



eurocoin®

32EDECFL4GPCT

31161548

Manual

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1 Revision History

Revision	Description of Update	Date
1.0	Final Product Specification	28.08.2024
1.1	Updated Assembly and Frame Drawing	15.10.2024
1.2	Updated Template	27.02.2025
1.2	Updated Optional LED controller KIT	27.02.2025

2 Description

32EDECFL4GPCT is a 32" Encased display which features Multi Touch projected capacitive (PCT) touch screen and front-facing Addressable LED illumination on all 4 sides. The high quality TFT-LCD panel is equipped with industrial electronics. AD board supports standard 3 point connections for VGA/ DVI and DP (DisplayPort) and offers standard 24 V operation.

3 Features

- 1920 x 1080 industrial TFT Display
- 24V Operation
- Signal Inputs: VGA / DVI / Display Port
- Encased Black Chassis
- Mounting points to the back of the Frame
- VESA 200x300 mm
- Additional strengthening supports
- On Screen Display (OSD) interface
- PCT Touch screen – USB Type B
- EPDM rubber gasket all around
- Addressable LED 5V
- 141 LEDs/Display
- 759.5 mm (L), 462.5 mm (W), 59 mm(H)

4 Monitor Components

Component	Description	Note
LCD Panel	DV320FHM-NN0	BOE
OSD Board	C-700	-
Electronics	K-1860B-32	-
Metalwork	Encased	Textured Black
Touch Glass	EG-SY-31.5-218-1609V1	2.8mm
Touch Controller	ILI2315PB	-
LED	SL-5050-60WS2812BS	Molex 43020-0600
Rubber Gasket	-	1mm

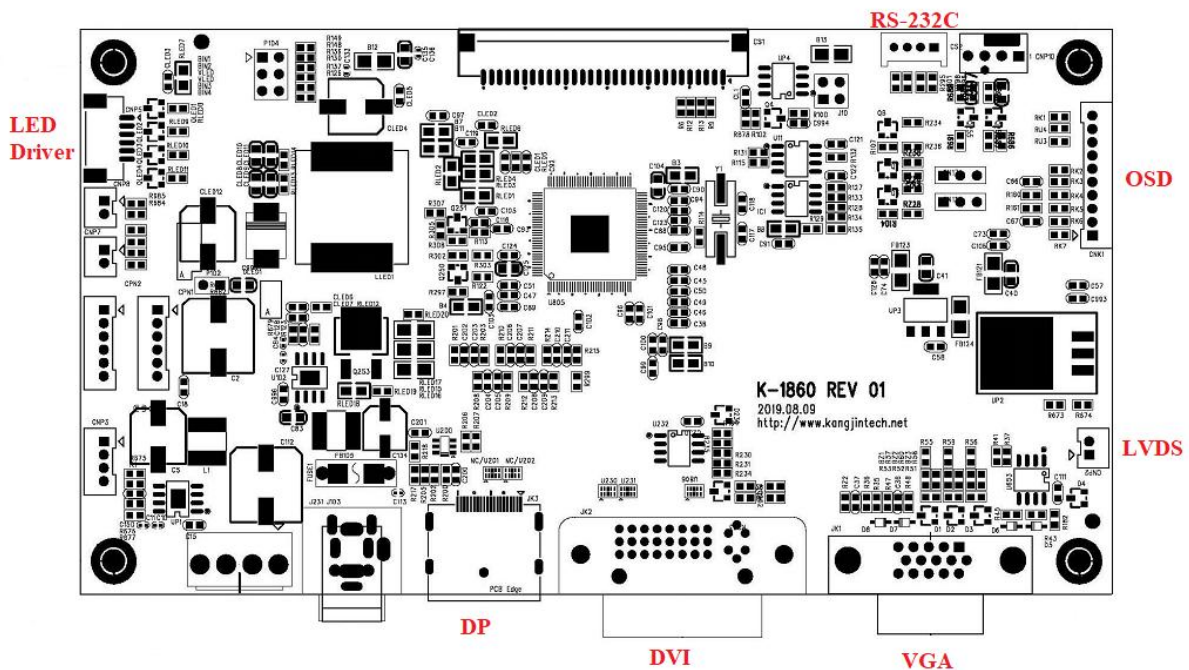
5 Electrical Parameters

5.1 Input Characteristics

Power Input Connector

Description	Signal	Unit	Min	Typical	Max	Remarks
Power In (24Vdc)						
	Input Voltage	Vdc	10.8	24	26.4	
	Consumption	Watt				< TBD (DPMS)

