DMG64360T030_01WTC

产品特点：

- **基于 T5L0 芯片，运行 DGUS II 系统，工业级产品。**
- **3.0 寸，360*640 分辨率，262K 色，IPS 屏，宽视角。**
- **电容触摸屏。**
- **带三防工艺。**

Features:

- **Based on T5L0, running DGUS II system, industrial grade.**
- **3.0-inch, 360*640 pixels resolution, 262K colors, IPS-TFT-LCD, wide viewing angel.**
- **Capacitive touch screen.**
- **With conformal coating.**



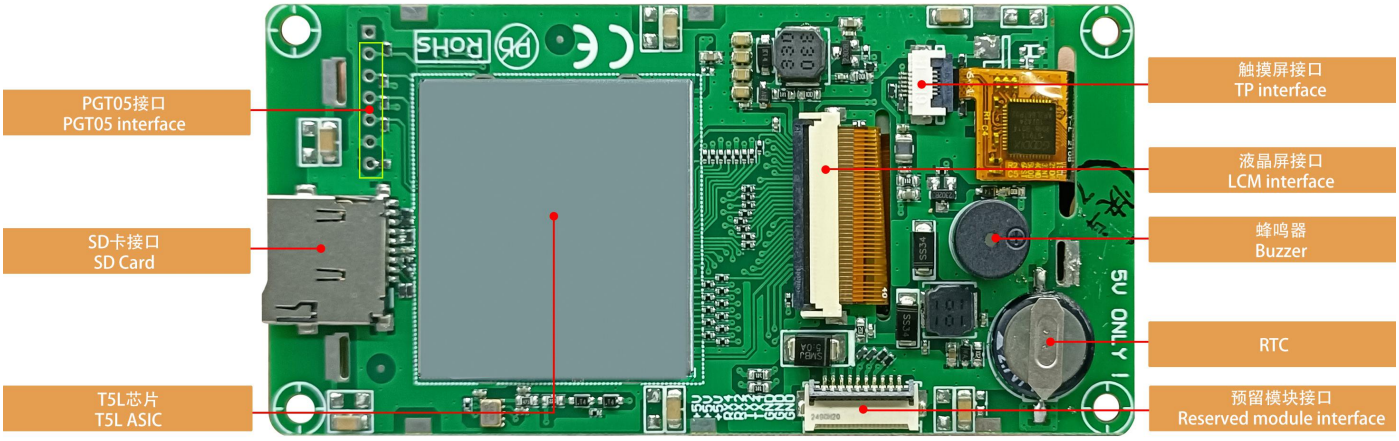
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Represented by:

first FC components
FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

1、硬件及接口 Hardware and interface

1.1 硬件接口图 Hardware interface



硬件接口图

Hardware interface

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1.2 接口说明 Interface description

序号 No.	名称 Name	说明 Description
1	T5L0 芯片 T5L0 ASIC	迪文自主研发，2020 年量产 Developed by DWIN. Mass production in 2020
2	液晶屏接口 LCM interface	FPC40_0.5mm，TTL 接口 FPC40_0.5mm, TTL interface
3	电容触摸屏接口 CTP interface	FPC6_0.5mm，IIC 接口 FPC6_0.5mm, IIC interface
4	用户接口 User interface	用于供电和串口通讯，10Pin_1.0mm 带锁扣座子。 串口下载速率（典型值）：12KByte/s 10Pin_1.0mm latching socket for power supply and serial communication. Download rate(typical value): 12KByte/s
5	Flash	16MBytes NOR Flash，存放字库、图片、音乐文件，擦写次数>100,000 次 16MBytes NOR Flash, for fonts, pictures and audio files. Rewrite cycle: over 100,000 times
6	蜂鸣器 Buzzer	3V 无源蜂鸣器，功率：<1W 3V passive buzzer. Power: <1W
7	RTC	法拉电容供电，精度：1 秒/24 小时。掉电后可维持 30 天正常工作 Super-capacitor for power supply. Accuracy: 1s/24h. It can work normally for 30 days after power failure
8	SD 卡接口 SD interface	FAT32 格式，下载文件，文件可在屏幕统计显示，下载速率：4Mb/s FAT32. Download files by SD interface can be displayed in statistics. Download rate: 4Mb/s
9	PGT05 接口 PGT05 interface	当产品因意外无法正常运行时，可通过 PGT05 更新 DGUS 底层，使产品重新恢复正常 When product crashes by accident, you can use PGT05 to update DGUS kernel and make the product return to normal

