

SPECIFICATION FOR APPROVAL

☒ Preliminary Specification

☐ Final Specification

MODEL NAME : RS191ENT-NE10

APPROVED BY

REVIEWED BY

PREPARED BY

Lion / Engineer

1. General Description

RS191ENT-NE10 is a color active matrix TFT LCD using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This has a 19.1 inch diagonally measured active area with FHD resolutions (1920 horizontal by 360 vertical pixel array). Each pixel is divided into RED, GREEN, BLUE dots which are arranged in vertical stripe and this module can display 16.7M colors. The TFT-LCD MDL panel is adapted for a low reflection and higher color type.

* General Information

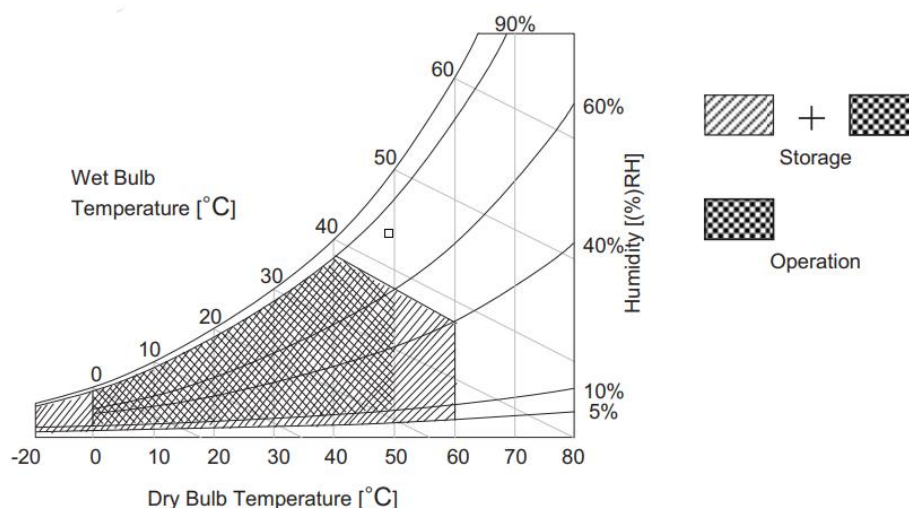
Items	Specification	Unit	Note
Active Screen Size	19.1 inches diagonal	inch	
Display Area	476.4 (H) *89.37(V)	mm	
Outline Dimension	510 (H) *123(V) *17.5(D)	mm	D:MAX
Driver Element	a-Si TFT Active Matrix		
Display Colors	8-bit(D), 16.7M colors	colors	
Contrast ratio	1000:1		
Number of Pixels	1920 horiz. by 360 vert	pixel	
Pixel Arrangement	RGB Vertical strip		
Display Mode	Normally black		
Surface Treatment	Haze 1%		
Interface	LVDS 2 port		
Center Luminance of White	1000	nits	
Weight	TBD	kg	±10%
Touch	N/A		

2. Absolute Maximum Ratings

The followings are maximum values which, if exceeded, may cause faulty operation or damage to the unit.

Item	Symbol	Min	Max	Unit	Note
Logic/LCD Drive Voltage	Vcc	-0.3	14	[Volt]	1
Input Voltage of Signal	Vin	-0.3	4	[Volt]	1
Operating Temperature	TOP	0	+50	[°C]	2
Operating Humidity	HOP	10	90	[%RH]	2
Storage Temperature	TST	-20	60	[°C]	2
Storage Humidity	HST	10	90	[%RH]	2
Panel Surface Temperature	PST		60	[°C]	3

- Note 1: Duration:50 msec.
- Note 2 : Maximum Wet-Bulb should be 39°C and No condensation. The relative humidity must not exceed 90% non-condensing at temperatures of 40°C or less. At temperatures greater than 40°C , the wet bulb temperature must not exceed 39°C.
- Note 3: Surface temperature is measured at 50 °C Dry condition.



