



**TP/TH/TG/TE/RT
series HMI manual 【Hardware】**

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Data No. HC 01 20211111 2.E

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1 TP series HMI

1-1 Features

Xinje TP series HMI have strong functions. It supports multi-language, any font and size of characters. The basic functions include data display and monitoring, alarm, recipe. It can communicate with most brands of PLC, two ports can communicate individually. The programming software Touchwin has friendly interface and easy to operate. The software can simulate online and offline (SCADA function).

1-1-1 Product features

■ Display

- Monochrome or 256 colors LCD, support BMP, JPG pictures display
- Support multi-language: Chinese, English, Japanese, Korean, German, French, Arabic, etc. The fonts support any size, artistic effect, bold, italic, etc.
- Large program capacity support more program screens and data.

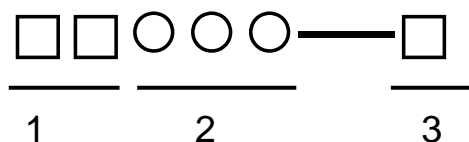
■ Control

- Dynamic data displaying and monitoring, bar map, real-time/historical trend map, discrete/continuous histogram, switching control;
- Real-time/historical alarm records;
- Sample and save the data at certain time or conditions;
- Nine levels password protection;
- On/off line simulation, SCADA function

■ Communication

- Two ports can communicate independently, enable to connect many devices at the same time;
- Support micro-printer
- Support free format communication, user can make the communication protocol freely.

1-1-2 Model naming rule



1: Series name	TP
2: LCD size	460: 4.7" 760: 7.0"
3: LCD display	L: Monochrome LCD T: 256 colors TFT LCD

1-1-3 Product models

TP series HMI can connect to PLC, inverter, meters and other devices. As the interface of machine and user, it can monitor data, control the machine operation. It is fit for small and medium control systems.

Model	LCD size	LCD type
TP460-L (stop production)	4.7 inch	Monochrome LCD
TP760-T	7.0 inch	256 colors TFT

1-2 General specifications

HMI specifications

Item		TP460-L	TP760-T
Screen	Size	4.7"	7.0"
	Type	Monochrome	256 colors
	Resolution	240*128	480*234
	Brightness	Adjust by potentiometer	/
	Touch panel	Matrix digital touch panel	
	Using life	More than 50000 hours, temperature 25°C, running for 24 hours	
	Language	Chinese, English, Japanese, Korean, German, French, Arabic...	
Character	Any font and size		
Memory	Capacity	2MB	4MB

Electric specifications

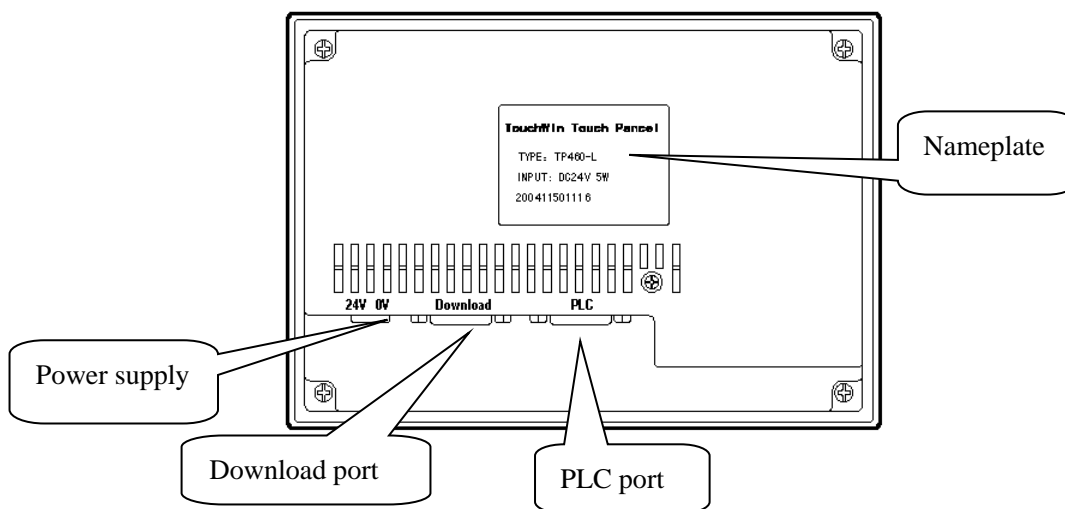
Item		TP460-L	TP760-T
Electric	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	200mA	280mA
	Allowable momentary power failure	Below 10ms (Actual power failure<1s)	
	Withstand voltage	AC1000V,10mA,less than 1 minute (signal and ground)	
	Insulated impedance	DC500V, above 10MΩ (signal and ground)	
Environment	Operation temperature	0-50°C	
	Reserve temperature	-20-60°C	

	Environment humidity	10%RH-90%RH (no condensation)	
	Withstand oscillation	10-25HZ (X,Y,Z each direction 30 minutes 2G)	
	Anti-jamming	Voltage noise:1500Vp-p,pulse 1us, 1 minute	
	Surrounding air	No corrosive gas	
	Protection construction	IP65	
Construction	Cooling method	Natural air cooling	
	Exterior dimension (mm)	173.2*121.4*45.1	200.0*148.0*45.0
	Mounting dimension (mm)	165.2*113.4	182.4*134.4
Ports	PLC port	Support RS232/RS485/RS422	
	Download port	Support RS232/RS485	

1-3 Hardware

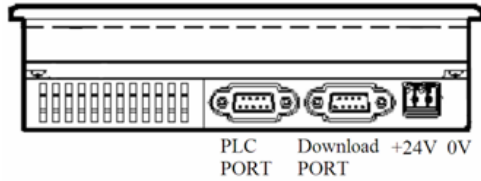
1-3-1 Hardware structure

The hardware structure of TP series touch screen includes front and back side. Take TP460-L as an example to explain the structure.



1-3-2 Port introduction

Xinje TP series HMI have two communication ports: Download port and PLC port, below is the feature and function of TP series, take the ports of TP460-L as an example:

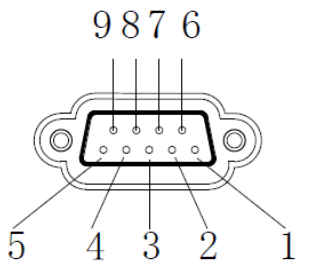


1. Download communication port

The main functions of the port:

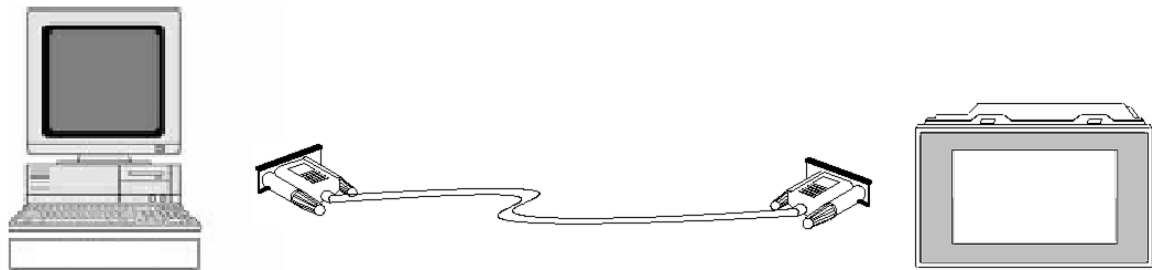
- Download: Connect with PC to download program;
- Communication: Connect with PLC, printer, frequency converter etc, as a communication port.


Pins of download port:

	Pin	Name	Meaning
	1	NC	Unused terminal
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 communication "+" signal
	5	GND	Signal ground
	6	BUSY	Busy signal
	7	B	RS485 communication "-" signal
	8	NC	Unused terminal
	9	NC	Unused terminal

(1) Download function

When you use download function of TP series, please use Xinje special download cable:



Before user download a program, please make sure your PC has installed multiport serial card or USB-RS232 convertor, and connect cable correctly, click “” button in Touchwin software, then you could download data successfully, below are the pin definitions:

PC serial Port (COM)

Pin	Name
1	
2	RXD
3	TXD
4	
5	GND
6	
7	RTS
8	
9	

Download Port (TP series)

Pin	Name
1	NC
2	RXD
3	TXD
4	A
5	GND
6	BUSY
7	B
8	NC
9	NC

Connection diagram (Normal download)



If the connection between PC and HMI is correct, but still can't download, user can try "Forced Download" function. The connection diagram of this function as below shows:

Download Port (TP series)
pin5&8 shorted forced download mode

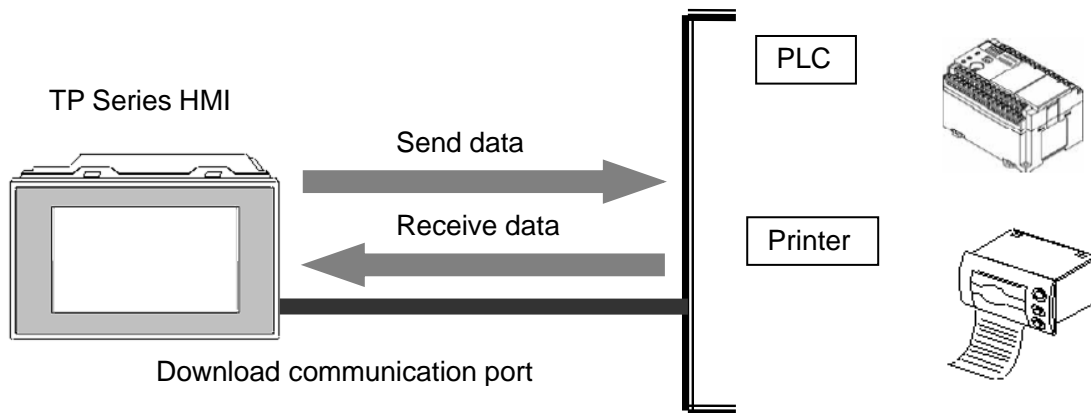
Steps:

- Cut the power of TP, shorted the Pin 5 and 8;
- Power on, move away the shorted line;
- Start to download the program with special download cable.

Pin	Name
1	NC
2	RXD
3	TXD
4	A
5	GND
6	BUSY
7	B
8	NC
9	NC

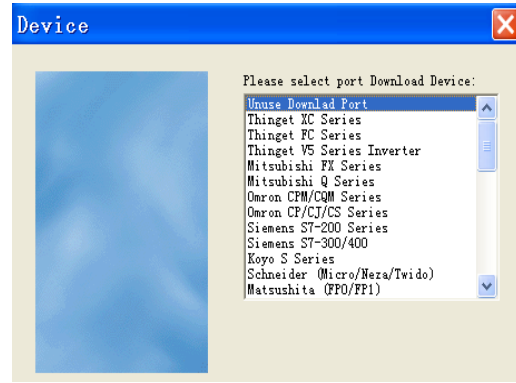
(2) Communication function

The download port of TP series not only has the download function, but also has the powerful communication function.



When use the communication function of download port, please shorted the pin 5 and pin 6, select the corresponding communication equipment in software settings.

