SMART DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

Winstar Display Co., LTD
華凌光電股份有限公司

SPECIFICATION

CUSTOMER : _____

MODEL NO. : **WL0F00043000WGDAASA00-FC**

APPROVED BY: **(FOR CUSTOMER USE ONLY)**	

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
		TingWei Lee Erick Chung	Kyra Chen

VERSION	DATE	REVISED PAGE NO.	SUMMARY
B	2022/04/15	8 9 15	Update Contour drawing Add PCBA Part number Add description of default selection

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MODLE NO：
WL0F00043000WGDAASA00

RECORDS OF REVISION

DOC. FIRST ISSUE

VERSION	DATE	REVISED PAGE NO.	**SUMMARY**
A	2022/04/08		First issue
B	2022/04/15	8 9 15	Update Contour drawing Add PCBA Part number Add description of default selection

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Summary

4.3 Inch Smart Display (RS485 series) Features

1. +5V power supply input, the power consumption is around 2W.
2. Self-testing after booting function.
3. RS485 communication interface with Modbus protocol.
4. Built in 16M flash memory, store the font and Object Dictionary Data.
5. Support capacitive touch panel (CTP).
6. Smart Display scenario is slave device display and action from Master Device instruction.
7. Embedded buzzer controlled by Master Device.
8. Demo set HOST can be used on multiple platforms, such as Computer (with USB to RS-485 Dongle), MCU.

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Product information

Mechanical Data

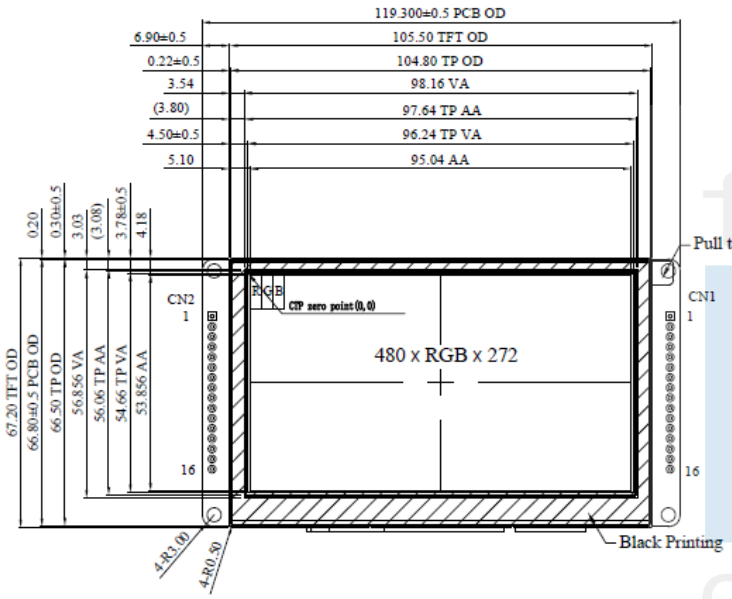
Item	Standard Value	Unit
LCD panel	105.5(W) x 67.2(H) x 4.6(D)	mm
PCB	119.3(W)*67.2(H)*1.6	mm
Housing outline	NA	mm

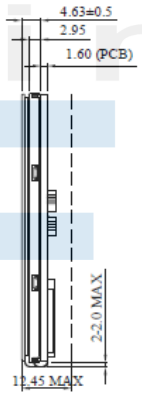
Mechanical Data

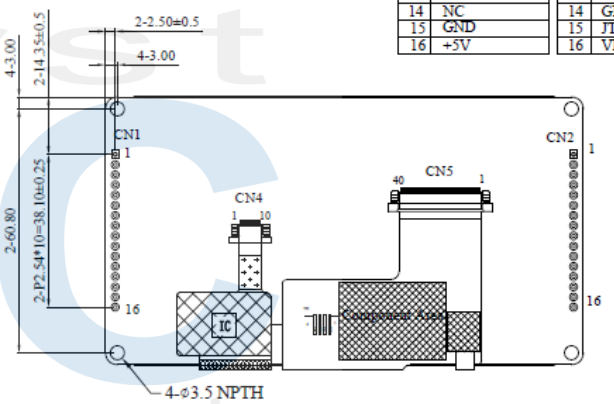
Item	Standard Value	Unit
Operating voltage	5	Vdc
Communication Interface	RS485 differential ± 3.3	Vpp
MCU	STM32F750	N/A
Flash Memory	16	MB
SDRAM Frequency	108	Mhz
LCD display size	4.3	inch
Dot Matrix	480 x RGB x 272(TFT)	dot
Module dimension	105.5(W) x 67.2(H) x 4.6(D)	mm
Active area	95.04(W) ×53.856 (H)	mm
Dot pitch	0.066 (W) ×0.198(H)	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	16:9	
With /Without TP	With CTP	
Surface	Glare	

