



ISO9001:2015 Quality System Certification

ASTG 043 W023-L480X272R- B1A0C Series Specification

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1. Model Definition

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

ASTG043W023-L480X272R-B1A0C	
ASTG	ASTG Serial Screen Series
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;
3	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: Resistance TP ;C: capacitive TP; N: no touch;
B	Indicates that COM1 is a DB9 type terminal block that supports (232, 485,);
1	0: 5V supply; 1:9~30V power supply;
A	4pin terminal;
0	0: No communication from COM2;
C	C:RTC ; N:No RTC;

2.Product Description

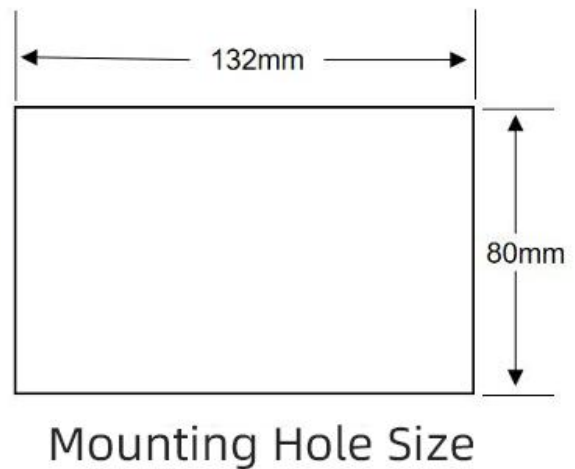
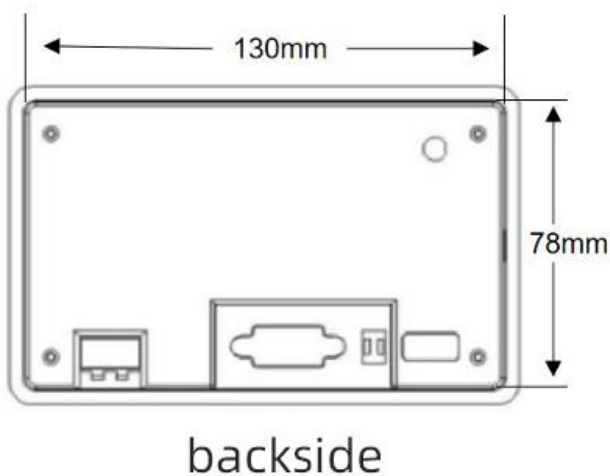
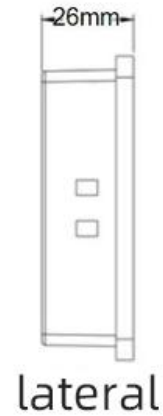
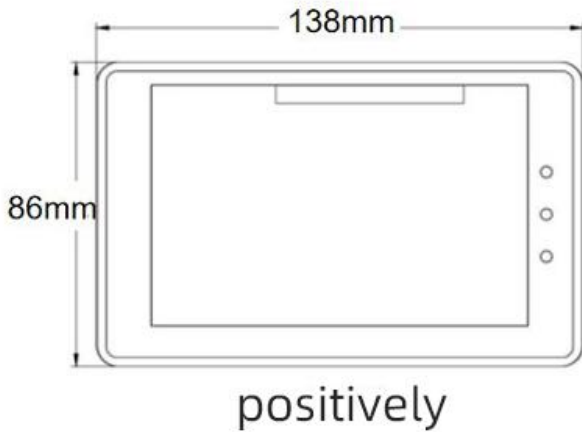
2.1 Product Model



model number	Specification
ASTG043W023-L480X272R-B1A0C	ASTG series 4.3 inch 480X272 resolution display, DC 9-30V, 10Mbyte SPI NOR Flash, Single serial port: RS232/RS485, Resistive touch;

2.2 Product Size

Display size	Product Model	Size of the whole machine	Effective display area size	Hole Size	Recommended opening size
4.3 inches	ASTG043W023-L480X272R-B1A0C	138*86*26mm	95.04*53.86mm	130*78mm	132*80mm



