1.28" Rotating LCD Module

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.

1.2. About variety and customization

This knob screen supports color customization with rotary and press functions for encoder adjustment We develop a variety of display solutions

2. Product Specifications

☞ Product parameter	
Model	**DFX1.28 -240240-Knob**
Product serial	1.28 series
Core processor	150MHz SOC processor
Size	1.28 inch
Resolution	240RGB×240
Active area(mm)	Φ32.40
Product size(mm)	Φ50.00×30.20(H)
Color	65K,16 bit RGB
Storage	64Mb in total (customer available 50Mb)
Pictures format	.jpg and .bmp format is supported.
Font	Comes with ASCII encoding font (can display English and Arabic numbers),also supports DZK font.
Download pictures	Micro USB
Firmware update	Micro USB
Display response speed	≤50ms
Feature	Uniform black cover
Control mode	Rotate and press or Touch[Touch selectable]
☞ LCD screen	
Display type	TFT LCD
Back light	LED
Brightness(nit)	210
Backlight life(hour)	20000
Contrast	800
Perspective(T/B/L/R)	80/80/80/80
☞ Environmental electrical parameters	

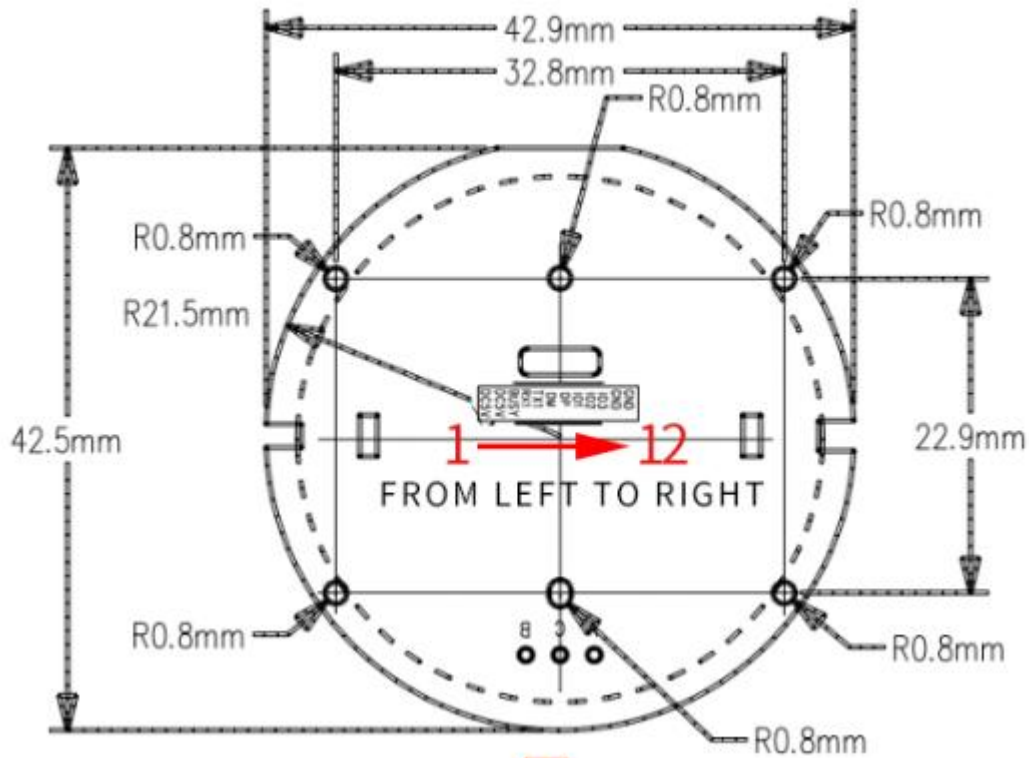| Voltage	DC 5V (Rating)
Power consumption	5V/150mA(Max brightness)
Working temperature	-20℃~70℃
Storage temperature	-30℃~80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
✍ **Communication interface parameters**	
Communication mode	3.3V TTL(5V TTL optional)
Baud	1200~115200,typical value is 115200
Data frame format	8N1
Communication plug-in specification	12Pin FFC cable
✍ **Other hardware specifications**	
Micro SD(TF) socket	Support
✍ **Product certification**	
Environmental protection grade	RoSH II