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Contour Drawing







CN1		CN2	
PIN	SYMBOL	PIN	SYMBOL
1	GND	1	NC
2	RS485+	2	NC
3	RS485-	3	NC
4	VDD_5V	4	NC
5	GND	5	NC
6	NC	6	NC
7	NC	7	NC
8	VDD_5V	8	NC
9	NC	9	NC
10	NC	10	GND
11	GND	11	JTAG_SWDO
12	GND	12	NRST
13	NC	13	JTAG_SWDI
14	NC	14	GND
15	GND	15	JTAG_SWCLK
16	+5V	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

REV	Revision note
A	1.CN1 PIN 2跟3對調

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	
APPROVED	徐健洲 2022/03/31	MODEL WL0F00043000WGDAASA00-FC
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	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above
1. Temp. ≦60℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

Electrical Characteristics

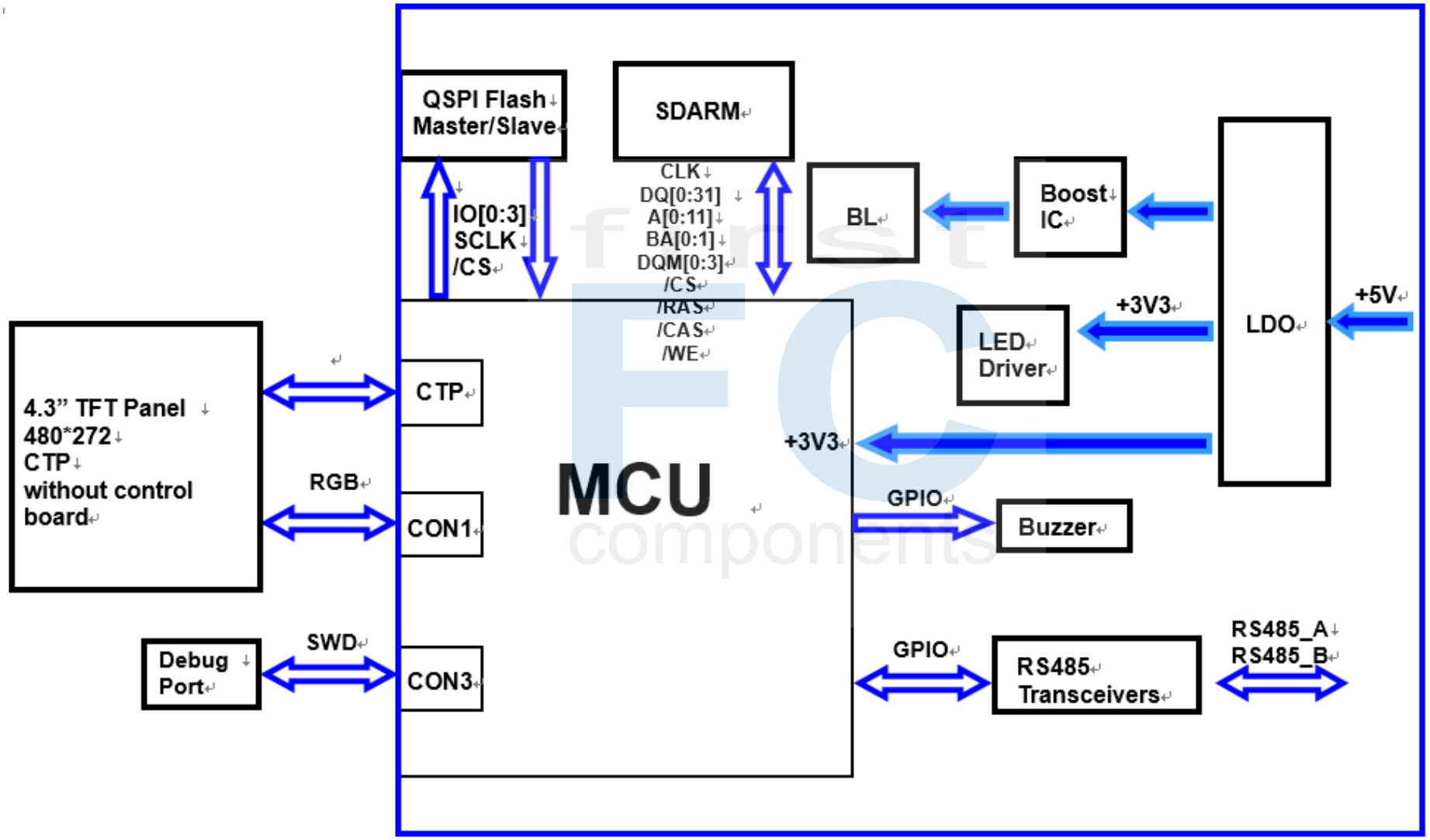
Item	Symbol	Min	Typ	Max	Unit
Supply Voltage	VCC	4.5	5	5.5	V
Supply Current	ICC		330		mA

