

上海冠显光电科技有限公司

Shanghai Top Display Optoelectronics Co., LTD

MODEL : TY101WXT02CF

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1. Hardware Introduction

This chapter mainly introduces the product appearance diagram, hardware configuration diagram and tools required for debugging.

1.1. Product Appearance

The following is the appearance of the product corresponding to this model (hardware interfaces, etc., vary according to the specific model of backplane components), as shown in Figure 1.1-1

Note: There is no key structural process modification or major layout adjustment, only changes in product process or reliability. The company will not initiate changes to the outside product appearance. The specific items are subject to the received goods.

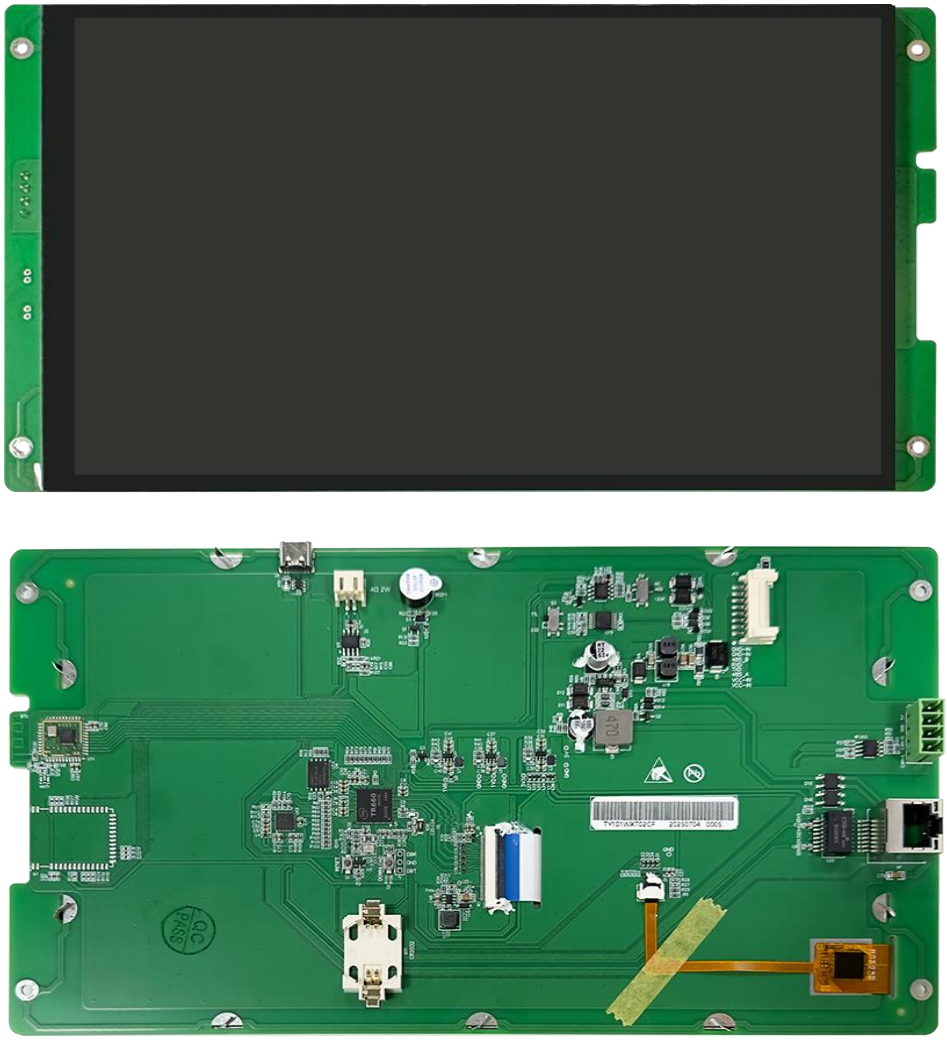


Figure 1.1-1 10.1. inch UART screen

1.2. Hardware Configuration

The following is the reference diagram of the hardware configuration of the product of this size, taking the capacitive screen as an example, as shown in Figure 1.2-1.

