

TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
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SPECIFICATION

MODEL NO. : WL0F0007000A8GXACSA00

Summary

WL0F0007000A8GXACSA00 is a 7-inch multiple Interfaces HMI Smart display module with 1024x600 pixels resolution.

Supply input voltage with dynamic range from 8V-48V, typical value is 24V.

It works within temperature range from -20 to +70°C and storage temperature ranges from -30 to +80°C.

Features

Item	Specifications	Connector
Display	WF70A8TYAHLNGB#	CON12
Touch	PCAP	CON2
Brightness	Hi-Brightness(Typ 850/ Min 800 nits)	N/A
MCU	STM32 Hi-end series	N/A
SW GUI tool	ST TouchGFX	N/A
FW design	initial code only	N/A
System interface	RS485_1 w/PWR	2.0mm, 4P (CON3)
	RS485_2 w/PWR	2.0mm, 4P (CON4)
	RS232	2.54mm, 5P (CON5)
	UART_1	1.25mm,3P (CON6)
	UART_2	1.25mm,3P (CON7)
	USB	Type C
	CAN FD_1 w/PWR	2.0mm, 4P (CON8)
	CAN FD_2 w/PWR	2.0mm, 4P (CON9)
	I2C_1	1.25mm,3P (CON10)
	I2C_2	1.25mm,3P (CON11)
Flash memory	16MB	N/A
Operating voltage	8V~48V	1.25mm, 6P(CON13)
	SWD debug port	2.54mm, 4P(CON14)
	Micro SD slot	SD
	PoE add on function(Option)	(CON15)
	Battery coin cell connector	Y(CONA200), PH-SMT-2AW
	Push button_1(SW4)	RESET module function
	Push button_2(SW2)	PH2 for user development
	Push button_3(SW3)	PH3 for user development
	LED_1	for PWR
	LED_2	SWDIO indicator
	LED_3	SWCLK indicator
	LED_4 (share with CON16 GPIO1)	PI15for user development
	Ethernet	RJ45
GPIO 2.54mm, 16P (CON16)	Each of the GPIO pins can be configured by software as output (push-pull or open-drain, with or without pull-up or pull-down), as input (floating, with or without pull-up or pull-down) or as peripheral alternate function. Most of the GPIO pins are shared with digital or analog alternate functions. Please refer to the datasheet of MCU STM32H747	
	Optional for 1xDAC	Pin1
	Optional for 3xADCs	Pin1/3/4/12/15
	Optional for 16 sets of GPIO	Pin1~16

