

HMI

MTG765 Series / TG Series / CCSG Series / RT Series / OP Series



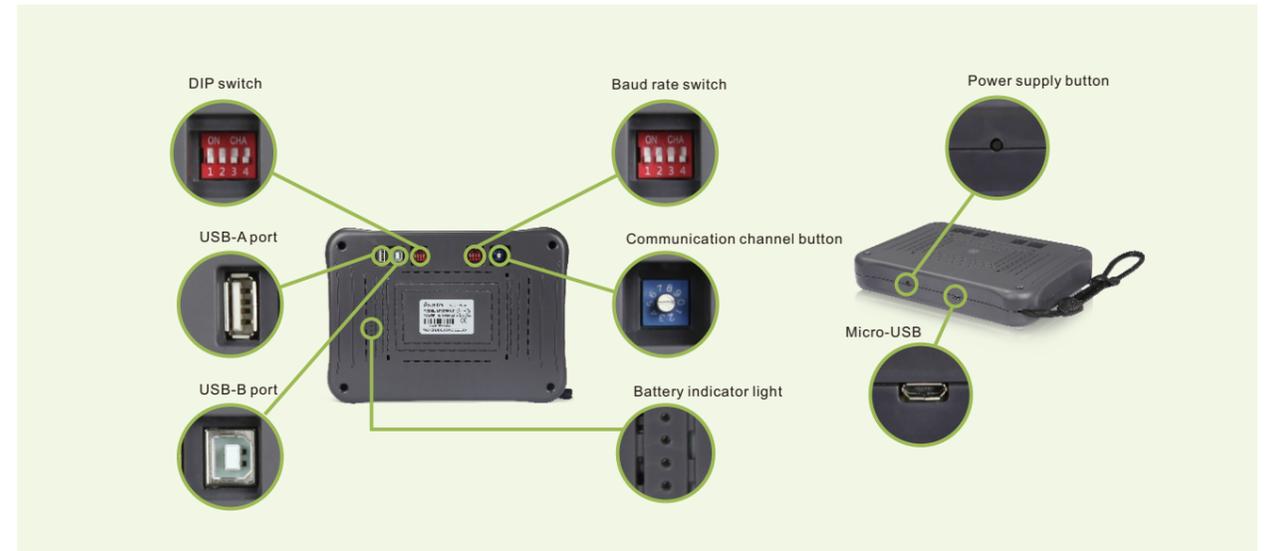
- Perfect combination of specialization and humanization, lead to the new concept of HMI
- 4.3 inches to 15.6 inches
- 16.77 million colors, the image is delicate and the display effect is comparable to that of LCD
- Ultra-high speed response for download, start, run
- Support C language, operation, free protocol, drawing, make the programming flexible
- Rich 3D gallery, more vivid picture

Handheld Wireless HMI MTG765-UT

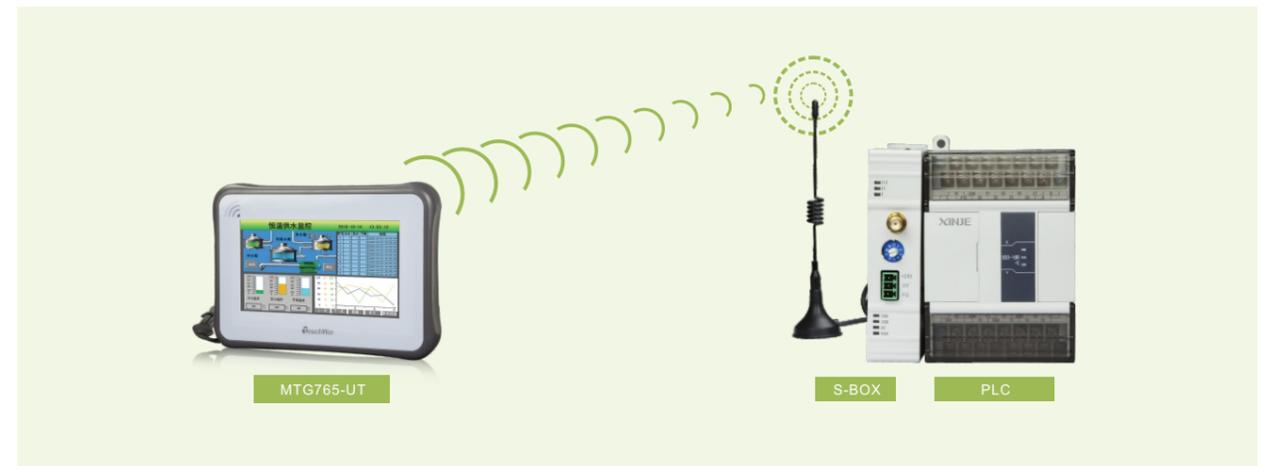
- 16.77 million colors, resolution 800*480, 7 inches wide screen
- Delicate appearance, handheld operation, more flexible
- Wireless communicate with PLC, the max speed is 115200bps, the distance can up to 150m, more stable
- Built-in mobile power supply, easy to charge, long battery life
- Built-in flash disk interface supports data import export and program import
- High speed response for downloading, startup, running
- Powerful software can make complicated screen
- Easy to programming and operate, fit for various applications



Appearance



Networking communication diagram

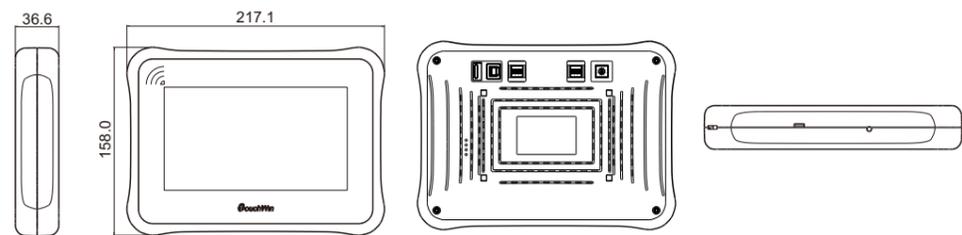


Product specification

HMI specification		
Item	MTG765-UT	
Screen	LCD	7.0"
	Colors	16.77 million
	Resolution	800*480
	Brightness	Adjustable (PFW100)
	Touch panel	4-wire resistor touch panel
	Using life	Up 50000 hours, ambient temperature 25°C, 24 hours running
	Language	Chinese, English, Japanese, Korean, German, Russian...
	Character size	Any font and size
Memory	Memory	128MB

Electrical specification		
Item	MTG765-UT	
Electric	Power	4W
	Charging input parameter	5.0V-2.0A 9.0V-2.0A 12V-1.5A
	Battery life (always ON)	8 hours
	Charging time	< 10 hours
Ambient	Operation temperature	0 ~ 45°C
	Ambient humidity	10%RH-90%RH (no condensation)
	Air	No corrosive gas
	Protection	The front cover is accord to IP65
Structure	Cooling mode	Natural cooling
	Dimension (mm)	217.1*158.0*36.6
Interface	PLC port (built-in)	Built-in PLC port integrated wireless communication module
	USB port 1	USB-A (USB2.0), flash disk port
	USB port 2	USB-B (USB2.0), USB download port
	Micro-USB	Micro-USB, USB charging port

Dimension (unit: mm)



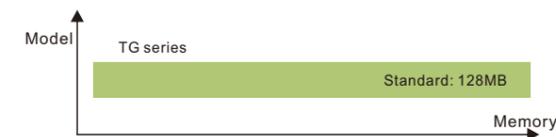
TG Series Outstanding Performance

TG/TE series HMI has better hardware, faster response, good image quality and rich connectivity.

Better hardware makes advanced products

Updated hardware

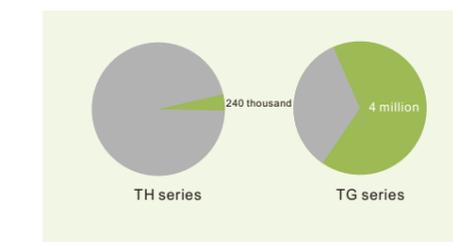
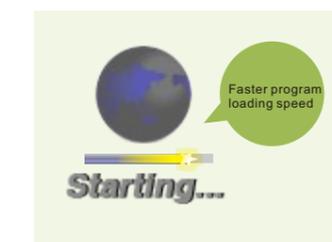
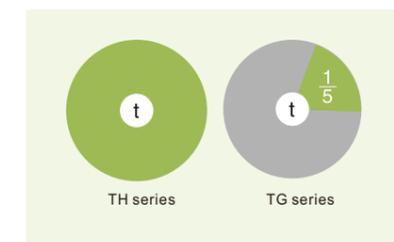
- CPU — ARM9 400MHz
- Internal memory — 128MB/64MB
- Memory — 128MB
- Color — 16.77 million



High speed response for downloading, start and running

Improved speed

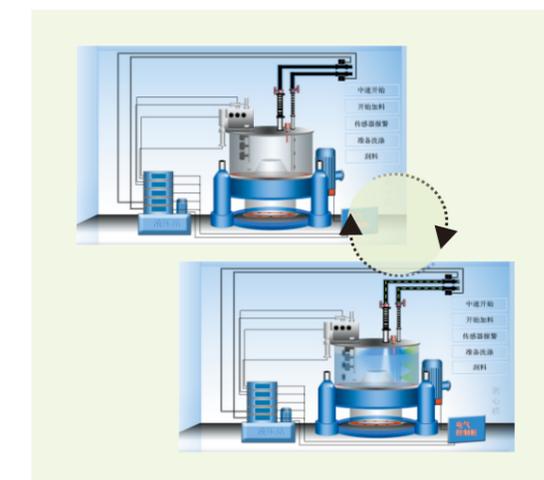
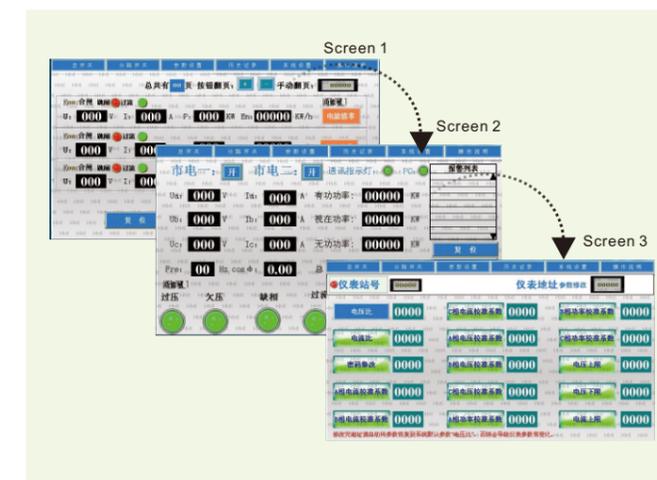
- Download- USB faster data transmission, shorten download time and easy to debug
- Start- shorten the start time, improve the start speed
- Larger power-off retentive range, about 4 million words can be used



- Run- smooth effect for screen switching and animation

Screen jump

Animation effect



Covering all functions of TH series



Product Introduction

Characteristic function only TGM series support

Various download modes, support remote downloading and uploading

TGM series HMI support three downloading ways: Ethernet download, USB-B download, import program through flash disk. Among them, Ethernet download supports LAN download and WAN download, which greatly improves download speed and facilitates engineering debugging and later maintenance.



