

ISO9001:2015 Quality System Certification

AMZ 043 W01 R

SERIES SPECIFICATION

Committed To Creating The Best
Intelligent Control Terminal

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File information

Writer	Quanwei Pu	The date of writing	2021/10/12
Reviewer	Xiaolong Lin	The date of the review	2021/10/12
Approver	Zhen Li	The date of approval	2021/10/12

Change records

Date	Author	Version	Change instructions
2022/11/22	Quanwei Pu	B/0	1.Check for defects and make up for leaks 2.Standardize and unify product size naming and improve product size drawing

Change review

Date	Reviewer	Opinion
2022/11/22	Xiaolong Lin	Agree to modify

1. Product Description

1.1 Product Models



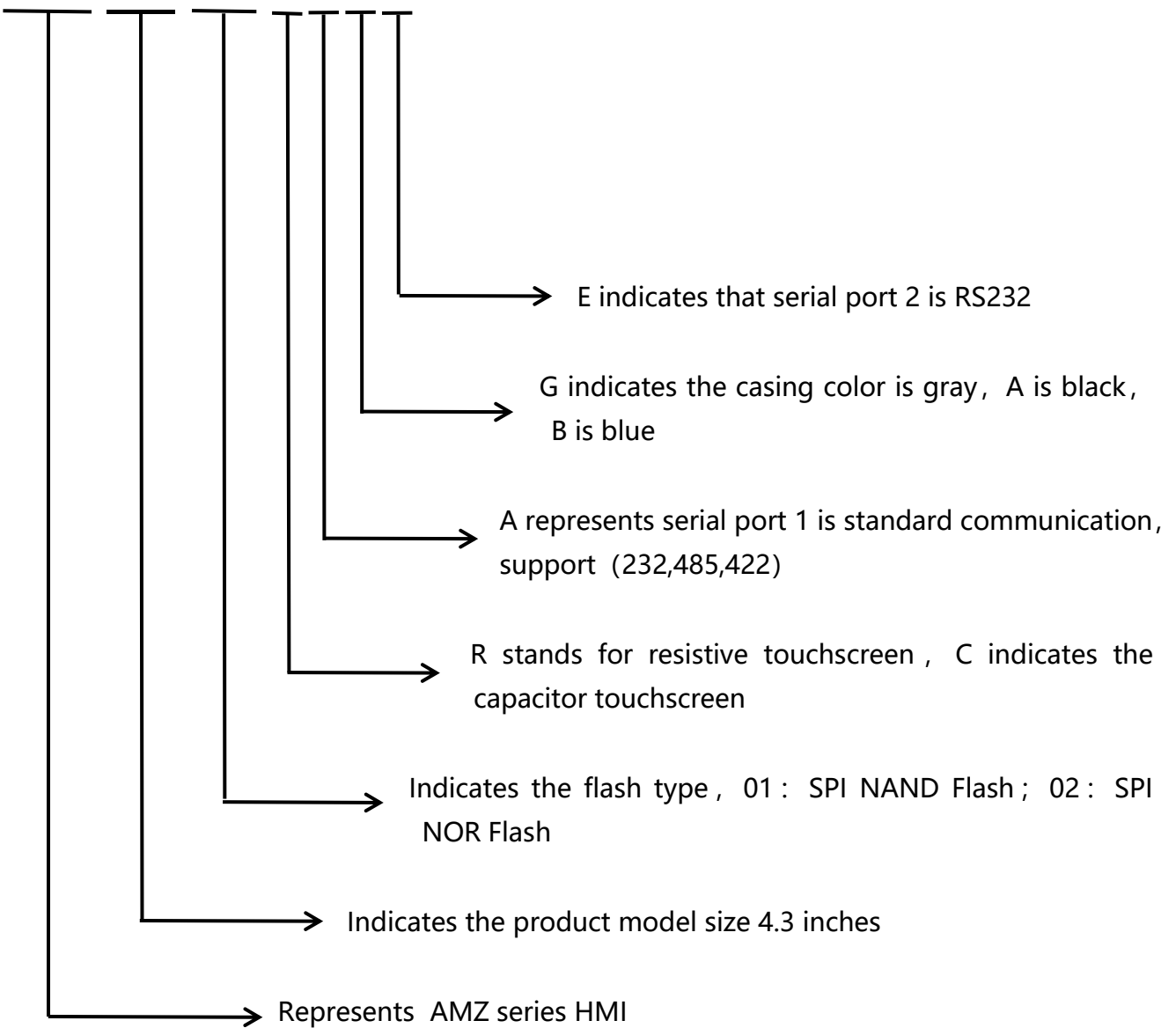
Module	Specifications
AMZ043W01RDG	AMZ series, 4.3 inch,DC10-30V, a single serial port:RS232 / RS485 / RS422, 128 Mbyte SPI Nand, Resistive touch screen,Grey housing
AMZ043W01RDGE	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS232, 128Mbyte SPI Nand Flash, Resistive touch screen,Grey housing
AMZ043W01RDGD	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS485, 128Mbyte SPI Nand Flash, Resistive touch screen,Grey housing
AMZ043W01RAA	AMZ series, 4.3 inch, DC10-30V, a single serial port:RS232 / RS485 / RS422, 128 Mbyte SPI Nand, Resistive touch screen, Black housing
AMZ043W01RAAE	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS232, 128Mbyte SPI Nand Flash, Resistive touch screen, Black housing
AMZ043W01RAAD	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS485, 128Mbyte SPI Nand Flash, Resistive touch screen, Black

