

DMG32240F020_05WN

产品概述:

- 基于 T5F0 ASIC, 运行 DGUS II 人机交互软件平台。
- 2.0 英寸, 240*320 分辨率, IPS 液晶显示屏。
- 排线共 20 个 pin 脚, 引出串口 2、SD 卡、蜂鸣器、触摸屏等接口。
- 支持外接 4 线 RTP、CTP, 蜂鸣器或扬声器。

Features:

- Powered by T5F0 ASIC, running DGUS II HMI platform.
- 2.0-inch, 240*320 resolution, IPS-TFT LCD.
- 20 pins, including UART2, SD card, Buzzer, touch screen interface.
- Supporting connected to 4-wire RTP, CTP, buzzer or speaker.



1 外部接口 External Interface



用户接口 User interface

序号 PIN#	定义 1 Definition1	功能 1 Function1	定义 2 Definition2	功能 2 Function2
1	VIN	供电输入, DC3.3-5.5V。IO 均为 3.3V CMOS 电平。 Power supply, DC3.3-5.5V. IO are all at 3.3V CMOS level.		
2	VIN			
3	GND			
4	GND	GND		
5	GND			
6	3.3V OUT			
7	TX2	UART2		
8	RX2			
9	SD_D0		TMS	JIOS 对地短路时, JTAG 接口。 When JIOS is shorting circuit to ground, JTAG interface.
10	SD_D1	JIOS 浮空时, SD 卡接口。 When JIOS is in the air, SD card interface.	TCK	
11	SD_D2		TDI	
12	SD_D3		TDO	
13	SD_CLK		TX1	复用的 UART1 Multiplexed UART1
14	SD_CMD		RX1	
15	TPY1	4 线电阻触摸屏接口 4-wire resistive touch screen interface	CIP_SDA	电容触摸屏接口 接 CTP 时, CIP_SDA、CTP_INT 需外部 4.7K 上拉到 3.3V。 Capacitive touch screen interface When connected to CTP, the CIP_SDA and CTP_INT need to be pulled up to 3.3V by an external 4.7K resistance.
16	TPX1		CTP_INT	
17	TPY0		CTP_SCL	
18	TPX0		CTP_RST	
19	JIOS	JTAG/IO 选择 JTAG/IO choose		
20	BUZZ	蜂鸣器驱动输出 Buzzer drives output	D/A	音频 PWM DA 输出 Audio PWM DA output

2 规格参数 Specification Parameters

2.1 产品参数 Product Parameters

主控芯片 Main Chip	T5F0
用户接口方式 User Interface	20Pin_0.5mm FCC
FLASH	8MB
UI 版本 UI Version	DGUS II
供电方式 Power Supply	HDL662SZ5 转接板供电 HDL662SZ5 adapter board power supply
尺寸 Dimensions	2.0 英寸 2.0-inch
分辨率 Resolution	240*320
有效显示区域 Active Area (AA)	30.60mm (W)×40.80mm (H)
视角 Viewing Angle	IPS 视角, 典型值 85°/85°/85°/85° (L/R/U/D) IPS viewing angle, 85°/85°/85°/85° (L/R/U/D)
背光寿命 Backlight Service Life	>10,000H
亮度 Brightness	300nit
亮度调节 Brightness Control	100 级亮度调节 (当亮度调节至最高亮度的 1%~30%时, 可能出现闪烁现象, 不建议在此范围使用) 0~100 grade (When the brightness is adjusted to 1%~30% of the maximum brightness, flickering may occur and is not recommended to use in this range)

2.2 串口参数 Interface Parameters

参数 Item	测试条件 Conditions	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
串口波特率 Baudrate	用户自定义（硬件配置文件设置） User Set(Configure the CFG file)	3150	115200	3225600	bps
串口输出电平 Output Voltage(TXD)	Output 1	3.0	3.3	-	V
	Output 0	-	0	0.3	V
串口输入电平 Input Voltage(RXD)	Input 1	-	-	3.3	V
	Input 0	0	-	0.5	V
串口模式 Interface	UART2: TTL;				
数据格式 Data Format	UART2: N81;				

2.3 电气规格 Electrical specifications

额定功率 Rated Power	<1W
工作电压 Operating Voltage	3.3~5.5V, 典型值 5V。 3.3~5.5V, typical value of 5V.
工作电流 Operating Current	102mA@ 5V
推荐工作电源: 5V 1A 的直流稳压电源 Recommended power supply: 5V 1A DC	

2.4 工作环境 Operating Environment

工作温度 Operating Temperature	-10℃~60℃ (5V @ 60% RH)
存储温度 Storage Temperature	-20℃~70℃
工作湿度 Operating Humidity	10%~90%RH, 典型值 60%RH。 10%~90%RH, typical value of 60% RH.

3 可靠性测试 Reliability Test

3.1 静电放电 ESD 测试 ESD Test

测试环境温度：25°C，测试环境湿度：50%RH。

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

测试过程：将产品放置在测试台面的测试工装上（测试工装高度约 15cm），针对智能屏进行接触放电和空气放电测试，实验过程观察屏幕有无死机、黑屏、白屏、花屏、重启等异常现象。

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.

