

Industrial LCD Monitor
MODEL : 27" PCAP LCD with LED Feature
 [PN: DW270SFT-BV14(PCAP) / DW270SFG-BV14 (Glass)]

(●)	Preliminary Specification
()	Final Specification

Customer

Customer's Approval	
<u>Signature</u>	<u>Date</u>

<u>Prepared By</u>	<u>Date</u>
<u>Approved By</u>	<u>Date</u>



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Revision History

Revision No.	Revision Date	Page	Description
0.0	21/JUN/2022	-	First Draft

1. Description

Industrial TFT-LCD Open Frame monitor DW270SFT(G)-BV14 is a high performance TFT LCD monitor and providing high image from the analog RGB, HDMI, Display Port.

2. General Features

- 1920 x 1080 pixels resolution
- Low Power consumption
- RGB, HDMI, Display Port (V1.2)
- Light Emitting Diode(LED) Backlight system

3. Specification

- Product Configuration

Boards	FREESIA
Enclosure	<input checked="" type="checkbox"/> OPEN Frame <input type="checkbox"/> Bezel Frame
UI Control	<input checked="" type="checkbox"/> 5Key <input type="checkbox"/> Remote Control
Option	Projective Capacitive Touch (USB) or Tempered glass (3T)

- Display

Size	27 inches
Active Display Area	597.888 mm(H) x 336.312 mm(V)
Outline Dimension	666.9 mm(H) x 407.9 mm(V) x 50 mm(D)
Number of Pixels	1920 horiz. By 1080 vert. Pixels RGB stripes arrangement
Pixel Pitch	0.3114 mm(H) x 0.3114 mm(V)
Color Depth	16.7M colors
Viewing Angle (CR>10)	L/R : 178° (Typ.)
	U/D : 178° (Typ.)
Contrast Ratio	1000 : 1 (Typ.)
Response Time	14 msec (Typ.) (G to G)
Average Brightness	300 cd/m ² (Typ.)
Back Light System	LED Backlight
Base Panel	BOE MV270FHM-N20

● Scanning Frequency

Horizontal	30 ~ 80KHz
Vertical	50 ~ 75Hz

● Input Resolution [Analog RGB, HDMI, Display Port]

Recommended Resolution	1920x1080@60 Hz
Supported Input Resolution	640x480@59.9/75 Hz 720x400@70 Hz 800x600@60.3/72.1/75 Hz 1024x768@60/70/75 Hz 1280x720@59.9 Hz 1360x768@59.9 Hz 1280x1024@60/75 Hz 1680x1050@59.9 Hz 1920x1080@60 Hz

● Input Signal

RGB (VGA)	Analog RGB Amplitude : 0.7±0.05V Input Impedance : 75±2% ohm Sync : H/V Separate (TTL Level)
HDMI	HDMI v1.3 compliant
Display Port	Display Port (DP) v1.2 compliant

● Plug & Play

DDC2B (VESA Standard)

- Power Supply Rating

Power Consumption	LCD : 19Watt (Typ.) @Set / LED : 25Watt (Typ.) @Set
DC Output	12Vdc 3.33A x 2pcs
AC input	100~240Vac

- User Controls

OSD Key Button	5Key
OSD Language	English

4. Environment

- Operating Conditions

Temperature	0 ~ 40°C
Humidity	20 ~ 80% (without condensation)

- Non Operating Conditions

Temperature	- 30 ~ 60°C
Humidity	5 ~ 95% (without condensation)

- Transport Conditions (1month packed)

Temperature	- 20 ~ 60°C
Humidity	5 ~ 85% (without condensation)

- Storage Conditions

Temperature	- 20 ~ 60°C
Humidity	5 ~ 90% (without condensation)

5. Specifically for Liquid Crystal Display ("LCD") Screens

- Panel Grade : "A" Grade
- Pixel error classes : ISO 9241-307 CLASS I

Native Resolution	No. of Million Pixels	ISO-9241-307 Class I Allowable Defects		
		Pixel	Sub-Pixel (Dot)	
		ISO-9241-307 Class I	ISO-9241-307 Class I	
			Bright	Black
1024x768	0,79	1	2	1
			1	3
			0	5
1366x768	1	1	2	1
			1	3
			0	5
1440x900	1,3	1	2	1
			1	3
			0	5
1280x1024	1,31	1	2	1
			1	3
			0	5
1680x1050	1,76	2	4	2
			2	6
			0	10
1920x1080	2,07	2	4	2
			2	6
			0	10
1920x1200	2,3	2	4	2
			2	6
			1	10
2048x1536	3,15	3	6	3
			3	9
			0	15