Pass through function

The XG/XD/XL series PLC program can be downloaded, uploaded and monitored through HMI. It supports Ethernet mode and USB mode. Ethernet mode supports LAN operation and remote operation.

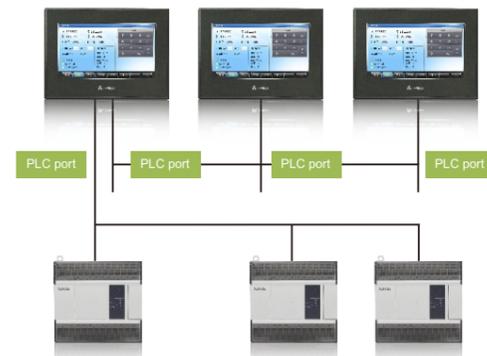
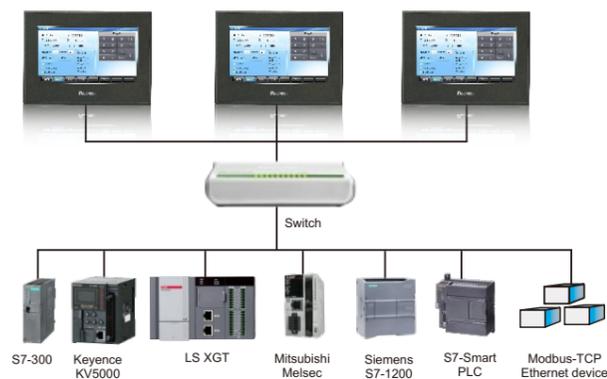


From stand-alone to network communication Improved communication capability

Support Ethernet communication, improve communication speed, suitable for complex field environment.

-NT model supports X-NET bus communication, the communication mode includes one HMI one device, one HMI multi-device, multi-HMI one device, multi-HMI multi-device, the max speed can up to 3M.

- Standard RJ45 Ethernet port.
- It can form an open network with Modbus-TCP device, Siemens S7-1200, S7-300, Mitsubishi Melec protocol device, Keyence KV5000, LS XGT, Omron FinsTCP protocol device, T-BOX.



Rich products, complete specifications, meet all your requirements

Best hardware configuration, high speed response, high display quality, from single device to networking, cover all the functions of TH series.

X-NET fieldbus model NT series

10.1 inches	TGA63-NT	8 inches	TG865-NT	7 inches	TG765-NT
<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 1024*600 Memory 128MB Two serial ports Download port: RS232, RS485, RS422 PLC port: RS485 Model explanation: NT: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*600 Memory 128MB Two serial ports Download port: RS232, RS485, RS422 PLC port: RS485 Model explanation: NT: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB Two serial ports Download port: RS232, RS485, RS422 PLC port: RS485 Model explanation: NT: USB-A port, USB-B port, Ethernet port 	

Advanced model TG series

15.6 inches	TGC65-ET	10.1 inches	TGA63-MT/UT/ET	10.1 inches	TGA62-MT/ET
<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 1366*768 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: ET: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 1024*600 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port UT: USB-A port, USB-B port ET: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port ET: USB-A port, USB-B port, Ethernet port 	
8 inches	TG865-MT/ET	7 inches	TG765-MT/UT/ET	4.3 inches	TG465-XT/MT/UT/ET/MT2/UT2
<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*600 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port ET: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port UT: USB-A port, USB-B port ET: USB-A port, USB-B port, Ethernet port 		<ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 480*272 Memory 128MB XT: 1 serial port, PLC port: RS232, RS485 MT/UT/ET: 1 serial port PLC port: RS232, RS485, RS422 MT2/UT2: 2 serial ports Download port: RS232, RS485 Model explanation: XT/MT/MT2: USB-B port UT/UT2: USB-A port, USB-B port ET: USB-A port, USB-B port, Ethernet port 	

Product Introduction

Network model **TGM series**

10.1 inches **TGMA63S-MT/ET**



- 16.77 million colors, TFT LCD, LED backlight
- Resolution 1024*600
- Memory 128MB
- Two serial ports
Download port: RS232, RS485
PLC port: RS232, RS485, RS422
- Model explanation:
MT: USB-B port
ET: USB-A port, USB-B port, Ethernet port

Cost-effective model **TG765(S)-XT series**

7 inches TG765-XT-C	7 inches TG765S-XT
<p>Based on advanced model TG765, keep one RS232 port.</p>  <ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB PLC port: RS232 Model explanation: XT-C: with clock 	<p>Based on TG765S, keep two RS232 ports, with clock.</p>  <ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB Two serial ports Download port: RS232 PLC port: RS232 Model explanation: XT: USB-B port, with clock

New appearance fashion model **TG765S, TGA63S/G series**

7 inches TG765S-MT/UT/ET	10.1 inches TGA63S/G-MT/UT/ET
<p>New ultra-thin fashion appearance, 38.5mm thickness, plastic cover using PC and ABC alloy material to make it more durable, the installation interface is sealed, effectively preventing the entry of external dust and oil, downward communication serial interface, effectively saving installation space.</p>  <ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 800*480 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port UT: USB-A port, USB-B port ET: USB-A port, USB-B port, Ethernet port 	<p>New appearance with ultra-thin thickness, plastic cover using PC and ABS flame retardant material, stronger and less deformed. Optimize the design of installation interface, effectively reducing the external dust and oil pollution. The color of the plastic cover is available in black and light grey.</p>  <ul style="list-style-type: none"> 16.77 million colors, TFT LCD, LED backlight Resolution 1024*600 Memory 128MB Two serial ports Download port: RS232, RS485 PLC port: RS232, RS485, RS422 Model explanation: MT: USB-B port UT: USB-A port, USB-B port ET: USB-A port, USB-B port, Ethernet port TGA63S cover is black, TGA63G cover is light grey

Oil-resistant model **TG series**

Dimension	Model	TG series oil-resistant model
4.3 inches		TG465-MT(P), TG465-UT(P)
7 inches		TG765-MT(P), TG765-UT(P) TG765-ET(P), TG765-XT(P)-C
8 inches		TG865-MT(P), TG865-ET(P)
10.1 inches		TGA62-MT(P), TGA62-ET(P)

On the basis of the original products, the oil-resistant model redesigned the upper cover and the film, increased the width of the film back glue, and achieved the oil-resistant effect. Suitable for serious oil pollution environment, other functions remain unchanged.



CCSG series special for ships and navigation

Certificated by China Classification Society, it is suitable for ships and marine facilities, meets the specific environmental requirements, and ensures the stable and reliable operation of the system.

Model : CCSG-765MT/UT/ET
CCSG-A62MT/ET
CCSG-C65ET



Handheld teaching machine RT series

Handheld or suspended operation, convenient for equipment testing, is widely used in manufacturing and industrial robotics industry.

Model : RT710
RT711
RT750



Text display **OP series**

OP series button-type small-sized HMI, compact size and delicate appearance

3.7 inches, STN LCD, resolution 192*64, memory 64KB

User-defined function buttons, replace the machine button

Support most PLC brands in the market

Alarm, password, clock, bmp picture display, screen switching by PLC

3.7 inches OP320/OP320-S	3.7 inches OP320-A/OP320-A-S/OP320-A-N	3.7 inches OP330/OP330-S	3.7 inches OP325-A/OP325-A-S
 <ul style="list-style-type: none"> 7 buttons Without clock One communication port OP320: RS232, RS422 OP320-S: RS232, RS485 	 <ul style="list-style-type: none"> 20 buttons With clock One communication port OP320-A: RS232, RS422 OP320-A-S: RS232, RS485 OP320-A-N: RS232 	 <ul style="list-style-type: none"> 26 buttons With clock One communication port OP330: RS232, RS422 OP330-S: RS232, RS485 	 <ul style="list-style-type: none"> 20 buttons With clock One communication port OP325-A: RS232, RS422 OP325-A-S: RS232, RS485

Product Introduction

Hardware features

DIP switch

DIP2: forced download
DIP3: set system clock, adjust the touch area

Power supply interface

24V DC power supply

Serial port

- TG series
PORT1 (Download) : RS232/RS485.
PORT2 (PLC) : RS232/RS485/RS422.
- NT series
PORT1 (Download) : RS232/RS485/RS422.
PORT2 (PLC) : RS485.

Model explanation

MT: USB-B port, TGM series support USB-A. UT: USB-A port, USB-B port. ET: USB-A port, USB-B port, Ethernet port. NT: USB-A port, USB-B port, Ethernet port.

