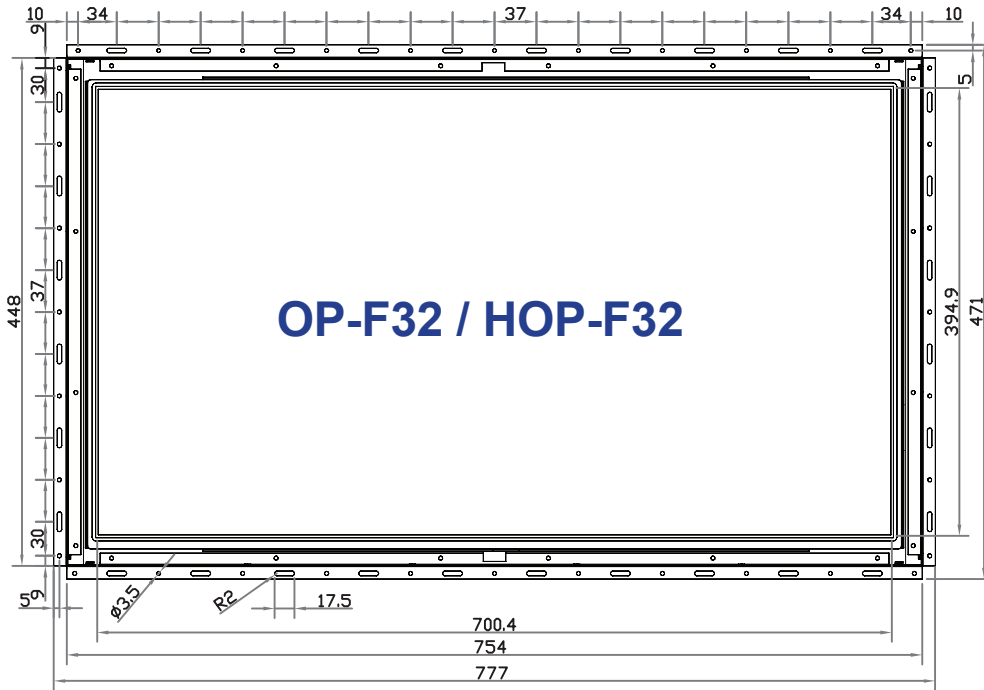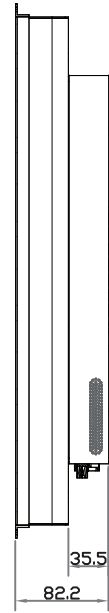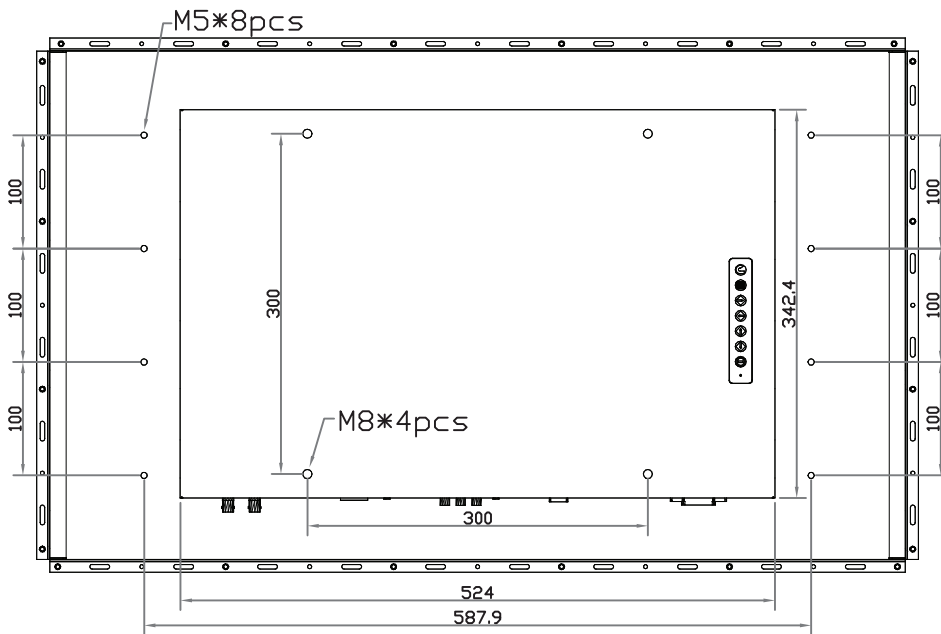
M8✳4pcs

