

DMG48480F021_05WN

Features:

- Powered by T5F0 ASIC, running DGUS II HMI platform.
- 2.1-inch, 480*480 resolution, IPS-TFT LCD, Circular LCD screen.
- 20 pins, including UART2, SD card, Buzzer, touch panel interface.
- Supporting connected to 4-wire RTP, CTP, buzzer or speaker..



1. External interface



User interface

PIN#	Definition1	Function1	Definition2	Function2
1	+5V	Power supply, DC4.5-5.5V. IO are all at 3.3V CMOS level.		
2	+5V			
3	GND			
4	GND	GND		
5	GND			
6	3.3V			
7	TX2	UART2		
8	RX2			
9	SD_D0	When JIOS is in the air, SD card interface.	TMS	When JIOS is shorting circuit to ground, JTAG interface.
10	SD_D1		TCK	
11	SD_D2		TDI	
12	SD_D3		TDO	
13	SD_CLK		TX1	Multiplexed UART1
14	SD_CMD		RX1	
15	CTP_SDA	Capacitive touch screen interface. When connected to CTP, the CTP_SDA and CTP_INT need to be pulled up to 3.3V by an external 4.7K resistance.		
16	CTP_INT			
17	CTP_SCL			
18	CTP_RST			
19	JIOS	JTAG/IO choose		
20	BUZZ	Buzzer drives output	D/A	Audio PWM DA output

2. Specification parameters

2.1 Product parameters

Main Chip	T5F0
User Interface	20Pin_0.5mm FCC
FLASH	16MB
UI Version	DGUS II
Debugging Tools	HDL662SZ5 adapter board power supply
Size	2.1 inch
Resolution	480*480
Active Area (AA)	Diameter=53.28mm
Viewing Angle	Wide viewing angle (85°/85°/85°/85° typical), high contrast, and good color reproduction.
Backlight Service Life	>10,000H
Brightness	300nit
Brightness Control	100-level brightness adjustment (Flickering may occur at 1%-30% of max brightness; not recommended for use in this range)
Note: Use dynamic screen saver to prevent afterimages from prolonged fixed page display.	

2.2 Interface parameters

Item	Conditions	Min	Typ	Max	Unit
Baud Rate	User Set(Configure the CFG file)	3150	115200	3225600	bps
Output Voltage(TXD)	Output 1	3.0	3.3	-	V
	Output 0	-	0	0.3	V
Input Voltage(RXD)	Input 1	-	-	3.3	V
	Input 0	0	-	0.5	V
Interface	UART2: TTL				
Data Format	UART2: N81				

2.3 Electrical specifications

Rated Power	<2W
Operating Voltage	4.5-5.5V, typical value of 5V.
Operating Current	180mA@ 5V
Recommended power supply: 5V 1A DC	

2.4 Operating environment

Operating Temperature	-10℃ to 60℃ (5V @ 60% RH)
Storage Temperature	-20℃ to 70℃
Operating Humidity	10%-90%RH, typical value of 60% RH.

3. ESD Test

Test temperature: 25° C. Test humidity: 50%RH.

Test process: Place the product on the test bench fixture (approximately 15cm in height), and perform contact and air discharge tests on the smart LCM. Observe if any freezing, black or white screen, flickering, or rebooting occurs during the test.

Test conclusion: The product's ESD performance meets GB/T 17626.2 Class B standards.

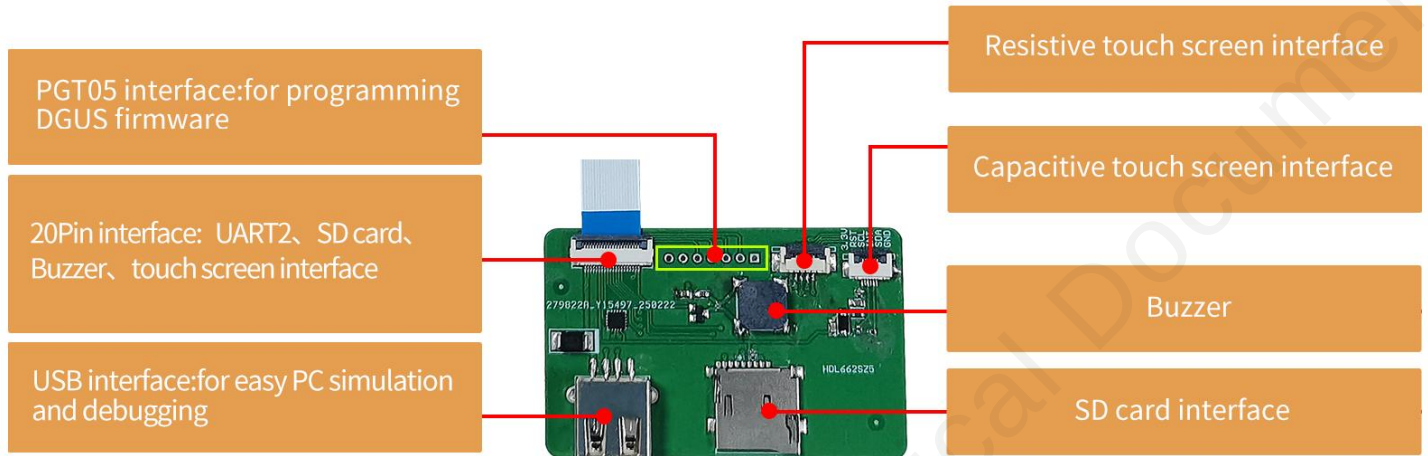
Discharge Type	Discharge Value	Result
Air discharge	±8KV	Normal operation