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2、规格参数 Specification parameters

2.1 显示参数 Display parameters

显示屏类型 LCD Type	IPS, TFT LCD
视角 Viewing Angle	宽视角，典型值 85°/85°/85°/85°（L/R/U/D） Wide viewing angle, 85°/85°/85°/85°（L/R/U/D）
分辨率 Resolution	360×640（支持 0°/90°/180°/270°显示模式） 360×640 pixels (support 0°/90°/180°/270°)
色彩 Color	18 位 6R6G6B 18-bit 6R6G6B
AA 区 Active Area (A.A.)	65.3mm (W)×36.7mm (H)
VA 区 View Area (V.A.)	-
背光模式 Backlight Mode	LED
背光寿命 Backlight Service Life	>30000 小时（以最高亮度连续工作，亮度减半时间） >30000 hours (Time of the brightness decaying to 50% on the condition of continuous working with the maximum brightness)
背光亮度 Brightness	280nit
背光调节 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)
注：超过 30 分钟长时间显示高对比度静止画面可能导致显示残影，请增加屏保避免该问题。 Note: Long time display of high contrast still image over 30 minutes may lead to display residual shadow, please use screen saver to avoid this problem.	

2.2 触摸参数 Touch parameters

触摸屏类型 Type	电容式触摸面板 CTP (Capacitive touch panel)
触摸屏结构 Structure	G+G 结构，表面盖板为旭硝子钢化玻璃 G+G structure with surface cover of Asahi tempered glass
触摸方式 Touch Mode	单点触摸，支持连续滑动触摸 Support point touch and drag
表面硬度 Surface Hardness	6H
透光率 Light Transmittance	90%以上 Over 90%
触控次数 Life	>1,000,000 次 Over 1,000,000 times touch

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2.3 串口参数 Serial interface parameters

串口模式 Mode	UART2: TTL/CMOS UART4: TTL/CMOS (OS 配置后才能使用 Only available after OS configuration)				
串口电平 Voltage Level	测试条件 Test Condition	最小值 Min	典型值 Typ	最大值 Max	单位 Unit
	Output 1, Iout = 1mA	3.0	3.3	-	V
	Output 0, Iout = -1mA	-	0	0.3	V
	Input 1, Iin = 1mA	2.4	3.3	5.0	V
	Input 0, Iin = -1mA	0	-	0.5	V
串口波特率 Baud Rate	3150~3225600bps，典型值：115200bps 3150~3225600bps, typical value of 115200bps				
数据格式 Data Format	UART2: N81 UART4: N81/E81/O81/N82 四种模式可选（OS 配置）4 modes (OS configuration)				
接口排线 Interface Cable	10Pin_1.0mm				

2.4 电气规格 Electrical specifications

额定功率 Rated Power	<5W	
工作电压 Operating Voltage	4.5~5.5V，典型值 5V 4.5~5.5V, typical value of 5V	
工作电流 Operating Current	-	VCC=5V，背光亮度最大 VCC=5V, max backlight
	-	VCC=5V，背光关闭 VCC=5V, backlight off
推荐工作电源：5V 1A 的直流稳压电源 Recommended power supply: 5V 1A DC		

