WINSTAR

WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODEL NO. :   WL0F00043000WGDAASA00

Summary

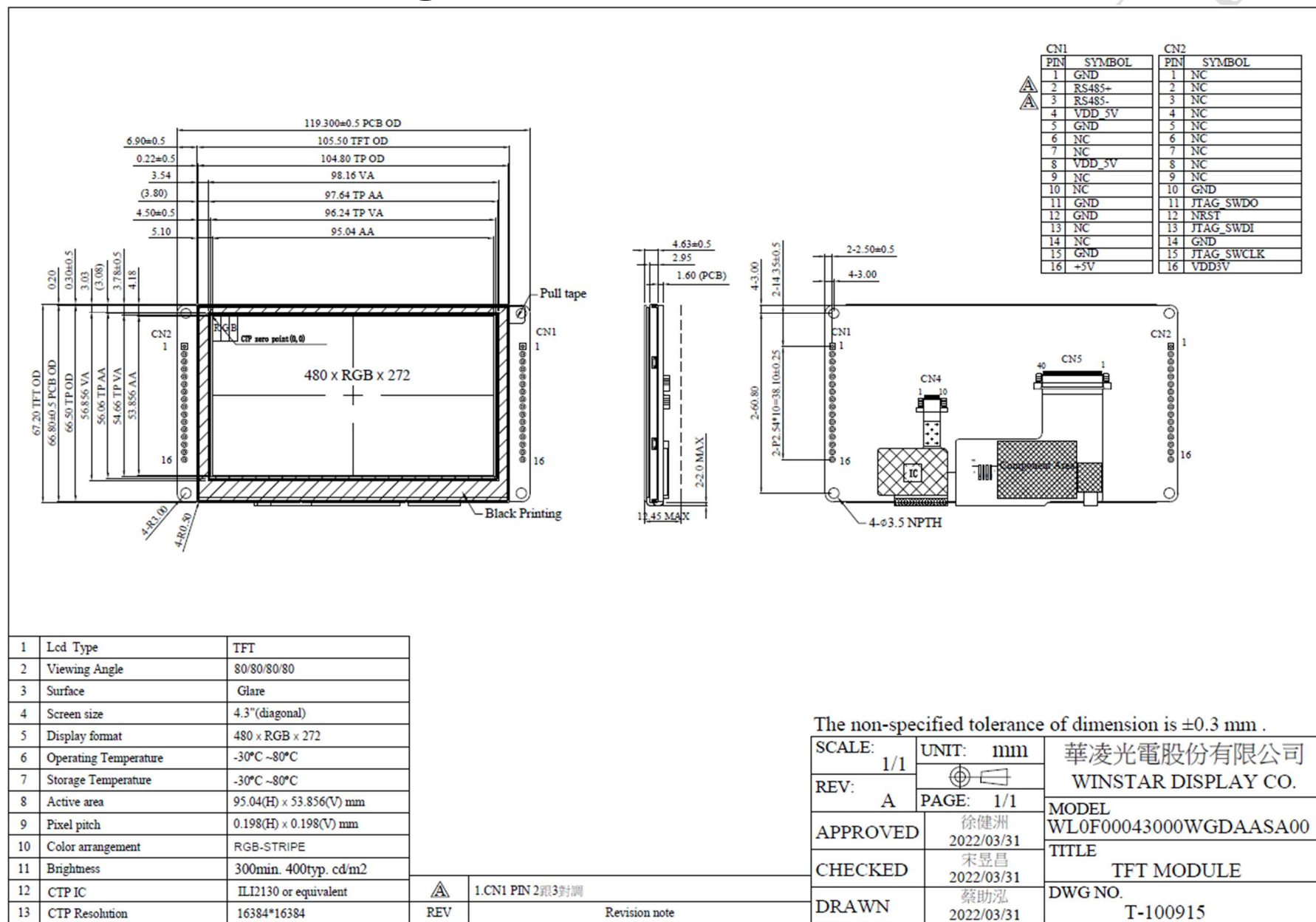**4.3 Inch Smart Display (RS485 series) Features**

1. DC 5-24V working voltage.

2. Self-testing after booting function.

3. RS485 communication interface with Modbus protocol.

4. Built in flash memory, store the fonts and pictures.

5. Support capacitive touch panel (CTP).

6. Embedded buzzer controlled by Master Device.

7. Demo set HOST can be used on multiple platforms, such as Computer (with USB to RS-485 Dongle), MCU.

Product information

General information

Item	Standard Value	Unit
Operating voltage	5-24	Vdc
Communication Interface	RS485	N/A
MCU	STM32F750	N/A
Flash Memory	16	MB
SDRAM Frequency	108	Mhz
LCD display size	4.3	inch
Dot Matrix	480 x RGB x 272(TFT)	dot
Module dimension	119.3(W) × 67.2(H) × 12.45(D)	mm
Active area	95.04(W) ×53.856 (H)	mm
Pixel pitch	0.198(H) x 0.198(V)	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	16:9	
Touch Panel	With PCAP	
Surface	Glare	

