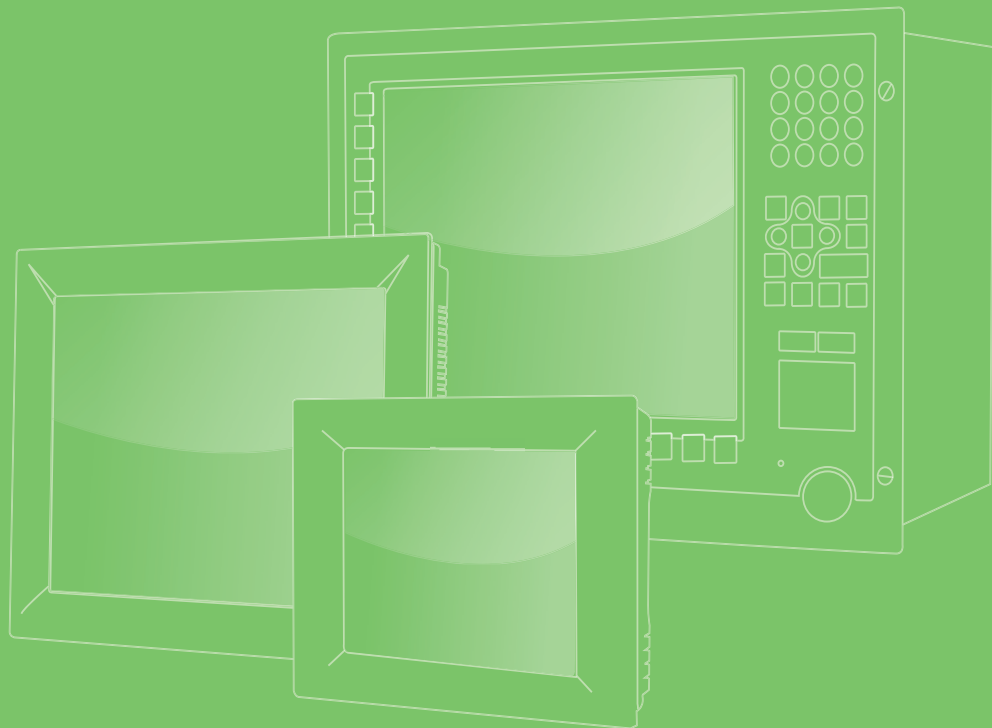


User Manual



FPM-1150G Series

**15" XGA/Industrial LED Monitor with
Resistive Touchscreen, VGA or HDMI
Display Port and DC12 V Input**

顯示器

申請商:研華股份有限公司
地址:台北市內湖區瑞光路26巷20弄1號
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ADVANTECH

Enabling an Intelligent Planet

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This manual includes the following products:

FPM-1150G-RVAE

FPM1150GRVA1801-T; FPM1150GRVA1802-T; FPM1150GRVA1803-T;

FPM1150GRVA1901-T; FPM1150GRVA1902-T; FPM1150GRVA1903-T;

FPM1150GRVA2001-T; FPM1150GRVA2002-T; FPM1150GRVA2003-T;

FPM1150GRVA2101-T; FPM1150GRVA2102-T; FPM1150GRVA2103-T;

FPM-1150G-RHAE

FPM1150GRH1801-T; FPM1150GRH1802-T; FPM1150GRH1803-T;

FPM1150GRH1901-T; FPM1150GRH1902-T; FPM1150GRH1903-T;

FPM1150GRH2001-T; FPM1150GRH2002-T; FPM1150GRH2003-T;

FPM1150GRH2101-T; FPM1150GRH2102-T; FPM1150GRH2103-T;

Part No. *****

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Edition *

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限用物質含有情況標示聲明書

Declaration of the Presence Condition of the Restricted Substances Marking

PLM MDR NO: MDR-002819

設備名稱：顯示器 Equipment name		型號（型式）：FPM-1150G-RVAE Type designation (Type)				
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	鉛Lead (Pb)	汞Mercury (Hg)	鎘Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr ⁺⁶)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
電路板	—	○	○	○	○	○
內外殼	—	○	○	○	○	○
線材	○	○	○	○	○	○
其它固定組件 (螺絲, 螺柱)	—	○	○	○	○	○
電源供應器	—	○	○	○	○	○
分離式電源線組	○	○	○	○	○	○
觸控模組	○	○	○	○	○	○
液晶面板	—	○	○	○	○	○
<p>備考1. “超出0.1 wt %”及“超出0.01 wt %”係指限用物質之百分比含量超出百分比含量基準值。 Note 1: “Exceeding 0.1 wt %” and “exceeding 0.01 wt %” indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.</p> <p>備考2. “○”係指該項限用物質之百分比含量未超出百分比含量基準值。 Note 2: “○” indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.</p> <p>備考3. “—”係指該項限用物質為排除項目。 Note 3: The “—” indicates that the restricted substance corresponds to the exemption.</p>						

