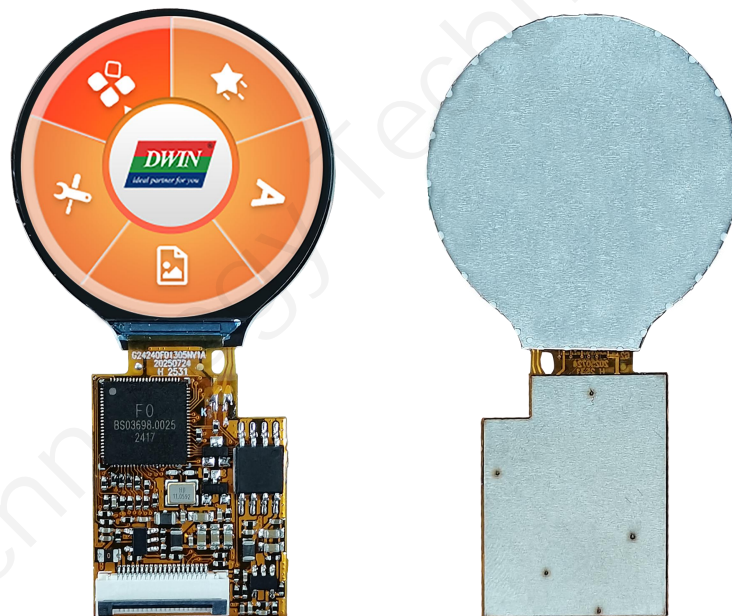


DMG24240F013_05WN

Features:

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



1. External interface



User interface

| PIN# | Definition1 | Function1 | Definition2 | Function2 |
|------|-------------|--|-------------|--|
| 1 | VIN | Power supply, DC4.5-5.5V. IO are all at 3.3V CMOS level. | | |
| 2 | VIN | | | |
| 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 | CIP_SDA | 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 | 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 | 8M Bytes |
| UI Version | DGUS II |
| Debugging Tools | HDL662SZ5 adapter board power supply |
| Size | 1.30 inch |
| Resolution | 240*240 |
| Active Area (AA) | Diameter=32.40mm |
| Viewing Angle | Wide viewing angle (85°/85°/85°/85° typical), high contrast, and good color reproduction. |
| Backlight Service Life | >20,000 hours |
| Brightness | 250nit |
| 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 | 102mA | VCC=5V, max backlight. |
| | 40mA | VCC=5V, backlight off. |
| 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.

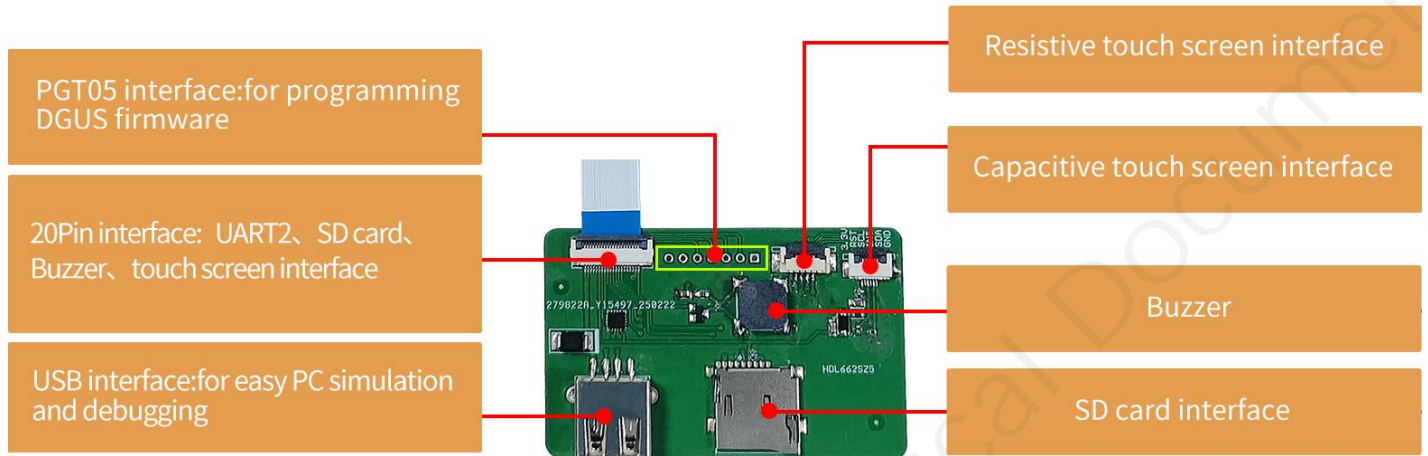
| Discharge Type | Discharge Value | Result |
|----------------|-----------------|------------------|
| Air discharge | ±8KV | Normal operation |