1. Switch life of 30,000 times, encoder life of 30,000 times,

2. Rotate sound clear distance (300±100gf.cm)

3. Switch resilience (650g+200g)

4. Screen and UI are customized according to customer requirements.

5. Screen can be equipped with TFT screen, IPS screen, AMOLED screen

6. Suitable for 1.6-inch   round screen.

7. Customizable functions: touch, ambient light, temperature and humidity,

   Bluetooth, WIFI,Voice control, voice broadcast, APP, small program

3. Product Structure

技术要求：
1. 开关寿命30000次，编码次寿命30000次。
2. 旋转声音清脆，力距要（300±100gf.cm）
3. 开关回弹力（650gf±200gf）
4. 屏幕及UI根据客户要求定制
5. 屏可实配TFT屏、IPS屏、AMOLED屏
6. 适配1.28、1.38圆屏和1.3方屏
7. 可定制功能：触摸、氛围灯、温湿度、
   蓝牙、WIFI、语音控制、语音播报、
   APP、小程序

未标注尺寸公差		图 号：CPT-MZ50-0001		更记录		核 准	审 核	制 图
L≤10	±0.3	比 例	1:1					
10＜L≤100	±0.5	单 位	mm					车统荣
100≤L	±0.8							2022.03.18
角 度	±5°							
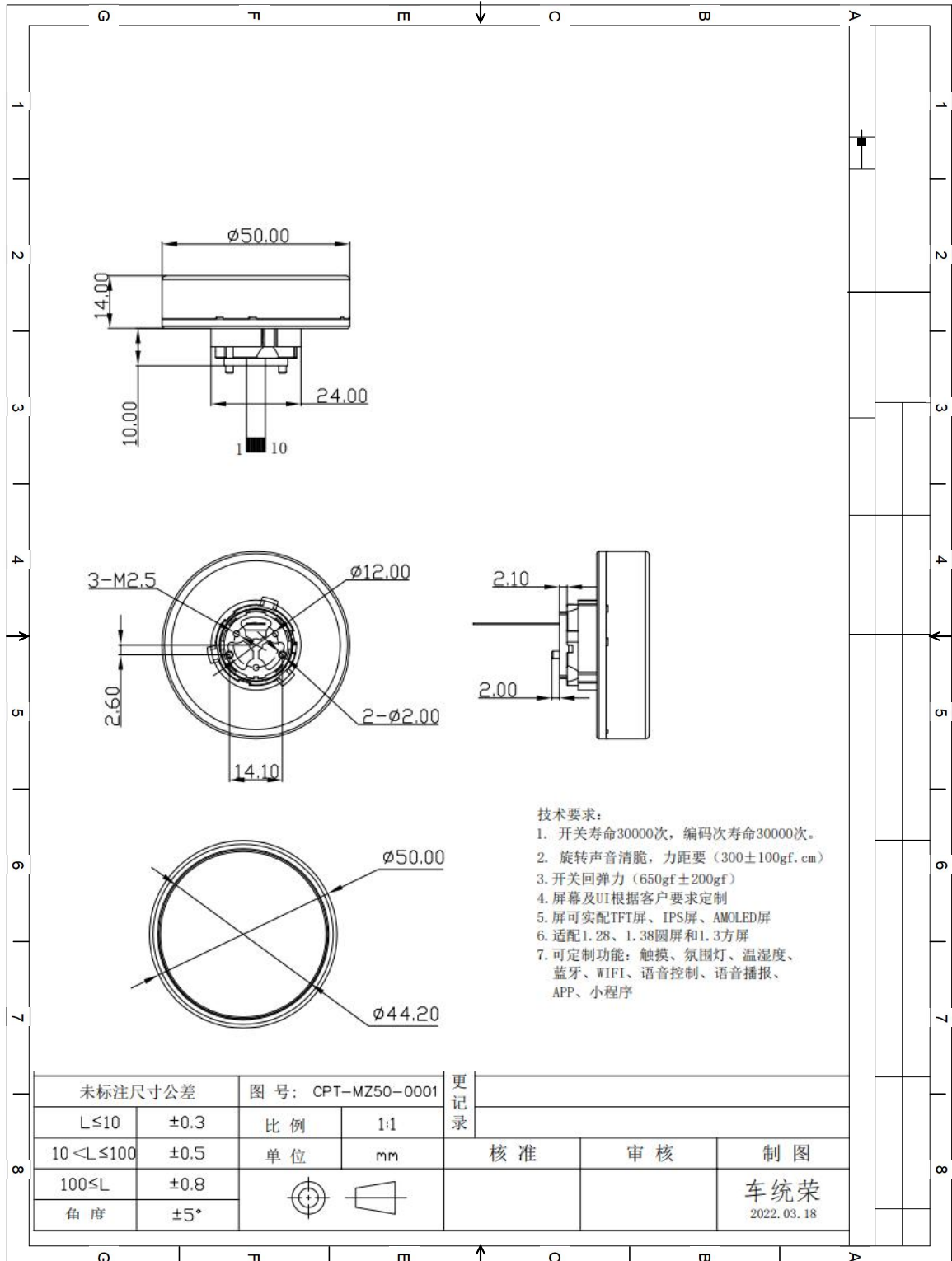
Motherboard size drawing