3. Electrical Specification

3-1 TFT LCD Module

3-1-1 Power Specification

Item		Symbol	Vaule			Unit	Note
			Min	TYP	Max		
Power Input Voltage		VLCD	9.0	12	16.0	VDC	
Power Input Current		ILCD	-	791	1125	mA	
			-	801	1135	mA	
T-CON Option	Input High Voltage	VIH	2.7	-	3.3	VDC	
U-Selection Voltage	Input Low Voltage	VIL	0	-	0.6		
Power Consumption		PLCD	-	9.6	13.6	Walt	
			-	-	8.7	Walt	
Rush current			-	-	4.14	A	

Note 1 : The supply voltage is measured and specified at the interface connector of LCM.

The current draw and power consumption specified is for VDD=12.0V.

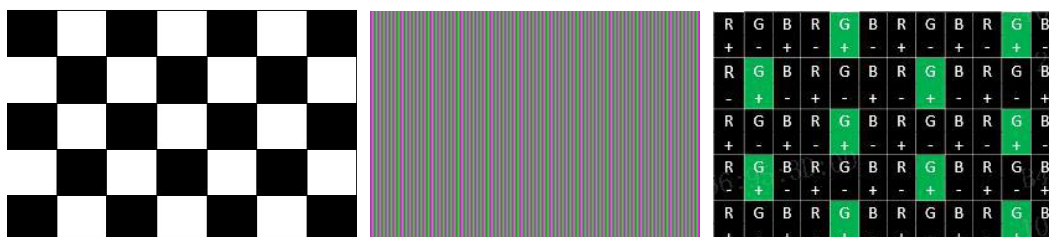
Frame rate fy60Hz and Clock frequency = 74.25MHz.

Test Pattern of power supply current

a)Typ:Mosaic 7X5(LO/L255)

b)Max :Vline Subline (L255))

c)Flicker Pattern



Note 2 : The duration of rush current is about 2ms and rising time of Power input is 1ms(min)

3-2. Interface Connections

PIN NO	Symbol	Description	Remark
1	RxO0-	Negative LVDS differential data input (Odd data)	
2	RxO0+	Positive LVDS differential data input (Odd data)	
3	RxO1-	Negative LVDS differential data input (Odd data)	
4	RxO1+	Positive LVDS differential data input (Odd data)	
5	RxO2-	Negative LVDS differential data input (Odd data)	
6	RxO2+	Positive LVDS differential data input (Odd data)	
7	GND	Ground	
8	RxOCLK-	Negative LVDS differential clock input (Odd clock)	
9	RxOCLK+	Positive LVDS differential clock input (Odd clock)	
10	RxO3-	Negative LVDS differential data input (Odd data)	
11	RxO3+	Positive LVDS differential data input (Odd data)	
12	RxE0-	Negative LVDS differential data input (Even data)	
13	RxE0+	Positive LVDS differential data input (Even data)	
14	GND	Ground	
15	RxE1-	Negative LVDS differential data input (Even data)	
16	RxE1+	Positive LVDS differential data input (Even data)	
17	GND	Ground	
18	RxE2-	Negative LVDS differential data input (Even data)	
19	RxE2+	Positive LVDS differential data input (Even data)	
20	RxECLK-	Negative LVDS differential clock input (Even clock)	
21	RxECLK+	Positive LVDS differential clock input (Even clock)	
22	RxE3-	Negative LVDS differential data input (Even data)	
23	RxE3+	Positive LVDS differential data input (Even data)	
24	GND	Ground	
25	NC	No Connection	
26	NC	No Connection	
27	NC	No Connection	
28	VCC	Power Supply Input Voltage	
29	VCC	Power Supply Input Voltage	
30	VCC	Power Supply Input Voltage	

4. Backlight Electrical Specification

4-1 Electrical Specification

Parameter			Symbol	Values			Unit	Notes
				Min	Typ	Max		
Power Supply Input Voltage			VBL	22	24	25.6	Vdc	
Power Supply Input Current			IBL		-	-	mA	
Power Consumption (Total)			PBL		-	-	W	MAX
Input Voltage for Control System Signals	On/Off	On	Von	2		5	Vdc	
		Off	Voff	0		0.5	Vdc	
	Brightnes Adjust		EXTVBR-B	40		100	%	Automatic light sensitive control
Life Time				30000	50000		Hrs	1

Note1:

The life time is determined as the time at which brightness of the LED is 50% compared to that of initial value at the typical LED current on condition of continuous operating at $25 \pm 2^{\circ}\text{C}$, based on Brightest state.

5. Mechanical Characteristics

UNIT:mm

