ISO9001:2015 Quality System Certification

ASTGE 043W024-L480X272R-P1 Series Specification

2025/3/20

Catalog

1. Model Definition

The model number of the product is defined in the figure below:

ASTGE043W024-L480X272R-P1D0C	
ASTGE	ASTG Serial Screen Series, E: stands for Economy Model;
043	LCD screen size is 4.3 inches;
W02	Memory capacity and FLASH type: W01:32MB DDR2+ NAND FLASH; W02:32MB DDR2+ NOR FLASH; W11: 8MB DDR2+ NAND FLASH; W12: 8MB DDR2+ NOR FLASH;
4	FLASH CAPACITY: 2Mbyte=1;4Mbyte=2;8Mbyte=3;16Mbyte=4;32Mbyte=5;64Mbyte=6;128Mbyte=7;256Mbyte=8;512Mbyte=9;1Gbyte=X;
L480X272	The LCD resolution is L480X272:
R	R: Resistor TP; C: Capacitor TP; N: No touch;
P	A: 4Pin; P: 6Pin; N: bare screen;
1	0: 5V power supply; 1:9~30V power supply;
D	0: None; D: COM1: 485 communication; E: 232 communication;
0	0: COM2: No communication;
C	C:RTC； N:No RTC;

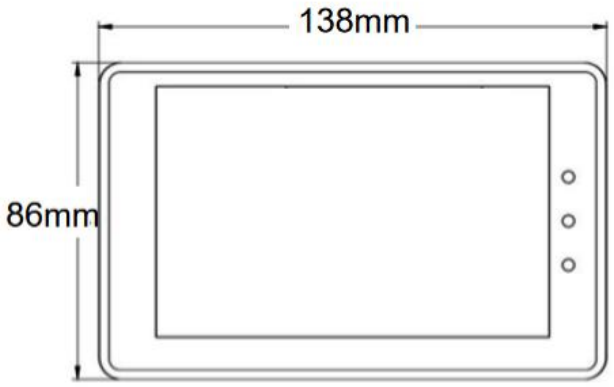
2.Product Description

2.1Product Model

model number	Specification
ASTGE043W024-L480X272R-P1D0C	ASTGE series, 4.3” 480X272 resolution display, DC9-30V power supply, one 485 serial port, 16Mbyte SPI NOR Flash, resistive touch;
ASTGE043W024-L480X272R-P1E0C	ASTGE Series, 4.3” 480X272 resolution display, DC9-30V power supply, one 232 serial port, 16Mbyte SPI NOR Flash, resistive touch;

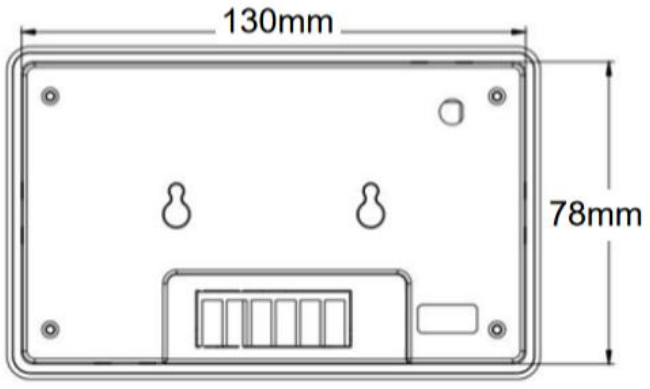
2.2 Product Size

Product Series	Size of the whole machine	Effective display area size	Hole Size	Recommended opening size
ASTGE043W024-L480X272R-P1D0C	138*86*26mm	95.04*53.86mm	130*78mm	132*80mm