PIN	Name
1	NC
2	RXD
3	TXD
4	A
5	GND
6	BUSY
7	B
8	NC
9	NC



Download port communication mode transformation

Select communication device of download port

2. Communication interface of PLC

The PLC communication port of TP series has below function:

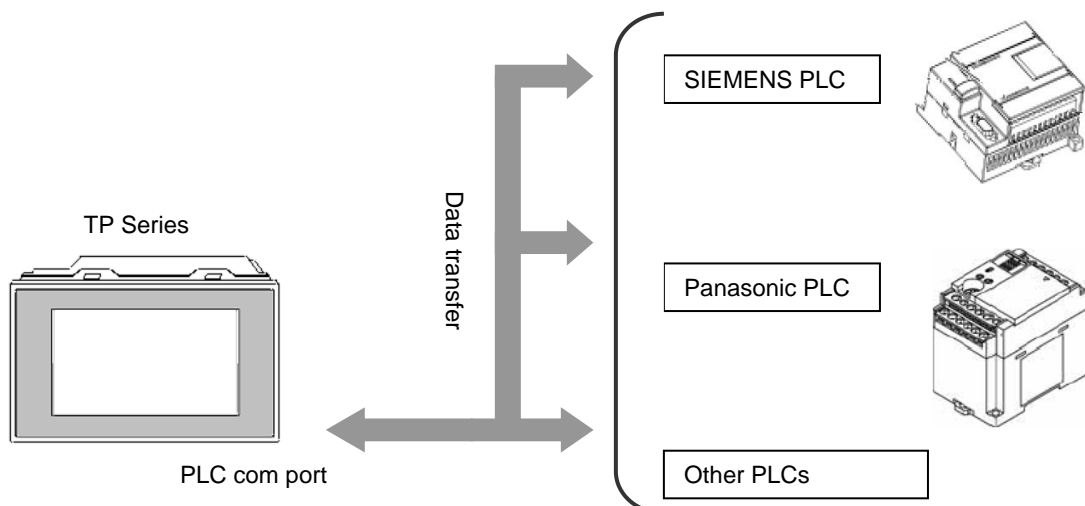
- Connect and communication with industrial control equipments: PLC, inverter, meter etc.

The pins definition of PLC communication port:

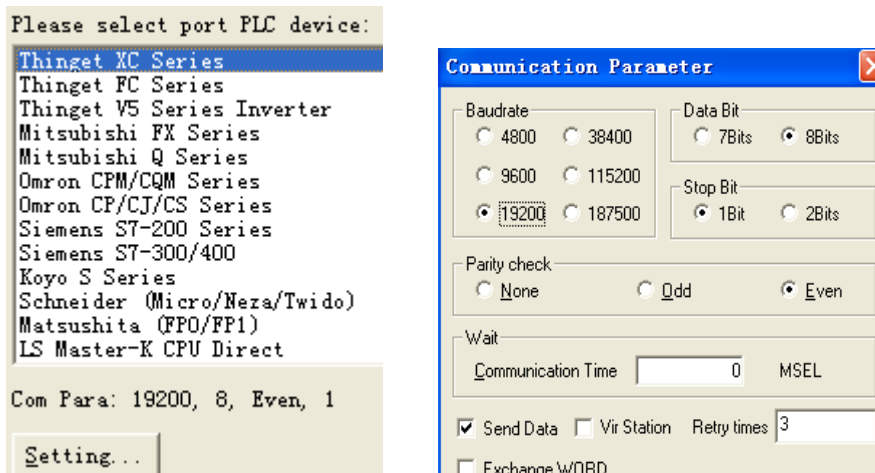
Pin	Definition	Description
1	TD+	RS422 send “+”
2	RXD	RS232 receive
3	TXD	RS232 send
4	A	RS485 “+”
5	GND	Signal ground
6	TD-	RS422 send “—”
7	B	RS485 “—”
8	RDD-	RS422 receive “—”
9	RDD+	RS422 receive “+”

(1) Communicate with PLC

TP series HMI can communicate with most of popular PLCs

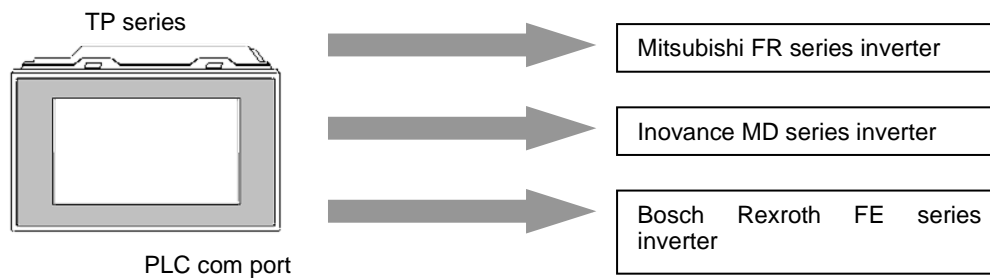


Please select correct PLC port device and communication parameters:



(2) Communicate with inverter

TP can communicate with various brands of frequency inverters. For the brands which are not in the list, user can select Modbus protocol or user-defined protocol.



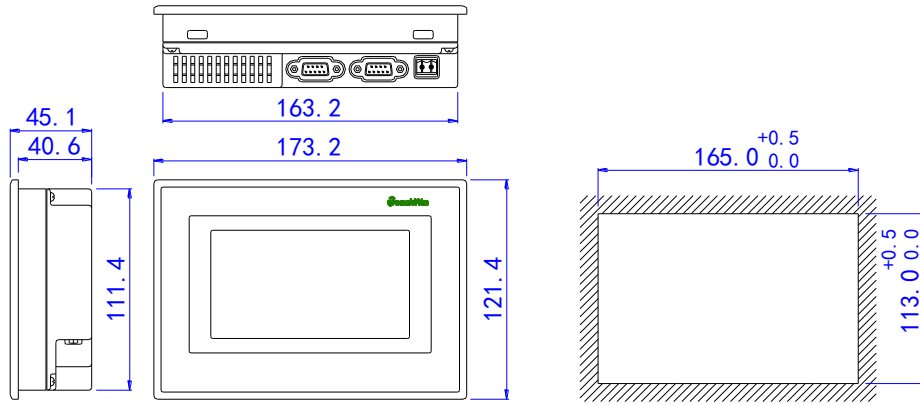
(3) Communicate with meters

About the communication between TP and meters, users can select user-defined protocol or Modbus protocol.

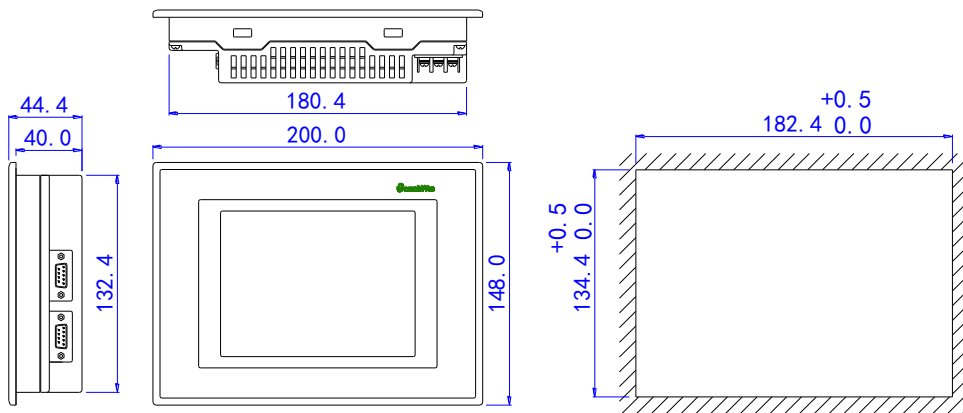
1-4 Dimension and installation

1-4-1 Product dimensions

TP460-L (Unit: mm)



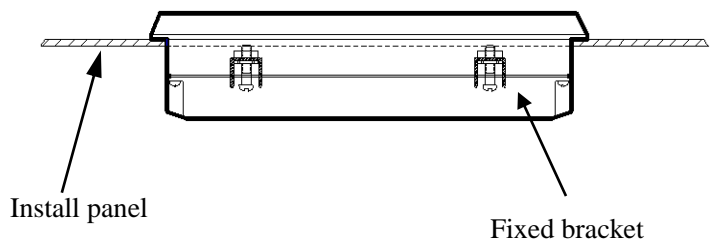
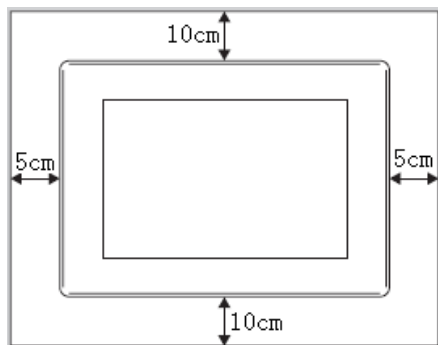
TP760-T (Unit: mm)



1-4-2 Installation and using environment

Install requirements:

TP has four ferric mounting racks when out of factory, there are two square holes on the top, bottom side of TP, use mounting rack to fix the TP with control cabinet.
 In order to avoid TP temperature too high after long time working, please keep 10cm space on the up/down and 5cm on the left/right side of the TP when installing.



Install steps:

1. Refer to the dimension in the former chapter to open a rectangle mounting hole in

- the control cabinet
2. Add airproof circles in the airproof slot when installing
 3. Insert the bottom of TP into the mounting hole of control cabinet
 4. Insert the install rack into the fix hole of TP then tighten the screw
 5. Connect TP and PLC with communication cable

Notice: The communication cable can be offered by the supplier or made by user according to the connection diagram, input +24V DC power to start working.

Environment:

Please use TP series touch screen indoor.

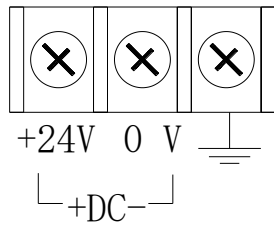


Do not use TP in below environment:

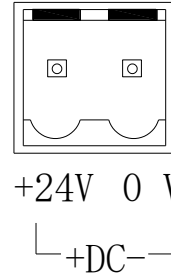
Inflammable gas, steam, dust, fast vary temperature, high humidity (it may cause moisture inside TP).

Power supply requirements:

TP series touch screen use DC +24V power supply only. The permitted voltage range is 20V~26V. The connection is as below:



Terminal type



Pin type

Besides, if connect high voltage or AC power supply with TP, the TP may be damaged and cause electric shock to human body.



NOTE: if use the DC +24V output of PLC to drive the TP, make sure the PLC has enough current to drive the TP.

2 TH series HMI

2-1 Features

Xinje new touch screen TH series are based on TP series products. It not only has the language, characters editing, data display, monitor and alarm functions but also has 65536 true color LCD which can bring you brand-new vision enjoyment. It has the advantage of large capability for data duplication and friendly user interface. It provides perfect humanized solution for industrial system; make it easy to control the system.

The function compare between TP and TH:

x: Nonsupport √: Support

Series	Function comparison								
	Color	Font setting	3D picture library	Adjust the touch area	Animation	Password	Two ports communication independently	USB data download	USB data duplication
TP	256	√	x	x	√	√	√	x	x
TH	65536	√	√	√	√	√	√	√	√

2-1-1 Product features

■ Display

- LCD size: 4.7", 7", 8", 10.1", 10.4".
- Rich colors: 65536 TFT true color, support BMP, JPG format, display more lively.
- Adjust function for touch screen.
- Support multinational language: Chinese, English, Japanese, Korean. Define the font as you like, support underline, italic, bold, shadow and other art words.
- Large picture library, with preloading mode, no delay for screen motion.

