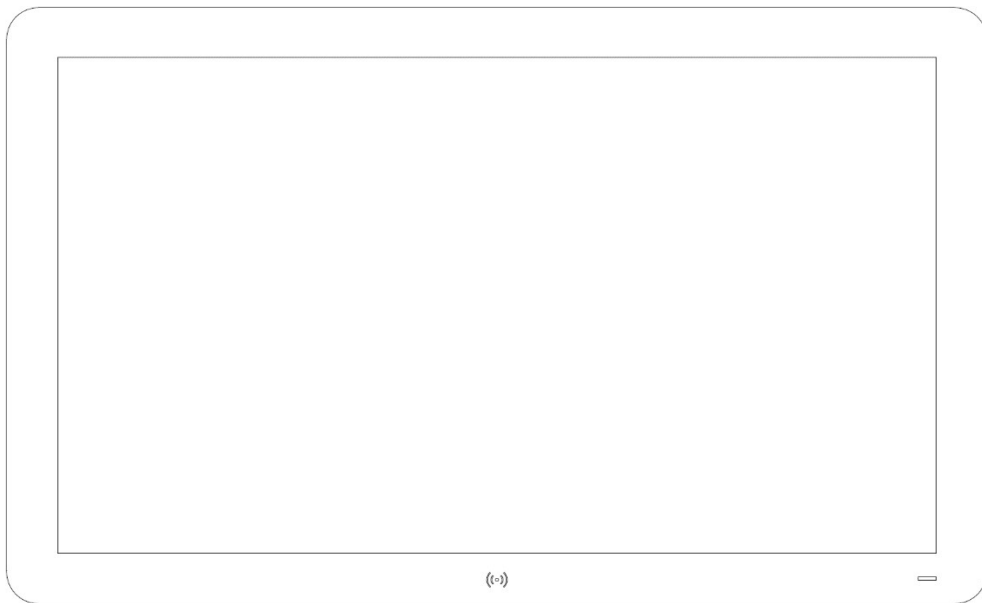


Display User's Manual

LCGO21EAHBI-INT

21.5" Color LCD Display



Model No.: MSBP2131AW

Revision History

The revision letter changes with related comments each time the document is updated.

Revision	Revision Comment
0	Initial

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1. Information

Safety Precautions



CAUTION

Symbol Description

Caution!-This symbol alerts you to important operating considerations or a potential operating condition that could damage equipment. Refer to user's manual or operation's manual for precautionary instructions.

Consignes de sécurité



Consignes de sécurité

ATTENTION

Description des symboles

Attention ! - Ce symbol evousavertit sur les Attention ! - Ce symbole vous avertit sur les considérations d'utilisation importantes ou d'une condition de fonctionnement potentiellement dangereuse pour l'équipement. Reportez-vous au manuel de l'utilisateur ou au manuel d'utilisation pour les consignes de sécurité.



CE Declaration of Conformity

We declares under our own responsibility that the product satisfies all the technical relations application to the product within the scope of council:

EN60950-1

EN55032

EN55024

EN300 330 V2.1.1



FCC (U. S. Federal Communications Commission)

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions:

1. This device may NOT cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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:

- Reorient 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.
- Consult your dealer or an experienced radio/TV technician for help.

FCC Warning:

To assure continued FCC compliance, the user must use a grounded power supply cord and the provided shielded video interface with bonded ferrite cores. Also, any unauthorized changes or modifications to this monitor would void the user's authority to operate this device.

General recommendations

- Make sure to carefully read the Operating Manual prior to using the monitor in order to properly use the monitor.
- Note that, excluding those cases where a responsibility for legal compensation is recognized, the manufacturer shall bear absolutely no responsibility for damage to this product by a customer or a third party that results from the ignoring of contents entered in this Operating Manual and mistaken use.
- Follow the instructions below for safety use of the LCD Monitor.
- To avoid electric shock, do not attempt to remove any cover or touch the inside of the monitor. Only a qualified service technician should open the monitor case.
- Do not insert metal objects or spill liquid into the LCD monitor through cabinet slots. They may cause accident fire, electric shock or failure. If a foreign object inserted or water penetrated, unplug the AC cable and have the monitor serviced.
- Do not cover or block the vent holes in the case.
- Disconnect the power plug from the AC outlet if you will not use it for an indefinite period of time.
- Do not touch the screen directly with your fingers. You may damage the screen, and oil from your skin is difficult to move.
- Do not apply pressure to the screen. The LCD is very delicate.
- If your LCD monitor uses an AC/DC Adapter: Only use the Adapter, which accompanied with this device. Use of another AC/DC Adapter may cause a malfunction or danger.
- If your LCD monitor does not operate normally-in particular, if there are any unusual sounds or smells coming from it-unplug the AC cable immediately and contact the manufacturer, authorized or service center.
- Warning – Do not modify this equipment without authorization of the manufacturer.