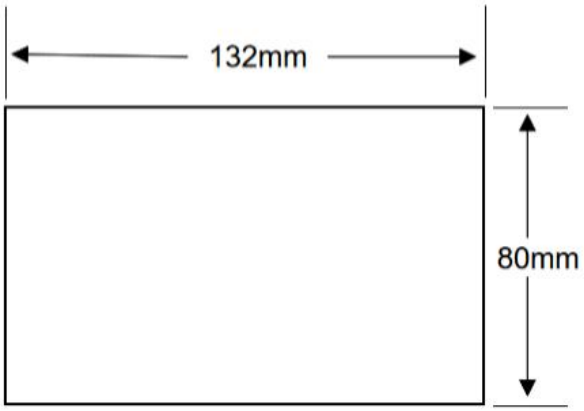


positively

lateral side



backside



Suggested opening size

2.3 Product Parameters

Product Specification		
hardware performance	Model Series	ASTGE043W024-L480X272R-P1D0C ASTGE043W024-L480X272R-P1E0C
	monitor	4.3" TFT LCD
	Resolution (Px)	480X272
	coloration	240,000
	luminance	250 cd/m^2
	Backight	LED (supports backlight adjustment)
	LED Lifetime	20,000 hours
	touchscreens	resistive touchscreen
	CPU	200MHz ARM Cortex-M4F Built-in MB PSRAM memory
	memory	16Mbyte SPI NOR Flash
	RTC	backing
	buzzers	backing
	Power down data saving	3S autosave
	USB port	unsupported
	Program download method	TF Card Download
	communication port	ASTGE043W024-L480X272R-P1D0C: 1 RS485 level serial port; ASTGE043W024-L480X272R-P1E0C: 1 RS232 level serial port;
	Plug specification	6Pin 3.5mm Phoenix Terminal
Electrical	rating	Maximum 1.5W

Specifications	rated voltage	DC9~30V
	Permissible loss of power	<5ms
	ESD testing	Contact discharge: +/-4KV; Air discharge: +/-6KV
	EFT Testing	IEC 61000-4-4 national standard 4 (voltage: ± 4KV; frequency: 5KHZ; time: 120S), no restart, no display abnormality, no touch abnormality and other phenomena, test function is normal
Environmental specifications	operating temperature	-10℃~50℃
	Storage temperature	-30℃~70℃
	Environmental humidity	10~90%RH (non-condensing)
	seismic defenses	10-25 Hz (X, Y, Z directions, 2g/30 min)
	Cooling method	natural air cooling
Product Size	Size of the whole machine	138*86*26mm
	Effective display area size	95.04*53.86mm
	Hole Size	130*78mm
	Recommended opening size	132*80mm
	Net weight	153g
	corresponding software	HMILite

3.Hardware Introduction

3.1 Terminal Block Pin Definition

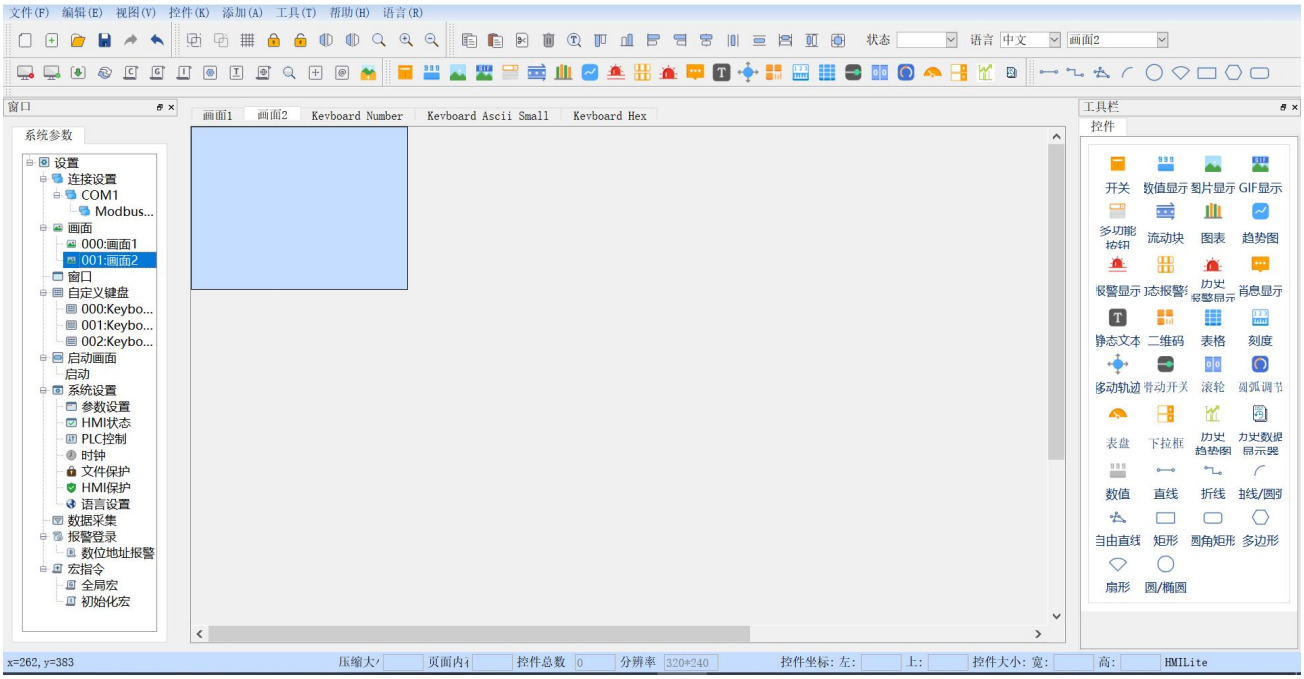
Port Definition	
Device Location Number	**clarification**
①	Power and communication ports
②	TF card interface

