DARWIN

Product Description：

S370HW66 V0 37.00" Flat Panel Display Product P37 Bar Type (mask)

DARWIN Model Name： **S370HW66 V0**

Customer Part No. / Project Name：**99.37S02.0AA-BT3**

Darwin	
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Note	

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Document Version: 0.1

Date: 2018/07/31

Product Specification Sheet

S370HW66 V0 37" Bar PID Display Product

Model Name: S370HW66 V0

DARWIN P/N: 99.37S02.0AA-BT3

(*) Preliminary Specification

(*) Final Specification

Contents

Record of Revision

Version	Data	Page.	Old Description	New Description	Remark
0.1	2018/07/31	--	---	Gvision 1st release	

1. Application Range

1.1. This specification sheet is applied to all of the Public Information Display with ODM by Darwin Corporation.

Model Name	Customer	Marketplace	Panel	Chassis	Remark
S370HW66 V0	Gvision	USA	P370IVN02.0 20160818_PSpec_P370IVN02.0_DARWIN	Metal NCT	

2. General specification

This specification applies to the 37.0 inch Color TFT-LCD Module P370IVN02.0. This LCD module has a TFT active matrix type liquid crystal panel 1,920x540 pixels, and diagonal size of 37.0 inch. This module supports 1,920x540 resolution display. Each pixel is divided into Red, Green and Blue sub-pixels or dots which are arranged

in vertical stripes. Gray scale or the brightness of the sub-pixel color is determined with a 10-bit gray scale signal for each dot.

The P370IVN02.0 has been designed to apply the 8/10-bit 2 channel LVDS interface method. The main feature of P370IVN02.0 would be high brightness, high contrast, wide viewing angle, high color saturation, edge LED backlight and high color depth.

2.1 Appearance:

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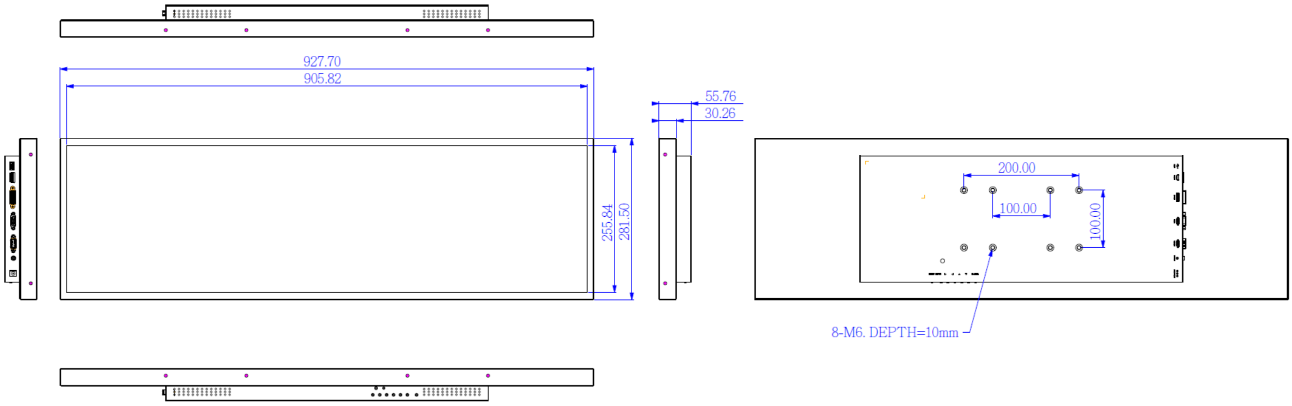
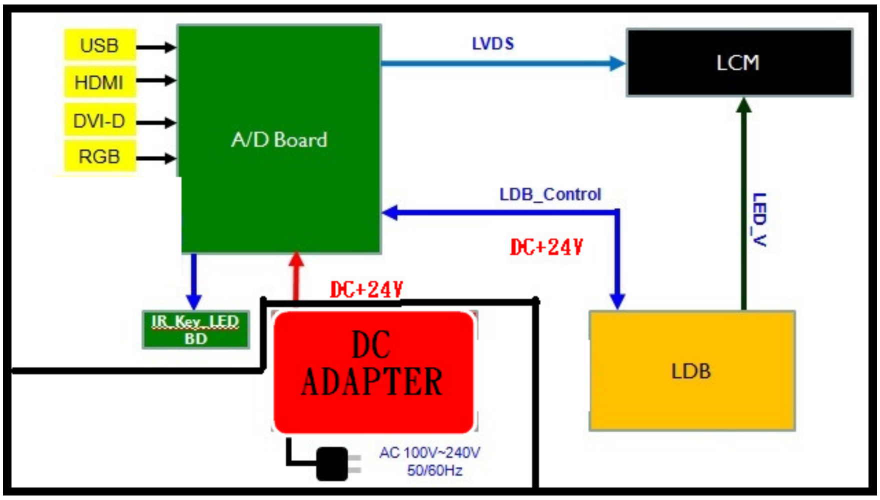


