TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.

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SPECIFICATION

MODEL NO. : WL0F00039000QGAAASA00-FC

Summary

4.3 Inch Smart Display Feature

1. DC 5V working voltage, low power consumption for USB to drive.
2. Self testing after booting function.
3. CAN bus communication interface.
4. Supports CANopen protocol, default baud rate at 250KB.
5. Built in flash memory, store the font and Object Dictionary Data.
6. Support capacitive touch panel (CTP).
7. Smart Display scenario is slave device display and action from Master Device instruction.
8. Embedded buzzer controlled by Master Device.
9. Demo set HOST can be used on multiple platforms, such as Computer (with USB to CAN Dongle), MCU, Raspberry Pi (with PiCAN2).

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Product information

1. Mechanical Data

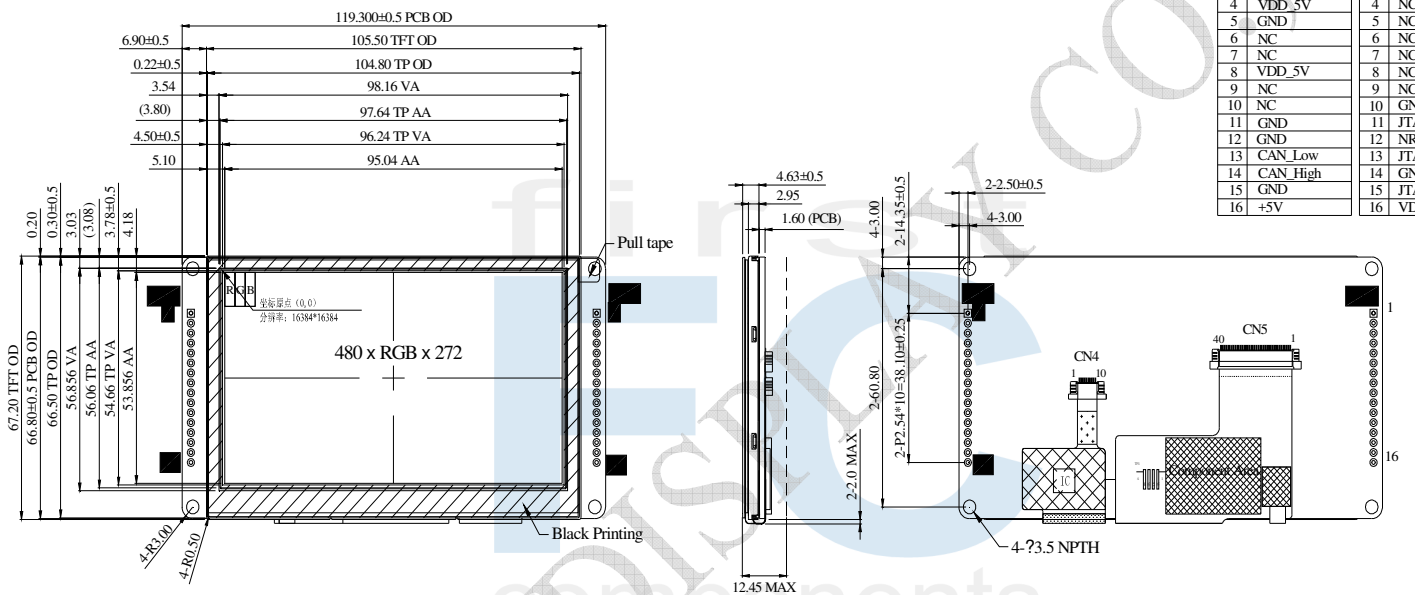
Item	Standard Value	Unit
LCD panel	105.5(W) × 67.2(H) × 4.6(D)	mm
PCB	119.3(W) × 67.2(H) × 1.6	mm
Housing outline	NA	mm

2. General information

Item	Standard Value	Unit
Operating voltage	5	Vdc
Communication Interface	CAN bus differential ± 3.3	Vpp
LCD display size	4.3	inch
Dot Matrix	480 × RGB × 272(TFT)	dot
Module dimension	105.5(W) × 67.2(H) × 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	
PIN	SYMBOL
1	GND
2	NC
3	NC
4	VDD_5V
5	GND
6	NC
7	NC
8	VDD_5V
9	NC
10	NC
11	GND
12	GND
13	CAN_Low
14	CAN_High
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