5.2 AD Board



Description	Unit	Min	Typ	Max
Input Voltage	VDC	10.8	24	26.4
Analog RGB	Vp-p	0		0.7
Sync	VDC	0		5.5
H Frequency	KHz	31.43		80.00
V Frequency	Hz	56.25		75.03
Differential Output	mVp-p	50		1200
Input Clock Freq.	MHz	20		135
Signal Cable	D.P connector			
Signal Type	Base on DPRX technology			

6 Signal Input Format

The microprocessor measures the H-sync, V-sync and V-sync/H-sync polarity for RGB inputs, and uses this timing information to control all of the display operation to get the proper image on a screen.

This board can detect all VESA standard Graphic modes shown on the table below and provide more clear and stable image on a screen.

Table) RGB Input format

Character Mode	Pixel Freq. MHz	Horizontal Timing				Vertical Timing			
		Sync Polar	Freq. KHz	Total Pixel	Active Pixel	Sync Polar	Freq. Hz	Total Line	Active Line
640x350@70Hz	25.151	P	31.44	800	640	N	70.02	449	350
720x400 @70Hz	28.295	N	31.44	900	720	P	70.02	449	400
640x480 @60Hz	25.175	-	31.47	800	640	-	59.94	525	480
640x480 @67Hz	30.240	-	35.00	864	640	-	66.67	525	480
640x480 @72Hz	31.500	-	37.86	832	640	-	72.81	520	480
640x480 @75Hz	31.500	-	37.50	840	640	-	75.00	500	480
800x600 @56Hz	36.000	-	35.16	1024	800	-	56.25	625	600
800x600 @60Hz	40.000	-	37.88	1056	800	-	60.32	628	600
800x600 @72Hz	50.000	-	48.08	1040	800	-	72.19	666	600
800x600 @75Hz	49.500	-	46.88	1056	800	-	75.00	625	600
832x624 @74Hz	57.285	-	49.73	1152	832	-	74.55	667	624
1024x768@60Hz	65.000	-	48.36	1344	1024	-	60.00	806	768
1024x768@70Hz	75.000	-	56.48	1328	1024	-	70.07	806	768
1024x768@72Hz	75.235	-	57.70	1304	1024	-	72.30	798	768
1024x768@75Hz	78.750	-	60.02	1312	1204	-	75.03	800	768
1152x864@60Hz	88.566	-	54.00	1640	1152	-	60.00	900	864
1152x864@70Hz	93.930	-	62.62	1500	1152	-	69.58	900	864
1152x864@75Hz	108.000	-	67.50	1600	1152	-	75.00	900	864
1152x870@75Hz	100.000	-	68.68	1456	1520	-	75.00	915	870
1280x1024@60Hz	108.000	-	63.98	1688	1280	-	60.02	1066	1024
1280x1024@70Hz	124.995	-	74.40	1680	1280	-	69.99	1063	1024
1280x1024@72Hz	134.626	-	77.91	1728	1280	-	72.00	1082	1024
1280x1024@75Hz	135.001	-	79.98	1688	1280	-	75.03	1066	1024
1440x900@60Hz	106.500	-	55.90	1904	1440	+	60.01	932	900
1440x900@75Hz	136.750	-	70.51	1936	1440	+	75.02	940	900
1600x1200@60Hz	160.875	-	74.48	2160	1600	-	59.96	1242	1200
1680x1050@60Hz	119.000	-	64.72	1840	1680	-	60.02	1080	1050
1920x1080@60Hz	148.500		66.60	2160	1920		60.00	1125	1080
1920x1200@60Hz	154.110		74.10	2080	1920		59.99	1235	1200

