

## DWIN T5F0 Low Cost TFT LCD Display



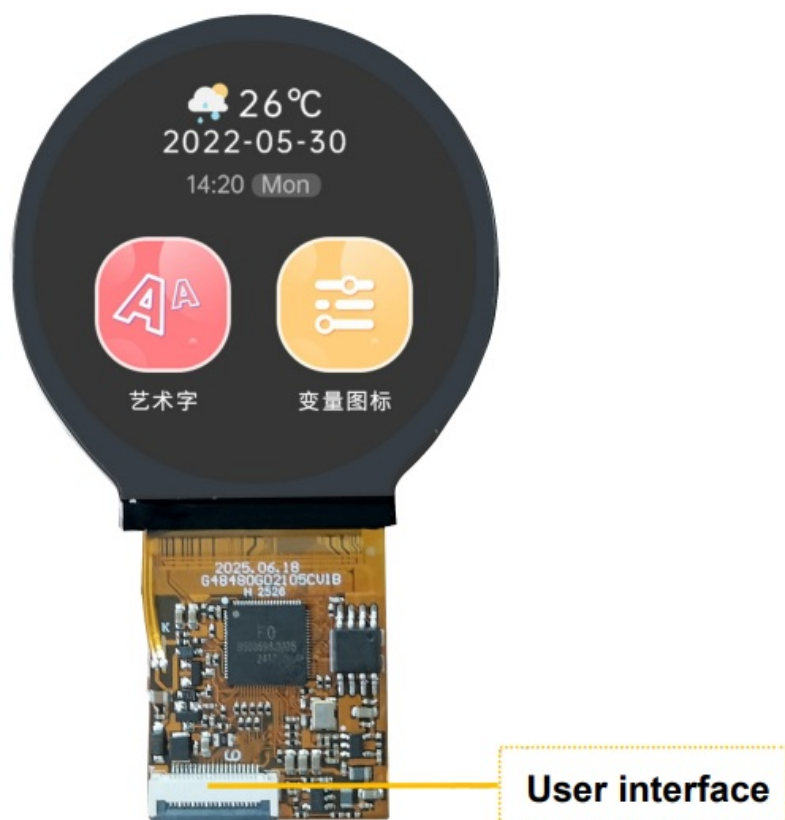
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## Features

- Powered by T5F0 ASIC, running DGUS II HMI platform.
- 2.1-inch, 480\*480 resolution, IPS-TFT LCD, Circular LCD screen.
- 20 pins, including UART2, SD card, Buzzer, touch panel interface.
- Supporting connected to 4-wire RTP, CTP, buzzer or speaker.

## External Interface



| PIN # | Definitio n1 | Function1                                                  | Definitio n2 | Function2 |
|-------|--------------|------------------------------------------------------------|--------------|-----------|
| 1     | +5V          | Power supply, DC4.5-5.5V. I O are all at 3.3 V CMOS level. |              |           |
| 2     | +5V          |                                                            |              |           |
| 3     | GND          | GND                                                        |              |           |
| 4     | GND          |                                                            |              |           |

|    |        |                                             |         |                                                                                                                                               |
|----|--------|---------------------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 5  | GND    |                                             |         |                                                                                                                                               |
| 6  | 3.3V   | 3.3V output, maximum load of 100mA.         |         |                                                                                                                                               |
| 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 | TPY1   | 4-wire resistive touch screen interface     | 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 | TPX1   |                                             | CTP_INT |                                                                                                                                               |
| 17 | TPY0   |                                             | CTP_SCL |                                                                                                                                               |
| 18 | TPX0   |                                             | CTP_RST |                                                                                                                                               |
| 19 | JIOS   | JTAG/IO choose                              |         |                                                                                                                                               |
| 20 | BUZZ   | Buzzer drives output                        | D/A     | Audio PWMDA output                                                                                                                            |

## Specification Parameters

### Product Parameters

|                                                                                                 |                                                                                                                            |
|-------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| Main Chip                                                                                       | T5F0                                                                                                                       |
| User Interface                                                                                  | 20Pin_0.5mm FCC                                                                                                            |
| FLASH                                                                                           | 16MB                                                                                                                       |
| UI Version                                                                                      | DGUS II                                                                                                                    |
| Power Supply                                                                                    | HDL662SZ5 adapter board power supply                                                                                       |
| Dimensions                                                                                      | 2.1-inch                                                                                                                   |
| Resolution                                                                                      | 480 *480                                                                                                                   |
| Active Area (AA)                                                                                | Diameter = 53.28mm                                                                                                         |
| Viewing Angle                                                                                   | Wide viewing angle (85°/85°/85°/85° typical), high contrast, and good color reproduction.                                  |
| Backlight Service Life                                                                          | >10,000H                                                                                                                   |
| Brightness                                                                                      | 300nit                                                                                                                     |
| Brightness Control                                                                              | 100- level brightness adjustment (Flickering may occur at 1%-30% of max brightness; not recommended for use in this range) |
| <b>Note:</b> Use dynamic screen saver to prevent afterimages from prolonged fixed page display. |                                                                                                                            |

