WINSTAR

WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODEL NO. : WL0F00050000FGAAASA01

Summary

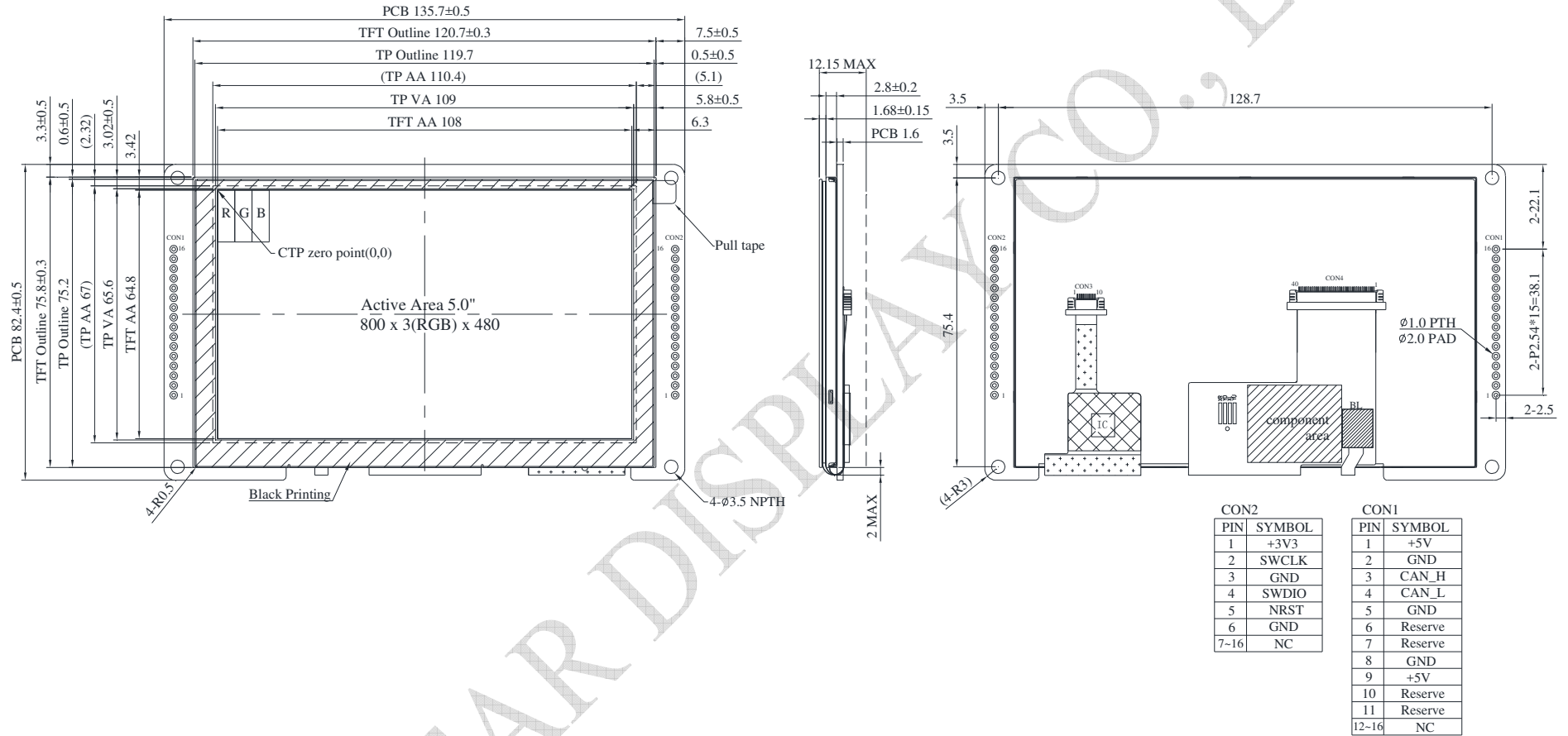**5 Inch Smart Display Feature**

1. DC 5V working voltage, low power consumption for USB to drive.

2. Self testing after booting function.

3. CAN bus communication interface.

4. Support CANopen negotiation. Default baud rate is 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).

Product information

General information

Item	Standard Value	Unit
Operating voltage	5	Vdc
Communication Interface	CAN bus differential ± 3.3	Vpp
MCU	STM32F750	N/A
Flash Memory	16	MB
SDRAM Frequency	108	MHz
LCD display size	5.0	inch
Dot Matrix	800× 3(RGB) × 480	dot
Module dimension	135.7(W) ×82.4(H) ×12.15	mm
Active area	108(W) ×64.8 (H)	mm
Dot pitch	0.135(W) ×0.135(H)	mm
Brightness	Min: 650; Typ: 750	cd/m^2
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	5:3	
With /Without TP	With CTP	
Surface	Glare	

