



RAYSTAR

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## RL0F00050000FGAAASA01

### SPECIFICATION

## Summary

#### 5 Inch Smart Display Feature

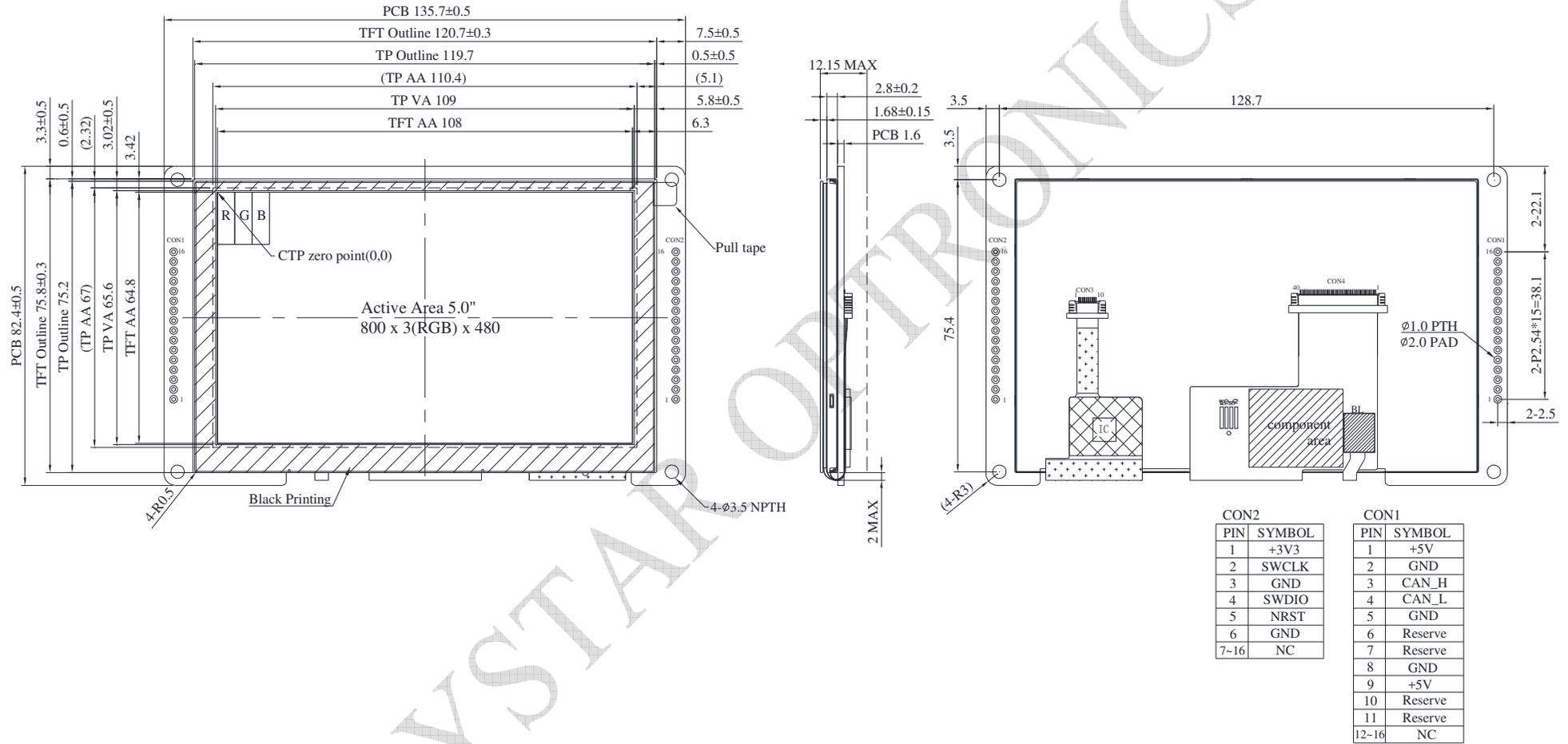
1. DC 5V working voltage, low power consumption for USB to drive.
2. Self testing after booting function.
3. CAN bus communication interface.
4. Support CANopen negotiation. Default baud rate is 250KB.
5. Built in flash memory, store the font and Object Dictionary Data.
6. Support capacitive touch panel (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 $\pm 3.3$	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 <sup>2</sup>
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	5:3	
Touch Panel	With PCAP	
Surface	Glare	

# Contour Drawing



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

# Absolute Maximum Ratings

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

# 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	RFF500F-AWH-DNG
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