Powerful communication ability

Flexible connectivity, can communicate with multi-device

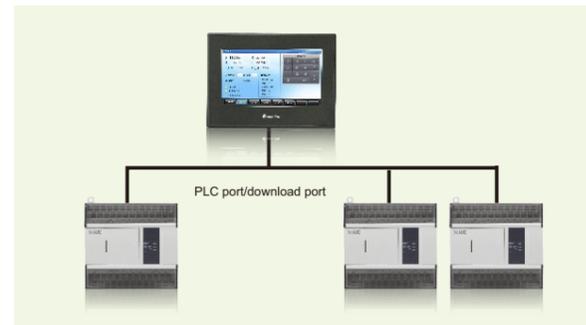
- Can connect most PLC brands such as Mitsubishi, Siemens, Omron, Schneider and frequency inverter such as Delta, Yaskawa.
- Can communicate with Modbus protocol devices, can connect more than one devices at the same port such as PLC, frequency inverter, servo drive, meter.
- Support free format communication, make program with C language to communicate with various meters.



Various networking mode

Networking as master-slave mode or X-NET fieldbus.

• One-HMI and multi-device

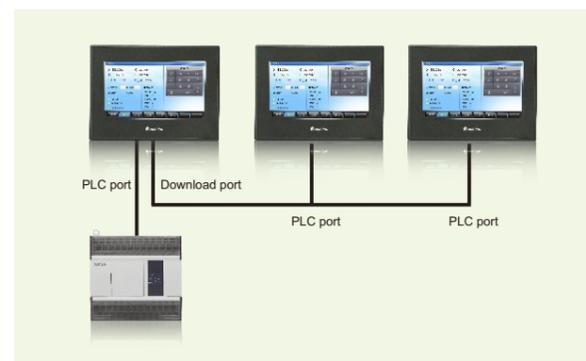


Support micro printer

The download port can connect micro needle printer, panel printer, thermal printer. It can real-time print the project data and curve.



• Multi-HMI and one device

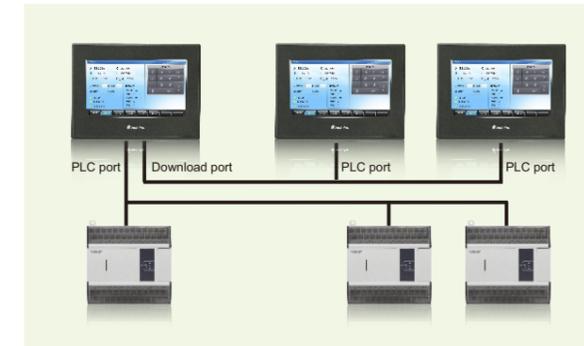


Free installation mode

To choose vertical or horizontal installation according to the field condition (TG series)



• Multi-HMI and multi-device



High speed transmission with humanized interface design

Humanized front USB-A port

USB-A port can export and import the data. This port is in the front of the cover. It no needs to open the control cabinet when sending the data, easy to operate, improve the working efficiency.



Program download based on USB-B port

USB-B port accords to USB2.0 standard. The port connects PC through USB cable and high speed downloads the program. It saves the downloading time and easy to debug the program.



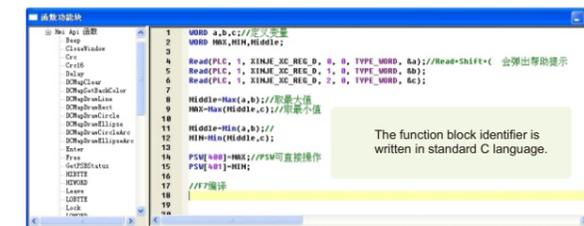
Software

Touchwin software

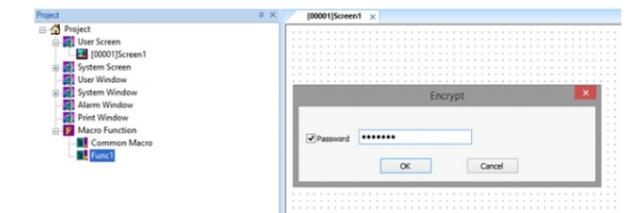
C function block is equal to anything including calculation, command, communication

C function block makes the HMI fit for complicated calculation and communication, improves the system performance.

Support most C functions



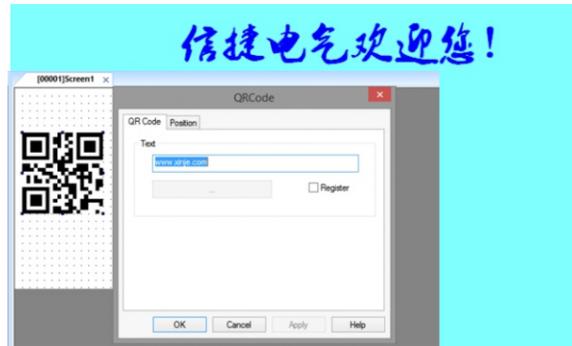
The C program can be encrypted; user can open the program after inputting the password.



Product Introduction

Support QR code generation and display

- Set the QR code contents



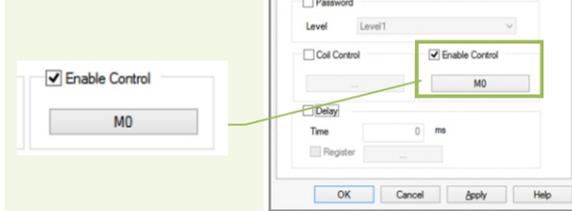
- Dynamic set the QR code contents through registers



Button component supports enabling control

Enable control is not selected, button operation is effective.

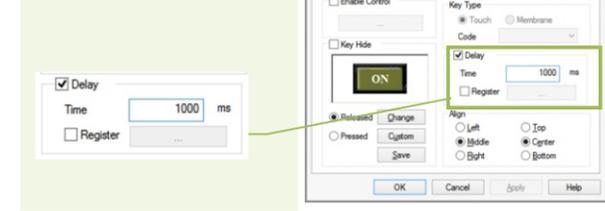
Enable control is selected, when enable signal is ON, the button operation is invalid. When enable signal is OFF, the button operation is effective.



Button component supports button delay

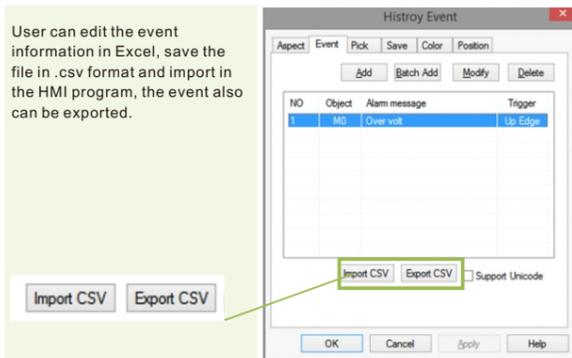
Delay is not selected, the button acts at once when pressing.

Delay is selected, set the delay time (constant or register value), it needs to press the button for the delay time to activate the button.

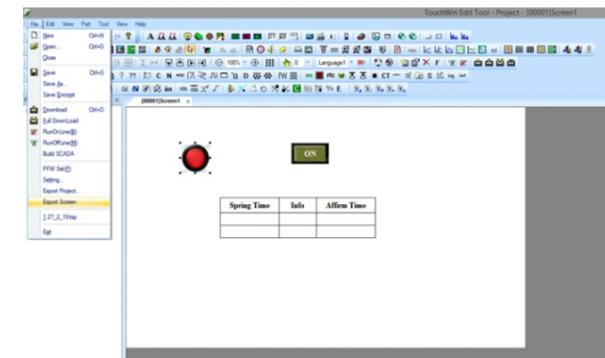


History event, real-time event, alarm event support event information import and export.

User can edit the event information in Excel, save the file in .csv format and import in the HMI program, the event also can be exported.



Support user screen export, easy to write instructions



Support multi-language, easy to switch

Due to the globalization of the production site, many kinds of language may be used in the engineering picture to facilitate the local operators to understand the various text information on the screen.

- Use standard characters corresponding to Unicode character library.
- Switch the language through PFW101.

Support 8 kinds of language switching online.



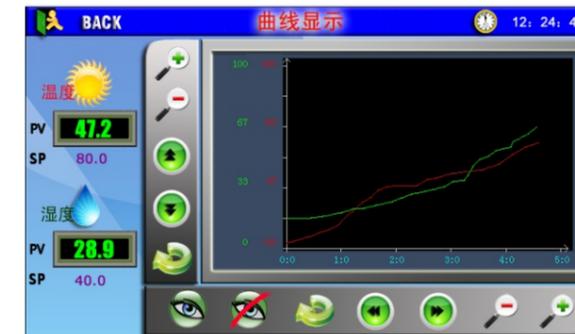
PFW101=0, choose the first kind of language

PFW101=1, choose the second kind of language

Powerful data processing ability

Process control data acquisition, the trend graph is more visual

- Various graph displaying: real-time trend graph, historical trend graph, time trend graph, XY trend graph, XY curve graph, bar graph.
- Zoom in and out, page up and down, clear the curve with data moving button.
- Read detailed data at certain time with general table and data table.



Half the time to make the program

- Batch set the font, size, shape of text in different places.
- Batch copy all the components, can set the vertical or horizontal space of communication address, row numbers, row pitch, column numbers, column pitch.
- Display all the component communication address, no need to check each component feature.
- Support picture rotation 90°, 180°, 270°.
- Support unlimited times of undo (Ctrl+Z) and recover (Ctrl+Y) operations.
- The picture settings support equal width, height, size, vertical distance, horizontal distance.
- Ratio transformation for data input and display.
- C programming has function library and examples.

Various fonts and language

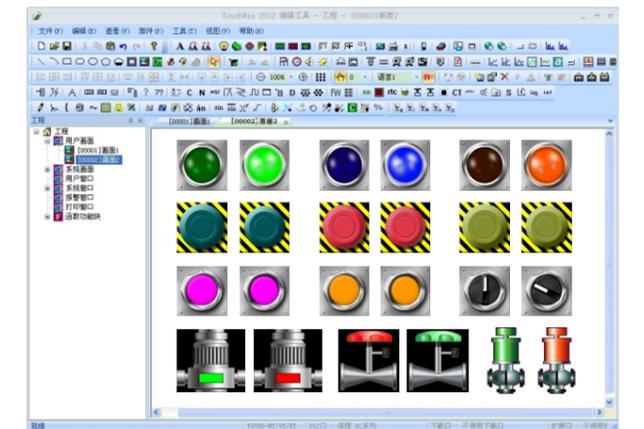
- Windows graph font input.
- Support Chinese, English, Japanese, Russian and so on.
- Support any fonts, size, bold, italic, underline.
- Support art effect, projection, stroke, fill.
- Support rolling words, twinkling, dynamic text.