※ LCD displays are made up of a set number of pixels and each pixel is made from 3 sub-pixels: one Red, one Blue and one Green

6. Electronic Component Temperature Characteristics

- A/D Board

Electrolytic Capacitors	105°C (Type : BXJ / MVK)
Printed Circuit Board	FR-4 2xArray

- USB Interface Board

Printed Circuit Board	FR-4 2xArray
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7. Key Button Function & OSD Control Function

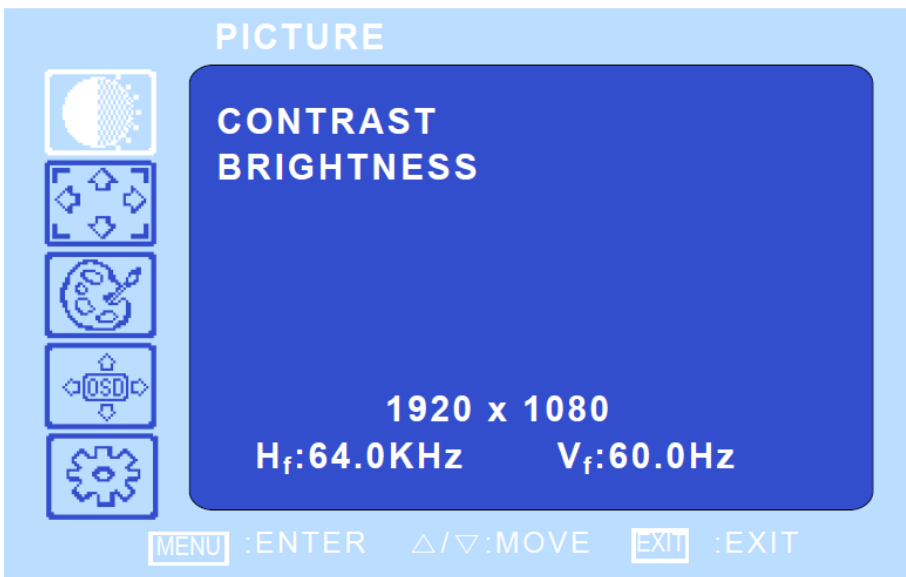
- Key Button Function



Key Name	Function	
	No OSD	OSD Menu
PWR/AUTO	Auto Adjust function	
MENU/SEL	Display Main OSD menu.	Access selected item
UP	Display "Contrast control" OSD menu.	Move up select bar and increase value
DOWN	Display "Brightness control" OSD menu.	Move down select bar and decrease value
AUTO/EXIT/SRC	Auto Adjust function	Exit OSD menu and return to previous menu.
	Change input source with long key	

Long Key : Press key and hold more than 1 sec.

- OSD Format



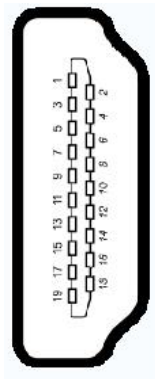
8. Cable Pin Configuration

● Analog RGB Cable (15pin D-SUB Connector)



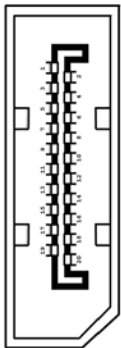
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|---|----------------|----|------------------------------|
| 1 | Red | 9 | +5V |
| 2 | Green (SOG in) | 10 | Ground - Sync |
| 3 | Blue | 11 | No Connector |
| 4 | Ground | 12 | DDC Serial Data |
| 5 | Ground | 13 | Horizontal or Composite Sync |
| 6 | Ground - Red | 14 | Vertical Sync |
| 7 | Ground - Green | 15 | DDC Serial Clock |
| 8 | Ground - Blue | | |

● HDMI Cable (HDMI Connector)