Contour Drawing

CN1

PIN	SYMBOL
1	GND
2	RS485+
3	RS485-
4	VDD_5V
5	GND
6	NC
7	NC
8	VDD_5V
9	NC
10	NC
11	GND
12	GND
13	NC
14	NC
15	GND
16	+5V

CN2

PIN	SYMBOL
1	NC
2	NC
3	NC
4	NC
5	NC
6	NC
7	NC
8	NC
9	NC
10	GND
11	JTAG_SWDO
12	NRST
13	JTAG_SWDI
14	GND
15	JTAG_SWCLK
16	VDD3V

1	Lcd Type	TFT
2	Viewing Angle	80/80/80/80
3	Surface	Glare
4	Screen size	4.3"(diagonal)
5	Display format	480 x RGB x 272
6	Operating Temperature	-30°C ~80°C
7	Storage Temperature	-30°C ~80°C
8	Active area	95.04(H) x 53.856(V) mm
9	Pixel pitch	0.198(H) x 0.198(V) mm
10	Color arrangement	RGB-STRIPE
11	Brightness	300min. 400typ. cd/m2
12	CTP IC	ILI2130 or equivalent
13	CTP Resolution	16384*16384

⚠ 1.CN1 PIN 2跟3對調

| REV | Revision note |

The non-specified tolerance of dimension is ±0.3 mm .

SCALE: 1/1	UNIT: mm	華凌光電股份有限公司 WINSTAR DISPLAY CO.
REV: A	PAGE: 1/1	MODEL WL0F00043000WGDAASA00
APPROVED	徐健洲 2022/03/31	
CHECKED	宋昱昌 2022/03/31	TITLE TFT MODULE
DRAWN	蔡助泓 2022/03/31	DWG NO. T-100915

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-30	—	+80	℃
Storage Temperature	TST	-30	—	+80	℃

Electrical Characteristics

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage	VCC	5	12	24	V
Supply Current	ICC		170		mA

BOM

Item	Description
LCM	WF43WTWAEDNGA#
PCBA	SV10004R300WA00N0104

Interface

CN1 definition:

Pin	Symbol	Function	Remark
1	GND	GND	Output
2	RS485+	RS485 D+	I/O
3	RS485-	RS485 D-	I/O
4	+5V	VIN	Input
5	GND	GND	Output
6-7	NC	--	--
8	+5V	VIN	Input
9-10	NC	--	--
11-12	GND	GND	Output
13-14	NC	--	--
15	GND	Power GND	Input
16	+5V	Power +5V ~ +24V	Input

CN2 definition:

Pin	Symbol	Function	Remark
1-9	NC	--	--
10	GND	GND	Output
11	JTAG_SWDO	Data pin for JTAG interface	I/O
12	NRST	Reset pin for JTAG interface	Input
13	JTAG_SWDI	Data pin for JTAG interface	I/O
14	GND	GND for JTAG interface	Output
15	JTAG_SWCLK	CLK pin for JTAG interface	Input
16	VDD3V	3.3V power for JTAG interface	Output

Display Usage

Functional description

Smart Display can be used to display the coordinate, status and data information provided by the connected HOST device. Customers can configure the position coordinates they want to display in normal operation mode (Device Address = 0x7B).

Splash Screen

The default splash image is shown below.
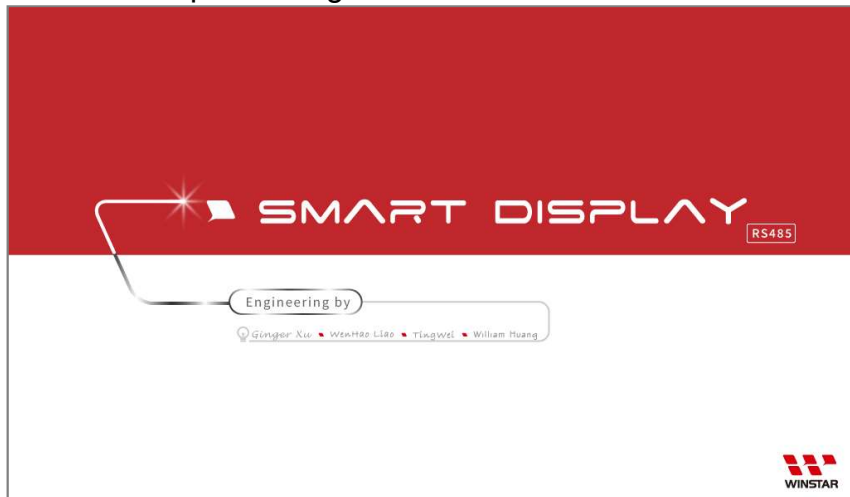
✓ This product is produced as a generic product. If you require a custom splash image for your application, contact us to discuss.