2.2 Power Block diagram:



LCM	LCM	AUO - 370IVN02.0
	Active Screen Size	37 inch
	Active Area	904.32(H) x 254.34(V)
	Aspect ratio	16:04
	View angle	89/89/89/89
	Brightness	Typical: 700nits
	Pitch (mm)	0.47 (H) x 0.47(W)
	Pixel	1,920x540
	Response time (G to G)	Typical: 6.5 ms
	Color	10 bit (8bit+FRC), 1073.7M
	Color Mode	Normally Black
	Body Color	Front chassis : Black, Rear chassis: Black
	Operation Temperature	-5~50°C
	Storage Temperature	(-20~60°C)
	Operation Humidity	10~90%
Enclosure	Storage Humidity	10~90%

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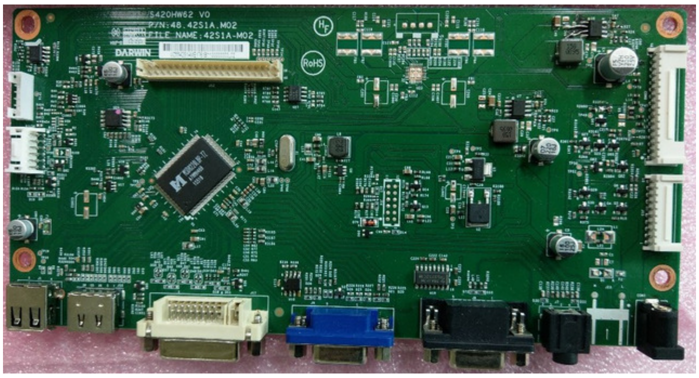
2.3 AD board spec:



USB (4pin)-F	HDMI In (19pin)-F	DVI-D In (24pin) -F	D-SUB RGB in (15pin) -F	RS-232 (9 pin) - F	Audio in (1 pin)-F	DC +24V

PCBA size: 205 mm x 100 mm

PCBA weight : 117 g

Main Chips	Scalar	MSD8220LBP
Marker Area		World Wide
OSD Language		English
Panel Interface		Dual / Single & 8/10 Bits LVDS Interface
		Maximum Resolution : 1920 x 1080
	PC RGB	Video Level : 0.7Vp-p
		Sync Type : Separate Sync , TTL Level
		Maximum input resolution : 1920 x 1080 60Hz
		15pin-F
	DVI-D	DVI 1.0
		Maximum input resolution : 1920 x 1080 60Hz
		HDCP 1.2
		24pin – F
	HDMI	HDMI 1.4
		Maximum input resolution : 1080P 60Hz
		HDCP 1.2
		19 pin –F
RS232		NA
Audio IN		NA (1pin – F)
USB		USB 2.0 for FW upgrade
Speaker Out		NA
OSD Interface		Yes
Remote Interface		Yes
Comb Filter		N/A , No CVBS Input
Deinterlace		3D
Noise Reduction		3D MPEG
USB Playback Foamt		NA
Power	Require	DC In : 24V In
	To Panel	12V

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3. Test Method

3.1 Performance: Display test-method follows Darwin Public Information Display test items or Customer's spec

3. 2 Demanded other specification

Model	Market	Appliance	Compliance
S370HW66 V0	NA.	NA.	Darwin Public Information Display test items

4. Features and functions

No	Item		EA	Specification	Remark
1	Terminals	DC power input	1	DC Power Input(2.5 ϕ)	Side (24V 2.5Φ)
		Audio input	1	PC Audio in	Side (3.5Φ Jack type)
		RGB Input	1	Analog PC In(DSUB-15F)	Side
		DVI input	1	Digital PC In	Side (optional HDMI or DVI)
		USB	1	FW upgrade	Side
		Local Key	POWER, INPUT, MENU, VOLUME(+, -), Select (▲ , ▼)		Rear (7Key)
		LED Indicator	On : Green ; Standby : Red		Rear/ 2 Colors
		IR Receiver	Infrared Receiver , 37.9KHz		Rear
2	RCU Key	POWER	Power ON/OFF		
		INPUT	Input Signal Select		
		1	DIGI Key 1		No Function
		2	DIGI Key 2		No Function
		3	DIGI Key 3		No Function
		4	DIGI Key 4		No Function
		5	DIGI Key 5		No Function
		6	DIGI Key 6		No Function
		7	DIGI Key 7		No Function
		8	DIGI Key 8		No Function
		9	DIGI Key 9		No Function
		RECALL	Recall		No Function
		0	DIGI Key 0		No Function
		ENTER	Enter Key		No Function
		PICTURE	Selects a preset picture mode		
		Music	Selects a preset sound mode for audio output.		
		Aspect	Selects an image aspect ratio for the displa		
		FREEZE			No function
		Volume up	Adjust audio volume		
		Volume down	Adjust audio volume		