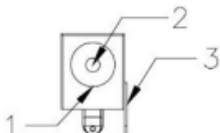
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|----|-------------------------|----|------------------------|
| 1 | HDMI DATA2+ | 11 | HDMI DATA Clock Shield |
| 2 | HDMI DATA2 Shield Cover | 12 | HDMI DATA Clock |
| 3 | HDMI DATA2- | 13 | (NC) |
| 4 | HDMI DATA1+ | 14 | (NC) |
| 5 | HDMI DATA1 Shield Cover | 15 | DDC SCL |
| 6 | HDMI DATA1- | 16 | DDC SDA |
| 7 | HDMI DATA0+ | 17 | GMD |
| 8 | HDMI DATA0 Shield Cover | 18 | +5V |
| 9 | HDMI DATA0 | 19 | HPD |
| 10 | HDMI DATA Clock | | |

● Display Port Cable (Display Port Connector)



- | | | | |
|----|----------|----|-----------------|
| 1 | DP_RXN3N | 11 | GND |
| 2 | GND | 12 | DP_RXN0P |
| 3 | DP_RXN3P | 13 | GND |
| 4 | DP_RXN2N | 14 | GND |
| 5 | GND | 15 | DP_AUXP |
| 6 | DP_RXN2P | 16 | GND |
| 7 | DP_RXN1N | 17 | DP_AUXN |
| 8 | GND | 18 | Hot Plug Detect |
| 9 | DP_RXN1P | 19 | GND |
| 10 | DP_RXN0N | 20 | DP Power |

● Power Input (DC Jack, Ø2.5)