测试结论：产品 ESD 性能达到 GB/T 17626.2 B 级。

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

放电类型 Discharge Type	放电值 Discharge Value	结果 Result
空气放电 Air discharge	$\pm 8\text{KV}$	正常工作 Normal operation

4 调试示例 Debug

建议首次使用迪文智能屏的用户购买测试套件。详细信息可联系客服人员。

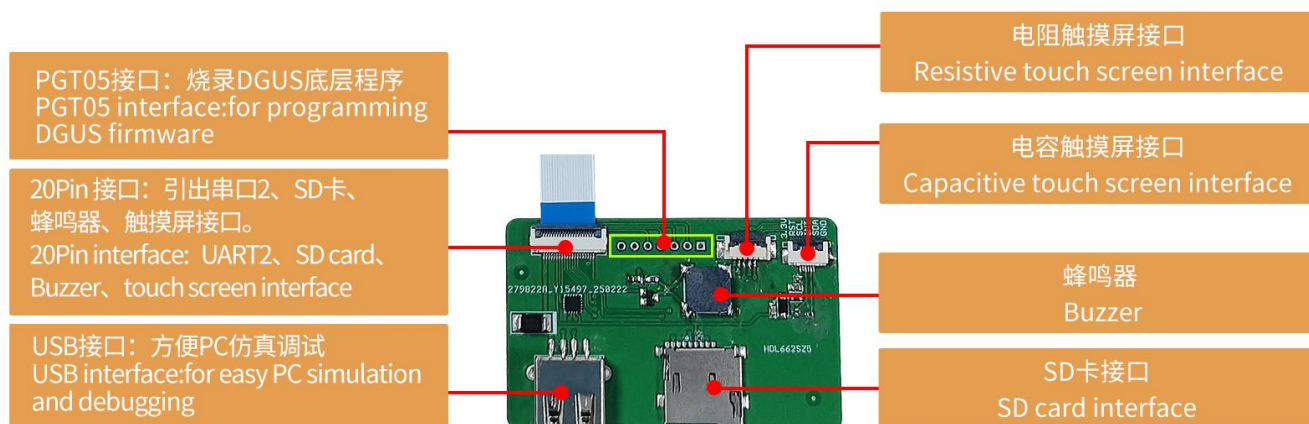
It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.

转接板型号: HDL662SZ5

Adapter board model: HDL662SZ5

连接线: FCC20_0.5 L=50mm (B03692)

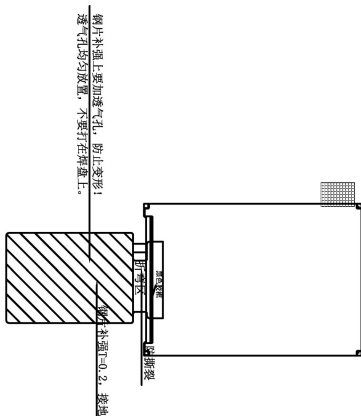
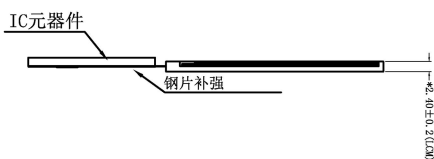
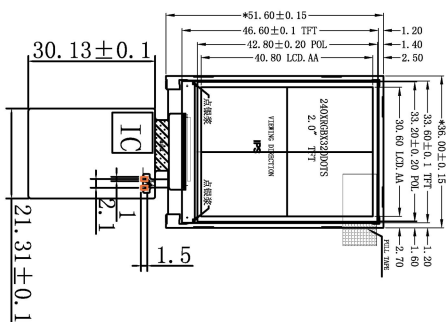
Connecting cables: FCC20_0.5 L=50mm(B03692)





5 包装和物理尺寸 Packing Capacity & Dimension

尺寸 Dimension				
外形尺寸 Dimension	36.00(W) ×51.60 (H) ×2.40(T) mm			
净重量 Net Weight	10g			
包装标准 Packing Capacity				
包装箱型号 Model	包装箱尺寸 Size	层数（层） Layer	数量/层（片） Quantity/Layer	总数量（片） Quantity(Pcs)
纸箱 Carton:	455mm(L)×290mm(W)×240mm(H)	10	10	100



座子定义

Pin#	Name
1	+5V
2	+5V
3	GND
4	GND
5	GND
6	3.3V
7	TX2
8	RX2
9	SD D0
10	SD D1
11	SD D2
12	SD D3
13	SD CLK
14	SD CMD
15	TPY1
16	TPY1
17	TPY0
18	TPX0
19	J10S
20	BZZZ