2.3 Product Parameters

Product Specification		
hardware performance	model number	ASTG043W023-L480X272R-B1A0C
	monitor	4.3" TFT LCD
	Resolution (Px)	480X272
	coloration	240,000
	luminance	250 cd/m ²
	Backlight	LED (Does not support backlight adjustment)
	LED Lifetime	20,000 hours
	touchscreens	resistive touchscreen
	CPU	200MHz ARM Cortex-M4F Built-in 2MB PSRAM memory
	memory (unit)	On-chip 2Mbyte SPI NOR Flash; Off-chip 8Mbyte SPI NOR Flash;
	RTC	be in favor of
	buzzers	be in favor of
	Power down data saving	3S autosave
	USB port	USB Device
	Program download method	USB Download
	communication port	RS232,RS485 either way
Electrical Specifications	rating	Maximum 1.5W
	voltage range	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
Environmen	operating	-20°C~60°C

General specifications	temperature	
	Storage temperature	-30°C~70°C
	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	168g
	corresponding software	Upper: HMILite 2.2

3. Hardware Introduction

3.1 Terminal Block Pin Definition



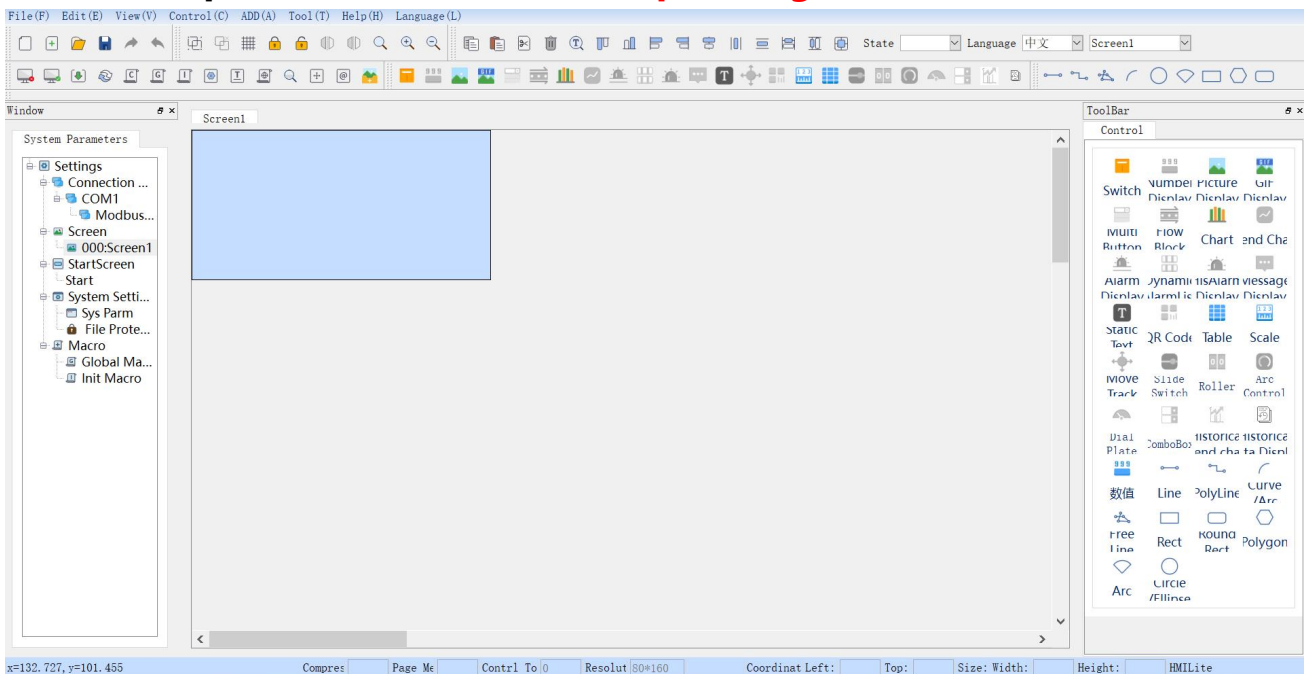
Port Definition	
Device Location Number	clarification
①	Power connector
②	Communication D-SUB9 interface
③	USB Type A Download Port