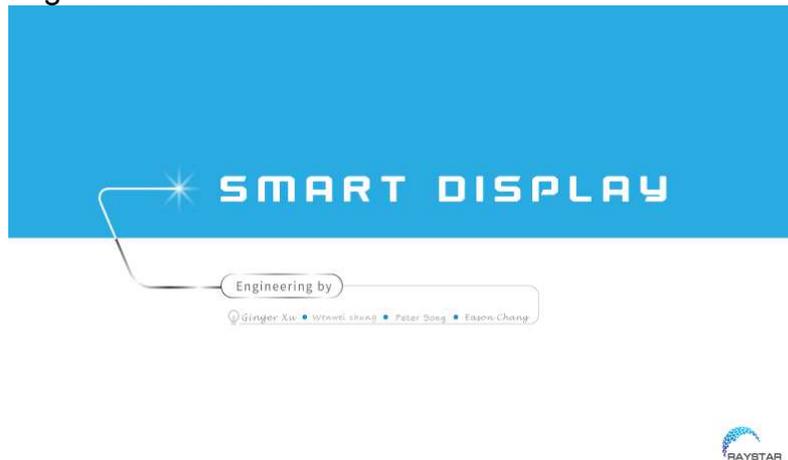
## Functional description

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.

### Configuring the Display

Raystar 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.

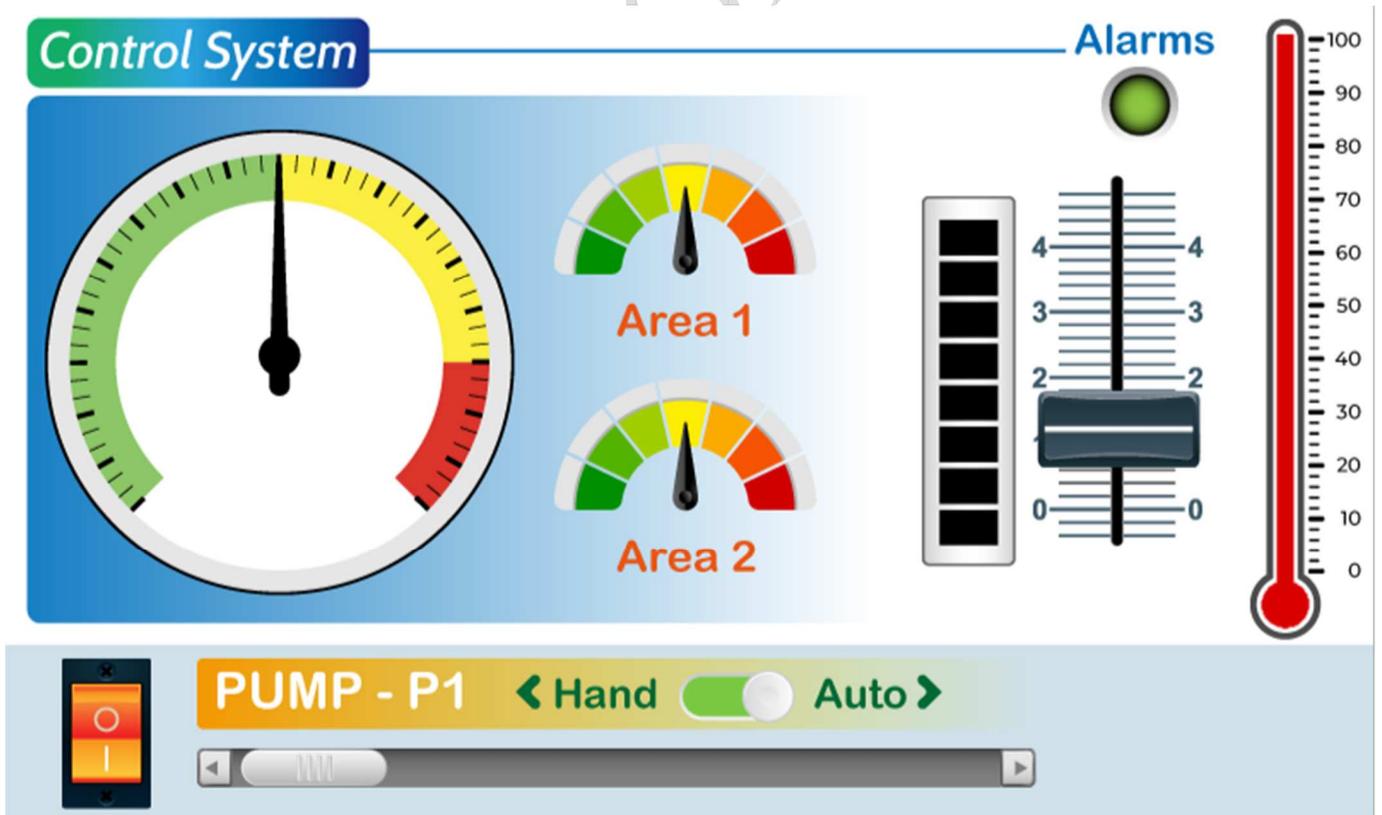
The Smart Display comes with standard UI objects to get customers project off the ground quickly. If customers need custom UI objects support, our engineers are here to help. Send over your contents in PNG/JPG format, we will send over a new set of UI objects within 3~5 working days.