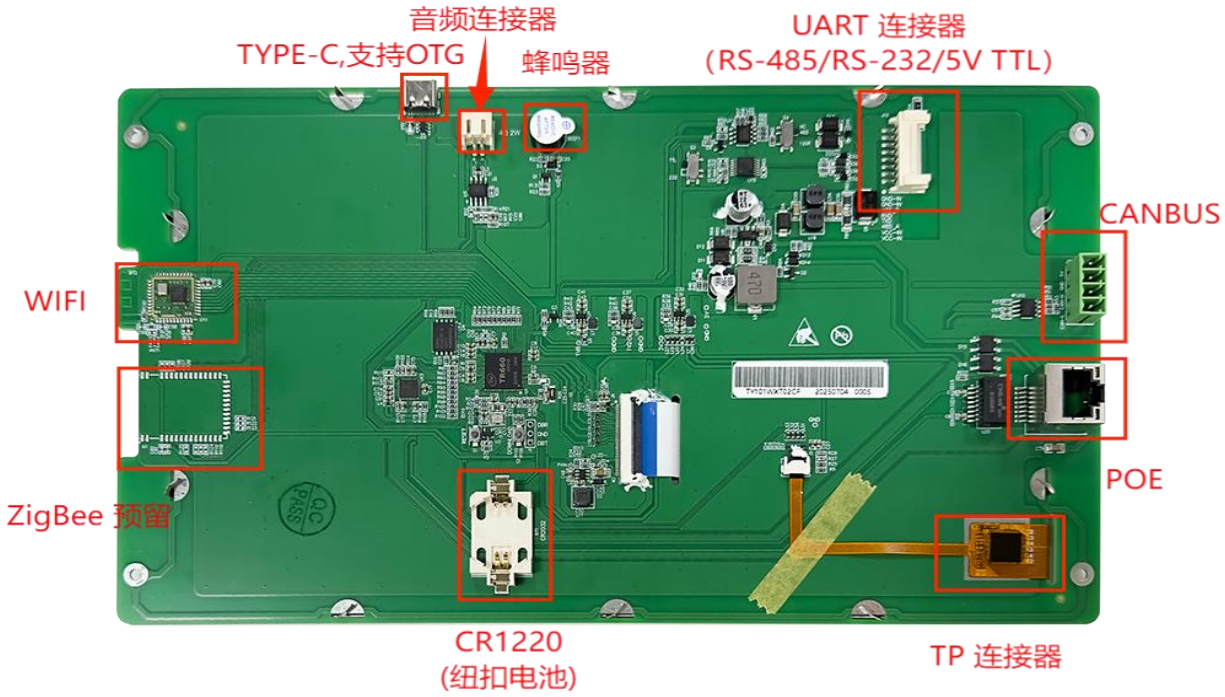


Figure 1.2-1 10.1 Drive board hardware configuration

1.3. CAN Bus Protocol

The device supports the CAN Bus protocol, enabling direct communication with industrial equipment (e.g., PLC, sensors, actuators) via the CAN bus. It integrates interactive functions such as display output and touch control, eliminating the need for additional CAN-to-serial converters—thereby simplifying system architecture and enhancing noise immunity. This solution offers a cost-effective choice for industrial automation.

1.4. Pinout IO Definitions

J10:

Pin Name	Type	Reset status	Internally configurable pull-down resistors	Default drive capability (mA)	Voltage	Function
GND_IN	POWER	0V	-	-	0V	POWER-GND
GND_IN	POWER	0V	-	-	0V	POWER-GND
485_B	-	-	-	-	-	485-/485_B
RXD	-	Z	√	20	3.3V	UART2-RX, Connect user TX
TXD	-	Z	√	20	3.3V	UART2-TX, Connect user RX
485_A	-	-	-	-	-	485+/485_A
POWER_IN	POWER	-	-	-	-	POWER-INPUT，DC 7.1-48V
POWER_IN	POWER	-	-	-	-	POWER-INPUT，DC 7.1-48V

J7:

Pin Name	Type	Voltage	Function
5V	POWER	-	POWER-INPUT/OUTPUT
GND	POWER	0V	POWER-GND
CAN-H	-	-16~16V	CAN-H，Connect user CAN-H
CAN-L	-	-16~16V	CAN-L，Connect user CAN-L

