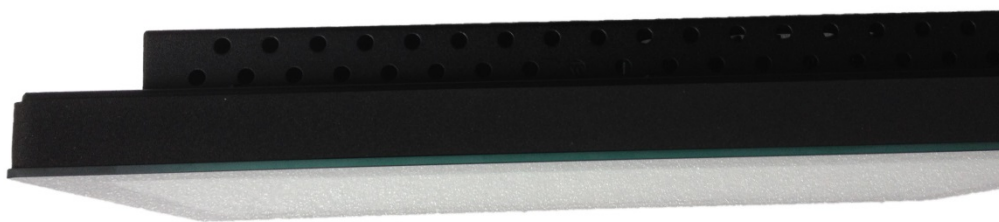


USER'S MANUAL

AOD/ATS 156 (15.6") metal case monitor



Pictures 10 Pts Projected Capacitive Touch is shown above.



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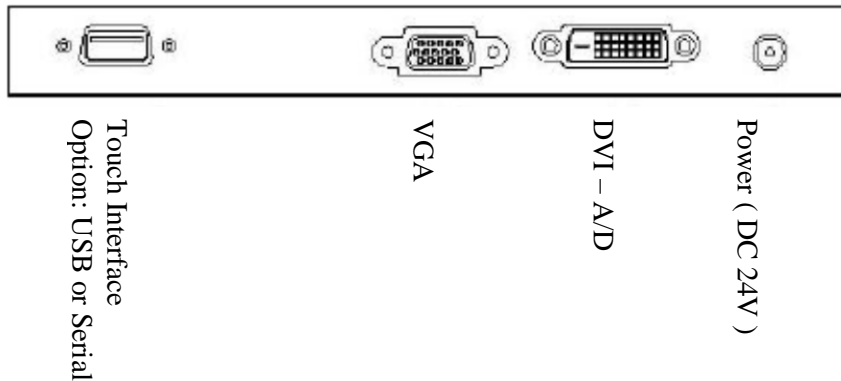
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1. Monitor User's Manual

1.0 Connection To the Monitor



1.1 Installation

- Connect the signal(VGA) cable to the VGA port of computer. Tighten the two thumbscrews by turning clockwise.
- You can adjust the connection for your PC environment.
- Plug the DC cord of the AC adapter to the power connector and the plug the end of AC adapter to and electrical outlet socket(110V/220V)
- Connect DC cord of adapter (12V DC) (option=24V) to the monitor..

1.2 Features

- AOD/ATS 185 is HD (1366 x 768 pixels) LCD monitor.
- You can adjust brightness, contrast, horizontal & vertical positions by OSD menus and use auto adjust function for instant adjustment.
- High-qualified LCD Controller inside
- Compact space saving design and power saving mode
- 100% compatible with Windows PC environment without the installation of driver CD or software program.

1.3 Plug and Play Function

AOD/ATS 185 can be installed and connected automatically to any computer systems without driver CD or software programs. Monitor will recognize the optimized value of video mode by DDC(Display Data Channel) method that makes the graphic card of computer to communicate with the monitor.

AOD185 supports VESA DDC 1/2B.

1.4 Safety Precaution

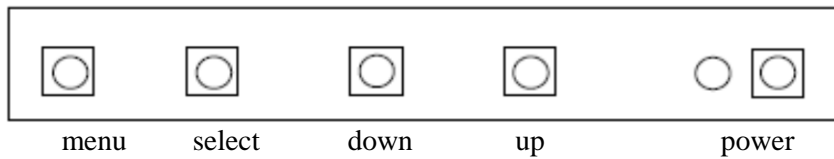
We strongly recommend that you carefully read this User's Manual before operating your LCD monitor. FOLLOW INSTRUCTIONS in this manual.

Please read and comprehend all using directives before use this machine.

- **Power**
Use the type of power indicated on the marking label.
- **Adapter**
Only use an adapter designed of the LCD monitor.