4. Debug

It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.

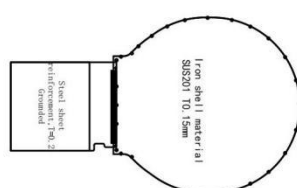
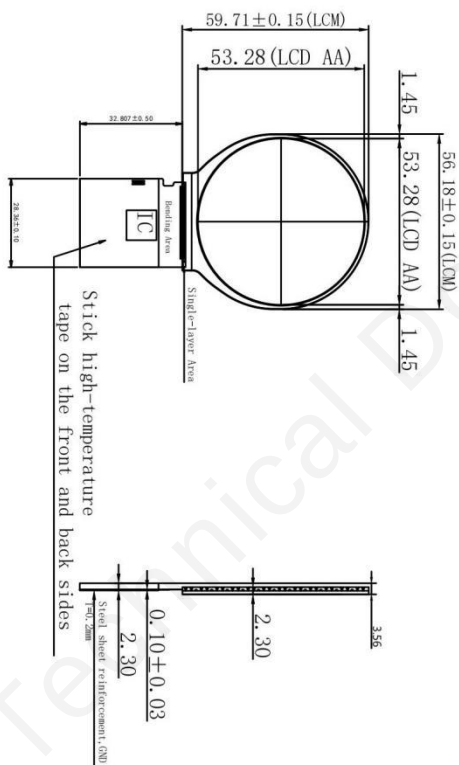
Adapter board model: HDL662SZ5

Connecting cables: FCC20_0.5 L=50mm(B03692)



5. Packing capacity & dimension

Dimension				
Dimension	56.18(W) ×59.71 (H) ×3.56(T) mm			
Net Weight	15g			
Packing Capacity				
Model	Size	Layer	Quantity/Layer	Quantity(Pcs)
Carton1:	220mm(L)×160mm(W)×47mm(H)	1	4	4
Carton2:	250mm(L)×200mm(W)×80mm(H)	1	8	8
Carton3:	320mm(L)×270mm(W)×80mm(H)	1	16	16
Carton4:	415mm(L)×315mm(W)×165mm(H)	-	-	80



PMN	Name
1	+5V
2	+3V
3	GND
4	GND
5	GND
6	3.3V
7	1X2
8	RX2
9	SD_D0
10	SD_D1
11	SD_D2
12	SD_D3
13	SD_CLK
14	SD_CMD
15	TPY1
16	TPY2
17	TPY0
18	TPX0
19	J1NS
20	BZZZ

Front view Side view Back view

NOTES:

1. Display: 2.1" TFT, NORMALLY WHITE;
2. Driver IC: S71701S;
3. OPERATING TEMPERATURE: -20° C to 70° C;
4. BL LED: 3-CHIP WHITE LED, V_F=12.8V, I_F=20mA; LCM Brightness: ~6cd/m(NIT);
5. CHROMATICITY COORDINATE: X: 0.31 ± 0.03, Y: 0.31 ± 0.03;
6. * CRITICAL DIMENSION: 0 REFERENCE DIMENSION;
7. GENERAL TOLERANCE: ±0.2;
- 7-1. Comply with the first-level environmental restricted substances management

LED CIRCUIT DIAGRAM:

 $V_f = 12.8 \text{ V}, I_f = 20 \text{ mA}$

REVISION RECORD		YEAR	DATE	DWIN Technology	
1	First Edition	VI	2020/04	FILE NAME :	00049480722_000
2				DESIGNER NAME :	000000
3				DESIGN :	
4				RELEASE :	
5				REVIEW BY :	
6				CHECKED BY :	
7				DATE :	DATE :
8				APPROVED BY :	
9				SHEET :	1/1
10				THICKNESS :	± 0.0
11				ANGLES :	± 0.1°
12				SCALE :	1:1
13				UNIT :	mm
14				PRO. CODE :	
15					

6. Revision records

Rev	Revise Date	Content	Editor
00	2025-08-22	First Edition	Xu Ying

Please contact us if you have any questions about the use of this document or our products, or if you would like to know the latest information about our products:

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