Product information

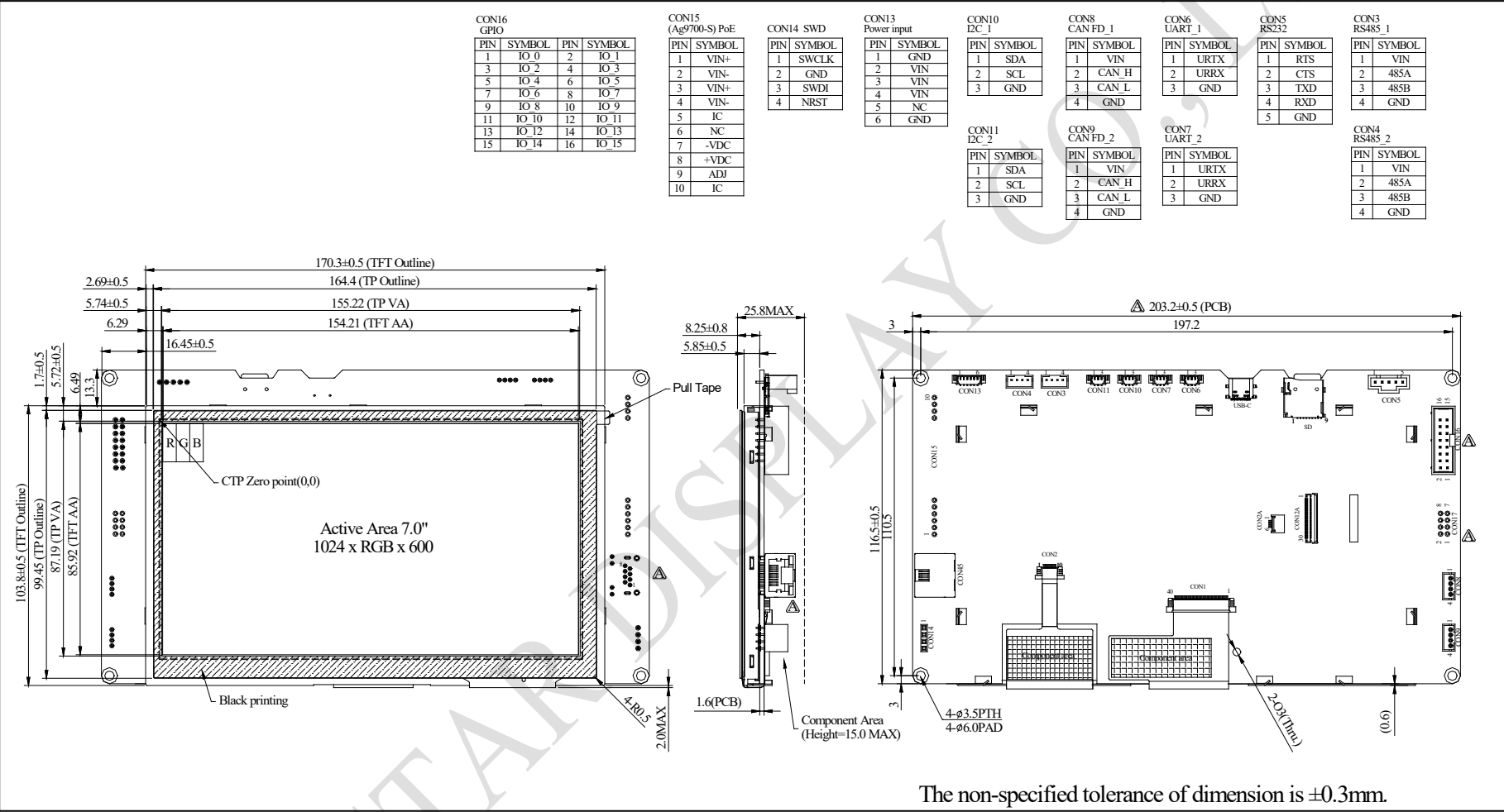
Mechanical Data

Item	Standard Value	Unit
LCD panel	169.9(W) x 103.4(H) x 7.3(D)	mm

General information

Item	Standard Value	Unit
Operating voltage	DC 8~48V or POE PD(Optional)	Vdc
Communication Interface	LAN / CANFD / RS485 / RS232 / UART / I2C / USB	NA
MCU	STM32H747	N/A
Flash Memory	16	MB
LCD display size	7.0	inch
Dot Matrix	1024 x RGBx600(TFT)	dot
Module dimension	203.2(W) x 116.5 (H) x 25.8(D)	mm
Active area	154.21 x 85.92	mm
Pixel pitch	0.1506 x 0.1432	mm
Brightness	Min: 800; Typ: 850	cd/m ²
LCD type	TFT, Normally Black, Transmissive	
View Direction	85/85/85/85	
Aspect Ratio	16:9	
Touch Panel	With Projected Capacitive Touch Panel (PCAP)	
Surface	Glare	
GPIO	16	CH
SD card	Micro SD slot	

Contour Drawing



Absolute Maximum Ratings

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

Electrical Characteristics

1. Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VIN	—	8	24	48	V
LCM Power Consumption		—		6.48	7	W
Current Drawn VIN=8V				838		mA
Current Drawn VIN=12V				531		mA
Current Drawn VIN=24V				270		mA
Current Drawn VIN=48V				144		mA