CON1引脚编号	引脚名称	引脚名称	说明
1	DC5V	电源输入+	–
2	DC5V	电源输入+	–
3	BUSY	接地后上电为升级模式	–
4	RXD	串口接收数据	–
5	TXD	串口发送数据	–
6	DM	USB数据线+	–
7	DP	USB数据线-	–
8	IO0	GPIO	
9	IO1	GPIO	
10	IO2	GPIO	
11	GND	电源输入-	
12	GND	电源输入-	

4．UART Communication

4.1 Wiring

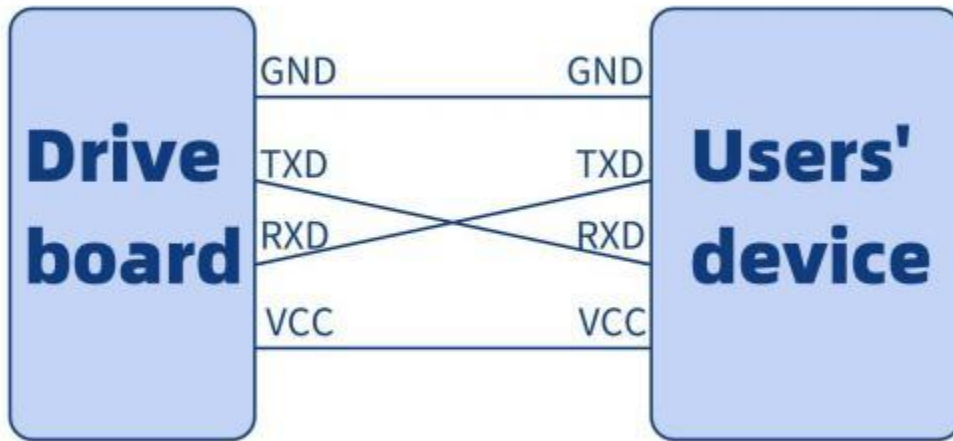As shown in the figure below, connect the corresponding pins of the drive board.

