

# 21.5-inch Slave Monitor



## 21.5-inch Slave Monitor

This monitor is designed for use in Buses. It is made with TFTLCD, tempered & anti-glare front glass.

The chassis profile is 60 mm in depth and made of black anodized aluminum - specially made to match design and functionality in the bus environment.

The monitor can be mounted in several ways, e.g. ceiling, wall and pipe installation.

## Features

- ❖ TFTLCD 21.5-inch, LED Backlight
- ❖ Auto dimming based on surrounding light conditions
- ❖ Match design and functionality in bus environment
- ❖ 4.0mm Front Tempered Glass with Anti-glare coating
- ❖ VGA or DVI input
- ❖ PSU Ignition input (Cranking control)
- ❖ Various mounting options. Ceiling, Wall and Pipe installation

## Monitor Specification:

<b>Display size</b>	21.53" diagonal,
<b>Active Area</b>	476.64(Horizontal) x 268.11(Vertical) mm
<b>Overall dimension</b>	529 (Width) x 326 (Height) x 60 (Depth) mm
<b>Net weight</b>	7,4Kg
<b>Resolution</b>	1920 x 1080 (16:9, Full HD)
<b>Response time</b>	t <sub>R</sub> : 3.8, t <sub>F</sub> : 1.2 msec
<b>Contrast ratio</b>	1,000 : 1 (Typ.)
<b>Dot pitch</b>	248.25 x 248.25 $\mu\text{m}$
<b>Light intensity</b>	250cd/m <sup>2</sup> (Typ.)
<b>Numbers of colors</b>	16.7M colors (6-Bit + FRC)
<b>Viewing angle</b>	170° (H), 160° (V) @ C/R=10
<b>OSD Keyboard &amp; indicator</b>	6-control key, and 1 LED
<b>Power Consumption</b>	30 Watt max
<b>Housing color</b>	Black anodized aluminum
<b>Front glass</b>	4.0mm Tempered glass, Anti-glare coating
<b>Backlight life</b>	50,000hrs
<b>Operational Temperature</b>	-10°C to +50°C
<b>Storage Temperature</b>	-20°C to +70°C

## I/O Specification:

<b>Input Voltage</b>	16-36 VDC
<b>Video in</b>	1x DVI & 1x VGA

## PSU Specification / Description

<b>Power input:</b>	16-36VDC (connector: Molex 39-01-2046)
<b>Power Consumption:</b>	25 Watt max
<b>Sleep power Consumption:</b>	<0.048 Watt
<b>Load dump:</b>	According to ISO 16750-2

The PSU is fully input protected.

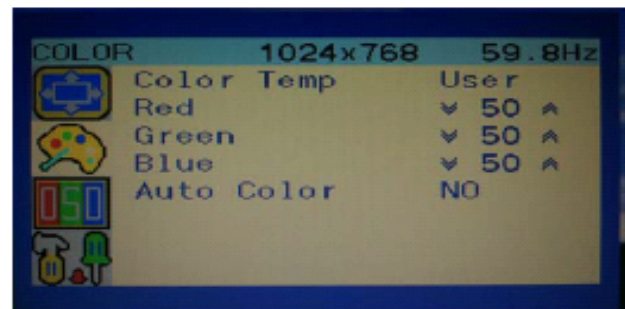
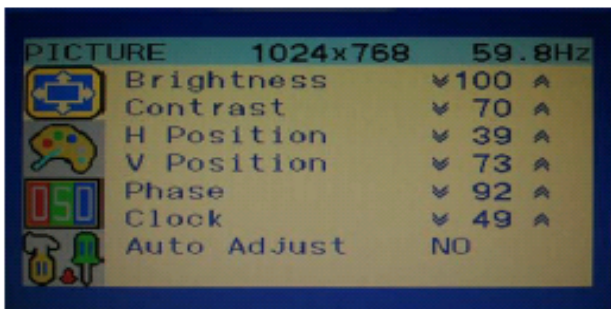
Ignition input (Cranking control): This feature is made to eliminate the high voltage peaks from the battery to secure the Monitor when the driver is turning the key. The PSU starts up when the Ignition input is stable in 12 sec (delay can be changed).

If the ignition signal is turned off, the PSU will power down after a programmable delay.

# Setup for Monitor Operation

The OSD (On Screen Display) provides certain functions to have clear image and others. This board supports 6 buttons OSD Menu operation as a standard. The control functions defined on OSD operation are as below.

