Panasonic

47-inch Tough LCD Display
with Dust and Water resistant and Direct Sunlight Capability

TH-47LFX60W

⬤ Product specification (design and specification subject to change without notice)

■ DISPLAY PANEL

Screen Size (Diagonal)	47-inch (1192 mm)
Panel type	IPS / D-LED
Aspect ratio	16:9
Effective Display Area (W x H)	1039 x 584 mm
Number of pixels (H x V)	1920 x 1080 pixels
Brightness	2000 cd/㎡ (Typ)
Contrast Ratio	1300:1
Dynamic Contrast Ratio	500000:1
Response Time	10 ms (G to G)
Viewing Angle (Horizontal / Vertical)	178˚ / 178˚
Panel Life Time	approx. 50000 hours*

* An approximate time until the panel brightness decreases to half of its original value.
  In the remote control power "OFF", when using the outdoor mode is included in the panel life time.

■ CONNECTION TERMINAL

HDMI IN	HDMI TYPE A Connector x 1		
DVI-D IN	DVI-D 24pin x 1	Compliance with DVI Revision 1.0 Compatible with HDCP 1.1	
AUDIO IN (L/R)	Stereo mini jack (M3) x 1 (Shared with PC IN)	0.5 V rms	
PC IN	MINI D-sub 15pin x1 (Female)	G	: with sync 1.0 Vp-p (75Ω) : without sync 0.7 Vp-p (75Ω)
		B	: 0.7 Vp-p (75Ω)
		R	: 0.7 Vp-p (75Ω)
		HD/VD	: 1.0 - 5.0 Vp-p (high impedance)
AUDIO IN (L/R)	Stereo mini jack (M3) x 1 (Shared with DVI-D IN)	0.5 V rms	
DIGITAL LINK	RJ45 x 1 (Shared with LAN)		

■ CONTROL

SERIAL IN	D-sub 9pin x 1, RS-232C compatible
LAN	RJ45 x 1, 100BASE-TX, Compatible with PJLink (Shared with DIGITAL LINK)

■ AUDIO

AUDIO OUT	Pin jack (L/R) x 1 set

■ ELECTRICAL

Power Requirements	220-240 V AC, 50/60Hz
Power Consumption	370 W
Power off condition	approx. 0.3 W
Stand-by condition	approx. 0.5 W
Outdoor mode ON	approx. 41 W
Network stand-by mode	approx. 16 W

■ MECHANICAL

Dimensions (W x H x D)	1162 x 706 x 216 mm
Bezel Width	32 mm
Carton Dimensions (W x H x D)	1308 x 851 x 323 mm
Weight	approx. 47 kg
Gross weight	approx. 55 kg
Cabinet Material / Color	Aluminum / Black (Front cabinet) & Silver (Back cover)
Protection Glass	Yes
Pitch for Wall-Hanging	VESA Compliant 400 x 400 mm (Installed by: M6 screws / Screw hole depth 17 - 55 mm)

■ INSTALLATION REQUIREMENT

Orientation	Landscape / Portrait
Tilting Angle	0-20 degrees forward with landscape and portrait setting 0-20 degrees backward with portrait setting

* Please contact your sales representative with regard to the tilt angle before installation.

■ ENVIRONMENTAL

Direct Sunlight Capability (measures against Blackout)	Yes (Built-in air cooling system)	
Dust and Water resistant level	IP55	
Operating environment	Temperature	: 0℃ to 50℃, during Outdoor mode : -20℃ to 50℃
	Humidity	: 20 % to 80 % (Non condensation)
Storage environment	Temperature	: -20℃ to 60℃
	Humidity	: 20 % to 80 % (Non condensation)

Don't use in places where the presence of corrosive gases or salt damage area.

MAIN FEATURE

Digital Zoom	Yes (x 1 ~ x 4)
MULTI DISPLAY	Yes (N x M, up to 5 x 5)
Power ON Screen Delay	Yes
Seam Hides Video Off Mode	Yes
1:1 Pixel Mode	Yes
Automatic Picture Position	Yes
Screensaver	Yes
Power Save	Yes
PC / DVI-D Power management	Yes
ECO Mode	ON / OFF
Input lock	Yes
Button lock	Yes
Remote-control User Level	Yes
Outdoor mode	Yes
Input Search	Yes
Orientation	Landscape / Portrait
Operating Time	24h / 7d
Polarized sunglasses correspondence	Yes

In case of running for a long time, the moving image is recommended to be displayed. If you display a still picture for an extended period, the image retention might remain on the screen. However, image retention can gradually disappear by displaying a moving images.