UNIT : mm
1mm = 0.03937 inch

Bottom View
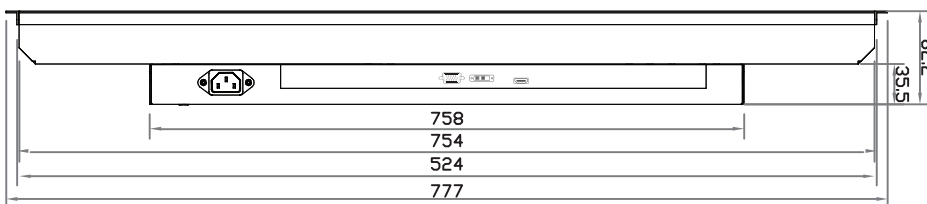
< 3.3 > Installation

(I) Universal mount
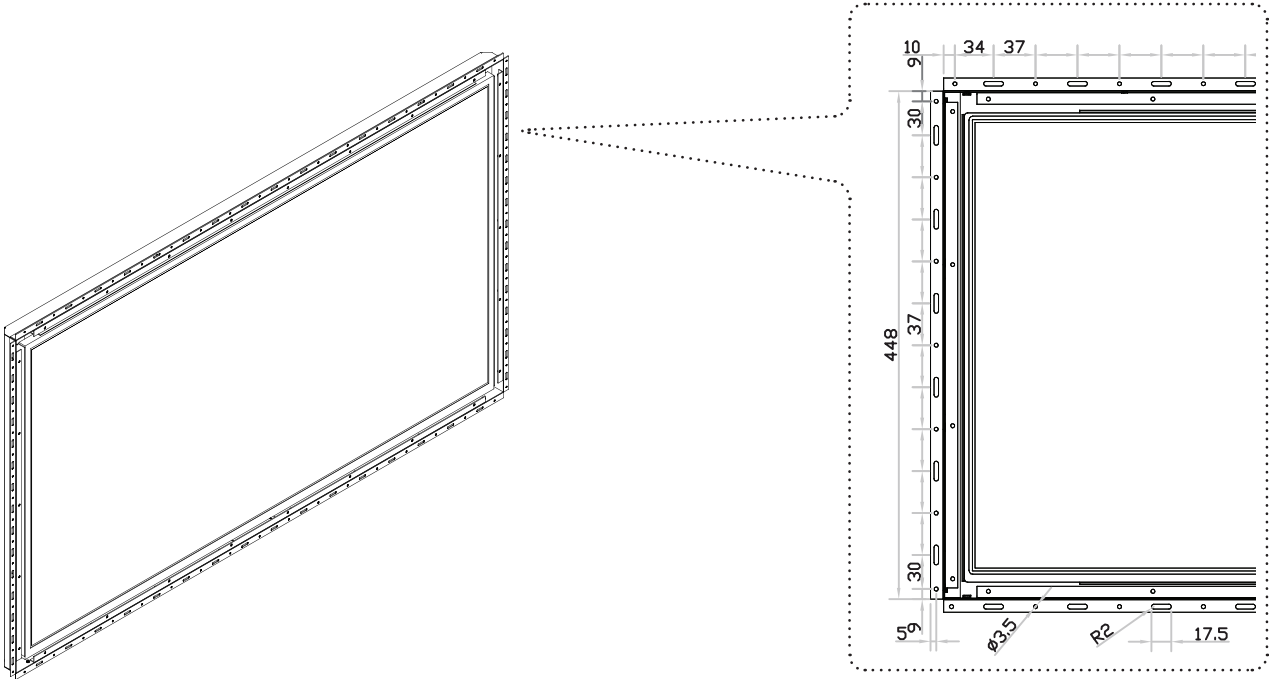
(II) VESA mount (300*300mm)
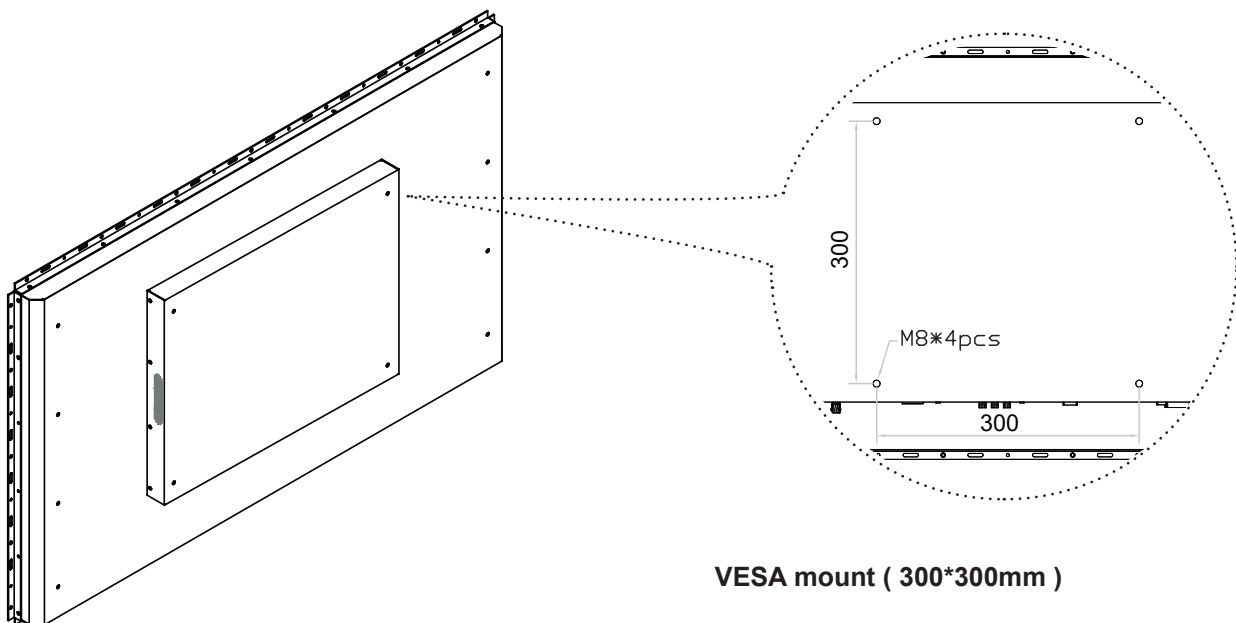
VESA mount (300*300mm)

■ Hardware and M8*4 pcs for VESA mount are not provided

Intentionally Left Blank

< Part 4 >

< 4.1 > Product Specifications

Mechanical Design	AP-F32 / HAP-F32	NAP-F32 / HNAP-F32	DP-F32 / HDP-F32	OP-F32 / HOP-F32
Protection	8mm front bezel	NEMA 4 / IP65	front cover	open frame
Front Panel	Black, RAL 9005			-
Rear Casing	Black, RAL 9005			
VESA mount	300 x 300 mm			
Universal mount	-		-	ready
Overhead tilted wall-mount	option		option	-
Desktop stnad	option		option	-

LED-backlit LCD Panel	Standard	Sunlight Readable
Brightness (cd/m^2)	350	1500
Contrast Ratio (typ.)	1200 : 1	3000 : 1
MTBF (hrs)	30,000	50,000
Panel Size (diagonal)	31.5-inch Widescreen TFT color LCD	
Native resolution	1920 x 1080	
Colors	16.7M, 8-bit	
Viewing Angle (L/R/U/D)	89/89/89/89	
Response Time (ms)	8	20
Dot pitch (mm)	0.363	
Display Area (mm)	698.4H x 392.85V	
Surface treatment	Anti-glare	
Surface hardness	3H	
Backlight Type	LED	

Video	
VGA	Analog 0.7Vp-p
DVI	DVI-D single link
HDMI	HDMI 1.4 / HDCP 1.4
Option Display port	DP 1.0 / HDCP 1.3
Composite (BNC)	NTSC & PAL

| Audio Option	
Input Connector Impedance / Power level	3.5mm stereo jack 30kΩ / 750mV
Output Connector Resistance / Power level	3.5mm stereo jack 30kΩ / 2.8V
Speaker: Dual Stereo	10W x 2

*When the audio output is connected, speaker output is OFF

Power	Standard	Sunlight Readable
Input	Auto-sensing 100 to 240VAC, 50 / 60Hz	
Consumption:		
Screen ON	Max. 56W	Max. 160W
Power saving mode	Max. 9W	Max. 9W
Power button OFF	Max. 2W	Max. 2W

