

8.4 inch TFT-LCD Monitor Product Specification (LED Backlight)

MODEL : GS084HF-AS08

P/N : GS084HF4-AS08A

REV. : 0.0

Preliminary Specification

Final Specification

RECORDS OF REVISIONS

Revision No	Revision No	Page	DESCRIPTION
0.0	Oct. 08, 2012	-	First Draft

1. General Description

1.1 Over View

GSD's Industrial TFT-LCD Open Frame monitor GS084HF-AS08 is a high performance TFT LCD monitor and providing high quality image from the analog RGB, DVI-D.

1-2. Features

- SVGA (800 x 600 pixels) resolution
- Low power consumption
- VESA DDC 1/2B plug & play operation
- RGB and DVI Input
- Light Emitting Diode(LED) backlight system

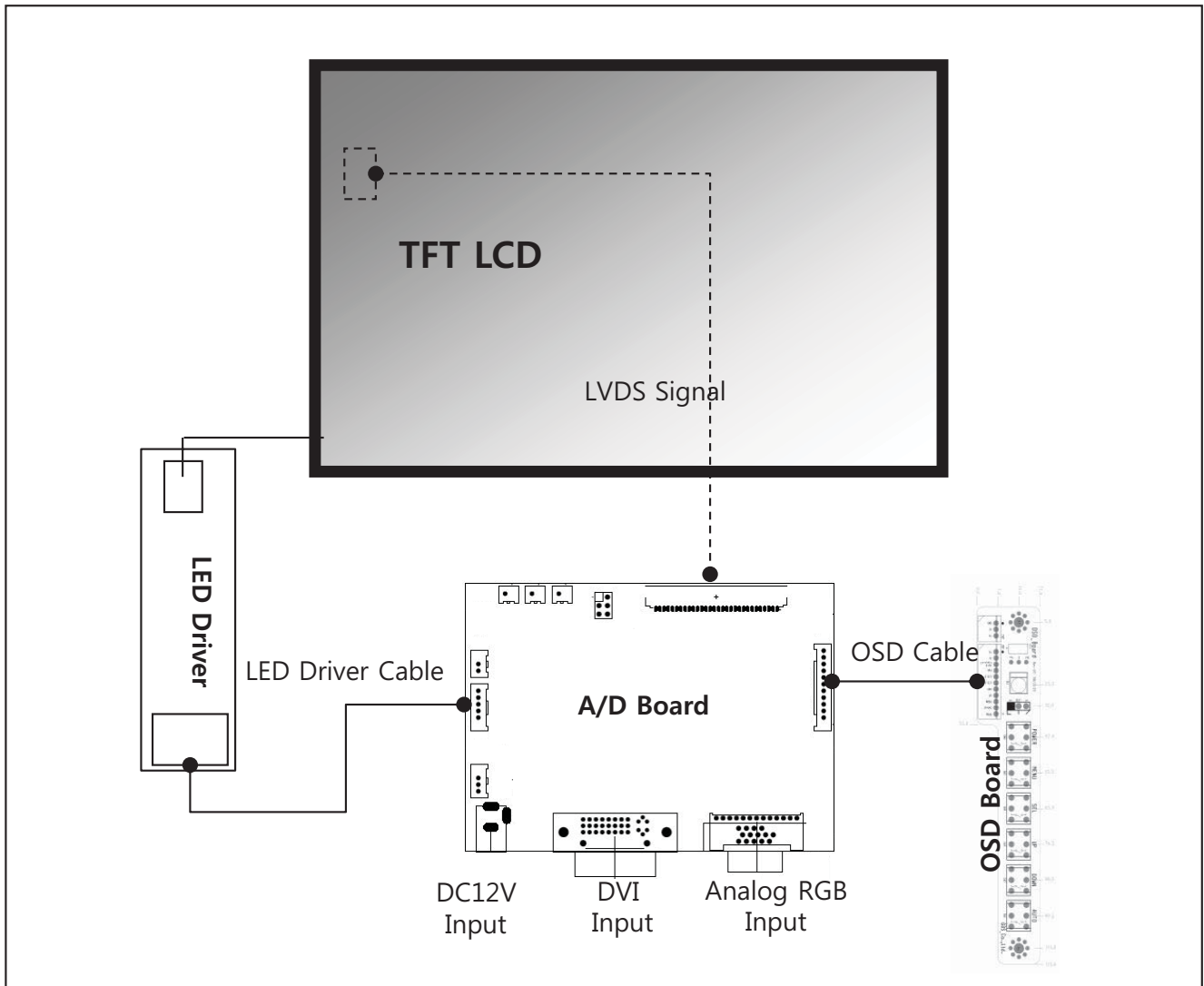
1-3 Option

- Composite video, S-video signal input
- Auto Dimming

1.4 General specifications

Items		Specification	Note
Display	Display Type	TFT-LCD	Based on AUO G084SN05 V9
	Display Area	170.4m(H) x127.8mm(V)	(8.4" Diagonal)
	Brightness	1000cd/m ² (Typ.)	Center of screen
	Contrast	600 : 1(Typ.)	