Contour Drawing

PCB 135.7±0.5
TFT Outline 120.7±0.3
TP Outline 119.7
(TP AA 110.4)
TP VA 109
TFT AA 108

7.5±0.5
0.5±0.5
(5.1)
5.8±0.5
6.3

3.3±0.5
0.6±0.5
(2.32)
3.02±0.5
3.42

12.15 MAX
2.8±0.2
1.68±0.15
PCB 1.6

3.5
128.7
3.5

R G B
CTP zero point(0,0)

CON1
16
1

CON2
16
1

Pull tape

PCB 82.4±0.5
TFT Outline 75.8±0.3
TP Outline 75.2
(TP AA 67)
TP VA 65.6
TFT AA 64.8

Active Area 5.0"
800 x 3(RGB) x 480

CON2
16
1

CON3
10

CON4
40

75.4

component area

IC

BL

∅1.0 PTH
∅2.0 PAD

CON1
16
1

2-22.1

2-P2.54*15=38.1

2-2.5

4-R0.5
Black Printing
4-∅3.5 NPTH

2 MAX
(4-R3)

CON2	
PIN	SYMBOL
1	+3V3
2	SWCLK
3	GND
4	SWDIO
5	NRST
6	GND
7~16	NC

CON1	
PIN	SYMBOL
1	+5V
2	GND
3	CAN_H
4	CAN_L
5	GND
6	Reserve
7	Reserve
8	GND
9	+5V
10	Reserve
11	Reserve
12~16	NC

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

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	4.75	5	5.5	V
Supply Current	ICC		550		mA

BOM

Item	Description
LCM	WF50FSWAGDNG0#
PCBA	SV10005R000FE00N0100

Interface

CON1 definition:

Pin	Symbol	Function	Remark
1	+5V	Power supply 5V input	Input
2	GND	Power supply GND input	Input
3	CAN_H	CAN bus D+	I/O
4	CAN_L	CAN bus D-	I/O
5	GND	GND	Output
6	Reserve	--	Reserve
7	Reserve	--	Reserve
8	GND	GND	Output
9	+5V	+5V	Output
10	Reserve	--	Reserve
11	Reserve	--	Reserve
12-16	NC	--	-

CON2 definition:

Pin	Symbol	Function	Remark
1	+3V3	3.3V power for JTAG interface	Output
2	SWCLK	CLK pin for JTAG interface	Input
3	GND	GND for JTAG interface	Output
4	SWDIO	Data pin for JTAG interface	I/O
5	NRST	Reset pin for JTAG interface	Input
6	GND	GND	Output
7-16	NC	--	-

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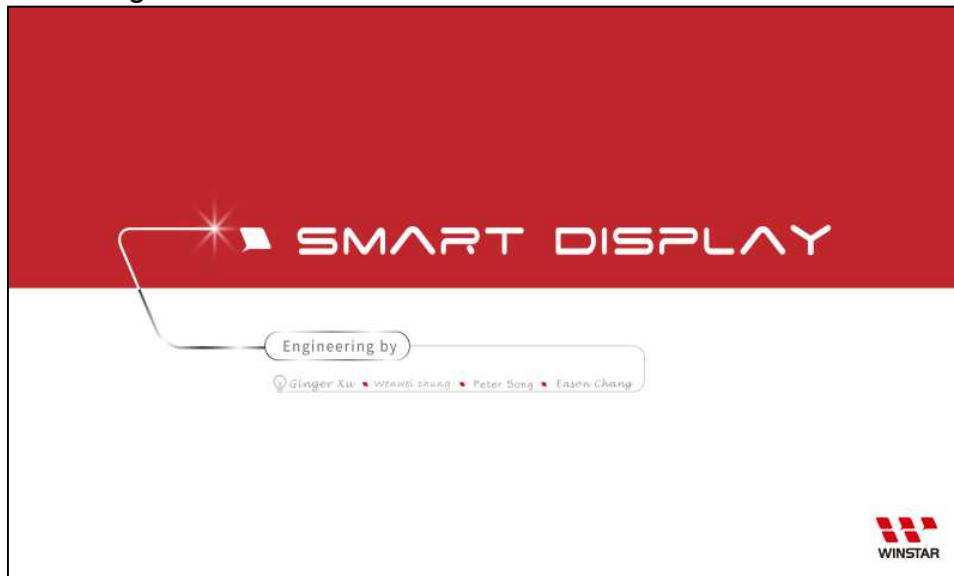
✓ This product is produced as a generic product. If you require a custom splash image for your application, contact us to discuss.