7 LCD Specifications

7.1 General Features

Items	Units	Specifications
Active Area	[mm]	698.4 (H) X 392.85 (V)
Screen Diagonal	[mm]	31.51 inch
Number of Pixels		1920(H) x 1080 (V)
Pixel Pitch	[um]	121.25 (H) x RGB x 363.75 (V)
Pixel Arrangement		Pixels RGB Vertical stripe
Display Mode		Transmission mode, Normally Black
White Luminance (Center)		350 (Typ.)
Contrast Ratio	CR	900 (Typ.)
Optical Response Time	[msec]	10 ms (Typ. on/off)
Weight	[g]	850 gram (Typ.)
Physical Size	[mm]	716.2(H) x 415.05(V) x 24.85(D) (Typ.)
Support Colour		16.7M colours (RGB 8-bit)
Surface Treatment		Haze 1%
RoHS Compliance		RoHS Compliance

7.2 Absolute Maximum Ratings

Parameters	Symbol	Values		Units	Notes
		Min	Max		
Power Input Voltage	VDD	VSS-0.3	14	V	Ta=-25°C
Operating Temperature	TOP	0	+50	°C	Note 1
	TSUR	0	+60	°C	
Storage Temperature	TST	-20	+60	°C	
Operating Ambient Humidity	HOP	10	80	%RH	
Storage Humidity	HST	10	80	%RH	

Note 1: Temperature and relative humidity range are shown in the figure below. Wet bulb temperature should be 39°C max. and no condensation of water.

7.3 Optical Characteristics

Items		Symbol	Unit	Conditions	Min	Typ	Max	Notes
Contrast Ratio		CR	-	$\theta_x = 0^\circ$, $\theta_y = 0^\circ$ Viewing Angle at Normal Direction	900	1200	-	-
Response Time		Gray to Gray	ms		-	8	10	-
Center Luminance of White		LC			350	400		-
White variation		δW	-			-	1.38	-
Colour Chromaticity	Red	Rx	-		Typ. - 0.03	0.630 0.344 0.302 0.642 0.153 0.046 0.280 0.290	Typ. +0.03	-
		Ry	-					
	Green	Gx	-					
		Gy	-					
	Blue	Bx	-					
		By	-					
	White	Wx	-					
		Wy	-					
Colour Gamut	CG	%		72	-	NTSC Ratio		
Viewing Angle	2D (CR>10)	θ_{x+}	Deg.	CR≥10		89	-	(1)
		θ_{x-}				89	-	

Note 1: Definition of Contrast Ratio (CR)

The contrast ratio can be calculated by the following expression.

Contrast Ratio (CR)=L255/L0

L255: Luminance of gray level 255

L0: Luminance of gray 0

7.4 Mechanical Characteristics

Description	Specificatin
Active Display Area	Horizontal 698.4 mm
	Vertical 392.85 mm
Pixel Pitch	Horizontal 121.25 mm
	Vertical 363.75 mm
Weight	Typ: 850 g
Surface Treatment	Anti-glare coating Semi-Glare and Polarizer Hardness

8 Display Inputs



VGA Input connector for 15P D-Sub

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Red	Red, analog input	9	NC	Not connected
2	Green	Green, analog input	10	DGND	Detect connector
3	Blue	Blue, analog input	11	NC	Not connected
4	NC	Not connected	12	DDC Data	DDC Data
5	DGND	Digital ground	13	H-sync	Horizontal sync, input
6	AGND	Ground for Red return	14	V-sync	Vertical sync, input
7	AGND	Ground for Green return	15	DDC Clk	DDC Clk
8	AGND	Ground for Blue return			



Display Port Input connector for a DP Jack

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	Lane0P	Receive data0+	13	CONFIG1	AGND
2	GND	AGND	14	CONFIG1	AGND
3	Lane0N	Receive data0-	15	AUX_CHP	AUX+ communications
4	Lane1P	Receive data1+	16	GND	AGND
5	GND	AGND	17	AUX_CHN	AUX- communications
6	Lane1N	Receive data1-	18	HOT PLUG	HPD D.P
7	Lane2P	Receive data2+	19	RETURN	AGND
8	GND	AGND	20	DP_PWR	D.P +3.3V
9	Lane2N	Receive data2-	21	GND	AGND
10	Lane3P	Receive data3+	22	GND	AGND
11	GND	AGND	23	GND	AGND
12	Lane3N	Receive data3-	24	GND	AGND