Recommandations générales

- Lisez les consignes de sécurité et de fonctionnement avant d'utiliser l'appareil.
- Notez que, sauf dans les cas où la responsabilité de la compensation légale est reconnue, le fabricant n'endossera absolument aucune responsabilité pour les dommages occasionnés à ce produit par un client ou un tiers, résultant de l'ignorance du contenu de ce manuel d'utilisation et d'une erreur d'utilisation.

- Suivez les instructions ci-dessous pour utiliser l'écran LCD en toute sécurité.
- Pour éviter un choc électrique, ne tentez pas de retirer un couvercle ou de toucher l'intérieur du moniteur. Seul un technicien qualifié peut ouvrir le boîtier du moniteur.
- N'insérez pas d'objets métalliques ou ne renversez pas de liquide dans le moniteur LCD par les fentes du boîtier. Cela pourrait provoquer un incendie, un choc électrique ou une panne. Si un corps étranger est inséré ou si de l'eau a pénétré, débranchez le câble secteur et faites réparer le moniteur.
- Ne couvrez ni n'obstruez les trous de ventilation du boîtier.
- Débranchez le cordon d'alimentation de la prise secteur si vous ne l'utilisez pas pendant une période indéfinie.
- Ne touchez pas l'écran directement avec vos doigts. Vous risquez d'endommager l'écran, et l'huile de votre peau est difficile à retirer.
- N'appliquez pas de pression sur l'écran. L'écran LCD est très délicat.
- Si votre moniteur LCD ne fonctionne pas normalement en particulier, s'il produit des bruits inhabituels ou des odeurs, débranchez le câble secteur immédiatement et contacter le fabricant, ou un centre de réparation agréé.
- Ne touchez pas d'autre patient et cet appareil médical en même temps.
- Avertissement - Ne modifiez pas cet équipement sans l'autorisation du fabricant.

General warnings

- All devices and complete setup must be tested and validated before taking into operation.
- The installer needs to foresee a backup system in case the video falls away.
- This equipment shall not be serviced or maintained while in use with the patient.
- WARNING: To avoid the risk of electric shock, this equipment must only be connected to a supply main with protective earth.
- The plug is used as disconnect to the mains supply, do not to position the ME EQUIPMENT so that it is difficult to operate the disconnection device.
- When replacing parts or check refer servicing to qualified service personnel.

Avertissements généraux

- Tous les appareils et l'installation complète doivent être testés et validés avant la mise en service.

- L'installateur doit prévoir un système de sauvegarde en cas de chute de la vidéo.
- Cet équipement ne doit pas être réparé ou entretenu pendant son utilisation avec le patient.
- ATTENTION : Pour éviter le risque de choc électrique, cet équipement doit être raccordé à un réseau électrique protégé par une mise à la terre.
- La fiche est utilisée pour la déconnexion du réseau électrique, ne placez pas l'ÉQUIPEMENT ME de telle sorte qu'il soit difficile d'utiliser le dispositif de déconnexion.
- Faites appel à un personnel qualifié pour le remplacement de pièces ou la vérification de l'appareil.