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

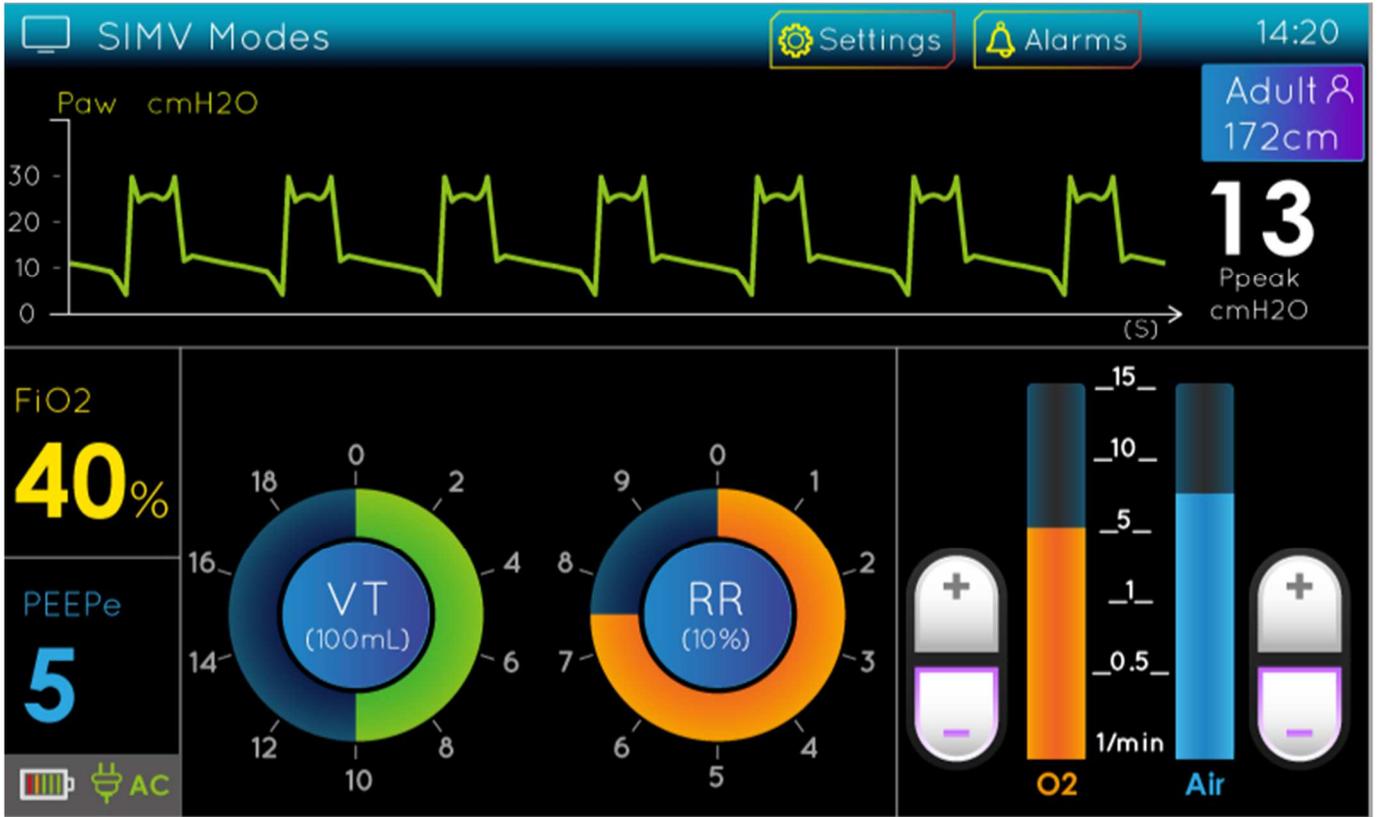
The screen layout described in this section is intended to demonstrate the settings of screen items that can be used in a vehicle automotive situation.



# 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.



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