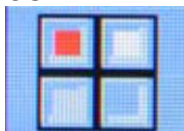

- **Plug**
Do not remove any of the prongs of the monitor's three-pronged power plug.
Disconnect the power plug from the AC outlet if you will not use it for an indefinite period of time.
- **Power and extension cord**
- Use the proper power cord with ground conductor
Do not overload wall outlets or power cords. Ensure that the total of all units plugged into the wall outlet does not exceed 7 amperes.
Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
- **Care and maintenance**
Slots and openings in the cabinet are provided for ventilation. Do not block or cover these openings. Do not push objects of any kind into cabinet slots or openings. The screen surface is easily scratched. Do not use paper towels to clean the display. Avoid touching it with your fingers, pens, or pencils.
- Turn off the AC adapter and the monitor over long periods when not in use.

1.5 OSD (On-Screen-Menu)



Button	Function	Status
POWER	Power ON or OFF	ON/OFF
LED	Indicate working status	Green: On Red: Stand-by Orange: No signal
UP	Launch OSD Menu or add value	Move to OSD Menu
DOWN	Launch OSD Menu or add value	Move to OSD Menu
SELECT	Select OSD Menu	
MENU	On /Off OSD Menu	

1.6 OSD Menu

OSD Menu		Description	Remarks		
Picture 	Brightness	Adjust the brightness of the screen			
	Contrast	Adjust the contrast of the screen			
	H.Position	Adjust the horizontal position of the screen's image	Only usable on analog mode		
	V.Position	Adjust the vertical position of the screen's image			
	Phase	Adjust the focus of the screen's image			
	Clock	Adjust the horizontal size of the screen's image			
	Auto adjust	Automatically adjust the horizontal position, vertical position, horizontal size, and phase window's			
Color 	Color temp	User Reddish Bluish	Control the temperature of the color		
	Red		Control the intensity of the color of screen's image (usable when color temperature is USER mode.)	Only usable on analog mode	
	Green				
	Blue				
	Auto color		Adjust the color balance of the screen		
OSD 	Language	English French German Spanish Italian Korean Japanese	Select one of the seven language	Usable in all Mode.	
	OSD H. Posi.		Select OSD MENU horizontal position		
	OSD V. Posi.		Select OSD MENU vertical position		
	OSD Timer		OSD MENU disappear from over the screen after setting time		
	Transparency		Adjust the transparency of the OSD menu		
Misc. 	Language	English French German Spanish Korean	Select one of the five language	Usable in all Mode.	
	Recall		Initialize the current mode & setting value		
	Input select	Analog			Analog signal (RGB)
		Digital			DVI digital signal
	Audio		Audio ON/Off select		
Volume		Adjust volume level			

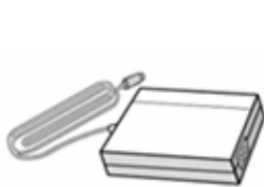
Specifications

AOD156W VGA+DVI, 15.6 inch metal case monitor with 5 wire non glare resistive touch	
Black powdered cover.	
Model:	G156XW01 (AUO)
Type:	15.6 inch-wide Color a-Si TFT-LCD Module
Resolution (max):	1366(x3) x 768
Color:	16,7 million (RGB 6-bit + Hi-FRC)
Pixel:	252 (per one triad) x252
Brightness:	300 cd/m ²
Contrast ratio:	500:1
Viewing angle:	85°-85° (Hor) / 85°-85° (Vert)
Respon time	8 ms
Active area:	344.232 (H) x 193.536 (V)
VGA input	VGA + DVI
Plug and play:	Yes VESA DDC 1/2B
Power:	12 Volts, Adapter included or 24 Volt with Phoenix conn. (option)
Power consumption:	15 watt stand, 25 watt max.
Power consumption stand by:	3 watt max.
Temperature operation mode:	0 °C - 60 °C
Humidity operation mode:	10% ~ 90% R.H.
Size	380x233x45mm (wxhxd)
Weight	~3,7 Kg
Mounting:	VESA 100x100mm
Users Mode:	OSD Key Menu / Select / Power / Down / Up
Compatibility:	VESA / IBM / MAC

1.7 Contents of the Retail Package



Monitor



AC/DC Adapter (not 24V)



Power cord



VGA Cable (option)