Installation

- Place the equipment on a flat, solid and stable surface. Do not used on the floor.
If you use an unstable cart or stand, the equipment may fall, causing serious injury to a child or adult, and serious damage to the equipment.
 - Do not allow to climb, rest, sitting or stepping on the equipment.
 - When adjusting the angle of the equipment, move it slowly so as to prevent the equipment from moving or slipping off from its stand or arm.
 - When the equipment is attached to an arm, do not use the equipment as a handle or grip in order to move the equipment. Please refer to the instruction manual of the arm for instructions on how to move the arm with the equipment.
 - Provide full attention to safety during installation, periodic maintenance and examination of this equipment.
 - Sufficient expertise is required for installing this equipment, especially to determine the strength of the wall for withstanding the display's weight.
 - Do not cover or block any ventilation openings in the cover of the set. When installing the device in a cupboard or another closed location, heed the necessary space between the set and the sides of the cupboard.
 - Power on after rear cover installed while remove the rear cover after power off.
 - The display panel, standard attached to a stand, is compatible with the VESA 100 mm standard.
- 1). Put the display face down on a clean and soft surface. Be careful not to damage the panel screen.
 - 2). Unscrew the four fixation screws to detach the panel from the stand.
 - 3). Use 4 M4 screws to attach the panel to a VESA approved arm

Users to be considered

- A) Installation personnel – only by manufacturer trained and authorized technician
- B) Maintenance/repair personnel – only by manufacturer trained and authorize technician
- C) Operating personnel – not in consideration for the graphical images at this stage

As there are none to consider, however user interfaces such as OSD and control buttons shall be considered.

Installation and OSD adjusting should only be carried by manufacturer trained and authorized personnel.

Technical data

The monitor is intended for indoor use

Operating Temperature	: 0~40°C
Operating Humidity	: 10%~90% RH (non-condensing)
Operating Pressure	: 70 kPa-106 kPa
Storage/Transport Temperature:	-20 ~ +60°C
Storage/Transport Humidity	: 10% ~ 90% RH (non-condensing)
Storage/Transport Pressure	: 50 kPa-106 kPa
Rating	: DC9-36V – 4.5-1.1A

Operating Principle

The scaler is configured with a high-speed integrated triple-ADC(VGA) , an integrated HDMI receiver, a high quality display processing engine, an integrated micro-controller and output LVDS panel interface format.

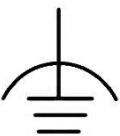
The user can select the signal ports by front key of monitor then the scaler processing these signals as zoom in or out action to fit the panel resolution. Then through the cable line transmission LVDS signals to one of the LCD module.

The last by the clock controller (Timing Controller, TCON), the clock signal is transmitted to the drive IC on the panel and turn on Backlight for LCD module light source by Scaler control.

2. Equipment Symbols

Electrical and Electronic Equipment Symbols

In addition to the equipment symbols described in your user's manual, the following symbols may be appear on the monitor.

	Alternating current.
	Equipotentiality. Connect device to a potential equalization conductor.
	European Union Declaration of Conformity.
	FCC. USA only. Complies with applicable US government (Federal Communications Commission) radio-frequency interference regulations.
	Caution: Consult accompanying documents.
	Dangerous voltage. To reduce the risk of electric shock, do not remove cover. Refer servicing to qualified service personnel.
	Indicates front.
	Consult the operating instructions

	Standby or power indicator.
	This symbol indicates that the waste of electrical and electronic equipment must not be disposed as unsorted municipal waste and must be collected separately. Please contact an authorized representative of the manufacturer for information concerning the decommissioning of your equipment
	RFID antenna in front design.
	Indicates the manufacturing date
	After – sale Service Richardson Electronics GmbH Raiffeisenstr. 5 D-78166 Donaueschingen Germany

3. Cleaning Instructions

- Be sure to unplug the power cord from the mains when cleaning your LCD monitor.
- Take care not to scratch the front surface with any hard or abrasive material.
- Dust, finger marks, grease etc. can be removed with a soft damp cloth (a small amount of mild detergent can be used on the damp cloth).
- Wipe off water drop immediately.
- Using a spray applicator, apply 95% Alcohol and use a soft lint free cloth to clean the screen.
- Wipe the unit with a clean cloth that has been moistened in the pure water.

4. Disposal of the Unit

- Do not dispose of this product with general wastes.
- Follow your local regulations or rules upon dispose of this product.

