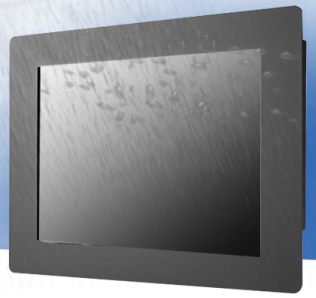
INDUSTRIAL IP65 PANEL MOUNT LCD

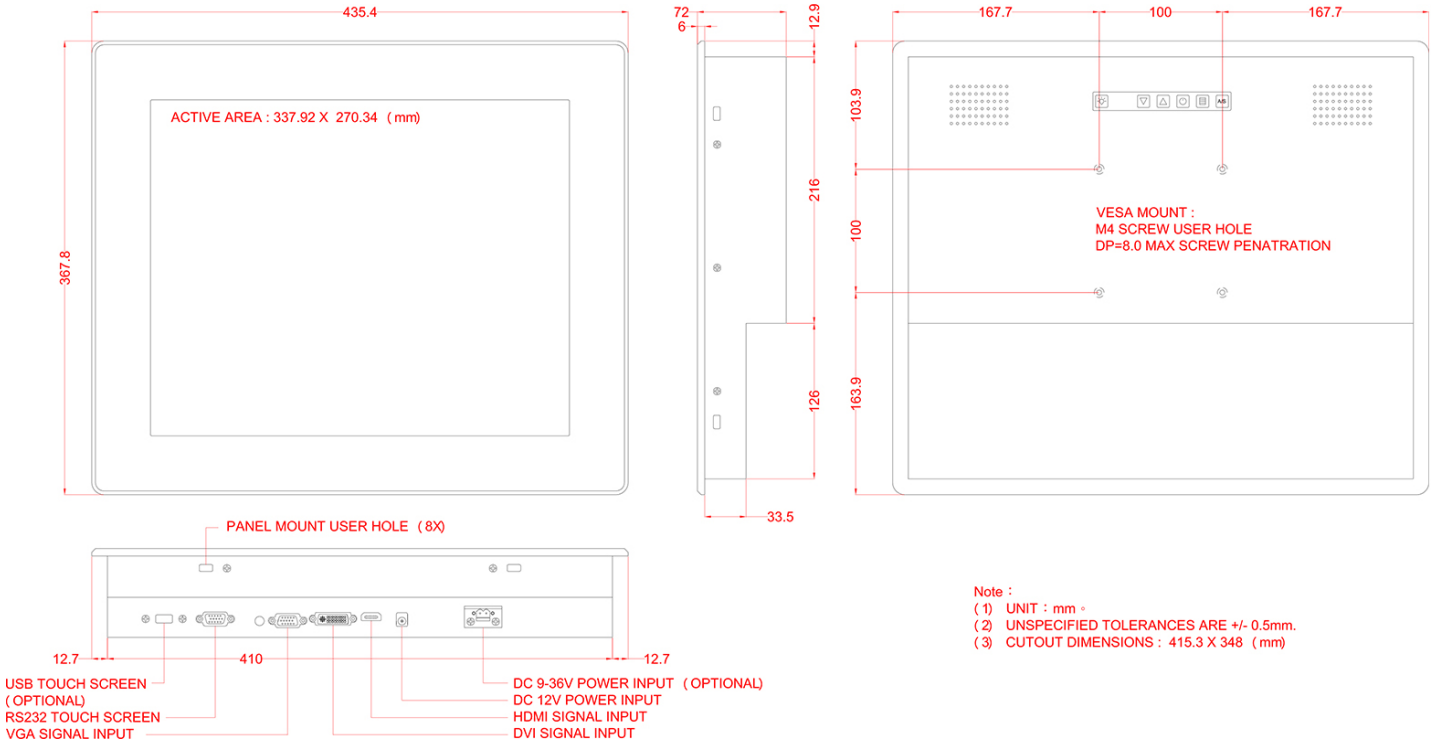
IP65 Front Side, Panel-Mount LCD Display, Clamp Mount only
LCD Panel, 17" 1280x1024, LED-250nits
VGA+DVI signal input ports, 5 wires resistive touch (RS232 input)
6mm Aluminum front bezel with black color anodized treatment
external power adapter with 110/220VAC auto-switch & AC-Inlet