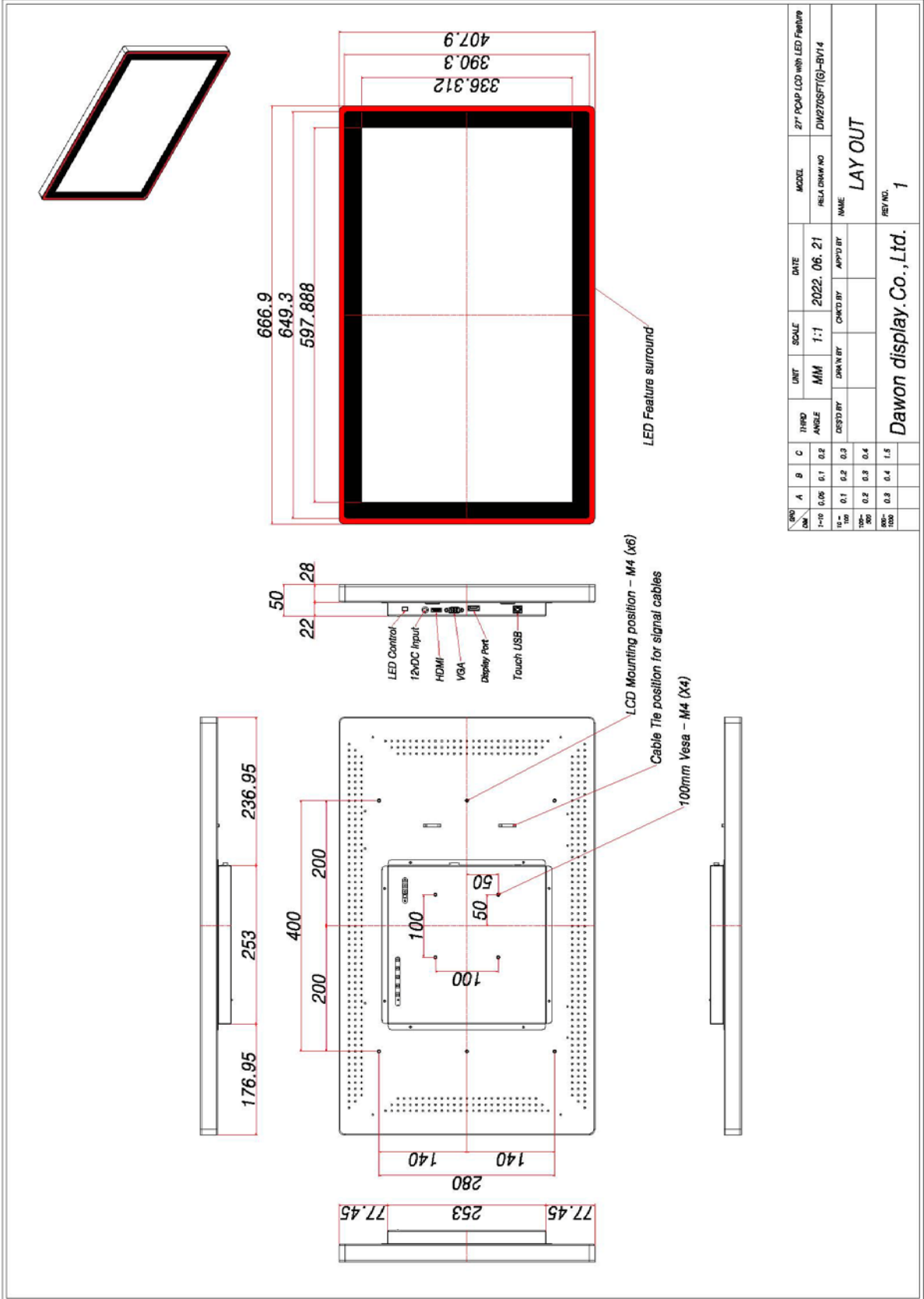


- | | |
|------|------|
| 1, 3 | GND |
| 2 | +12V |

9. Standard Display Mode

NOD	Resolution		Pixel Clock [MHz]	Hor. Freq. [KHz]	Ver. Freq. [Hz]	Remark
	Horizontal	Vertical				
1	640	480	25.175	31.4	59.9	
2			31.500	37.5	75.0	
3	720	400	28.322	31.4	70.0	
4	800	600	40.000	37.8	60.3	
5			50.000	48.0	72.1	
6			49.500	46.8	75.0	
7	1024	768	65.000	48.3	60.0	
8			75.000	56.4	70.0	
9			78.750	60.0	75.0	
10	1280	720	74.375	44.7	59.9	
11	1360	768	84.625	47.7	59.9	
12	1280	1024	108.000	64.0	60.0	
13			135.000	80.0	75.0	
14	1680	1050	147.000	65.2	59.9	Depend on LCD Module(Optional)
15	1920	1080	148.500	67.5	60.0	
16	1920	1200	154.125	74.1	60.0	