## 1.Function on OSD Menu:

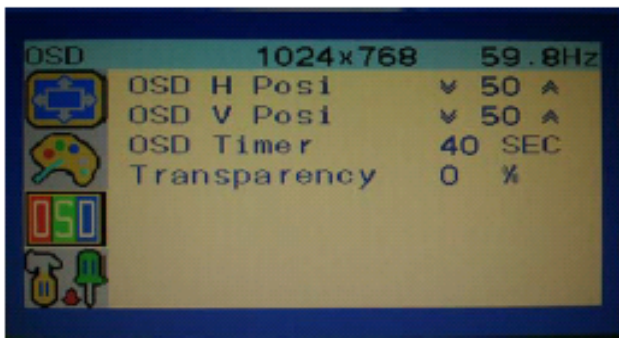


PICTURE Menu

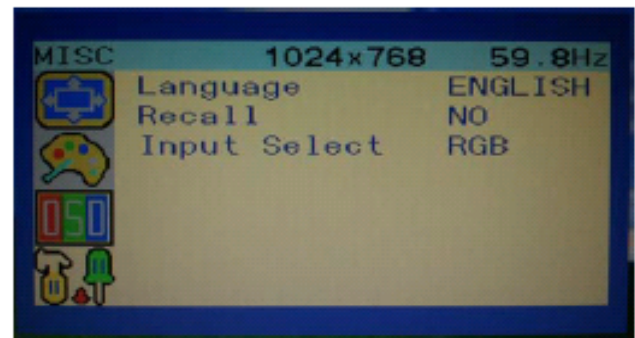
COLOR Menu

Level - 1	Level - 2	Level - 3	Description
PICTURE	Brightness	Total: 100 steps	Adjust the brightness of the screen.
	Contrast	Total: 100 steps	Adjust the contrast of the screen.
	H Position	Total: 100 steps	Adjust the horizontal position of the screen's image.
	V Position	Total: 100 steps	Adjust the vertical position of the screen's image.
	Phase	Total: 100 steps	Adjust the focus of the screen's image.
	Clock	Total: 100 steps	Adjust the horizontal size of the screen's image.
	Auto Adjust	YES/NO	Auto configuration of geometry. Automatically adjusted items are : a) Clock, b) Phase, c) Position is centered
COLOR	Color Temp	User/Red/Bue	Choice of Bluish, Reddish and user's option is chosen, RGB can be adjusted. User : Able to adjust the color by controlling Red, Green, Blue.
	RED	Total: 100 steps	Adjust Red of the screen.
	GREEN	Total: 100 steps	Adjust Green of the screen.
	BLUE	Total: 100 steps	Adjust Blue of the screen.
	AUTO COLOR	YES/NO	Color automatically set from strange input signal.

**Note! The monitor features auto dimming based on the light in the surroundings. It is not possible to adjust the brightness of the display manually in the OSD menu.**



OSD Menu



MISC Menu

Level - 1	Level - 2	Level - 3	Description
OSD	OSD H. Position	Total: 100 steps	Adjust the horizontal position of OSD menu by value.
	OSD V. Position	Total: 100 steps	Adjust the vertical position of OSD menu by value.
	OSD Timer	10SEC ~ 40SEC	The range of controlling the duration time of the OSD menu.
	Transparency	0% ~ 100%	Adjust the transparency of OSD.
Misc	Language	6 Language	Select the language of OSD menu. (English, German, French, Spanish, Korean, Japanese)
	Recall	YES/NO	Initial set-up, preset by the factory before forwarding.
	Input Select	RGB/DVI	Select input signal source. Analog RGB / DVI

## 2. Definition of Hotkey Functions

OSD Key	Function	OSD Key	Function	OSD Key	Function
AUTO	Auto Adjust	-	-	-	-
DOWN	Brightness	-	-	-	-

**Note!** The monitor features auto dimming based on the light in the surroundings. It is not possible to adjust the brightness of the display manually in the OSD menu.