正视图

侧视图

背视图

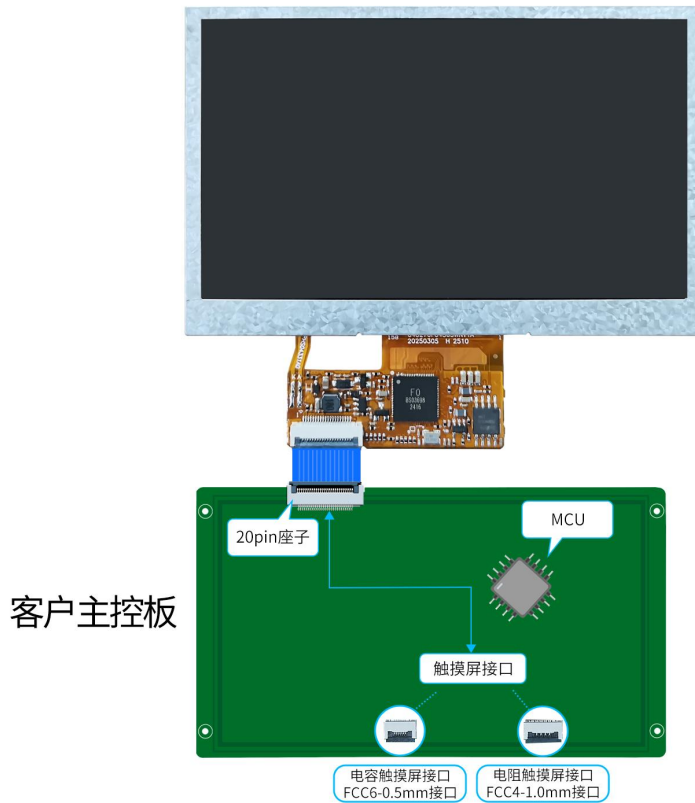
REVISION RECORD		VER	DATE	迪文科技有限公司			
1	初次发行	VI-1	20250722	FILE NAME : DMC32240R20_05MTK_程图		TOLERANCES : ±0.2	
2				CUSTOMER NAME :		ANGLES : ±0.1°	
3				DESIGN :		SCALE : 1:1	
4				DRAWN BY 覃峻然		DATE 20250722 UNIT : mm	
5				CHECKED BY		DATE	
6				APPROVED BY		DATE	
				SHEET 1/1			



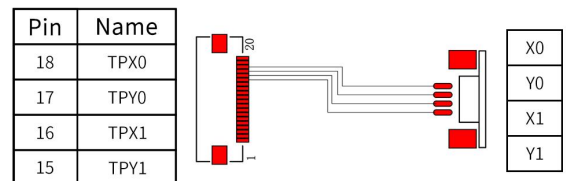
05系列COF屏触摸屏应用示意图

触摸屏接口设计

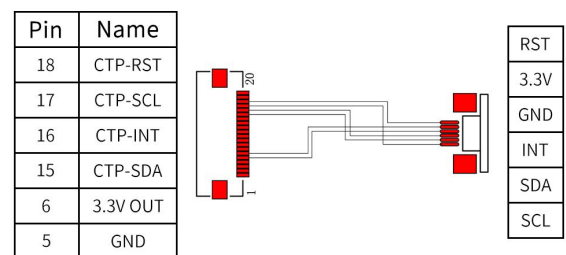
支持电阻触摸屏、电容触摸屏。触摸屏接口位置、类型、线序可以根据需求自行选择和整合，极其灵活。



RTP线路设计参考图

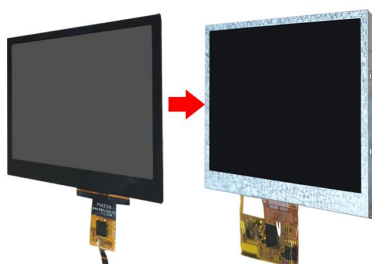
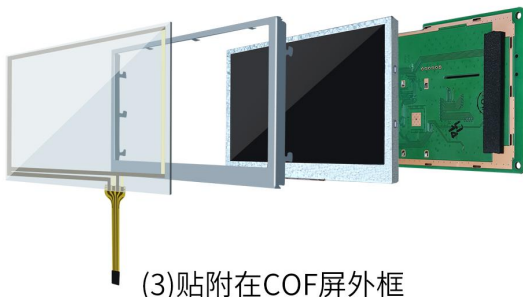


CTP线路设计参考图

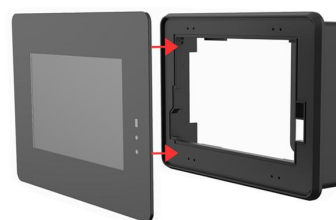


触摸屏装配方式

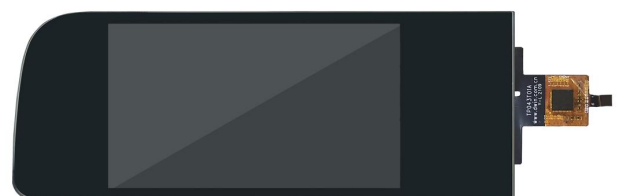
(1)采用铁框固定(推荐)



(2)贴附在机体外壳(推荐)



(4)光学胶全贴合



6 修订记录 Record of Revision

版本 Rev	日期 Date	描述 Content	编辑人 Editor
00	2025-07-29	参考版本 preliminary version	郑运佳

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迪文开发者论坛 DWIN Developer Forum: <http://inforum.dwin.com.cn:20080/forum.php>

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Thank you all for continuous support of DWIN, and your approval is the driving force of our progress!

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