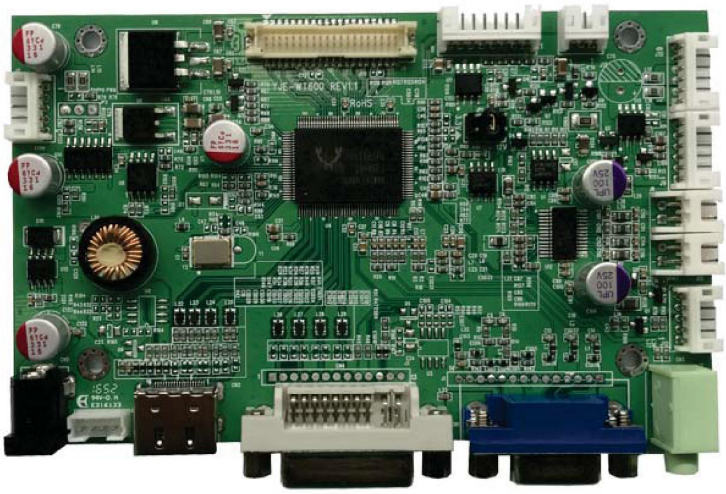
Model: MTLB-YPM1700-TR-AL01

Items	Unit	Specifications
Screen Diagonal	[mm]	432 (17.0")
Active Area	[mm]	337.920(H) × 270.336(V)
Pixels H x V		1280 × 3(RGB) × 1024
Pixel Pitch	[mm]	0.264(per one triad) × 0.264
Pixel Arrangement		R.G.B. Vertical Stripe
Display Mode		Normally White
White Luminance	[cd/m^2]	250 (typ.)
Contrast Ratio		1000 : 1 (Typ)
Optical Response Time	[msec]	5 (Typ)
Nominal Input Voltage VDD	[Volt]	+5.0 (Typ)
Power Consumption	[Watt]	13 W
Weight	[Grams]	1300g(Typ)
Physical Size (H x V x D)	[mm]	358.5(H) x 296.5(V) Typ. x 18.0(D) Max
Electrical Interface		Dual Channel LVDS
Surface Treatment		Anti-glare type, Hardness 3H
Support Color		16.2M colors (RGB 6-bits +Hi-FRC data)
Temperature Range	[°C] [	0 to +50 -20 to
RoHS Compliance		RoHS Compliance

DRAWINGS



MOTHERBOARD



Setup for Operation

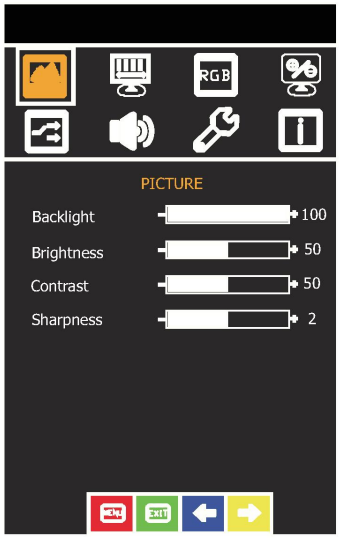
The OSD (On Screen Display) menu enables user to manipulate the image and settings OSD Main menu consists of source:

OSD MENU		Description
Picture	Backlight	Adjust the Backlight of the screen.
	Brightness	Adjust the Brightness of the screen.
	Contrast	Adjust the Contrast of the screen.
	Sharpness	This functuon allows the user to optimize the sharpness of the
Display	Auto Adjustment	
	H Position	Adjust the horizontal position of the screen's image.
	V Position	Adjust the vertical position of the screen's image.
	Pixel Clock	Adjust frequency to fill display.
	Phase	Adjust the phase control of the image.
Color	Gamma	Set the Gamma to 2.0/2.2/2.4 and off.
	Color Temp	Set the color to 6500k/9300k/User.
	Hue	Adjust the Hue of the screen.
	Saturation	Adjust the Saturation of the screen.
	Auto color	
Advance	Aspect Ratio	Set Aspect Ratio to 4:3/5:4/16:9/Full.
	Overscan	Set Overscan to on/off.
	Ultra Vivid	Set Ultra Vivid to L/M/H/Off.
Input	Auto Select	
	VGA	VGA Input.
	HDMI	HDMI Input.
	DVI	DVI Input.
Audio	Volume	Adjust the Volume.
	Mute	Set the Mute on/off.
	Auto Source	Set the Audio Source Analog/Digital.
Other	Reset	
	Menu Time	Adjust the Menu Time.
	OSD H Position	Adjust the horizntal position of the OSD Menu screen's image.
	OSD V Position	Adjust the vertical position of the OSD Menu screen's image.
	Language	Set the Language English/SIft^^
	Transparency	Adjust the OSD Transparency.
Information		