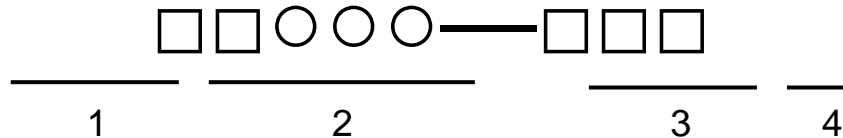
■ Control

- Switch control, dynamic monitor and display data, bar map, real time trend map, time trend map, XY trend map, discrete/continue column map, real time alarm, history alarm record...
- User-defined data collection and saving function
- Set user's authority, 9 levels password protection
- Simulate online/offline, upload/download data, configuration function
- Powerful C language function block
- USB port inside, connect flash disk to realize data duplication function, speed 480Mbps
- Special USB-B port for data download, make the data transfer faster
- User-defined animation track design

■ **Communication**

- Two ports communication independently, can connect two different devices at the same time
- Drive the panel printer directly, economical and flexible
- Support free format communication, user edits the driver program

2-1-2 Model naming rule



- 1: Series name TH
- 2: LCD size 465: 4.3”
765: 7.0”
865: 8.0”
A62: 10.1”
A65: 10.4”
- 3: Port type MT/NT: USB-B download port
UT/NU: USB-B download port, USB-A flash disk port
- 4: Type Empty: normal type
(P): oil resistant



Special model:

TH465-MT2/ UT2: Increase a com port(RS232) base on the TH465-MT/UT.

TH765-NT3/NU3: Increase a com port(RS485) base on TH765-NT/ NU.

2-1-3 Model form

TH series include TH465, TH765, TH865, THA62 and THA65.

Series	TH465	TH765-M	TH765-N	TH865	THA62	THA65
Model	TH465-MT	TH765-MT	TH765-NT	TH865-MT	THA62-MT	THA65-MT
	TH465-MT(P)	-	TH765-NT(P)	TH865-MT(P)	-	-
	TH465-UT	TH765-UT	TH765-NU	TH865-UT	THA62-UT	THA65-UT
	TH465-UT(P)	TH765-UT(P)	-	TH865-UT(P)	-	-
	TH465-MT2	-	TH765-NT3	-	-	-
	TH465-UT2	-	TH765-NU3	-	-	-



(1) About the hardware configuration of each model, please refer to below “TH series HMI configuration form”;

- (2) The difference between TH765-N and TH765-M: Use different LCD module, but the function, parameters and specifications are the same;
- (3) TH765-NT/UT(P) are oil resistant model. The difference is the front cover designing.

TH series HMI configuration form

Series	Model	LCD	Resolution	Memory	Port1 Download port	Port2 PLC port	Port3 EXT port	USB-A	Download mode
TH465	TH465-MT	4.3"	480*272	8MB	-	232/485/ 422	-	-	USB-B
	TH465-MT(P)							1	
	TH465-UT							-	
	TH465-UT(P)				1				
	TH465-MT2				-				
	TH465-UT2				1				
TH765-M	TH765-MT	7.0"	800*480	128MB	232/485	232/485/ 422	-	-	
	TH765-UT							1	
	TH765-UT(P)							-	
TH765-N	TH765-NT	7.0"	800*480	128MB	232/485	232/485/ 422	-	-	
	TH765-NT(P)							1	
	TH765-NU							-	
	TH765-NT3							1	
	TH765-NU3							485 (1A6 B)	
TH865	TH865-MT	8.0"	800*600	128MB	232/485	232/485/ 422	-	-	
	TH865-MT(P)							1	
	TH865-UT							-	
	TH865-UT(P)							1	
THA62	THA62-MT	10.1"	800*480	128MB	232/485	232/485/ 422	-	-	
	THA62-UT							2	
THA65	THA65-MT	10.4"	800*600	128MB	232/485	232/485/ 422	-	-	
	THA65-UT							2	



1. TH series add two kind of power-off retentive registers: PHW (520 thousand registers) and PRW (1 thousand registers), so if user need the PHW register, user should mark it, and TH465 doesn't have PHW, it only has PRW.
2. THA62 has one USB-A in the front and one at the back. These two ports are the same port, cannot use them at the same time.
3. THA65 has two USB-A ports at the back. These two ports are the same port, cannot use them at the same time.

2-2 General specifications

HMI specifications

Item		TH465	TH765	TH865	THA62	THA65
Screen Specification	Size	4.3"	7.0"	8.0"	10.1"	10.4"
	Type	65536 true colors				
	Resolution	480*272	800*480	800*600	800*480	800*600
	Brightness	Cannot be adjusted	Can be adjusted (except MT, UT)	Cannot be adjusted	Cannot be adjusted	Cannot be adjusted
	Touch panel	4-wire resistance mode				
	Use life	More than 50000 hours, 24 hours running when surrounding temperature is 25 °C				
	Character	Chinese, English, Korean, Japanese...				
	Character size	Any size and font				
Memory	Screen	8MB	128MB			

Note: adjust the brightness through register PFW100, the range is 0 to 100.

Electrical specifications

Item		TH465	TH765	TH865	THA62	THA65
Electrical	Input voltage	DC24V(Range:DC22V-DC26V)				
	Consumption current	130mA	250mA	260mA	230mA	630mA
	Momentary power off allowance	Less than 10ms (Actual power off less than 1s)				
	Withstand voltage	AC1000V, 10mA, less than 1 minute(signal and ground)				
	Insulated impedance	DC500V, above 10MΩ(signal and ground)				
Environment	Operation temperature	0-50°C				
	Reserve temperature	-20-60°C				
	Humidity	10%RH-90%RH (no condensation)				
	Withstand oscillation	10-25Hz (X, Y, Z each direction 30 minutes 2G)				
	Anti-jammin	Voltage noise: 1500Vp-p, pulse 1us, 1 minute				

	g					
	Surrounding air	No corrosive gas				
	Protection construction	IP65				
Construction	Cooling method	Natural air cooling				
	Exterior dimension (mm)	152.0*102.0* 41.8	204.0*150.5* 43.9	224.4*170.8* 45.5	272.2*191.7* 51.2	311.0*234.0* 48.0
	Mounting dimension (mm)	144.0*94.0	192.0*138.5	211.4*157.8	260.2*179.7	302.0*225.0
Interface	COM1	RS232/RS485/RS422				
	COM2	RS232	RS232/RS485			
	Expand port	-	RS485(NT3/NU3 support)	-		
	USB 1	USB-A (accord with USB2.0), flash disk port				
	USB 2	USB-B (accord with USB2.0), USB download port				

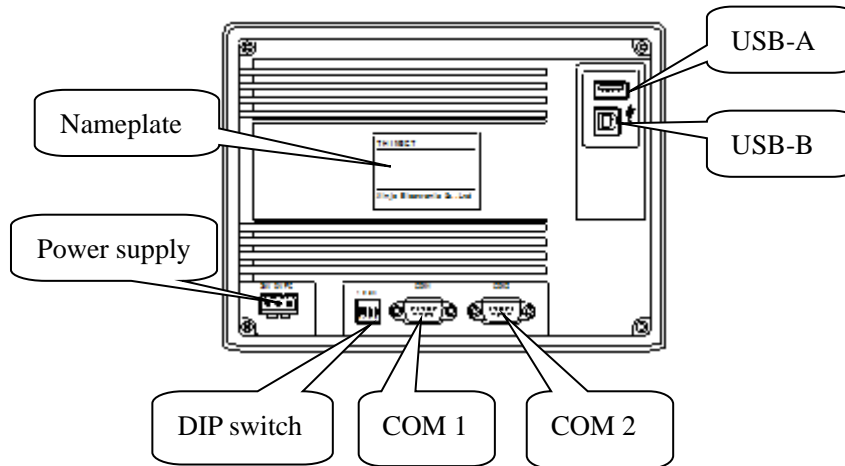
TH series HMI display area dimension:

Series	Display area dimension (mm)
TH465	95.04*53.86
TH765	154.08*85.92
TH865	162.0*121.5
THA62	219.6*131.76
THA65	211.2*158.4

2-3 Hardware


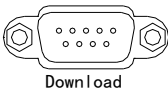
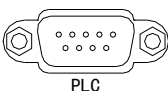


2-3-1 Hardware structure

Below is the back side of TH series HMI:



2-3-2 Port introduction

TH series HMI port:

Outline	Name	Function
	DIP switch	Force-download, touch area adjustment
	COM 1	RS232/RS485 communication Extension port: 1A6B (only NT3 and NU3 support)
	COM 2	RS232/RS485/RS422 communication
	USB-A	Connect to U disk
	USB-B	Connect USB cable to download/upload program

1. DIP switch

TH series has 4-bit DIP switch at the back side; they can set the function of COM1 port.

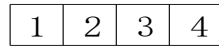
Switch	DIP1	DIP2	DIP3	DIP4	Function
State	OFF	OFF	OFF	ON	Interior check mode (not recommended to users)
	OFF	ON	OFF	OFF	Force-download mode
	OFF	OFF	ON	OFF	System menu : Adjust clock and touch panel, Import program of U disk
	ON	OFF	OFF	OFF	Undefined



If the screen cannot show normally after downloading the program, please use force-download to update the system.

Steps:

- (1) Cut off the power of TH, turn ON DIP switch 2;
- (2) Power on TH, connect the download cable to PC to download the program;
- (3) Turn OFF DIP switch 2 after finishing the download, repower on the TH.



2. Communication interface

The COM1 and COM2 port of TH series has below function:

- Communication function: Connect to PLC, printer, inverter, meter, etc, used as communication port.

The pins definition of COM1:

	Pin	Name	Description
	1	NC	Unused terminal
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 + signal
	5	GND	Signal ground
	6	NC	Unused terminal
	7	B	RS485 — signal
	8	NC	Unused signal
	9	NC	Unused signal

The pins definition of COM2:

	Pin	Name	Description
	1	TD+	RS422 send +
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 + signal
	5	GND	Signal ground
	6	TD-	RS422 send -
	7	B	RS485 -
	8	RDD-	RS422 receive -
	9	RDD+	RS422 receive +

The COM1 pins definition of TH765-NT3/NU3 series:

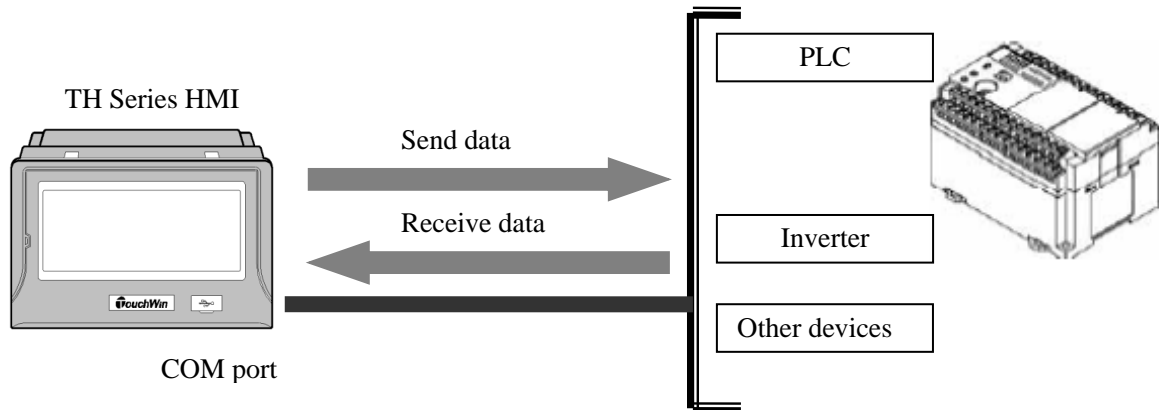
Pin	Name	Description
1	A	RS485 + signal
2	RXD	RS232 receive
3	TXD	RS232 send
4	A	RS485 + signal
5	GND	Signal ground
6	B	RS485 -
7	B	RS485 -
8	NC	Unused terminal
9	NC	Unused terminal

TH765-NT3/NU3 download port contains two communication ports, it can connect two devices at the same time.