Compliance	
EMC	FCC & CE
Safety	CE / LVD & UKCA
Environment	RoHS3 & REACH / WEEE

Environmental Conditions		
Operating	Temperature	0 to 55°C degree
	Humidity	10~90%, non-condensing
	Altitude	16,000 ft
Storage / Non-operating	Temperature	-20 to 60°C degree
	Humidity	5~90%, non-condensing
	Altitude	40,000 ft
	Shock	10G acceleration (11ms duration)
	Vibration	10~300Hz 0.5G RMS random vibration

Physical Specification	AP-F32 / HAP-F32	NAP-F32 / HNAP-F32	DP-F32 / HDP-F32	OP-F32 / HOP-F32
Product (W x D x H)				
mm	780 x 88.2 x 474		758 x 84.2 x 452	777 x 82.2 x 471
inch	30.7 x 3.5 x 18.7		29.8 x 3.3 x 17.8	30.6 x 3.2 x 18.5
Packing (W x D x H)				
mm	910 x 195 x 580		910 x 195 x 580	910 x 195 x 580
inch	35.8 x 7.7 x 22.8		35.8 x 7.7 x 22.8	35.8 x 7.7 x 22.8
Net Weight	20.9 kg / 46 lb	23.9 kg / 52.6 lb	18.7 kg / 41.4 lb	16.4 k g / 36.1 lb
Gross Weight	25.7 kg / 56.5 lb	28.7 kg / 63.1 lb	23.5 kg / 51.7 lb	21.2 kg / 46.6 lb
Chassis color	Dark			
Chassis materials	Aluminum			

* All dimensions stated are subject to change if options are selected / integrated to base model part codes

Applicable Format		
DVI-D / VGA Input	PC Signal	1920 x 1080 x 60Hz
		1360 x 768 x 60Hz
		1280 x 1024 x 60 / 75Hz
		1280 x 960 x 60Hz
		1280 x 768 x 60 / 75Hz
		1152 x 864 x 75Hz
		1024 x 768 x 60 / 70 / 75Hz
		848 x 480 x 60Hz
		800 x 600 x 60 / 72 / 75Hz
		720 x 400 x 70Hz
		640 x 480 x 60 / 72 / 75Hz
		640 x 400 x 70Hz
		640 x 350 x 70Hz
	Audio Signal	2ch Linear PCM
HDMI Input	PC Signal	Same as VGA
	HDMI 1.4	1920 x 1080 x 50 / 60Hz (1080p)
		1920 x 1080 x 25 / 30Hz (1080i)
		1280 x 720 x 50 / 60Hz (720p)
		720 x 480 x 50 / 60Hz (576p / 480p)
	Audio Signal	2ch Linear PCM
Display port Input	PC Signal	1920 x 1080 x 60Hz
		1600 x 1200 x 60Hz
		1360 x 768 x 60Hz
		1280 x 768 x 60 / 75Hz
		1280 x 768 x 60Hz
		1024 x 768 x 60 / 70 / 75Hz
		800 x 600 x 60 / 72 / 75Hz
		720 x 400 x 70Hz
		640 x 480 x 60 / 72 / 75Hz
	Audio Signal	2ch Linear PCM

< 4.2 > On-screen Display Operation (OSD)

○ Power light
● Green = On
● Orange = Power saving

Membrane Switch	Function
⊖	Power on / off LCD
M	Display the OSD menu
⇧ ⇩ ⇦ ⇨	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button ⇩ for 5 seconds)
↰	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

① **Picture**

Brightness : Adjust the screen brightness

Contrast : Adjust the difference between the image background (black level) and the foreground (white level)

Black level : Adjust background black level of the screen

Eco : Screen in power saving mode

```
                                    PICTURE
                                          HDMI  1920x1080@60.0Hz
PICTURE   BRIGHTNESS                              70  >
POSITION  CONTRAST                                50  >
          BLACK LEVEL                             50  >
COLOR     ECO                              STANDARD  >
OSD SET
RESET
MISC
▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```

② **Position**

H-Position : To adjust the horizontal position of the video

V-Position : To adjust the vertical position of the video

Clock : To auto adjust H. Size of the screen

Phase : To fine tune the screen.

Picture size : FULL SCREEEN / 4:3 / 5:4 / 16:10

```
                                    POSITION
                                          HDMI  1920x1080@60.0Hz
PICTURE   H-POSITION                              70  >
POSITION  V-POSITION                              50  >
          CLOCK                                   50  >
COLOR     PHASE                                   50  >
          PICTURE SIZE                           OFF  >
OSD SET
RESET
MISC
▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```

③ **Color**

Color temperature : User / Warm / Cool / 5400k mode and
　　　　　　　　　　　Red / Green / Blue color balance