Product Warranty (2 years)

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages you get when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a fully-completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

[警告使用者：這是甲類資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當對策。]

Declaration of Conformity

FCC Class A

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Technical Support and Assistance

1. Visit the Advantech web site at www.advantech.com/support where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. **DO NOT COVER THE OPENINGS.**
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
 - The power cord or plug is damaged.
 - Liquid has penetrated into the equipment.
 - The equipment has been exposed to moisture.
 - The equipment does not work well, or you cannot get it to work according to the user's manual.
 - The equipment has been dropped and damaged.
 - The equipment has obvious signs of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT WHERE THE STORAGE TEMPERATURE MAY GO BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS COULD DAMAGE THE EQUIPMENT. THE EQUIPMENT SHOULD BE IN A CONTROLLED ENVIRONMENT.**
16. The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70 dB (A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

DISCLAIMER II: By means of a power cord connected to a socket-outlet with earthing connection.

By means of a power cord connected to a socket-outlet with earthing connection.

Noted : This product is intended to be supplied by an UL certified power supply or dc source suitable for use at minimum Tma 50 degree °C whose output meets SELV or ES1, LPS or PS2 and is rated 12Vdc, 4A min., if need further assistance, please contact Advantech for further information.

Warning! *If the customer user DC power by oneself for this product may cause the radio interference in which case, the customer must be to take adequate measures.*



Warning! *If the customer needs to use power adapter, please use the power adapter listed on the product datasheet. If the customer use the power adapter not listed on the product datasheet, it may cause the radio interference in which case, the customer must be to take adequate measures*



安全指示

1. 請仔細閱讀此安全操作說明。
2. 請妥善保存此用戶手冊供日後參考。
3. 用濕抹布清洗設備前，請確認拔除電源線。請勿使用液體或去污噴霧劑清洗設備。
4. 對於使用電源線的設備，設備周圍必須有容易接觸到的電源插座。
5. 請勿在潮濕環境中試用設備。
6. 請在安裝前確保設備放置在可靠的平面上，意外摔落可能會導致設備損壞。
7. 設備機殼的開孔適用於空氣對，從而防止設備過熱。**請勿覆蓋開孔。**
8. 當您連接設備到電源插座前，請確認電源插座的電壓符合要求。
9. 請將電源線佈置在人們不易絆倒的位置，請勿在電源線上覆蓋任何雜物。
10. 請注意設備上所有的警告標示。
11. 如果長時間不使用設備，請拔除與電源插座的連結，避免設備被超標的電壓波動損壞。
12. 請勿讓任何液體流入通風口，以免引起火災或短路。
13. 請勿自行打開設備。為了確保您的安全，請透過經認證的工程師來打開設備。
14. 如遇下列情況，請由專業人員維修：
 - 電源線或插頭損壞；
 - 設備內部有液體流入；
 - 設備曾暴露在過度潮濕環境中使用；
 - 設備無法正常工作，或您無法透過用戶手冊來正常工作；
 - 設備摔落或損壞；
 - 設備有明顯外觀損；
15. 請勿將設備儲存在超出建議溫度範圍的環境，即不要低於 -20°C (-4°F) 或高於 60°C (140°F)，否則可能會造成設備損壞。
16. **注意：**若電池更換不正確，將有爆炸危險。因此，只可以使用製造商推薦的同一種或者同等型號的電池進行替換。請按照製造商的指示處理舊電池。
17. 根據 IEC 704-1:1982 規定，操作員所在位置音量不可高於 70 分貝。
18. **限制區域：**請勿將設備安裝於限制區域使用。
19. **免責聲明：**請安全訓示符合 IEC 704-1 要求。研華公司對其內容之準確性不承擔任何法律責任。

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Chapter 1

General Information

Sections include:

- Introduction
- Specifications
- LCD Specification
- Power Consumption
- Connectors
- Dimensions

1.1 Introduction

The FPM-1150G is an industrial-grade 15 TFT LCD monitor with LED backlight flat panel with a changeable front bezel and updated appearance. FPM-1150G provides a really entry level industrial monitors for not only the industrial application scenarios. but also for all other applications under IoT scenario. In conclusion, FPM-1150G is the best option for those who is looking for the reliable and tough display solution with the best C/P ratio.

1.2 Specifications

1.2.1 General

Specifications	FPM-1150G
Construction	Heavy-duty aluminum and steel chassis
Front panel	Aluminum, NEMA4 / IP65 Compliant
Control	Two-key OSD on the front panel
Mounting	Panel, wall, desktop, VESA ARM
Dimensions (W x H x D)	311 mm x 237 mm x 40.63 mm (12.24" x 9.33" x 1.60")
Weight	4kg (8.82 lb)

1.2.2 Touchscreen (Optional)

Specifications	FPM-1150G
Type	5 wire, analog resistive
Resolution	2048*2048
Light Transmission	80%
Controller	USB & RS-232 interface

1.3 LCD Specification

Specifications	15" LCD (LED Backlight)
Display Type	XGA TFT LCD
Display Size	15"
Max. Colors	16.7 M
Max. Resolution	1024 x 768
View Angle (H/V°)	160°(V), 140°(H)
Luminance	300 cd/m ²
Storage Temperature	-20 ~ 60°C
Operating Temperature	0 ~ 50°C
Contrast Ratio	2000:1 (Typical)
Lamp Life Time (MTBF)	70,000 hrs.

1.4 Connectors

The following connectors are situated on the bottom side of the FPM-1150G series:

- **VGA Port (DB-15)**
This DB-15 connector can be connected to the system via the external 15-pin DB-15 connector located on the left side of the system unit.
- **Touchscreen Connector (USB)**
This connector will be present only if a touchscreen is installed. It must be connected to the USB port of the PC. The touchscreen cable is included with all orders.
- **DC 12 V Power Input Connector**
This connector must be connected to DC 12 V power switch.

Warning! Please note before connect the monitor and PC with VGA cable:



1. If PC has installed operation system, please confirm its portrait frequency is within the acceptable range.
2. If PC has installed operation system, users need to adjust the portrait frequency to be within the acceptable range.

1.5 Dimensions

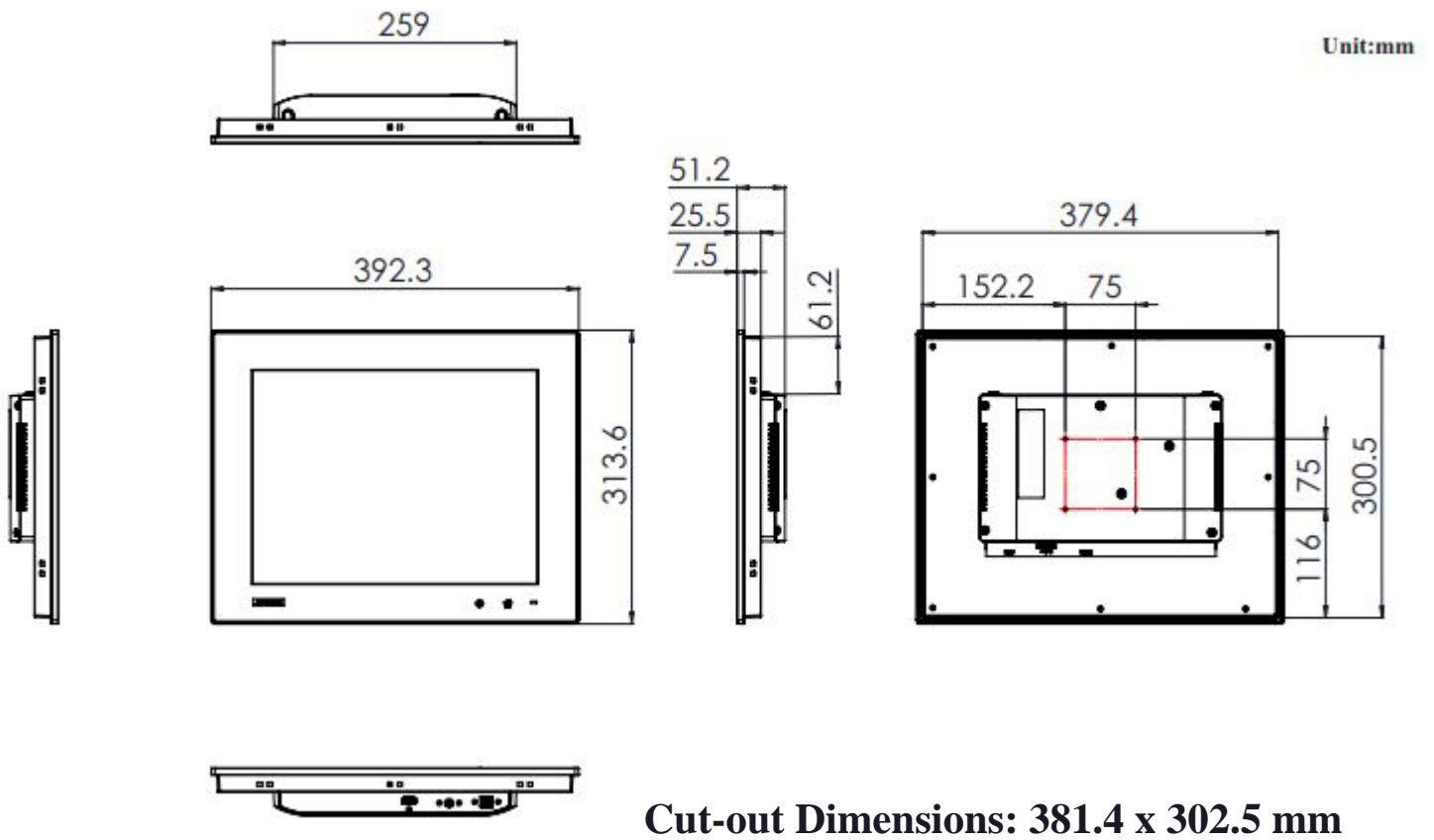


Figure 1.1 FPM-1150G Dimensions

1.6 I/O Views

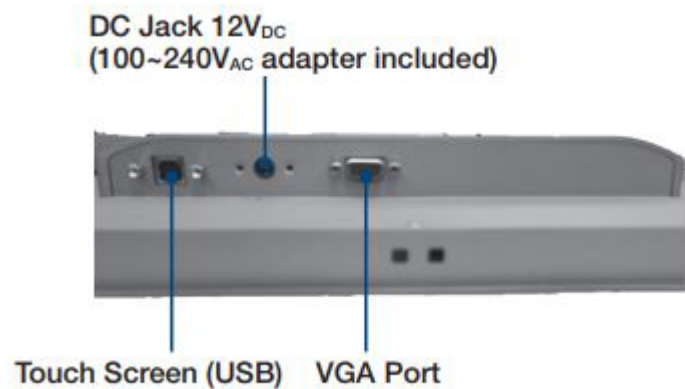


Figure 1.2 FPM-1150G I/O views

Chapter 2

Mounting Methods

Sections include:

- Wall Mounting
- Panel Mounting
- Desktop Stand Mounting

2.1 Mounting the Monitor

The FPM-1150G Series can be mounted in many different ways. The versatility of the FPM-1150G enables it to be mounted on your desk or anywhere else.

2.1.1 VESA Mounting

The FPM-1150G can be mounted on 75*75 VESA screw holes. Every arm or mount kit with standard 75*75 VESA defining can be mounted by FPM-1150G easily.

Noted : The suggested size of screw of VESA is M4 x 6

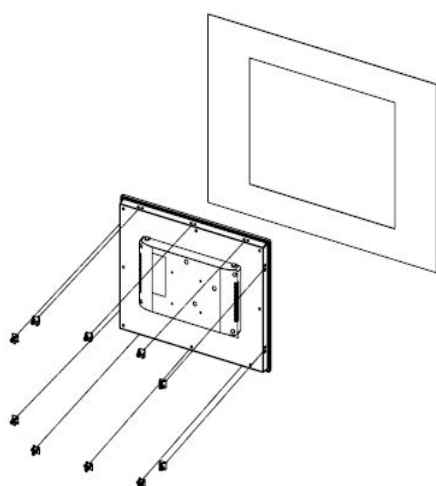


2.1.2 Panel Mounting

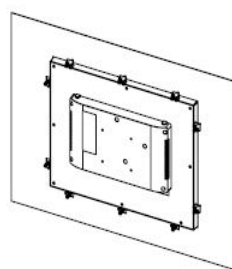
If you need to install the FPM-1150G series in a panel, release the mounting brackets by detaching four screws on rear side and fix them on the top and bottom with screws.

To implement the panel mount completely, it required 10 clampers with M6 * 21mm screws, with a cut-out on the cabinet with 381.4 x 302.5mm

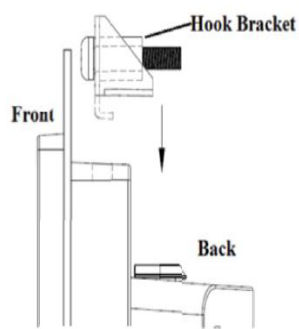
1



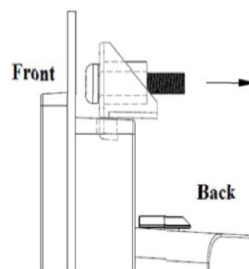
2



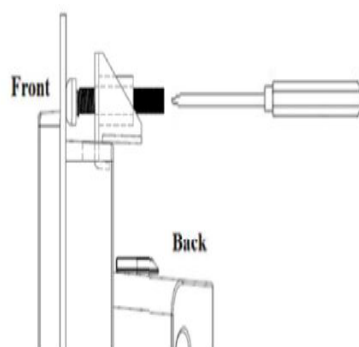
Noted: Below are the details of the hook on FPM-1150G (step by step)



1. Insert FPM into the cabinet, retrieve all 12 clamps for installation



2. Insert all the hooks into the holes following the arrow in the picture above



3. Tighten the screws to affix the FPM in place

Appendix **A**

Touchscreen

A.1 Introduction

The FPM-1150G Series touchscreen uses advanced 5-wire resistive technology. It provides more accurate sensing capacity than other technologies. The touchscreen is specially designed for tough industrial environments, and has been approved to FCC Class A standards.

A.2 Touchscreen Specifications (12"/15"/17")

A.2.1 Typical Optical Features

Specification	12"	15"	17"
Light Transmission	> 80%		
Haze	< 13%		

A.2.2 Electrical Specifications


Specification	12"	15"	17"
Operation Voltage	5.5 V or below		
Contact Current	70 mA (Maximum)		


A.2.3 Environment Specifications

Specification	12"	15"	17"
Operating Temperature	0 ~ +50°C		
Storage Temperature	-20 ~ +60°C		
Humidity	≥20°C, humidity < 80% RH		
	<20°C, humidity < 90% RH, Non-condensing		

A.3 Installing Driver for Windows OS

The touchscreen has drivers for Win 7/8. You should read the instructions in CD-ROM Disk carefully before you attempt installation. The FPM-2120G/2150G/2170G-R series need to install Penmount 6000 driver. Please find Penmount 6000 folder and install the driver into your system.

Note!  The driver manual are examples only. You must follow the flow chart instructions and pay attention to the instructions which then appear on your screen.

Note!  If there is any other OS driver need, you could download at the web site: http://support.advantech.com/Support/DownloadSRDetail_New.aspx?SR_ID=1-WQR-PJM&Doc_Source=Download

Appendix **B**

OSD Operation
Keypad

B.1 OSD Board Overview

The OSD keypad, including two keys and a three color indicator, is designed as the OSD operation interface.



1. Activate the OSD
2. Enter/confirm the selected option



1. Move the selector to the previous option.
2. Increase & Decrease Loop gauge value of the selected option. (Brightness Adjustment only)



Indication light

B.1.1 OSD Button Description

Table B.1: OSD Button Description

Picture	Turn the monitor power ON or OFF.
Geometry	Adjust the brightness
Color	Adjust the color setting
OSD Manager	Adjust language / Menu showing time
Touch Control	Enable/Disable/Auto Touch
Auto Adjust	Auto Adjust Color / Geometry setting
All Reset	Restore to factory default


B.1.2 LED Function

Table B.2: LED Function

Touch Status adjusted by "Touch Control"

	Touch On	Touch Auto	Touch Off
Display on	Blue (constant)	Blue (constant)	Blue&Amber(flashing)
Display off	Blue (constant)	Blue(flashing)	Blue(flashing)
Display standby	Non	Amber(flashing)	Amber(flashing)

B.1.3 Hot Keys (Brightness)

Press  directly without the OSD menu, it will be the hot keys for adjusting the brightness

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