Extension port: RS485 (1A6B)

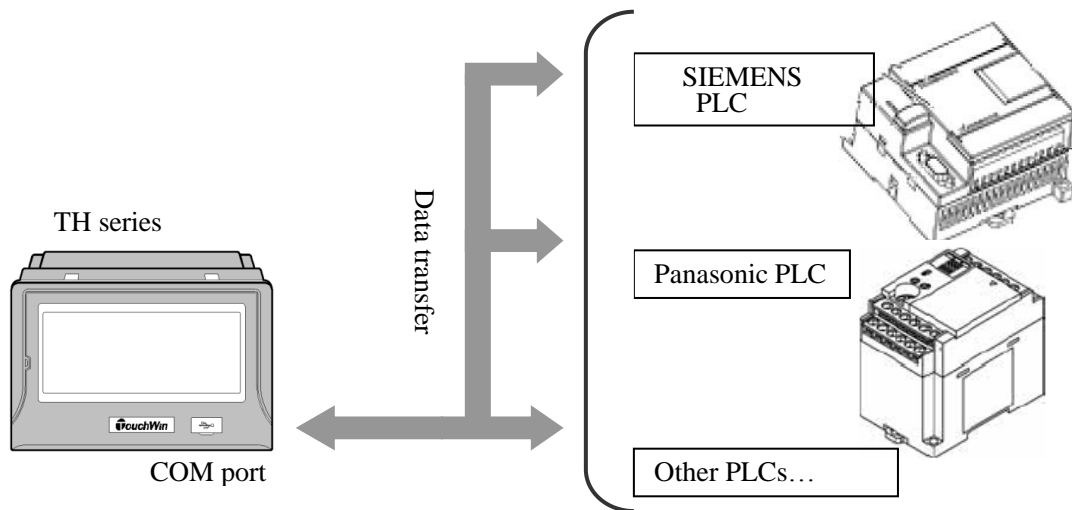
Download port: RS232 (2RXD, 3TXD, 5GND) or RS485 (4A7B)

The communication interface of TH series HMI has powerful communication function.

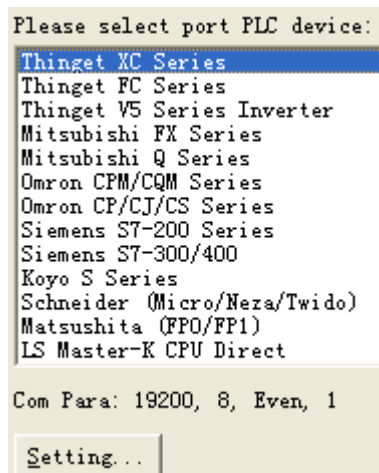


(1) Communication with PLC

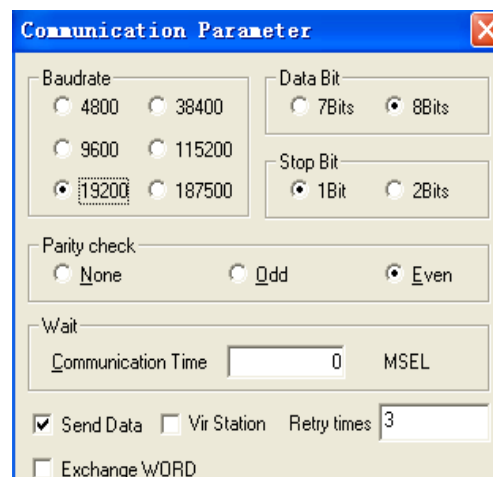
TH series HMI can communicate with most of popular PLCs:



Please select correct PLC port (COM2) device and communication parameters:

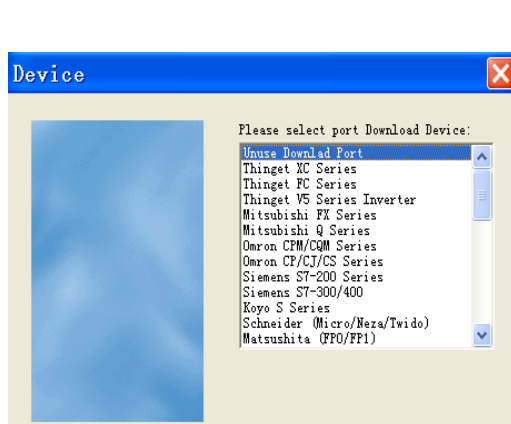


COM2 device selection

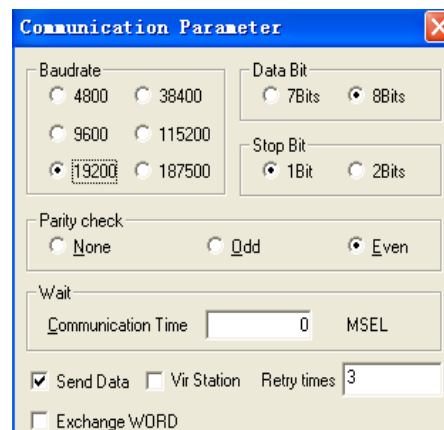


COM2 communication parameter setting

Select the correct download port (COM1) device and communication parameters:



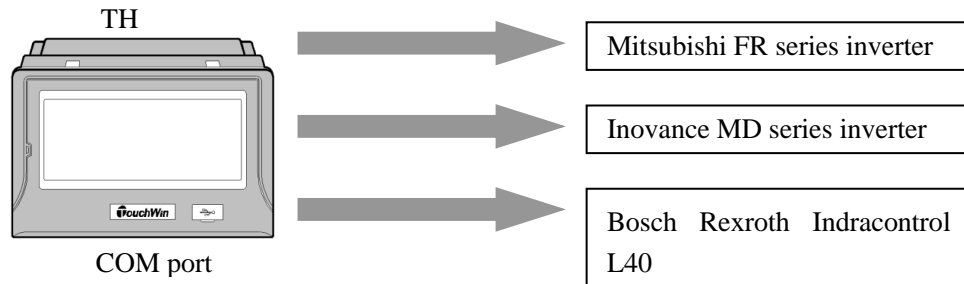
COM1 device selection



COM1 communication parameter setting

(2) Communication with inverter

TH can communicate with various brands of frequency inverters. For the brands which are not in the list, user can select Modbus protocol or user-defined protocol.



(3) Communicate with meters

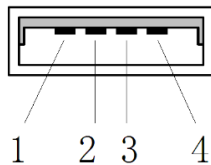
About the communication between TH and meters, users can select user-defined protocol or Modbus protocol.

3. USB-A port

TH series USB-A port has below functions: (accord with USB2.0)

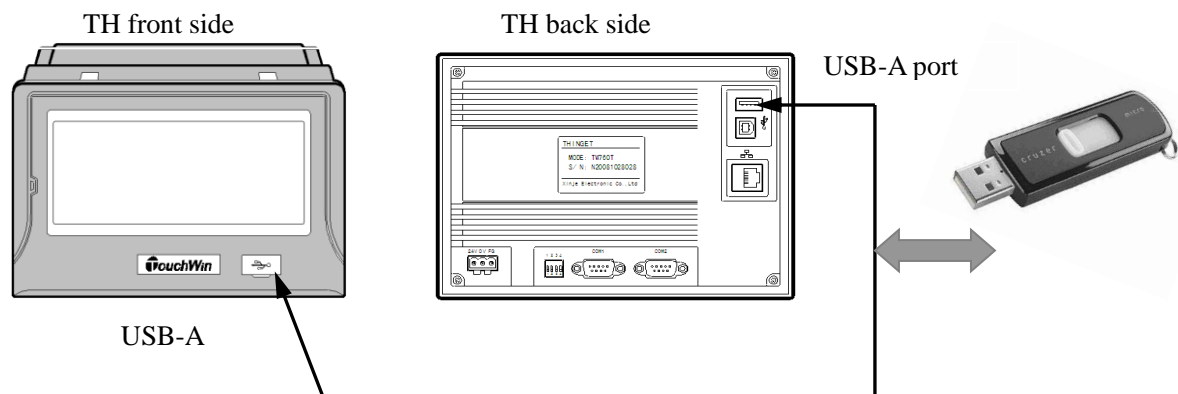
- Backup management, data export/import, the speed can up to 480 Mbps.

USB-A port definition



Connect to USB flash disk

Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA+	Data signal +
3	DATA-	Data signal -
4	-5V	-5V voltage signal



Note:

1. Only THA62-UT has USB-A port in the front, other TH series USB-A ports are at the back.
2. The USB-A port only support flash disk(FAT32), but not support mobile hard disk.

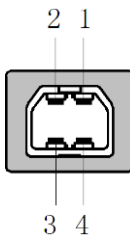
4. USB-B port

TH has one USB-B port (accord with USB2.0), located at the back side of TH, the functions are shown as below:

- To download the data, the speed can up to 480Mbps.

Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA-	Data signal -
3	DATA+	Data signal +
4	GND	Ground signal



USB-B port definition



- Please use shielded USB cables.



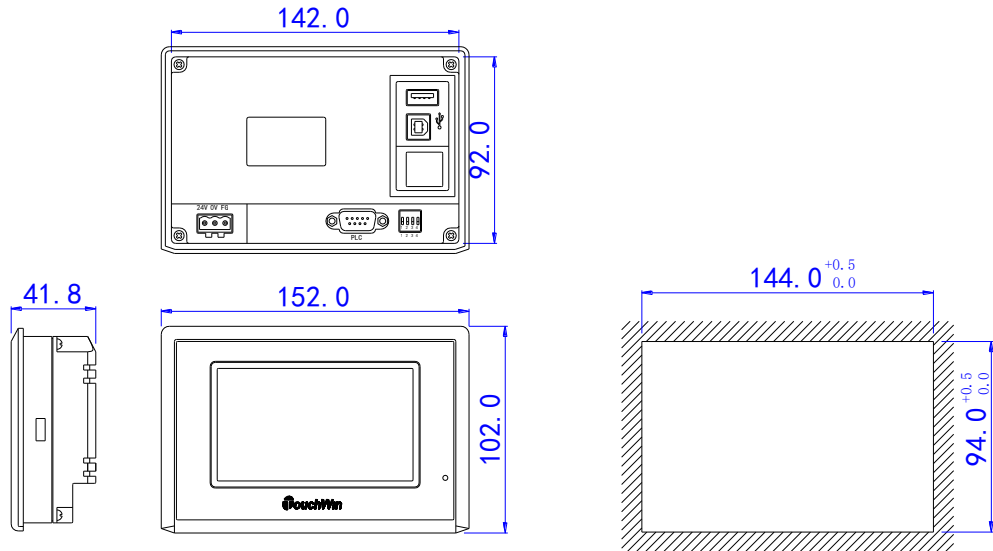
- Please install USB driver before using. Download the driver from www.xinje.com.

