Represented by:

FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

DMG80480T043_A5WTC

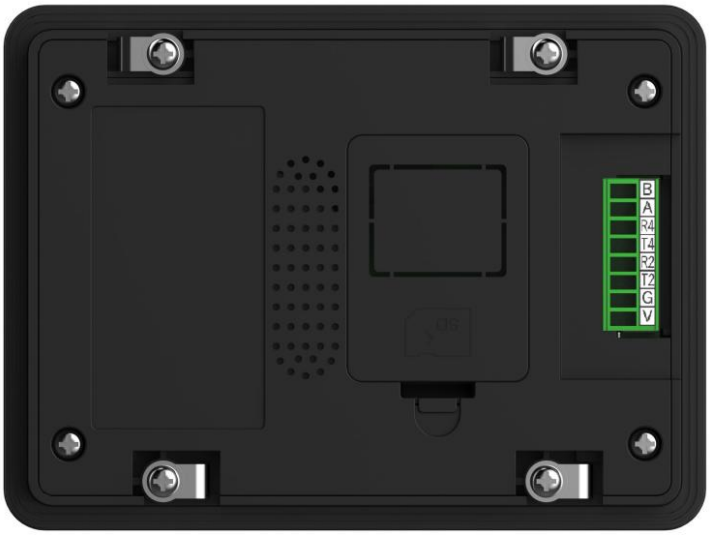
Features:

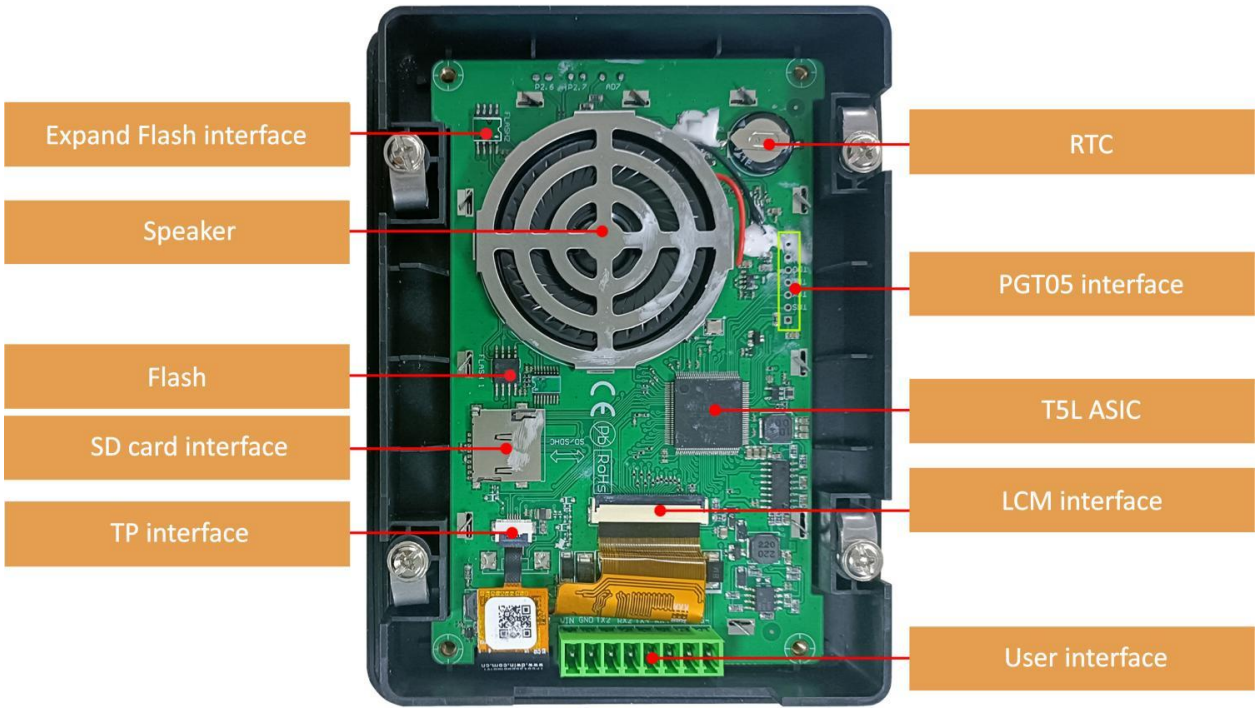
- **Based on T5L1, running DGUS II system, industrial grade.**
- **4.3-inch, 480*800 pixels resolution, 16.7M colors, IPS-TFT-LCD, wide viewing angle.**
- **Capacitive touch screen.**
- **With built-in speaker, LED lamp and Photosensitive sensor.**
- **Anti-UV, with conformal coating,with enclosure.**