Powerful visual effect brings new feeling

Rich 3D picture library and element resources

- The picture library has rich icons including meter, valve, pipe, fan, pump, motor, etc.
- Design the icon with the drawing element including line, rectangle, ellipse, broken line, polygon, three dimensional frame.
- Support bmp, jpg and png format picture import.
- Bar graph and cylindrical graph.



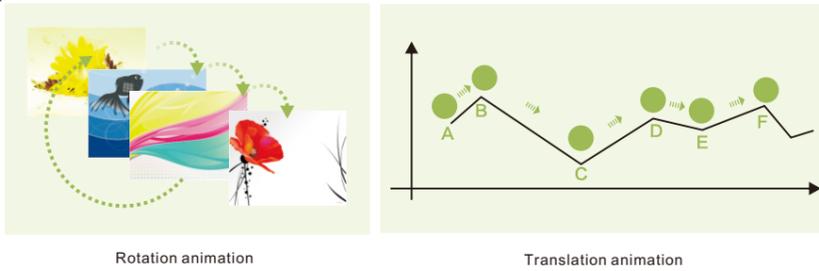
Screen saver status flag

Enter screen saver status when PSB8 is ON, exit screen saver status when PSB8 is OFF.

Product Introduction

New animation editing mode, rich performance

- Easy animation editing mode, user-defined movement track.
- Support translation and rotation animation, close connection, smooth screen.

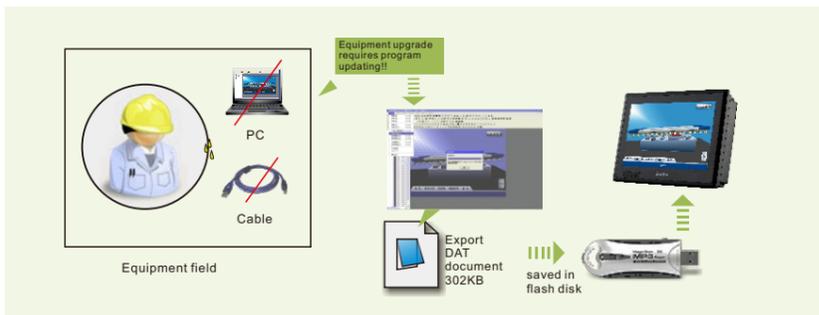


Rotation animation

Translation animation

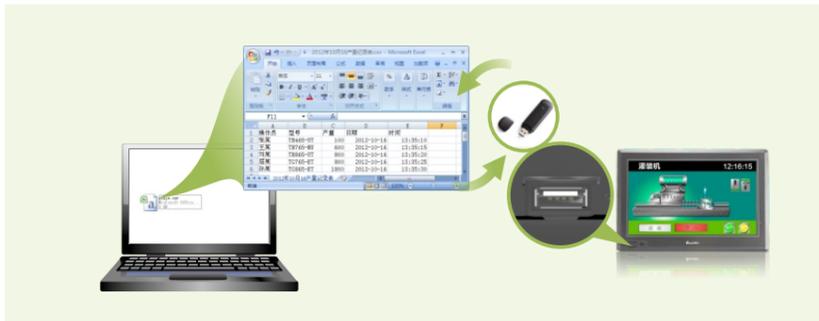
Import program via USB-A port with flash disk

TG series HMI has USB-A port, which can import the program in the HMI with flash disk without PC. The download process is easy and fast. The program is encrypted, it is fit for program updating without download cable and PC. (the HMI version must be v2.d3c and up)



Export the csv file from Flash-disk, backup the important data

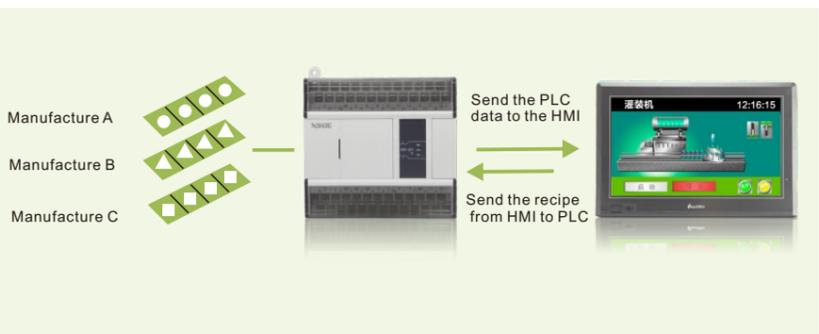
Export and import the historical data, recipe data, curve data in csv format by Flash-disk. The file can be opened in Excel. Support many kinds of hexadecimal and characters.



The storage and bidirectional transmission of recipe data improve the working efficiency

The HMI can store large amounts of data. Manual inputting parameters every time will influence the working efficiency for various types of production.

Storing the data in the HMI and bidirectional transfer the data in csv format through Flash-disk. It can manage different types of information and improve the efficiency.



Perfect encryption function

Nine levels of password, user-defined authority setting

- Protect the authority through the password.
- The password level defines the operation authority.



The alarm function can fast recover the system

- Alarm list, alarm window and calling window can help user to find the error and recover the system.
- The historical event can show the historical alarm information.
- The list can page up and down, clear with data moving button.
- The historical event can be exported through function button.

Buzzer alarm

With alarm list and alarm window, when the alarm occurs, according to the important level of alarm, we can choose silent mode, ring once and continuously, so that the alarm is more accurate and timely.

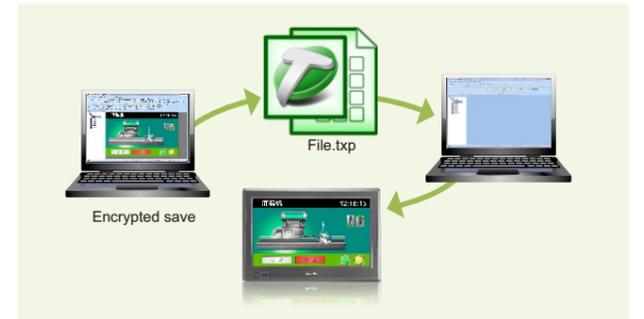


Manually close the backlight

When PSB9 is ON, the backlight is off and enter the screen saver.

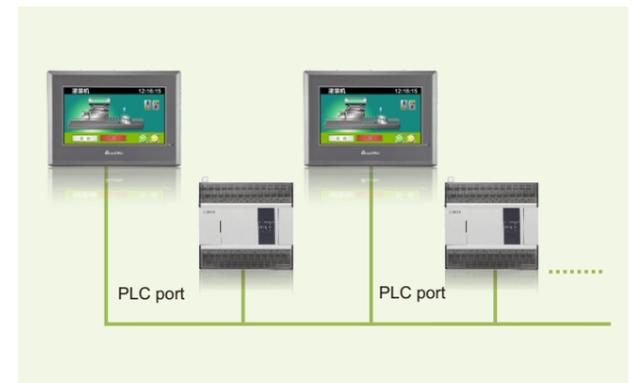
Program encryption

The software can export the encryption file in txp format. When this file is opened, the program is invisible but can be downloaded in the HMI through Touchwin software. The programmer needs to save another backup for this application.



X-NET fieldbus

- The download port of slave machine can be used.
- The speed can up to 3M, the communication has no delay.
- Can communicate with XD series PLC.
- The system wiring diagram please refer to XD.
- TG/TG(P) series HMI supports X-NET fieldbus OMMS mode; -NT model supports X-NET fieldbus OMMS and TBN mode, other models only support OMMS mode.



Buzzer sound

PFW2=0, the buzzer has sound, PFW2=1, the buzzer has no sound. Repower on the HMI to make the setting effective. The default value is 0.

Product specification

Advanced model TG series

Specification	Product		TG65 Series	TGA63 Series	TGMA63S Series	TGA62 Series	TG865 Series	TG765 Series	TG765(S)-XT Series	TG465 Series								
	TGC65 Series	TGA63 Series	TGC65-ET	TGA63S/G-MT/UT/ET	TGMA63S-MT/ET	TGA62-MT/ET	TG865-MT/ET/NT	TG765-MT/UT/ET/NT	TG765S-MT/UT/ET	TG765S-MT/UT/ET	TG765S-XT-C	TG765S-XT	TG465-MT/UT/ET/MT2/UT2					
Dimension(inch)	15.6		10.1		10.1		8		7		7		4.3					
Resolution	1366*768		1024*600		800*480		800*600		800*480		800*480		480*272					
LCD	TFT LCD, LED backlight																	
Color	16.77 million true colors																	
Brightness(cd/m ²)	250		200															
Touch panel	4-wire resistor touch screen																	
LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours running																	
Memory	128MB																	
PLC port					RS232/RS422/RS485 (-NT series is RS485)				RS232		RS232		RS232/RS485/RS422 (-XT support RS232/RS485)					
Download port					RS232/RS485 (-NT series is RS232/RS485/RS422)				\		RS232		RS232/RS485 (only -MT2/UT2 supported)					
USB port1	USB-B (USB 2.0 standard), USB download port																	
USB port2	USB-A (USB 2.0 standard), Flash-disk port, UT/ET/NT model supports, TGM series supports																	
Ethernet					ET/NT model supported				\		\		ET model supported					
Input voltage	DC24V (voltage range: DC22V~26V)																	
Consumption current	730mA		270mA		250mA		200mA		200mA		200mA		180mA					
Allowable power-off	Under 10ms (actual power-off is less than 1s)																	
Voltage shock endurance	AC1000V, 10mA less than 1 minute																	
Insulation resistance	Above 10MΩ, DC500V																	
Operating temperature	0°C~50°C																	
Storage temperature	-20°C~60°C																	
Operating humidity	10%RH~90%RH (no condensation)																	
Anti-interference ability	Interference voltage: 1500 Vp-p, pulse period: 1μs, duration time: 1 minute																	
Air	No corrosive gas																	
Cooling mode	Natural cooling																	
Protection level	IP65 for front cover																	
Dimension (mm)	410.0*270.0*65.0		272.2*191.7*51.2		278.0*192.3*44.0		272.2*191.7*51.2		224.4*170.8*45.5		200.4*146.9*48.5		200.4*146.9*48.5		207.0*148.0*38.5		152.0*102.0*41.8	
Mounting dimension (mm)	399.0*259.0		260.2*179.7		260.2*179.7		260.2*179.7		211.4*157.8		192.0*138.5		192.0*138.5		144.0*94.0			

* Note: all the models have clock, TG765S-MT/UT/ET dimension is 205.4*146.5*38.5mm.