5. Outline

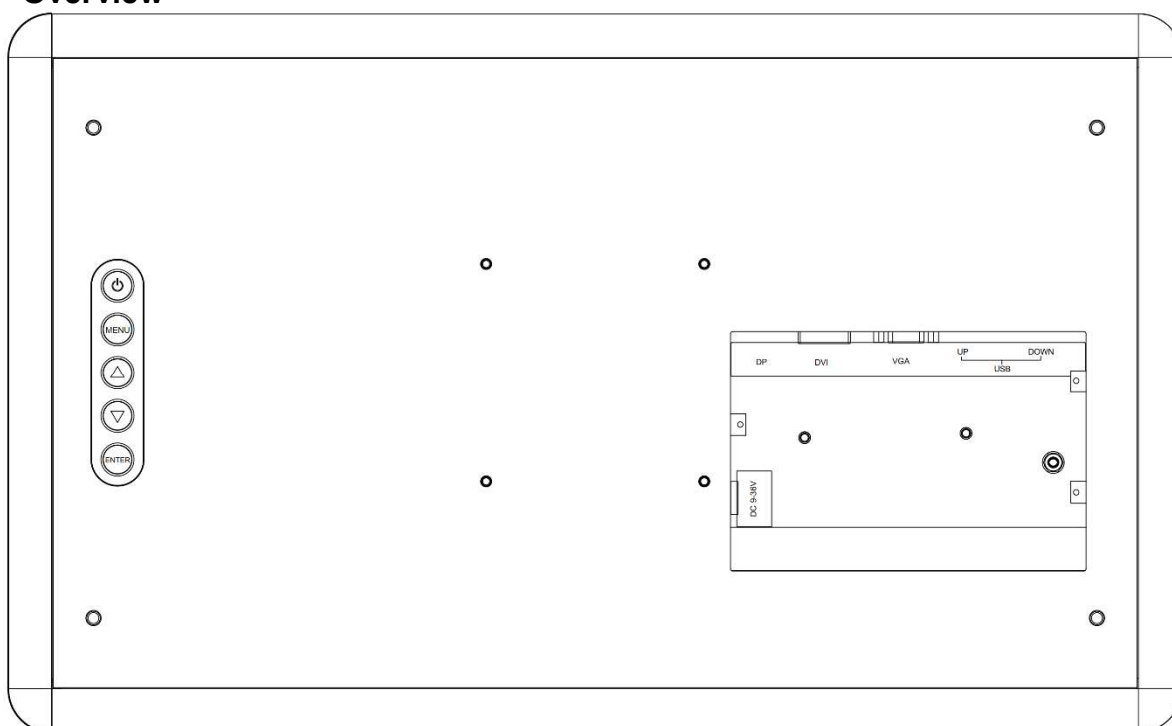
Front view

Overview

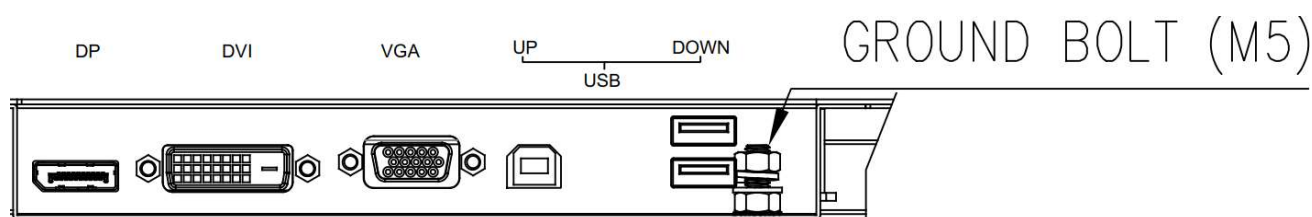


2.2 Rear view

Overview



Connector view



DC 24V IN	DC input 9-36V from external adapter
VGA	DSUB 15 pin connector, Use VGA cable to connect the VGA connector of the monitor and the VGA output connector from source device.(or DVI-I connector from source device via adapter DVI to VGA)
DVI	DVI 29 pin, single link DVI support. Use DVI cable to connect the DVI connector of the monitor and the DVI output connector from source device.
Display port	DP20 pin connector, Use DP cable to connect the DP connector of the monitor and the DP output connector from source device.
USB HUB	USB B type connector, link to PC, for HUB upstream and touch screen connection USB A type connector, link to devices, for HUB downstream Internal connection from RFID to USB hub.