		INFOR		
		MUTE	Mute or un-mute audio ouput	
		Channel up		No function
		Channel down		No function
		FAV		No function
		SLEEP		
		Surround Sound		No function
		SOUND TYPE		No function
		▲	Select Up	
		▼	Select Down	
		>	Select Right & value +	
		<	Select Light & value +	
		OK	Enter key	
		MENU	Display the menu	
		BACK		
		RED		No function
		GREEN		De-select items for multi-media
		YELLOW		No function
		BLUE		No function
		SUBTITLE		No function
		Pause	For USB	
		Stop	For USB	
		Play	For USB	
		Previous	For USB	
		Next	For USB	
		backward	For USB	
		forward	For USB	

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Remote controller (49.42S33.001)

IR code and protocol:
Date : 20130129

Protocol: NEC		
Carrier frequency: 37.9kHz		
Customer code : 609F		
BV Proposal		
Key Number	**Key Name**	**Code**
1	INPUT	10
2	(電源)	00
3	1	04
4	2 / ABC	05
5	3 / DEF	5F
6	4 / GHI	07
7	5 / JKL	08
8	6 / MNO	09
9	7 / PQRS	0A
10	8 / TUV	0B
11	9 / WXYZ	0C
12	RECALL	0F
13	0	03
14	ENTER --/-	0D
15	影像模式	4F
16	Sound Moc	59
17	畫面比例	54
18	Fre	55
19	Volume+	19
20	INFOR	45
21	Prog. + ▲	5C
22	Volume-	15
23	Mute	42
24	Prog. - ▼	14
25	喜愛頻道	11
26	睡眠定時	53
27	環繞音效	18
28	TV Sound Type I-II	43
29	▲	44
30	<	1C
31	OK	51
32	>	48
33	▼	1D
34	MENU	12
35	BACK	13
36	RED	02
37	Green	0E
38	Yellow	16
39	Blue	17
40	SUBTITLE	50
41	(暫停) ❚❚	60
42	(Stop) ■	6B
43	(播放) ▶	68
44	(上頁) ⏮	6A
45	(下頁) ⏭	6C
46	(倒轉) ◀◀	67
47	(快轉) ▶▶	69

User Main Menu function

Layer 1	Layer 2	Layer 3		Layer 4		Default Value		
						HDMI	DVI-D	VGA
映像	画像モード	画像スタイル	スタンダード/ダイナミック/シネマ/カスタム			Dynamic	Dynamic	Dynamic
		コントラスト	0~100 0~100			100	100	100
		ブライトネス	0~100 0~100			50	50	50
		シャープネス	0~10 0~10			6	6	6
		色合い		色合い	0~50 0~50	25	25	25
				レッド 色相	-16~16	0	0	0
				マゼンダ色相	-16~16	0	0	0
				ブルー 色相	-16~16	0	0	0
				シアン 色相	-16~16	0	0	0
				グリーン色相	-16~16	0	0	0
				イエロー色相	-16~16	0	0	0
		カラー		カラー	0~50 0~50	35	35	35
				レッド 彩度	0~15	5	5	4

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				マゼンダ 彩度	0~15	0	0	0	
				ブルー 彩度	0~15	0	0	0	
				シアン 彩度	0~15	2	2	2	
				グリーン 彩度	0~15	0	0	0	
				イエロー 彩度	0~15	0	0	0	
	バックライト	0~100	輝度調整はこの項目で行う			100	100	100	
	色温度		色温度	4900/6500/9300/11500/ カスタム		11500	11500	11500	
			R ゲイン	0~2047		1024	1024	1024	
			G ゲイン	0~2047		1024	1024	1024	
			B ゲイン	0~2047		1024	1024	1024	
	ガンマ	2.2/ 2.4 / Native.				2.2	2.2	2.2	
	ノイズリダクション	オフ/中/強/弱				Off	Off	Gray out	
	アダプティブコントラスト	オン/オフ				On	On	On	
	アスペクト	フル/ /Dot by Dot				Full	Full	Full	
	色範囲	0~255/16~235/自動				Automatic	Automatic	Gray out	
	VGA 設定		水平位置	0~100		Gray out		Gray out, if VGA has no signal.	50
			垂直位置	0~42					34
			クロック	0~100					50
			位相	0~100					80
			自動調整	有効にする/無効にする					Enable
			自動			Gray out			