Sharpness　　　　　: Adjust the image from weak to sharp

Hue　　　　　　　　: Adjust the screen hue value

Saturation　　　　　: Adjust the saturation of the image color

Dynamic
luminous control　 : Control the dynamic brightness

```
                            COLOR
                                    HDMI 1920x1080@60.0Hz
PICTURE
            COLOR  TEMPERATURE              WARM   >
POSITION    SHARPNESS          ▬▬▬▬▬         48  >
            HUE                ▬▬▬▬▬▬▬       50  >
COLOR       SATURATION         ▬▬▬▬▬▬▬       50  >
            DYNAMIC  LUMINOUS  CONTROL        OFF   >
OSD SET

RESET

MISC

▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```
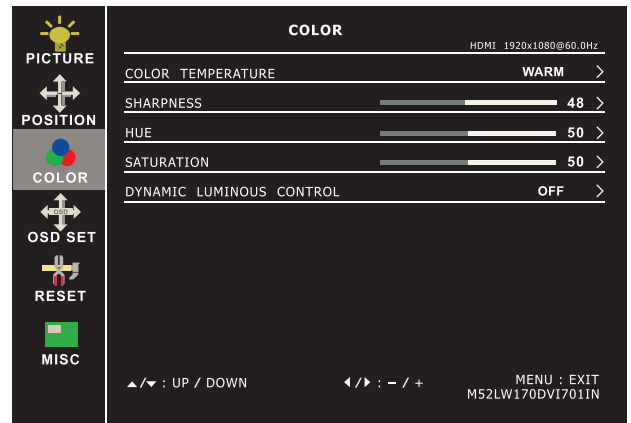
④ **OSD Set**

Language　　　　　 : Select the language in which the OSD menu is
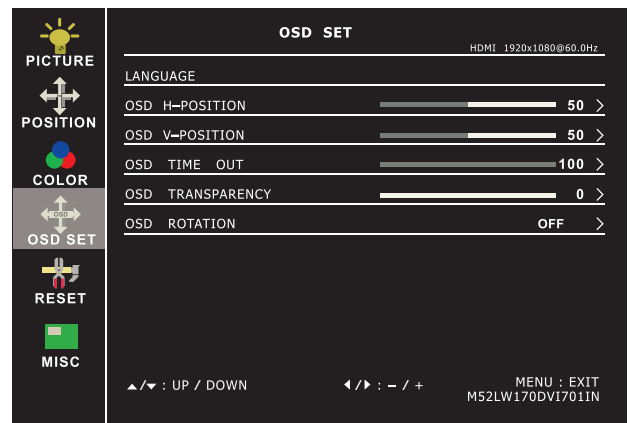　　　　　　　　　　　displayed - English

OSD H-Position　　 : Align the screen image left or right

OSD V-Position　　 : Align the screen image up or down
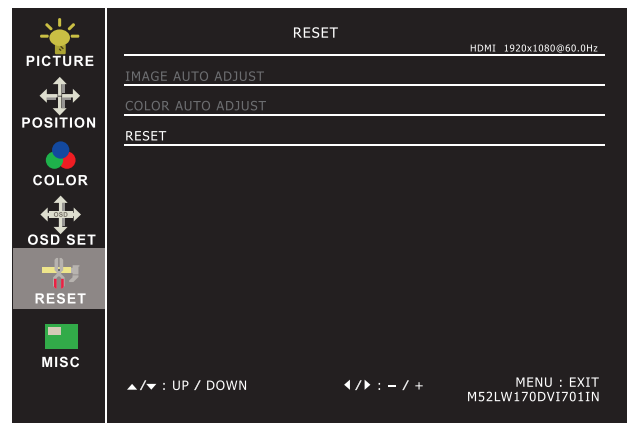
OSD time out　　　 : Adjust the screen timeout

OSD transparency : Adjust the screen transparency

OSD rotation　　　 : Rotate the screen - 90° / 180° / 270°

```
                           OSD  SET
                                    HDMI 1920x1080@60.0Hz
PICTURE
            LANGUAGE
POSITION    OSD  H−POSITION    ▬▬▬▬▬▬        50  >
            OSD  V−POSITION    ▬▬▬▬▬▬        50  >
COLOR       OSD  TIME  OUT     ▬▬▬▬▬▬▬      100  >
            OSD  TRANSPARENCY  ▬▬▬▬▬▬▬▬       0  >
OSD SET     OSD  ROTATION                   OFF   >

RESET

MISC

▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```

⑤ **Reset**

Reset　 : Return the adjustment back to factory setting

```
                           RESET
                                    HDMI 1920x1080@60.0Hz
PICTURE
            IMAGE AUTO ADJUST
POSITION    COLOR AUTO ADJUST

COLOR       RESET

OSD SET

RESET

MISC

▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```
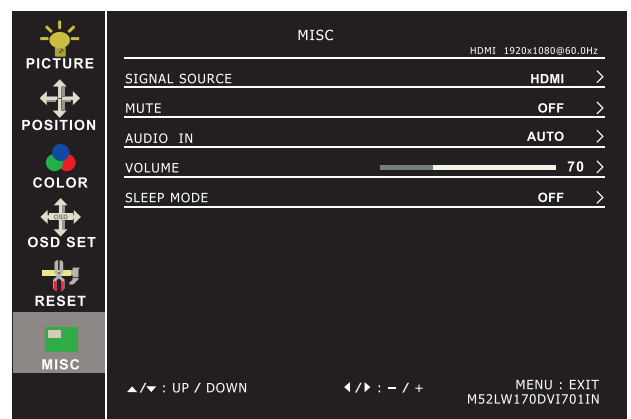
⑥ **MISC**

Signal source : Select the signal source - DP / HDMI1 / HDMI2

Mute　　　　　: Turn off the surrounding sound

Audio in　　　 : Auto / Line in / DP

Volume　　　　: Adjust the volume of sound

Sleep mode　 : Set the off time - 10 min / 20 min / 30 min /
　　　　　　　　50 min / 60 min / 120 min / 240 min

```
                           MISC
                                    HDMI 1920x1080@60.0Hz
PICTURE
            SIGNAL SOURCE               HDMI   >
POSITION    MUTE                         OFF   >
            AUDIO  IN                   AUTO   >
COLOR       VOLUME          ▬▬▬▬▬▬▬▬      70  >
            SLEEP MODE                   OFF   >
OSD SET