STANDARD (CERTIFICATIONS)

|	
IP (Ingress Protection) Rating	Corresponding to IP55
Safety Regulations	
Europe	EN60065, IEC60065, EAC
Asia	AS / NZS60065, SASO, IEC60065 / SS, IEC60065 / PAI
Radiation Regulations	
Europe	EN55022 Class-B, EN55024, EN61000-3-2, EN61000-3-3
Asia	CISPR22 Class-B

INCLUDED ACCESSORIES

- AC power cord (approx. 2 m) - Remote control transmitter
- Batteries - Operating instruction book - Door holders x 2
- Panasonic badge - Ferrite core x 2 - Cable tie x 2 - Screw x 12
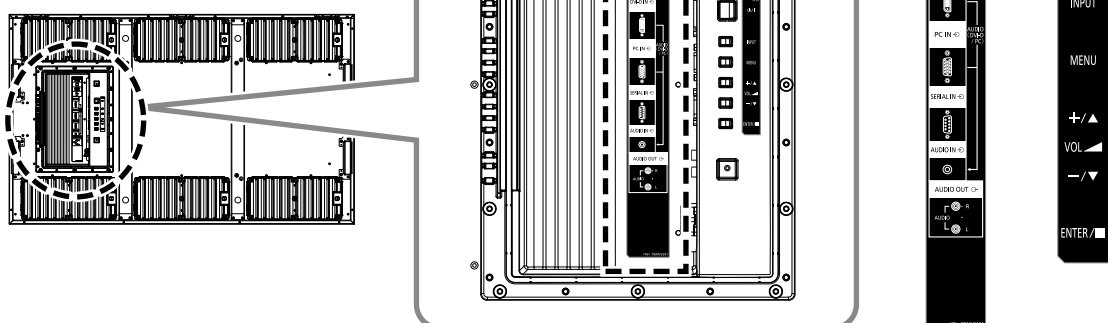
OPTIONAL ACCESSORIES