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

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Absolute Maximum Ratings

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

Electrical Characteristics

1. Operating conditions:

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage For LCM	VCC	3.0	-	3.6	V
Supply Current For LCM	ICC	-	25	37.5	mA
Supply Voltage For Touch Logic	VDDT	2.8	-	3.3	V

2. LED driving conditions:

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current	-	-	20	-	mA
Power Consumption	-	540	640	680	mW
LED voltage	VLED+	27	32	34	V
LED Life Time	-	-	50,000	-	Hr

BOM

Item	Description
LCM	WF43***
PCBA	4 layer FR4, 1.6mm

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Interface

CN1 definition:

Pin	Symbol	Function	Remark
1	GND	GND	Output
2-3	NC		
4	+5V	+5V	Output
5	GND	GND	Output
6-7	NC		
8	+5V	+5V	Output
9-10	NC	Connection	
11	GND	GND	Output
12	GND	GND	Output
13	CAN_L	Differential signal D-	I/O
14	CAN_H	Differential signal D+	I/O
15	GND	Power supply GND input	Input
16	+5V	Power supply 5V input	Input

CN2 definition:

Pin	Symbol	Function	Remark
1-9	NC		-
10	GND	GND	Output
11	SYS_JTAG_SWO	Data pin for JTAG interface	I/O
12	NRST	Reset pin for JTAG interface	Input
13	SYS_JTAG_SWDIO	Data pin for JTAG interface	I/O
14	GND	GND for JTAG interface	Output
15	SYS_JTAG_SWCLK	CLK pin for JTAG interface	Input
16	VMCU	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 (Node ID = 0x7B).

The Display is designed to be easily connected to a controller network, and to operate with minimum setup or knowledge of the SDO configuration on the controllers.

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.

Acquisition of Displayed Data
The Smart Display can acquire the data that it displays either using the CANopen SDO protocol, or using the CANopen PDO protocol.

On Pre-operational mode, customers can set the coordinates of objects through SDO; On operational mode, customers can send data of objects through PDO.

Configuring the Display
Winstar Smart Display CAN series offers an out-of-the-box CANopen 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

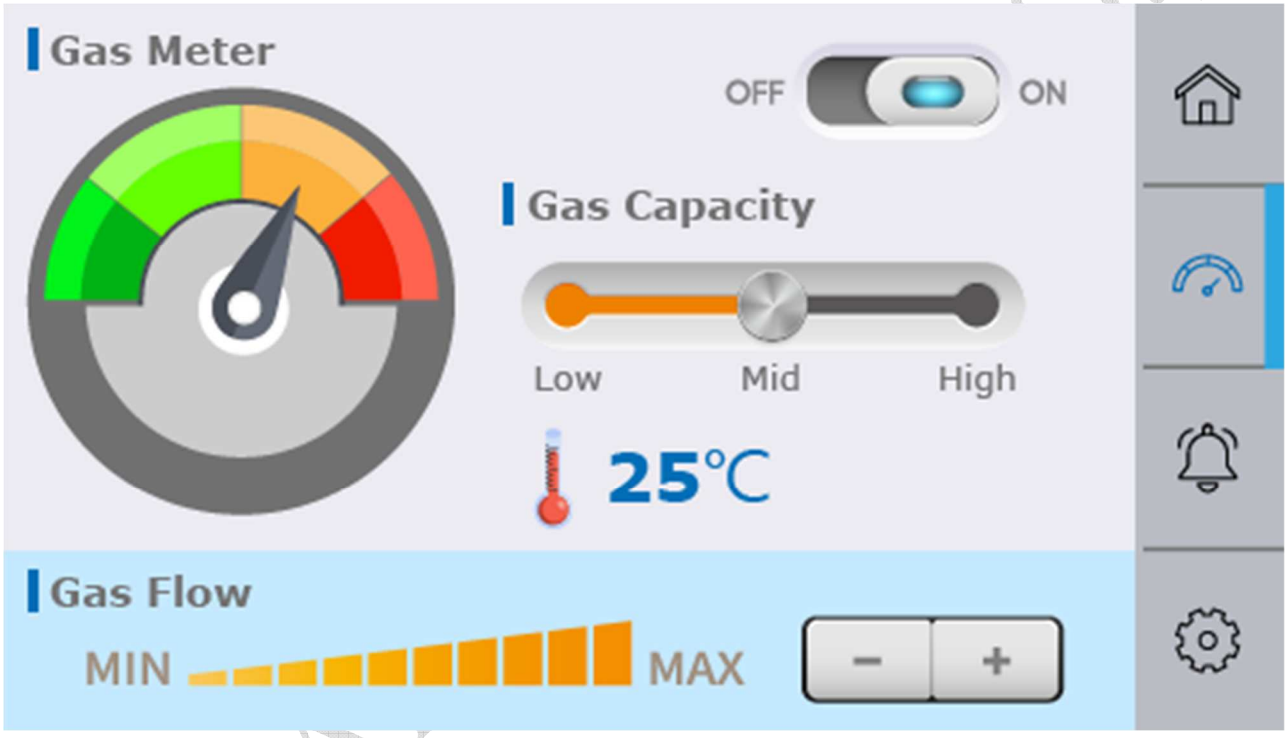
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quickly. If customers need custom UI objects support, our engineers are here to help. Send over your contents in PNG/JPG format, we will send over a new set of UI objects within 3~5 working days.