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)



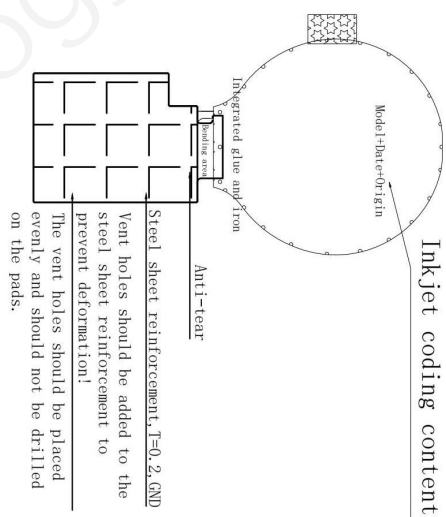
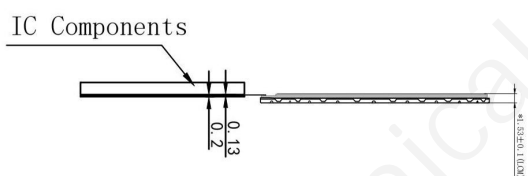
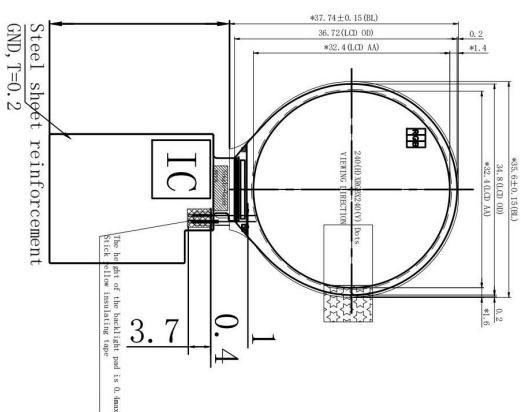
5. Packing capacity & dimension

| Dimension | | | | |
|------------------|--------------------------------|-------|----------------|---------------|
| Dimension | 35.60(W) ×37.74(H) ×1.53(T) mm | | | |
| Net Weight | 5g | | | |
| Packing Capacity | | | | |
| Model | Dimensions | 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: | 455mm(L)×290mm(W)×240mm(H) | - | - | - |


Front view

Side view

Back view



| 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 | TPX1 |
| 17 | TPY0 |
| 18 | TPX0 |
| 19 | J10S |
| 20 | BUZZ |

| REVISION RECORD | | | DWIN Technology | | |
|-----------------|---------------|------|-----------------|-------------------------------|---|
| REVISION | RECORD | VER | DATE | | |
| 1 | First Edition | VI-1 | 20250902 | FILE NAME : DMG24240FO13.05MM | TOLERANCES : $\pm 0.1^{\circ}$ |
| 2 | | | | CUSTOMER NAME : SENSOR: | ANGLES : $\pm 0.1^{\circ}$ |
| 3 | | | | DESIGN : RELEASE: VI-1 | SCALE : 1:1 |
| 4 | | | | DRAWN BY DATE 20250902 | UNIT : mm |
| 5 | | | | CHECKED BY DATE | PRO. (3)  |
| 6 | | | | APPROVED BY DATE | SHEET : 1/1 |

6. Revision records

| Rev | Revise Date | Content | Editor |
|-----|-------------|---------------|---------|
| 00 | 2025-09-11 | 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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- DWIN Developer Forum: <https://forums.dwin-global.com/>

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

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