	Colors	8bit 16.2M colors	
	Max. Resolution	800 x 600 – 60Hz(SVGA)	
	Surface treatments	Anti-Glare, Hardness 3H	
	View angle	L/R : 80°/ 80°(Typ.), U/D : 80°/ 60°(Typ.)	CR=10
	Response time	30msec	Raising + Falling
Input Signal	Input Signal	Analog RGB DVI-D	
	Horizontal	30 to 80KHz	
	Vertical	50 to 75Hz	
	Analog RGB	VGA, SVGA	800 x600@60Hz max
	DVI-D	VGA, SVGA	
Power	Power Consumption	6 Watt	0.5A@12Vdc Input
	AC input	100 ~ 240VAC	
	DC output	12VDC. 4.0A	
Weight	Kg	TBD	
Environment	Storage temperature	-20 ~ 60	°C
	Operating temperature	0~50	°C
	Storage Humidity	5~90	%RH
	Operating Humidity	5~90	%RH
Dimension	W*H*D	224.0 * 170.7 * 37.2	mm

2. Block Diagram



3. Electrical Characteristics

3-1. TFT LCD module

Parameter	Symbol	Values			Unit
		Min	Typ	Max	
Power Supply Input Voltage	VDD	3.0	3.3	3.6	Vdc
Power Supply Input Current	IDD	-	0.27	0.33	A
Power Consumption	PDD	-	0.9	1.2	Watt

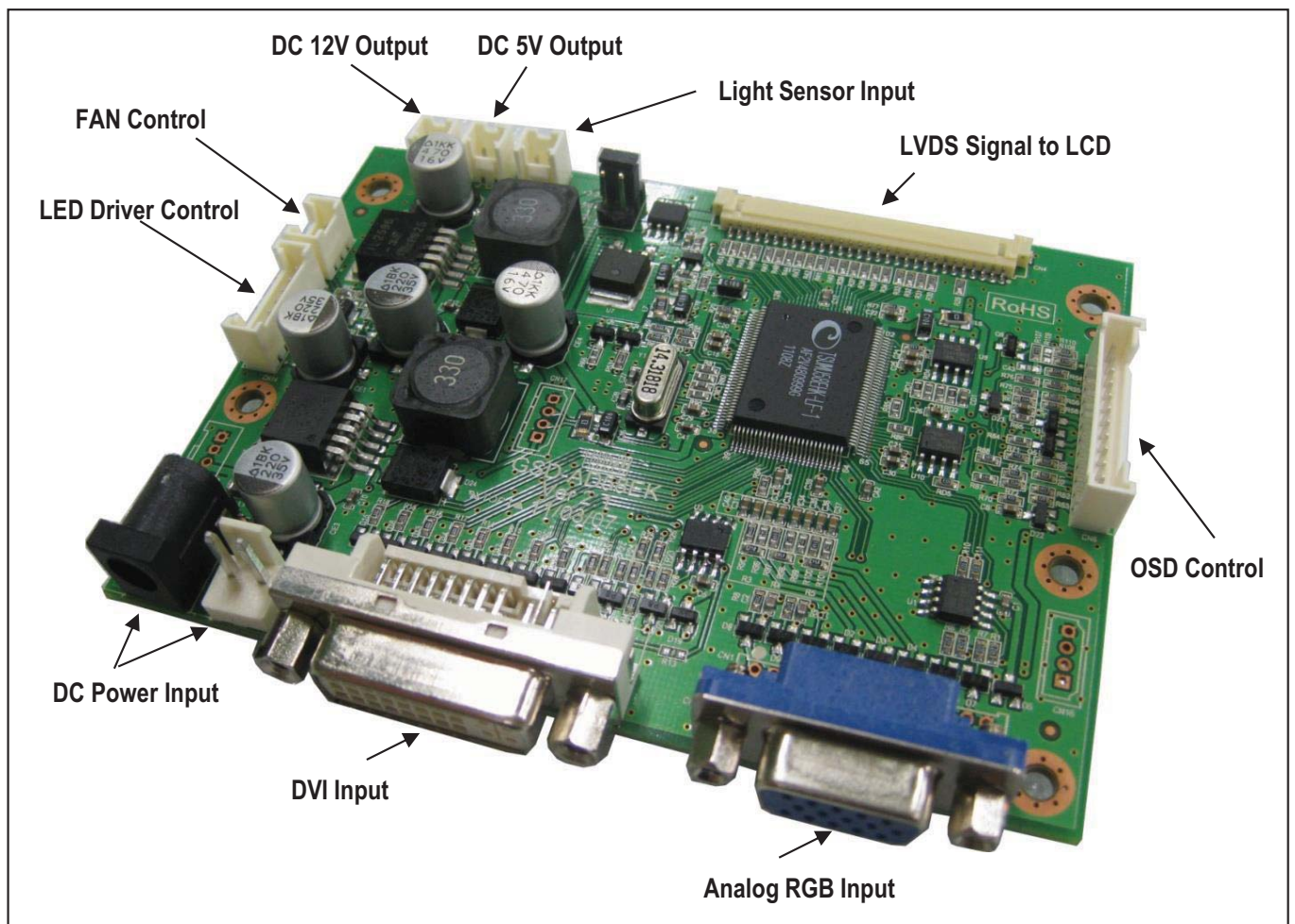
* Module connector(CN1) pin configuration