	housing
AMZ043W01RAB	AMZ series, 4.3 inch, DC10-30V, a single serial port:RS232 / RS485 / RS422, 128 Mbyte SPI Nand, Resistive touch screen, Blue housing
AMZ043W01RABE	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS232, 128Mbyte SPI Nand Flash, Resistive touch screen, Blue housing
AMZ043W01RABD	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS485, 128Mbyte SPI Nand Flash, Resistive touch screen, Blue housing
AMZ043W01RAG	AMZ series, 4.3 inch, DC10-30V, a single serial port:RS232 / RS485 / RS422, 128 Mbyte SPI Nand, Resistive touch screen, Grey housing
AMZ043W01RAGE	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS232, 128Mbyte SPI Nand Flash, Resistive touch screen, Grey housing
AMZ043W01RAGD	AMZ series, 4.3 inch, DC10-30V,serial port 1: RS232/RS485/RS422, serial port 2: RS485, 128Mbyte SPI Nand Flash, Resistive touch screen, Grey housing

Model Definitions

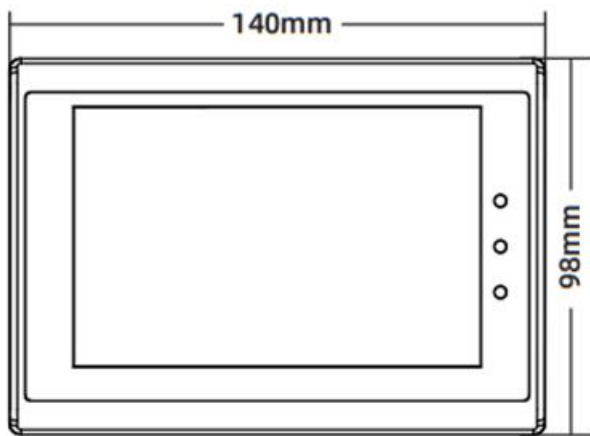
Figure Shows:

AMZ 043 W01 R A G E



1.2 Products Size

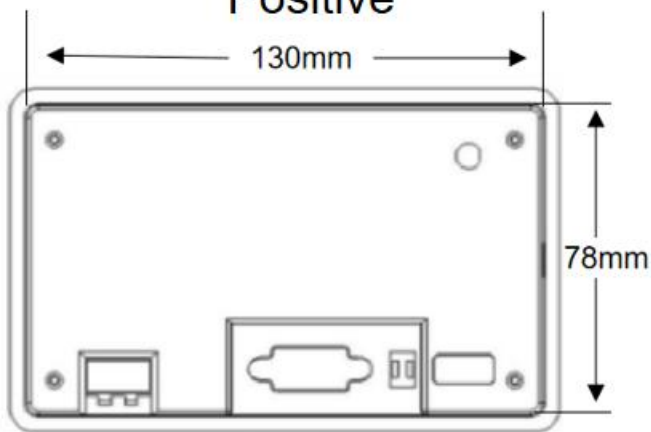
Show Dimensions	Product model	Overall dimensions	Effective display area size	Opening size	Recommended opening size
4.3inch	AMZ043W01RAG	140*98*26mm	95*54mm	130*78mm	132*80mm
4.3inch	AMZ043W01RDG	138*86*26mm	95*54mm	130*78mm	132*80mm