Replacement Air Filter	TY-AF60STD
Early Warning Software	ET-SWA100

DIMENSIONS

Cautions: This drawing is not a scale
Units : mm

Pitch for Wall-Hanging M6 screws
Screw hole depth: 17 - 55 mm

Remote Control Sensor
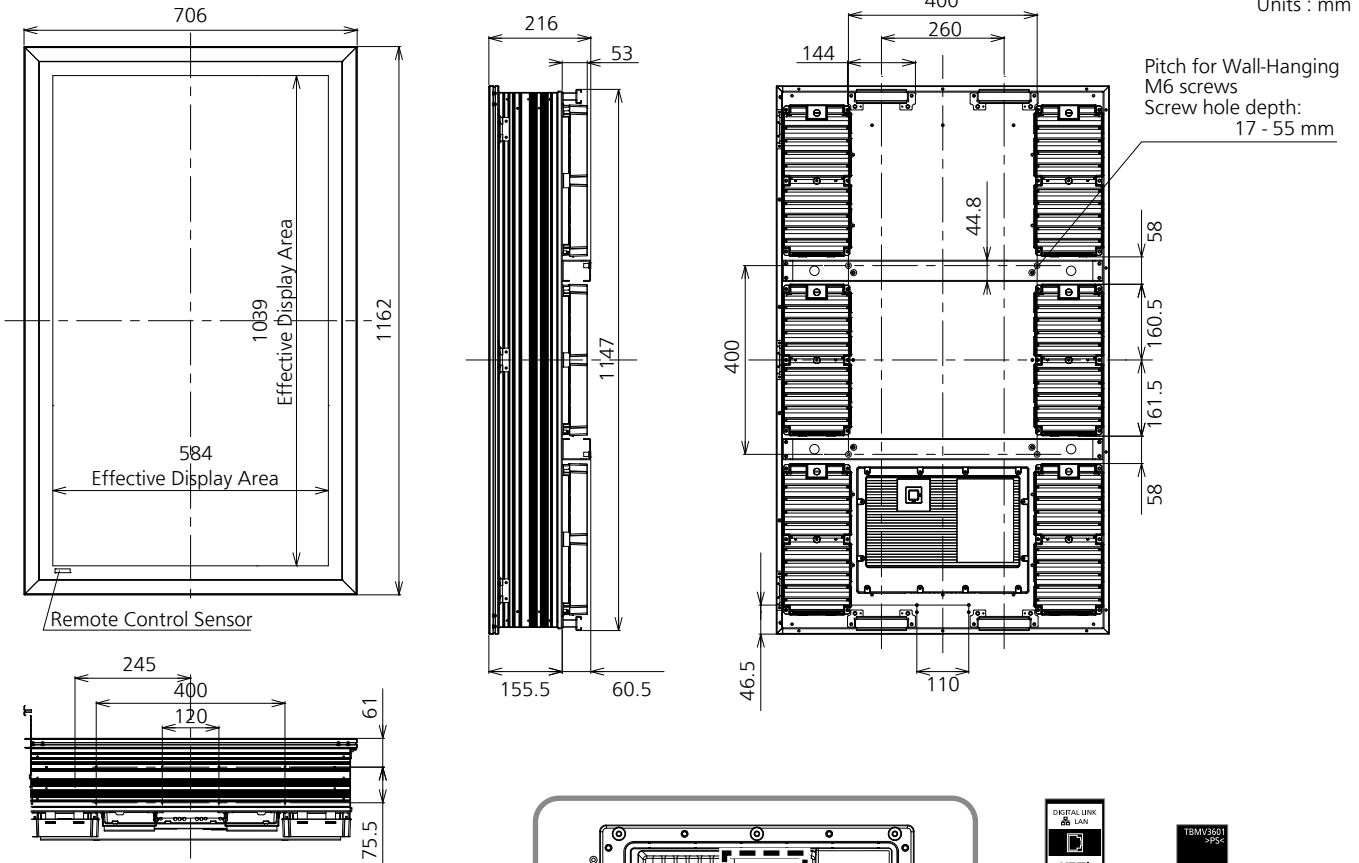
CONNECTION TERMINAL

⬤ APPLICABLE INPUT SIGNALS

PC signals

*Mark: Applicable input signal

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	PC IN (Dot clock (MHz))	DVI-D IN (Dot clock (MHz))	HDMI/ DIGITAL LINK
1	640 x 400 @70Hz	31.46	70.07	* (25.17)		
2	640 x 480 @60Hz	31.47	59.94	* (25.18)	* (25.18)	*
3	640 x 480 @72Hz	37.86	72.81	* (31.5)		
4	640 x 480 @75Hz	37.50	75.00	* (31.5)		
5	640 x 480 @85Hz	43.27	85.01	* (36.0)		
6	800 x 600 @56Hz	35.16	56.25	* (36.0)		
7	800 x 600 @60Hz	37.88	60.32	* (40.0)	* (40.0)	*
8	800 x 600 @72Hz	48.08	72.19	* (50.0)		
9	800 x 600 @75Hz	46.88	75.00	* (49.5)		
10	800 x 600 @85Hz	53.67	85.06	* (56.25)		
11	852 x 480 @60Hz	31.47	59.94		* (33.24)	*
12	1024 x 768 @50Hz	39.55	50.00		* (51.89)	*
13	1024 x 768 @60Hz	48.36	60.00	* (65.0)	* (65.0)	*
14	1024 x 768 @70Hz	56.48	70.07	* (75.0)		
15	1024 x 768 @75Hz	60.02	75.03	* (78.75)		
16	1024 x 768 @85Hz	68.68	85.00	* (94.5)		
17	1066 x 600 @60Hz	37.64	59.94		* (53.0)	*
18	1152 x 864 @60Hz	53.70	60.00		* (81.62)	*
19	1152 x 864 @75Hz	67.50	75.00	* (108.0)		
20	1280 x 768 @60Hz	47.70	60.00	* (80.14)		
21	1280 x 960 @60Hz	60.00	60.00	* (108.0)		
22	1280 x 960 @85Hz	85.94	85.00	* (148.5)		
23	1280 x 1024 @60Hz	63.98	60.02	* (108.0)	* (108.0)	*
24	1280 x 1024 @75Hz	79.98	75.02	* (135.0)		
25	1280 x 1024 @85Hz	91.15	85.02	* (157.5) *1		
26	1366 x 768 @50Hz	39.55	50.00		* (69.92)	*
27	1366 x 768 @60Hz	48.36	60.00	* (86.71)	* (87.44)	*
28	1400 x 1050 @60Hz	65.22	60.00		* (122.61)	*
29	1600 x 1200 @60Hz	75.00	60.00	* (162.0)	* (162.0)	*
30	1920 x 1080 @60Hz	67.50	60.00	* (148.5)	* (148.5)	*
31	1920 x 1200 @60Hz	74.04	59.95		* (154.0)	*
32	Macintosh13" (640 x 480)	35.00	66.67	* (30.24)		
33	Macintosh16" (832 x 624)	49.72	74.55	* (57.28)		
34	Macintosh21" (1152 x 870)	68.68	75.06	* (100.0)		