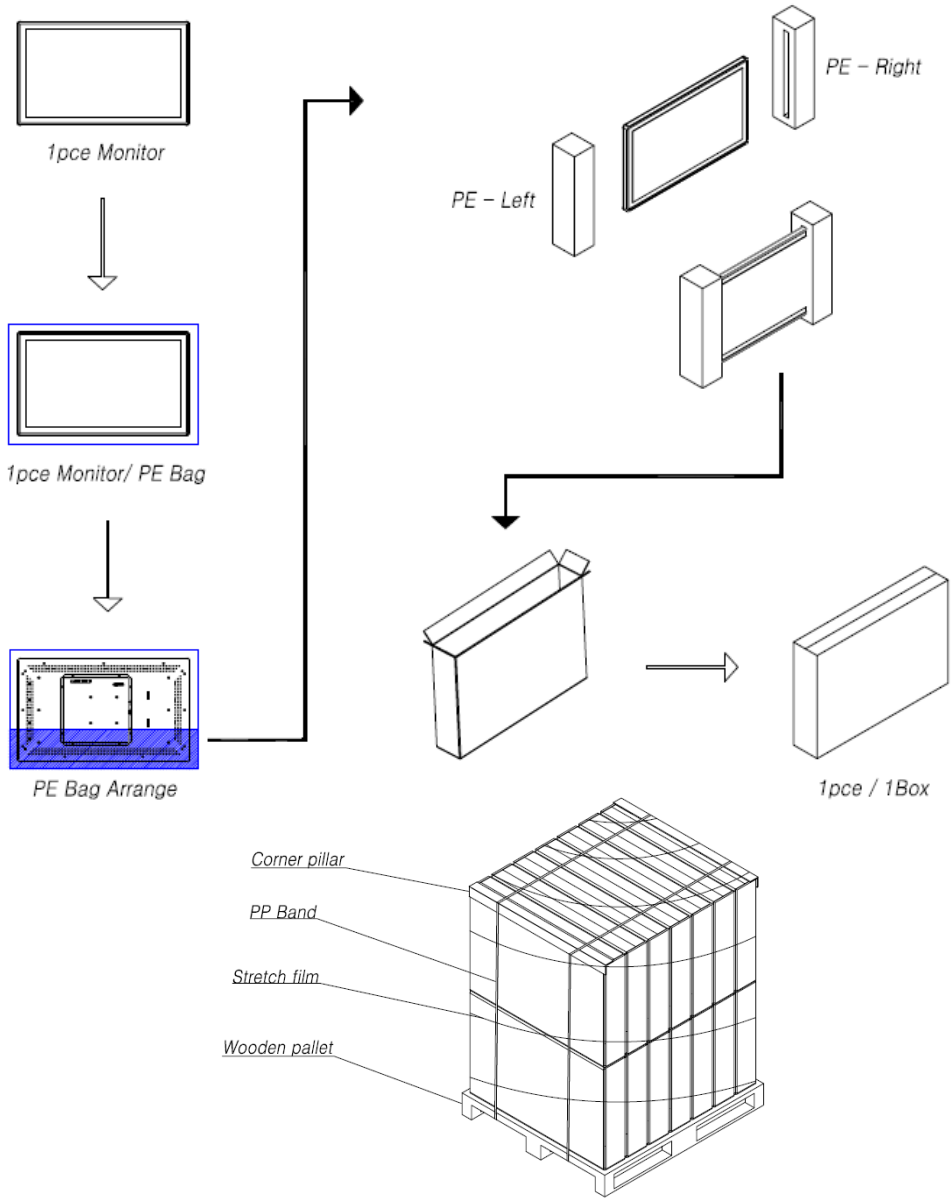
10. Mechanical Specification



NO	A	B	C	THIRD ANGLE	UNIT	SCALE	DATE	MODEL	27" PCAP LCD WITH LED FB/FP9
1-10	0.05	0.1	0.2		MM	1:1	2022.06.21	REL. DRAW NO	DW270SFT(G)-BV14
11	0.1	0.2	0.3					NAME	LAY OUT
100+	0.2	0.3	0.4					APP'D BY	
1000+	0.3	0.4	1.5					CHK'D BY	
REV	0.3	0.4	1.5						REV NO.
1000									1

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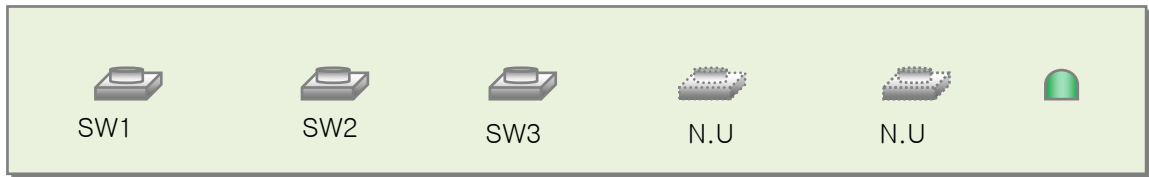
11. Packing Specification



	Item	Specification			Remark
		Q'ty	Dimension	Weight	
1	Monitor	1	666.9(W)mm x 407.9(H)mm x 50.0(D)mm	9.3kg	Note1
2	Packing Box	1pce / Box	870(L)mm x 140(W)mm x 470(H)mm	12.9kg	
3	Pallet	1	1020(L)mm x 915(W)mm x 120(H)mm	10kg	
4	Pallet after Packing	14Box / pallet	1020(L)mm x 915(W)mm x 1060(H)mm	190.6kg	
5	Dry Container	12Pallet / 20ft	5899(L)mm x 2348(W)mm x 2390(H)mm		
6	Dry Container	26Pallet / 40ft	12034(L)mm x 2348(W)mm x 2390(H)mm		

Note : Estimated value which is subject to change based on real measured data.

Appendix : LED Controller Button Information



BUTTON FEATURES:

SW1: LED colour Control.

Loops from: Red, Green, Blue, Cyan, Yellow, Magenta, White, Off or Auto (Mode dependent)

SW2: Global LED Brightness & Flash Rate (Mode dependent)

Loops in 5 different light levels and back again.

SW3: Mode control. N.B. Certain modes can change button functionality.

FUNCTIONS

- Press SW1 and cycle from Red to White
- Press SW3 twice to change mode ready for brightness adjust.
- Press SW2 to cycle through 5 levels of LED brightness.
- Press SW3 once to change mode to FLASH.
- Press SW2 and the flash speed will increase. It has 6 levels of speed.
- Press SW3 fade down and up. You may need to change speed level to monitor this by pressing SW2. Slow the speed to see fade up and down effect.
- Press SW1 once to change into Auto Color mode and it should fade in and out of all color combinations.
- Press SW3 once then press SW1 to change into any color of your choice. Take note of the color of choice.

Appendix : Block Diagram