### 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                        |      |        |         |     |

## Electrical specifications

|                                     |                                |
|-------------------------------------|--------------------------------|
| Rated Power                         | <2W                            |
| Operating Voltage                   | 4.5~5.5V, typical value of 5V. |
| Operating Current                   | 180mA@ 5V                      |
| Recommended power supply: 5V 1A DC. |                                |

## Operating Environment

|                       |                                                 |
|-----------------------|-------------------------------------------------|
| Operating Temperature | -10 <sup>^</sup> C sim 60 deg * C (5V @ 60% RH) |
| Storage Temperature   | -20 <sup>^</sup> C sim 70 deg * C               |
| Operating Humidity    | 10%~90%RH, typical value of 60% RH.             |

## ESD Test

**Test temperature:** 25°C. **Test humidity:**

**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 |

Debug

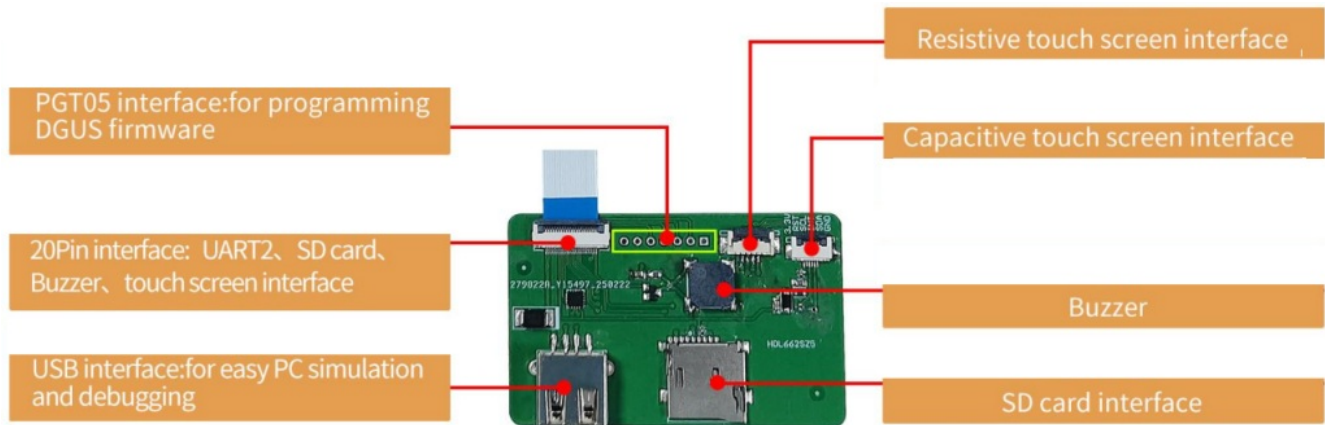
It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.

HDL662SZ5

**Adapter board model:** HDL662SZ5

FCC20\_0.5 L=50mm (B03692)

**Connecting cables:** FCC20\_0.5 L=50mm (B03692)



Packing Capacity & Dimension

| Dimension  |                                  |
|------------|----------------------------------|
| Dimension  | 56.18(W) ×59.71 (H) ×3.56 (T) mm |
| Net Weight | 15g                              |

| Packing Capacity |                            |       |                |               |
|------------------|----------------------------|-------|----------------|---------------|
| Model            | Size                       | Layer | Quantity/Layer | Quantity(Pcs) |
| Carton           | 415mm(L)×315mm(W)×165mm(H) | 10    | 8              | 80            |



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:

QQ Customer service QQ: 400 018 9008



## Customer Support

**We Com**

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**Customer service email:** [dwinhmi@dwin.com.cn](mailto:dwinhmi@dwin.com.cn)

**DWIN Developer Forum:** <http://inforum.dwin.com.cn:20080/forum.php>

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



## Documents / Resources

|  |                                                                                                                                                                                                                        |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p><a href="#">DWIN T5F0 Low Cost TFT LCD Display [pdf]</a> Owner's Manual</p> <p>DMG48480F021_05WN, DMT80600C080_01W, T5F0 Low Cost TFT LCD Display, T5F0, Low Cost TFT LCD Display, TFT LCD Display, LCD Display</p> |
|--|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## References

- [User Manual](#)

📁 DWIN

📄 DMG48480F021\_05WN, DMT80600C080\_01W, DWIN, LCD Display, Low Cost TFT LCD Display, T5F0, T5F0 Low Cost TFT LCD Display, TFT LCD Display

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