DVI Cable



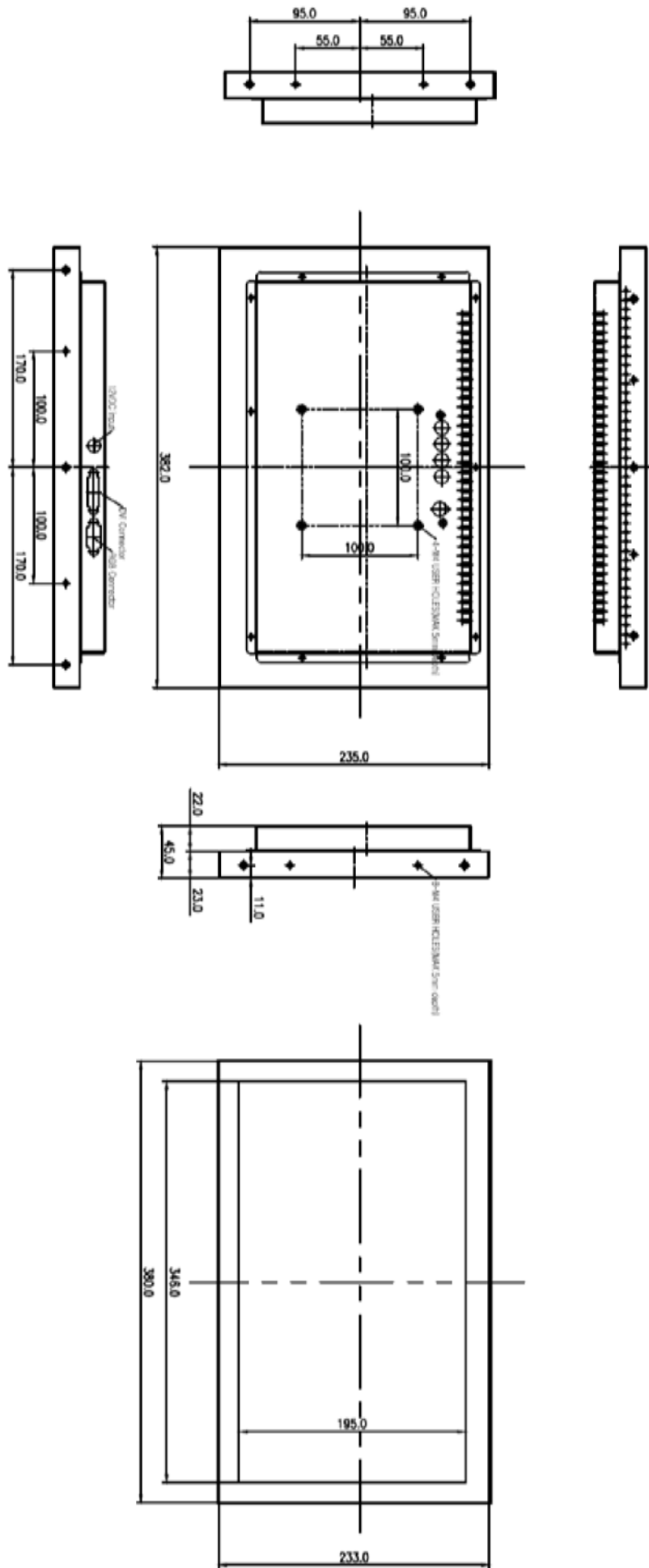
Touch Driver (option)

1.8 Troubleshooting

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER.
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONELLE.

- The monitor does not respond after you turn on the system.
- Make sure that the monitor is turned on.
- Turn off the power and check the monitor's power cord, AC adapter, and signal cable for proper connection.
- Appear the " No Input the Signal"
- Check the connecting of the audio cable between the monitor and the computer.
- Appear the " Input Not the Supported"
- Input signal are insuperable, reset the video mode.
- The appearance is not at the screen center.
- Use "AUTO ADJUST", refer to the Controls section.
- The characters on the screen are too dim or too bright
- Choose fit color temperature, use "AUTO COLOUR ADJUST or manually adjust
- "RGB ADJUSTMENT, refer to the Control section.