2. Product Specifications

● Product parameter	
Model	TY101WXT02CF
Product serial	Industrial Series
Core processor	TR660
Size	10.1 inch
Resolution	800RGB×1280
Active area(mm)	135.36(W)×216.58(H)
Product size(mm)	148.00(W)×257.80(H)×21.95(T)
Color	24-bit 8R8G8B
Storage	Customer available 128 M
Pictures format	JPG/PNG
Video	H.264 video format
Audio	Support
Download pictures	TYPE-C
Firmware update	TYPE-C
● LCD screen	
Display type	TFT LCD IPS
Back light	LED
Brightness(cd/m²)	250
Backlight life(hour)	30000

Contrast	10000
Perspective(T/B/L/R)	(80/80/80/80)
● Touch panel	
Touch mode	Capacitive touch screen
● Environmental electrical parameters	
Voltage	7.1V~48V, typical 24V DC
Power consumption	24V/172mA (Max brightness) 24V/56mA (Backlight off)
Working temperature	-20℃ ~ 70℃
Storage temperature	-30℃ ~ 80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
● Communication interface parameters	
Communication mode	3.3V TTL/RS485/RS232
Baud	2400~115200, typical value is 115200
Data frame format	8N1
Communication plug-in specification	8PIN HY2.0
● Other external equipment	
USB TYPE-C	Support
POE Etherent	Support

WIFI	Support
Zigbee	Reserve(disabled by default)
Buzzer	Support
Audio	Trumpet（2W/4Ω）
RTC	Support
CAN	Support

3. Reliability Test

3.1. ESD Test

3.1.1. Implementation Standards

Implementation standards	GB/T 17626.2
Performance criteria	B

3.1.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

Test process: place the product on the test bench, conduct contact and air discharge in turn around the iron frame of the serial port screen and the display area, and observe whether there is any abnormal reset and restart display.

Test remarks: *The current tests are all bare product tests. On the actual product assembly machine, keep the screen and the machine well grounded, or the touch panel surface is protected by PVC or a cover plate, the ESD performance index of the whole machine will be higher.*



3.1.3. Test Data Results:

Discharge type	Discharge value	Test Results	Performance Criteria
Contact	±6KV	Test Passed	B
Air Discharge	±8KV	Test Passed	B

