



eurocoin

27EDOF LCPCT

31161439

Manual

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1 Revision History

Revision	Description of Update	Date
1.0	Final Product Specification	10.01.2025

2 Description

27EDOFLCPCT is a 27" Open frame display which features Multi Touch projected capacitive (PCT) touch screen. 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 12 V operation.

The display must be run by 12V ES1 and PS2/LPS power source according to UL/IEC62368-1 and UL/IEC60950-1.

3 Features

- 1920 x 1080 industrial TFT Display
- 12V Operation
- Signal Inputs: VGA / DVI / Display Port
- Open Frame Chassis
- Mounting points to back of Frame
- Additional strengthening supports
- On Screen Display (OSD) interface
- PCT Touch screen – USB Type B
- 616 mm (L), 364.6 mm (W), 42 mm(H)

4 Monitor Components

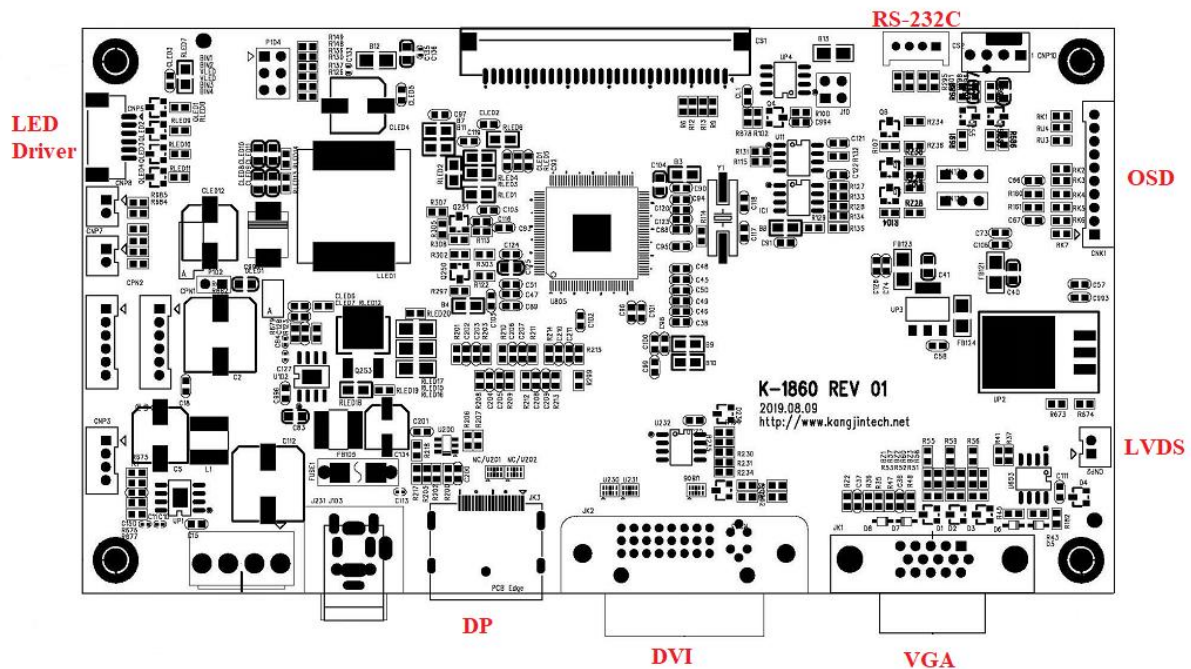
Component	Description	Note
LCD Panel	P270HVN02.0	AUO
OSD Board	C-700	A&K Display
Electronics	K-1860	KANG JIN
Touch Glass	-	2.85mm
Touch Controller	ILITEK	-

5 Electrical Parameters

1.1 Input Characteristics

Description	Signal	Unit	Min	Typical	Max	Remarks
Power In (12Vdc)						
	Input Voltage	Vdc		12	24	
	Consumption	Watt				< TBD (DPMS)