1.9 Drawing



2. Touch Options

2.0 Touch-options related to monitor size

	Resistive			SAW			CAP		PROJ. CAP	IR	Optical Touch
	4Wire	5Wire	Dual Touch	3mm	6mm	protected	3mm	6mm			
156	X	O	X	S	S	X	S	S	O	S	X

Aviable Not aviable On demand

2.1 Option: 5-Wire-touchscreen

5 wire-touchscreen

Chemical resistance

non glare is standard, glare is option

Acetone, ammonia-based glass cleaners, hexane, isopropyl alcohol, methylene chloride, mineral spirits, turpentine, methyl ethyl ketone

Vibration

Withstand 0.01 inches amplitude, at a frequency of 5 to 455 Hz, for a period of 15 minutes in each of the three axes

Contact bounce

less then 10ms

Electrostatic discharge protection

withstands 20 discharges of 15kV (pr EN 61000-4-2, 1995)

Activation force

less then 40gr

Input modus

Finger, glove hand, pen or stilus

Surface hardness

Meets pencil hardness 3H (per ASTM D3363)

Resolution

4096x4096 Based on controller resolution

Position accuracy (linearity)

less then 1%

Operating life 1

>3.000.000 (250gr, 2 activations/sec)

Operating life 2

>200.000 (250gr, 4.5mm/sec)

Light transmission

75~85% non glare (standaard) en 90% glare (optie) (per ASTM D1003)

5 wire-controller

USB is standard, RS232 with PS/2 of RS232 internal powered is option

Power requirement

+5V DC(±10%)

Power consumption

Operating 80mA ~ Max.current 140mA

Interface standard

USB 'plug-and-play' compatible is standard

option

RS232 with PS/2 connector is option

option

RS232 internal powered controller. is option

Electrostatic protection

prEN 61000-4-2, 1995: Meets level 4 (15kV lucht / 8kV contact discharges)

Touch resolution

4096x4096

Conversion time

~10ms per coordinate set

Support operating system

Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista/7

Mac OS 9.X, 10.X, Mac Intel

Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora

Corel &II &III, Yellow Dog 3.x, Kernel 2.4.X,

Kernel 2.6.X: 32 en 64 bits

2.2 Option: SAW-Touchscreen

SAW-touchscreen standard

3mm glass with beveled edge

tempered option

Break resistance, meets UL-1950, by

6mm heat tempered glass (is option)

protected option

break resistance, dustproof, waterproof (is option)

Chemical resistance

Acetone, ammoniabased isopropyl alcohol, turpentine, methy cleaners alcohol, methyl ethyl ketone, toluene, gasoline, kerosine,

Electrostatic discharge protection	vinegar. pr EN 61000-4-2, 1995: meets level 4 (15 kV air /8kV contact discharges)
Activation force	less then 85gr
Position accuracy	Standard deviation of error is less then ±1%
Life performance	>50.000.000 (finger)
Input modus	Finger or glove hand (rubber, cloth, leather)
Surface durability	Optical glass surface, Mohs' hardness rating : 7
Light transmission	90% (per ASTM D1003)
<u>SAW-controller</u>	
Supply voltage	+5V DC(±5%)
Supply current	Min 85mA ~ Max 150mA
Electrostatic protection	prEN 61000-4-2, 1995: Meets level 4 (15kV lucht / 8kV contact discharges)
Interface -standard	USB 'plug-and-play' compatible
-option	RS232 with PS/2 connector, is option
-option	RS232 internal powered. is option
Touch resolution	4096x4096
Conversion time	~15ms per coordinate set
Reliability	MTBF greater than 300.000 hours
Support operating system	Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista/7 Mac OS 9.X, 10.X, Mac Intel Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora Corel &II &III, Yellow Dog 3.x, Kernel 2.4.X, Kernel 2.6.X: 32 en 64 bits