- Connect TH with PC, open Touchwin software, click “ or ” to download the program.

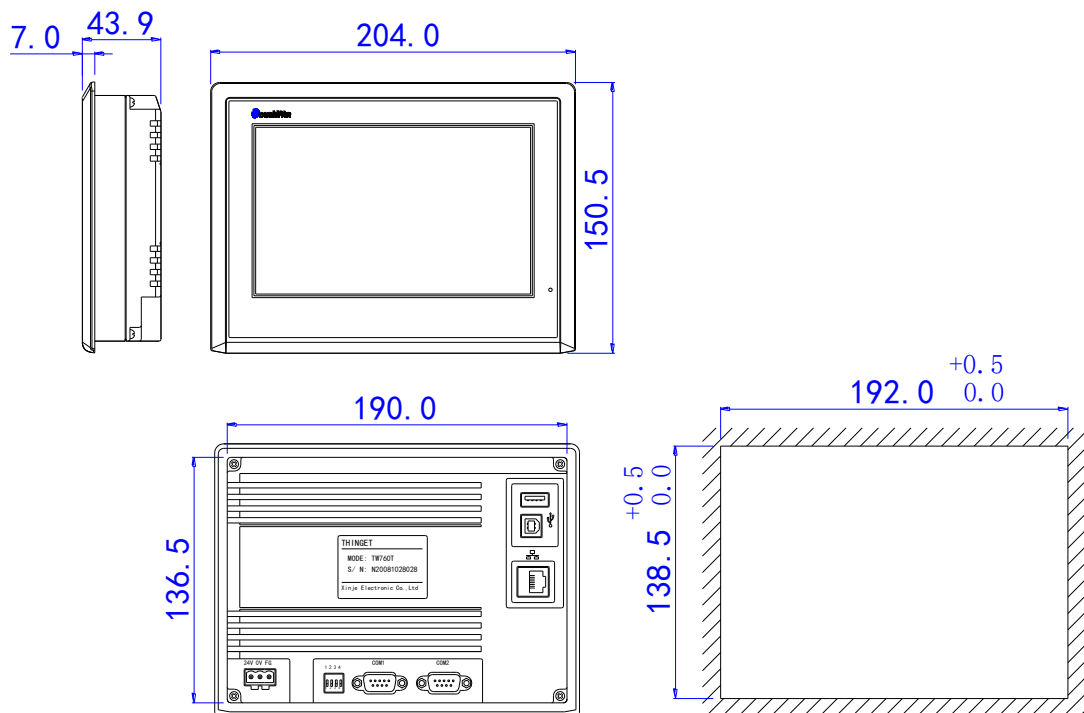
2-4 Dimensions and installation

2-4-1 Product dimensions

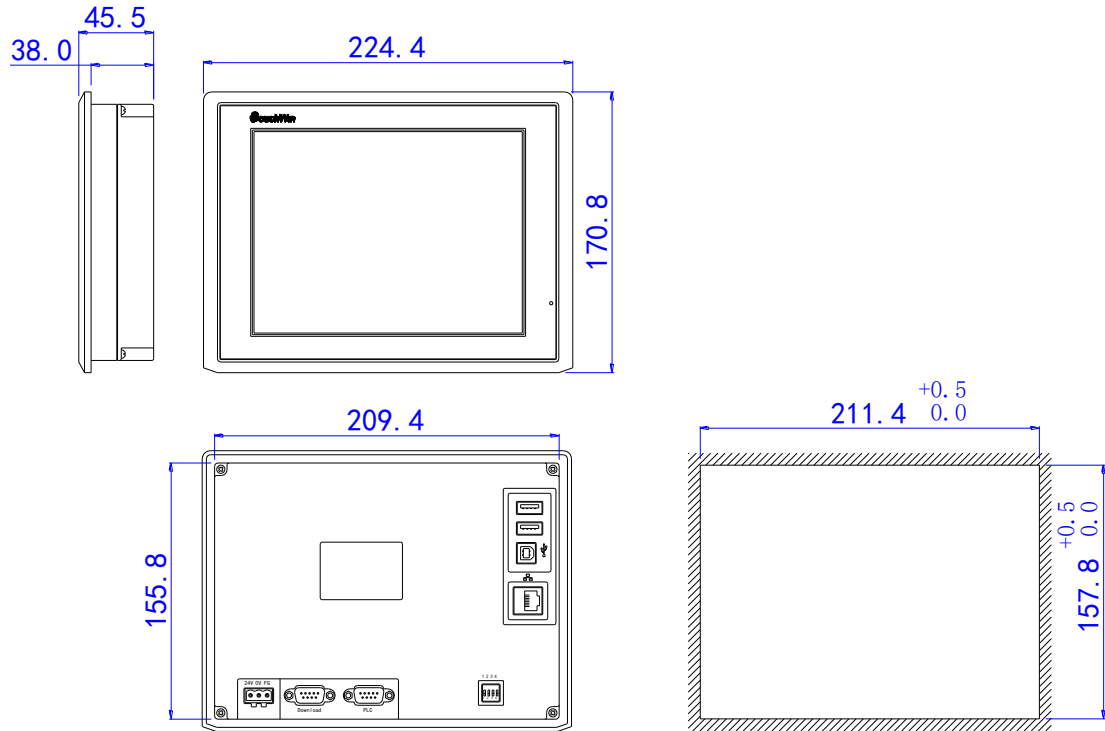
TH465 (Unit: mm)



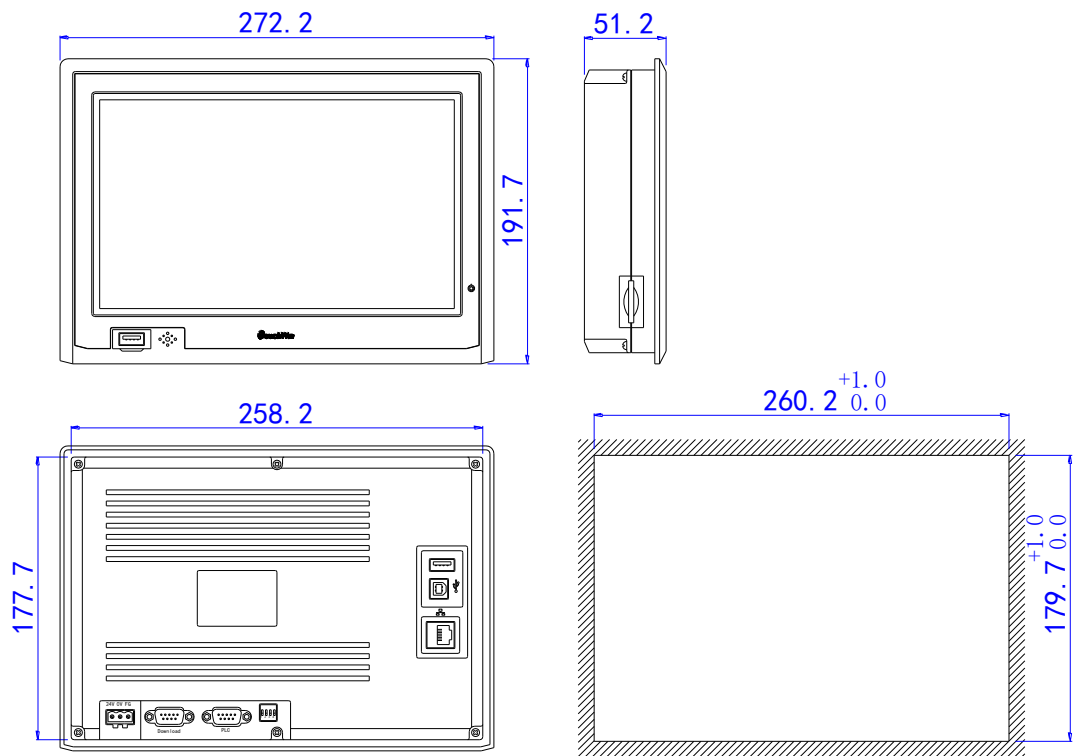
TH765-M/TH765-N (Unit: mm)



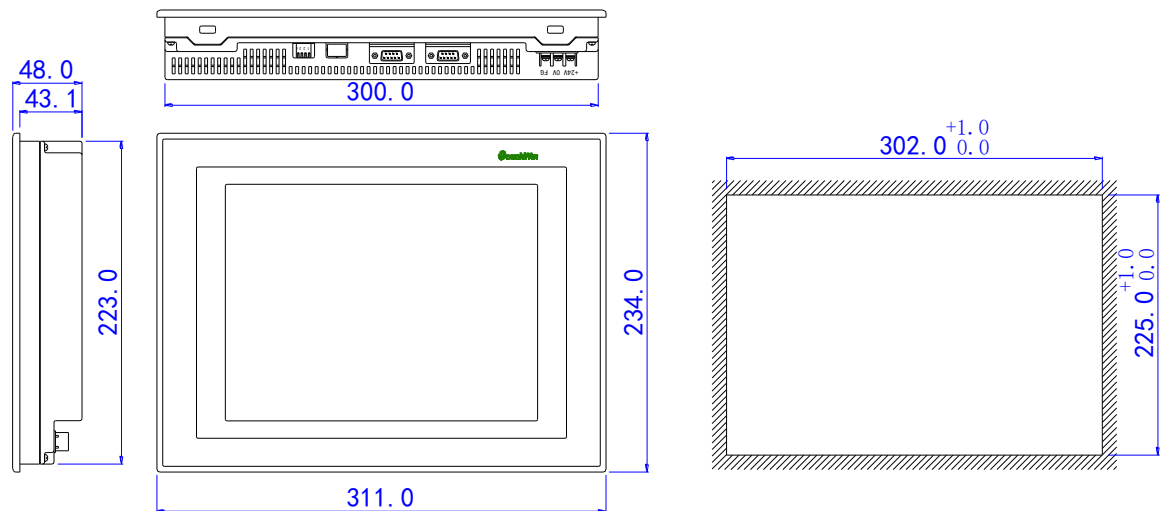
TH865 (Unit: mm)



THA62 (Unit: mm)



THA65 (Unit: mm)

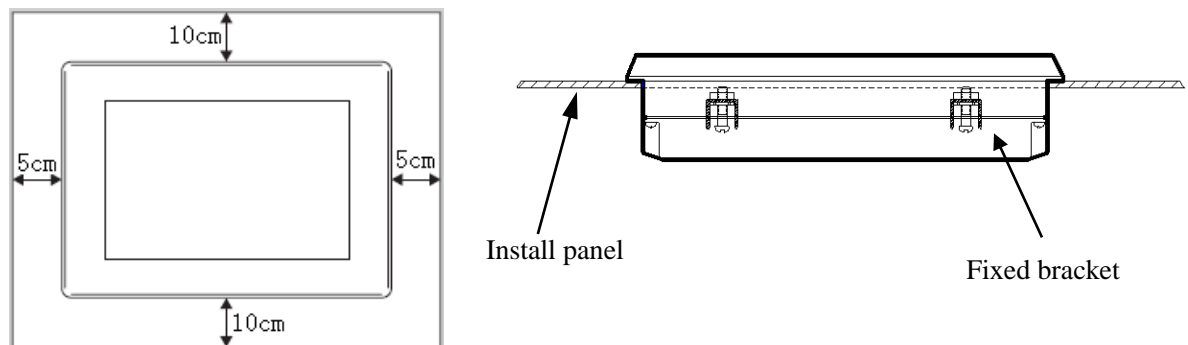


2-4-2 Installation and using environment

Install requirements:

TH has four ferric mounting racks when out of factory, there are two square holes on the up, down side of TH, use mounting rack to fix the TH with control cabinet.