RESET

MISC

▲/▼ : UP / DOWN        ◄/► : − / +        MENU : EXIT
                                          M52LW170DVI701IN
```

< 4.3 > How to Use Picture In Picture (PIP) / Picture By Picture (PBP)

< 4.3.1 > Picture in Picture (PIP)

Mode

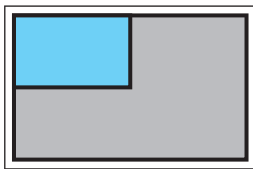Display the Sub screen in the Main screen.

OSD Menu → MISC → PIP Mode → Large / Small / OFF

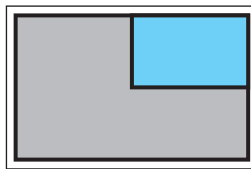**Main screen** → [diagram] ← **Sub screen**
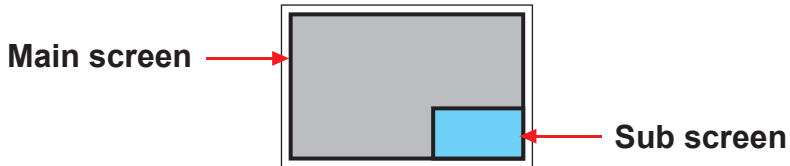
Position

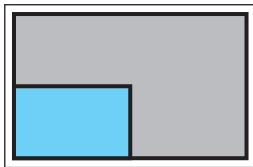Adjust the position of the Sub screen (top left, bottom left, top right, bottom right)

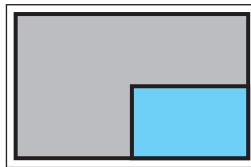OSD Menu → MISC → PIP Position → top left / top right / bottom left / bottom right

top left

top right

bottom left

bottom right

Size

Adjust the size of the Sub screen (Large / Small)

OSD Menu → MISC → PIP Mode → Large / Small

Size of Sub screen

LCD Monitor	Large Sub screen	Small Sub screen
1920 x 1200	552 x 414	480 x 360
1920 x 1080	552 x 414	480 x 360
1440 x 900	414 x 310	360 x 270
1366 x 768	392 x 294	340 x 254
1280 x 1024	368 x 276	320 x 240

< 4.3.2 > Picture By Picture (PBP)

Mode

Display the Sub screen next to the Main screen.

OSD Menu → MISC → PIP Mode → PBP

Main screen →   ← **Sub screen**

Size

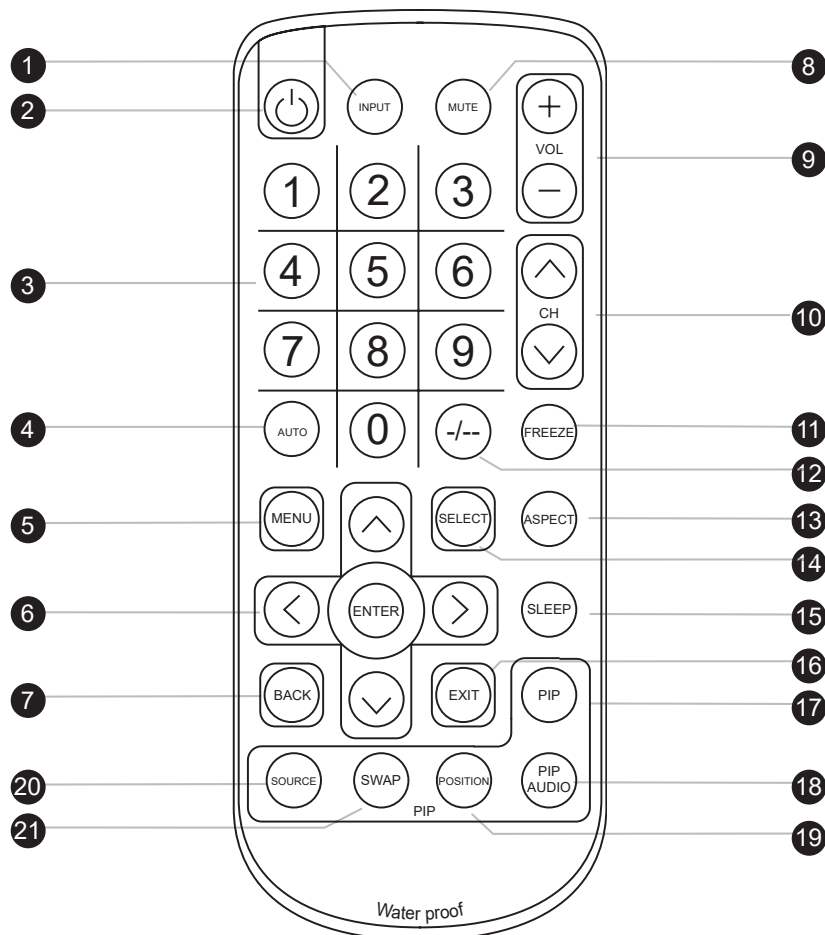| LCD Monitor	Main / Sub screen
1920 x 1200	955 x 716
1920 x 1080	955 x 716
1440 x 900	715 x 536
1366 x 768	678 x 508
1280 x 1024	635 x 476

< 4.3.3 > PIP / PBP Source

To select an input signal for PIP / PBP Sub screen.

OSD Menu → MISC → PIP Source → HDMI / SDI

The PIP / PBP is operable in the following table :

Main \ Sub	HDMI	SDI
HDMI	X	O
SDI	O	X

< 4.4 > Remote Controller (RC-2)

①	**INPUT**	Select the source
②	⏻	Switches on or off the TV
③	**0 - 9**	Only use in TV mode. Select channels. For channel numbers 10 and above, enter the second digit within two seconds.
④	**AUTO**	Auto adjust
⑤	**MENU**	Display the menu on the screen or go to the previous menu
⑥	**▲ / ▼ / ◄ / ► / ENTER**	Go to the upper menu or select the previous value / Go to the next menu or select the next value / Decrease the setting value / Increase the setting value or enter to the select item setting Enter to the select item settings or excude the setting
⑦	**BACK**	Back to previous value
⑧	**MUTE**	Turn on or off the speaker
⑨	**Vol + / -**	Increase or decrease the speaker volume
⑩	**CH + / -**	For TV model only, increase or decrease the channel number
⑪	**FREEZE**	Reserve for OEM model
⑫	**- / --**	For setting input single or double digits
⑬	**ASPECT**	Adjust the screen size
⑭	**SELECT**	To select the existing item
⑮	**SLEEP**	Select the sleeping time
⑯	**EXIT**	Exit the menu or cancel
	PIP functions	
⑰	**PIP**	Picture in picture