Power connector—①		
pin	define	clarification
1	DC+24V	Power positive input, DC9~30V
2	GND	Negative power input
3	PE	geodetic

Serial port D-SUB9 connector——②			
pin	define	Serial port 1 RS232	Serial port 1 RS485
1	NC		unoccupied
2	RXD	RS232 reception	
3	TXD	RS232 Send	
4	NC		unoccupied
5	GND		correspondingly
6	NC		unoccupied
7	NC		unoccupied
8	RS485 B		RS485 B(-)
9	RS485 A		RS485 A(+)

4. Upper configuration software description and download program description

4.1 Development software - **corresponding software HMILite**



The configuration software **HMILite** is a set of upper software that can be edited by the customer at will. The customer's applications are all developed on the basis of the upper software, which consists of a rich set of controls that can be combined at will in order to realize the functions desired by the customer:

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 monitored address values(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 gif animation	Picture display box showing one or more pictures
meter	Bar graphs, gauges, circles, showing some state value of the data
trend chart	Real-time dynamic display of monitoring address data trend graphs(Trend charts + historical trend charts up to 4 supported)
Historical Data Display	Display the data acquired by the data collector in tabular form
Historical Trend Chart	Real-time dynamic display of the trend graph of the data acquired by the data collector(Trend charts + historical trend charts up to 4 supported)
Multi-function buttons	An on/off button, with which all functions can be easily and quickly accessed(Add up to 2 functions)
trajectory	Control address data by dragging a scrolling 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	displaying all generated alarm messages , 3S detection saving, up to 3 articles
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	Create a data area and scroll up and down to modify the current value
meter dial	Use dials to display time, progress, speed and other data