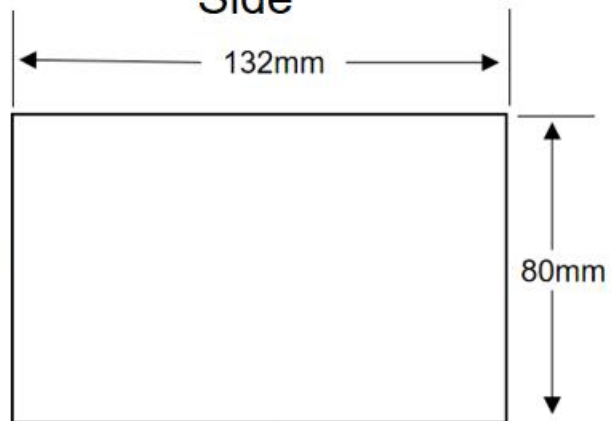
Positive



Side



Back



Recommended opening size

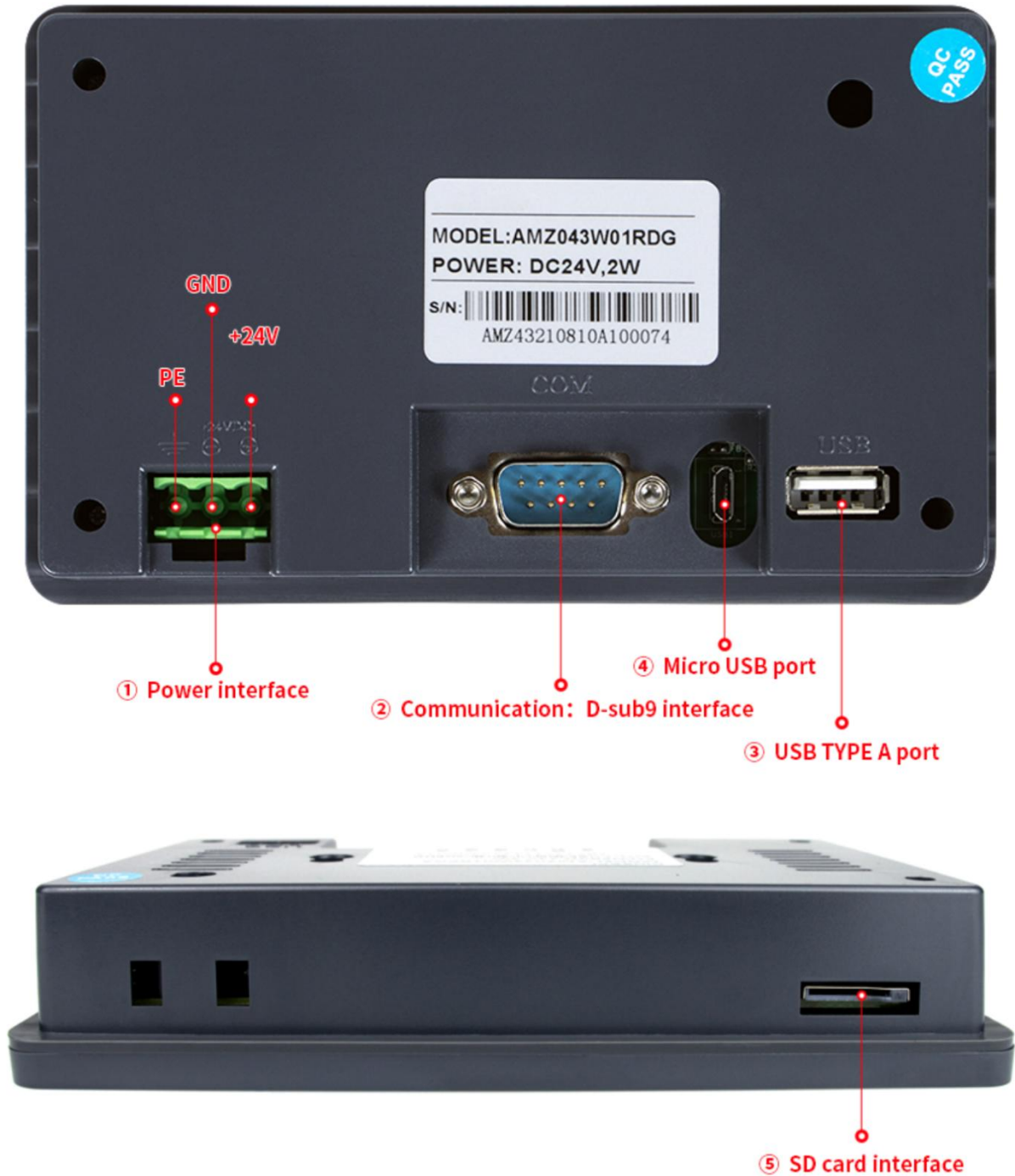
1.3 Products Parameters

Product Specification		
Hardware Performance	Module	AMZ043W01R
	Display Size	4.3" TFT LCD
	Resolution (Px)	480X272
	Colors	260000 Colors
	Brightness	300 cd/m ²
	Backlight	LED
	LED life	20000 hours
	Touch screen	4-wire resistive touch screen touch screen (Surface hardness 4H)
	CPU	32-bit 600MHz ARM9 built-in 32MB DDR2 memory
	Memory	128Mbyte SPI Nand Flash
	RTC	Real-time clock built-in
	Buzzer	have
	Save power failure data	Support
	USB1	A USB2.0 Device port
	USB2	TYPE A USB, U-disk
	Program download Mode	USB, U disk, SD card
	U disk	Support
	Communication port	Port1:RS232,RS485,RS422 . (3 choose 1) Port2: RS232,RS485d. (2 choose 1)
Electrical Specifications	Maximum power consumption	< 2W
	Voltage range	DC 10-30V
	Power protection	+/-2KV lightning surge protection capability

	The allowed loss of power	<5ms
	CE&ROHS	Comply with EN61000-6-2:2005, EN61000-6-4:2007 standards;Lightning surge +/- 2kV, EFT: +/- 4kV;Electrostatic contact discharge +/-8KV;Electrostatic air discharge +/-15KV.
Environmental Specifications	Operating temperature	-10℃~50℃
	Storage temperature	-30℃~70℃
	Environmental humidity	10~90%RH(non-condensing)
	Vibration	10-25Hz (X, Y, Z direction, 2g/30 min)
	Cooling way	Natural air cooling
The Other Parameters	Protection grade	The front panel conforms to IP65 (with flat plate cabinet installation), and the rear panel conforms to IP20
	Overall dimensions	AMZ043W01RA:140*98*26mm AMZ043W01RD:138*86*26mm
	Effective display area size	95.04*53.86mm
	Opening size	130*78mm
	Recommended opening size	132*80mm
	The weight	149g