1.2 AD Board



Description	Unit	Min	Typ	Max
Input Voltage	VDC		12	24
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
Screen Diagonal	[mm]	685.65 (27")
Pixel H x V		1920(x3) x 1080
Pixel Pitch	[um]	311.25 (per one trial) x311.25
Pixel Arrangement		R.G.B. Vertical island
Display Mode		VA Mode, Normally Black
White Luminance (Center)		300 (Typ.)
Contrast Ratio		3000 (Typ.)
Optical Response Time	[msec]	12 ms (Typ. on/off)
Power Consumption (VDD line + LED line)	[Watt]	19.53 watt, VDD Line: PDD (typ.), All white pattern at 60 Hz =4.65 W LED Line: RBLU (typ.) =14.88 W
Weight	[g]	2180 gram (Typ.)
Physical Size	[mm]	613.6(H)x356.8 (V)x10.0(D) (Typ.)
Support Colour		16.7M colours (RGB 8-bit)
Surface Treatment		Anti-Glare 3H
Temperature Range		
Operating (Shipping)	[°C]	0 to +50
Storage	[°C]	-20 to +60
RoHS Compliance		RoHS Compliance
TCO Compliance		TCO 7.0 Compliance

7.2 Absolute Maximum Ratings

Parameters	Symbol	Values		Units	Notes
		Min	Max		
Operating Temperature	TOP	0	50	[°C]	<i>Note 2-1</i>
Glass Surface Temperature	TGS	0	65	[°C]	<i>Note 2-1</i> <i>Note 2-1</i>
Operating Humidity	HOP	5	90	[%RH]	<i>Note 2-1</i>
Storage Temperature	TST	-20	60	[°Cg]	
Storage Humidity	HST	5	90	[%RH]	

Note 2-1: Temperature and relative humidity range are shown as the below figure.

1. 90% RH Max ($T_a \leq 39^\circ\text{C}$)
2. Max wet-bulb temperature at 39°C or less. ($T_a \leq 39^\circ\text{C}$)
3. No condensation

7.3 Optical Characteristics

Items	Unit	Conditions	Min	Typ	Max	Notes
Viewing Angle	[degree]	Horizontal (Right)	75	89	-	2
		CR=10 (Left)			-	
		Vertical (Up)	75	89	-	
		CR=10 (Down)			-	
Contrast ratio		Normal Direction	1800	3000	-	3
Response Time	[msec]	Raising Time (T_{rR})	-	7	17	4
		Falling Time (T_{rF})	-	5	7	
		Raising+Falling	-	12	24	
Colour/ Chromaticity Coordinates (CIE)		Red x	0.610	0.640	0.670	5
		Red y	0.303	0.333	0.363	
		Green x	0.290	0.320	0.350	
		Green y	0.590	0.620	0.650	
		Blue x	0.126	0.156	0.186	
		Blue y	0.025	0.055	0.085	
Colour Coordinates (CIE) White		White x	0.283	0.313	0.343	
		White y	0.299	0.329	0.359	
Central Luminance			240	300	-	6
Luminance Uniformity	[%]		75	80	-	7
Crosstalk (in 60Hz)	[%]				1.5	8
Flicker	dB				-20	9

7.4 Mechanical Characteristics

Description	Specificatin
Active Display Area	Horizontal 597.6 mm
	Vertical 336.15 mm
Weight	Typ: 2500 g
Surface Treatment	Hard coating (3H) Anti-glare treatment of the front polarizer