	映像設定をリセット			None
設定	パワーセーブ	オフ/30 秒/60 秒/90 秒/120 秒/150 秒/180 秒/210 秒/240 秒/270 秒/300 秒		60sec (Set the timer to power off PID when current source has no signal.)
設定	ソフトウェアの更新（USB）			None (Update the FW by USB. The confirm OSD has YES or NO item. Yes : update the FW. No : exit the confirm OSD.)
設定	デフォルト値をリセット			None (Restore the default value.)
初期設定	メニュー言語	英語/ 日本語		English
初期設定	ディスプレイエリア選択	1 / 2		1 (Gray out, if the "Aspect Ratio" setting value is not "Dot by Dot" or the resolution of input signal is not 1920x1080)
初期設定	リモコン操作	有効にする / 無効にする		Enable (In IR lock mode, user can use keypad to enter "Remote Operation" item or use IR to press Menu+Left+Right+Up+Down to unlock IR. In keypad lock mode, user can use IR to enter "keypad operation" item or use keypad to press Menu+Left+Right+Up+Down to unlock keypad. If IR and keypad both are in lock mode, please press Menu+Left+Right+Up+Down to unlock.)
初期設定	キーパッド操作	有効にする / 無効にする		Enable (In IR lock mode, user can use keypad to enter "Remote Operation" item or use IR to press Menu+Left+Right+Up+Down to unlock IR. In keypad lock mode, user can use IR to enter "keypad operation" item or use keypad to press Menu+Left+Right+Up+Down to unlock keypad. If IR and keypad both are in lock mode, please press Menu+Left+Right+Up+Down to unlock.)
初期設定	焼き付き防止	オフ / 画像シフト		Picture shift (Off: No image retention behavior. Picture Shift: Shift 2 pixel per 1 min. The shift behavior is "left -> up-> right -> down -> center".)
システム情	モデル名	Hoshimitsu540		

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報	ソフトウェアバージョン			
	Max 温度		The maximum temperature is recorded since MNT Set turn on until right now	
	Min 温度		The minimum temperature is recorded since MNT Set turn on until right now.	
	平均温度		The average temperature of each 5minutes is recorded in MNT. 50˚C→ 60˚C : temperature display with WHITE color. Over 60˚C (include 60˚C) : temperature display with RED color. 60˚C→50˚C：temperature display with RED color. Under 50˚C (include 50˚C): temperature display with WHITE color.	

Remark:

-Thermal Sensor Function:

Over 60°C(include 60°C) --- Brightness reduce 50% from the initial setting

Under 50°C(include 50°C) ---Brightness back to 100% (back to the initial setting)

-Mechanism of Control Flow:

· If average temperature (T) under 60°C, system keep in Normal state.

· If T is over 60°C(include 60°C), system change state Cooling state.

· If system is in Cooling state and T reduce to 50°C(include 50°C), system change state to Recover state.

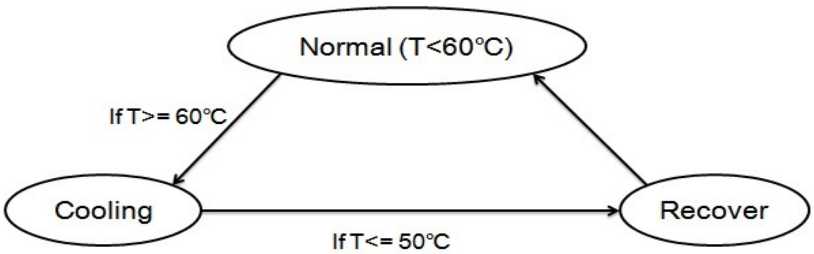
· If system is in Recover state and backlight back to 100% , system change state to Normal state.

-State behavior description:

· Normal: luminous as OSD backlight setting

· Cooling: luminous reduce 50% from the OSD backlight setting

· Recover: luminous back to 100% (100% means OSD backlight setting)



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5. Safety and Regulation

No	Item	Min	Typ	Max	Unit	Remark
1	Force Stability – Incline Plane Tip Test	-	-	-	deg	不適用，本機需搭配 wall mount 使用
2	Power Consumption, Max		--	65	W	
	Power Consumption, Stand by			0.7	W	
3	Wall mount	three times the weight of the equipment but not less than 50 N. /1min				

6. Optical Performance (Remark: Picture mode is in "Vivid")

6.1 Optical Check

Use the internal pattern (Backlight=100)

No	Item			Min	Typ	Max	Unit	Remark
1	White peak brightness(Center)			**560**	**700**		cd/m²	Module specification *(2
2	Contrast ratio(Center)			**3200**	**4000**			Module specification*(1
3	DCR (Dynamic Contrast Ratio)				NA			Dimming range 20%~100%
4	Brightness uniformity(9P)					1.33		Refer to LCD Specification*(3
5	Color coordinate	White	X	Typ.-0.03	**0.280**	Typ.+0.03		Module specification*(2
6			Y		**0.290**			
7		Red	X		**0.650**			
8			Y		**0.340**			
9		Green	X		**0.310**			
10			Y		**0.610**			
11		Blue	X		**0.150**			
12			Y		**0.070**			
13	Viewing angle				89(R/L) 89(U/D)		degree	R/L, U/D,Contrast Ratio>10*(5
15	Gamut	CG	θ=ψ=0		72%	---	%	Refer Module Specification
16	Response Time (G to G)	T	VESA		6.5	10	ms	Refer Module Specification *(4

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Note:

1. Contrast Ratio (CR) is defined mathematically as:

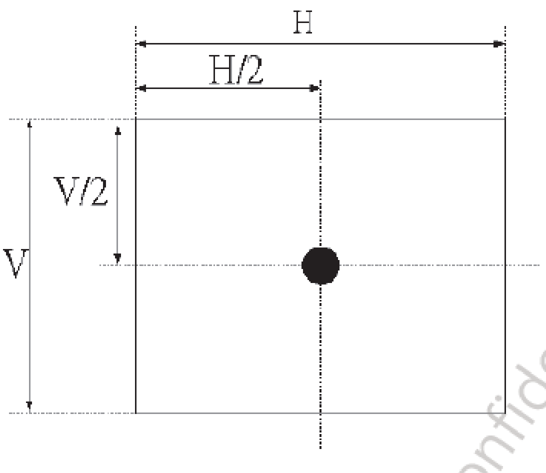
$$\text{Contrast Ratio} = \frac{\text{Surface Luminance of } L_{on5}}{\text{Surface Luminance of } L_{off5}}$$

2. Surface luminance is luminance value at point 5 across the LCD surface 50cm from the surface with all pixels displaying white. From more information see FIG 2. When lamp current I_H = 11mA. L_{WH}=Lon5 where Lon5 is the luminance with all pixels displaying white at center 5 location.
3. The variation in surface luminance, δWHITE is defined (center of Screen) as:
   $\delta_{WHITE(9P)}$= Maximum(L_{on1}, L_{on2},…,L_{on9})/ Minimum(L_{on1}, L_{on2},…L_{on9})
4. Response time Tγ is the average time required for display transition by switching the input signal for five luminance ratio (0%,25%,50%,75%,100% brightness matrix) and is based on F_v=60Hz to optimize.
   Tγ is determined by 10% to 90% brightness difference of rising or falling period. (As illustrated)

Measured Response Time		Target 0%	25%	50%	75%	100%
Start	0%		0% to 25%	0% to 50%	0% to 75%	0% to 100%
	25%	25% to 0%		25% to 50%	25% to 75%	25% to 100%
	50%	50% to 0%	50% to 25%		50% to 75%	50% to 100%
	75%	75% to 0%	75% to 25%	75% to 50%		75% to 100%
	100%	100% to 0%	100% to 25%	100% to 50%	100% to 75%	

5. Viewing angle is the angle at which the contrast ratio is greater than 10. The angles are determined for the horizontal or x axis and the vertical or y axis with respect to the z axis which is normal to the LCD surface. For more information see FIG4.

FIG. 2 Luminance



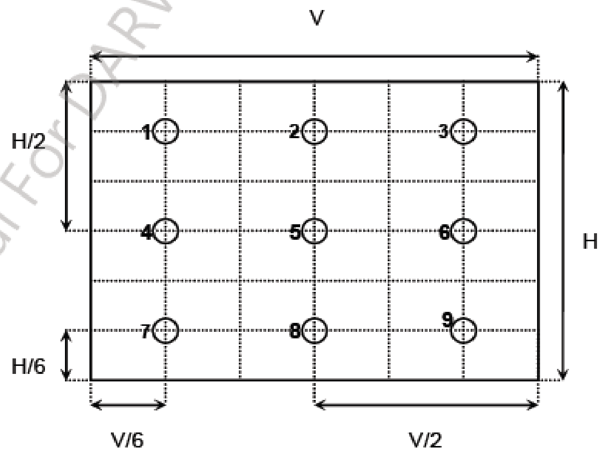


FIG.3 Response Time

The response time is defined as the following figure and shall be measured by switching the input signal for "any level of gray(bright) " and "any level of gray(dark)".