In order to avoid TH temperature too high after long time working, please keep 10cm space on the up/down and 5cm on the left/right side of the TH when installing.



Install steps:

1. Refer to the dimension in the former chapter to open a rectangle mounting hole in the control cabinet;
2. Add airproof circles in the airproof slot when installing;
3. Insert the bottom of TH into the mounting hole of control cabinet;
4. Insert the install rack into the fix hole of TH then tighten the screw;
5. Connect TH and PLC with communication cable.

Notice: The communication cable can be offered by the supplier or made by user according to the connection diagram, input +24V DC power to start working

Environment:

Please use TH series touch screen indoor.

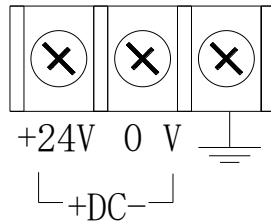


Do not use TH in below environment:

Inflammable gas, steam, dust, fast vary temperature, high humidity (it may cause moisture inside TH).

Power supply requirements:

TH series touch screen use DC +24V power supply only. The permitted voltage range is 20V~28V. The connection is as below:



Besides, if connect high voltage or AC power supply with TH, the TH may be damaged and cause electric shock to human body.



If use the DC +24V output of PLC, makes sure the PLC has enough current to drive the TH.

3 TG series HMI

3-1 Features

- 16.77 million color TFT-LCD, highlighted screen, fuller color and more realistic display effect
- High speed 400MHz CPU and 128MB memory, excellent data processing ability, faster download speed, greatly improve the startup and loading speed, reduce waiting time and picture jump, and make the animation effect more smooth
- The maximum size is 15.6 inches, and other sizes include 4.3 ", 7", 8 "and 10.1"
- The new thin series has a fashionable appearance, and the bayonet seal is installed to effectively prevent the entry of external dust and oil stain
- TG-NT is a special model for X-NET bus function, supports OMMS/TBN protocol, and the baud rate is up to 3M
- The communication capability is upgraded. It can communicate with multiple PLCs at the same time. RJ45 Ethernet interface supports communication with Tbox, Siemens S7-1200, S7-200 smart and other Modbus-TCP devices, breaking the traditional serial communication mode and forming an open network structure.

3-1-1 Product features

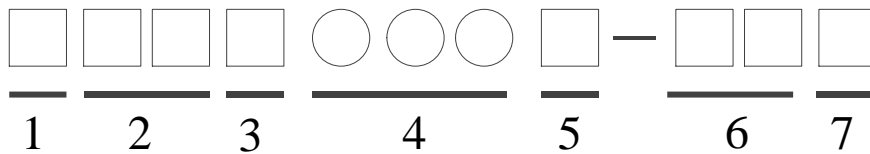
- **Display**
 - 16 million true colors TFT-LCD, support BMP and JPG format, better color and display;
 - Precise touch calibration function;
 - 128MB memory, perform high speed data download, high speed loading and high-speed operation
 - Memory capacity increase substantially;
 - Support multi-language: Chinese, English, Japanese, Korean, German, French, Arabic, etc. The fonts support any size, artistic effect, bold, italic, etc.
 - Rich images of material, screen operation
- **Control**
 - Switch control, dynamic monitor and display data, bar map, real time trend map, time trend map, XY trend map, discrete/continue column map, real time alarm, history alarm record...
 - User-defined data collection and saving function
 - Set user authority, 9 levels password protection
 - Simulate online/offline, upload/download data, configuration function
 - Powerful C function block
 - USB-A port inside, connect flash disk to copy data, speed up to 480Mbps
 - Special USB-B port for data download, make the data transfer faster
 - User-defined animation design

- Contain all function of TH series
- Multiple download modes and penetration functions. (Note: only TGM series supports penetration function, and other ordinary TG series need USB penetration through network module A-BOX-U.)

■ **Communication**

- Two ports communication independently, can connect two different devices at the same time (TG465-XT/MT/UT/ET has single port, TG765-XT-C/TG765-XT(P)-C has single RS232 port)
- ET series add Ethernet interface communication, can communicate with TBOX, Siemens S7-1200 and other Modbus-TCP devices
- Drive the panel printer directly, economical and flexible (TG465-XT/MT/UT/ET/TG765-XT/765-XT(P)/ TG765-XT-C/TG765-XT(P)-C cannot support print function)
- Support free format communication, user edits the driver program

3-1-2 Module naming rule



- | | |
|-------------------|---|
| 1: Special type | C: for CAD function
S: for vision function
Empty: normal type |
| 2: Series name | TG |
| 3: Special model | M: for penetration function |
| 4: Display size | 465: 4.3"
765: 7.0"
865: 8.0"
A62: 10.1"
A63: 10.1"
C65: 15.6" |
| 5: Product type | S: black color ultrathin model
G: gray color ultrathin model
L: highlight display model
B: embedded without border model
D: metal wide temperature model
Empty: normal model |
| 6: Interface type | ET: USB-B port, USB-A port , RJ45 port
UT: USB-B port, USB-A port
MT: USB-B port
NT: USB-B port, USB-A port , RJ45 port, support X-NET bus
XT: USB-B port, 1~2 RS232 port |

7: Type Empty: Normal type
(P): oil resistant



Special models

- (1) TG765-XT: compact type of TG765-MT, it has USB-B port, one RS232 port, without clock.
- (2) TG765-XT-C: compact type of TG765-MT, it has USB-B port, one RS232 port, with clock.
- (3) TG765S-XT: compact type of TG765S-MT, it has USB-B port, two RS232 ports, with clock.
- (4) TGMA63S-MT is the updated model of TGA63S-UT, the hardware configuration is same to TGA63S-UT.

3-1-3 Product models

Model	4.3"	7"	8"	10.1"	15.6"
Metal wide temperature				TGMA63D-MT	
Network	TGM465-MT2 TGM465-ET	TGM765S-MT TGM765S-ET	TGM865-ET	TGMA63S-MT TGMA63S-ET	TGMC65-ET
Highlight display		TGM765L-MT TGM765L-ET			
Embedded without border	TGM465B-MT	TGM765B-MT TGM765B-ET			
Black ultrathin		TG765S-MT TG765S-UT TG765S-ET		TGA63S-MT TGA63S-UT TGA63S-ET	
Gray ultrathin		TG765G-MT TG765G-UT TG765G-ET		TGA63G-MT TGA63G-UT TGA63G- ET	
General	TG465-MT TG465-UT TG465-ET TG465-MT2 TG465- UT2	TG765-MT TG765-UT TG765-ET	TG865-MT TG865-ET	TGA62-MT TGA62-ET TGA63-MT TGA63-UT TGA63-ET	TGC65-ET
Oil resistant	TG465-MT(P) TG465-UT(P)	TG765-MT(P) TG765-UT(P) TG765-ET(P) TG765-XT(P) TG765-XT(P)-C	TG865-MT(P) TG865-ET(P)	TGA62-MT(P) TGA62-ET(P) TGA62-UT(P)	

Cost-saving	TG465-XT	TG765-XT TG765-XT TG765-XT-C TG765S-XT			
X-NET bus		TG765-NT	TG865-NT	TGA63-NT	
Visual		STG765-ET	STG865-ET STG865-MT(P)		STGC65-ET
CAD		CTG765-ET	CTG865-ET	CTGA62-ET	

Note:

- (1) For the HMI of STG / CTG special model, please explain its function when ordering to avoid ordering wrong goods
- (2) The model marked in red indicates that it has been discontinued
- (3) TN765-ET was renamed TG765-NT, TN865-ET was renamed TG865-NT, and TNA63-ET was renamed TGA63-NT
- (4) TG765S-MT/UT/ET replacement mask, Logo replaced from Touchwin to XINJE
- (5) TGA63S-MT/UT/ET is black appearance, mask Logo is changed from Touchwin to XINJE.
- (6) TGA63G-MT/UT/ET is a gray appearance and the mask Logo is XINJE.

3-2 General specifications



The flash erasure life is 100000 times.

3-2-1 TGM(D) metal wide temperature model

Model		TGMA63D-ET
Features	Screen size	10.1"
	Resolution	1024*600
	LCD	TFT LCD, LED backlight
	Display color	16.77 million colors
	Brightness	200 cd/m ²
	Touch panel	4-wire resistor touch screen
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation
	Memory	128MB
Interface	PLC port	RS232/RS485/RS422
	Download port	RS232/RS485
	USB-A port	Flash disk port, USB2.0
	USB-B port	USB download port, USB2.0
	Ethernet port	RJ45
Electric	Input voltage	DC24V (voltage range: DC22V-DC26V)

features	Consumption current	270mA
	Allowable power loss	Below 10ms (less than 1s in fact)
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)
	Insulation resistance	Above 10MΩ, DC500V
Environment	Operation temperature	-20-70°C
	Storage temperature	-30-75°C
	Operation humidity	10%RH-90%RH (no condensation)
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute
	Air	No corrosive gas
	Cooling mode	Natural air cooling
	Protection level	Front cover IP65
Dimension	Display area (mm)	219.6*131.76
	Outline dimension (mm)	276.9*191.6*34.8
	Opening hole (mm)	260.2*178.7

3-2-2 TG(G) gray ultrathin model

Model		TGA63G-MT TGA63G-UT TGA63G-ET	TG765G-MT TG765G-UT TG765G-ET
Features	Screen size	10.1"	7"
	Resolution	1024*600	800*480
	LCD	TFT LCD, LED backlight	
	Display color	16.77 million colors	
	Brightness	200 cd/m ²	
	Touch panel	4-wire resistor touch screen	
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation	
	Memory	128MB	
Interface	PLC port	RS232/RS485/RS422	
	Download port	RS232/RS485	

	USB-A port	Flash disk port, USB2.0	
	USB-B port	USB download port, USB2.0	
	Ethernet port	RJ45, ET model supported	
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	270mA	200mA
	Allowable power loss	Below 10ms (less than 1s in fact)	
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)	
	Insulation resistance	Above 10MΩ, DC500V	
Environment	Operation temperature	0-50°C	
	Storage temperature	-20-60°C	
	Operation humidity	10%RH-90%RH (no condensation)	
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute	
	Air	No corrosive gas	
	Cooling mode	Natural air cooling	
	Protection level	Front cover IP65	
Dimension	Display area (mm)	219.6*131.76	154.08*85.92
	Outline dimension (mm)	278.0*192.3*44.0	207.0*148.0*38.5
	Opening hole (mm)	260.2*179.2	192.0*138.5

3-2-3 TG(S) black ultrathin model

Model		TGA63S-MT TGA63S-UT TGA63S-ET	TG765S-MT TG765S-UT TG765S-ET
Features	Screen size	10.1"	7"
	Resolution	1024*600	800*480
	LCD	TFT LCD, LED backlight	
	Display color	16.77 million colors	
	Brightness	200 cd/m ²	
	Touch panel	4-wire resistor touch screen	
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation	