2.5 工作环境 Operating environment

工作温度 Working Temperature	-20℃~70℃ (5V @ 60% RH)
存储温度 Storage Temperature	-30℃~80℃
三防漆工艺 Three-proof Paint	有 Yes
工作湿度 Operating Humidity	10%~90%RH，典型值 60%RH 10%~90%RH, typical value of 60% RH

仅供参考 DWIN Technologies Technical Document
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3、可靠性测试 Reliability test

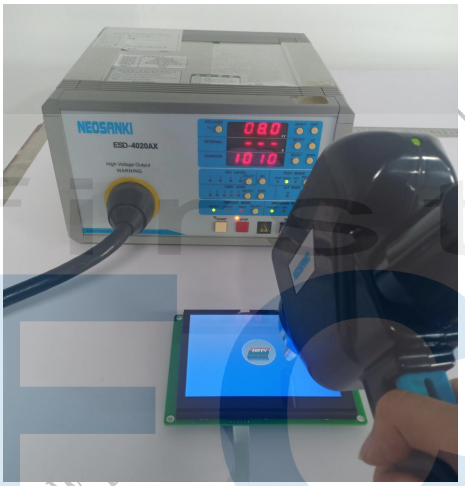
3.1 静电放电测试 Electrostatic discharge test

测试环境温度：25°C，测试环境湿度：50%RH。

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

试验过程：将产品平置于测试台上，针对串口屏铁框和显示区域依次进行接触和空气放电，如下图 3.1 所示；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。性能符合判据 GB/T 17626.2 B 级及以上。

Test process: the product was placed on the test bench to perform contact and air discharge in turn of the serial screen iron frame and display area as shown in Fig.3.1 below. During the experimental process, it was observed whether the screen is dead, black, white, splash, or reboot. According to the experiment results, the performance is in line with the criteria GB/T 17626.2 B level and above.



3.1 静电放电测试图

Electrostatic discharge test

放电类型 Discharge Type	放电值 Discharge Value	结果 Result
接触放电 Contact discharge	±6KV	正常工作 Normal operation
空气放电 Air discharge	±8KV	正常工作 Normal operation

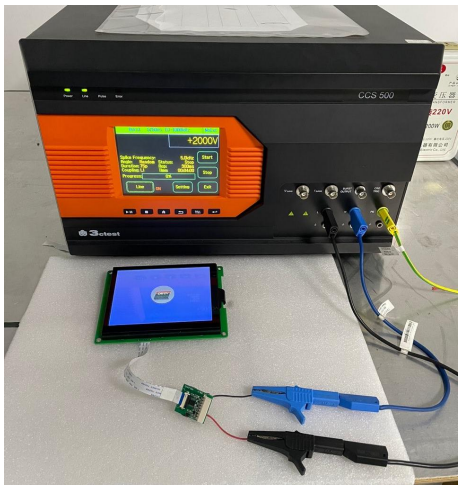
3.2 电快速瞬变脉冲群 EFT 测试 EFT test

测试环境温度：25°C，测试环境湿度：50%RH。

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

试验过程：将产品平置于测试台上，通过脉冲群发生仪耦合脉冲群后的电源对智能屏进行供电如下图 3.2 所示；实验过程观察屏幕是否出现复位重启、异常显示、触摸异常等现象，性能符合 GB/T 17626.4 B 级及以上。

Test process: the product was placed on the test bench to perform contact and the smart screen is energized by the power supply coupled with a EFT generator as shown in Fig. 3.2 below. During the experimental process, it was observed whether abnormal reset, display or touch phenomena occurs. According to the experiment results, the performance is in line with the criteria GB/T 17626.2 B level and above.