1. Hardware and interface

1.1 Hardware interface





Hardware interface

1.2 Hardware and interface description

No.	Name	Description
1	T5L1 ASIC	Developed by DWIN. Mass production in 2019,1MBytes Nor Flash on the chip, 512KBytes used to store the user database. Rewrite cycle: over 100,000 times
2	LCM interface	FPC40_0.5mm, RGB interface
3	CTP interface	6Pin_0.5mm, IIC interface
4	User interface	8Pin_3.81mm socket for power supply and serial communication. Download rate(typical value): 12KByte/s
5	Flash	16MBytes NOR Flash, for fonts, pictures and audio files. Rewrite cycle: over 100,000 times
6	Expand Flash	Expandable to 32Mbytes NOR Flash.When expanding Flash, components such as decoders and capacitors need to be soldered. Please consult the corresponding salesperson for relevant customization.
7	Speaker	Onboard speaker. Power: 2W
8	RTC	Super-capacitor for power supply. Accuracy: ±20ppm @25℃. It can work normally for 7 days after power failure
9	SD card interface	FAT32. Download files by SD interface can be displayed in statistics. Download rate: 4Mb/s
10	PGT05 interface	When product crashes by accident, you can use PGT05 to update DGUS kernel and make the product return to normal

first components

2. Specification parameters

2.1 Display parameters

LCD Type	IPS, TFT LCD
Viewing Angle	Wide viewing angle,85°/85°/85°/85°(L/R/U/D)
Resolution	480×800 pixels (support 0°/90°/180°/270°)
Color	24-bit 8R8G8B
Active Area (A.A.)	93.20mm (W) ×55.76mm (H)
View Area (V.A.)	93.20mm (W) ×55.76mm (H)
Backlight Mode	LED
Backlight Service Life	>30000 hours (Time of the brightness decaying to 50% on the condition of continuous working with the maximum brightness)
Brightness	250nit
Brightness Control	0~100 grade (When the brightness is adjusted to 1%~30% of the maximum brightness, flickering may occur and is not recommended to use in this range)
Note:You can use dynamic screen saver wallpapers to avoid afterimages caused by fixed page display for a long time.	

2.2 Touch parameters

Type	CTP (Capacitive touch panel)
Structure	G+G structure with surface cover of tempered glass
Touch Mode	Single touch, support continuous sliding touch
Surface Hardness	6H
Light Transmittance	Over 90%
Life	Over 1,000,000 times touch

2.3 Serial interface parameters

Mode	UART2: RS232 UART4: RS232(Only available after OS configuration) UART5: RS485(Only available after OS configuration)				
UART2,4 Voltage Level	Test Condition	Min	Typ	Max	Unit
	Output 1	-	-5.0	-3.0	V
	Output 0	3.0	5.0	-	V
	Input 1	-15.0	-5.0	-	V
	Input 0	-	5.0	15.0	V
UART2,4 Baud Rate	3150~3225600bps, typical value of 115200bps				
UART5 Voltage Level	Test Condition	Min	Typ	Max	Unit
	Output 1	2.5	5.0	-	V
	Output 0	-	-5.0	-2.5	V
	Input 1	0	2.5	-	V
	Input 0	-	-2.5	-0.2	V
UART5 Baud Rate	3150~921600bps, typical value of 115200bps				
Data Format	UART2: N81 UART4: N81/E81/O81/N82 , 4 modes (OS configuration) UART5: N81/E81/O81/N82 , 4 modes (OS configuration)				
Interface table	8Pin_3.81mm Socket				

first components

2.4 Electrical specifications

Rated Power	<5W	
Operating Voltage	10~36V, typical value of 12V	
Operating Current	120mA	VCC=12V, max backlight
	60mA	VCC=12V, backlight off
Recommended power supply: 12V 1A DC		

2.5 Operating environment

Operating Temperature	-20℃~70℃ (12V @ 60% RH)
Storage Temperature	-30℃~80℃
Operating Humidity	10%~90%RH, typical value of 60% RH
Anti-UV	Yes
Conformal Coating	Yes
Protection Grade	IP65 (Front)
Snap Screw	11.88±20% kgf.cm

first components

3. Reliability test

3.1 Electrostatic discharge test

Test temperature: 25°C. Test humidity: 50%RH.

