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# DMG10768K104_03WTC

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**产品特点：**

- **基于 T5L2 芯片，运行 DGUS II 系统，医用级产品。**
- **10.4 英寸，1024*768 分辨率，16.7M 色，IPS 屏，宽视角。**
- **支持 RS232 与 RS485 通信。**
- **电容触摸屏。**
- **带三防工艺。**

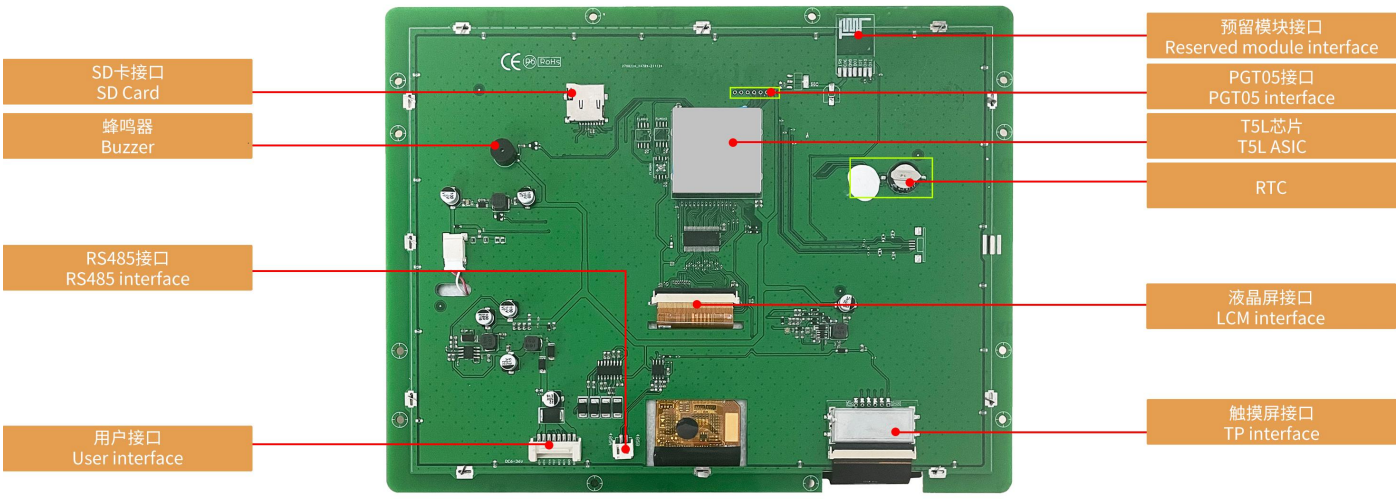
**Features:**

- **Based on T5L2, running DGUS II system, medical grade products.**
- **10.4-inch, 1024*768 pixels resolution, 16.7M colors, IPS-TFT-LCD, wide viewing angle.**
- **Support RS232 and RS485 communication.**
- **Capacitive touch screen.**
- **With conformal coating.**