2. Hardware Introduction

2.1 Definition of terminal pin



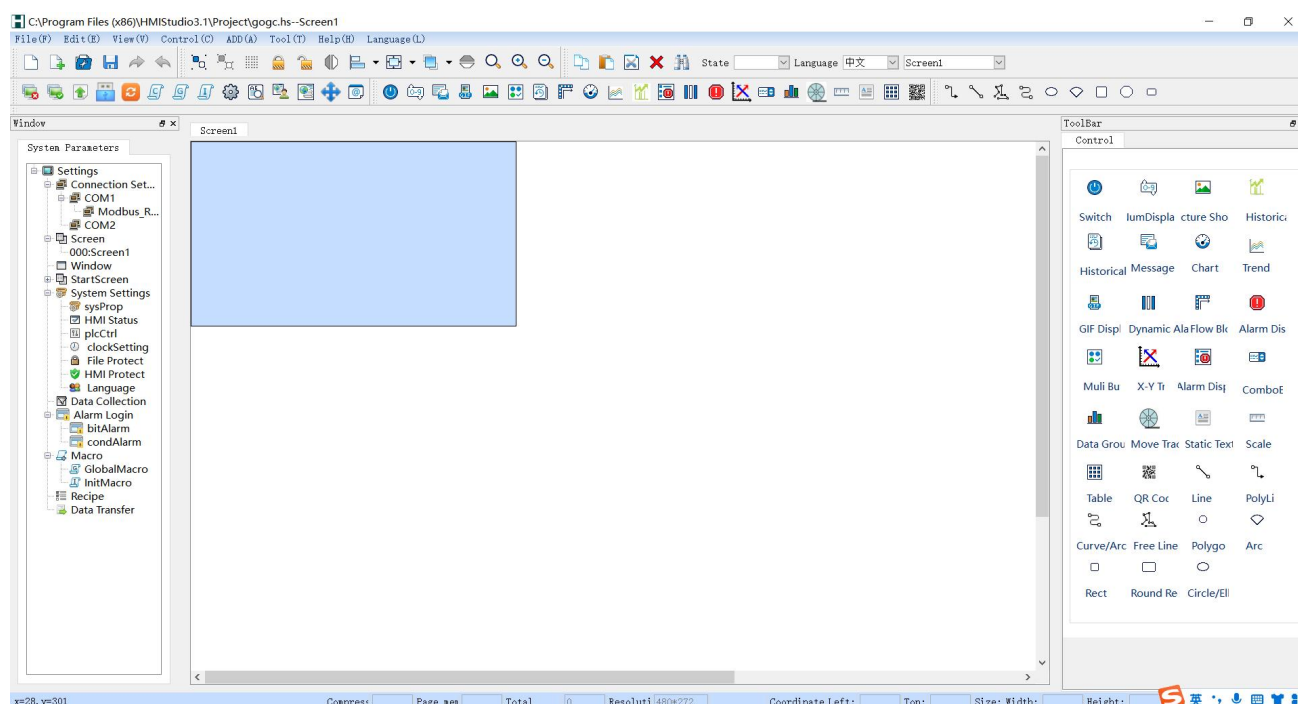
Port Definitions	
Device Position Number	Descriptions
①	Power interface
②	communication: D-sub9 interface
③	USB TYPE A port
④	Micro USB port
⑤	SD card interface

Power supply interface -- ①		
Pin	Definition	Descriptions
1	+24V	Positive input of power supply, DC10-30V
2	GND	Negative power input
3	PE	GND

Port D-sub9 interface -- ②						
Pin	Define	Port1 RS422	Port1 RS485	Port1 RS422	Port2 RS232	Port2 RS485
1					RS232 receiver	RS485 B(-)
2	RXD			RS232 receiver		
3	TXD			RS232 driver		
4					RS232 driver	RS485 A(+)
5	SG	RS232/RS422/RS485 Ground				
6	RX-	RS422 receiver-				
7	RX+	RS422 receiver+				
8	TX-	RS422 driver-	RS485 B(-)			
9	TX+	RS422 driver+	RS485 A(+)			

3. Description PC Configuration Software

3.1 Develop software



PC Software HMISTUDIO is a tool that users can edit arbitrarily. All application programs are developed based on it. HMISTUDIO composes rich controls, which can be arbitrarily combined to achieve the functions that users want:

Features Includings:

Switch Button	Including "Bit Button" "Word Button" "Indicator" "Screen Button" "Function Button" "Polymorphic Button" touch the connected device to monitor the status
Numerical Input and Display	Including a variety of base input and display, ASCII code input and display, used to display the monitoring address value;Another time display is used to display the real-time time
Flow Block	An animated graphic that simulates the flow of liquid in a pipe
Static text/table/scale	A variety of basic shapes, including lines, circles, ellipses, rectangles, etc
Image Display and GIF animation	A picture display box that displays one or more pictures
Instrument	Bar chart, meter, ring, showing a value of some state of data

