TFT DISPLAY SPECIFICATION

WINSTAR Display Co.,Ltd.

華凌光電股份有限公司

SPECIFICATION

MODEL NO. : WL0F0007000A8GAAASC00

Summary

7 Inch Smart Display (CAN series) Features

1. +12V power supply input, the power consumption is around 6W.
2. Self testing after booting function.
3. CAN bus communication interface.
4. Support CANopen negotiation. Default baud rate is 250KB.
5. Embedded FLASH memory, storing Font and Object Dictionary.
6. Support capacitive touch panel (PCAP).
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

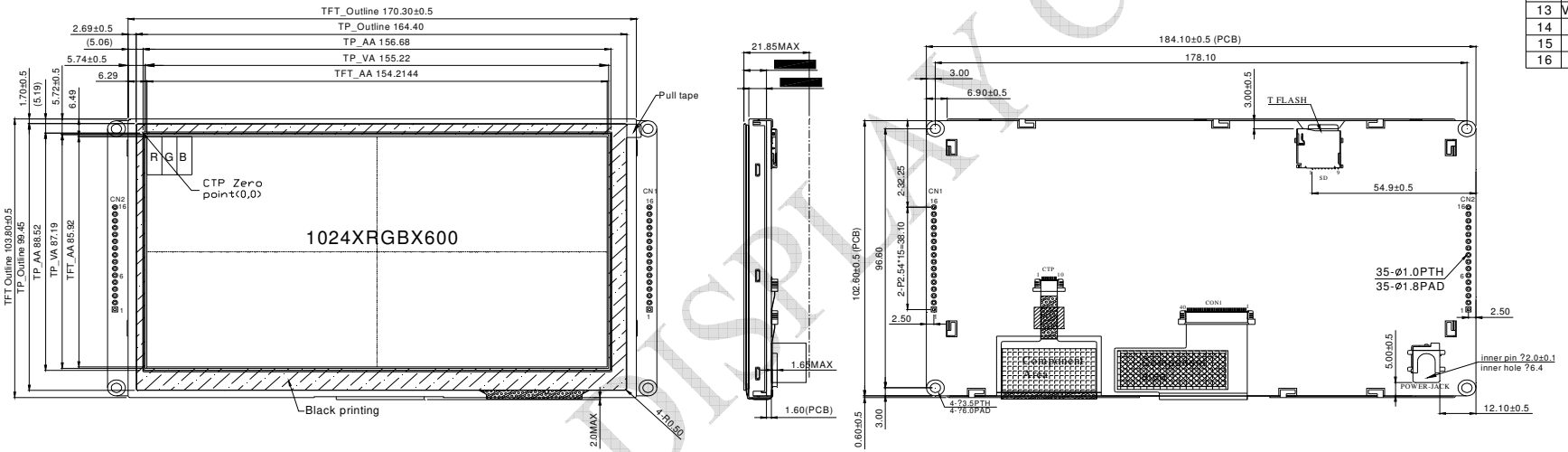
1.Mechanical Data

Item	Standard Value	Unit
LCD panel	169.9(W) x 103.4(H) x 5.6(D)	mm
PCB	184.1(W) x 102.6(H) x 1.6(D)	mm
Housing outline	184.1(W) x 102.6(H) x 21.85(D)	mm

2.General information

Item	Standard Value	Unit
Operating voltage	12	Vdc
Communication Interface	CAN bus differential ± 3.3	Vpp
LCD display size	7.0	inch
Dot Matrix	1024 x RGB x 600(TFT)	dot
Module dimension	169.9(W) x 103.4(H) x 5.6(D)	mm
Active area	154.2144 x 85.92	mm
Dot pitch	0.1506 x 0.1432	mm
LCD type	LED, Normally White	
View Direction	85/85/85/85	
Aspect Ratio	16:9	
Touch Panel	With PCAP	
Surface	Glare	

Contour Drawing



POWER JACK	
PIN	SYMBOL
1	12V
2	GND
3	NC

2 — 1
(GND) (12V)

CN2	
PIN	SYMBOL
1	VDD3V
2	JTAG_SWCLK
3	GND
4	JTAG_SWDIO
5	NRST
6	GND

CN1	
PIN	SYMBOL
1	12V
2	GND
3	CAN_High
4	CAN_Low
5	GND
6	GND
7	NC
8	NC
9	VDD_3.9V
10	NC
11	NC
12	GND
13	VDD_3.9V
14	NC
15	NC
16	GND

1	Lcd Type	TFT
2	Viewing Angle	85/85/85/85
3	Surface	Glare
4	Screen size	7.0"(diagonal)
5	Display format	1024 X RGB X 600
6	Operating Temperature	-20°C ~70°C
7	Storage Temperature	-30°C ~80°C
8	Active area	154.2144(W) X 85.92(H)
9	Dot pitch	0.1506(W) X 0.1432(H)
10	Color arrangement	RGB-STRIPE
11	Brightness	400min. 500typ. cd/m2
12	CTP IC	ILI2130 or equivalent
13	CTP Resolution	16384*16384