⑱	**PIP AUDIO**	To set the audio of in PIP mode
⑲	**POSITION**	To set the screen position in PIP mode
⑳	**SOURCE**	PIP Source
㉑	**SWAP**	Swap screen in PIP mode

< Part 5 > Options

< 5.1 > Option Table

31.5" FHD Display

| Options	AP / NAP	HAP / HNAP	DP	HDP	OP	HOP
SDI	✓	✓	✓	✓	✓	✓
MCS multi-screen control	✓	✓	✓	✓	✓	✓
Touchscreen	✓	✓	✓	✓	✓	✓
DC Power	✓	✓	✓	✓	✓	✓
MIL-type / lockable connector	✓	✓	✓	✓	✓	✓
Quad display	✓	✓	✓	✓	✓	✓
Auto / switch dimming		✓		✓		✓

< 5.2 > Options : 3G / HD / SD-SDI input
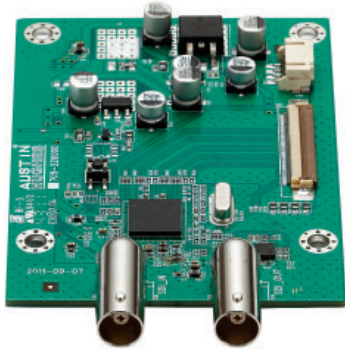
Austin Hughes' SDI input is an ideal solution for the broadcast-grade video and high resolution CCTV market.

Designed for use with UltraView displays, a SDI input module can support up to 1080p @60Hz resolution without using additional space or power and it comes standard with a 2-year warranty.

SDI
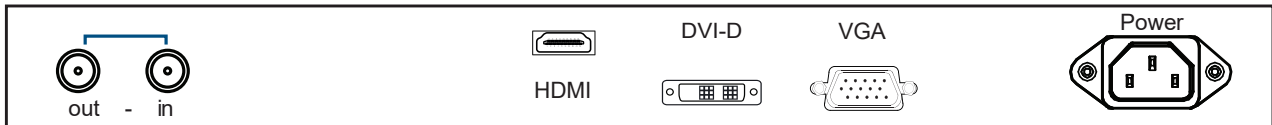
INPUT	3G-SDI IN	BNC x 1 / 0.8Vp-p (75 ohm)
	3G-SDI OUT	BNC x 1 / Active through, equalized & relocked

| Standard Compliance	Video	SMPTE 425M / 274M / 296M / 125M ITU-R BT.656
	Audio	SMPTE 299M / 272M-C

Compatible Video Format	3G-SDI	1080p	@60 / 50Hz, 4:2:2
		1080p	@30 / 25 / 24Hz, 4:4:4
		1080i	@60 / 50Hz, 4:4:4
		720p	@60 / 50Hz, 4:4:4
	HD-SDI	1080p	@30 / 25 / 24Hz, 4:2:2
		1080i	@60 / 50Hz, 4:2:2
		720p	@60 / 50Hz, 4:2:2
	SD-SDI	480i	@60Hz, 4:2:2
	ITU-R BT.656	576i	@50Hz, 4:2:2

Compatible Audio Format	3G-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	HD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	SD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized / Asynchronized Video

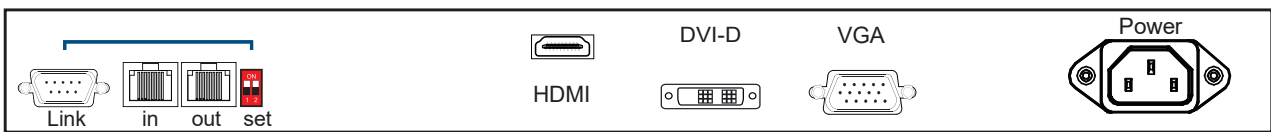| Max. Transmission Distance 75 ohm coaxial cable	3G-SDI	150m at 2.97Gb/s
	HD-SDI	250m at 1.485Gb/s
	SD-SDI	480m at 270Mb/s

MCS
(Multi-display Control)

More control is always good. Especially when it is necessary and easy. Austin Hughes provides MCS solution to control the **OSD** of various UltraView LCD display up to 64 units.
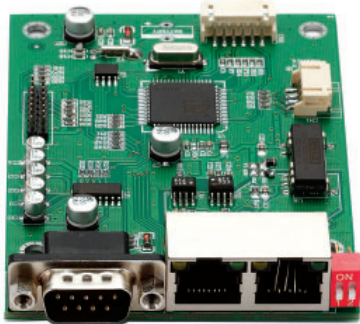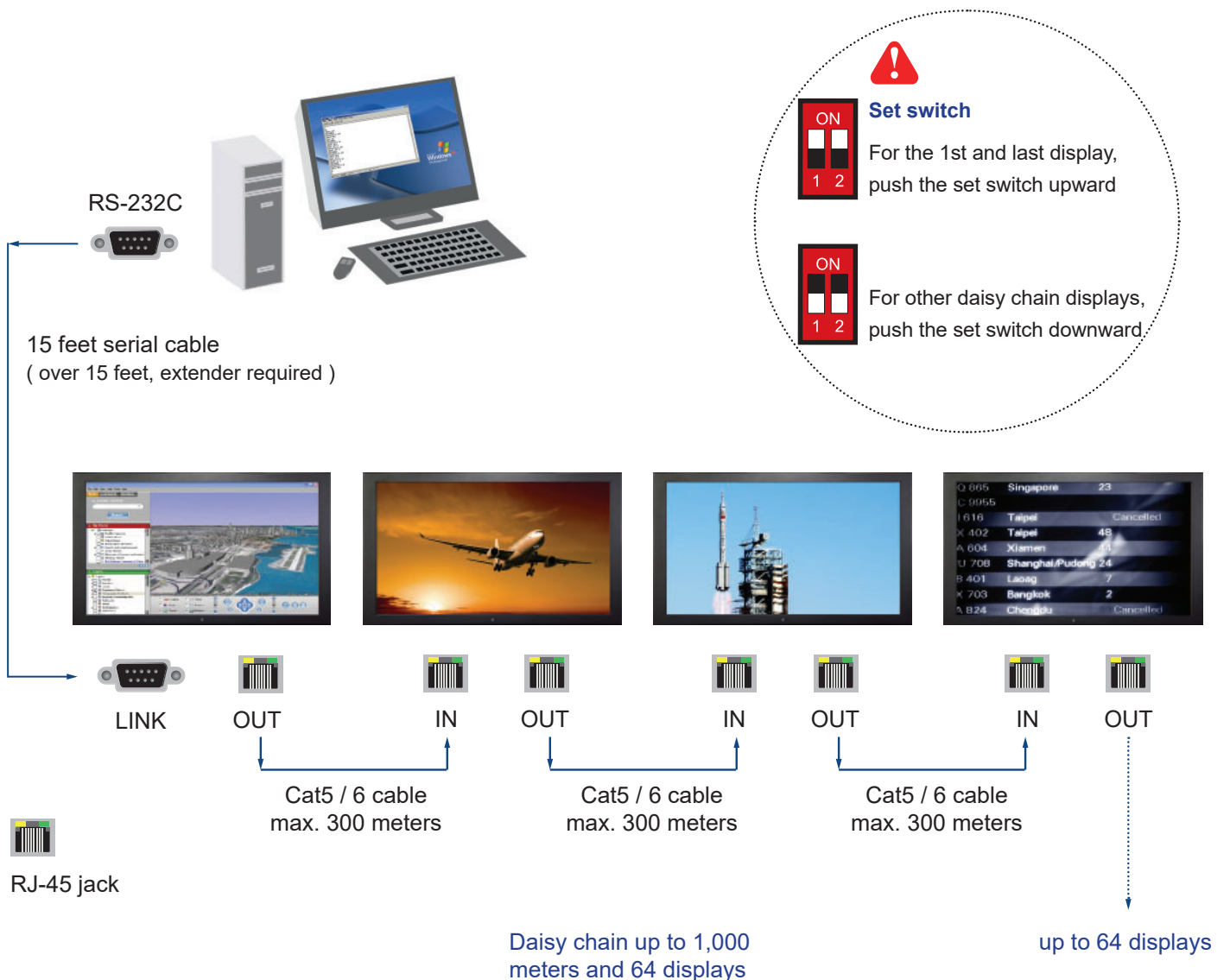
The RS-232C is used for the communication between the PC and the first display via a 15 feet serial cable while the CAN bus is used for the various LCD displays cascade together via CAT 5/6 cable, and daisy chain up to 1,000 meters.

Designed for use with UltraView LCD displays, Austin Hughes provides a MCS input module without using additional space or power and it comes standard with a 2-year warranty.

MCS

| Link | in out set | HDMI | DVI-D | VGA | Power |

*** Please download the protocol of MCS control at :
http://www.austin-hughes.com/support/usermanual/ultraview/UM-UV-MCS.pdf

RS-232C

Set switch

For the 1st and last display, push the set switch upward

For other daisy chain displays, push the set switch downward.