∗1: Not compatible with SYNC ON G.
• The signal format automatically detected may differ from the actual input signal in display.

Component signals

*Mark: Applicable input signal

	Signal name	Horizontal frequency (kHz)	Vertical frequency (Hz)	DVI-D IN (Dot clock (MHz))	HDMI/ DIGITAL LINK
1	525 (480) / 60i	15.73	59.94	* (27.0)	*
2	525 (480) / 60p	31.47	59.94	* (27.0)	*
3	625 (575) / 50i	15.63	50.00		
4	625 (576) / 50i	15.63	50.00	* (27.0)	*
5	625 (575) / 50p	31.25	50.00		*
6	625 (576) / 50p	31.25	50.00	* (27.0)	*
7	750 (720) / 60p	45.00	60.00	* (74.25)	*
8	750 (720) / 50p	37.50	50.00	* (74.25)	*
9	1125 (1080) / 60p	67.50	60.00	* (148.5)	*
10	1125 (1080) / 60i	33.75	60.00	* (74.25)	*
11	1125 (1080) / 50p	56.25	50.00	* (148.5)	*
12	1125 (1080) / 50i	28.13	50.00	* (74.25)	*
13	1125 (1080) / 24sF	27.00	48.00		
14	1125 (1080) / 30p	33.75	30.00	* (74.25)	*
15	1125 (1080) / 25p	28.13	25.00	* (74.25)	*
16	1125 (1080) / 24p	27.00	24.00	* (74.25)	*

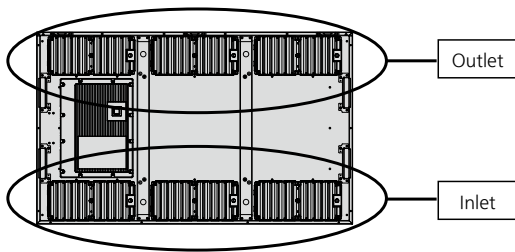• The corresponding signals for DIGITAL LINK inputs are the same as those for HDMI inputs.

◉ Precautions for installation

Although the LFX60 display corresponds to the IP55 dust and water protection standard for outdoor use, please read the following precautions before designing the installation specifications.
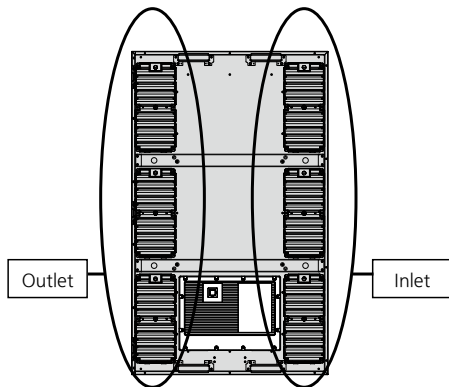
(1) Always use the product at an ambient temperature in the range of 0℃ — 50℃ (-20℃ — 50℃ with Outdoor mode "ON").