# OSD Keyboard

## 1. LED

Display Green (Normal State) / Red color (Abnormal State)

## 2. POWER

Monitor power ON/OFF Key function

## 3. UP

UP Key function (in OSD main menu)

## 4. DOWN

- a. OSD main menu: DOWN Key function (in OSD main menu)
- b. Hotkey: This button will create a bar for the controlling brightness

## 5. SELECT

OSD main menu: Enter/Select Key function

## 6. MENU

- a. OSD main menu: Return to the previous menu (Exit Key function)
- b. Hotkey: This button will enable the main OSD menu

## 7. AUTO

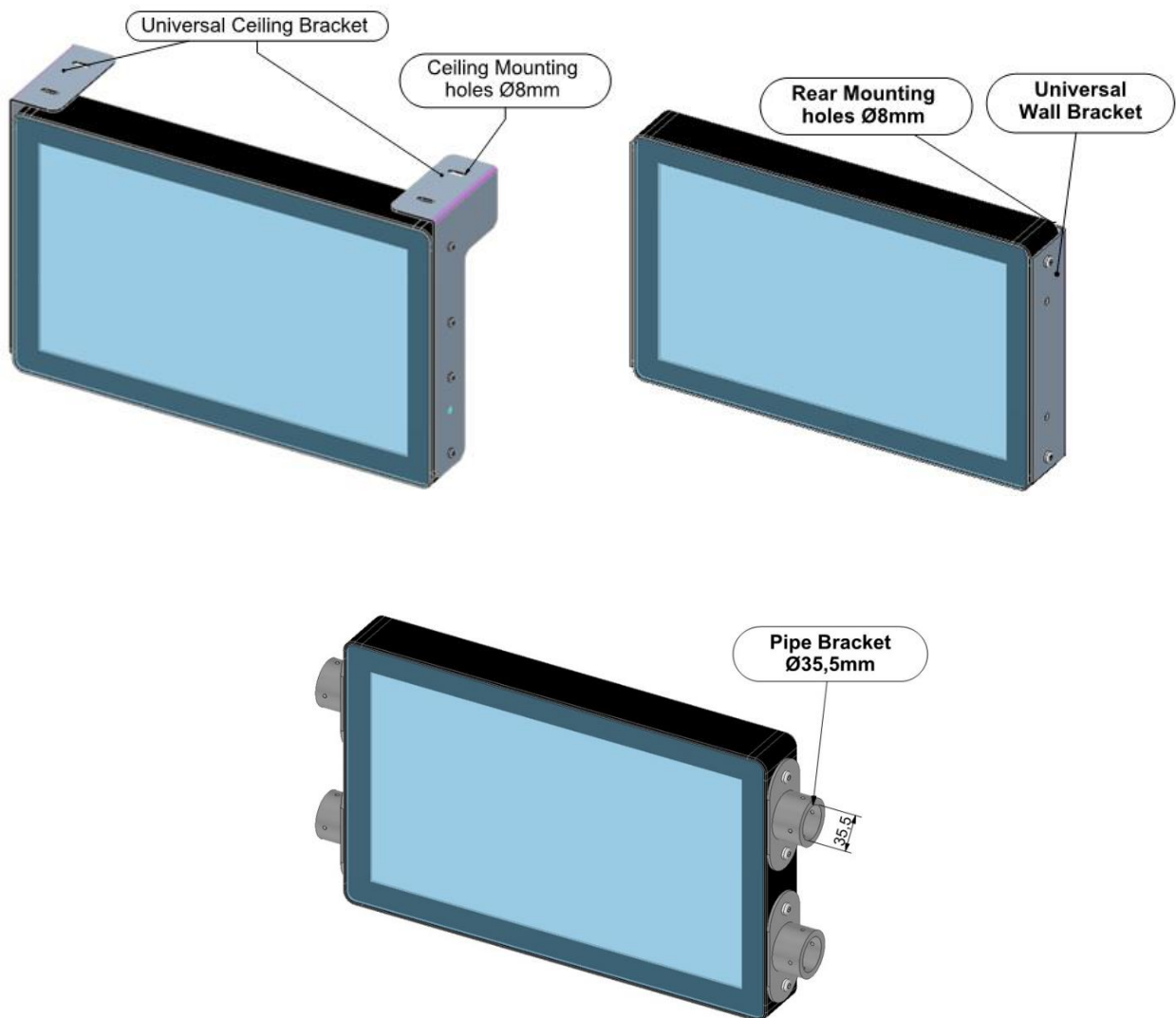
- a. OSD main menu: No function
- b. Hotkey: Automatically make adjustments to the horizontal, vertical size & horizontal, vertical position/phase (Auto Adjust Key function)

**Note! The monitor features auto dimming based on the light in the surroundings. It is not possible to adjust the brightness of the display manually in the OSD menu.**

# Mounting options

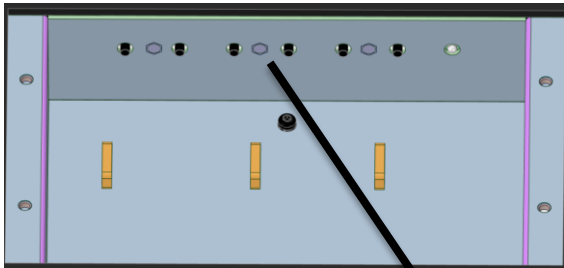
## Universal Brackets: Ceiling, Pipe, and Wall Bracket.

