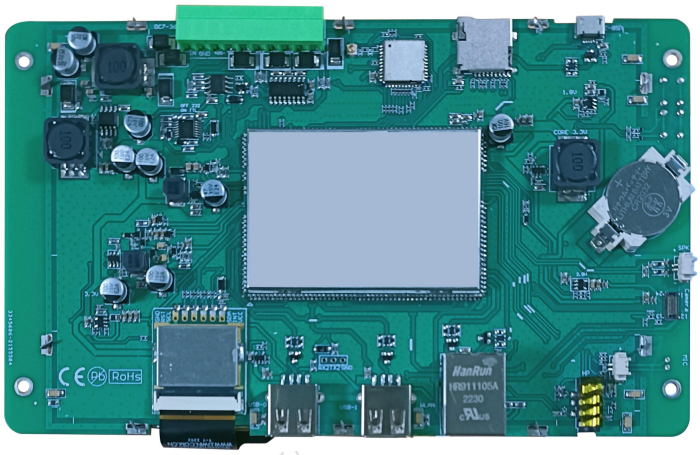
# DMG12800T070_40WTC



DWIN Technology

## System Hardware

| Properties | Parameters |
|---|---|
| **Motherboard level** | Industrial-grade |
| **CPU** | RK3566, Quad-core ARM Cortex-A55, 1.8GHz Processor |
| **OS** | Linux 4.19 |
| **Storage** | 8Gbytes eMMC |
| **RAM** | 2Gbytes LPDDR4 |

## Display Parameters

| Properties | Parameters | Description |
|---|---|---|
| **Size** | 7.0 inch | - |
| **LCD Type** | IPS, TFT LCD | - |
| **Viewing Angle** | 85° /85° /85° /85° | Wide viewing angle, high contrast, and good color reproduction |
| **Active Area (AA)** | 149.76mm(W)x93.60mm(H) | - |
| **Viewing Area(VA)** | 150.76mm(W)x94.60mm(H) | - |
| **Resolution** | 1280x800 | - |
| **Backlight Service Life** | >20000 Hrs | Backlight service life refers to the period the LED backlight operates under test conditions until brightness decreases to 50% of the initial level |
| **Brightness** | 250nit | 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. | | |

## Touch Parameter

| Properties | Parameters |
|---|---|
| **Touch Type** | Capacitive touch panel |
| **Structure** | G+G structure with tempered glass surface |

## Power Supply

| Properties | Min | Typ | Max | Unit |
|---|---|---|---|---|
| **Power Voltage** | 9.0 | 12.0 | 36.0 | V |
| Recommended power supply:12V 1A DC. | | | | |

## Environment & Reliability Test

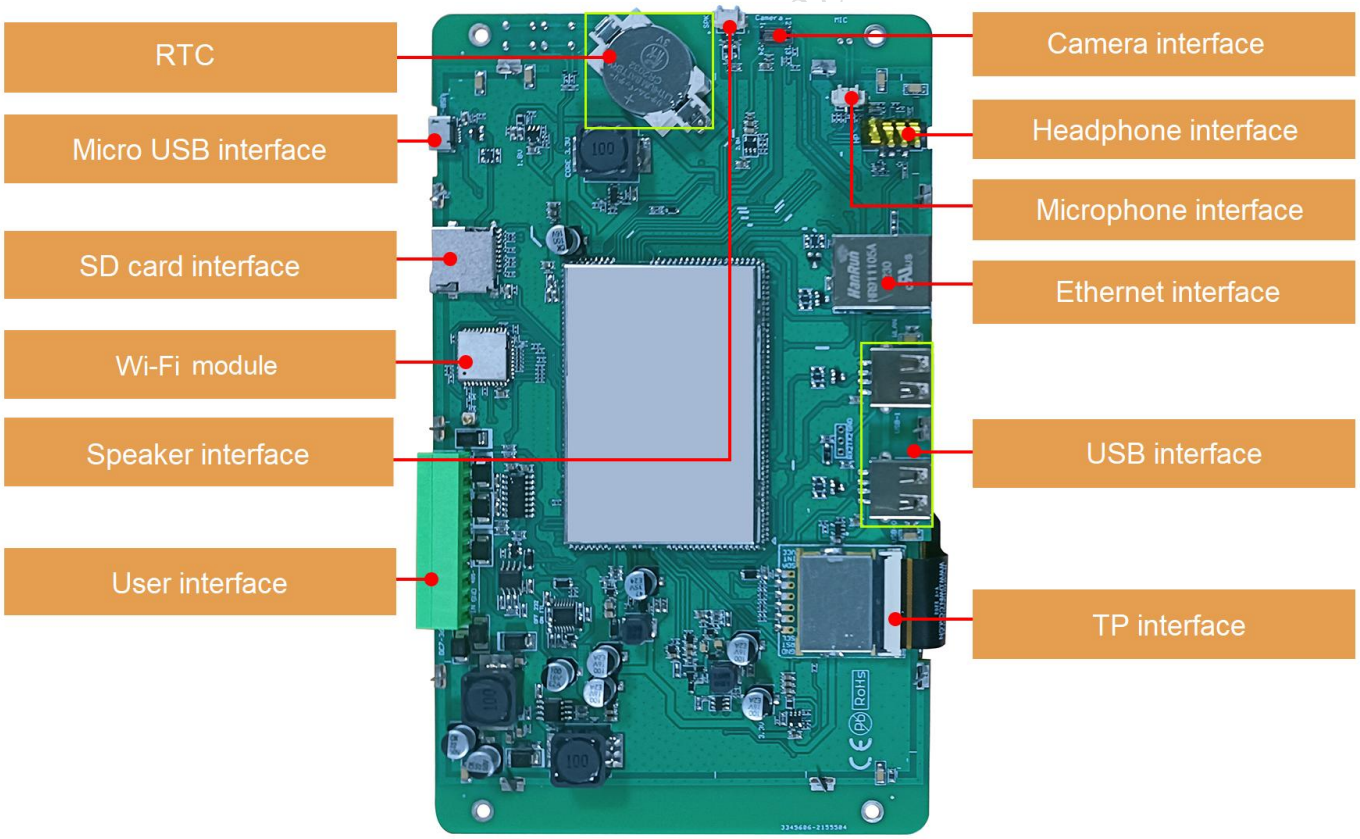
| Properties | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|
| **Working Temperature** | 60%RH at 12V voltage | -20 | 25 | 65 | ℃ |
| **Storage Temperature** | - | -30 | 25 | 80 | ℃ |
| **Working Humidity** | 25℃ | 10% | 60% | 90% | RH |
| **Conformal Coating** | Y | | | | |
| **ESD** | Air: ±8KV; Contact: ±6KV | | | | |
| **EFT** | ±2KV | | | | |
| **CE Certification** | Y | | | | |
| Additional cooling required for operation above 65℃. | | | | | |