15 feet serial cable
(over 15 feet, extender required)

LINK   OUT   IN   OUT   IN   OUT   IN   OUT

Cat5 / 6 cable max. 300 meters   Cat5 / 6 cable max. 300 meters   Cat5 / 6 cable max. 300 meters

RJ-45 jack

Daisy chain up to 1,000 meters and 64 displays

up to 64 displays

< 5.4 > Upgrade Options :

- Display Port (DP 1.0, HCDP 1.3)
- Audio (Built-in Dual Stereo Speakers, 2W x 2)
 (3.5mm audio jacks for audio in & out   )

F31.5" USB Touchscreen Specification

Model	TPC-10 Multi-touch	IR10 Multi-touch
Technology	Projected Capacitive	Infrared
Touch Point	10	10
Input Type	Finger or Capacitive Stylus	Pen, Finger, Finger of gloved hand activation
Resolution	4096 x 4096	-
Touch Point Accuracy	± 2 mm	± 2 mm
Response Speed	< 5 ms	≤ 15 ms
Activation Force	< 5 g	No minimum touch activation force
Surface Hardness	6H	-
Light Transmission	> 85%	-
Haze	3% ↓	-
Durability	50 million touches	Unlimited
Top Layer	1.1 mm Glass	3 mm
Bottom Layer	0.7 mm Sensor Glass	-
Thickness	2 mm	-
Connector	USB	A-type USB
Compatibility	Linux / Android / Windows / Mac	Windows 7 / Windows 10

- ■ Dimension will be changed if touchscreen required
- ■ USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- ■ For detailed information, please refer to the attached CD disc
- ■ As the touchscreen unit is not made of toughened glass, please handle it carefully
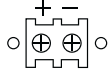
HDMI   DVI-D   VGA   Power
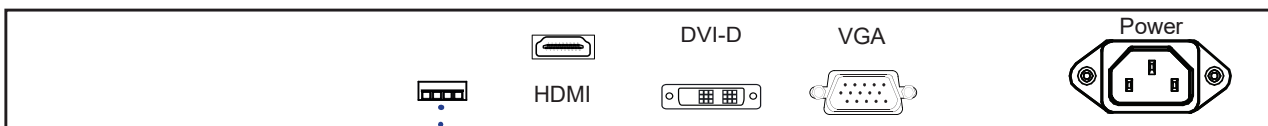
USB Touchscreen

IR10 Driver

⚠ Connect the USB cable from the USB port on the LCD to a computer. The touch screen supports easy Plug-and-Play operations. There is no need to install additional drivers on the computer.

< 5.6 > Options : DC Power

Model	24V	48V	125V
Input rating			
Input voltage:	24-Volt	48-Volt	110-Volt
Input range:	18 ~ 36V	36 ~ 75V	43 ~ 160V
Input current			
- No load	100 mA	50 mA	10 mA
- Full load	7386 mA	3611 mA	1540 mA
Output rating			
Output voltage:	24-Volt	24-Volt	24-Volt
Output current:	6.25A	6.25A	6.25A
Efficiency	88%	90%	89%

***   **For DC power option :**

(1) **If the unit with LCD,** earthing **may be required** ⚠

	Input	Part no.		MIL Standard
MIL - type Connector	DC Power *** (Male)	MS3470W8-33P		MIL - DTL - 26482
	VGA *** (Male)	MS3470W14-15P		MIL - DTL - 26482

*** There are several additional MIL DC and VGA connector types with varying design characteristics to meet cost considerations and to provide users with the most design flexibility possible. For more information, please contact us.

	Input	Part no.		Standard
Lockable Connector	DC Power (Male)	YM-Ext-461CP001		D-type 3W3
	USB	LUSB - A111 - 00		-

*** MIL - type or Lockable connectors above can be integrated with our LCD displays. Sale service just for connectors not provided.

< 5.8 > Options : Quad Display