BOM

Item	Description	Remark
LCM	WF43-480272WD#APW3-FC	
PCBA	SV10004R300WA00N0104	

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Block diagram



Interface

CON1 definition:

Pin	Symbol	Function	Remark
1	GND	GND	GND
2	RS485-	RS485 DATA-	I/O
3	RS485+	RS485 DATA+	I/O
4	VDD 5V	Power supply 5V input	Input
5	GND	GND	GND
6	NC	_	_
7	NC	_	_
8	VDD 5V	Power supply 5V input	Input
9	NC	_	_
10	NC	_	_
11	GND	GND	GND
12	GND	GND	GND
13	NC	_	_
14	NC	_	_
15	GND	GND	GND
16	+6V	Power supply 5V input	Input

CON2 definition:

Pin	Symbol	Function	Remark
1	NC		
2	NC		
3	NC		
4	NC		
5	NC		
6	NC		
7	NC		
8	NC		
9	NC		
10	GND	GND	GND
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

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Display Usage

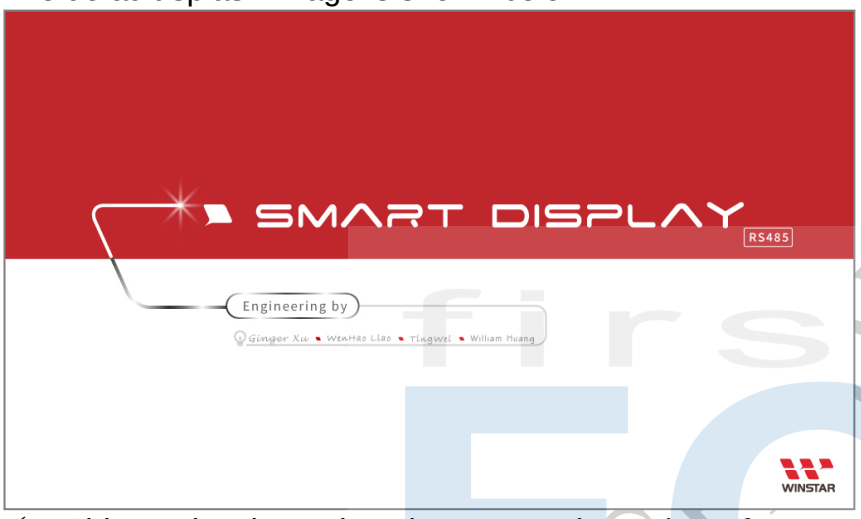
Functional description

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).

The Display is designed to be easily connected to a controller network, and to use the register type of Holding Register.

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

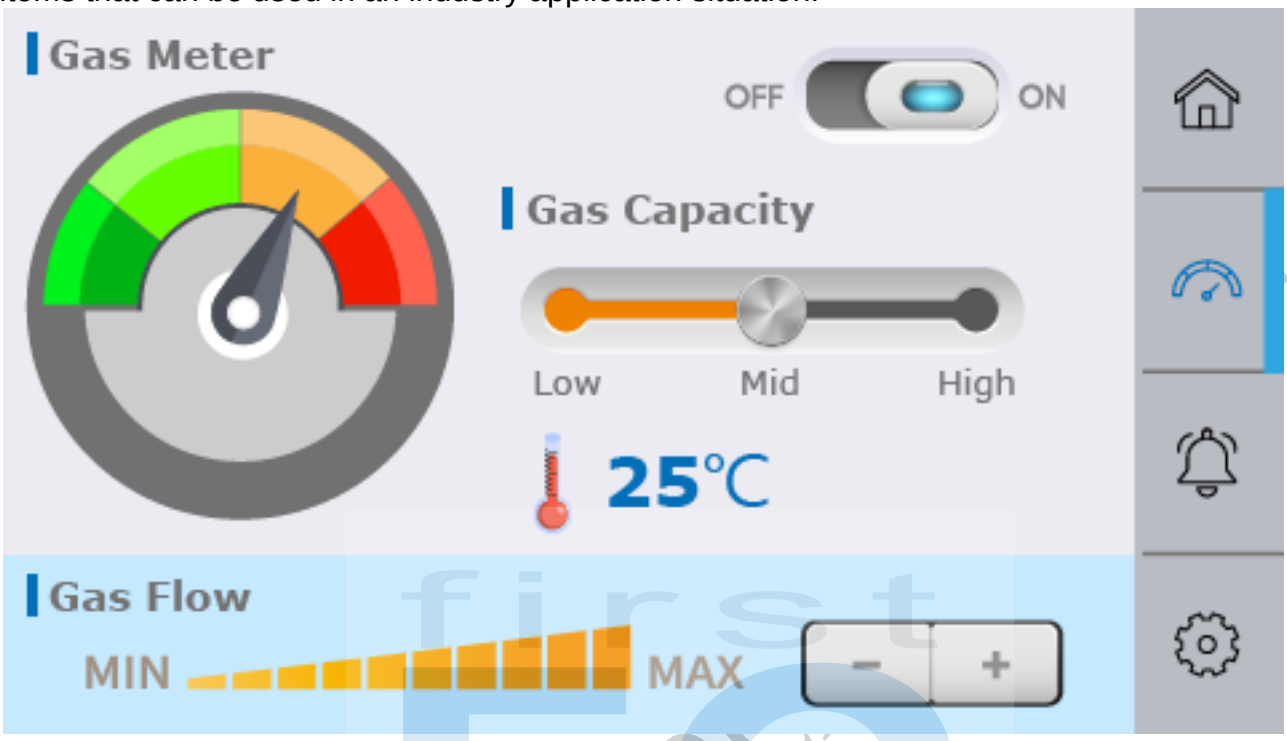
Winstar Smart Display RS-485 series offers an out-of-the-box Modbus development experience that will lower customers' development costs and speed time-to-market expectations.