Oil-resistant model TG(P)

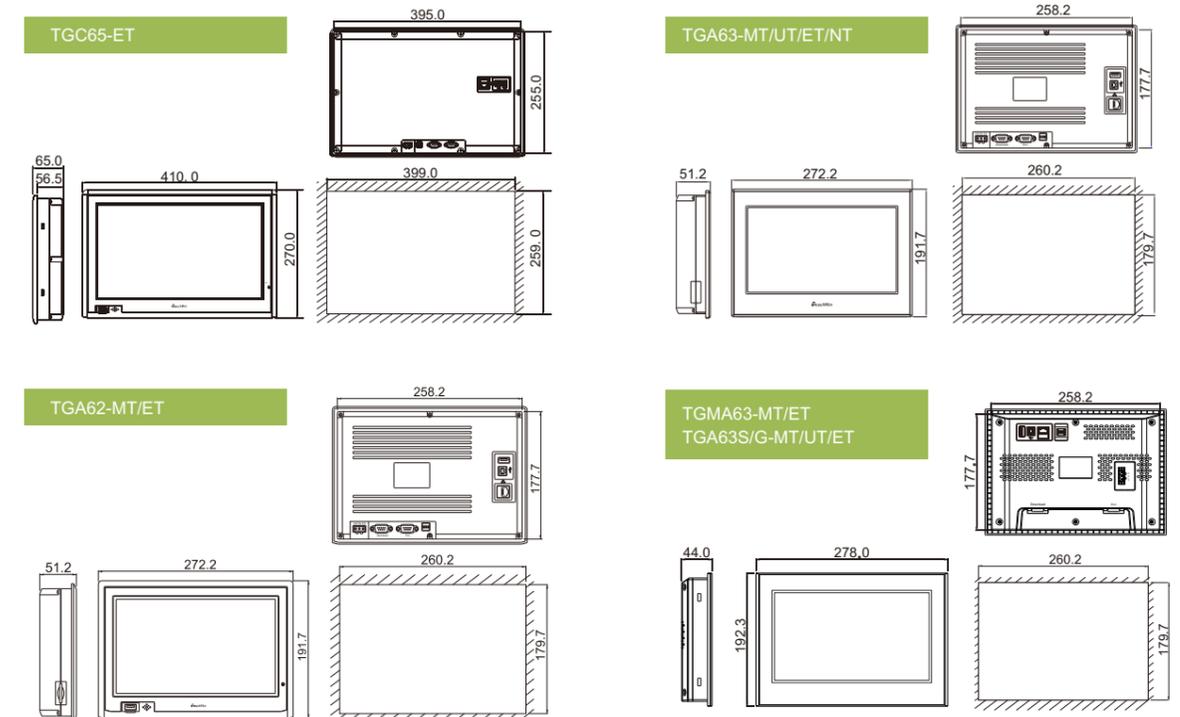
Specification	Product		TGA62(P) series	TG865(P) series	TG765(P) series	TG765-XT(P) series	TG465(P) series					
	TGA62-MT(P)	TGA62-ET(P)	TGA62-ET(P)	TG865-MT(P)	TG865-ET(P)	TG765-MT(P)	TG765-UT(P)	TG765-ET(P)	TG765-XT(P)-C	TG465-MT(P)	TG465-UT(P)	
Dimension(inch)	10.1		8		7		7		4.3			
Resolution	800*480		800*600		800*480		800*480		480*272			
LCD	TFT LCD, LED backlight											
Color	16.77 million true colors											
Brightness(cd/m ²)	200											
Touch panel	4-wire resistor touch screen											
LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours running											
Memory	128MB											
PLC port					RS232/RS422/RS485				RS232		RS232/RS422/RS485	
Download port					RS232/RS485				\		\	
USB port1	USB-B (USB 2.0 standard), USB download port											
USB port2	USB-A (USB 2.0 standard), Flash-disk port, UT(P)/NU(P)/ET(P) model supports											
Ethernet					ET(P) model supports				\		not support	
Input voltage	DC24V (voltage range: DC22V~26V)											
Consumption current	270mA		250mA		200mA		200mA		200mA		180mA	
Allowable power-off	Under 10ms (actual power-off is less than 1s)											
Voltage shock endurance	AC1000V, 10mA less than 1 minute											
Insulation resistance	Above 10MΩ, DC500V											
Operating temperature	0°C~50°C											
Storage temperature	-20°C~60°C											
Operating humidity	10%RH~90%RH (no condensation)											
Anti-interference ability	Interference voltage: 1500 Vp-p, pulse period: 1μs, duration time: 1 minute											
Air	No corrosive gas											
Cooling mode	Natural cooling											
Protection level	IP65 for front cover											
Dimension (mm)	272.2*191.7*51.2		224.4*168.7*45.0		200.4*146.9*48.5		200.4*146.9*48.5		200.4*146.9*48.5		152.0*102.0*41.8	
Mounting dimension (mm)	260.2*179.7		211.4*157.8		192.0*138.5		192.0*138.5		192.0*138.5		144.0*94.0	