Connection Method

To connect the video inputs

Connect one or more of the available video source(s) to the corresponding video inputs using the appropriate video cable(s).

To connect the power supply

Connect the DC cord into the DC IN terminal on the monitor

Connect the power cord to the AC IN terminal on the AC adapter.

Plug the other end of the power cord into a grounded power outlet.

To connect the RFID device

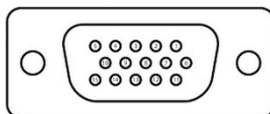
Connect the USB cable from PC to the monitor.

Reading Distance 0-5cm

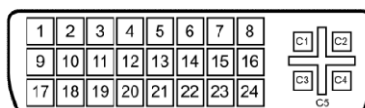
Connector pin assignments

Main board Input signal connectors

VGA signal input	
Pin No.	Signal Assignment
1	RED SIGNAL
2	GREEN SIGNAL
3	BLUE SIGNAL
4	GND
5	DET
6	GND
7	GND
8	GND
9	DSUB 5V
10	GND
11	GND
12	DDC DATA
13	H.SYNC
14	V.SYNC
15	DDC CLOCK

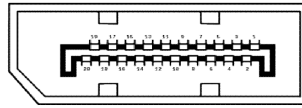


DVI signal input	
Pin No.	Signal Assignment
1	T.M.D.S. Data2-
2	T.M.D.S. Data2+
3	T.M.D.S. Data2/4 Shield
4	NC
5	NC
6	DDC Clock
7	DDC Data
8	NC
9	T.M.D.S. Data1-
10	T.M.D.S. Data1+
11	T.M.D.S. Data1/3 Shield
12	NC
13	NC
14	+5V
15	Ground
16	Hot Plug Detect
17	T.M.D.S. Data0-
18	T.M.D.S. Data0+
19	T.M.D.S. Data0/5 Shield
20	NC
21	NC
22	T.M.D.S. Clock Shield
23	T.M.D.S. Clock +
24	T.M.D.S. Clock -
C1	NC
C2	NC
C3	NC
C4	NC



C5	GROUND
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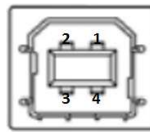
DP signal input	
Pin No.	Signal Assignment
1	Lane 3 (negative)
2	Ground
3	Lane 3 (positive)
4	Lane 2 (negative)
5	Ground
6	Lane 2 (positive)
7	Lane 1 (negative)
8	Ground
9	Lane 1 (positive)
10	Lane 0 (negative)
11	Ground
12	Lane 0 (positive)
13	GND
14	GND
15	Aux Channel (positive)
16	Ground
17	Aux Channel (negative)
18	Hot Plug Detect
19	DP Power Return
20	+3.3V Power



USB HUB & Touch connector

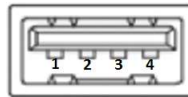
USB connector

USB B-type 4 Pin (Upstream & Touch)	
PIN NO.	Signal
1	5V
2	D-
3	D+
4	GND



Type B

USB A-type 4 Pin (Downstream)	
PIN NO.	Signal
1	5V
2	D-
3	D+
4	GND

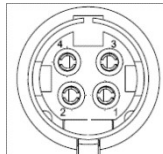


Type A

DC 9-36V Power connector

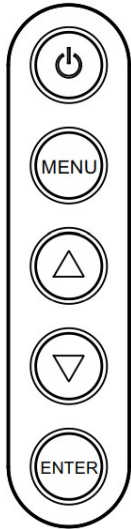
9-36V input

Pin No.	Signal Assignment
1	GND
2	GND
3	+9-36V
4	+9-36V



6. Operation

5 Key Controls on rear cover : POWER, MENU, ▲ , ▼, ENTER



Power:

Press this button to turn the monitor on.

When the monitor is on, press and hold this button for 3 seconds to turn the monitor off.

Menu:

Press to open OSD menu.



Hot Key: Press to increase brightness value.

When the menu appeared, press to move the cursor up or to increase item value.



Hot Key: Press to decrease brightness value.

When the menu appeared, press to move the cursor down or to decrease item value.

Enter:

When the menu appeared, press to confirm settings in a menu or to enter a sub-menu.