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

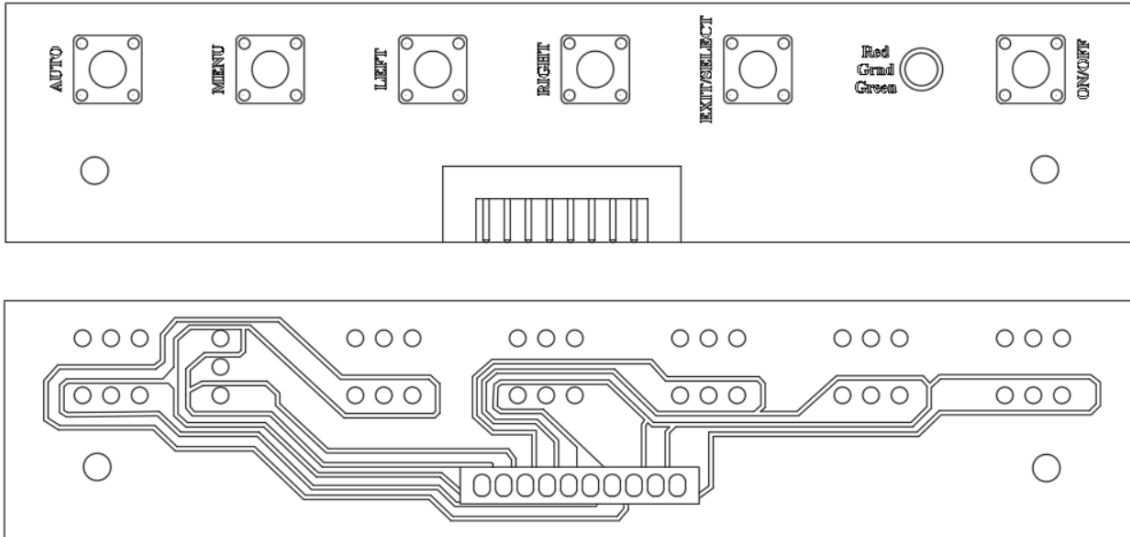


DVI Input connector for a DVI Jack

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-

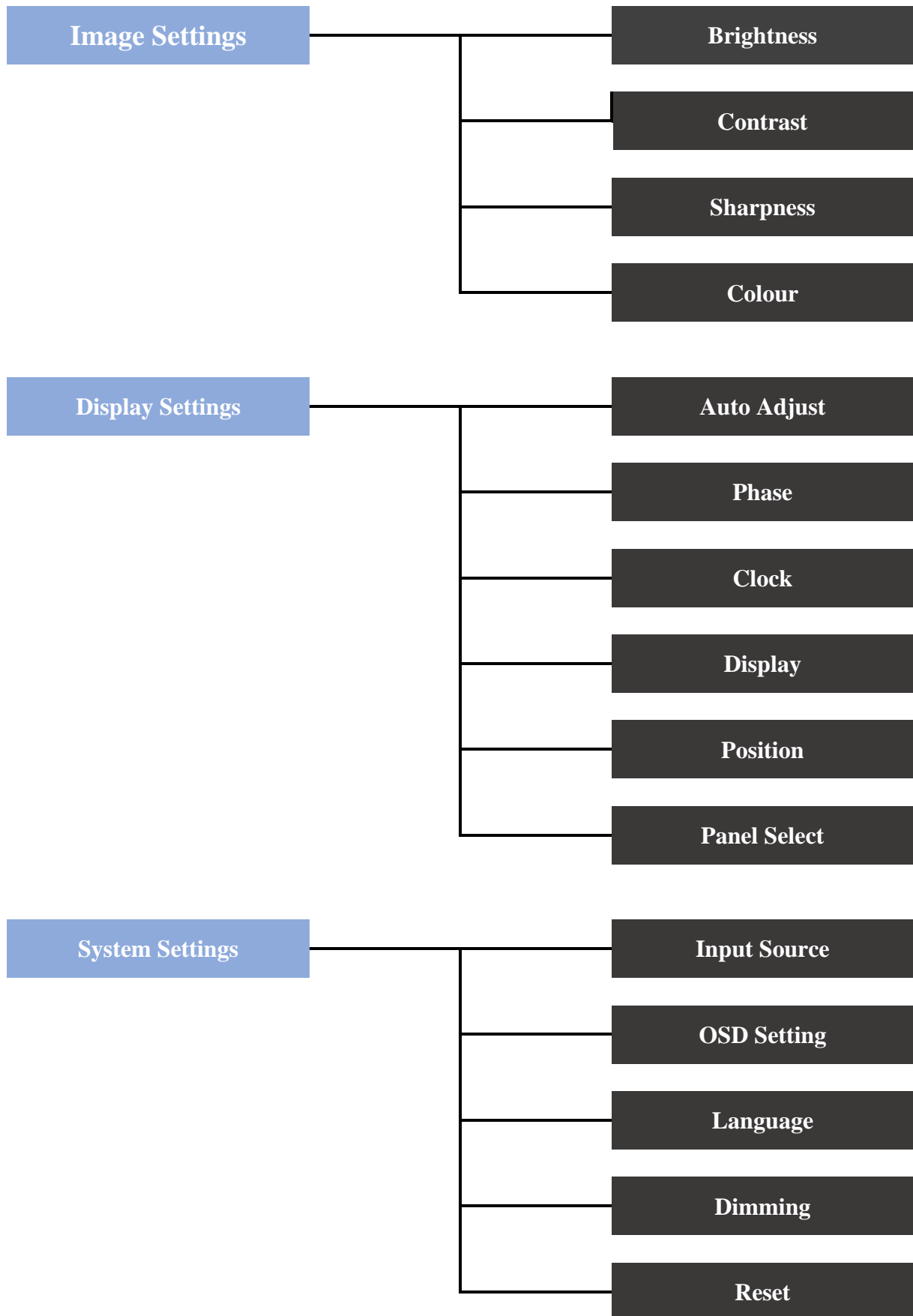
9 On Screen Display Board

9.1 OSD Board Buttons

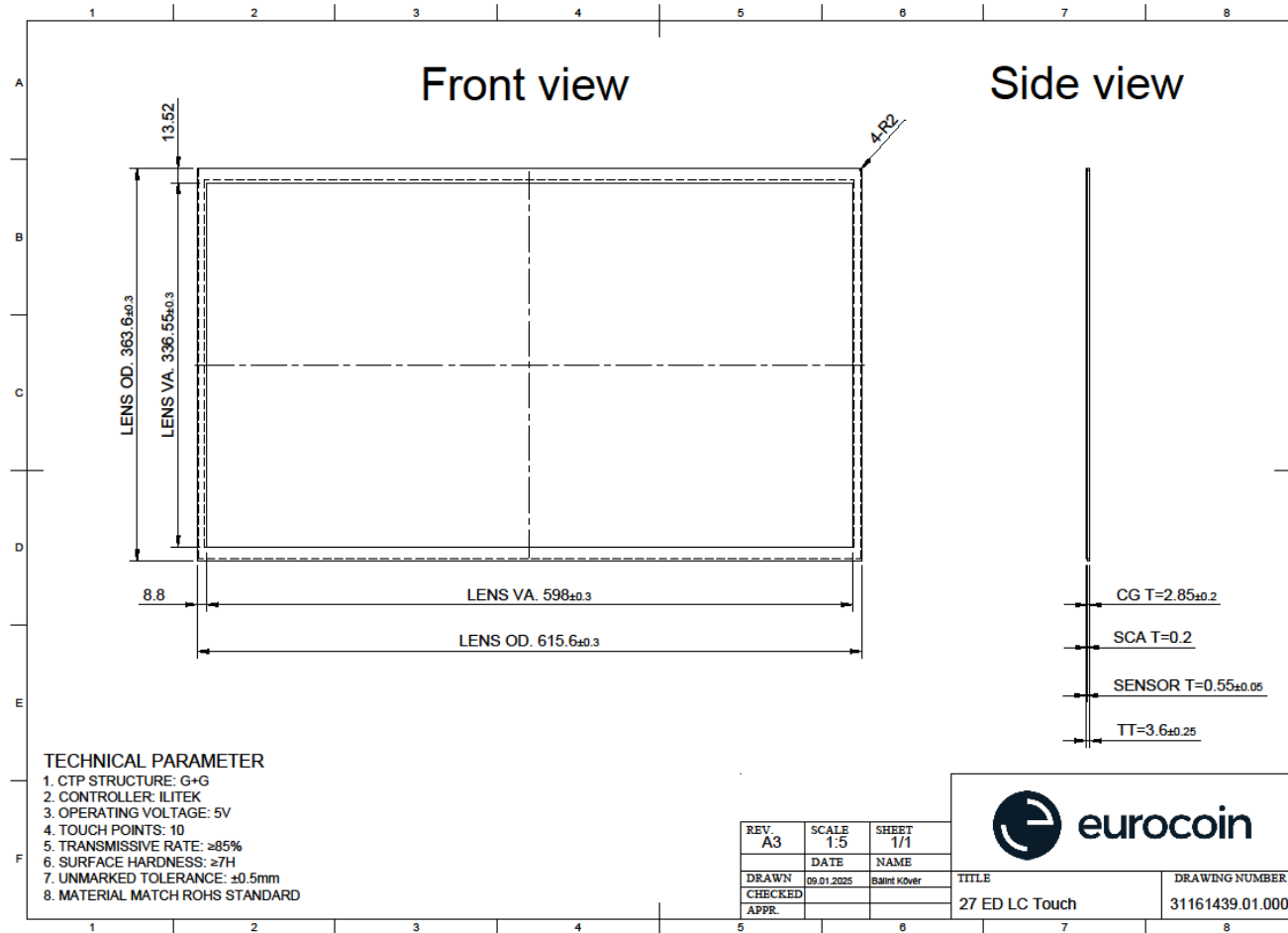


Keys	Button	Function
1	ON/OFF	Power on/off button - Turn power on or off
2	EXIT/SELECT	Menu of button - Submenu Select - Input Source Select (RGB/DP)
3	RIGHT	Adjust button - OSD Menu Up Moves the bar right to increase the adjustment
4	LEFT	Adjust button - OSD Menu Down - Moves the bar left to decrease 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)