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 by using the CANopen SDO protocol.

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

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.
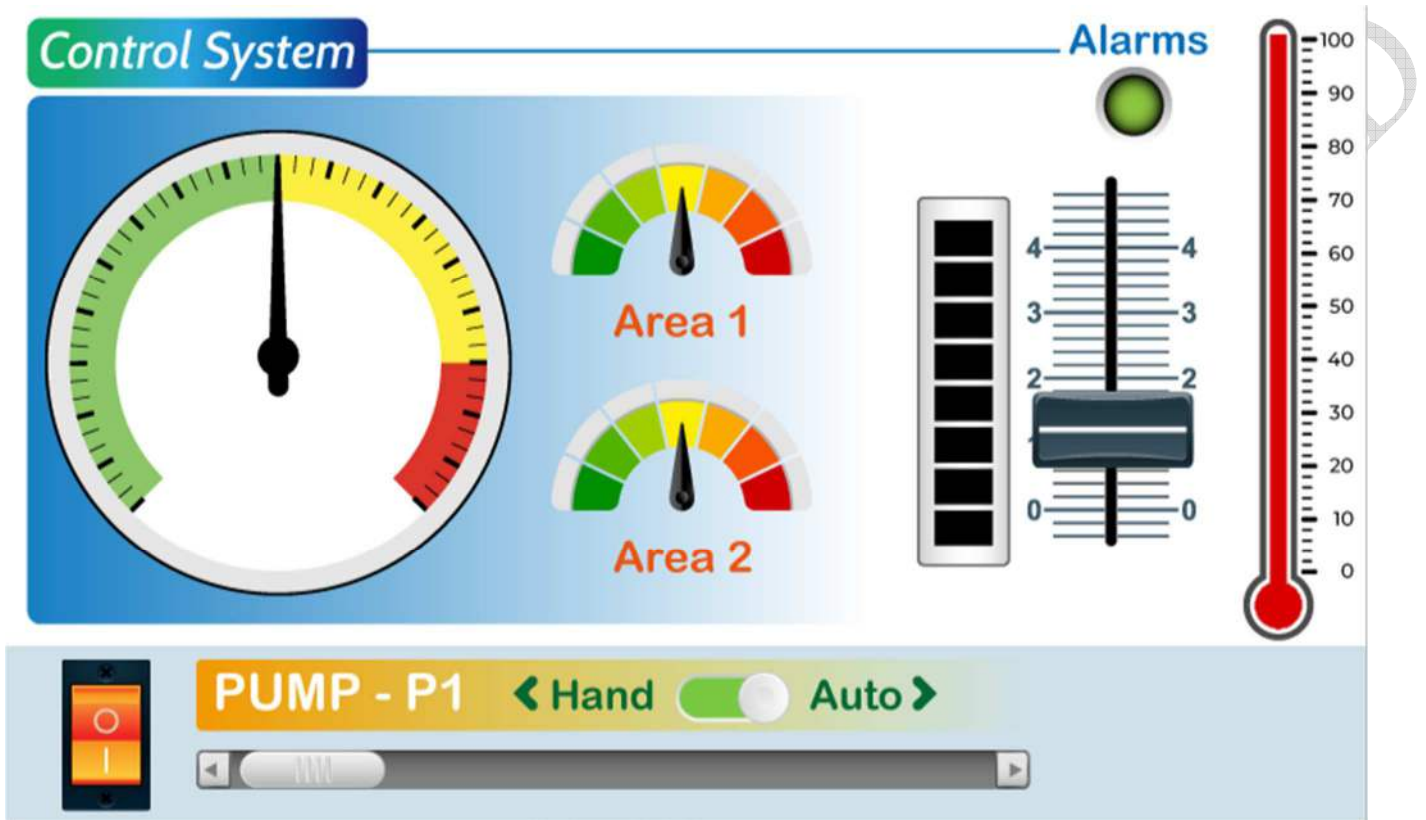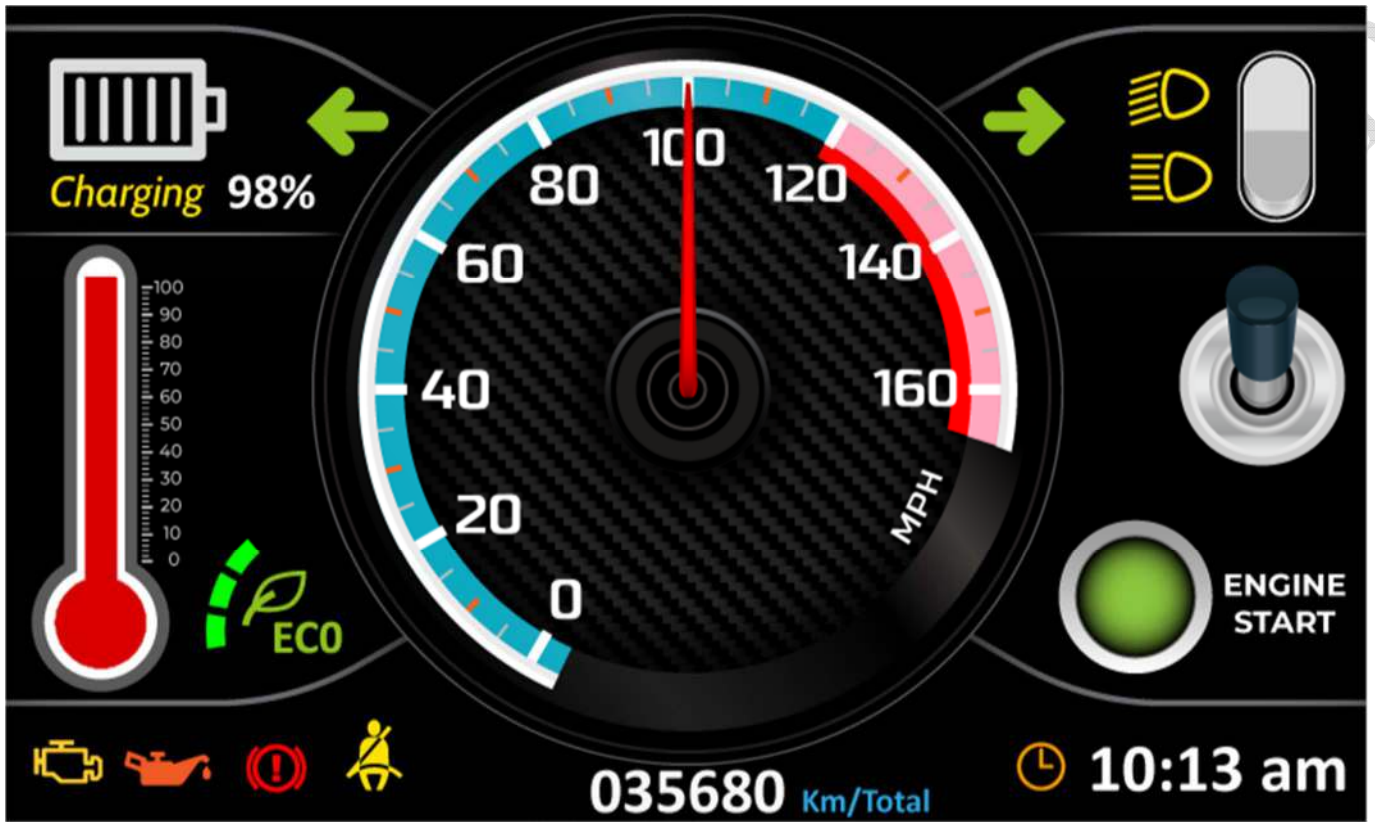
Example Screen Layout (Vehicle automotive)

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.