DVI Input connector for a DVI Jack

Pin No.	Symbol	Description	Pin No.	Symbol	Description
1	RX2-	Receive data2-	13	RX3+	Not connected
2	RX2+	Receive data2+	14	5V	DVI 5V
3	GND	AGND	15	GND	AGND
4	RX4-	Not connected	16	HP	HOT PLUG
5	RX4+	Not connected	17	RX0-	Receive data0-
6	SCL	DVI DDC SCL IN	18	RX0+	Receive data0+
7	SDA	DVI DDC SDA IN	19	GND	AGND
8	VS	VS DVI	20	RX5-	Not connected
9	RX1-	Receive data1-	21	RX5+	Not connected
10	RX1+	Receive data1+	22	GND	AGND
11	GND	AGND	23	RXC+	Receive clk+
12	RX3-	Not connected	24	RXC-	Receive clk-

9 LED Specification

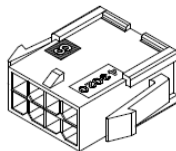
Clockwise Orientation

9.1 SL-5050-60WS2812BS

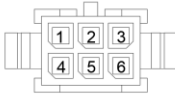
Items	Specification
LED Type	SMD5050
Input Voltage	DC 5V
LED QTY	60 LEDs/m
Colour	Addressable RGB
IC TYPE	WS2812B
LED Brand	SANAN
Power	12W/m
IP Grade	IP20 Non-waterproof
Storage Temperature	-40°C~+80°C
Operating Temperature	-30°C~+60°C
Lifespan	50000 Hours

Malfunction & Solutions		
Symptom	Possible Causes	Solutions
The brightness of the LED is not even	The power load exceeds the rated power of the power supply	Use the power supply with higher power or adopt the double-ended power-up mode
	Too many LED strips are connected	Adjust LED strip length for each chain to meet the maximum connectable length with single-ended power mode. The length is no longer than 5 meters

9.2 Molex 43020-0600 connector

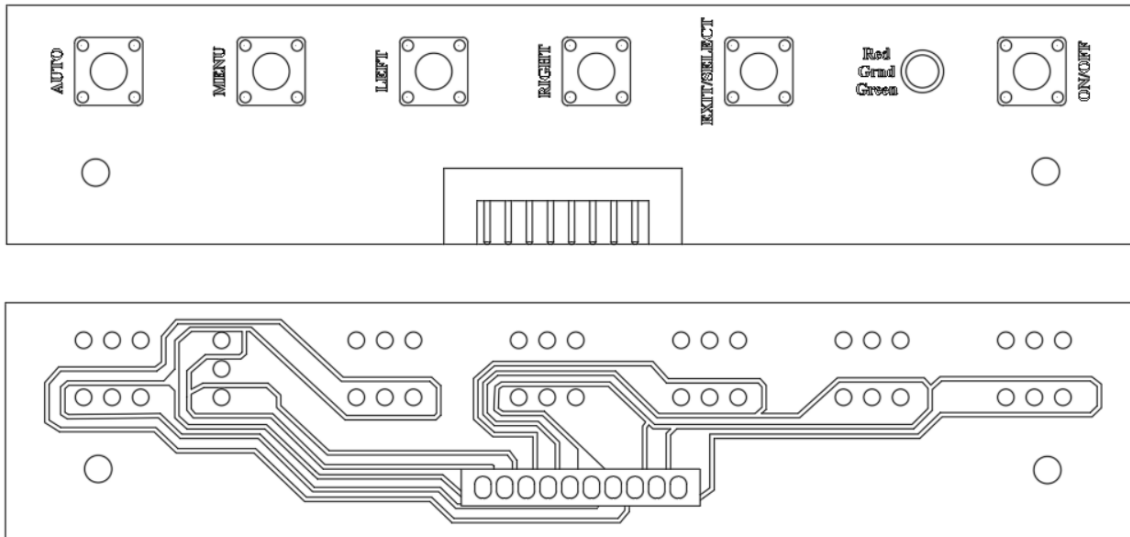


LED Lighting Control Port Pin Map IN-OUT					
#1	+5V	#2	DAT	#3	NC
#4	GND	#5	NC	#6	NC