OSD Menu

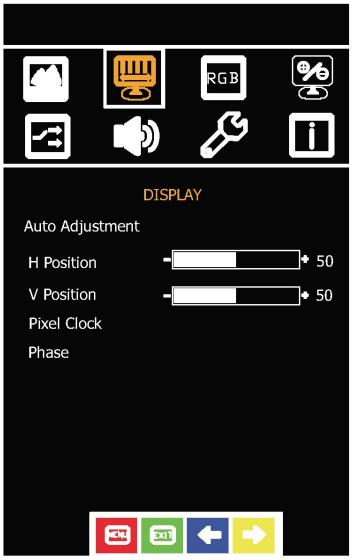
[PICTURE]
Press "+" to increase or "-" to decrease the Backlight, Brightness or Contrast. or Sharpness.

- Backlight
  Adjust the Backlight of the screen.
- Brightness
  Adjust the brightness of the screen.
- Contrast
  Adjust the contrast of the screen.
- Sharpness
  Adjust the Sharpness of the screen.



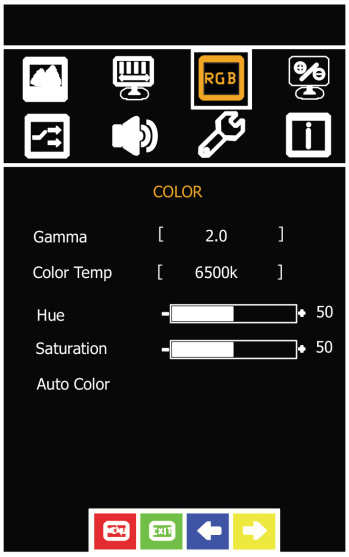
[DISPLAY]

- H Position.
  Adjust the horizontal position of Screen
- V Position.
  Adjust the vertical position of the Screen



[COLOR]

- Gamma
  Set the Gamma to 2.0, 2.2, 2.4 anf off.
- Color Temp
  Set color to 6500k , 9300k , USER .
  You can select the screen's color level of the white color field from the default color temperature settings.
  Also, you can fine tune the color temperature by USER option if necessary.
- Hue
  Adjust the Hue of the screen. .
- Saturation
  Adjust the Saturation of the screen.
- Auto Color

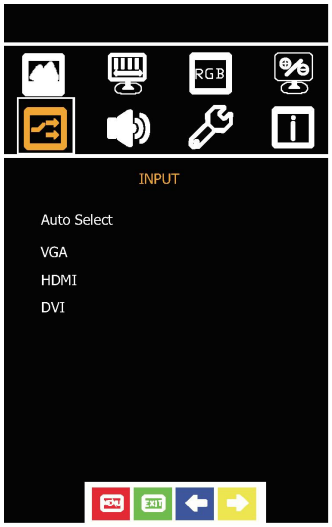


[ADVANCE]

- Aspect Ratio
  Set Aspect Ratio to 4:3 ,5:4 , 16:9,Full •Overscan
  Set Overscan to on/off .
- Ultra Vivid
  Set Ultra Vivid to L/M/H/off.

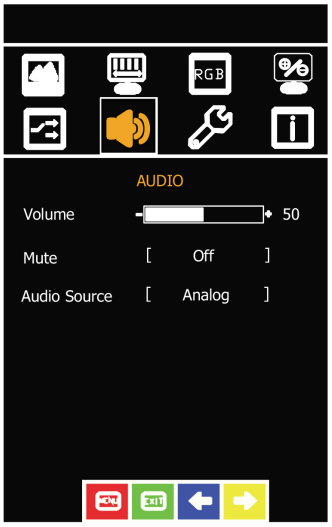
[INPUT]

- Gamma
  Set the Auto Select/VGA/HDMI/DVI.