OP series product specification

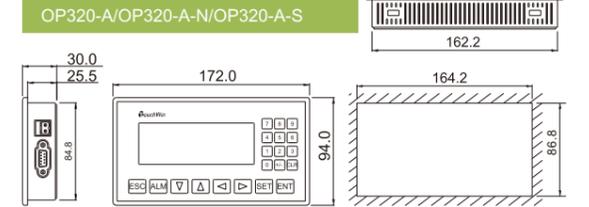
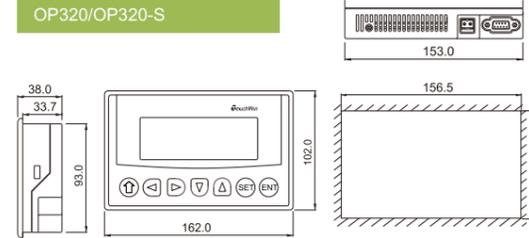
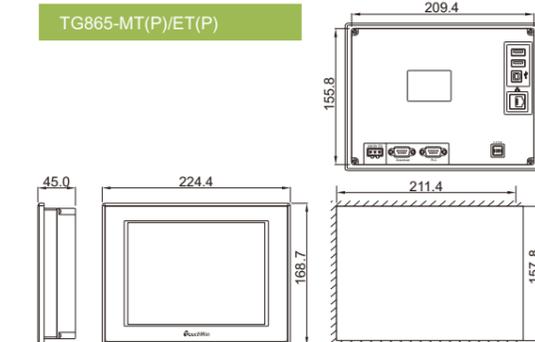
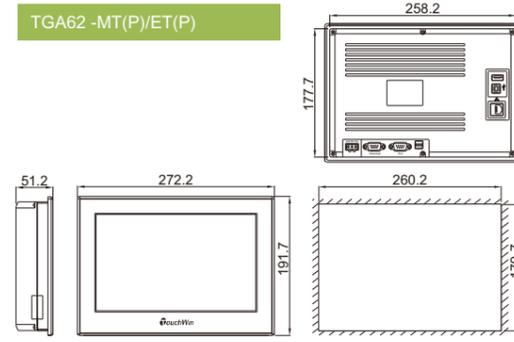
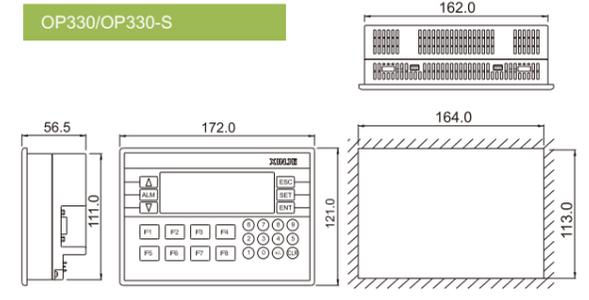
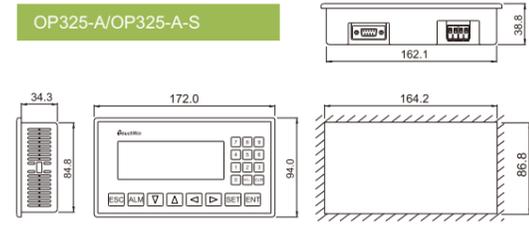
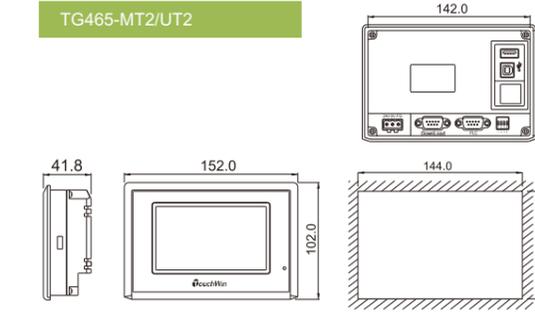
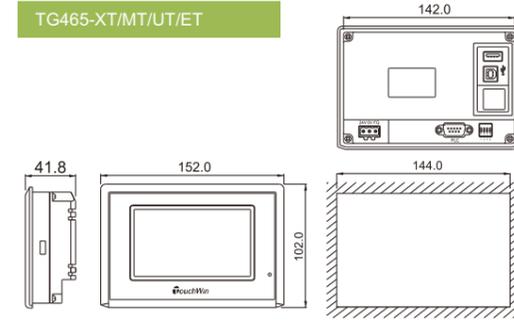
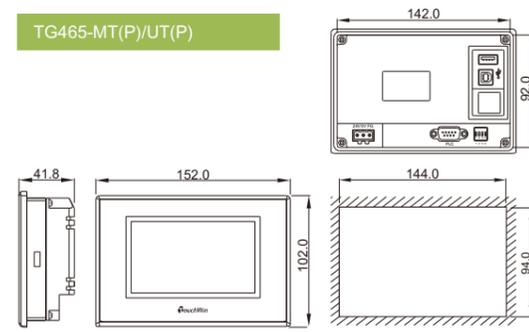
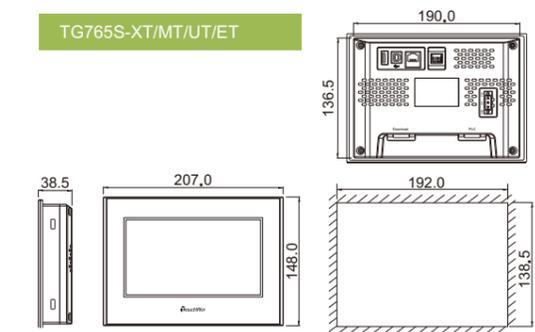
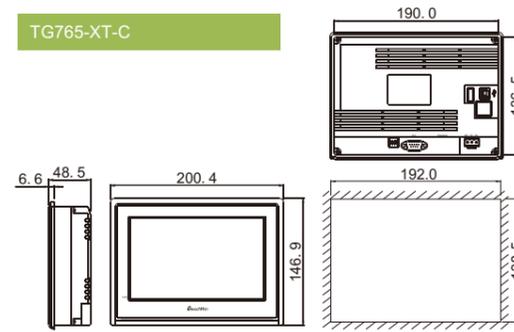
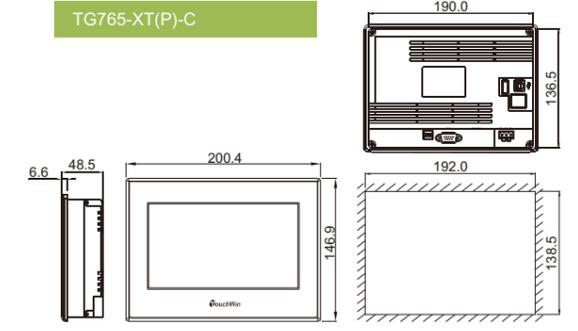
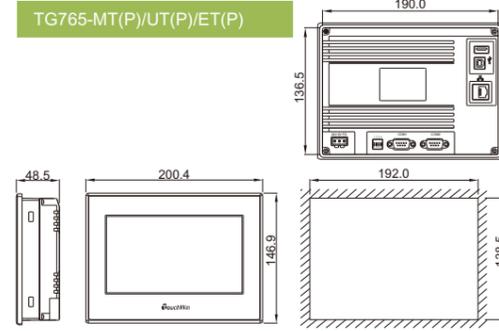
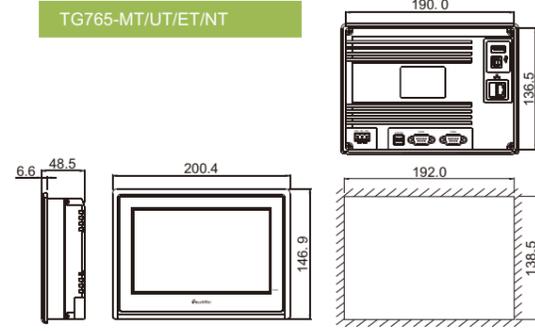
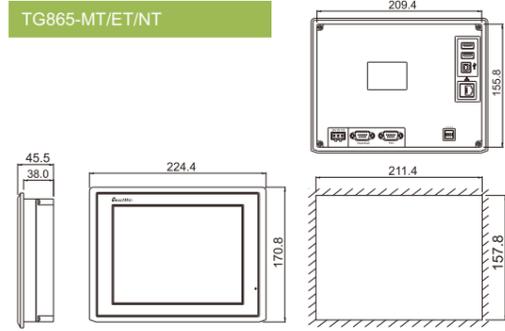
Model	OP330/-S	OP325-A/-A-S	OP320-A/-A-S	OP320-A-N	OP320/-S
Display	Blue STN				
Type	Above 20000 hours, ambient temperature 25°C, 24 hours running				
Using life	192*64				
Resolution	Adjust by potentiometer				
Contrast	Chinese, English				
Character	Chinese: 16*16 32*32 English: 8*16 16*32				
Character size	26		20		7
Button	64KB FlashROM				
Memory	RS232				
Screen	Normal models support RS232/RS422, (-S) models support RS232/RS485, OP320-A-N supports RS232				
Interface	RS232				
Download port	RS232				
Communication port	Normal models support RS232/RS422, (-S) models support RS232/RS485, OP320-A-N supports RS232				
Electric feature	DC24V				
Input voltage	DC22V~26V				
Voltage range	<140mA				
Consumption current	Under 10ms (actual power-off less than 1s)				
Allowable power-off	AC1000V, 10mA less than 1 minute				
Voltage shock endurance	Above 10MΩ, DC500V				
Insulation resistance	0°C~50°C				
Environment	-20°C~60°C				
Operating temperature	10%RH~90%RH (no condensation)				
Storage temperature	Interference voltage: 1500 Vp-p, pulse period: 1μs, duration time: 1 minute				
Operating humidity	No corrosive gas				
Anti-interference ability	Natural cooling				
Ambient	IP65 for front cover				
Cooling mode	172.0*94.0*38.8				
Protection level	172.0*94.0*30.0		162.0*102.0*38.0		
Structure	164.0*113.0		164.2*86.8		156.5*94.0
Dimension (mm)	172.0*121.0*56.5		172.0*94.0*38.8		
Mounting dimension (mm)	164.0*113.0		164.2*86.8		

* Note: OP320/OP320-S have no clock, other models have clock.

Product dimension (unit: mm)



Product Introduction



INTEGRATED PLC&HMI CONTROLLER

ZG Series / ZP Series / XMP Series / XP Series



- Human-oriented structure design, integrate PLC and HMI in one unit
- High speed data transmission and program downloading based on USB port
- User-defined cover mask fits for different needs
- Flexible expansion function, ZP series can connect two BD cards
- Rich screen displaying and picture library, support all the functions of HMI

Human-oriented Structure Design

More compact structure, greatly saving installation space



Multi-functional programming port

Download PLC and HMI program with the same cable except ZG series



Superior performance and complete functions

Two-in-one functions bring new experience

- Integrated logic control, analog input output, HMI in one unit
- Support high speed counting, high speed pulse, external interruption (except XP1 and ZG1)
- Support plane interpolation and follow-up motion control (special for ZGM series)
- Support all the functions of HMI
- Button is sensitive and accurate
- Screen editing is simple and intuitive, with rich functions.



Panel design closer to user requirements

- Button function can be specified freely, add panel indicator (XMP2 series)
- The function of 26 function buttons can be specified freely. The buttons are sensitive and accurate.
- The panel has power supply indicator, easy to know the controller running status.



The mask of button can be changed freely



Rich Products And Complete Specifications

XP series	XP1-18R/T/RT	XP series	XP2-18R/T/RT, XP3-18R/T/RT	ZP series	ZP3-18T
					
<ul style="list-style-type: none"> ■ XC1+OP330 (3.7 inches) ■ 10 input points, 8 output points ■ I/O sequential control ■ Without high speed counter, pulse output, interruption ■ 1 channel of RS232, 1 channel of RS485 (only can be slave station) ■ 26 buttons ■ Blue LCD ■ Clock function (optional) 		<ul style="list-style-type: none"> ■ XC2+OP330, XC3+OP330 (3.7 inches) ■ 10 input points, 8 output points ■ I/O sequential control ■ 2-axis 100KHz pulse output (transistor output model) ■ High speed counter and interruption ■ 1 channel of RS232, 1 channel of RS485 ■ 26 buttons ■ Blue LCD ■ Clock function (optional) 		<ul style="list-style-type: none"> ■ XD3+OP331 (3.7 inches) ■ 10 input points, 8 output points ■ I/O sequential control ■ 2-axis 100KHz pulse output ■ High speed counter and interruption ■ 1 channel of RS232, 1 channel of RS485 ■ 26 buttons ■ Blue LCD ■ Clock function 	

ZG series	ZG1-20T-4	ZG series	ZG3-20T-4, ZG3-30R/T/RT-7	ZGM series	ZGM-30T4-7
					
<ul style="list-style-type: none"> ■ XD1+TG465 (4.3 inches) ■ 10 input points, 10 output points ■ I/O sequential control ■ Without high speed counter, pulse output, interruption ■ 1 channel of RS232, 1 channel of RS485 ■ USB-A port, USB-B port ■ 16.77million true colors LCD ■ Clock function 		<ul style="list-style-type: none"> ■ XD3+TG465 (4.3 inches), XD3+TG765 (7 inches) ■ 10 input points, 10 output points; 16 input points, 14 output points ■ I/O sequential control ■ 2-axis 100KHz pulse output ■ High speed counter and interruption ■ 1 channel of RS232, 1 channel of RS485 ■ USB-A port, USB-B port ■ 16.77 million true colors LCD ■ Clock function 		<ul style="list-style-type: none"> ■ XD3+TG765 (7 inches) ■ 16 input points, 14 output points ■ I/O sequential control ■ 4-axis 100KHz pulse output ■ Linear arc interpolation ■ High speed counter and interruption ■ 1 channel of RS232, 1 channel of RS485 ■ USB-A port, USB-B port ■ 16.77million true colors LCD ■ Clock function 	

XMP series	XMP2-32R/T/RT-E
	
<ul style="list-style-type: none"> ■ XC2+MP760 (7 inches) ■ 16 input points, 16 output points ■ I/O sequential control ■ 2-axis 100KHz pulse output (transistor output model) ■ High speed counter and interruption ■ 2 channels of RS232, 1 channel of RS485 ■ 26 buttons ■ TFT 256 true colors LCD ■ Clock function 	

Improved data backup function

Data import and export based on USB port

ZG series integrated controller is equipped with a USB-A interface for HMI data backup, especially for field data collection and storage, data import and export bidirectional transmission. Through the CSV format file, the maintenance and checking of engineering data is more efficient, and the flexible recipe data can realize the unified management of processing information and simplify the control business.