Pin no	Symbol	Function	Etc.
1	VDD	Power Supply 3.3V	
2	VDD	Power Supply 3.3V	
3	UD	Vertical Reverse Scan Control, Low or NC → Normal Mode. High → Vertical Reverse Scan.	
4	LR	Vertical Reverse Scan Control, Low or NC → Normal Mode. High → Horizontal Reverse Scan.	
5	RxIN0-	LVDS receiver signal channel 0 LVDS Differential Data Input (R0, R1, R2, R3, R4, R5, G0)	
6	RxIN0+		
7	GND	Ground	
8	RxIN1-	LVDS receiver signal channel 1 LVDS Differential Data Input (G1, G2, G3, G4, G5, B0, B1)	
9	RxIN1+		
10	GND	Ground	
11	RxIN2-	LVDS receiver signal channel 2 LVDS Differential Data Input (B2, B3, B4, B5, HS, VS, DE)	
12	RxIN2+		
13	GND	Ground	
14	RxCLKIN-	LVDS receiver signal Clock	
15	RxCLKIN+		
16	GND	Ground	
17	SEL 68	LVDS 6/8 bit select function control. Low or NC → 6 Bit Input Mode. High → 8 Bit Input Mode.	
18	NC	NC	
19	RxIN3-	LVDS receiver signal channel 3 LVDS Differential Data Input (R6, R7, G6, G7, B6, B7, RSV)	
20	RxIN3+		

**LCD connector: MSB24013P20HA, DF19LA-20P-1H or compatible
(STM, Hirose or compatible, LVDS connector)**

3.4 A/D Board(GSD-AD58EK)

Item	Descriptions
Input resolution	Horizontal: 31KHz ~ 80KHz Vertical: 55Hz ~ 75Hz Active : VGA ~ WUXGA
Input signal	Analog RGB(separated H/V sync or C-sync) DVI-D
Supporting LCD module	VGA/SVGA/XGA/WXGA TFT LCD with 1ch LVDS interface SXGA and WUXGA TFT LCD with LVDS interface
Jack/CONNECTOR	DC power jack,(12V), Connector (12V or 24V) D-SUB DVI-D HDMI(HDCP) RS-232C(Updating F/W or bios),
User Control	6KEY UART RS232(special function for remote control; It is designed to customer-request)
Plug & Play	DDC 2B



3.4.1 LVDS Out to Panel(CN4: 12507WR30P(Yeonho))

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8
Panel Power	Panel Power	Panel Power	NC	NC	NC	GND	REX3+
Pin9	Pin10	Pin11	Pin12	Pin13	Pin14	Pin15	Pin16
REX3 -	REXC+	REXC-	REX2+	REX2-	GND	REXE+	REXE-
Pin17	Pin18	Pin19	Pin20	Pin21	Pin22	Pin23	Pin24
GND	REX0+	REX0-	RXO3+	RXO3-	RXOC+	RXOC-	GND
Pin25	Pin26	Pin27	Pin28	Pin29	Pin30		
RXO2+	RXO2-	RXO1+	RXO1-	RXE0+	RXE0-		