■ Test standard : ☐EN 61000-4-2:2009 ☑IEC 61000-4-2:2008 ☐GB/T 17626.2-2018
☐Other:

Table 1: Electrostatic Discharge Immunity (Air Discharge)

Test Points Locations	Test Levels							
	-2kV	+2kV	-4kV	+4kV	-8kV	+8kV	-15kV	+15kV
Screen					A	A		
/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/

Table 2: Electrostatic Discharge Immunity (Direct Contact)

Test Points Locations	Test Levels							
	-2kV	+2kV	-4kV	+4kV	-6kV	+6kV	-8kV	+8kV
/ Screen	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/	/

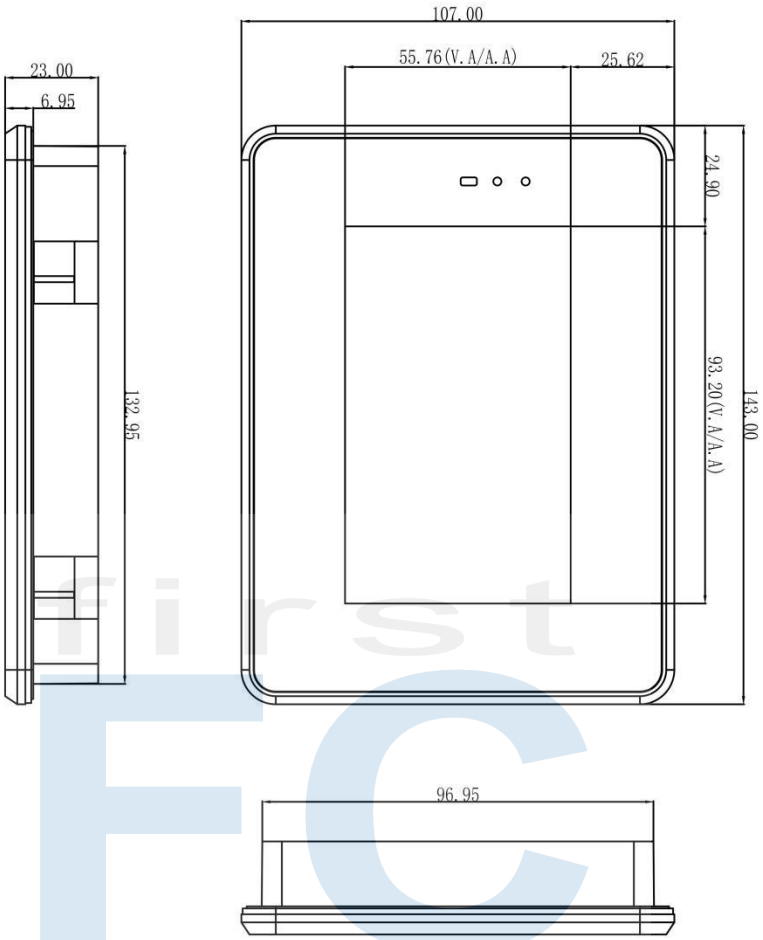
3.2 EFT test

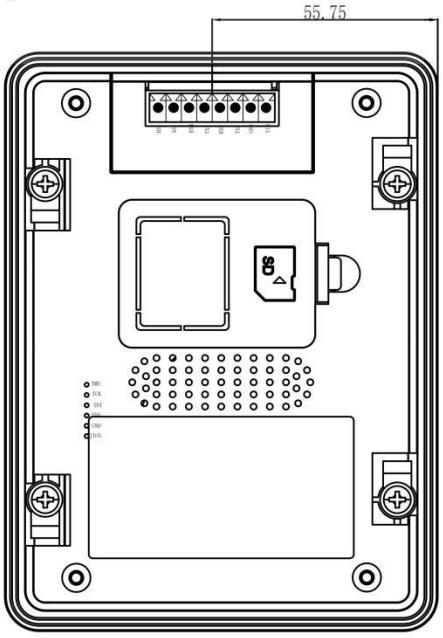
Test temperature: 25°C. Test humidity: 50%RH.

■ Test standard : ☐EN 61000-4-4:2012 ☑IEC 61000-4-4:2012 ☐GB/T 17626.4-2018
☐Other:

Test Points		Test Levels(kV)							
		-0.5	+0.5	-1.0	+1.0	-2.0	+2.0	-4.0	+4.0
DC 12V Power ports	L					A	A		
	N					A	A		
	Earth	/	/	/	/	/	/	/	/
	L+N					A	A		
	L + Earth	/	/	/	/	/	/	/	/
	N + Earth	/	/	/	/	/	/	/	/
	L+N+Earth	/	/	/	/	/	/	/	/
Signal ports	____/__	/	/	/	/	/	/	/	/

Pin#	Definition	Type	Description
1	VIN	P	Power Input
2	GND	P	GND
3	TX2	O	UART2 Output
4	RX2	I	UART2 Input
5	TX4	O	UART4 Output
6	RX4	I	UART4 Input
7	A5+	A+	485+
8	B5-	B-	485-





1.Location hole is used as position reference.