DWIN Technology Document

## Peripherals and Interfaces

| Properties | Description |
|---|---|
| **User Interface** | 10Pin_3.81mm Horizontal socket |
| **COM** | RS232*2(COM5 & COM9), RS485*1, RS232/TTL*1(COM0, RS232 default) |
| **Ethernet** | 10/100Mbps |
| **USB** | USB 2.0*2(HOST), Micro USB*1(OTG) |
| **SD Card** | Max 64G |
| **RTC** | Accuracy: ±20ppm @25℃ |
| **Speaker** | 2Pin_1.25mm interface*1 |
| **Microphone** | 2Pin_1.25mm interface*1 |
| **Headphone** | 3.5mm spacing interface*1 |
| **Camera** | MIPI interface |
| **Wi-Fi** | IEEE 802.11Bb/g/n, 2.4GHz, Wi-Fi 4 |
| **Bluetooth Version** | BT4.2 |

Technical Document



## Development Platform

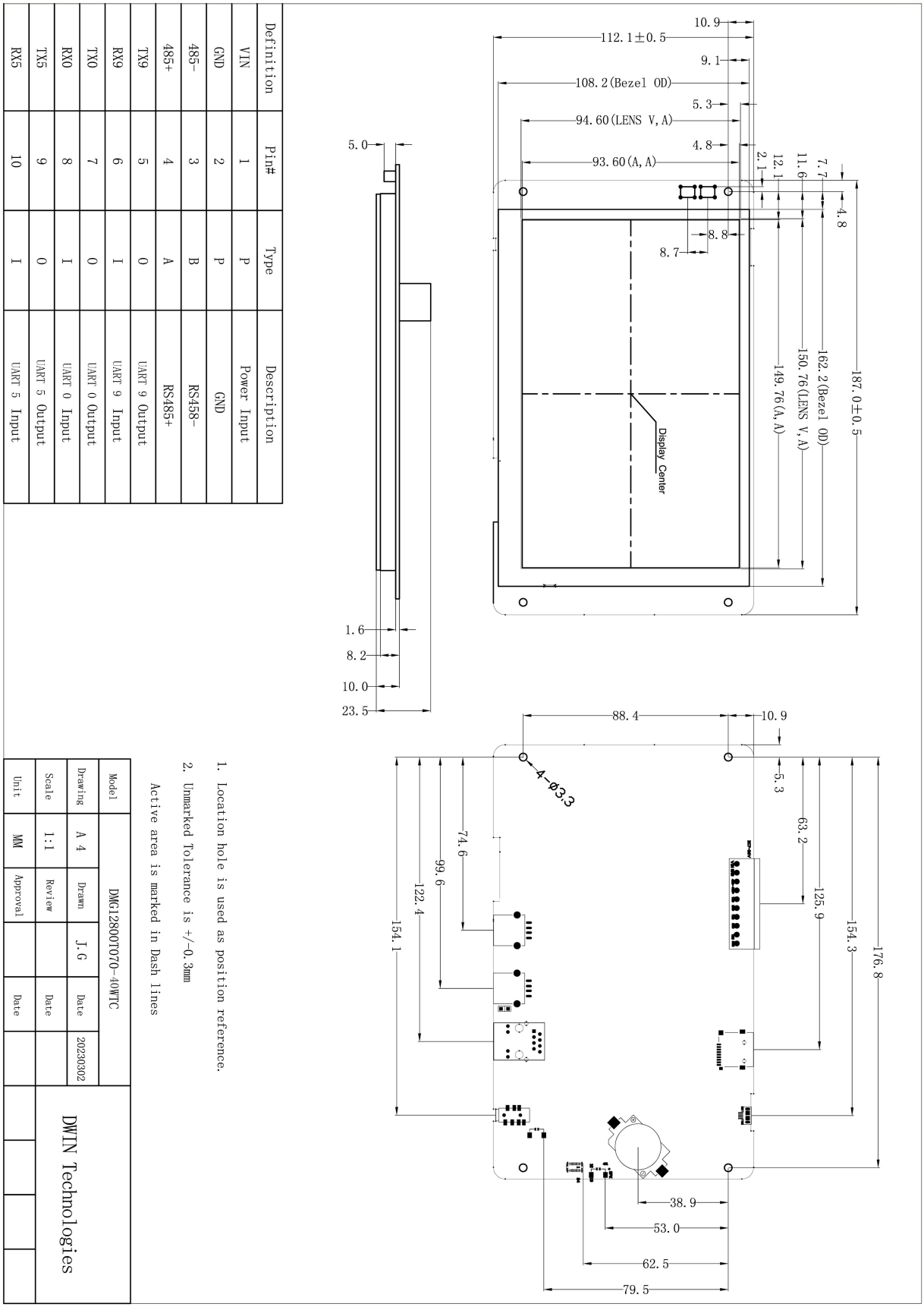
| Development | |
|---|---|
| **Linux** | QTCreator2.7.2 and above |