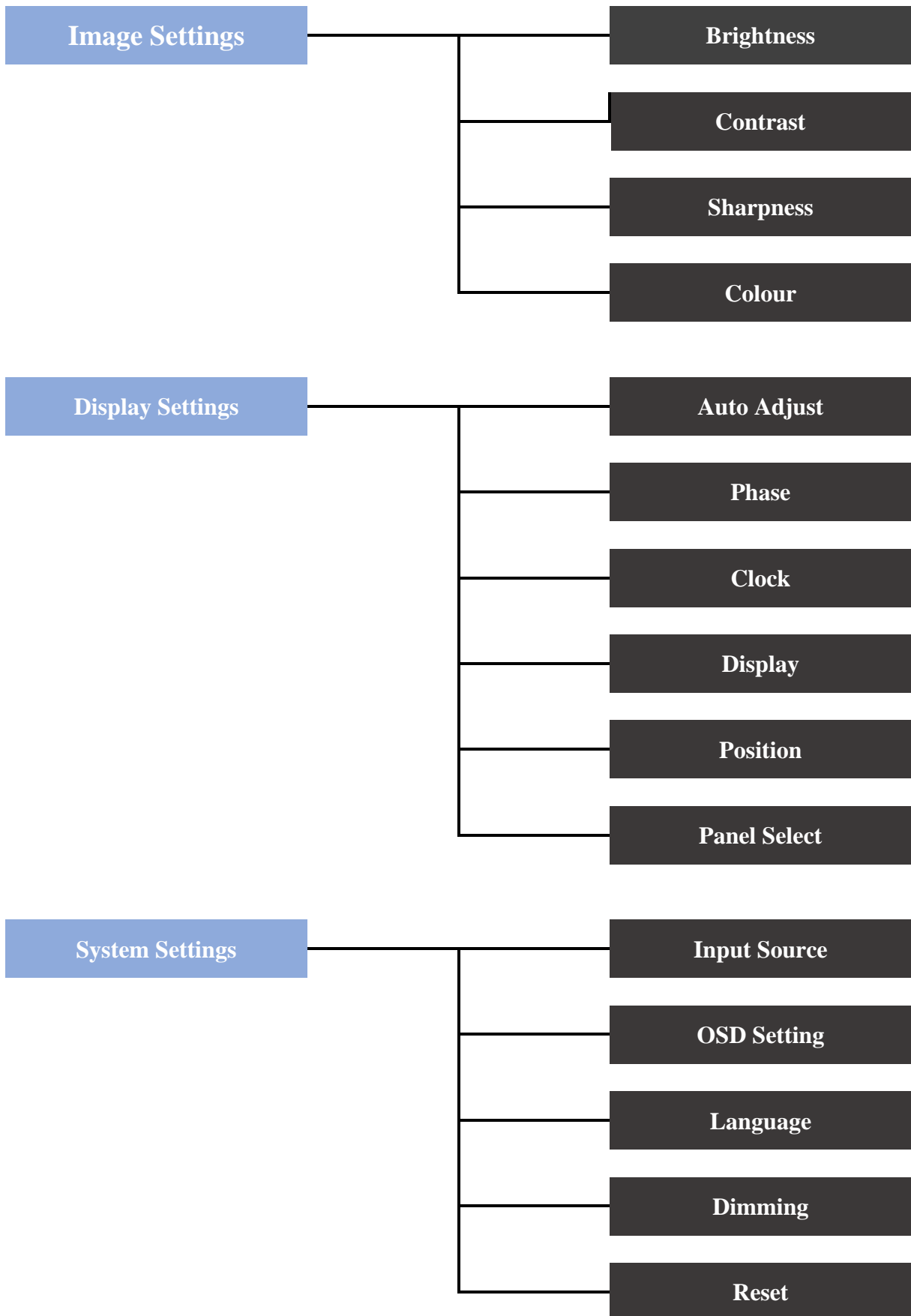
10 On Screen Display Board

10.1 OSD Board Buttons



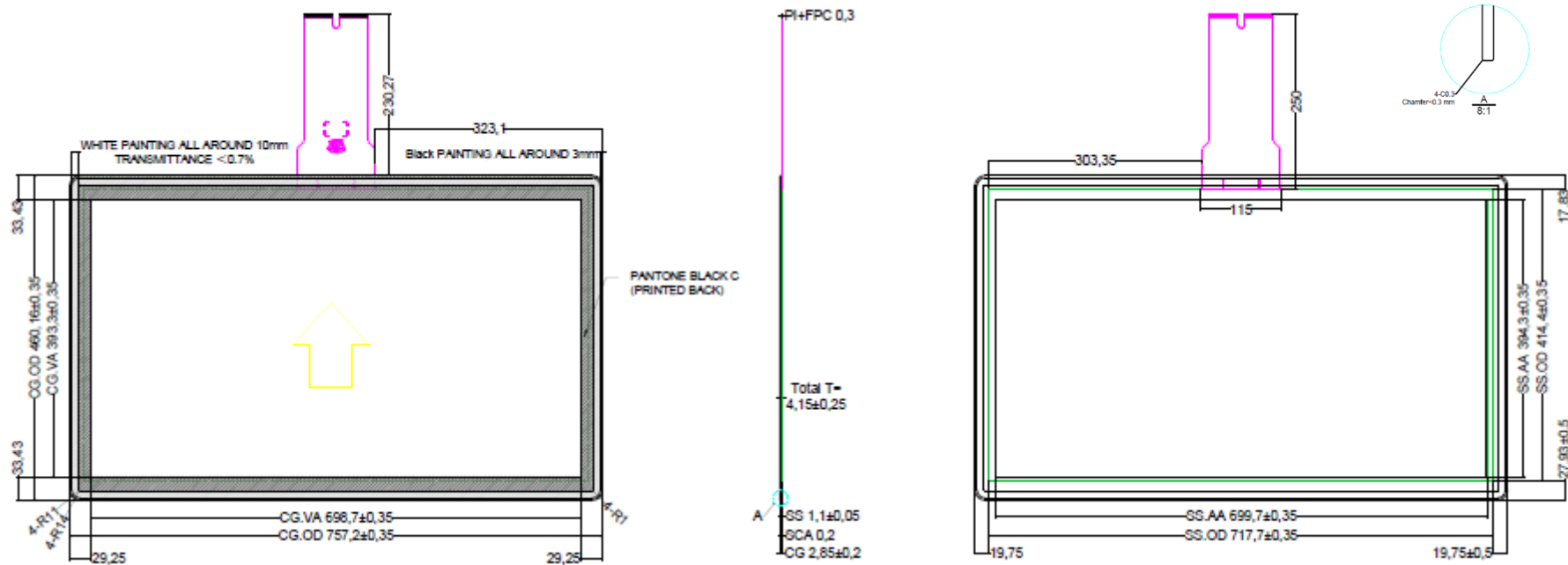
Keys	Button	Function
1	ON/OFF	Power on/off button - Turn power on or off
2	EXIT/SELECT	Menu of button - Submenu Select - Input Source Select (RGB/DP)
3	RIGHT	Adjust button - OSD Menu Up Moves the bar right to increase the adjustment
4	LEFT	Adjust button - OSD Menu Down - Moves the bar left to decrease the adjustment
5	MENU	Main menu on/move button - Show OSD menu on the screen - Exit the main menu or submenu
6	AUTO	Auto button - Auto adjust (Only VGA Mode)