3.4.2 Output to Inverter(CN7: SMW200-07(Yeonho))

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7
12V or 24V	12V or 24V	12V or 24V	GND	GND	Back Light On/Off	Dimming

3.4.3 Output to Key Control(CN6: SMW200-12(Yeonho))

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
+5V	NC	NC	Auto	Power	LED Red
Pin7	Pin8	Pin9	Pin10	Pin11	Pin12
LED Green	GND	Up	Down	Select	Menu

3.4.4 DC In/Out Specification

Conn No	Description	Part No.	Pin1	Pin2	Pin3	Pin4
CN8	DC Input	SMW200-04(Yeonho)	12 or 24V	12 or 24V	GND	GND
CN9	DC 12V Input	DJ023	GND	12V	GND	
CN10	Auto Dimming Input	SMW200-02(Yeonho)	5.0v	ADC		
CN11	DC5.0V Output	SMW200-02(Yeonho)	5.0v	GND		
CN12	DC12V Output	SMW200-02(Yeonho)	12.0v	GND		

3.4.5 Analog RGB Input(CN2: D-Sub-15VGA)

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8
Red	Green	Blue	GND	Cable Detect	GND-RED	GND-Green	GND-Blue
Pin9	Pin10	Pin11	Pin12	Pin13	Pin14	Pin15	
NC	GND	GND	DDC DATA	H-Sync.	V-Sync.	DDC CLK	

3.4.6 DVI Input(CN3: SD74320-003(MOLEX))

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6	Pin7	Pin8
TMDS DATA 2-	TMDS DATA 2+	TMDS DATA 2/4 Shield	TMDS DATA 4-(NC)	TMDS DATA 4+(NC)	DDC Clock	DDC Data	NC
Pin9	Pin10	Pin11	Pin12	Pin13	Pin14	Pin15	Pin16
TMDS DATA 1-	TMDS DATA 1+	TMDS DATA 1/3 Shield	TMDS DATA 3-(NC)	TMDS DATA 3+(NC)	5V	GND	Hot Plug Detect
Pin17	Pin18	Pin19	Pin20	Pin21	Pin22	Pin23	Pin24
TMDS DATA 0-	TMDS DATA 0+	TMDS DATA 0/5 Shield	TMDS DATA 5-(NC)	TMDS DATA 5+(NC)	TMDS DATA Clock Shield	TMDS Clock-	TMDS Clock+

*** Support Timing Information**

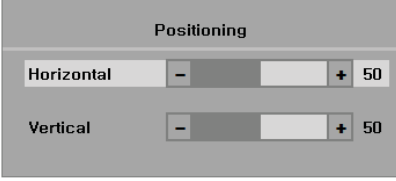


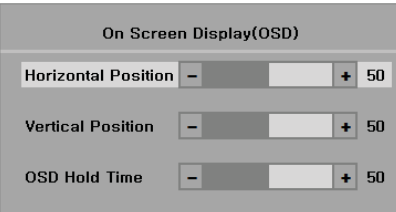

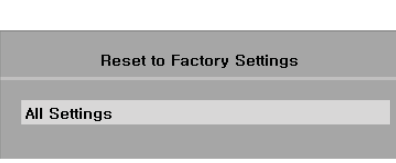
Resolution	Frequency		
	H [KHz]	V [Hz]	Polarity
640x350 @70	31.43	70	+/-
720x400 @70	31.43	70	-/+
640x480 @60	31.469	59.94	-/-
640x480 @66	35.1	66.67	-/-
640x480 @75	37.5	75	-/-
800x600 @56	35.156	56.25	+/+
800x600 @60	37.354	59.861	-/+
800x600 @60	37.879	60.317	+/+
800x600 @75	46.875	75	+/+