Program download is fast and time-saving

USB-B interface conforms to USB2.0 specification. High-speed data transmission can be achieved by using common USB cable, which greatly reduces download time.



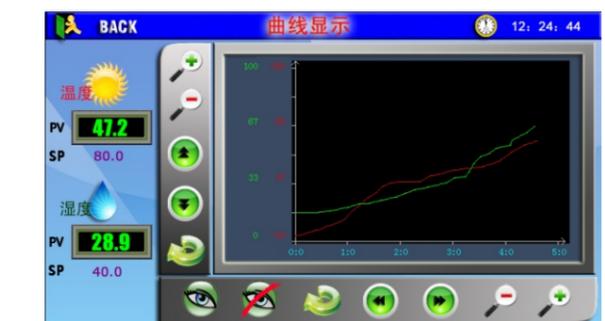
Vivid screen editing and display function ZG series integrated controller

3D library brings new visual enjoyment

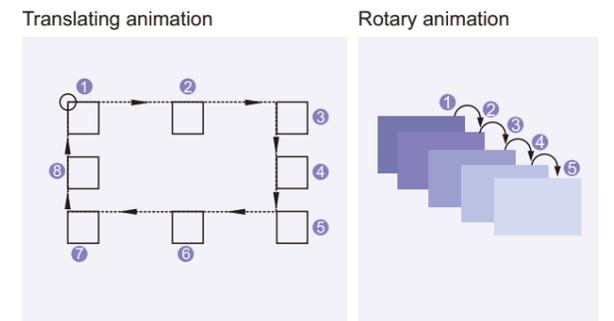
The alarm function enables the system to recover quickly

Flexible monitoring settings of alarm window and alarm list help maintenance personnel find abnormal causes in time, shorten downtime, and quickly restore the system.

Process control data acquisition function, trend map displays more clear



A brand new way of animation editing, rich expressiveness

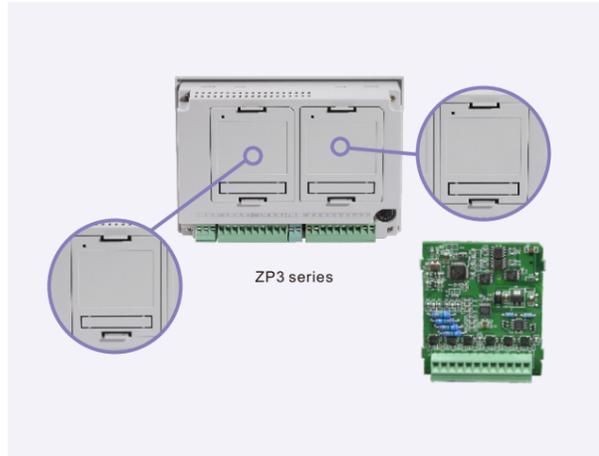


Rich analog acquisition functions

Analog extension BD card Cost-effective, save installation space

XP, ZG and ZP series integrated controller can meet more requirements of analog and temperature control, support 1~2 BD card (only ZP-18 can install 2 BD cards).

XP series has 4 kinds of BD card; Z series has 3 kinds of BD card.
Note: XP1 series cannot install BD card; XP2-B series can install BD card; XP3 series can install BD card.



BD card model list

Model		Description
XP series BD card	XP-2AD2PT-BD	<ul style="list-style-type: none"> 2 channels voltage input 0~10V, 0~5V optional. 2 channels temperature sensor signal input (PT100 2-wire), temperature range -100~350°C, precision 0.1°C. 14-bit high precision analog input (0~16383). Conversion speed 15ms*4 channels.
	XP-2AD2PT1DA-BD	<ul style="list-style-type: none"> 2 channels voltage input 0~10V, 0~5V optional. 2 channels temperature sensor signal input (PT100 2-wire). 1 channel current output 0~20mA, 4~20mA optional. 14-bit high precision analog input (0~16383). 10-bit high precision analog output (0~1023). Conversion speed 15ms*4 channels.
	XP-4AD-BD	<ul style="list-style-type: none"> 4 channels voltage input 0~10V, 0~5V optional. 14-bit high precision analog input (0~16383). Conversion speed 15ms*4 channels.
	XP-4PT-BD	<ul style="list-style-type: none"> 4 channels temperature sensor signal input (PT100 2-wire). Temperature range -100~500°C, precision 0.1°C.
Z series BD card	Z-4AD2DA-A-BD	<ul style="list-style-type: none"> 4 channel current input 0~20mA, 4~20mA optional. 2 channel current output 0~20mA, 4~20mA optional. 12-bit high precision analog input (0~4095). 10-bit high precision analog output (0~1023). Conversion speed 1ms/channel. Comprehensive accuracy: ±0.8% of full scale.
	Z-3AD3PT-BD	<ul style="list-style-type: none"> 3 channels voltage input 0~10V, 0~5V optional. 3 channels temperature sensor signal input (PT100 2-wire), temperature range -100~500°C, precision 0.1°C. 12-bit high precision analog input (0~4095). Conversion speed 1ms/channel.
	Z-2WT-BD	<ul style="list-style-type: none"> 2-channel weighing BD, the principle is the same as XD series -C weighing module.

Communication function

Two communication ports, fast connect various devices

- Download port: for PLC and HMI program upload and download (ZG series use USB port to download upload HMI program)
- Communication port: PLC communicates with external devices through RS232 or RS485 mode



High speed processing ability

XP2, XP3 series

ZG3 series

ZGM-30

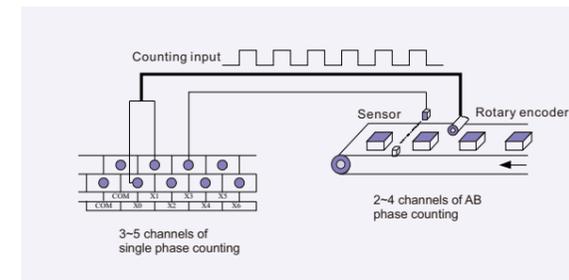
The core chip of XC series PLC is adopted, compatible with all high-speed processing functions of XC series PLC.

The core chip of XD3 series PLC is adopted, compatible with all high-speed processing functions of XD3 series PLC.

The core chip of XDM series PLC is adopted, with rich motion control functions.

- Support 4-axis 100KHz pulse output
- Support 2-axis interpolation
- 4 channels of single phase/AB phase high speed counter
- 4 channels of follow-up instruction

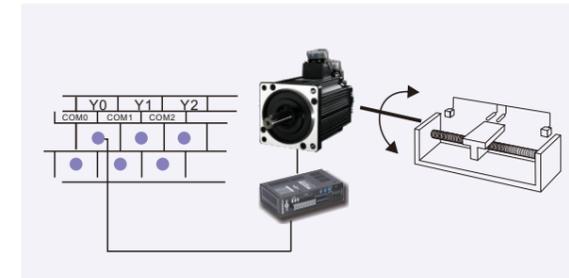
High speed counting, frequency up to 80KHz



*Note: the details of high speed counter please refer to high speed counter configuration table.

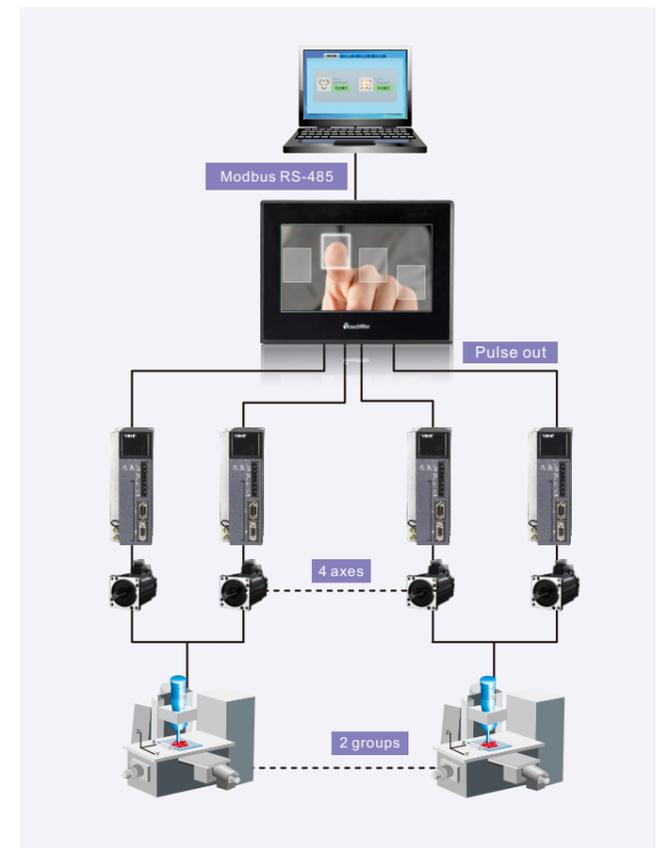
2~4 channels of pulse output

- Please use transistor model for pulse output function, such as XP2-18RT-B
- XP2, XP3, XMP2 and ZG3 series have 2 channels of pulse output
- ZGM series has 4 channels of pulse output



*Note: when using high-speed pulse output function, the PLC can output 100KHz ~ 200KHz pulse, but can not guarantee the normal operation of all servos.