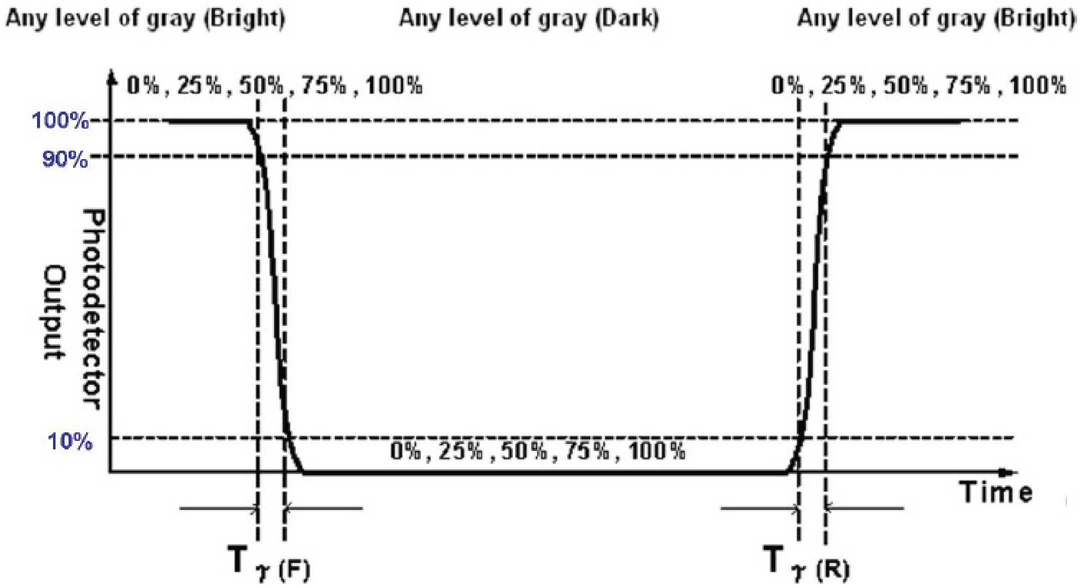
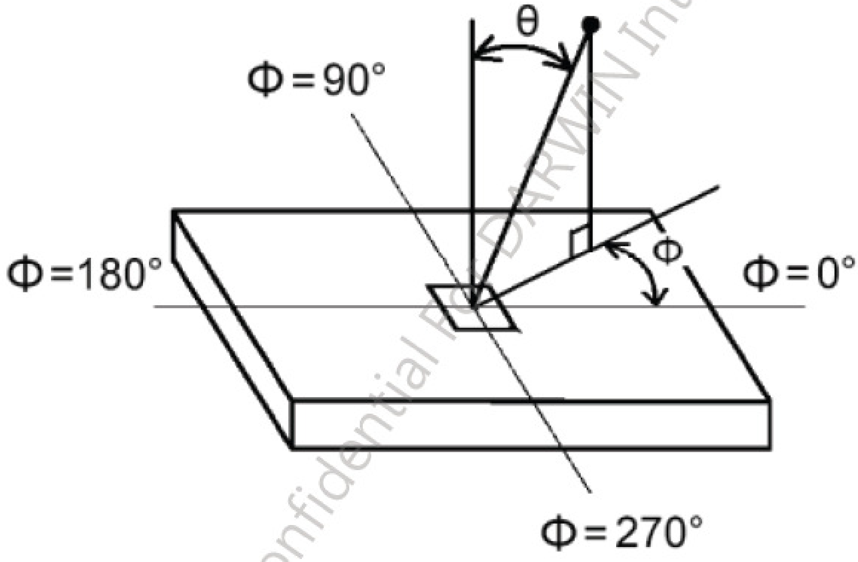


FIG.4 Viewing Angle



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6.2 White Balance (use CA310)

	6500K	9300K	11500K
Color temperature (x,y)	**0.3130,0.329 (±0.015)**	**(0.283,0.297) (±0.015)**	**(0.260,0.255) (±0.015)**

Condition:

1. Set source is HDMI.
2. Set picture Mode to Standard mode :
3. Adaptive Contrast= off
4. Set Back light to 100
5. Setup the Pattern Generator pattern to "**80%** level white" pattern

7. Input Support Timing :

7.1 RGB Input (PC)

No	Resolution	H-freq(kHz)	V-freq.(Hz)	Pixel clock(MHz)	Remark
1	1920x1080	67.50	60.00	148.50	
2	1920x540	35.09	59.98	77.20	

Note:

1. D-sub not support SOG (SOG，Sync on Green)

2. D-sub not support Interlaced Signal

7.2 HDMI /DVI Input (PC/Video)

No	Resolution	H-freq(kHz)	V-freq.(Hz)	Pixel clock(MHz)	Remark
1	1920x1080	67.5	60	148.5	
2	1920x540	35.09	35.09	77.20	

8. Power

8.1 General specification

LED indicator & power consumption

No	Item	Min	Typ	Max	Unit	Remark
1	DC Power Voltage	21.6	24	26.4	V	

No	Item	Min	Typ	Max	Unit	Remark
2	Stand by Power	--	--	0.7	W	
3	DPMS	--	--	60	W	PC Signal Lose with OSD
4	Normal Operation	--	--	65	W	(Test Pattern : White Pattern)

.Other specification

9.1 The others

No	Item	Min	Typ	Max	Unit	Remark
1	Soft Ware Functionality Test	---	---	---	---	Customer's spec/ Darwin Generic Specification
2	REMOCON Working Sensitivity, Straight	---	---	8	m	Front Side
3	REMOCON Working Sensitivity, L/R	---	---	6	m	Front Side L/R: 60 degree U/D:55 degree

9.2 Reliability

No	Item	Min	Typ	Max	Unit	Remark
1	Operation Temperature	0			deg	Check (a)/(b)/(c)
2	Operation Temperature			50	deg	Check (a)/(b)/(c)
3	Operation Temperature/ Humidity			50 90	deg %	Check (a)/(b)
4	Thermal Shock Test	-20		50	°C	Check (a)/(b)/(c)
5	Packing vibration					Check (a)/(b)/(c)
6	Packing drop					Check (a)/(b)/(c)
7	Momentary Power Interruption Test (瞬間停止試驗)					Customer's spec
8	(Line Noise Test)					Customer's spec
9	ESD(EN61000-4-2)	2		8	kV	Customer's spec

Check Criteria Note :

a) Non-lighting and unstable lighting should not be happened.

b) No damage or open of wire.

c) No mechanical and physical damage of backlight.