4. OSD Function

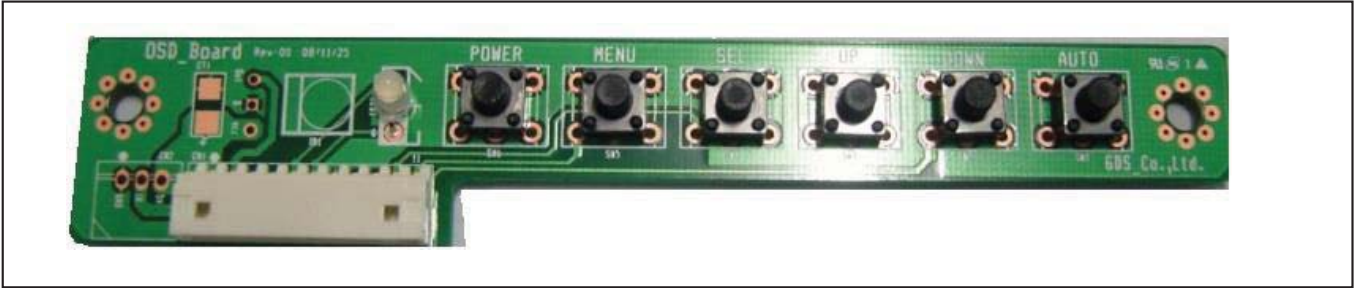
Power	Turns On/Off the system
Menu	Activates the OSD menu or Previous Menu, Exit
SELECT	Select input function (hotkey) or Sub Menu select
UP	Adjust Button / Brightness & Contrast menu on Move the bar right to increase the Adjustment Move the main menu or sub menu Brightness & Contrast menu on
DOWN	Adjust Button / Brightness & Contrast menu on Move the bar left to increase the Adjustment Move the main menu or sub menu
AUTO	Auto-adjustment in RGB(Hotkey), disabled main menu

4.1 OSD Menu

Menu	Picture	Function
Brightness/ Contrast		<p>☉ Brightness : Adjust Back Light Brightness</p> <p>☉ Contrast : Adjust the Contrast</p>
Main Menu		<p>☉ Adjustment menu contents</p>
768Mode		<p>☉ PC Resolution Presetting in Vertical 768Lines</p>

Menu	Picture	Function
Positioning		<ul style="list-style-type: none"> Ⓒ Move the image position to the right, left, up,down side
Image Setting		<ul style="list-style-type: none"> Ⓒ Auto Adjust : Adjust clock, phase of display automatically Ⓒ Pixel Clock : Adjust the clock(frequency) of the screen Ⓒ Phase : Adjust the phase of the screen
Color Setting		<ul style="list-style-type: none"> Ⓒ Adjust the color temperature : sRGB, 9300K, 6500K Ⓒ User Preset : Adjust color gain, Red/Green/Blue
OSD Setting		<ul style="list-style-type: none"> Ⓒ H.Pos. : moving the horizontal position of OSD menu Ⓒ V.Pos. : moving the Vertical position of OSD menu Ⓒ OSD Hold time : Adjust the OSD off timer
Language		<ul style="list-style-type: none"> Ⓒ Select a language for OSD menu
Factory Reset		<ul style="list-style-type: none"> Ⓒ Factory-preset data is restored

5. OSD Board



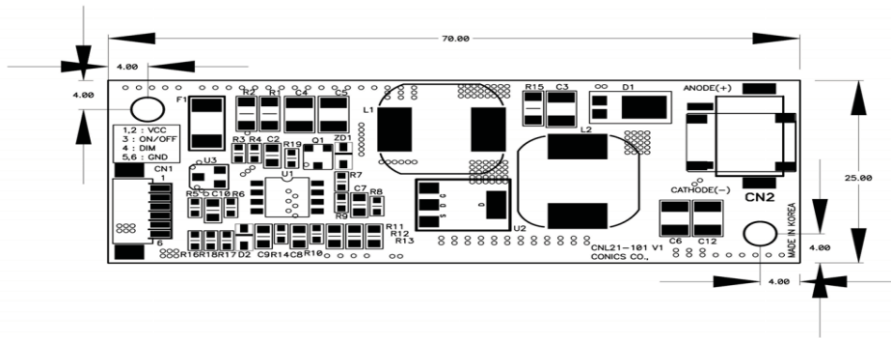
5.1 CN1 : 20017WR-11(Yeonho)

Pin1	Pin2	Pin3	Pin4	Pin5	Pin6
+5V	IR	Auto	Power	LED_Red	LED_Green
Pin7	Pin8	Pin9	Pin10	Pin11	
GND	Up	Down	Select	Menu	

5.2 CN2 : 20017WR-03(Yeonho, Option)

Pin1	Pin2	Pin3
GND	IR	5V

6. LED Driver



6.1 Electrical Characteristics

No	Items (Unit)	Symbol	Condition	Min	Typ	Max
1	Input Voltage(V)	Vdc		11.0	12.0	13.0
2	Input Current(A)	I _{in}	V _{in} = 12V	V _{dim} =0V	0.321	
				V _{dim} =5V	0	
3	On/Off Control	On	V _{in} =12V, On=5V	Normal Operation		
		Off	V _{in} =12V, On=0V	Shut Down(Lamp Off)		
4	Dim. Adjust (Lamp Current Control)	CTRL	V _{dim} =0V, Max	0.0~5 Volt PWM Dimming		
			V _{dim} =5V, Min			
5	Efficiency		V _{in} =12V, V _{dim} =0V		85%	
6	Life Time			30,000		