ASTGE043W024-L480X272R-P1D0C--6pin 3.5mmPhoenix Terminal			
Pin	**define**	**Power Input**	**COM1:RS485**
1	GND	correspondingly	
2	NC		unoccupied
3	NC		unoccupied
4	RS485B		RS485 B(-)
5	RS485A		RS485 A(+)
6	24V	DC+24V power ground	

ASTGE043W024-L480X272R-P1E0C--6pin 3.5mmPhoenix Terminal			
Pin	**define**	**Power Input**	**COM1:RS232**
1	GND	correspondingly	
2	RXD		RS232 RXD receive
3	TXD		RS232 TXD Transmit
4	NC		unoccupied
5	NC		unoccupied
6	24V	DC+24V power ground	

4. Description of the upper configuration software

4.1 development software---Software HMILite



The **HMILite** configuration software is a set of upper software that can be edited at will by the customer. The customer's application is developed entirely on the basis of the upper software, which consists of a wealth of controls that can be combined in any way to realize the functions that the customer desires:

Controls are included:

switch button	Includes "bit buttons", "word buttons", "indicator lights", "screen buttons", "function buttons", and "multistate buttons". "Function buttons" and 'Multi-state buttons' can be used to touch the connected device and monitor the status.
Numerical input and display	Includes multiple binary inputs and displays, ASCII inputs and displays for displaying the value of the monitored address (up to 16 ascii displays + QR code controls on a single screen)
mobile block	Animated graphics that simulate the state of liquid flow in a pipe
Static text/table/scale	A variety of basic shapes, including lines, circles, ellipses, rectangles, etc.
Image display and	Picture display box showing one or more pictures

gif animation	
meter	Bar graphs, gauges, circles, showing some state value of the data
trend chart	Real-time dynamic display of data trend graphs of monitored addresses (trend graphs + historical trend graphs support up to 4)
Historical Data Display	Display the data acquired by the data collector in tabular form
Historical Trend Chart	Real-time dynamic display of data trend graphs acquired by the data collector (trend graphs + historical trend graphs support up to 4)
Multi-function buttons	An on/off button, with which you can easily and quickly fulfill various functional requirements (up to 2 additional functions).
trajectory	Control of address data by dragging the scroll block
two-dimensional barcode	Dynamically generated QR code, access to web site by scanning, payment and other functions(Up to 6 ascii displays + QR code controls for a single screen)
Alarm display	Displays the current alarm information of the device (divided into digital and analogical alarms), you must configure the alarm settings before using the control (up to 128 alarms can be created).
Dynamic Alarms	Used to display the current alarm, which is different from the alarm control in that the dynamic alarm bar displays the current alarm in the form of scrolling text.
Historical Alarm Display	Displays all generated alarm messages, 3S detection saved, up to 3 saved
drop-down box	Drop-down list to select the corresponding item/status
slide switch	Create a slider area to change the value of the specified word address by pressing the slider left/right/up/down.
tire	Create a data area and scroll up and down to modify the current value

circular adjustment	Use the arc style to display the current value, and adjust the current value by dragging the slider to modify it.
meter dial	Use dials to display time, progress, speed and other data

