TFT DISPLAY SPECIFICATION

WINSTAR Display Co.,Ltd.

華凌光電股份有限公司

SPECIFICATION

MODEL NO. : WL0F00035000XGAAASA00

Summary

3.5 Inch Smart Display Feature

1. DC 5V working voltage.
2. Self testing after booting function.
3. CAN bus communication interface.
4. Supports CANopen protocol, default baud rate at 250KB.
5. Embedded FLASH memory, storing Font and Object Dictionary.
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).

Product information

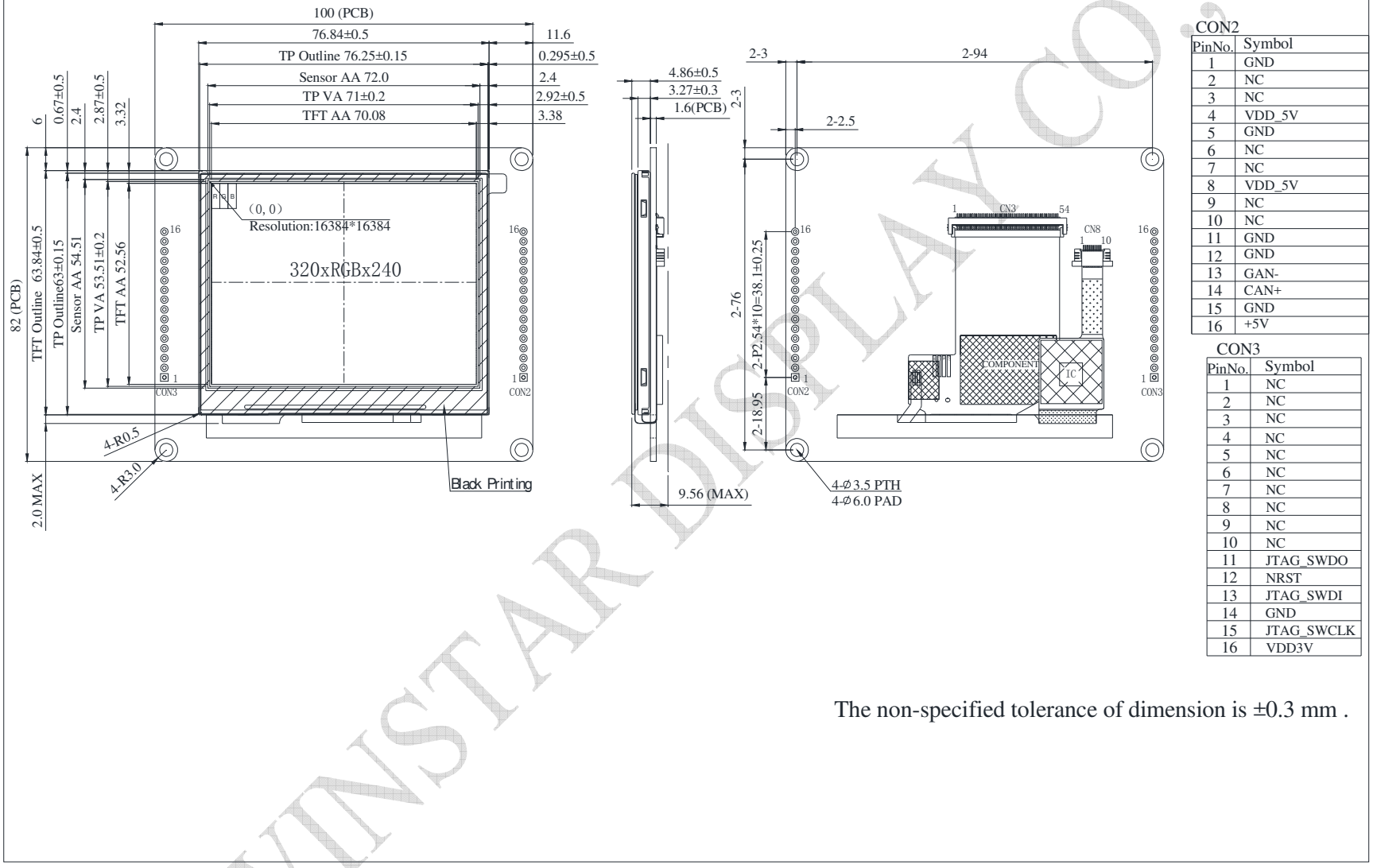
Mechanical Data

Item	Standard Value	Unit
LCD panel	76.84(W)*63.84(H)*4.53	mm
PCB	100(W)*82(H)*1.6	mm
Housing outline	NA	mm

General information

Item	Standard Value	Unit
Operating voltage	5	Vdc
Communication Interface	CAN bus differential ± 3.3	Vpp
LCD display size	3.5	inch
Dot Matrix	320× 3(RGB) × 240	dot
Module dimension	76.84(W) x 63.84(H) x 4.53(D)	mm
Active area	70.08(W) x 52.56(H)	mm
Dot pitch	0.073(W) x 0.219(H)	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	4:3	
Touch Panel	PCAP	
Surface	Glare	

Contour Drawing



CON2

PinNo.	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	GAN-
14	CAN+
15	GND
16	+5V

CON3

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

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

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
Storage Temperature	TST	-30	—	+80	℃

Electrical Characteristics

Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Analog	VCI	—	4.75	5	5.5	V
Interface Operation Voltage	IOVCC	—	3.234	3.30	3.367	V
Supply LCM current	ICI(mA)	—	XXX	XXX	-	mA