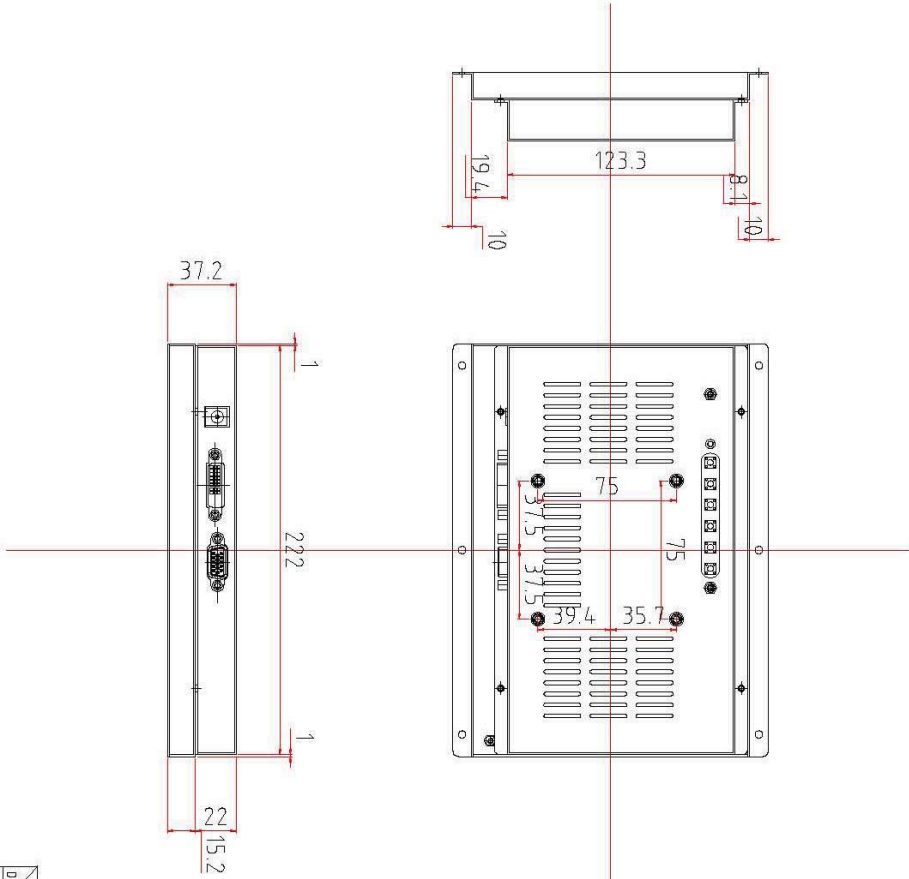
6.2 CN1 : Input Connector(12505WR-06A00 - YEON-HO)

Pin No	Items (Unit)	Description
1,2	V _{in}	Input Voltage
5,6	GND	Ground
3	On/Off(Enable)	LED Back Light On/Off
4	Dimming	V _{dim} (Bright Adjust : 0V Max)

6.3 CN2, 3 : High Output Connector(20015WR-05A00 - YEON-HO)

Pin No	Items (Unit)	Description
1	V _o	Output Voltage Connection to low side of LED
2	V _o	Output Voltage Connection to high side of LED

7. Monitor Dimension



REVISIONS			
REV	DESCRIPTION	DATE	APPROV
△1			
△2			
△3			

NOTE
 1. 도장 색상 :
 2. 재질 : RG11.0
 3. 수량 : 1ea/lot
 4. 외관에 흠집이 없을 것.
 5. 기타 기재된 사항은 원재자와 협의 할 것.

GRD	A	B	C	UNIT	SCALE	DATE	MODEL
1~10	0.05	0.1	0.2	MM	1:1	2012. 10. 08	GSOB4HF-ASOB
10 ~ 100	0.1	0.2	0.3				P/N
100 ~ 500	0.2	0.3	0.5				GSOB4HF4-ASOB4
500 ~ 1000	0.3	0.5	1.5				NAME
							LAY OUT
							REV. NO. 00
							ISSUE

ISSUE