	Memory	128MB	
Interface	PLC port	RS232/RS485/RS422	
	Download port	RS232/RS485	
	USB-A port	Flash disk port, USB2.0, UT/ET model supported	
	USB-B port	USB download port, USB2.0	
	Ethernet port	RJ45, ET model supported	
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	270mA	200mA
	Allowable power loss	Below 10ms (less than 1s in fact)	
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)	
	Insulation resistance	Above 10MΩ, DC500V	
Environment	Operation temperature	0-50°C	
	Storage temperature	-20-60°C	
	Operation humidity	10%RH-90%RH (no condensation)	
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute	
	Air	No corrosive gas	
	Cooling mode	Natural air cooling	
	Protection level	Front cover IP65	
Dimension	Display area (mm)	219.6*131.76	154.08*85.92
	Outline dimension (mm)	278.0*192.3*44.0	207.0*148.0*38.5
	Opening hole (mm)	260.2*179.2	192.0*138.5

3-2-4 TGM network model

Model		TGMC65-ET	TGMA63S-MT TGMA63S-ET	TGM865-ET	TGM765S-MT TGM765S-ET	TGM465-MT2 TGM465-ET
Features	Screen size	15.6"	10.1"	8"	7"	4.3"
	Resolution	1366*768	1024*600	800*600	800*480	480*272
	LCD	TFT LCD, LED backlight				
	Display color	16.77 million colors				

	Brightness	250 cd/m ²	200 cd/m ²			
	Touch panel	4-wire resistor touch screen				
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation				
	Memory	128MB				
Interface	PLC port	RS232/RS485/RS422				
	Download port	RS232/RS485 (TGM465-ET has no download port)				
	USB-A port	Flash disk port, USB2.0, UT/ET model supported				
	USB-B port	USB download port, USB2.0				
	Ethernet port	RJ45, ET model supported				
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)				
	Consumption current	730mA	270mA	250mA	200mA	140mA
	Allowable power loss	Below 10ms (less than 1s in fact)				
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)				
	Insulation resistance	Above 10MΩ, DC500V				
Environment	Operation temperature	0-50°C				
	Storage temperature	-20-60°C				
	Operation humidity	10%RH-90%RH (no condensation)				
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute				
	Air	No corrosive gas				
	Cooling mode	Natural air cooling				
	Protection level	Front cover IP65				
Dimension	Display area (mm)	344.23* 193.54	219.6*131.76	162.0*121.5	154.08*85.92	95.04*53.86
	Outline dimension (mm)	410.0*270.0* 65.0	278.0*192.3* 44.0	224.4*170.8* 45.5	207.0*148.0* 38.5	152.0*102.0* 41.8
	Opening hole (mm)	399.0*259.0	260.2*179.7	211.4*157.8	192.0*138.5	144.0*94.0

3-2-5 TG general model

Model		TGC65-ET	TGA63-MT TGA63-UT TGA63-ET	TGA62-MT TGA62-ET	TG865-MT TG865-ET	TG765-MT TG765-UT TG765-ET	TG465-MT TG465-UT TG465-ET	TG465-MT2 TG465-UT2 TG465-XT	
Features	Screen size	15.6	10.1	10.1	8	7	4.3		
	Resolution	1366*768	1024*600	800*480	800*600	800*480	480*272		
	LCD	TFT LCD, LED backlight							
	Display color	16.77 million colors							
	Brightness	250	200						
	Touch panel	4-wire resistor touch screen							
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation							
	Memory	128MB							
Interface	PLC port	RS232/RS485/RS422							
	Download port	RS232/RS485					RS232/RS485 (only MT2/UT2 model supported)		
	USB-A port	Flash disk port, USB2.0, UT/ET model supported							
	USB-B port	USB download port, USB2.0							
	Ethernet port	RJ45, ET model supported							
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)							
	Consumption current	730mA	270mA	250mA	200mA	180mA			
	Allowable power loss	Below 10ms (less than 1s in fact)							
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)							
	Insulation resistance	Above 10MΩ, DC500V							
Environment	Operation temperature	0-50°C							
	Storage temperature	-20-60°C							
	Operation humidity	10%RH-90%RH (no condensation)							
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute							
	Air	No corrosive gas							
	Cooling mode	Natural air cooling							
	Protection level	Front cover IP65							
Dimension	Display area (mm)	344.23* 193.54	219.6*131.76	162.0* 121.5	154.08* 85.92	95.04*53.86			
	Outline	410.0*	272.2*191.7*51.2	224.4*	200.4*	152.0*102.0*41.8			

	dimension (mm)	270.0* 65.0		170.8* 45.5	146.9* 48.5	
	Opening hole (mm)	399.0* 259.0	260.2*179.7	211.4* 157.8	192.0* 138.5	144.0*94.0

Note: TG465-MT/UT V3.0 and up version PLC port supported RS422.

3-2-6 TG(P) oil-resistant model

Model		TGA62-MT(P) TGA62-ET(P)	TG765-MT(P) TG765-UT(P)	TG765-XT(P)-C	TG465-MT(P)
Features	Screen size	10.1"	7"	7"	4.3"
	Resolution	800*480	800*480	800*480	480*272
	LCD	TFT LCD, LED backlight			
	Display color	16.77 million colors			
	Brightness	200 cd/m ²			
	Touch panel	4-wire resistor touch screen			
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation			
	Memory	128MB			
Interface	PLC port	RS232/RS485/RS422		RS232	RS232/RS485/ RS422
	Download port	RS232/RS485		\	\
	USB-A port	Flash disk port, USB2.0, UT(P)/ET(P) model supported			
	USB-B port	USB download port, USB2.0			
	Ethernet port	RJ45 ET(P) model supported	\		\
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)			
	Consumption current	270mA	200mA	200mA	180mA
	Allowable power loss	Below 10ms (less than 1s in fact)			
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)			
	Insulation resistance	Above 10MΩ, DC500V			
Environment	Operation temperature	0-50°C			
	Storage temperature	-20-60°C			
	Operation humidity	10%RH-90%RH (no condensation)			

	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute			
	Air	No corrosive gas			
	Cooling mode	Natural air cooling			
	Protection level	Front cover IP65			
Dimension	Display area (mm)	219.6*131.76	154.08*85.92	154.08*85.92	95.04*53.86
	Outline dimension (mm)	272.2*191.7*51.2	200.4*146.9*48.5	200.4*146.9*48.5	152.0*102.0*41.8
	Opening hole (mm)	260.2*179.7	192.0*138.5	192.0*138.5	144.0*94.0

3-2-7 TG-XT cost-saving model

Model		TG765-XT-C	TG765S-XT	TG765G-XT
Features	Screen size	7"	7"	7"
	Resolution	800*480		
	LCD	TFT LCD, LED backlight		
	Display color	16.77 million colors		
	Brightness	200 cd/m ²		
	Touch panel	4-wire resistor touch screen		
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation		
	Memory	128MB		
Interface	PLC port	RS232	RS232	RS232
	Download port	\	RS232	RS232
	USB-A port	\		
	USB-B port	USB download port, USB2.0		
	Ethernet port	\		
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)		
	Consumption current	200mA		
	Allowable power loss	Below 10ms (less than 1s in fact)		
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)		
	Insulation resistance	Above 10MΩ, DC500V		
Environment	Operation temperature	0-50°C		
	Storage temperature	-20-60°C		

	Operation humidity	10%RH-90%RH (no condensation)		
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute		
	Air	No corrosive gas		
	Cooling mode	Natural air cooling		
	Protection level	Front cover IP65		
Dimension	Display area (mm)	154.08*85.92	154.08*85.92	154.08*85.92
	Outline dimension (mm)	200.4*146.9*48.5	207.4*148.0*38.5	207.0*148.0*38.5
	Opening hole (mm)	192.0*138.5	192.0*138.5	192.0*138.5

3-2-8 TG-NT X-NET bus model

Model		TGA63-NT	TG765-NT
Features	Screen size	10.1"	7"
	Resolution	1024*600	800*480
	LCD	TFT LCD, LED backlight	
	Display color	16.77 million colors	
	Brightness	200 cd/m ²	
	Touch panel	4-wire resistor touch screen	
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation	
	Memory	128MB	
Interface	PLC port	RS485	
	Download port	RS232/RS485/RS422	
	USB-A port	Flash disk port, USB2.0	
	USB-B port	USB download port, USB2.0	
	Ethernet port	RJ45	
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	270mA	200mA
	Allowable power loss	Below 10ms (less than 1s in fact)	
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)	
	Insulation resistance	Above 10MΩ, DC500V	
Environment	Operation temperature	0-50°C	

	Storage temperature	-20-60°C	
	Operation humidity	10%RH-90%RH (no condensation)	
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute	
	Air	No corrosive gas	
	Cooling mode	Natural air cooling	
	Protection level	Front cover IP65	
Dimension	Display area (mm)	219.6*131.76	154.08*85.92
	Outline dimension (mm)	272.2*191.7*51.2	200.4*146.9*48.5
	Opening hole (mm)	260.2*179.7	192.0*138.5

3-2-9 TGM(B) embedded borderless model

Model		TGM765B-MT TGM765B-ET	TGM465B-MT
Features	Screen size	7"	4.3"
	Resolution	800*480	480*272
	LCD	TFT LCD, LED backlight	
	Display color	16.77 million colors	
	Brightness	200 cd/m ²	
	Touch panel	4-wire resistor touch screen	
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation	
	Memory	128MB	64MB
Interface	PLC port	RS232/RS485/RS422	RS485
	Download port	RS232/RS485	RS232
	USB-A port	Flash disk port, USB2.0, ET model supported	
	USB-B port	USB download port, USB2.0	
	Ethernet port	RJ45, ET model supported	\
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	200mA	140mA
	Allowable power loss	Below 10ms (less than 1s in fact)	
	Voltage impact resistance	AC1000V, 10mA, less than 1 minute (signal and ground)	
	Insulation resistance	Above 10MΩ, DC500V	

Environment	Operation temperature	0-50°C	
	Storage temperature	-20-60°C	
	Operation humidity	10%RH-90%RH (no condensation)	
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute	
	Air	No corrosive gas	
	Cooling mode	Natural air cooling	
	Protection level	Front cover IP65	
Dimension	Display area (mm)	154.08*85.92	95.04*53.86
	Outline dimension (mm)	182.4*108.5*39.0	128.0*75.0*27.6
	Opening hole (mm)	174.4*65.1	118.0*67.0