Please make sure that the intake-air temperature does not exceed 50℃. (The intake-air temperature refers to the temperature 5cm from the Inlet of the Display). Please take measures so that hot exhaust air from the Outlet does not come into the Inlet.

* Landscape installation.

Outlet

Inlet

* Portrait installation

Outlet   Inlet

For the portrait installation, the Display shall be rotated 90 degrees clockwise.

Landscape installation
-Power Indicator shall be at the lower right

Portrait installation
-Power Indicator shall be at the lower left
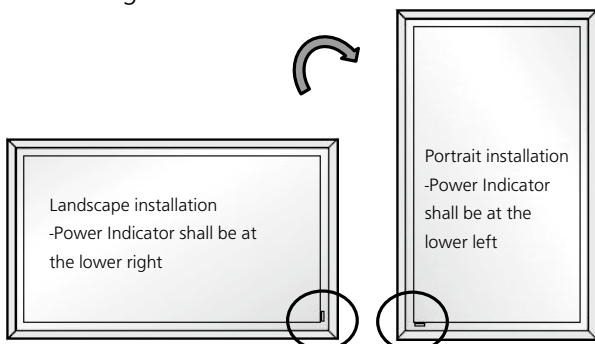
(2) The display utilizes a cooling system that circulates outside air. Do not install the display in a sealed case or enclosure without adequate ventilation.

When installing the display in a case or enclosure, please secure openings with punched metal etc. at the back of the Display Inlet and Outlet. The opening area shall be more than 1050 cm^2 for the Inlet and Outlet respectively (1050 cm^2 is a rough indication).

[Example for the enclosure design]

1) Openings for ventilation shall be located at the back of the Display Inlet and Outlet respectively with 1050 cm^2 openings (40% punched metal requires W:25cm × H:105cm dimensions).

Outlet   Inlet   40% punched metal

105cm

25cm
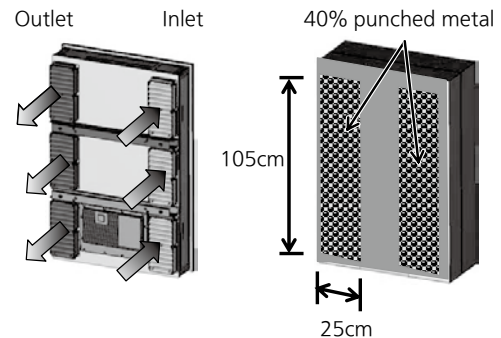
2) The required space in the enclosure shall be ;
  (1) Behind the display: 5cm to 15cm (*1)
  (2) On the left, right, top and bottom of the display: 5cm

Front side

5cm

5cm — 15cm

25cm   Rear side

40% opening of punched metal
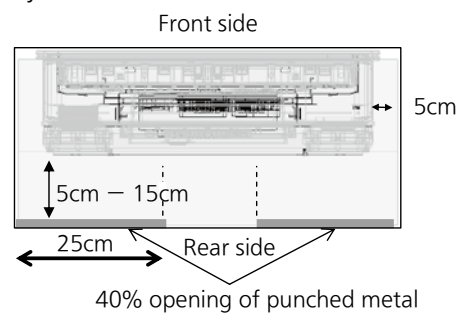
(*1) When the spacing behind the display exceeds 15cm, exhaust air may not vent smoothly and be drawn into the Display Inlet. To prevent such a situation, a separator material to isolate the intake and exhaust air shall be installed as illustrated.
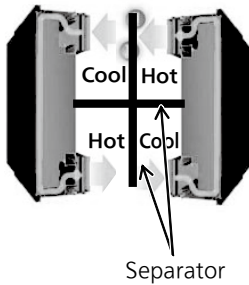