2.Unmarked Tolerance is +/-0.3mm

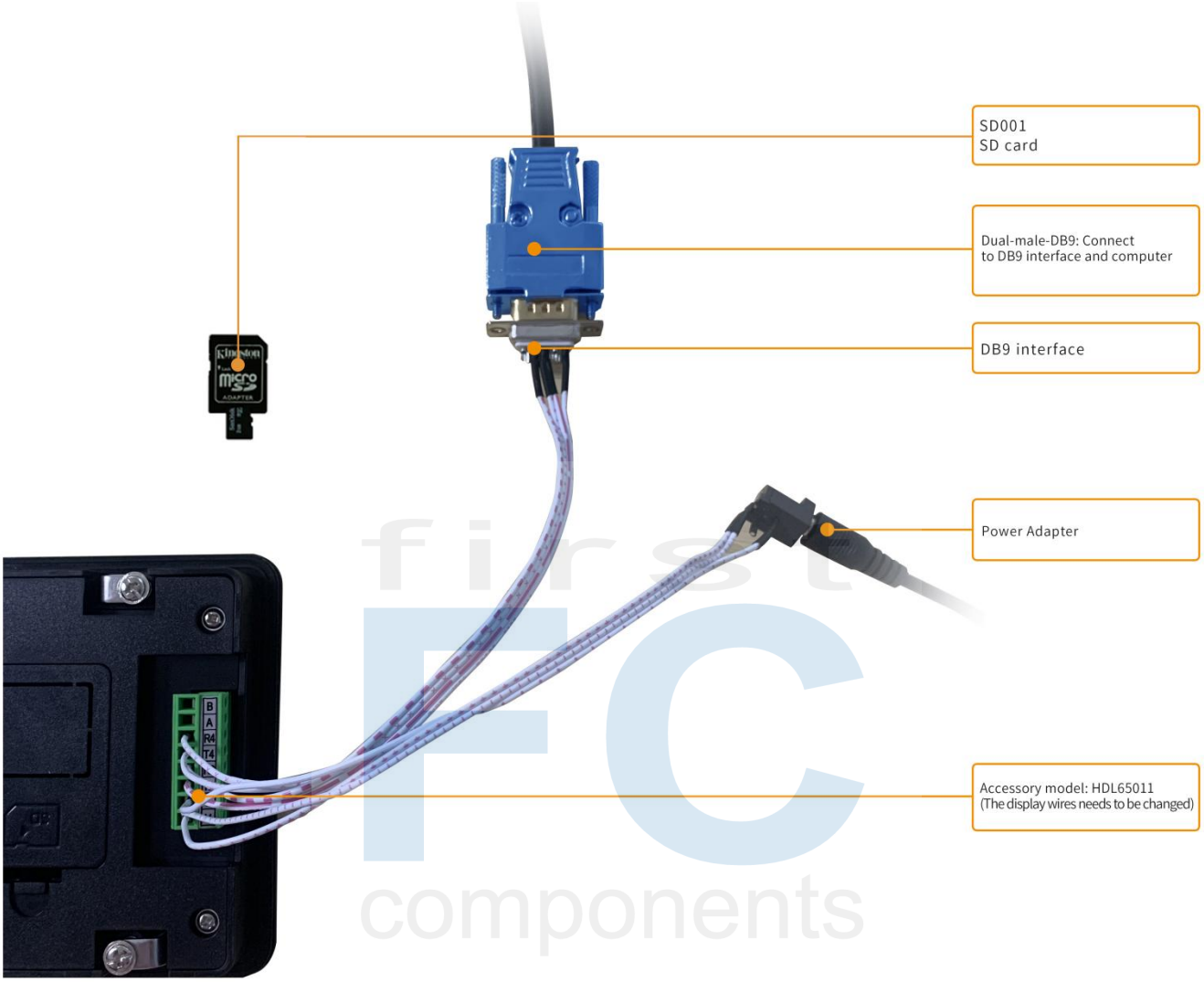
Note: Active area is marked in Dash lines

Model	DMG80480T043-A5WTC				
Drawing	A 4	Drawn	G.Y	Date	2020.11.30
Scale	1:1	Review		Date	
Unit	MM	Approval		Date	

DWIN Technology

4. Debugging tools

It is recommended for new users of DWIN smart LCMs to purchase official accessories. For more details, please refer to customer service center.



5. Revision records

Rev	Revise Date	Content	Editor
00	2023-08-15	First Edition	Xu Ying
01	2023-12-20	EMC hardware upgrade, natural consumption of old inventory boards	Xu Ying

first FC components
+39 0332 1888005
+39 0332 320856
info@first-components.com
Via 2 Giugno, 20 – 21022 Azzate (VA) Italy
VAT number IT02764420127
REA Varese 285686
Social capital fully paid 100.000€