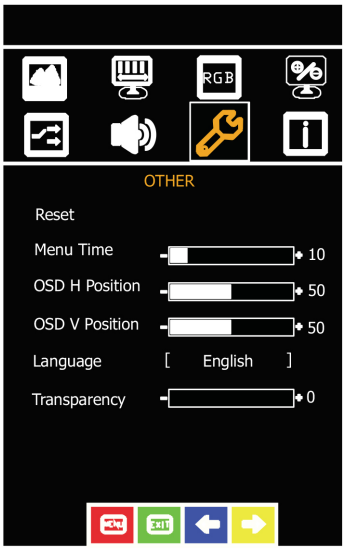
[AUDIO]

- Volume
  Adjust the Volume.
- Mute
  Set the Mute on/off.
- Audio Source
  Set the Audio Source Analog/Digital.

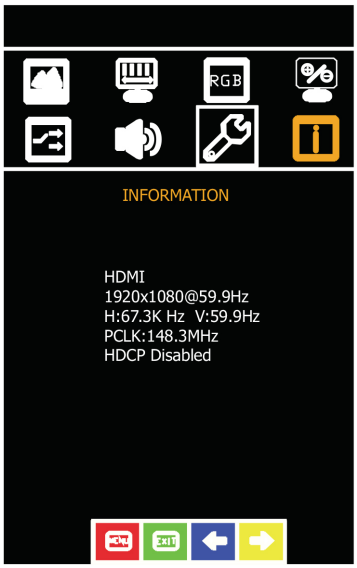


[OTHER]

- Reset
- Menu Time
  Adjust the Menu Time.
- OSD H. Position.
  Adjust the horizontal position of the OSD Menu screen's image.
- OSD V. Position.
  Adjust the vertical position of the OSD Menu screen's image.
- Language
  Set the Language English
- Transparency
  Adjust the OSD Transparency.



[INFORMATION]



TOUCHSCREEN POINT SPECS

1. General

1.1 This document is included the specifications of touch screen.
1.2 This touch screen is 5 wires analog resistive type.
1.3 It is designed to be activated by pressure of finger or stylus.

2. Environmental Specifications

2.1 Storing Environment
Temperature Range : - 20f ~ 70°C
Humidity Range : 20% RH ~ 90% RH (Non Condensing)

2.2 Operating Environment
Temperature Range : -10°C ~60°C
Humidity Range : 20% RH -80% RH (Non Condensing)

2.3 The above environment is under normal pressure of the atmosphere.

3. Mechanical Specifications

3.1 Touch panel style
style : Analog resistance

3.2 Dimension Specifications:

Dimension outline	426.60 x 272.10 mm ± 0.30mm
Viewable area	414.20 x 261.00 mm ± 0.20mm
Active area	411.20 x 257.30 mm ± 0.20mm
Total thickness	3.20 mm ± 0.20mm
Tail length	305.00 mm ± 6.00mm

3.3 Operating Force *S* 80g (R0.8 Touch Pen)

3.4 Surface Hardness ^ 3H (ASTM D3363, pressure 750g/45°)

3.5 Static Load : 5 kg within 10cm^2 area for 30sec

3.6 Impact: Impact at center area one time , no damage (25.0ipDIA. Steel Ball/67g , Height=50cm)

3.7 Bending : 90° 10 times left & right

3.8 Peeling : 800g by vertical 90°

4. Optical Specifications

4.1 Transparency : 80 ±3% (BYK Gardner, 550nm , ASTM D1003)

4.2 Haze : 8 ± 3%(BYK Gardner, ASTM D1003)

5. Electrical Specifications

5.1 Loop resistance X:20Q ~ 500 Q , Y:20Q ~ 500Q

5.2 Voltage endurance DC 50V/60sec.
5.3 Linearity deviation X< 1.5% » Y< 1.5%
5.4 Insulation resistance > 20M Q/25V DC
5.5 Chattering ^10ms

6. Appearance Inspection

6.1 The inspection shall be performed by using one 17w fluorescent lamp as back or side light. The panel shall be placed at 30cm away from eyes. (Figure1.1 and Figure1.2)