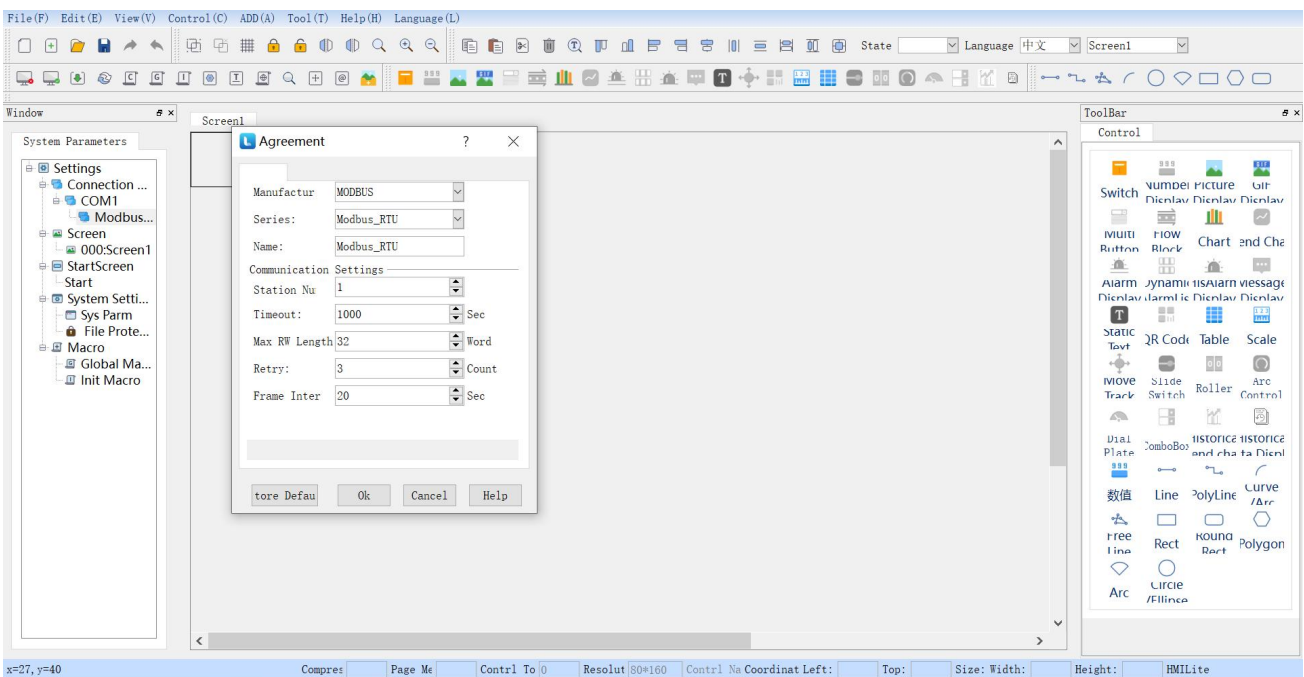
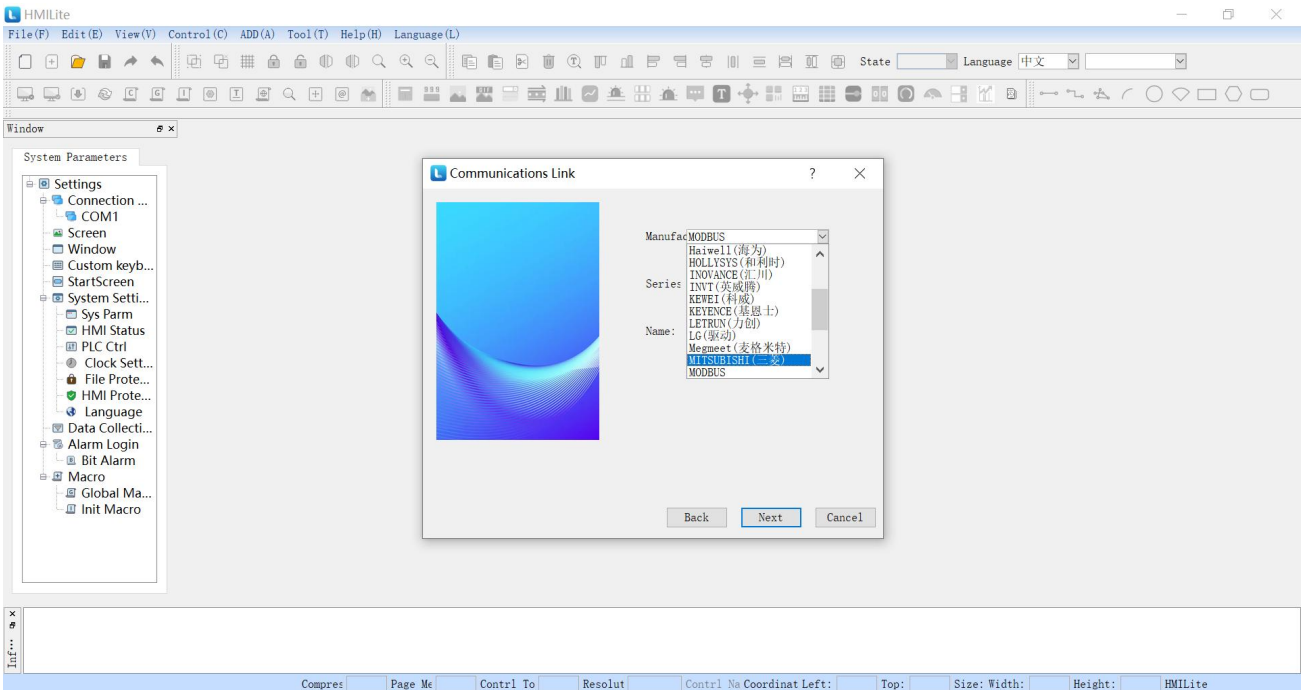
Extended functionality of the host machine configuration software:

macro instruction	C programming to implement a variety of more complex logic or functions(Macro program (MarcoRun.dat) max. 136KB, max. 100 custom protocols, max. 100 read-only or read/write variables for macros)
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 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(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 **HMLite** 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 of JinXi ZhiControl 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 Model	Type of discharge	discharge value	Test results
ASTG043W023-L480X272R-B1A0C	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 changing 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 Model	temp	humidity level	Test results
ASTG043W023-L480X272R-B1A0C	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 Model	test standard	test port	Test results
ASTG043W023-L480X272R-B1A0C	EFT +/-4KV;	power and communication ports	2KV screen without flickering, no reboot, crash, splash screen and other abnormal phenomena. Normal function

6.Contact Us

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control terminal possible