# 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 硬件及接口说明 Hardware and interface description

| 序号<br>No. | 名称<br>Name | 说明<br>Description |
|---|---|---|
| 1 | T5L2 芯片<br>T5L2 ASIC | 迪文自主研发，2019 年量产，1MBytes 片内 Nor Flash，其中 512KBytes 用于存储用户数据库，擦写次数>100,000 次<br>Developed by DWIN. Mass production in 2019,1MBytes Nor Flash on the chip, 512KBytes used to store the user database. Rewrite cycle: over 100,000 times |
| 2 | 液晶屏接口<br>LCM interface | FPC60_0.5mm，LVDS 接口<br>FPC60_0.5mm, LVDS interface |
| 3 | 电容触摸屏接口<br>CTP interface | COB 结构，IIC 接口<br>COB structure, IIC interface |
| 4 | 用户接口<br>User interface | 用于供电和串口通讯，8Pin_2.0mm 座子。串口下载速率（典型值）：12KByte/s<br>8Pin_2.0mm socket for power supply and serial communication.<br>Download rate(typical value): 12KByte/s |
| 5 | RS485 接口<br>RS485 interface | 2Pin_2.0mm 卧式座子：用于 RS485 通讯<br>2Pin_ 2.0mm horizontal socket: For RS485 communication |
| 6 | Flash | 16MBytes NOR Flash，存放字库、图片、音乐文件，擦写次数>100,000 次<br>16MBytes NOR Flash, for fonts, pictures and audio files.<br>Rewrite cycle: over 100,000 times |
| 7 | 扩展 Flash 接口<br>Expand Flash | 可以扩展到 64Mbytes NOR Flash 或 48Mbytes NOR Flash+512Mbytes NAND Flash<br>Expandable to 64Mbytes NOR Flash or 48Mbytes NOR Flash+512Mbytes NAND Flash |
| 8 | 蜂鸣器<br>Buzzer | 3V 无源蜂鸣器，功率：<1W<br>3V passive buzzer. Power: <1W |
| 9 | RTC | 法拉电容供电，精度：±20ppm @25℃。掉电后可维持 7 天正常工作<br>Super-capacitor for power supply. Accuracy: ±20ppm @25℃. It can work normally for 7 days after power failure |
| 10 | SD 卡接口<br>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<br>FAT32. Download files by SD interface can be displayed in statistics.<br>Download rate: 4Mb/s |
| 11 | 预留模块接口<br>Reserved module interface | WIFI 模块：焊接 WIFI-10 模块，可连接到云平台实现远程更新<br>USB 模块：焊接 USB 模块，可通过 U 盘下载文件<br>Wi-Fi module: connect to the cloud platform to update remotely<br>USB module: download files by USB flash disk |
| 12 | PGT05 接口<br>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<br>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<br>**LCD Type** | IPS, TFT LCD |
| 视角<br>**Viewing Angle** | 宽视角，典型值 85°/85°/85°/85°（L/R/U/D）<br>Wide viewing angle, 85°/85°/85°/85°(L/R/U/D) |
| 分辨率<br>**Resolution** | 1024×768（支持 0°/90°/180°/270°显示模式）<br>1024×768 pixels (support 0°/90°/180°/270°) |
| 色彩<br>**Color** | 24 位 8R8G8B<br>24-bit 8R8G8B |
| AA 区<br>**Active Area (A.A.)** | 211.20mm (W)×158.40mm (H) |
| VA 区<br>**View Area (V.A.)** | 211.20mm (W)×158.40mm (H) |
| 背光模式<br>**Backlight Mode** | LED |
| 背光寿命<br>**Backlight Service Life** | >30000 小时（以最高亮度连续工作，亮度减半时间）<br>>30000 hours (Time of the brightness decaying to 50% on the condition of continuous working with the maximum brightness) |
| 背光亮度<br>**Brightness** | 250nit |
| 背光调节<br>**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）<br>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：长时间固定画面显示可能导致屏幕残影，可以用动态图片切换做屏保解决。<br>Note: You can use dynamic screen saver wallpapers to avoid afterimages caused by fixed page display for a long time. | |

### 2.2 触摸参数 Touch parameters

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

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## 2.3 串口参数 Serial interface parameters

| | | | | | |
|---|---|---|---|---|---|
| **串口模式**<br>**Mode** | UART2: RS232<br>UART4: RS232（OS 配置后才能使用 Only available after OS configuration)<br>UART5: RS485（OS 配置后才能使用 Only available after OS configuration) | | | | |
| **串口 2、4 电平**<br>**Voltage Level** | 测试条件<br>Test Condition | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
| | Output 1 | - | -5.0 | -3.0 | V |
| | Output 0 | 3.0 | 5.0 | - | V |
| | Input 1 | -15.0 | -5.0 | - | V |
| | Input 0 | - | 5.0 | 15.0 | V |
| **串口 2、4 波特率**<br>**Baud Rate** | 3150~3225600bps，典型值：115200bps<br>3150~3225600bps, typical value of 115200bps | | | | |
| **串口 5 电平**<br>**Voltage Level** | 测试条件<br>Test Condition | 最小值<br>Min | 典型值<br>Typ | 最大值<br>Max | 单位<br>Unit |
| | Output 1 | 2.5 | 5.0 | - | V |
| | Output 0 | - | -5.0 | -2.5 | V |
| | Input 1 | 0 | 2.5 | - | V |
| | Input 0 | - | -2.5 | -0.2 | V |
| **串口 5 波特率**<br>**Baud Rate** | 3150~921600bps，典型值：115200bps<br>3150~921600bps, typical value of 115200bps | | | | |
| **数据格式**<br>**Data Format** | UART2: N81<br>UART4: N81/E81/O81/N82 四种模式可选（OS 配置）4 modes (OS configuration)<br>UART5: N81/E81/O81/N82 四种模式可选（OS 配置）4 modes (OS configuration) | | | | |
| **接口排线**<br>**Interface Cable** | 8Pin_2.0mm (RS232)<br>2Pin_2.0mm (RS485) | | | | |