3.2. Electrical fast transient group pulse testing (EFT)

3.2.1. Implementation standards

Implementation standards	GB/T 17626.4

3.2.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

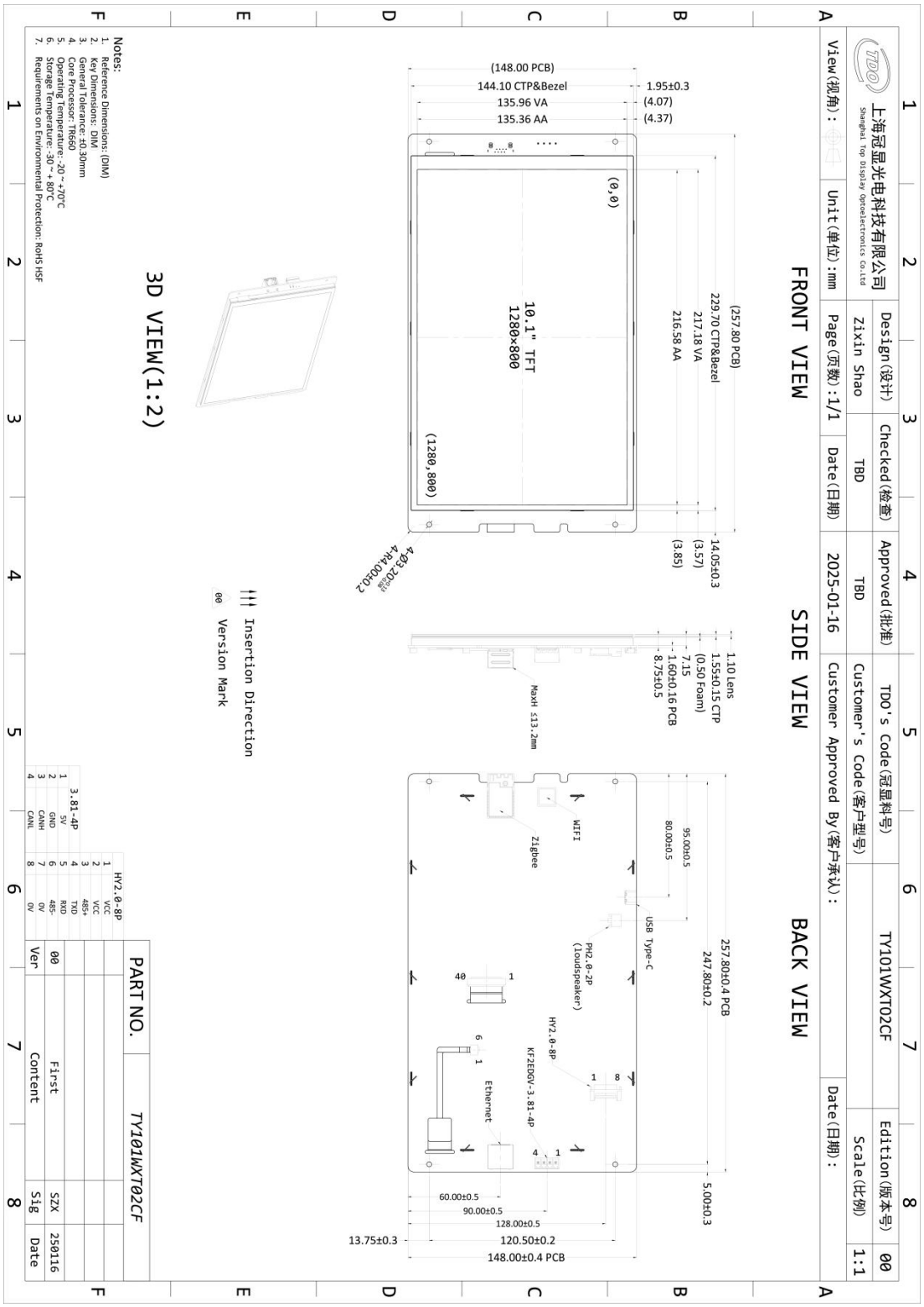
Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena**.**



3.2.3. Test Data Results:

Implementation standards	GB/T 17626.4
Performance criteria	B
Test environment	±4.0KV ; 100KHZ ; 120S

4. Product Size



5. Model Definition

T Y 101 WX T 02 C F

1 2 3 4 5 6 7 8

① : 1 position--TDO abbreviation, fixed。

② : 1 position--U(U series serial port)/P(parallel port)/Y(Y series serial port)/H(HDMI interface type)/S(adapter board)/L

③ : 3 position--size,eg.101->10.1 inch

④ : 2 position--resolution abbreviation

⑤ : 1 position--H (standard series)/C (basic series)/L (MINI board series)/P (with housing series)/M (medical series)/A (AV series)

⑥ : 2 position---serial number

⑦ : 1 position---C (with capacitive touch panel)/R (with resistive touch panel)/N (without touch panel)

⑧ : 1 position-----Platform: F-TR660 / G-TR540 / H-TR230M /J -TR240 / K-TR661 / D-TR670 / 0-Android / 1-Linux

Note: There is no key structural process modification or major layout adjustment, only changes in product process or reliability. The company will not initiate changes to the outside world. The specific items are subject to the received items.

6. Packaging and Physical Dimensions

Single product weight					
Net weight (G)	TBD				
Packaging standard and total weight					
Packing box model	Packing box size (length*width*height, unit: mm)	Layers	Quantity (PCS)/layer	Total quantity (pieces)	Total weight (KG)

7. Sale and Service



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8. Disclaimer

This document provides product information about Shanghai Top Display Optoelectronics Technology Co., Ltd. (hereinafter referred to as Shanghai Top Display), which aims to assist customers to speed up product development progress, short development cycles, any routine programs provided in the service process or other channels , technical documents, data manuals, product drawings and other materials and information are for reference only, and customers have the right not to use or to modify and use for their own reference. The company does not provide any guarantee of completeness and reliability. If the customer causes special, incidental or indirect losses for any reason during the use process, the company does not assume any responsibility.