RS-232　　VCR in　　Video IN 1 ~ 4

Alarm I/O　　VCR out　　Video Loop 1 ~ 4　　S-Video　　VGA　　Power
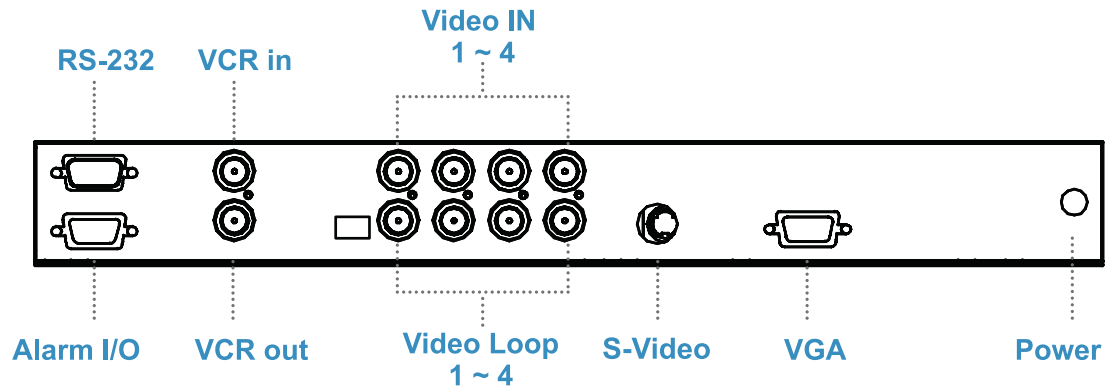
QD Specification

Item		Description	
Model Number		QD (NTSC)	QD (PAL)
Number of Color		16.7 M	16.7 M
Imaging System		NTSC	PAL
Resolution		1024 x 525	1024 x 625
Refresh Rate		60	50
Video Input	Camera Input	1.0 Vpp, 75 Ohm x 4	
	VCR Input	1.0 Vpp, 75 Ohm x 1	
Video Output	Live Monitor	1.0 Vpp, 75 Ohm x 1	
	Loop Through Out	1.0 Vpp, 75 Ohm x 4	
	VCR Output	1.0 Vpp, 75 Ohm x 1	
Auto Gain Control		Yes	
Time / Date		Yes	
On Screen Display		Yes	
Camera Title		8 Character Title	
Display Format	2 x Zoom On Playback	Yes	
	QUAD	Yes	
	FULL	Yes	
	SEQUENCY	Yes	
Dwell Time		0 to 99 Sec Adjustable	
Alarm Inputs		Selectable NO/NC Contacts x 4	
Relay Outputs		NO/NC contacts x 1: 1A @DC24V Max.	
Alarm Hold Time		1 Sec to Non-stop	
Built-in Buzzer		Yes	
Key Lock		Yes	

< 5.9 > Options for Sunlight Readable : Auto Dimming   31.5" FHD Display
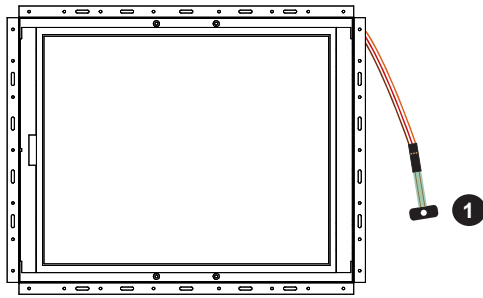
① **DA-01** Light sensor on **OP** model
(66cm from AD board to sensor end)
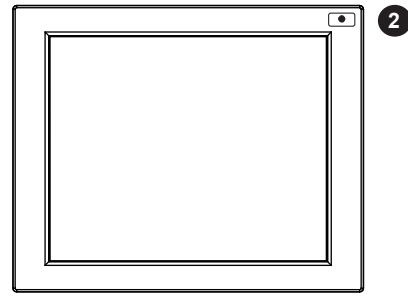
② **DA-01** Light sensor on **AP** model

DA-01 light sensor installed on the display front panel. Users can set auto dimming ON or OFF from OSD menu. Then display brightness changes according to its ambient brightness. Each change causes 10% increase or decrease on display brightness.

Once the auto dimming is ON, users cannot adjust brightness from OSD menu.

Steps : OSD Menu > Picture > Auto Dimming > ON

Light Sensor Operation Range
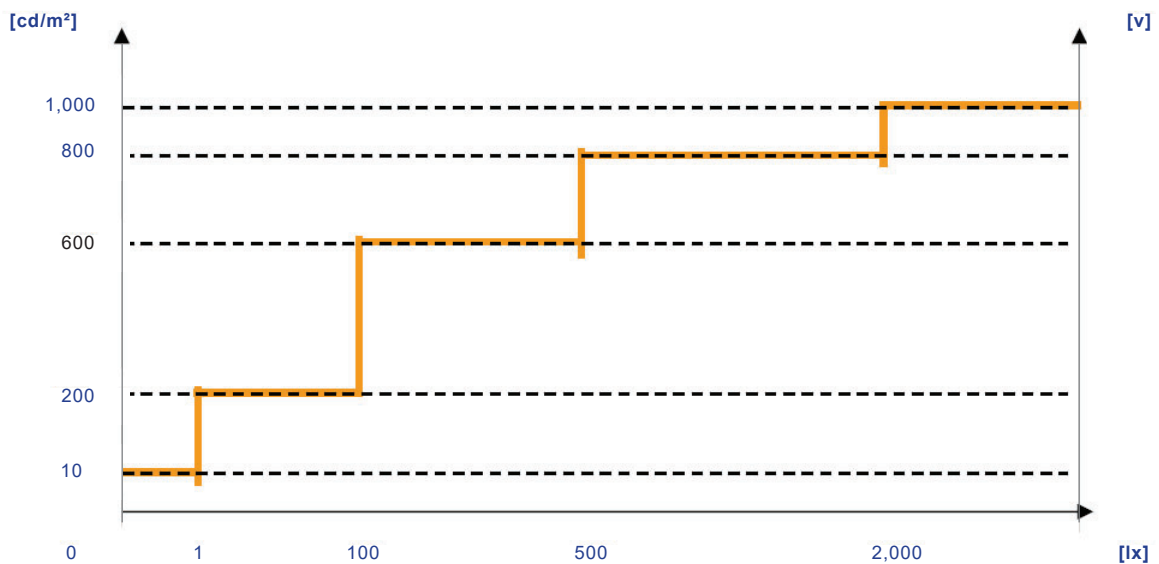
Options : Switch Dimming

DS-01 is a IP54 dimming knob installed on the bottom right side of the front panel. The display can support hyper dimming function to adjust brightness from nearly 0% to 100% via the easy-to-use knob. One click on dimming knob causes 2% increase or decrease on display brightness.
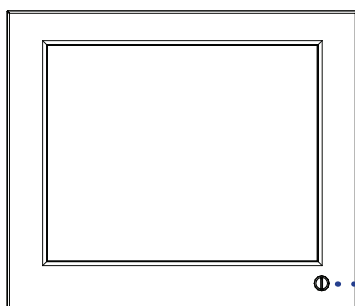
DS-01 dimming knob
Dimensions (W x H) : 15.5 x 14.2 mm

***
- **For this option, front panel and casing dimensions may be changed.**
- **For HAP series, if DS-01 dimming knob applied, IP protection will be downgraded from IP65 to IP54.**
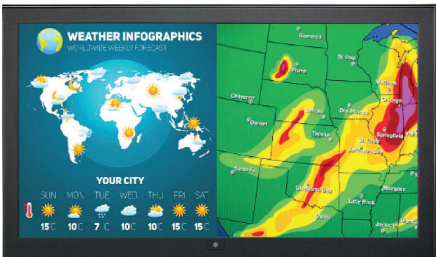
< 6 > Ultraview F32 Family

300 cd/m² Brightness

6mm aluminum front bezel

AP-F32

6mm aluminum front bezel
NEMA 4 / IP65 front protection

NAP-F32

Aluminum front cover

DP-F32

Universal open frame

OP-F32

MP-F32

Industrial Display Kit

- FHD 31.5" LED
- LCD controller
- AC power

1500 cd/m² Sunlight Readable Brightness

6mm aluminum front bezel

HAP-F32

6mm aluminum front bezel
NEMA 4 / IP65 front protection

HNAP-F32

Aluminum front cover

HDP-F32

Universal open frame

HOP-F32

Intentionally Left Blank