More than 15cm   Hot   Cool
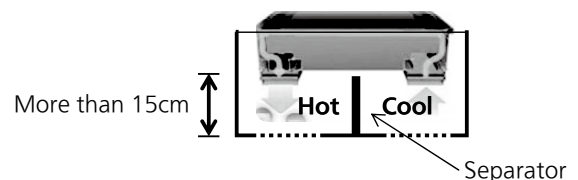
Separator

3) When installing the Displays "side by side" or "back to back", please make sure hot exhaust air is not drawn from the Inlet of the other Display. A separator material may be installed as illustrated.
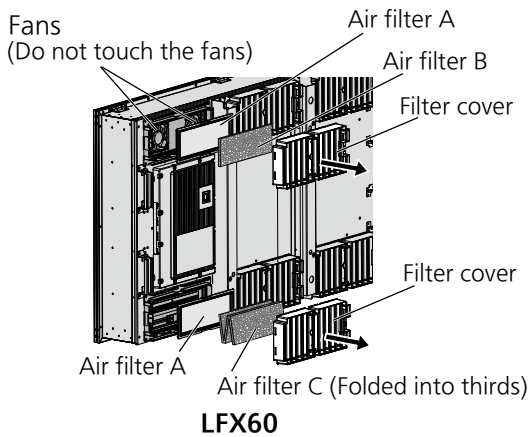
"Side by side" installation

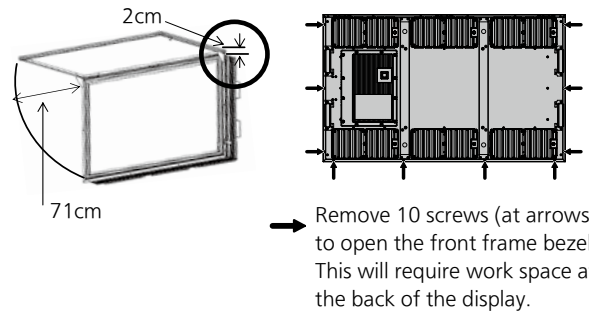

Separator
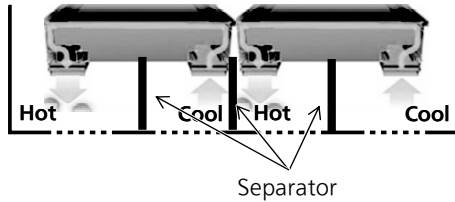
"Back to back" installation

Separator

(3) This display requires periodical cleaning or exchanging of the air filters. For maintenance purposes, please secure enough space (5cm + work space) at the back of the Display (*2).

Fans
(Do not touch the fans)
Air filter A
Air filter B
Filter cover
Filter cover
Air filter A
Air filter C (Folded into thirds)
LFX60

(*2) In case of a wall-embedded installation, securing 20cm spacing around the display is recommended (d >= 20cm).
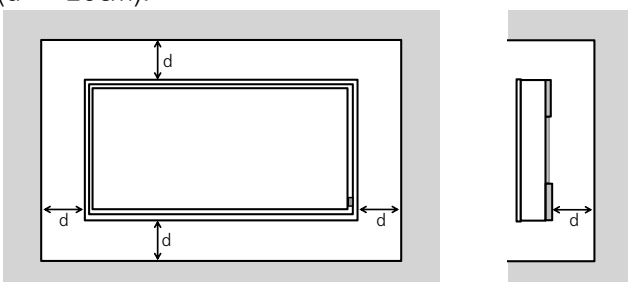
(4) Surface of the LCD panel is cooled by intake air flowing between the LCD panel and the tempered front glass. After a certain period of use, tiny particles of dust may stick to the inside of the front glass. The dust can be cleaned off by opening the front bezel frame as shown below.

2cm

71cm

→ Remove 10 screws (at arrows) to open the front frame bezel. This will require work space at the back of the display.

(*3) The front frame bezel is hinged to the cabinet. 2cm of space is required for opening it as illustrated.

(5) To use the Display in an environment where the outdoor air temperature is lower than 0°C, make sure to set the "Outdoor mode" to "On" The inside temperature is kept constant and startup can be performed smoothly. Also, set the Outdoor mode to "On" if the Display is installed where direct sunlight is on the screen. Do not unplug the power cable while using the Display with the Outdoor mode "On".

(6) If the main power cannot be provided when the Display is not in use, the Outdoor mode will not function during stand-by. Protect the display from direct sunlight by using a display cover, etc.

(7) Angled installation
The tilt angle of this display is;
   0-20 degrees forward with landscape and portrait setting
   0-20 degrees backward with portrait setting