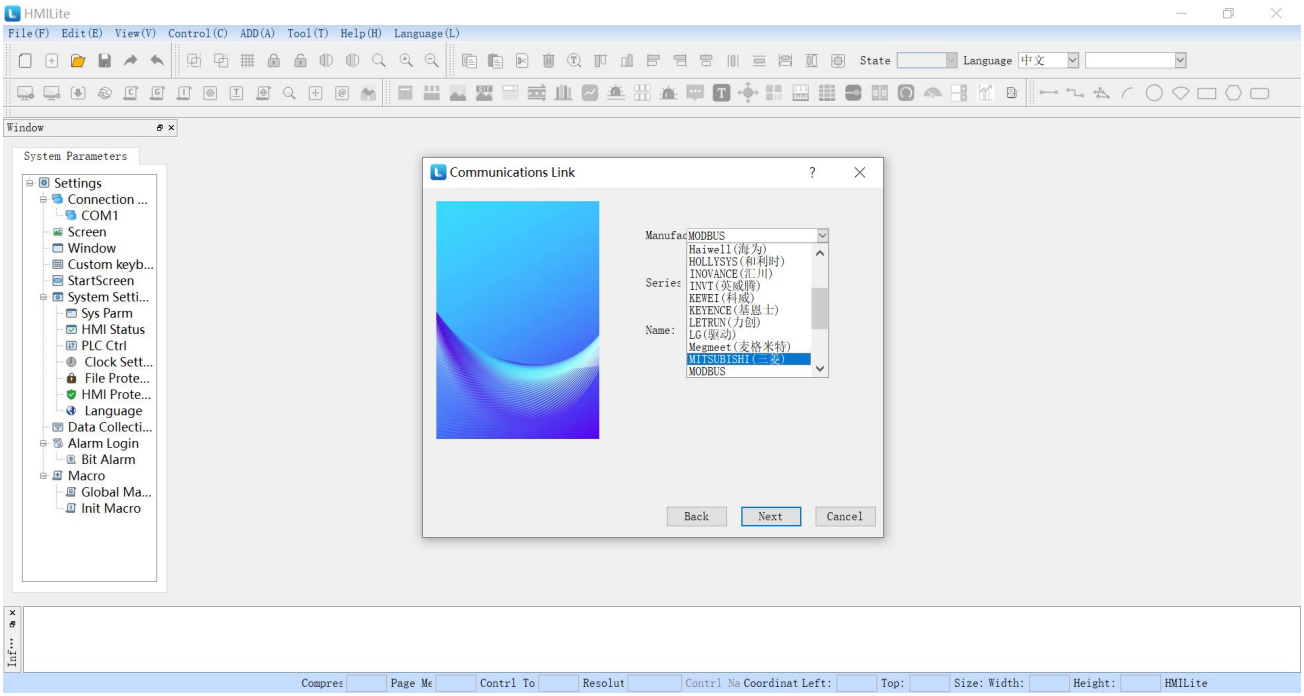
Extended functionality of the host machine configuration software:

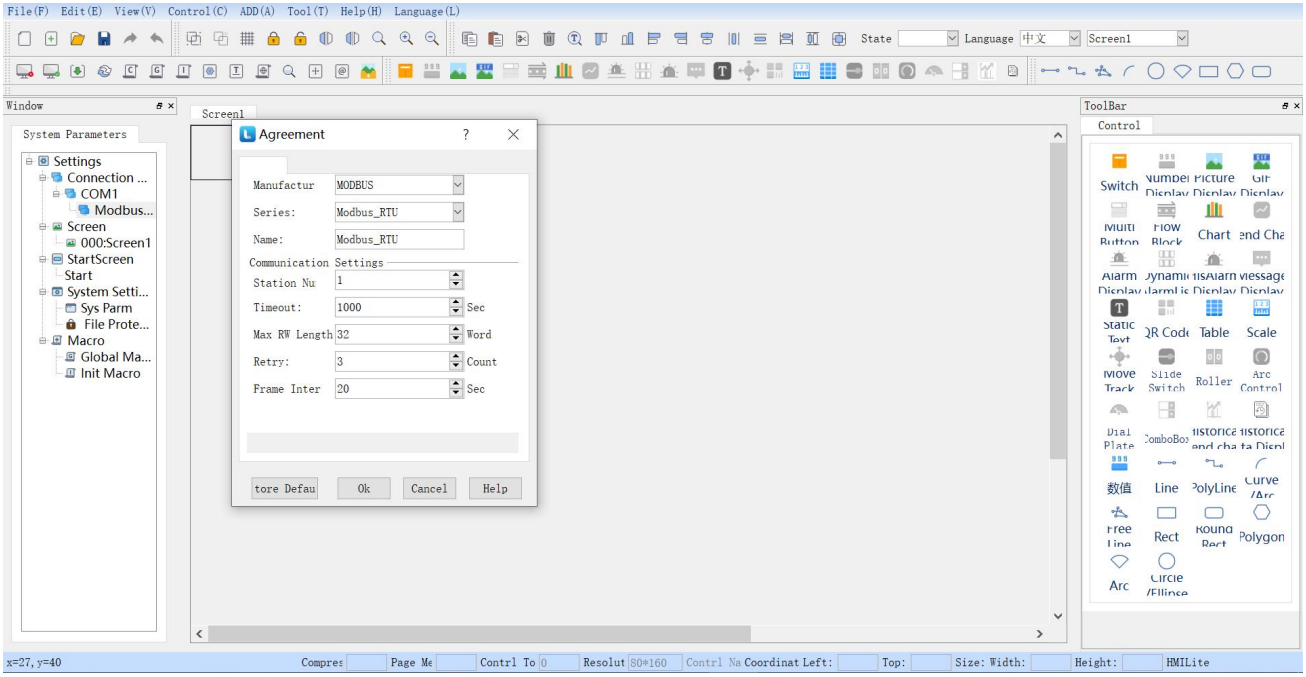
macro instruction	Programming in C to implement various complex logic or functions (Macro program (MarcoRun.dat) up to 136KB, custom protocols up to 100, macros read-only or read/write variables up to 100).
PLC control	HMI control via PLC
HMI Protection	The HMI can be used normally within a certain period of time, if the time exceeds the time specified by the user, the HMI will jump to the specified screen previously set by the user, in the specified screen, the user only places the "Panel Protection Unlock Button" under the function buttons (only 3 levels are supported).
document protection	Do you need to enter a password to open the project?
User password level	Set user privileges and passwords, access to the appropriate privileges need to enter the appropriate passwords
data acquisition	Data acquisition of temperature, pressure, humidity, etc. is possible (data acquisition supports up to 64KB).
multilingualism	Multi-language support (up to 4 languages, alarm display, message display and drop-down box only support English and Chinese display)
boot screen	User can customize the boot-up Logo screen
Offline simulation	Before compiling and downloading the screen to the HMI device, you can use the offline simulation function that comes with HMILite to check the correctness of the configuration screen and the effect of the display.
Online Simulation	Online simulation allows you to communicate with plc's and other devices via your personal computer (HMILite configuration software must be installed first) without the use of an HMI.
Supports multiple controller communication protocols	Suitable for a variety of PLC, inverter, servo controller, microcontroller control system, etc. (Mitsubishi, Panasonic, Omron, Delta, Xinjie, Yonghong, Siemens, Keens, LG, modbus, customized and other communication protocols) the user only needs to operate directly in the software to select the call can be!
Custom Add Gallery	Support for customizing the gallery, users can intercept their favorite images loaded into a custom gallery to call according to need
image archive	Rich gallery, support Png, Jpg, Gif, Bmp and other formats of the picture, vector

	gallery, any zoom non-aliased
Customized Keyboards	Support custom keyboard, according to their own needs to do keyboard style

4.2 Protocol Configuration

Users can run MODBUS RTU, Mitsubishi, Siemens, Delta, Xinjie and other protocols through the upper computer configuration. Open **HMILite** configuration software, click **[New Project]**, you can select the desired communication protocol in **[New Project]**, you can also modify the project to select your desired communication protocol, open the com1 port settings below the protocol to change, as follows.





5.Reliability Testing

All products have been subjected to a series of processed reliability tests: ESD test, high and low temperature aging test, group pulse and other tests. Ensure product quality.