Message Display	Displays messages that be edited by user
Alarm Display	Display the alarm information of the current device (divided into digital alarm and analog alarm), Alarm settings must be configured before using the control
Dynamic Alarm	Used to display the current alarm, which is different from the alarm control is the dynamic alarm bar in the form of text scrolling display the current alarm content
X Y Curve	Real time and dynamic display of data trend of data collector
History Curve	Displays the data saved by the history collector in curvilinear form
Recipe	Create a recipe like menu
Multifunction Button	A switch button, through the button can be very convenient to achieve a variety of functional requirements
Trend Chart	Draw reference curves of multiple data to accurately and intuitively judge the change trend of a certain value in a period of time
Dropdownlist	Used to select the corresponding state function
Data group	To display the data change from register address N to register address N as a curve
Motion trail	Control address data by dragging a scroll block
Qr code	Dynamic generation of QR code, through scanning into the url, payment and other functions

Extended Function Of Host Configuration Software:

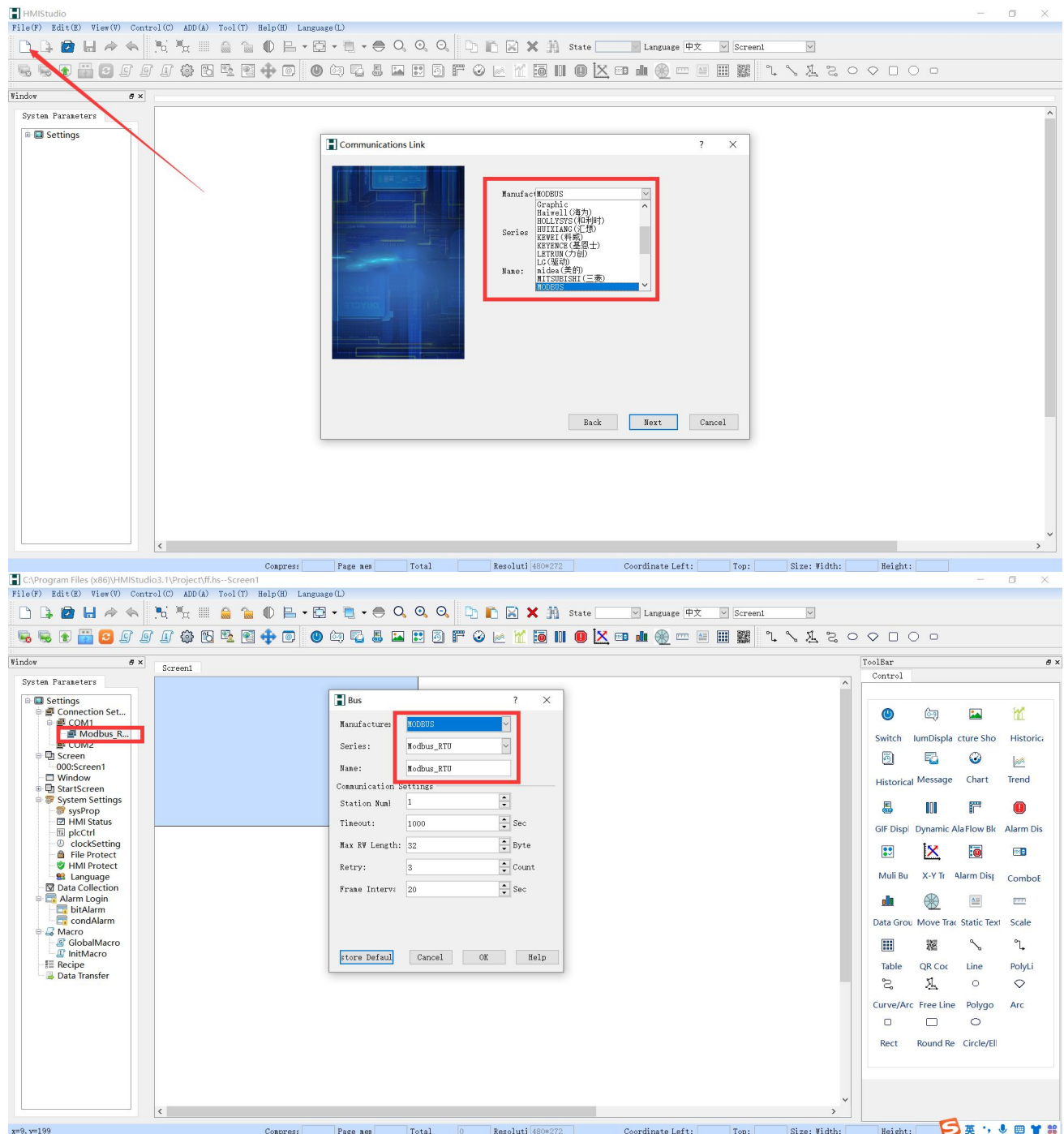
Macro Instruction	C programming language, to achieve a variety of more complex logic or functions
PLC Control	HMI is controlled by PLC
Language	Support for multiple languages
Data Collection	Data acquisition for temperature, pressure, humidity, etc
Data Transmission	Refers to the transmission of data over the same type of address. The transmission mode can be periodic (how many seconds) or triggered
HMI Protection	It is set that HMI can normally use HMI within a certain period of time. If the time exceeds the time specified by the user, 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