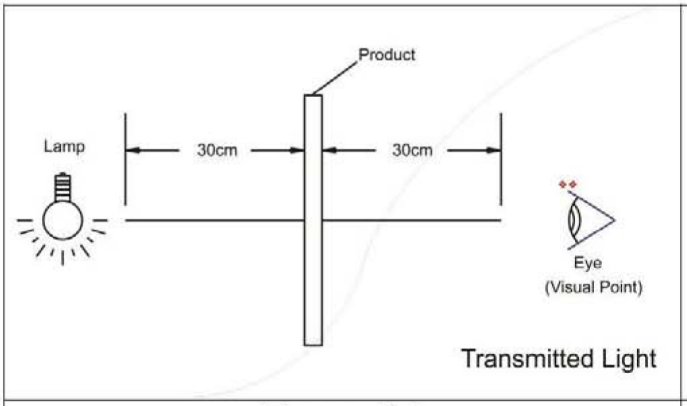


Figure 1.1

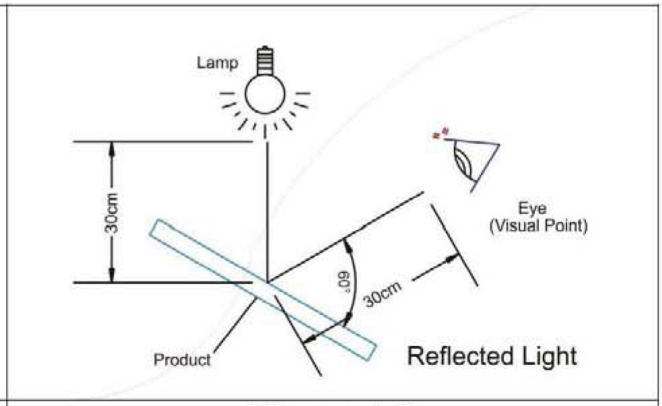


Figure 1.2

6.2 The flaws and Impurities are allowed outside viewing area except those affecting electrical functions.

Inside the viewing area , it meets the following :

(1) Linear Object:
W < 0.05 mm OK 0.05 mm < W < 0.1 mm and L<20, total<5 OK W > 0.1 mm No good

(W : width of flaws , L : length of flaws)

(2) Dot-shaped Impurities :
D ^ 0.4 mm OK 0.4 mm < D ^ 0.6 mm , each area contains^3, total^6 OK D > 0.6 mm No good

(D : average of diameter, Each area contains=2O0)

(3) Scratch :
W £ 0.04 OK 0.04 mm < W ^ 0.06 mm and L ^ 12 mm , total^7 OK 0.07 mm < W < 0.1 mm and L < 6 mm , total < 6 OK
W > 0.1 mm ' No good

(W : width of scratch , L : length of scratch) Glass Flaw

(1) Progressive Flaw: No good (Figure2.1)
(2) corner chips : X ^ 3 mm , Y < 3 mm , Z < T (Figure2.2)

(3) border chips : X ^ 1 0 m m , Y ^ 3 m m , Z s T (Figure2.3)

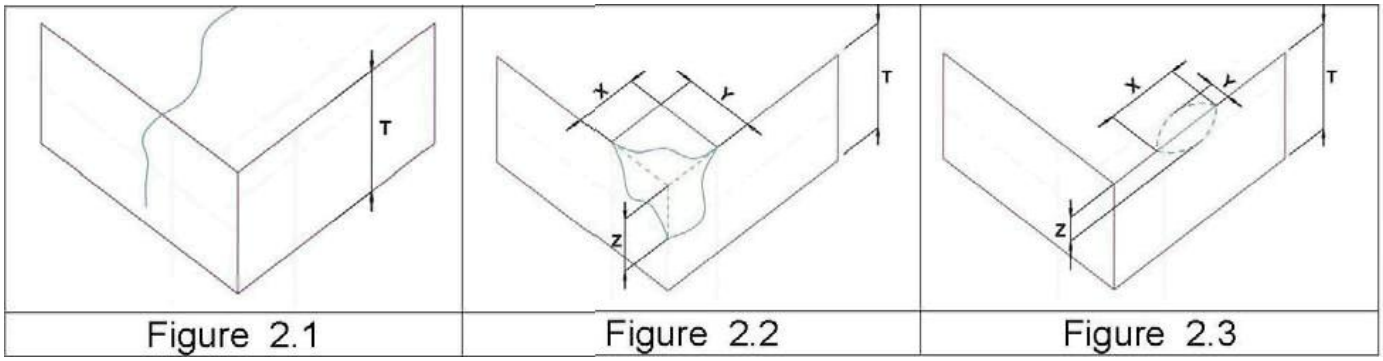


Figure 2.1 Figure 2.2 Figure 2.3

X : Width direction against the edge line. Y : Length direction against the edge line. Z : Thickness direction against the edge line.