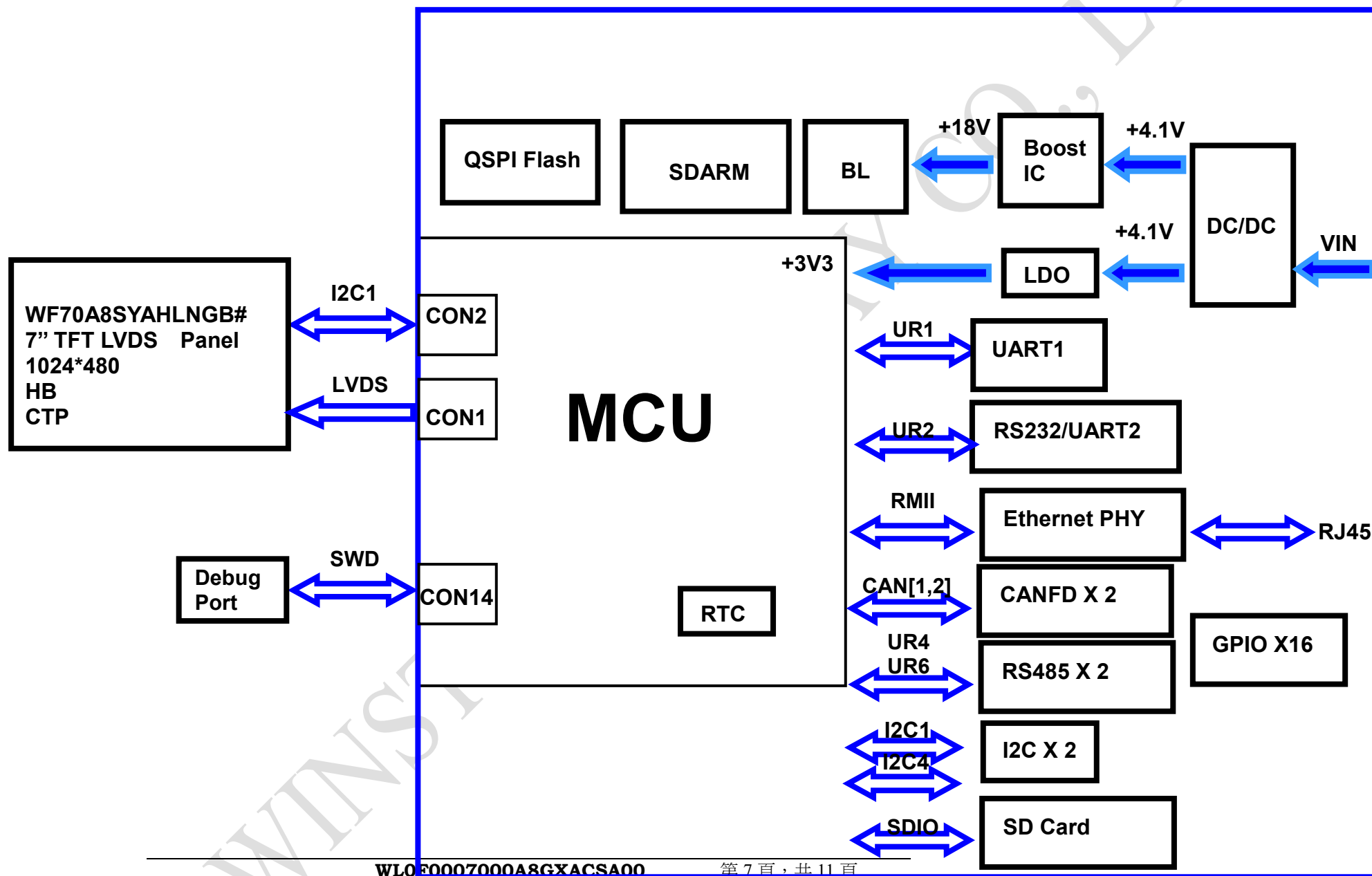
2. LED driving conditions:

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current		-	188		mA
Power Consumption		-	3.3	3.667	W