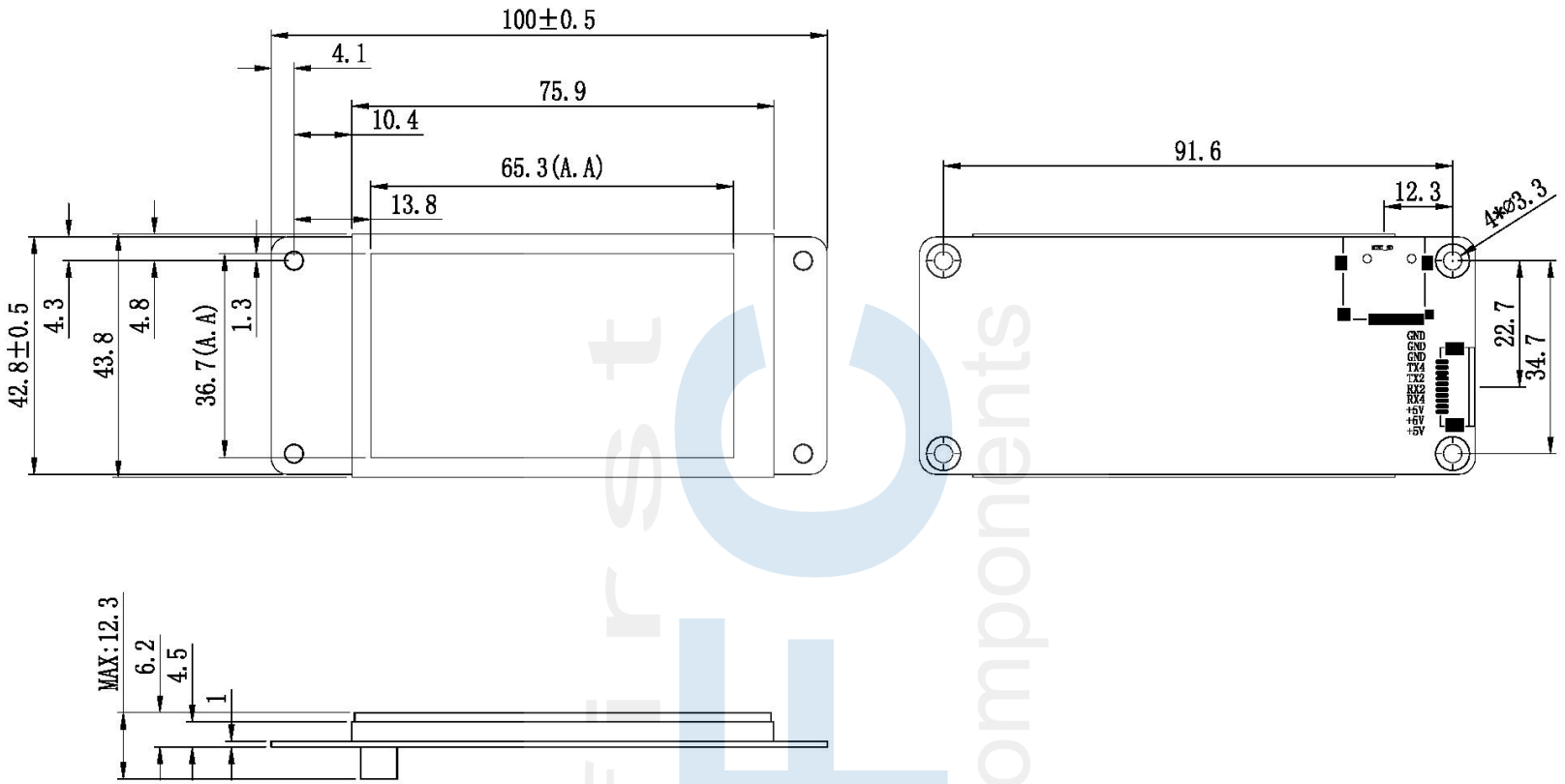


3.2 群脉冲测试图

EFT test

测试项目 Test Item	测试标准 Test Standard	结果 Result
电源端口 Power supply	±2KV;100KHz	正常工作 Normal operation