Figure4.1- 1 Schematic diagram of UART Hardware Connection

4.2 Serial Debugging Software

In principle, all serial port debugging software can be used, take "SSCOM V5.13.1" as an example.
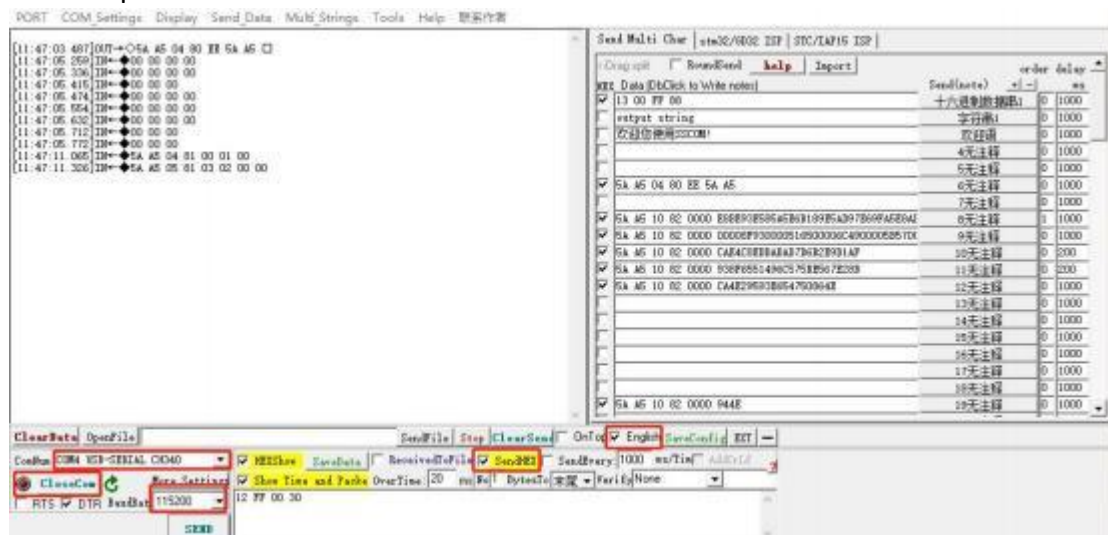

Figure4.2- 1 Interface Diagram of UART Debugging Software

Find the debugging port and select it. The baud rate must be consistent with that in the project file.
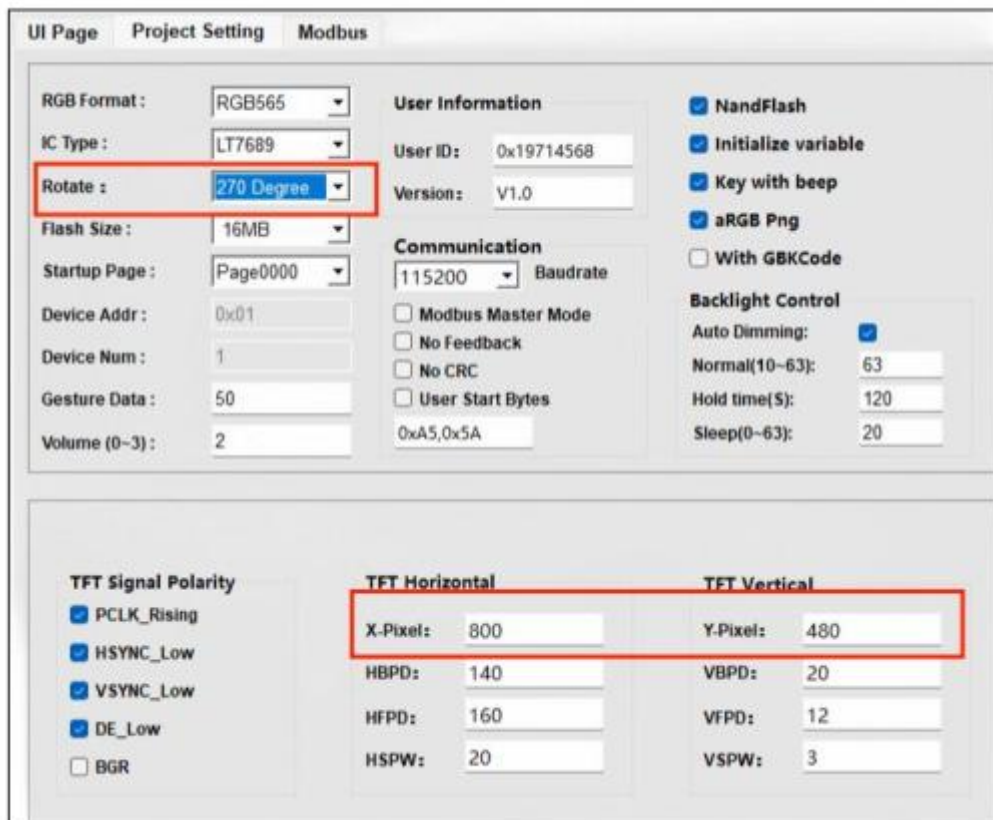
5. Software Development Mode

This model of product is developed based on UI_Editor platform. Users can learn the specific software development methods,the corresponding technical documents,

development routines, guide videos and other relevant materials.

For more development information or technical support,

please contact us.

Such as

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