2.3 Option: Surface Capacitive-touchscreen

CAP-touchscreen standard tempered version (option)	3mm glass, glare is standard, non glare is option Break resistance, meets UL-1950, by 6mm heat tempered glass (is option)
Chemical resistance	Water, ammonia, isopropyl-alcohol, and similar non-abrasive cleaners do not use chemical solvent,acidic or alkali solutions
Input method	Finger
Active force	<10 gr
Response time	Max. 200ms
Ball impact	13,0Ø steel bal 9 gr height=30 cm
Surface hardness	Surface hardcoat cannot be scratched using any stylus with Mohs rating ≤6
Linearity	±1,5%
Surface durability	>160.000.000 touches without noticeable degradation
Light transmission	≥85% (accordance with ASTM D1003)
Supply voltage	5V DC
Supply current	Min 85mA ~ Max 150mA
Interface standard	USB 'plug-and-play' compatible
option	RS232 with PS/2 connector is option
option	RS232 internal powered controller. is option
Touch resolution	based on controller resolutionb 4096x4096
Support operating system	Microsoft Windows: 95/98/ME/NT4.0/2000/XP/Vista Macintosh OS9, OSX Linux: Red Hat 9.0, Mandrake 10.0, SuSE 9.2, Fedora Corel &II &III, Yellow Dog 3.x, Kernel2.4.2+, With GUI, Xfree86 4.3+, Kernel 2,3 and above, Command Line Only, Xfree86 3.3 and 4.2

2.4 Option: 10 pts Projected-capacitive-touchscreen

Projected capacitive sensor

Glass

Chemical resistance

Contact bounce

Activation force

Input modus

Surface hardness

Resolution

Position accuracy (linearity)

Operating life

Light transmission

Heat tempered glass, glare is standard, non-glare is option

Glass with black borders on back surface.

Acetone, ammonia-based glass cleaners, hexane, isopropyl alcohol, methylene chloride, mineral spirits, turpentine, methyl ethyl ketone, gasoline, kerosene, vinegar.

Around 5 ms for finger contact

No activation force needed

Finger, glove hand (rubber, cloth, leather)

Mohs' hardness rating: 7

2048x2048

less than 1%

∞

90% ±2%

Projected capacitive controller

Power consumption controller

Interface

Operating Temperature

Relative Humidity

Resolution

Report rate

Response time

Support operating system (eGalax_eMPIA-controller)

USB is standard, RS232 (option)

50mA typical, 50mV peak to peak maximum ripple and noise

USB: 1,1 Full Speed ('plug-and-play' compatible is standard)

-25 to 80°C

95% at 60°C, RH Non-condensing

2048x2048

USB: Single touch Max. 200 points/sec

10 pts touch Max. points/sec each

Max. 20ms

Microsoft Windows: ME/2000, 9x/XP/Vista/7/8/10

CE 2.12/3.0/.net/5.0/6.0 ; Embedded ; XP Tablet PC edition

Mac OS9, Mac OS X, (IBM, Intel CPU)

Linux: Red Hat (7.3/8.0/9.0), Mandrake (9.1/9.1/10) SuSE

(9.2, 9.3, 10, 10.1) Fedora (Core I, II, III, IV, V, VI)

Yellow (Dog 3.x), Debian (Kernel 2.4.X/2.6.X), Ubuntu (5.1, 6.06),

Mandriva (2005, 2006)

Android 2.0 – Google, Moblin V2 - Intel

QNX: RTOS v6.3

2.5 OPTION: IR TOUCH

Chemical resistance

Touch activation force

Input modus

Life performance

Supply voltage

Supply current

Interface standard

Electrostatic discharge protection

Touchpoint density

Light transmission

Conversion time

Support operating

system

Acetone, ammonia-based glass cleaners, isopropyl alcohol, turpentine, methyl alcohol, methyl ethyl ketone, toluene, gasoline, kerosene, vinegar

no minimum touch activation is required

everything bigger than 6,5 (W) x 6,5 (H)

∞

+5V DC (±5%)

~ 150mA

RS232 baud rate: 9600, 8 data bits, 1 stop bit, no parity, full duplex
prEN 61000-4-2, 1995: meets Level 4 (15kV air / 8kV contact discharges)

Based on controller resolution, up to 4096x4096

Over 90% (per ASTM1003)

less than 20 ms

Microsoft Windows: NT4.0/XP/Vista/7/2000/ME/98/95

Linux: Red Hat 9.0, Mandrake 9.1

Interface



USB (standard)