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定义 Definition	序号 Pin#	类型 Type	说明 Description
GND	1,2,3	P	公共接地 GND
TX4	4	O	串口4输出 Output
TX2	5	O	串口2输出 Output
RX2	6	I	串口2输入 Input
RX4	7	I	串口4输入 Input
+5V	8,9,10	P	电源输入 Power Input

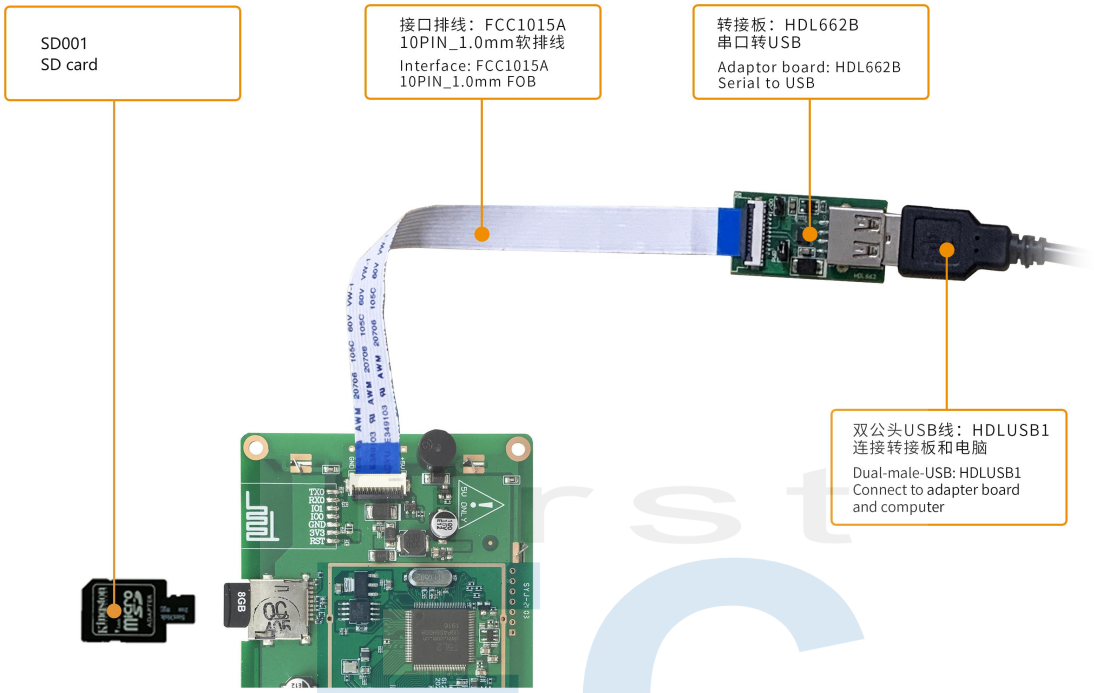
1.尺寸定位基准为定位孔
Location hole is used as position reference.
2.未标注公差为+/-0.3mm
Unmarked Tolerance is +/-0.3mm
注：虚线标注为有效显示区域
Active area is marked in Dash lines

型号 Model	DMG64360T030-01WTC					迪文科技 DWIN Technologies
图纸 Drawing	A 4	绘制 Drawn	T.B	日期 Date	21.10.19	
比例 Scale	1:1	审核 Review		日期 Date		
单位 Unit	MM	批准 Approval		日期 Date		

4、调试工具 Debugging tools

建议首次使用迪文智能屏的用户购买标准配件。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.



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5、修订记录 Revision records

版本 Rev	日期 Revise Date	描述 Content	编辑人 Editor
00	2021-09-25	首次发布 First Edition	郑运佳

first FC components
+39 0332 1888005
+39 0332 320856
info@first-components.com
Via 2 Giugno, 20 – 21022 Azzate (VA) Italy
VAT number IT02764420127
REA Varese 285686
Social capital fully paid 100.000€
like to
迪文科技 技术文档 DWIN Technology