BOM

Item	Description
LCM	WF70A8SYAHLNGB#
PCBA	SV10007R00A8F00N0100

Block diagram



Interface

Power input connector CON13 (1.25mm, 6P)

Pin	Symbol	Function	Remark
1	GND	Power supply GND input	Power
2	VIN	Power supply input; 8~48V	Power
3	VIN	Power supply input; 8~48V	Power
4	VIN	Power supply input; 8~48V	Power
5	NC		
6	GND	Power supply GND input	Power

RS485_1 interface CON3 (2.0mm, 4P)

Pin	Symbol	Function	Remark
1	VIN	Power supply input; 8~48V	Power
2	485A	Non-inverting receiver input and non-inverting driver	
3	485B	Inverting receiver input and inverting driver output	
4	GND	Power supply GND input	Power

RS485_2 interface CON4 (2.0mm, 4P)

Pin	Symbol	Function	Remark
1	VIN	Power supply input; 8~48V	Power
2	485A	Non-inverting receiver input and non-inverting driver	
3	485B	Inverting receiver input and inverting driver output	
4	GND	Power supply GND input	Power

RS232 interface
CON5 (2.54mm, 5P)

Pin	Symbol	Function	Remark
1	RTS	Request to send	I/O
2	CTS	Clear to send	I/O
3	TXD	Transmit Data	I/O
4	RXD	Receive Data	I/O
5	GND	Ground	Power

CAN FD_1 interface
CON8 (2.0mm, 4P)

Pin	Symbol	Function	Remark
1	VIN	Power supply input; 8~48V	Power
2	CAN_H	CAN High-Level Voltage	
3	CAN_L	CAN Low-Level Voltage	
4	GND	Power supply GND input	Power

CAN FD_2 interface
CON9 (2.0mm, 4P)

Pin	Symbol	Function	Remark
1	VIN	Power supply input; 8~48V	Power
2	CAN_H	CAN High-Level Voltage	
3	CAN_L	CAN Low-Level Voltage	
4	GND	Power supply GND input	Power

I2C_1 interface
CON10 (1.25mm, 3P)

Pin	Symbol	Function	Remark
1	SDA	I2C SDA signal	I/O
2	SCL	I2C CLK signal	I/O
3	GND	Power supply GND input	Power

I2C_2 interface
CON11 (1.25mm, 3P)

Pin	Symbol	Function	Remark
1	SDA	I2C SDA signal	I/O
2	SCL	I2C CLK signal	I/O
3	GND	Power supply GND input	Power

SWD interface:
CON14 (2.54mm, 4P)

Pin	Symbol	Function	Remark
1	SWCLK	CLK pin for SWD interface	Input
2	GND	GND for SWD interface	Output
3	SWDI	Data pin for SWD interface	I/O
4	NRST	Reset pin for SWD interface	Input

GPIO**CON16 (2.54mm, 16P)**

Pin	Symbol	Function	Pin	Symbol	Function
1	IO0 (PA5)	GPIO,ADC1,DAC1,TIMER2	2	IO1 (PI15)	GPIO
3	IO2 (PC2)	GPIO,ADC3	4	IO3 (PC3)	GPIO, ADC3
5	IO4 (PE4)	GPIO, TIMER15	6	IO5 (PA12)	GPIO
7	IO6 (PE5)	GPIO,TIMER15	8	IO7 (PE2)	GPIO
9	IO8 (PE6)	GPIO, TIMER15	10	IO9 (PE3)	GPIO
11	IO10 (PI11)	GPIO	12	IO11 (PB1)	GPIO,ADC1,ADC2,TIMER3
13	IO12 (PD11)	GPIO	14	IO13 (PB10)	GPIO, TIMER2
15	IO14 (PH4)	GPIO,ADC3,I2C2_SCL	16	IO15 (PB11)	GPIO, TIMER2, I2C2_SDA

**RTC Battery interface:
CONA200 (2.0mm, 2P)**

Pin	Symbol	Function	Remark
1	Battery+	3.0V	Input
2	Battery-	GND	Output