10.2 Summary of OSD Menu

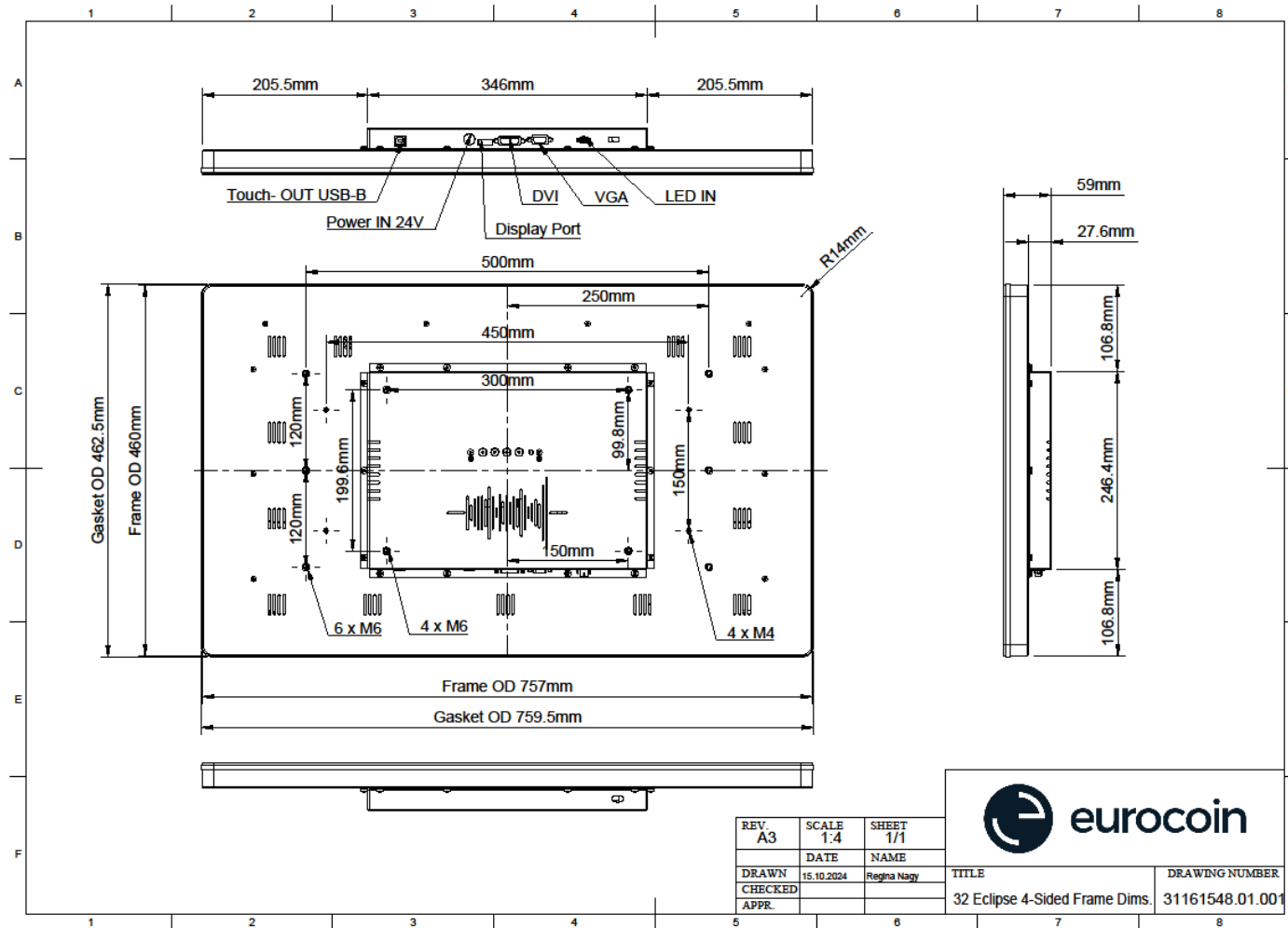


11 Touch Characteristics

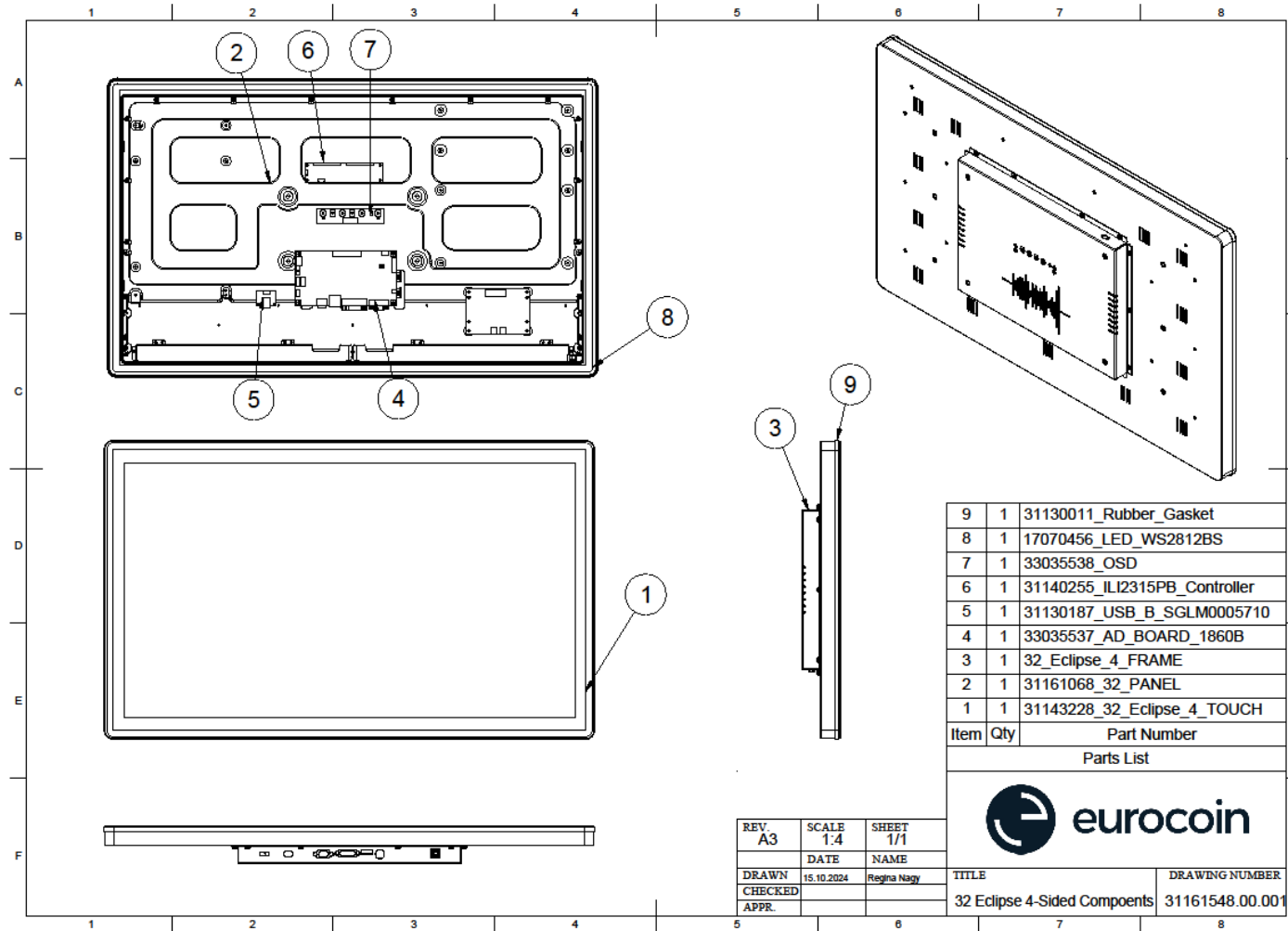
Description	TP Structure	Controller	CL Surface Hardness	Number of Touchpoint	TP Transparency	Connection	Working Voltage	Product Standard
Specification	G+G	ILI2315	$\geq 7H$	10	$>85\%$	USB B	5V	RoHS Compliant



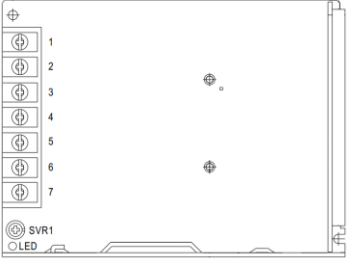
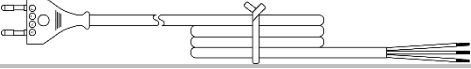
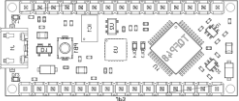
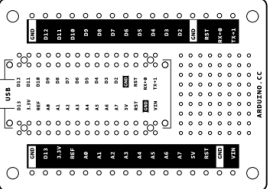
12 Frame Characteristics



13 Assembly



14 Optional LED Controller KIT

Single Arduino KIT		
17070510		
Component name	PC/KIT	Picture
5V PSU	1PC/KIT	
PSU CABLE	1PC/KIT	
ARDUINO	1PC/KIT	
ARDUINO ADAPTOR	1PC/KIT	
PSU TO ARDUINO TO LED	1PC/KIT	