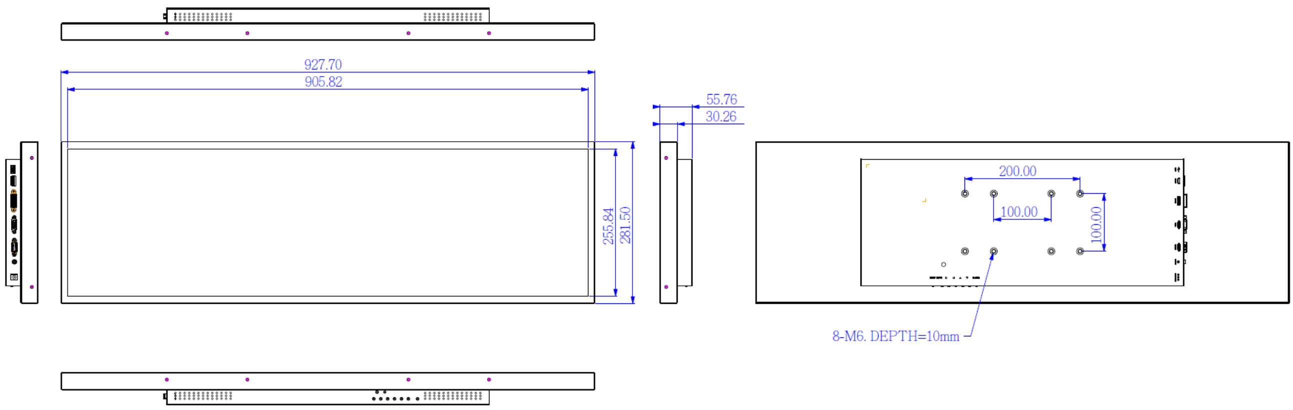
Remark: Regarding to the test result, please refer to the Reliability Test Report.

10. Mechanical Specification

10.1. General Specification

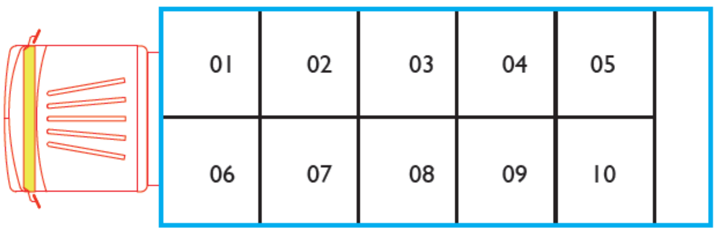
b) S370HW66 V0

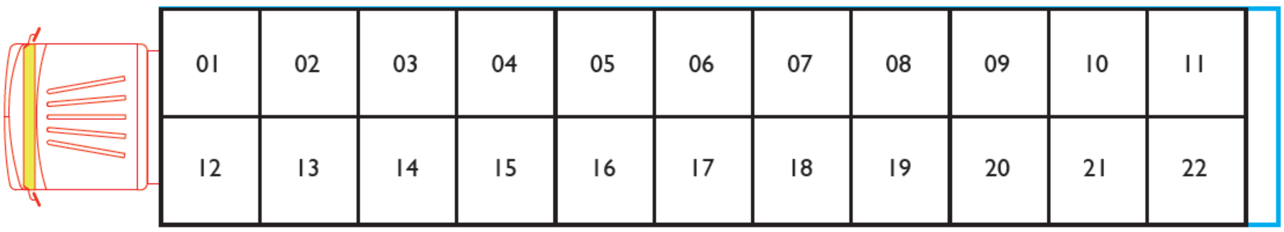
Six Side Drawing



10.2. Packing spec

	Item		Content				Remark
I	Product Dimension		Width	Length	Height	Unit	
		Before Packing	927.7	281.5	55.755	mm	
		After Packing	1030	397	158	mm	
		Only Set	7.816			Kg	
		With BOX	9.449			Kg	
3	Container Loading	Individual or Palletizing	20 ft	40 ft	40ft(HQ)		
			280	616	616		
5	Appearance	General	Front Cover : Black Texture Back Cover : Black Texture Handle : TBD				