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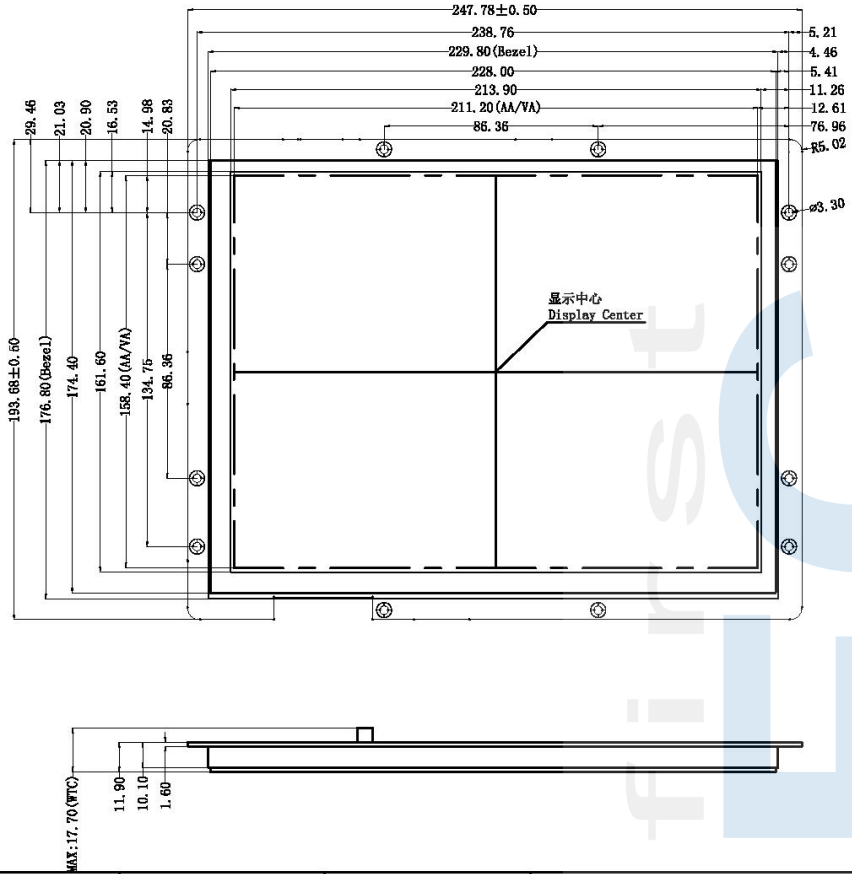
## 2.4 电气规格 Electrical specifications

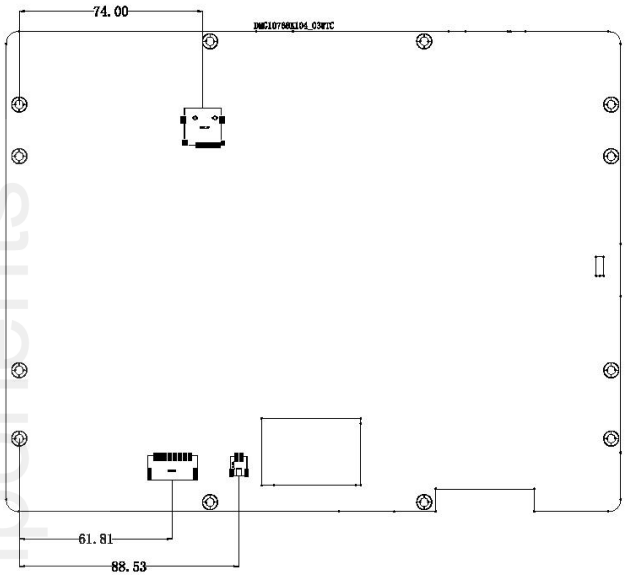
| | | |
|---|---|---|
| **额定功率<br>Rated Power** | <10W | |
| **工作电压<br>Operating Voltage** | 7~30V，典型值 12V<br>7~30V, typical value of 12V | |
| **工作电流<br>Operating Current** | 460mA | VCC=12V，背光亮度最大<br>VCC=12V, max backlight |
| | 150mA | VCC=12V，背光关闭<br>VCC=12V, backlight off |
| **推荐工作电源：12V 1A 的直流稳压电源<br>Recommended power supply: 12V 1A DC** | | |

## 2.5 工作环境 Operating environment

| | |
|---|---|
| **工作温度<br>Operating Temperature** | -20℃~70℃（12V @ 60% RH) |
| **存储温度<br>Storage Temperature** | -30℃~80℃ |
| **工作湿度<br>Operating Humidity** | 10%~90%RH，典型值 60%RH<br>10%~90%RH, typical value of 60% RH |
| **三防漆工艺<br>Conformal coating** | 有<br>Yes |
| **出厂前老化时间<br>Aging Test** | 72 小时 50℃环境高温带电老化<br>72 hours high temperature charged aging at 50℃ |

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

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 | DMG10768K104-03WTC | | | | | 迪文科技 DWIN Technologies |
| 图纸 Drawing | A4 | 绘制 Drawn | G.Y | 日期 Date | 2022.01.06 | |
| 比例 Scale | 1:1 | 审核 Review | | 日期 Date | | |
| 单位 Unit | MM | 批准 Approval | | 日期 Date | | |

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