RS232 with PS/2

3. Touch Options

3.0 Touchkit

Features for <i>Touchkit</i> software	
Calibration	Fast full oriental 4 points position
Compensation	Accuracy 25 points linearity compensation.
Draw Test	Position and linearity verification
Extend Feature	<ol style="list-style-type: none">1. Support monitor / display rotation2. Support multiple monitor / display3. Support QVGA and Half-VGA function4. Support edge compensation
Controller Setting	<ol style="list-style-type: none">1. Support multiple controllers2. Dynamical add / remove controllers3. Change Controller interface without reboot.
Language	Support 10 languages for Windows
Mouse Emulator	<ol style="list-style-type: none">1. Right / Left button emulation2. Normal / Click on touch / Click on release mode3. Auto right button
Sound Notification	<ol style="list-style-type: none">1. Sound Option (No Sound / Touch Down / Lift Up)2. Frequency adjustment3. Duration adjustment
Double Click	<ol style="list-style-type: none">1. Configurable double click speed2. Configurable double click area
OS support	<ol style="list-style-type: none">1. Windows 95 / 98 / ME / NT4 / 2000 / XP / Vista Windows XP Tablet PC Edition2. Windows CE 2.12, 3.0, 5.0, 6.0 .NET3. Linux (X Window Version: 3, 4 Red Hat 6.0 ~ 9.0 Mandrake 5.0 ~ 9.1 , Kernel 2.4.X Kernel 2.6.X, 32 en 64 bits)4. iMac. OSX, OS9.X, OS10.X, Intel5. MS-DOS: Support display resolution: 320x200, 640x200, 640x350, 640x480, 800x600, 1024x768 and 1280x1024
COM port support	<ol style="list-style-type: none">1. Support COM 1 ~ COM 256 for Windows and Linux2. Support COM 1 ~ COM 8 for DOS

3.1 ELO

By adding a jumper to the A-Touch controller, the whole system becomes ELO-compatible. The touch registration will be realised by ELO-drivers.

There are several reasons for doing this:

- You are already using application software with “build-in” ELO drivers.
- You are using clients with pre-installed ELO-drivers.
- You replace an original ELO-touch screen with an A1-touchscreen.

Then benefit is; you don't have to install new software in the above mentioned situation.

Remark:

If you want to change your driver software from touchkit to ELO, or the other way around, you have to de-install the old software completely before installing the new software.

4. Mounting

4.0 overzicht

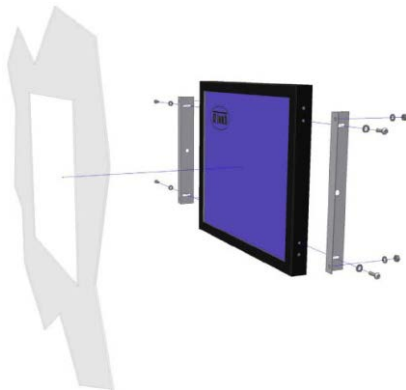
- 4.1. Plain
- 4.2. Brackets
- 4.3. Panel mounting
- 4.4. Wall mounting

4.1 Plain



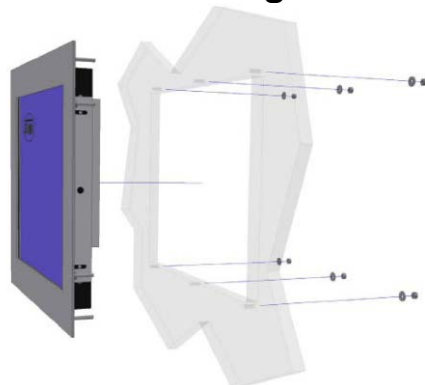
Metal case monitor

4.2 Brackets



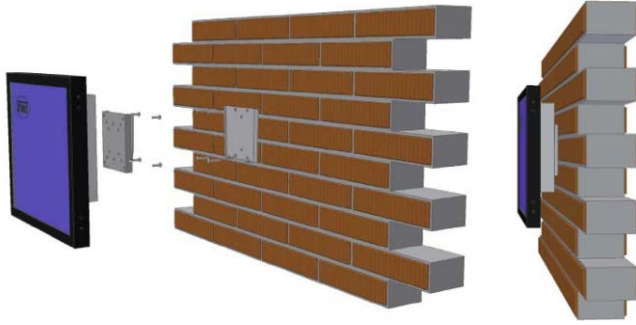
Metal case monitor + 2x brackets

4.3 Panel-mounting



Metal case monitor + bezel + 2x brackets

4.4 Wall mounting



Metal case monitor + Vesa Wallmount