The chips are not supposed to affect any of the electrical functions.

7. Durability

Knock test: 10,000,000 times keystrokes

They still meet the specification required in section 5.1 and 5.4 , and section 5.3 satisfies X=^2.5%, Y^2.5% ; Operating force must not exceed 250g after reliability test

8. Reliability

8.1 High temperature test
After putting panels at 70°C for 240 hours and allow panels stay in normal environment for 4 hours , they still meet the specification required in section 5.1 and 5.4 , and section 5.3 satisfies X<2.5%, Y<2.5% ; Operating force must not exceed 250g after reliability test

8.2 Low temperature test
After putting panels at -20°C for 240 hours and allow panels stay in normal environment for 4 hours , they still meet the specification required in section 5.1 and 5.4 , and section 5.3 satisfies X^2.5%, Y^2.5% ; Operating force must not exceed 250g after reliability test

8.3 High temperature and high humidity test
After putting panels at 60"C , 90% RH for 240 hours and allow panels stay in normal environment for 4 hours , they still meet the specification required in section 5.1 and 5.4 , and section 5.3 satisfies X<2.5%, Y<2.5% ; Operating force must not exceed 250g after reliability test

8.4 Thermal shock test
1 Cycle : -20°C >70°C (60 minutes period)
After putting panels for 50 cycles and allow panels stay in normal environment for 4 hours , they still meet the specification required in section 5.1 and 5.4 , and section 5.3 satisfies X^;2.5%, Y^2.5% ; Operating force must not exceed 250g after reliability test

8.5 All the above tests may cause the film puffed .

9. Inspection Method

9.1 Linearity

(1) Short RT and RL(or short RL and LL).
(2) apply voltage DC 5V.
(3) short LT and LL (or short RT and LT).
(4) apply grounding.
(5) draw points along Lx and Ly at 5.0mm intervals within pattern area and detect the voltage at SG.
(6) measure the voltage differences between RT and LT(or RT and RL)

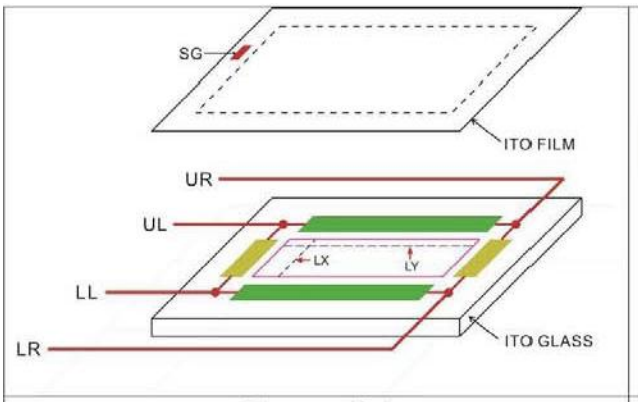


Figure 3.1

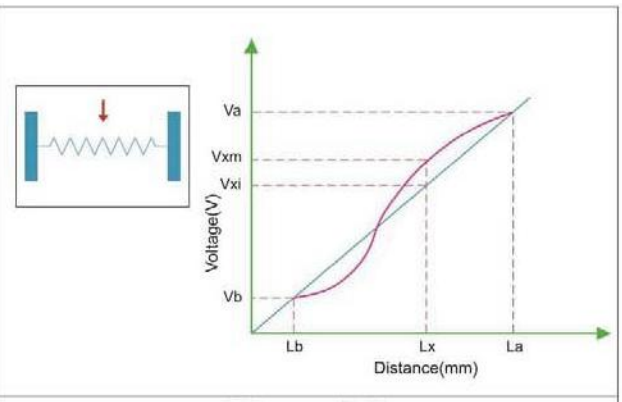


Figure 3.2

9.2 Specification

Linearity must meet the electrical characteristic specified in section 5.3