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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.



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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.

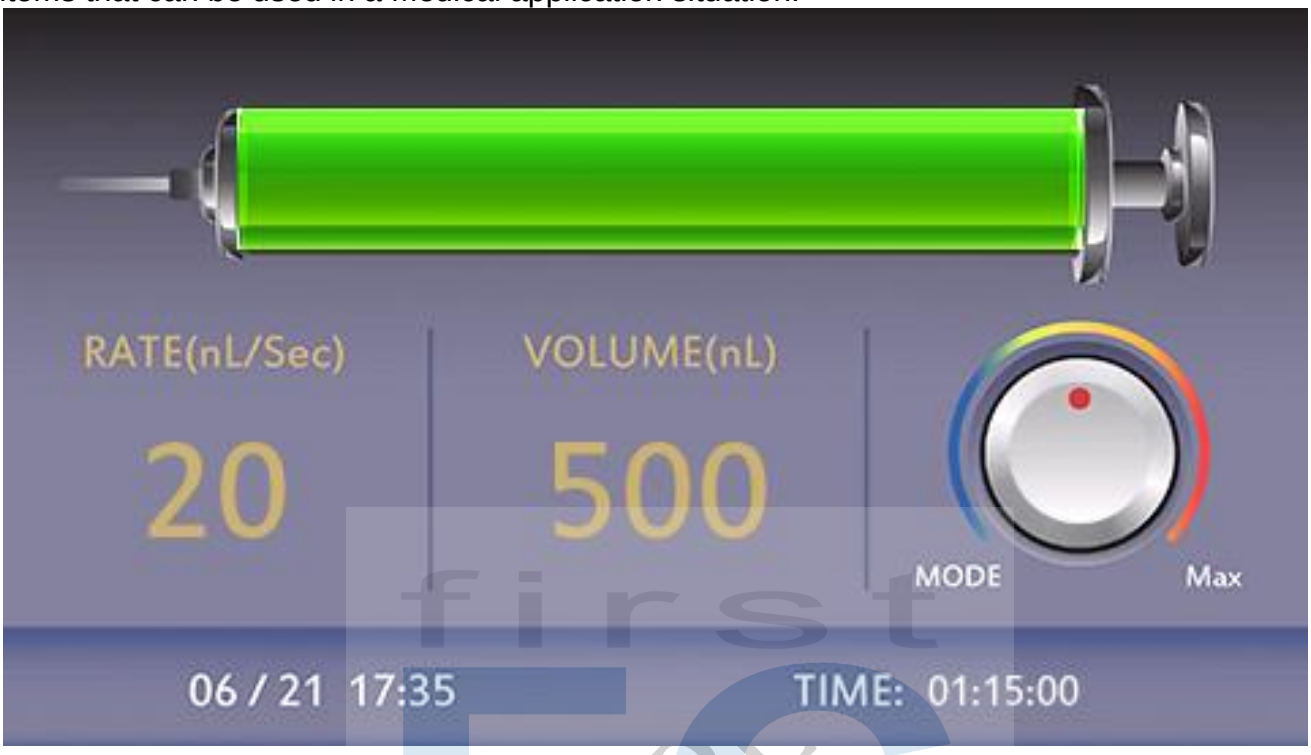


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Example Screen Layout (Medical application)

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.



References

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