	button.
File Protection	Whether to enter a password when opening the project
User password Level	Set the user permission and password. Enter the password to access the corresponding permission
Boot Screen	Users can customize the startup Logo screen
Online Simulation	Online simulation enables you to communicate with relevant devices such as PLC through personal computer (HMI configuration software needs to be installed first) without HMI
Offline Simulation	Before the picture is compiled and downloaded to the HMI device, the offline simulation function of HMISTudio can be used to check the correctness of the configuration picture and the effect display
Supports Multiple Controller Communication Protocols	It is applicable to various PLC, frequency converter, servo controller, single chip microcomputer control system, etc. (Mitsubishi, Panasonic, Omron, Delta, Xinjie, Fatek, Siemens, Keyence, LG, modbus, user-defined and other communication protocols) When users operate, they only need to directly select and call on the software
Custom Add Gallery	Support custom add gallery, users can according to the need to intercept their favorite picture loaded into the custom gallery to call
Keyboard	Support Chinese and English keyboard input, users can freely switch to use
Gallery	Image library rich, support Png, Jpg, Gif, Bmp and other formats of pictures, vector image library, arbitrary zoom without aliasing
Baud Rate Range	Support serial baud rate range of 1200-230400

3.2 Protocol Configuration

Users can run MODBUS RTU, Mitsubishi, Siemens, Delta, Xinje and other protocols through the configuration of the upper computer.

Open KinSealStudio configuration software and click on new project to select the desired communication protocol in new project. You can also modify the communicate on protocol you need in the project by opening the protocol under COM1 port Settings. The diagram below.



4. Reliability Test

All products of company have carried out a series of reliability tests before mass production , including ESD test, high and low temperature aging test, EFT and so on, to ensure the quality of products .