Default Selection

Press the preferred application and hold for 3 seconds for the first time power on.

Acquisition of Displayed Data

Smart Display uses the Modbus protocol to get and send the data.

On Config mode, customers can set the coordinates or type of objects; On Display mode, customers can send and get data of objects.

Configuring the Display

Winstar Smart Display RS-485 series offers an out-of-the-box Modbus development experience that will lower customers' development costs and speed time-to-market expectations.

The Smart Display can use wide-temperature are designed to support control applications in harsh operating conditions, which designed to be connected to a variety of different situation

combinations, such as automotive, marine, power generation and oil-and-gas.

The Smart Display comes with standard UI objects to get customers project off the ground quickly. If customers need custom UI objects support, our engineers are here to help. Send over your contents in PNG/JPG format, we will send over a new set of UI objects within 3~5 working days.

The Smart Display is defined as a slave device, which is controlled by master device via RS-485 command to render display content on the display screen and return touch event data with protocol objects.

Example Screen Layout (Industry application)

Example Layout

The screen layout described in this section is intended to demonstrate the settings of screen items that can be used in an industry application situation.
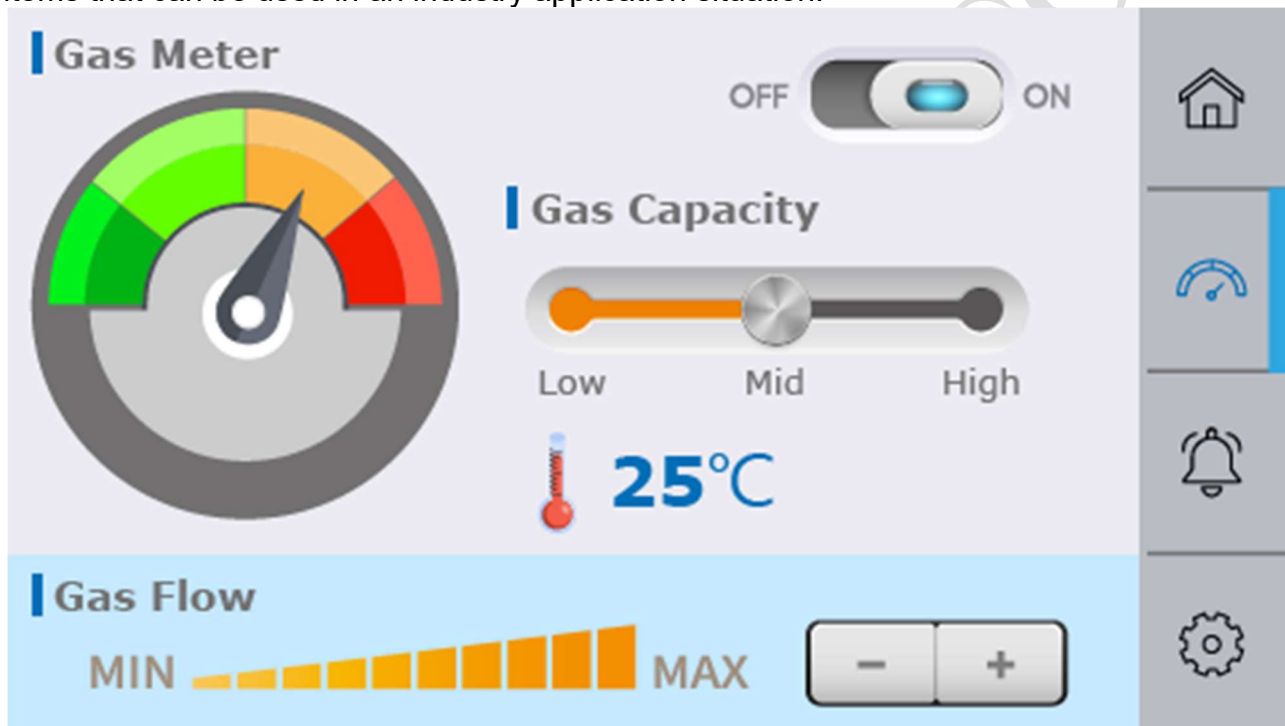
Example Screen Layout (Vehicle automotive)

Example Layout

The screen layout described in this section is intended to demonstrate the settings of screen items that can be used in a vehicle automotive situation.

Example Screen Layout (Medical application)

Example Layout

The screen layout described in this section is intended to demonstrate the settings of screen items that can be used in a Medical application situation.