Key Lock Mode : "Menu" + "ENTER" over 3 seconds

OSD menu

Brightness/Contrast

Brightness

Contrast

Back

Color Mode

Color Temp.

Cool

Neutral

Warm

User

Red

Green

Blue

Gamma

1.8

2.0

2.2

2.4

Linear

Back

Input Source

VGA

HDMI

Display

Auto adjust

H.Position

V.Position

- Clock
- Phase
- Back
- OSD
 - Language
 - English
 - Francais
 - Deutsch
 - Italiano
 - Espanol
 - 日本語
 - Transparency
 - H.Position
 - V.Position
 - Timeout
 - Back
- System
 - Reset
 - Back
- Info./ Exit
 - Resolution :1920x1080
 - H.Freq :68KHz
 - V.Freq : 60Hz
 - V Total :1125Lines
 - Color Format : RGB
 - OP Hours: 0 Hrs

OSD selection

Brightness/Contrast settings

		VGA 1920x1080@60 Hz	
Brightness/Contrast	Brightness	90	90
Color Mode	Contrast	50	50
Input Source	Back		
Display			
OSD			
System			
Info./Exit			

Selecting this control allows you to make adjustment to the backlight dimming and contrast of the display screen by the range from 0 to 100.

*Press up/down to adjust the brightness any time while the OSD is off

Color Mode Settings

		VGA 1920x1080@60 Hz	
Brightness/Contrast	Color Temp.	Neutral	
Color Mode	Red	50	50
Input Source	Green	50	50
Display	Blue	50	50
OSD	Gamma	2.2	
System	Back		
Info./Exit			

You can select the color temperature for Cool, Neutral, Warm.

Furthermore you can adjust the Red gain, Green gain and Blue gain individually to match personal preference in User mode.

Color Temp. User

			VGA 1920x1080@60 Hz
Brightness/Contrast	Color Temp.	User	
Color Mode	Red		50
Input Source	Green		50
Display	Blue		50
OSD	Gamma	2.2	
System			
Info./Exit			

Red

You can adjust the gain of Red by the range from 0 to 100.

Green

You can adjust the gain of Green by the range from 0 to 100.

Blue

You can adjust the gain of Blue by the range from 0 to 100.

Gamma

			VGA 1920x1080@60 Hz
Brightness/Contrast	Color Temp.	1.8	
Color Mode	Red	2.0	
Input Source	Green		2.2
Display	Blue	2.4	
OSD	Gamma	Linear	
System	Back		
Info./Exit			

Selecting gamma curve that you want.

Input Source select

VGA	
1920x1080@60 Hz	
Brightness/Contrast	VGA
Color Mode	DVI
Input Source	DisplayPort
Display	
OSD	
System	
Info./Exit	

You can select source from VGA ,DVI and DP.

Display settings

VGA		
1920x1080@60 Hz		
Brightness/Contrast	Auto adjust	
Color Mode	H.Position	
Input Source	V.Position	
Display	Clock	
OSD	Phase	
System	Back	
Info./Exit		

Auto adjust

When you execute "Auto adjust" will show "Auto adjustment in progress..." on the screen that do automatically adjust the size and position.

Auto adjustment in progress...

When input new timing will perform this adjustment.

When "Auto Adjusting" disappear from the screen means it have finished the "Auto Adjust" function.

H.Position / V.Position

Adjust horizontal & vertical screen position for VGA by the range from 0 to 100.

Clock

Adjust the frequency sampling rate of horizontal pixels for VGA, to equal the video source's value, thus minimizing artifacts of shimmering vertical lines.

Phase

Adjust ADC sampling clock phase for VGA, so that the screen image appear crisp and focused.

* Display settings are not available for Digital sources.

OSD Settings

		VGA 1920x1080@60 Hz
Brightness/Contrast	Language	English
Color Mode	Transparency	
Input Source	H.Position	
Display	V.Position	
OSD	Timeout	
System	Back	
Info./Exit		

Language

Selecting languages that you want to display for OSD.

Currently available in 6 languages: English, Francais, Deutsch, Italiano, Espanol, 日本語

Transparency

Adjust OSD display transparent by the range from 0 to 100.

H.Position

Adjust the H position for OSD by the range from 0 to 100.