LED driving conditions:

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current		-	20	-	mA
Power Consumption		324	384	408	mW
LED voltage	VBL+	16.2	19.2	20.4	V
LED Life Time		-	50,000	-	Hr

BOM

Item	Description	Remark
LCM	WF35XTYACDNC0#	
PCBA	4 layer FR4, 1.6mm	

Interface

CON2 definition:

Pin	Symbol	Function	Remark
16	+5V	Power supply 5V input	Input
15	GND	Power supply GND input	Input
14	CAN_High	CAN bus D+	I/O
13	CAN_Low	CAN bus D-	I/O
12	GND	Power supply GND input	Input
11	GND	Power supply GND input	Input
10-1	NC	Connection	-

CON3 definition:

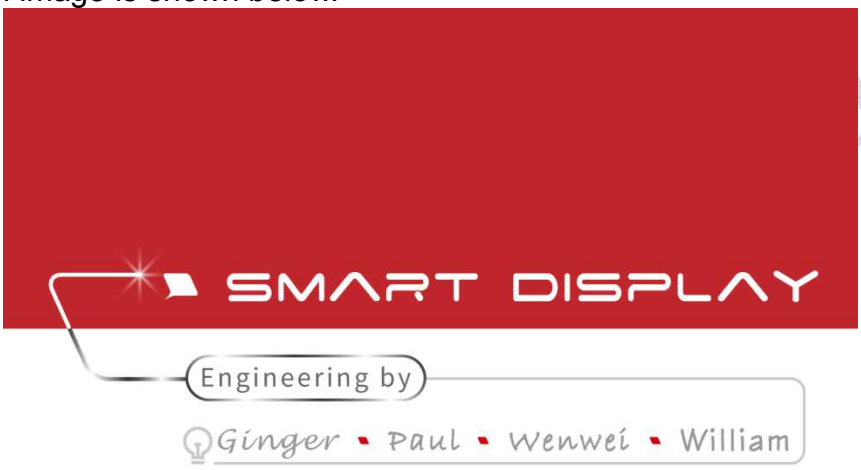
Pin	Symbol	Function	Remark
16	VMCU	3.3V power for JTAG interface	Output
15	JTAG_SWCLK	CLK pin for JTAG interface	Input
14	GND	GND for JTAG interface	Output
13	JTAG_SWDI	Data pin for JTAG interface	I/O
12	NRST	Reset pin for JTAG interface	Input
11	JTAG_SWDO	Data pin for JTAG interface	I/O
11-1	NC	Connection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

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).

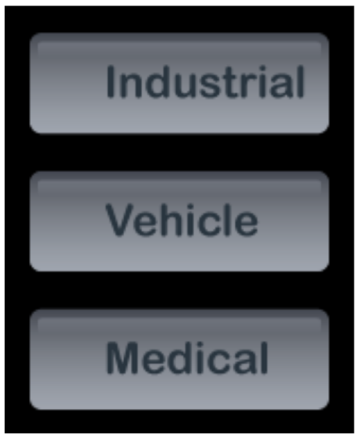
The Display is designed to be easily connected to a controller network, and to operate with minimum setup or knowledge of the SDO configuration on the controllers.

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.

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



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.

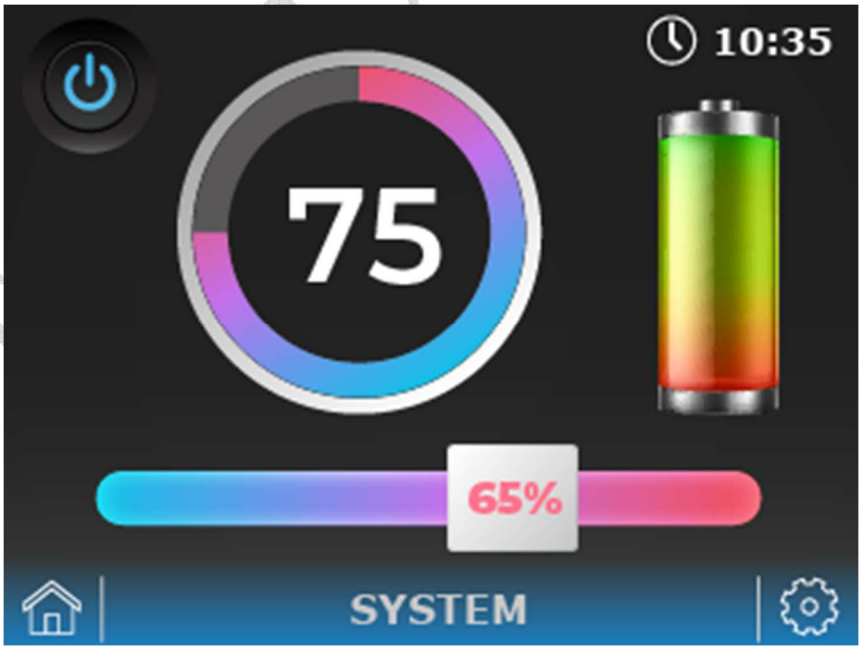
The Smart Display can use wide-temperature are designed to support control applications in harsh operating conditions, which designed to be connected to a variety of different situation combinations, such as automotive, marine, power generation and oil-and-gas.

The Smart Display comes with standard UI objects to get customers project off the ground 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.



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.