## Packing Capacity & Dimension

| Dimension | | | | |
|---|---|---|---|---|
| **Dimension** | 187.0(W)*112.1(H)*23.5(T)mm | | | |
| **Net Weight** | 310g | | | |
| **Packing Capacity** | | | | |
| **Model** | **Size** | **Layer** | **Quantity/Layer** | **Quantity(Pcs)** |
| **Carton1:** | 220mm(L)*160mm(W)*47mm (H) | - | - | - |
| **Carton2:** | 250mm(L)*200mm(W)*80mm (H) | 2 | 1 | 2 |
| **Carton3:** | 320mm(L)*270mm(W)*80mm (H) | 2 | 2 | 4 |
| **Carton4:** | 450mm(L)*350mm(W)*300mm(H) | 1 | 20 | 20 |
| **Carton5:** | 600mm(L)*450mm(W)*300mm(H) | 1 | 34 | 34 |

DWIN Technology Technical Document

| Definition | Pin# | Type | Description |
|---|---|---|---|
| VIN | 1 | P | Power Input |
| GND | 2 | P | GND |
| 485- | 3 | B | RS458- |
| 485+ | 4 | A | RS485+ |
| TX9 | 5 | O | UART 9 Output |
| RX9 | 6 | I | UART 9 Input |
| TX0 | 7 | O | UART 0 Output |
| RX0 | 8 | I | UART 0 Input |
| TX5 | 9 | O | UART 5 Output |
| RX5 | 10 | I | UART 5 Input |




1. Location hole is used as position reference.
2. Unmarked Tolerance is +/-0.3mm

Active area is marked in Dash lines

| | | | | | |
|---|---|---|---|---|---|
| Model | DMG12800T070-40WTC | | | | |
| Drawing | A 4 | Drawn | J.G | Date | 20230302 |
| Scale | 1:1 | Review | | Date | |
| Unit | MM | Approval | | Date | |
| DWIN Technologies | | | | | |

## Revision Records

| Rev. | Revise Date | Content | Editor |
|---|---|---|---|
| 00 | 2023-03-14 | First edition | YML |
| 01 | 2025-01-03 | Modify the voltage value range, add development | Chen |
| 02 | 2025-01-07 | Modify values of working & storage temperature | Chen |
| 03 | 2025-03-13 | Add the description of Bluetooth | Chen |
| 04 | 2025-06-17 | Update the rang of temperature & Update the description of Wi-Fi module | Chen |

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:

Customer service Tel: +86-400-018-9008

Customer service E-mail: dwinhmi@dwin.com.cn

Website: www.dwin-global.com

DWIN Developer Forum: https://forums.dwin-global.com/index.php/forums

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

DWIN Technology Technical Document

## Important Disclaimer

DWIN reserves the right to make any changes to product designs without prior notice.

Customers should ensure strictly adhering to all the relevant standards and requirements during the product application process, including but not limited to functional safety, information security, and regulatory provisions.

DWIN shall not bear any joint and several liability for any consequences that may arise from customers' adoption of DWIN products. In particular, for risks that may lead to significant property losses, environmental hazards, personal injury, or even death, especially in high-risk application areas such as military applications, flammable and explosive places, and life-saving medical equipment, customers should independently assess the risks and take corresponding preventive and protective measures. DWIN shall not bear any relevant responsibility.

DWIN Technology Technical Document