4.1 ESD Test



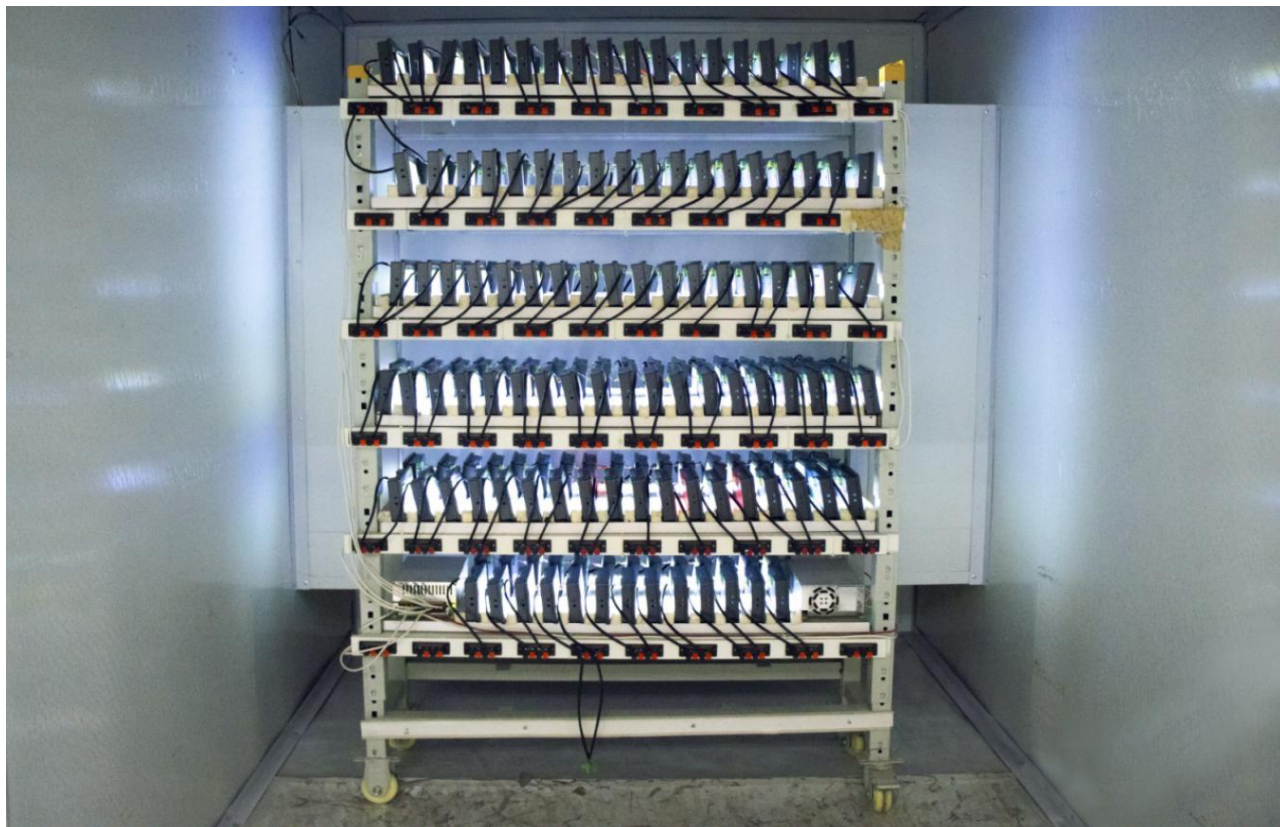
Execution standard: IEC 61000-4-2

Test process: Lay the product flat on the test table, and conduct contact and air discharge in turn around the touch screen iron buckle and the display area, as showing above. Check the screen is weather reset and displayed abnormally.

Testing Data

Product Models	Discharge type	Discharge value	Test Results
AMZ043W01R	Contact	+/-8KV;	No reboot, system halt or Abnormal display. Function is normal
	Air	+/-15KV;	No reboot, system halt or Abnormal display. Function is normal

4.2 High low Temperature Aging Test



Test Environment: high and low temperature aging test box

Test Temperature: -10° to 50°

Test Process: Place the product in the high and low temperature aging test box. Through 50° high temperature, -10° low temperature, high and low temperature alternating transformation aging test. Observing the product whether resets ,restarts and shows abnormal display, abnormal function, and other phenomena during the test process.

The Test Data

Product model	The temperature	Humidity	The test results
AMZ043W01R	The high temperature of 50 °	60%	No reboot, system halt or Abnormal display. Function is normal
	Low temperature - 10 °	60%	No reboot, system halt or Abnormal display. Function is normal
	Alternating high and low temperature (-10° ~50°)	60%	No reboot, system halt or Abnormal display. Function is normal

4.3 Electrical Fast Transient test



Implementation Standard :IEC 61000-4-4

Test Process: Lay the product flat on the test bench and supply power to the screen through the pulse group generator, coupling pulse group. The diagram above. Check the product whether resets, restarts, and shows abnormal display on the screen.

The Testing Data

Product Models	Test Standard	Test Port	The test results
AMZ043W01R	EFT +/-4KV;	The power port	+/-4KV has no abnormal phenomena such as restart, crash and splash screen, and its function is normal
		Communication port	+/-2.5KV has no abnormal phenomena such as restart, crash and splash screen, and its function is normal

4.4 Lightning Surge Test



The Test Data

Product Models	Test Standard	Impedance	The Test Results
AMZ043W01R	COUPL	12Ω	+/- 2KV screen has no flicker, restart, crash, splash screen and other abnormal phenomena, and its functions are normal

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