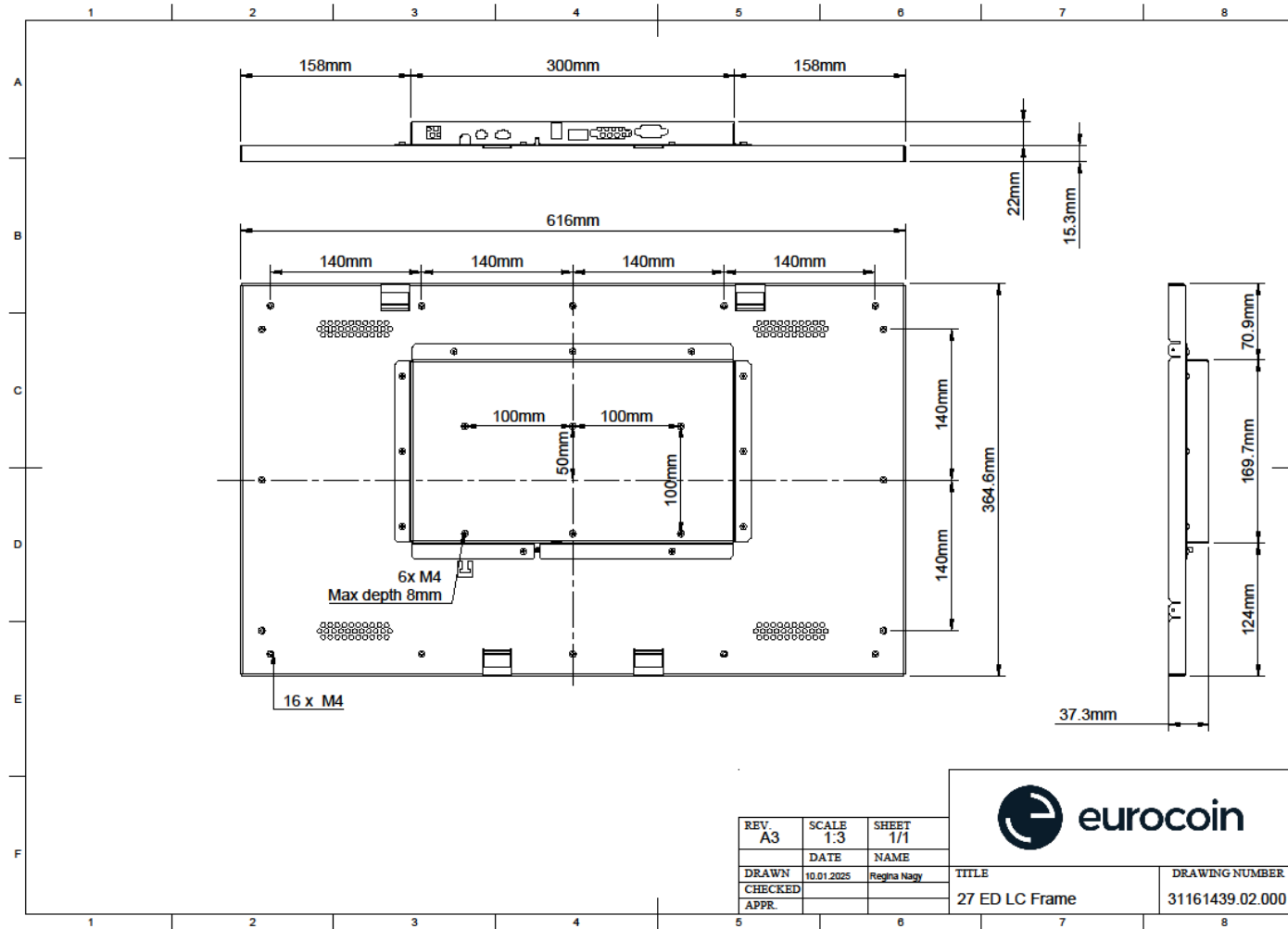
9.2 Summary of OSD Menu



10 Touch Characteristics



11 Frame Characteristics



12 Packaging