Use PH M6x12 for side mounting Universal brackets on Chassis.

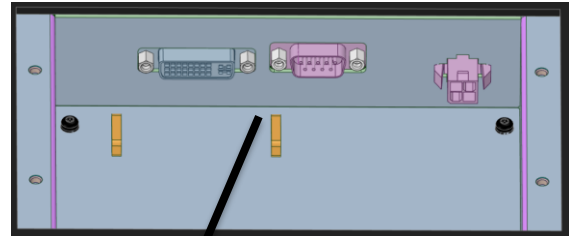




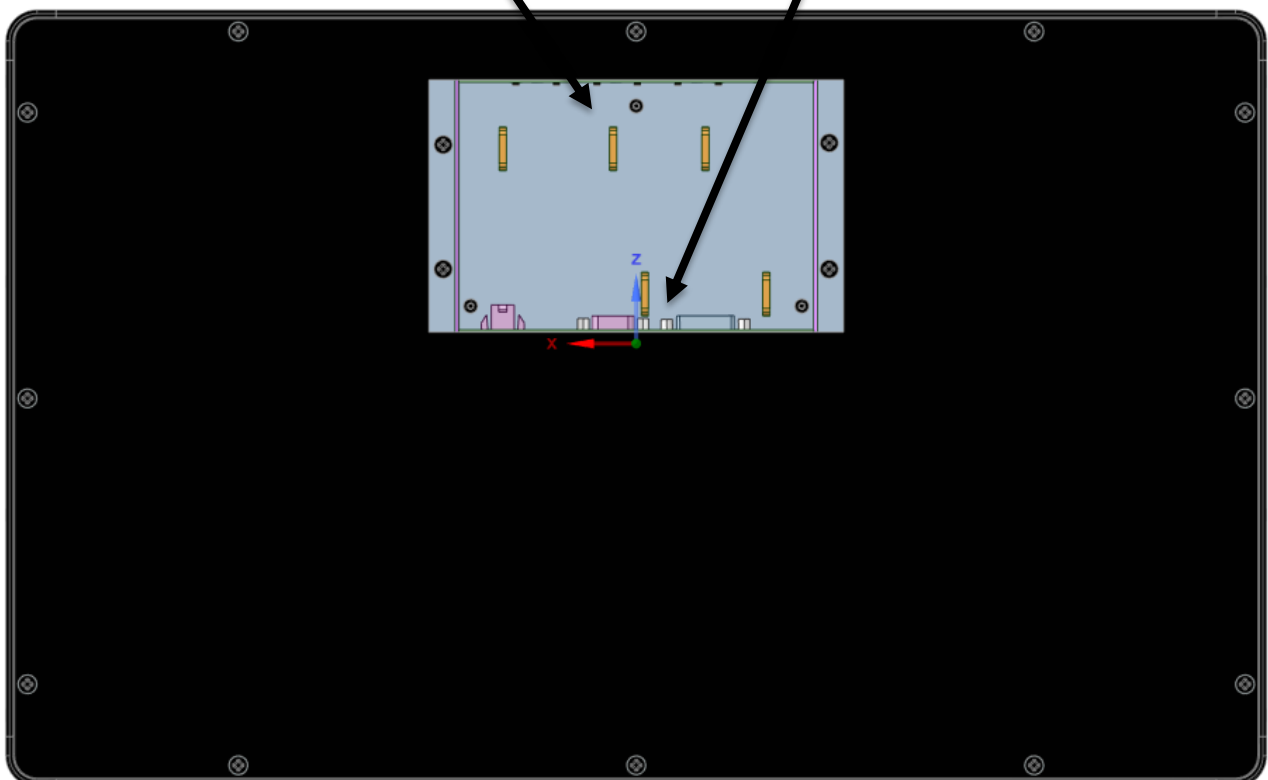
## Service Bay



Figur 1 - OSD keyboard with power LED



Figur 2 - Connectors in service bay



## Mechanical:

