PMW6240

24" 1920 x 1200 Widescreen LCD
Open Frame Metal Construction
Wall/ Panel/ VESA Mount Ready

Industrial Monitors

User Manual

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For lastest product information, please visit Acnodes' website at www.acnodes.com

ACNODES

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Legal Information

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Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. We are not liable for any injury or loss that results from the use of this equipment.

Safety Instructions

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

- Unplug equipment before cleaning. Don't use liquid or spray detergent; use a moist cloth.
- Keep equipment away from excessive humidity and heat. Preferably, keep it in an air-conditioned environment with temperatures not exceeding 40ºCelsius (104ºFahrenheit).
- When installing, place the equipment on a sturdy, level surface to prevent it from accidentally falling and causing damage to other equipment or injury to persons nearby.
- When the equipment is in an open position, do not cover, block or in any way obstruct the gap between it and the power supply. Proper air convection is necessary to keep it from overheating.
- Arrange the equipment's power cord in such a way that others won't trip or fall over it.
- If you are using a power cord that didn't ship with the equipment, ensure that it is rated for the voltage and current labeled on the equipment's electrical ratings label. The voltage rating on the cord should be higher than the one listed on the equipment's ratings label.
- Observe all precautions and warnings attached to the equipment.
- If you don't intend on using the equipment for a long time, disconnect it from the power outlet to prevent being damaged by transient over-voltage.
- Keep all liquids away from the equipment to minimize the risk of accidental spillage. Liquid spilled on to the power supply or on other hardware may cause damage, fire or electrical shock.
- Only qualified service personnel should open the chassis. Opening it yourself could damage the equipment and invalidate its warranty.
- If any part of the equipment becomes damaged or stops functioning, have it checked by qualified service personnel.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
  - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
  - Repair or attempted repair by anyone not authorized by us.
  - Any damage of the product due to shipment.
  - Removal or installation of the product.
  - Causes external to the product, such as electric power fluctuation or failure.
  - Use of supplies or parts not meeting our specifications.
  - Normal wear and tear.
  - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

Regulatory Notices Federal Communications Commission (FCC)

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.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment. 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:

- Re-position 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.

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Before Installation

- It is very important to mount the equipment in a suitable cabinet or on a stable surface.
- Make sure the place has a good ventilation, is out of direct sunlight, away from sources of excessive dust, dirt, heat, water, moisture and vibration.

Unpacking

The equipment comes with the standard parts shown in package content. Check and make sure they are included and in good condition. If anything is missing, or damaged, contact the supplier immediately.

How To Clean Your LCD Monitor

Caution :

- To avoid the risk of electric shock, make sure your hands are dry before unplugging your monitor from or plugging your monitor into an electrical outlet.
- When you clean your monitor, do not press down on the LCD screen. Pressing down on the screen can scratch or damage your display. Pressure damage is not covered under warranty.
- Use only cleansers made specifically for cleaning monitors and monitor screens. Cleansers not made to clean monitors and monitor screens can scratch the LCD display or strip off the finish.
- Do not spray any kind of liquid directly onto the screen or case of your monitor. Spraying liquids directly onto the screen or case can cause damage which is not covered under warranty.
- Do not use paper towels or abrasive pads to clean your monitor. Using an abrasive pad or any wood based paper product such as paper towels can scratch your LCD screen.

Cleaning Your Monitor

To clean your LCD safely, please follow these steps :

1. Disconnect the power cord.
2. Gently wipe the surface using a clean, dry microfiber cloth. Use as little pressure as possible.

Cleaning Tough Marks and Smudges

To remove tough marks and smudges, please follow these steps :

1. Disconnect the power cord.
2. Spray a small amount of non-abrasive cleanser on a microfiber cloth.

Caution : Do not spray or apply any liquids directly onto the monitor. Always apply the solution to your microfiber cloth first, not directly on the parts you are cleaning.

3. Gently wipe the surface. Use as little pressure as possible.
4. Wait until your monitor is completely dry before plugging it in and powering it up.

< Part 1 >

< 1.1 > Package Content - PMW6240

PMW6240

24” Widescreen LCD display X 1

6ft VGA cable X 1

Power cord X 1

Remote controller X 1

Standard IIO

< 1.2 > Structure Diagram-PMW6240

1. Rear case
2. LCD panel
3. Audio speaker, pair
4. Universal open frame mounting
5. LCD membrane
6. Extended remote sensor membrane cable
   (66cm from AD board to sensor end)

Model	Product Dimension (W x D x H)	Packing Dimension (W x D x H)	Net Weight	Gross Weight
PMW6240	617 x 81 x 423 mm 24.3 x 3.2 x 16.7 inch	701 x 138 x 685 mm 27.6 x 5.4 x 27 inch	8 kg 18 lbs	12 kg 26 lbs

< 1.2 > Dimension - PMW6240

Front View

Side View

Rear View

UNIT : mm

1mm = 0.03937 inch

Bottom View

< 1.3 > Installation

(I) Universal mount

(II) VESA mount (100*100mm)

Hardware and M4*4 pcs for VESA mounting are not provided

< 1.3 > VESA mount Installation – APW 5240

VESA mount (100*100mm)

Hardware and M4*4 pcs for VESA mount are not provided

< Part 2 >

< 2.1 > Product Specifications

Mechanical Design		PMW6240
	Front Panel	-
	Rear Casing	Dark grey, RAL 7037
	VESA Mounting	100 x 100mm
	Other Mounting	Universal mount
	Protection	-

LCD Panel		
	Panel Size (diagonal)	24.1-inch Widescreen TFT color LCD
	Display pixel (dots x lines)	1920 x 1200
	Brightness (typ.)	400
	Contrast Ratio (typ.)	1000:1
	Color	1.07 b
	Viewing Angle (L/R/U/D)	89/89/89/89
	Response Time (ms)	13
	Dot pitch (mm)	0.27
	Display Area (mm)	518.40H x 324.0V
	Surface treatment	Anti-glare, Hard-coating
	Surface hardness	3H
	Backlight Type	LED
	MTBF (hrs)	40,000

Video Connectivity			
	Digital	HDMI	HDMI 1.1, CEA-861-D
		DVI	DVI-D, TMDS single link
	Analog	VGA	Analog 0.7Vp-p
		Composite (RCA)	NTSC & PAL
		S-Video (4-pin)	NTSC & PAL
	Plug & Play	DVI / VGA	VESA EDID structure 1.3
	Synchronization	VGA	Separate, Composite & SOG

Audio Connectivity			
	Audio Input	Connector	3.5mm stereo jack
		Impedance / Power level	30kK / 750mV
	Audio Output	Connector	3.5mm stereo jack
		Resistance / Power level	30kK / 2.8V
	Speaker Output	Power	2 x 2W

*When the audio output is connected, speaker output is OFF

Power			
	Power Supply	Range	Auto-sensing 100 to 240VAC, 50 / 60Hz
	Power Consumption	Screen display ON	125W or less
		Power saving mode	9W or less
		Power button OFF	2W or less

Regulatory	Safety Approval	FCC & CE

Environmental Conditions	Operating	Temperature	0 to 50°C degree
		Humidity	20~90%, non-condensing
	Storage	Temperature	-5 to 60°C degree
		Humidity	5~90%, non-condensing
		Shock	10G acceleration (11ms duration)
		Vibration	5~500Hz 1G RMS random

Physical Specification	Product (W x D x H)	617 x 81 x 423 mm 24.3 x 3.2 x 16.7 inch
	Packing (W x D x H)	701 x 138 x 685 mm 27.6 x 5.4 x 27 inch
	Net Weight	8 kgs / 18 lbs
	Gross Weight	12 kgs / 26 lbs

Applicable Format	DVI-D / VGA Input	PC Signal	1920 x 1200 x 60Hz
			1920 x 1080 x 60Hz
			1280 x 1024 x 60 / 75Hz
			1280 x 960 x 60Hz
			1280 x 768 x 60 / 75Hz
			1152 x 864 x 75Hz
			1024 x 768 x 60 / 70 / 75Hz
			848 x 480 x 60Hz
			800 x 600 x 60 / 72 / 75Hz
			720 x 400 x 70Hz
			640 x 480 x 60 / 72 / 75Hz
			640 x 400 x 70Hz
			640 x 350 x 70Hz
	HDMI Input	PC Signal	Same as VGA
		Video Signal	1080p : 60Hz
			720p : 50 / 60Hz
			480p : 60Hz
			576p : 50Hz
		Audio Signal	2ch Linear PCM (32 / 44.1 / 48 KHz)
	Composite / S-Video Input	NTSC	525 lines, 60 fields / sec
		PAL	625 lines, 50 fields / sec

< 2.2 > On-screen Display Operation (OSD)

- Power light
- Green = On
- Orange = Power saving

Membrane Switch	Function
	Power on / off LCD
	Display the OSD menu
	Scrolls through menu options and adjusts the displayed control (To auto adjustment by pressing the button for 5 seconds)
	Exit the OSD screen Toggle analog, digital & video connection (DVI-D and video options only)

① Picture

Picture mode :	Standard / Vivid / Soft / User mode to choose
Brightness :	Adjust background black level of the screen image
Contrast :	Adjust the difference between the image background (black level) and the foreground (white level)
Hue:	Adjust the screen hue value
Saturation :	Adjust the saturation of the image color
Picture size :	Adjust the image size
Color temp :	Standard / Cool / Warm / User to choose
Noise reduce :	Reduce the noise of the image
Sharpness :	Adjust the image from weak to sharp

② PC

Auto adjust :	Automatically adjust sizes, centers and fine tunes the video signal to eliminate waviness and distortion.
Clock :	Adjust the clock value
Phase :	Adjust the phase value
H. Position :	Align the screen image left or right
V. Position :	Align the screen image up or down

< 2.2 > On-screen Display Operation (OSD)

③ Audio

Audio mode :	Movie / Voice / Normal / Music mode to choose
Volume :	Adjust the volume of sound
Bass :	Set the value of bass sound
Treble :	Set the value of treble sound
Balance :	Set the balance value of treble and bass sound
Analog TV audio :	Set the value of analog TV audio sound
Mute :	Turn off the surrounding sound

④ TV

Auto search :	Automatically search
Manual search :	Search the TV manual
Fine tune :	Fine tune the TV signal
Color system :	Adjust the TV color
Sound system :	Adjust the TV sound
Channel edit :	Edit the channel

⑤ MISC

Language :	Select the language in which the OSD menu is displayed - English
Sleep timer :	Set the off time
PIP mode :	Adjust picture in picture setting
PIP position :	Enter into PIP position
PIP source :	Enter into the Sub source and sound source
System reset :	Return the adjustment back to factory setting
Information :	Select for Help

< 2.3 > Remote Controller (RC-2)

①	**INPUT**	Select the source
②	⏻	Switches on or off the TV
③	**0 - 9**	Only use in TV mode. Select channels. For channel numbers 10 and above, enter the second digit within two seconds.
④	**AUTO**	Auto adjust
⑤	**MENU**	Display the menu on the screen or go to the previous menu
⑥	? / ? / ? / ? / **ENTER**	Go to the upper menu or select the previous value / Go to the next menu or select the next value / Decrease the setting value / Increase the setting value or enter to the select item setting Enter to the select item settings or excude the setting
⑦	**BACK**	Back to previous value
⑧	**MUTE**	Turn on or off the speaker
⑨	**Vol + I -**	Increase or decrease the speaker volume
⑩	**CH + I -**	For TV model only, increase or decrease the channel number
⑪	**FREEZE**	Reserve for OEM model
⑫	**- I --**	For setting input single or double digits
⑬	**ASPECT**	Adjust the screen size
⑭	**SELECT**	To select the existing item
⑮	**SLEEP**	Select the sleeping time
⑯	**EXIT**	Exit the menu or cancel

PIP functions

⑰	**PIP**	Picture in picture
⑱	**PIP AUDIO**	To set the audio of in PIP mode
⑲	**POSITION**	To set the screen position in PIP mode
⑳	**SOURCE**	PIP Source
㉑	**SWAP**	Swap screen in PIP mode

< Part 3 > Options

< 3.1 > Option Table

Options	APW	PMW
SDI ***	✓	✓
Touchscreen	✓	✓
MCS multi-display control ***	✓	✓
MIL-type / lockable connector	✓	✓
TV	✓	✓

***

The user can only select either SDI or MCS inputs.

< 3.2 > Options : 3G I HD I SD-SDI input

Acnodes' SDI input is an ideal solution for the broadcast-grade video and high resolution CCTV market.

Designed for use with Full HD 1080p and ultra high resolution 1920 x 1200 LCD displays, Acnodes provides a SDI input module without using additional space or power and it comes standard with a 2-year warranty.

INPUT	3G-SDI IN	BNC x 1 / 0.8Vp-p (75 ohm)
	3G-SDI OUT	BNC x 1 / Active through, equalized & relocked

Standard Compliance	Video	SMPTE 425M / 274M / 296M / 125M ITU-R BT.656
	Audio	SMPTE 299M / 272M-C

Compatible Video Format	3G-SDI	1080p 1080p 1080i 720p	@60 / 50Hz, 4:2:2 @30 / 25 / 24Hz, 4:4:4 @60 / 50Hz, 4:4:4 @60 / 50Hz, 4:4:4
	HD-SDI	1080p 1080i 720p	@30 / 25 / 24Hz, 4:2:2 @60 / 50Hz, 4:2:2 @60 / 50Hz, 4:2:2
	SD-SDI	480i	@60Hz, 4:2:2
	ITU-R BT.656	576i	@50Hz, 4:2:2

Compatible Audio Format	3G-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	HD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized Video
	SD-SDI	48kHz, 16 / 20 / 24 bit, 2 CH, Synchronized / Asynchronized Video

Max. Transmission Distance 75 ohm coaxial cable	3G-SDI	150m at 2.97Gb/s
	HD-SDI	250m at 1.485Gb/s
	SD-SDI	480m at 270Mb/s

< 3.3 > Options : MCS

MCS
(Multi-display Control)

More control is always good. Especially when it is necessary and easy. Acnodes provides MCS solution to control the **OSD** of various LCD display up to 64 units.

The RS-232C is used for the communication between the PC and the first display via a 15 feet serial cable while the CAN bus is used for the various LCD displays cascade together via CAT 5/6 cable, and daisy chain up to 1,000 meters.

Designed for use with various LCD displays, Acnodes provides a MCS input module without using additional space or power and it comes standard with a 2-year warranty.

< 3.4 > Options : Touchscreen & driver

24" USB Touchscreen Specification

Model	**TRB** e-Resistive
Technology	5-Wire Resistive
Touch Point	Single
Method	Stylus or Finger
Activation Force	= 50g / Stylus=R0.8
Durability	10 million touches
Response Time	15 ms
Optical Transmittance	80% ± 3%
Surface Hardness	3H
Haze	8% ± 3%
Glass	3.2 ±0.2 mm
Connector	USB Type A
Compatibility	Windows 7 / XP / Vista, Linux

- USB touchscreen package includes 1 x 6ft USB cable, quick reference guideline and CD disc
- For detailed information, please refer to the attached CD disc
- As the touchscreen unit is not made of toughened glass, please handle it carefully

USB Touchscreen

Please follow the below steps to setup the touch screen:-

Step 1. Run the bundled CD disc

Step 2. Double click the Setup.exe

Step 3. Follow the installation instruction to finish the setup

Step 4. After installation, run the TouchKit program & the “4 point calibration”

Please do the initial calibration after the first setup

< 3.5 > Options : MIL-type or Lockable Connector

	Input	Part no.	MIL Standard
MIL - type Connector	DC Power *** (Male)	MS3470W8-33P	MIL - DTL - 26482
	VGA *** (Male)	MS3470W14-15P	MIL - DTL - 26482

*** There are several additional MIL DC and VGA connector types with varying design characteristics to meet cost considerations and to provide users with the most design flexibility possible. For more information, please contact us.

	Input	Part no.	Standard
Lockable Connector	DC Power (Male)	YM-Ext-461CP001	D-type 3W3
	USB	LUSB - A111 - 00	-

*** MIL - type or Lockable connectors above can be integrated with our LCD displays. Sale service just for connectors not provided.