Support multi-channel 2-axis interpolation (special for ZGM)



Product Specification

General specification of basic unit

Item		Specification		
		XP series, ZP3-18T	ZG series	XMP series
Electric features	Input voltage	DC24V (voltage range: DC21.6V~26.4V)		
	Allowable instantaneous power-off	less than 20ms	10ms	20ms
	insulation resistance	About 10MΩ, DC500V (signal and ground)		
Environment	Operation temperature	0~50°C		
	Storage temperature	-10~60°C		
	Environment humidity	20~85% (no condensation)		
	Vibration resistance	10~25Hz (X, Y, Z directions 2G for 30 minutes each)		
	Anti-interference	Voltage noise: 1000 Vp-p		
	Air	No corrosive gas		

Performance specification of basic unit

Item		XP series			ZP series	XMP series
		XP1-18R/T/RT	XP2-18R/RT-B	XP3-18R/T/RT	ZP3-18T	XMP2-32RR/T/RT-E
Structure	HMI	OP330	OP330	OP330	OP331	MP760-T (XMP-32)
	PLC	XC1-18R/T/RT	XC2-18R/RT	XC3-18R/T/RT	XD3-18T	XC2-32R/RT
Interface	Download/COM0	Rs232 (upload/download PLC program, download OP program)				/
	COM1	/				RS232 (upload/download PLC/HMI program)
	COM2	/				RS232 (PLC port2)
	AB terminals	RS485 <small>(only can be slave station)</small>	RS485 (PLC port2)			RS485 (PLC port2)
	USB-A	/				
	USB-B	/				
Screen features	Type	Blue LCD			TFT LCD 256 true colors	
	Screen size	3.7 inches			7 inches	
	Service life	Above 20000 hours, environment temperature 25°C, 24-hour operation			Above 50000 hours, environment temperature 25°C, 24-hour operation	
	Display area	192*64			480*234	
	Contrast	Potentiometer adjustable			Unadjustable	
	Language	Chinese, English			Chinese, English, Korean, Japanese, etc.	
	Character size	Dot matrix font, vector font			Any font, any size	
	Touch mode	Cannot touch			Matrix touch	
	Memory	Screen: 64KB data: 4KB			Screen: 8M data: 4K	
PLC specification	Program execution mode	Cyclic scanning mode				
	Programming mode	Instruction, ladder chart, C language				
	Processing speed	0.5us			0.05us	0.5us
	User program capacity	32KB	128KB			
	I/O points	10 input points, 8 output points			16 input points, 16 output points	
	Soft component capacity	Same to XC1	Same to XC2	Same to XC3	Same to XD3	Same to XC2
	High speed processing ability	High speed counting, pulse output, external interruption				
	Password	6-bit ASCII				
	Self-diagnosis function	Power-on self-check, monitor timer, grammar check				

※1 user program capacity is the max capacity of secret downloading.
 ※2 I/O points refer to the terminal number user can input and output signal.

Item		ZG series			ZGM series
		ZG1-20T-4	ZG3-20T-4	ZG3-30R/T/RT-7	ZGM-30T4-7
Structure	HMI	TG465	TG465	TG765	TG765
	PLC	XD1-20T	XD3-20T	XD3-32R/T/RT	XDM-32T
Interface	Download/COM0	RS232 (upload/download PLC program, PLC port1)			
	COM1	/			
	COM2	/			
	AB terminals	RS485 (PLC port2)			
	USB-A	Support connecting flash disk to import and export HMI data			
	USB-B	For downloading and debugging program, high-speed download, transmission speed can up to 480Mbps			
	Screen features	Type	16.77 million true colors LCD		
Screen size		4.3 inches		7 inches	
Service life		Above 50000 hours, environment temperature 25°C, 24-hour operation			
Display area		480*272		800*480	
Contrast		Adjustable			
Language		Chinese, English, Korean, Japanese, etc.			
Character size		Any font, any size			
Touch mode		4-wire resistance touch			
Memory		Screen: 128M			
PLC specification	Program execution mode	Cyclic scanning mode			
	Programming mode	Instruction, ladder chart, C language			
	Processing speed	0.05us			
	User program capacity	256KB			384KB
	I/O points	10 input points, 10 output points		16 input points, 14 output points	
	Soft component capacity	Same to XD1	Same to XD3		Same to XDM
	High speed processing ability	-	High speed counting, pulse output, external interruption		
	Password	6-bit ASCII			
	Self-diagnosis function	Power-on self-check, monitor timer, grammar check			

※1 User program capacity is the max capacity of secret downloading.
 ※2 I/O points refer to the terminal number user can input and output signal.

High speed counter configuration table

XP2 series											
	Single phase incremental mode					Pulse + direction mode		AB phase mode			
	C600	C602	C604	C606	C608	C620	C622	C630	C632	C634	C636
Max frequency	10K	10K	10K	10K	10K	10K	10K	5K	5K		
4 frequency doubling								1/4	1		
Counting interruption	√	√	√	√	√	√		√			
X000	U					U		A			
X001		U				Dir		B			
X002											
X003			U				U	A			
X004							Dir	B			
X005											
X006				U							
X007											
X0010											
X0011					U						

XP3 series											
	Single phase incremental mode					Pulse + direction mode		AB phase mode			
	C600	C602	C604	C606	C608	C620	C622	C630	C632	C634	C636
Max frequency	80K	80K	10K	10K	10K	80K	10K	50K	5K		
4 frequency doubling								1/4	4		
Counting interruption	√	√	√	√	√	√		√			
X000	U					U		A			
X001		U				Dir		B			
X002											
X003			U				U	A			
X004							Dir	B			
X005											
X006				U							
X007											
X0010											
X0011					U						

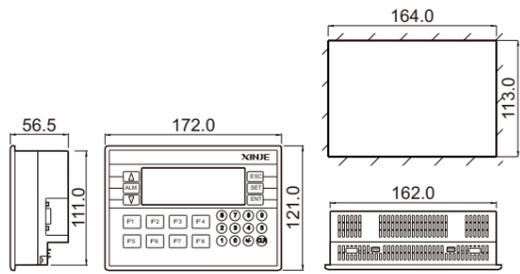
XMP2 series											
	Single phase incremental mode					Pulse + direction mode		AB phase mode			
	C600	C602	C604	C606	C608	C620	C622	C630	C632	C634	C636
Max frequency	80K	80K	10K	10K	10K	80K	10K	50K	5K		
4 frequency doubling								4			
Counting interruption	√	√	√	√	√	√		√			
X000	U					U		A			
X001		U				Dir		B			
X002											
X003			U				U	A			
X004							Dir	B			
X005											
X006				U							
X007					U						
X0010											
X0011											

ZP3-18T, ZG3-20R/T-4, ZG3-30R/T/RT-7								
	Single phase incremental mode				AB phase mode			
	HSC0	HSC2	HSC4	HSC6	HSC0	HSC2	HSC4	HSC6
Max frequency	80K	10K	10K		50K	5K	5K	
4 frequency doubling					2/4	2/4	2/4	
Counting interruption	√	√	√		√	√	√	
X000	U				A			
X001					B			
X002					Z			
X003		U			A			
X004					B			
X005					Z			
X006			U				A	
X007							B	
X0010							Z	
X0011								

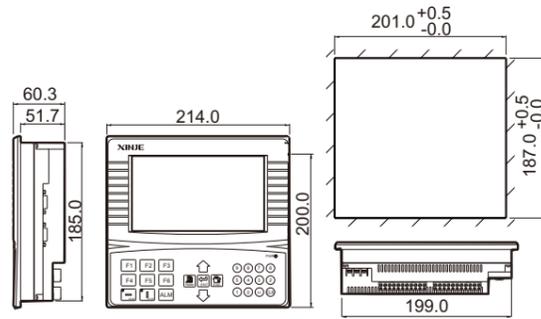
ZGM-30T4-7								
	Single phase incremental mode				AB phase mode			
	HSC0	HSC2	HSC4	HSC6	HSC0	HSC2	HSC4	HSC6
Max frequency	80K	80K	80K	80K	50K	50K	50K	50K
4 frequency doubling					2/4	2/4	2/4	2/4
Counting interruption	√	√	√	√	√	√	√	√
X000	U				A			
X001					B			
X002					Z			
X003		U				A		
X004						B		
X005						Z		
X006			U				A	
X007							B	
X0010							Z	
X0011				U				A
X0012								B
X0013								Z

Product Dimension (unit: mm)

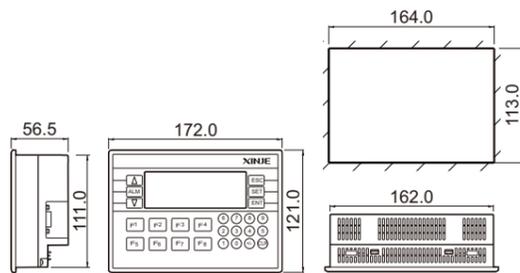
XP1/XP2/XP3-18R/T/RT



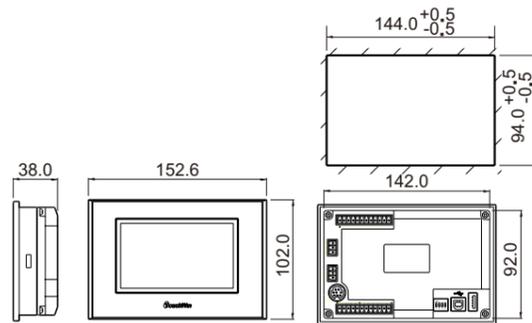
XMP2-32R/T/RT-E



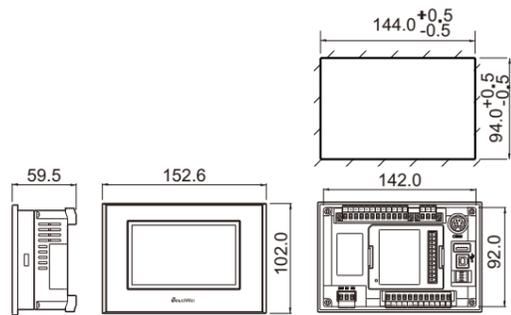
ZP3-18T



ZG1-20T4



ZG3-20T4



ZG3-30R/T/RT-7, ZGM-30T4-7