5.1 ESD testing

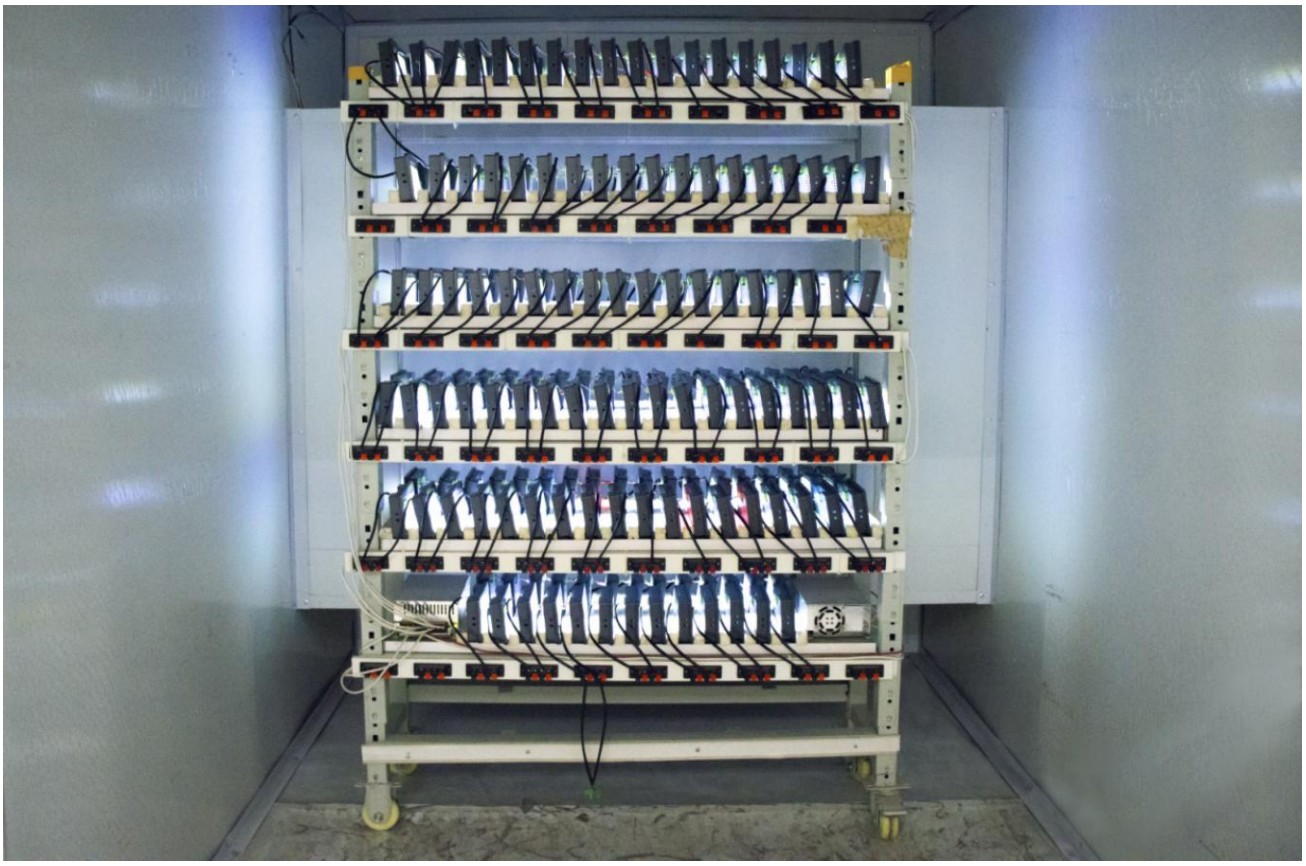
Implementation standard: IEC 61000-4-2

Test process: Place the product flat on the test bench, and conduct contact and air discharge for the touch screen iron buckle periphery and display area in turn, as shown in the figure below. Observe whether the screen resets and restarts, display abnormalities and other phenomena.

Test Data

Product Series	Type of discharge	discharge value	Test results
ASTGE043W024-L480X272R-P1D0C	exposure	+/-4KV;	No reboot, crash, splash screen and other abnormal phenomena, the function is normal
	atmosphere	+/-6KV;	No reboot, crash, splash screen and other abnormal phenomena. Normal function

5.2 High and low temperature aging test



Test environment: high and low temperature aging test box in the

Test Temperature: -20°~60

Test process: Place the product in the high and low temperature aging test box. Through the 60 ° high temperature, -20 ° low temperature, high and low temperature alternately change the aging test, observe the test process and test after the test whether there is a reset restart, display anomalies, functional anomalies and other phenomena.

Test Data

Product Series	temp	humidity level	Test results
ASTGE043W024-L480X272R-P1D0C	High temperature 60°	60%	No reboot, crash, splash screen and other abnormal phenomena. Normal function
	Low temperature -20°	60%	No reboot, crash, splash screen and other abnormal phenomena. Normal function

	Alternating high and low temperatures (-20°~60°)	60%	No reboot, crash, splash screen and other abnormal phenomena. Normal function

5.3 Group Pulse Test

Implementation standard: IEC 61000-4-4

Test process: Place the product flat on the test bench, and power the screen through the power supply after coupling the pulse group by the pulse group generator. The following figure. Observe the screen to see if there are abnormal phenomena such as reset and restart, display abnormality and so on.

Test Data

Product Series	test standard	test port	Test results
ASTGE043W024-L480X272R-P1D0C	EFT +/-4KV;	Power and communication ports	2KV screen without flickering, no reboot, crash, splash screen and other abnormal phenomena. Normal function

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