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

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	—	11.4	12	12.6	V
Interface Operation Voltage	IOVCC	—	3.234	3.30	3.367	V
Supply LCM current	ICI(mA)	-	-	-	502	mA

BOM

Item	Description
LCM	WF70A8TYAHLNG0#
PCBA	Design part for SMART070

Interface

CON1 definition:

Pin	Symbol	Function	Remark
1	+12V	Power supply12V input	Input
2	GND	Power supply GND input	Input
3	CAN_High	CAN bus D+	I/O
4	CAN_Low	CAN bus D-	I/O
5	GND	Power supply GND input	Input
6	GND	Power supply GND input	Input
7	_	_	_
8	_	_	_
9	VDD_3.9V	3.9V	Power
10	_	_	_
11	_	_	_
12	GND	GND	GND
13	VDD_3.9V	3.9V	Power
14	_	_	_
15	_	_	_
16	GND	GND	GND

CON2 definition:

Pin	Symbol	Function	Remark
1	VDD3V	3.3V power for JTAG interface	Output
2	JTAG_SWCLK	CLK pin for JTAG interface	Input
3	GND	GND for JTAG interface	Output
4	JTAG_SWDIO	Data pin for JTAG interface	I/O
5	NRST	Reset pin for JTAG interface	Input
6	GND	GND	Output
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			

Display Usage

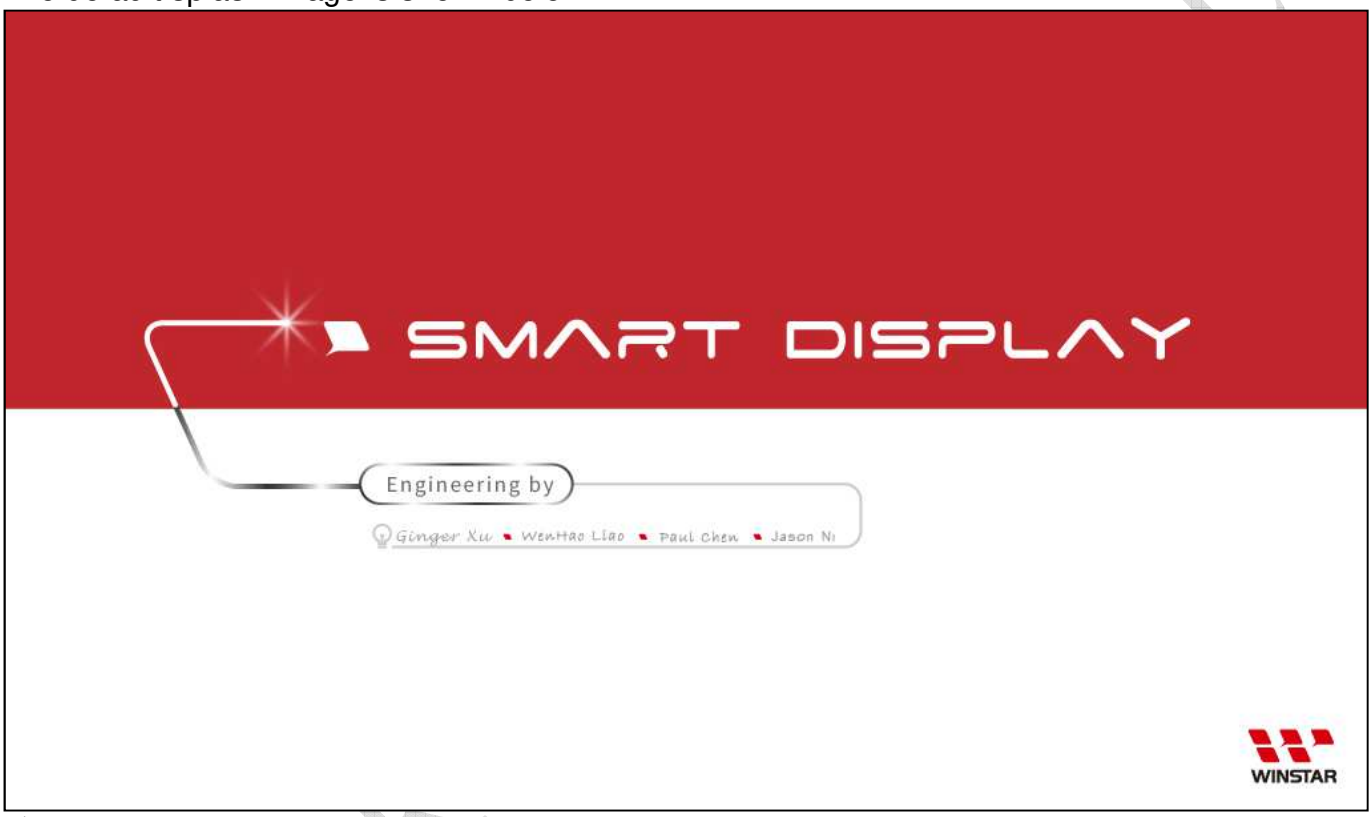
Functional description

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 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 (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.