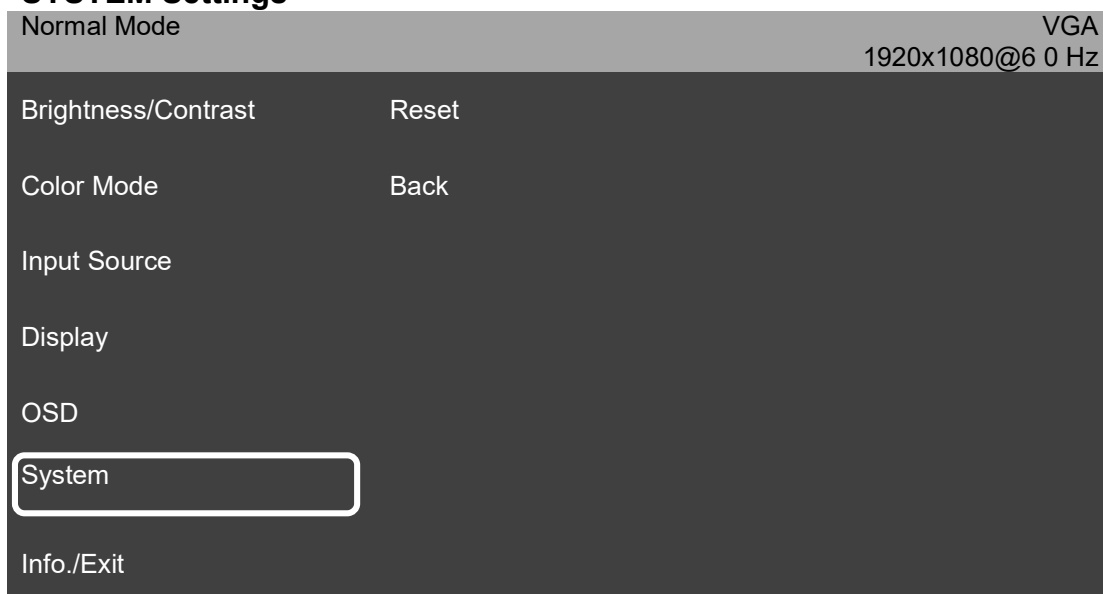
V.Position

Adjust the V position for OSD by the range from 0 to 100.

Timeout

Adjust OSD display time by the range from 5 to 100.

SYSTEM Settings



Reset

Select this function to reset all OSD adjustments to the factory default settings

Information



This page will show below messages:

- 1.Detail information for input timing :
Resolution, H V Frequency , V Total , Color format
- 2.Record how much time does this monitor display.

Exit

Close the Main Menu.