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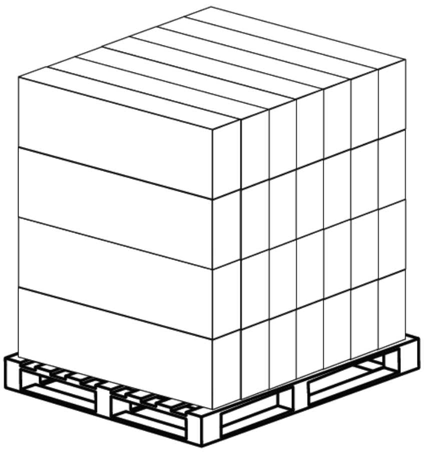
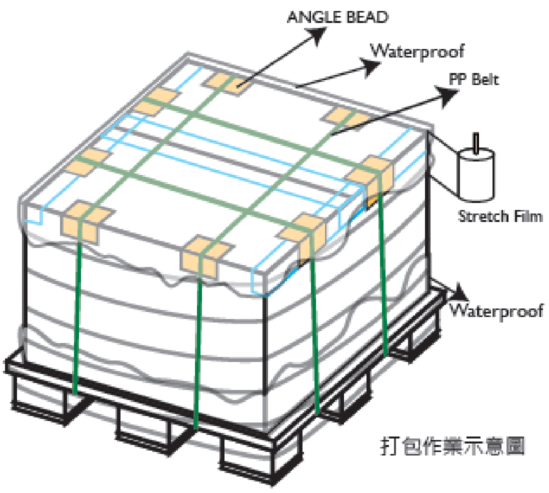
Container Loading			
Container spec.	Pallet Q'ty	Stacking info.	Total Q'ty
20' conrainer load	10 Pallets	1pcs/Ctn * 7 ctn/layer * 4 layers/pallet	280 pcs
40' conrainer load	22 Pallets	1pcs/Ctn * 7 ctn/layer * 4 layers/pallet	616 pcs



Note:For 20'&40' 貨櫃

Note:

1. Carton Outside Dim.:1030(W)*158D)*397(H)mm
2. Pallet Dim.: 1150*1050*132mm
3. 其他堆疊規範請參照 《DCAMM-06-008 成品出貨包裝作業規範》
4. 棧版規格規範請參照 《DCXQM-10-038 木頭棧板缺失認定與製作規格書》
5. **棧板堆疊，上層棧板腳柱須確實堆疊於下層紙箱四角之上**
6. **未滿箱出貨：Module請平均間隔擺放於箱內，且需疊放於貨品最上層，若已加釘木箱，則不限制放於最上層**
7. **少量送樣/未滿箱出貨，建議於包裝箱外加釘木箱出貨**



打包作業示意圖

打包作業流程打包順序：
1. 捆膠膜 --> 預捆2~3圈
2. 防水布 --> 上下各1pcs
3. 捆膠膜 --> 上三圈、中二圈、下三圈，須包覆棧板1/2
4 護角紙 --> 厚度5mm
5. 打束帶 --> 護角紙厚度5mm，手持束帶機規格4 or 束緊後僅可插入一根手指
6. 捆膠膜 --> 上二圈、中一圈、下二圈，須包覆棧板1/2

※若只打兩條束帶，請打在與貨櫃門口垂直方向

10.3 Mechanical specification for GAP

a) S370HW66 V0

No	Item	Standard				Remark
		Min	Typ	max	unit	
1	Cell + bezel GAP	0.5	1.0	1.8	mm	
	Bezel + rear cover GAP	0.0	0.2	1.0	mm	

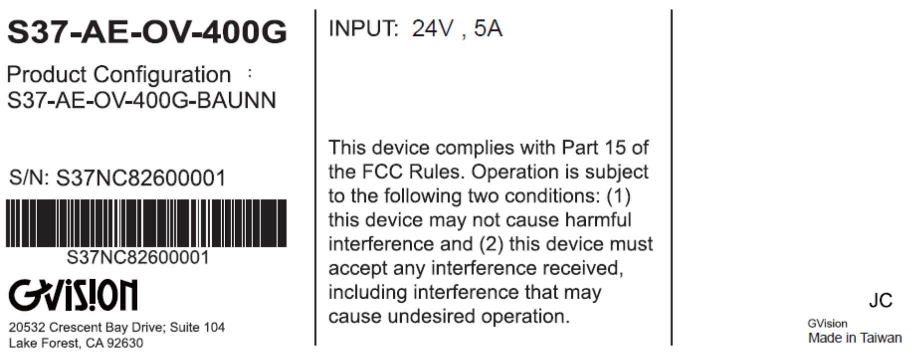
11. Accessory

11.1. Accessories

No	Item	P/N (Darwin)	Unit	Remark
1	Remote Control Unit	49.42S33.001	1	
2	Power Adapter	19.37S02.001	1	
3	Power Code	27.01518.00D	1	

11. 2. LABEL

Rating Label-Reference (MP Needed)



Carton Label: -Reference

 S370HW66 V0 99.37S02.0AA-BT3

Gvision		
Part No.	S37-AE-OV-400G-BAUNN	
Customer No.	NA	
model name	S37-AE-OV-400G	
Q/ctn	1	
09937S020AA3AF006000001		

◆ Appendix

Dust Bar Spec:

Material: PORON

Thickness: 0.6T(Front Panel) / 1.5T (Rear)

Min. Size Dust (Garbage): 10μm