The Smart Display is defined as a slave device, which is controlled by master device via CAN bus 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.



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Example Screen Layout (Vehicle automotive)

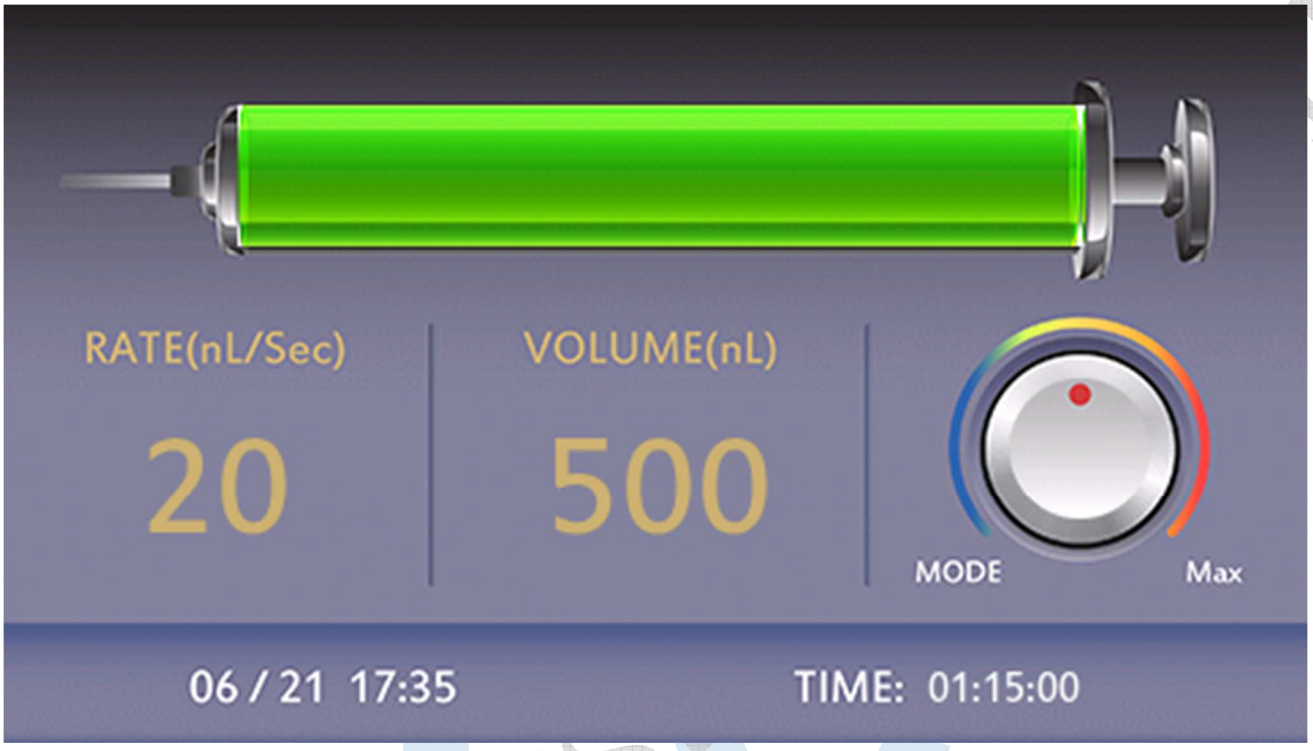
Example Layout
The screen layout described in this section is intended to demonstrate the settings of screen items that can be used in a vehicle automotive situation.



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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 vehicle automotive situation.



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