7. Display Timing Modes

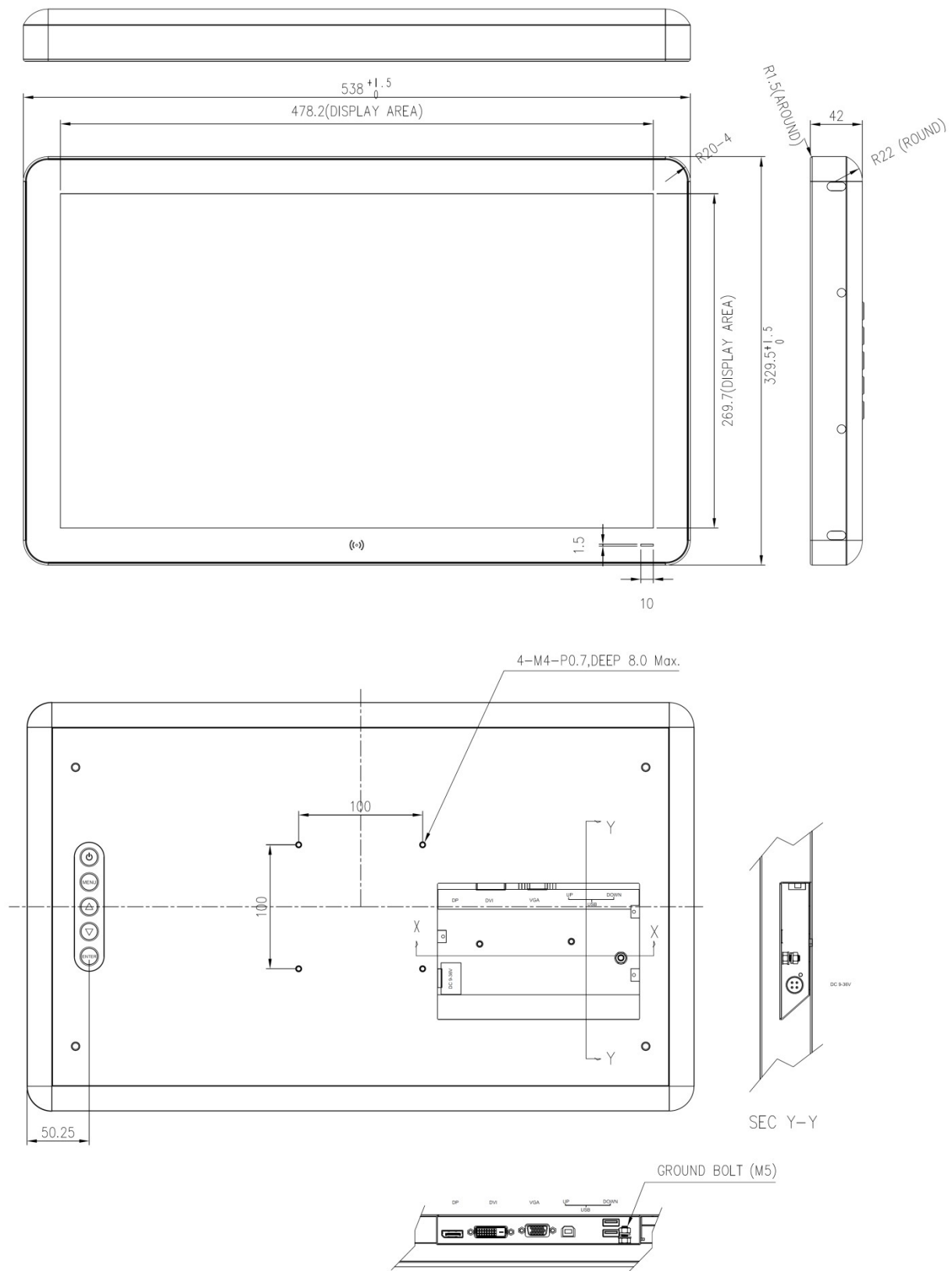
Timing Table							
Mode Name	Resolution		Frequency		Input Signal		
	H	V	H(kHz)	V(Hz)	VGA	DVI	DisplayPort
VGA	640	480	31.47	59.94	O	O	O
SVGA	800	600	35.16	56.25	O	O	O
	800	600	37.88	60.32	O	O	O
XGA	1024	768	48.36	60	O	O	O
SXGA	1280	1024	63.98	60.02	O	O	O
UXGA	1600	1200	75	60	O	O	O
1080P	1920	1080	68	60	O	O	O

8. Specifications

Product name : 21.5" Color LCD Display

Screen technology	:	TFT active matrix type liquid crystal panel
Active screen size	:	(diagonal) 21.5"
Active screen size	:	476.64mm (H) x 268.11mm (V)
Aspect ratio (H:V)	:	16:9
Resolution	:	1920 x 1080
Pixel pitch	:	0.24825 mm
Color support	:	16.7million
Viewing angle (H, V)	:	178°
Maximum luminance	:	250 cd/m ²
Contrast ratio	:	3000:1
Response time (Gray to Gray)	:	18ms
Power requirements (Nominal)	:	DC9-36V
Power consumption	:	40W
Power save mode	:	Yes
Display dimensions w/o stand (W x H x D)	:	538 x 329.5 x 42 mm
Dimensions packaged (W x H x D)	:	625 x 430 x 208 mm
Net weight display w/o stand	:	6.9 Kg
Net weight packaged w/o stand	:	8 Kg
Mounting standard VESA	:	100 mm
RFID Operation Frequency	:	13.56MHz

External Dimensions 21.5"



9. Contact Information

Legal information and responsibility

Richardson
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www.canvys.de

Technical Support / Service contact

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Please use following link for the registration of service issues:
<http://www.canvys.de/support/teklink/>