3-2-10 TGM(L) highlight display model

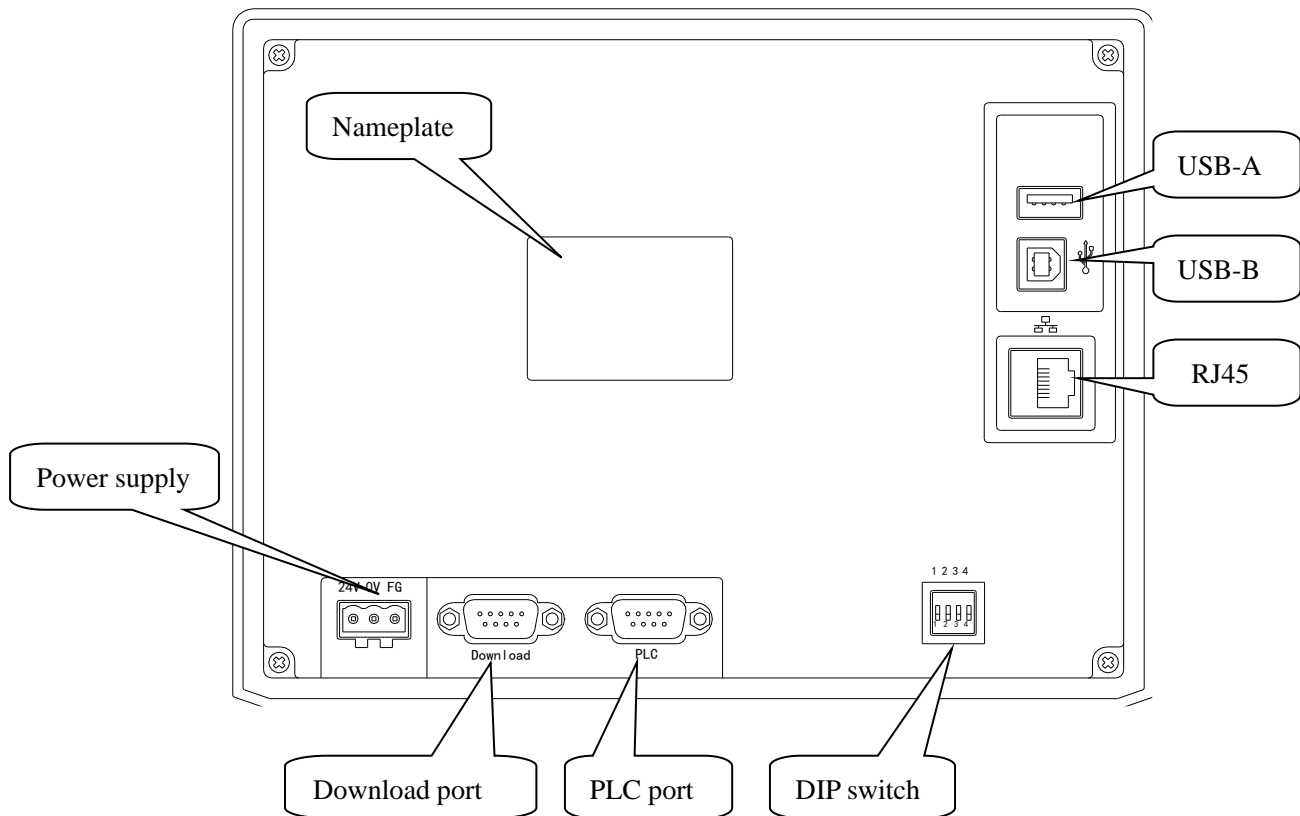
Model		TGM765L-MT	TGM765L-ET
Features	Screen size	7"	
	Resolution	800*480	
	LCD	TFT LCD, LED backlight	
	Display color	16.77 million colors	
	Brightness	530 cd/m ²	
	Touch panel	4-wire resistor touch screen	
	LCD life	Above 50000 hours, ambient temperature 25°C, 24 hours operation	
	Memory	128MB	
Interface	PLC port	RS232/RS485/RS422	
	Download port	RS232/RS485	
	USB-A port	Flash disk port, USB2.0	
	USB-B port	USB download port, USB2.0	
	Ethernet port	\	RJ45
	DIP switch	Used for time and touch calibration, as well as some parameter settings	
Electric features	Input voltage	DC24V (voltage range: DC22V-DC26V)	
	Consumption current	200mA	
	Allowable power loss	Below 10ms (less than 1s in fact)	
	Voltage impact	AC1000V, 10mA, less than 1 minute (signal and ground)	

	resistance	
	Insulation resistance	Above 10MΩ, DC500V
Environment	Operation temperature	0-50°C
	Storage temperature	-20-60°C
	Operation humidity	10%RH-90%RH (no condensation)
	Anti-interference ability	Voltage noise: 1500Vp-p, pulse width 1us, 1 minute
	Air	No corrosive gas
	Cooling mode	Natural air cooling
	Protection level	Front cover IP65
Dimension	Display area (mm)	154.08*85.92
	Outline dimension (mm)	207.0*148.0*38.5
	Opening hole (mm)	192.0*138.5

3-3 Hardware

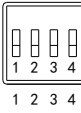

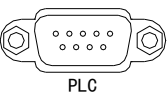


3-3-1 Hardware structure


The back side of TG series HMI:



3-3-2 Ports introduction

TG series HMI port:

Outline	Name	Function
	DIP switch	Force-download, touch area adjustment
	Download port	RS232/RS485 (TG465 except MT2/UT2, TG765-XT/TG765-XT(P)/TG765-XT-C/TG765-XT(P)-C/TGM765B-M T/ET no this port, NT model supported RS232/RS485/RS422, TG765S-XT supported RS232)
	PLC port	RS232/RS485/RS422 (TG465-XT and this series V3.0 and below version only supported RS232/RS485, TG765-XT/TG765-XT(P)/TG765-XT-C/TG765-XT(P)-C/TG765S-XT only supported RS232, NT models supported RS485 and X-NET bus)
	USB-A	Connect to flash disk to store data, flash disk to import project (HMI hardware version V2.D3C and above)
	USB-B	Connect USB cable to download/upload program

	Ethernet port	Support TBOX, Siemens S7-1200, S7-200 Smart and other devices which support Modbus-TCP protocol
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1. DIP switch

TG series has 4-bit DIP switch at the back side; they can set the function of COM1 port.

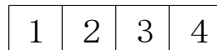
Switch	DIP1	DIP2	DIP3	DIP4	Function
State	ON	OFF	OFF	OFF	Undefined
	OFF	ON	OFF	OFF	Force-download mode
	OFF	OFF	ON	OFF	System menu: Adjust clock and touch panel, Import program of flash disk
	OFF	OFF	OFF	ON	Undefined



If the screen cannot show normally after downloading the program, please use force-download.

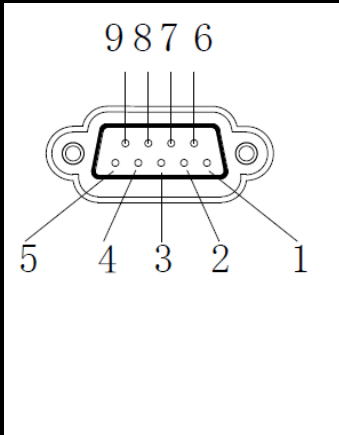
Step:

- (1) Cut off the power of TG, turn ON DIP switch 2;
- (2) Power on TG, connect the download cable to PC to download the program;
- (3) Turn OFF DIP switch 2 after finishing the download, repower on the TG.



2. Communication interface

The Pins definition of download port:

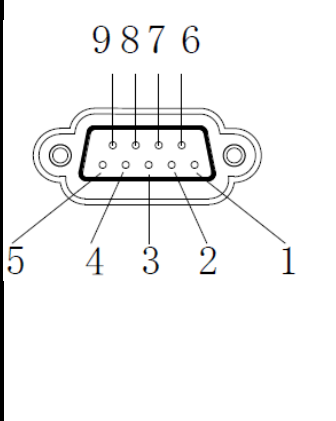
	Pin	Name	Description
	1	NC	Unused terminal
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 + signal
	5	GND	Signal ground
	6	NC	Unused terminal
	7	B	RS485 - signal
	8	NC	Unused terminal
	9	NC	Unused terminal

Note:

- (1) TG765-NT/TG865-NT/TGA63-NT has no this port.
- (2) TG465-XT/MT/UT/ET, TG765-XT, TG765-XT(P), TG765-XT-C, TG765-XT(P)-C, TGM765B-MT/ET don't have this port.

- (3) If the interface mode is not supported by this communication port of a specific model, the corresponding pin is an empty signal.

The Pins definition of PLC port:

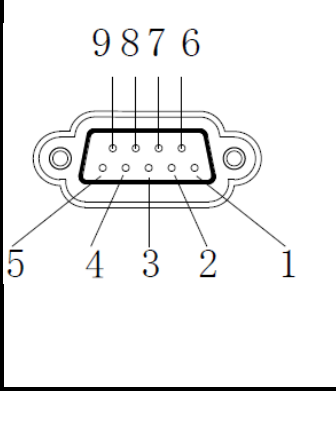
	Pin	Name	Description
	1	TD+	RS422 send +
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 + signal
	5	GND	Signal ground
	6	TD-	RS422 send -
	7	B	RS485 - signal
	8	RDD-	RS422 receive -
	9	RDD+	RS422 receive +

Note: except TG765-NT/TG865-NT/TGA63-NT. If the interface mode is not supported by this communication port of a specific model, the corresponding pin is an empty signal.

TG765-NT, TG865-NT, TGA63-NT download port:

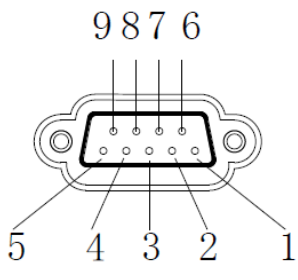
	Pin	Name	Description
	1	TD+	RS422 send +
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 +
	5	GND	Signal ground
	6	TD-	RS422 send -
	7	B	RS485 -
	8	RD-	RS422 receive -
	9	RD+	RS422 receive +

TG765-NT, TG865-NT, TGA63-NT PLC port:

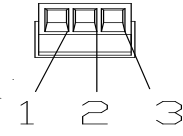
	Pin	Name	Description
	1	NC	Unused terminal
	2	A	RS485+
	3	B	RS485-
	4	A	RS485+
	5	B	RS485-
	6	NC	Unused terminal
	7	NC	Unused terminal
	8	NC	Unused terminal

	9	NC	Unused terminal
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TGM465B-MT download port:

	Pin	Name	Description
	1	NC	Unused terminal
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	NC	Unused terminal
	5	GND	Signal ground
	6	NC	Unused terminal
	7	NC	Unused terminal
	8	NC	Unused terminal
	9	NC	Unused terminal

TGM465B-MT PLC port:

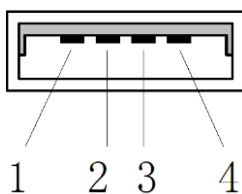
	Pin	Name	Explanation
	1	A	RS485+
	2	B	RS485-
	3	GND	Signal ground

3. USB-A port

USB-A (accord with USB2.0) of TG series HMI has below function:

- Backup management, data export/import, the speed can up to 480 Mbps.

USB-A port definition



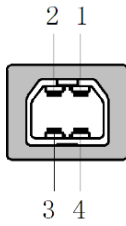
Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA+	Data signal +
3	DATA-	Data signal -
4	-5V	-5V voltage signal

4. USB-B port

TG has one USB-B port (accord with USB2.0), located at the back side of TG, the functions are shown as below:

- To download the data, the speed can up to 480Mbps.

USB-B port definition





Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA-	Data signal -
3	DATA+	Data signal +
4	GND	Ground signal

(1) Please use shielded USB cables.



(2) Please install USB driver before using. Download the driver from www.xinje.com.

(3) Connect TG with PC, open Touchwin software, click “ or ” to download the program.

5. RJ45 port

The pins definition of RJ45 port

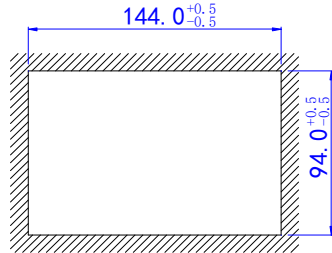
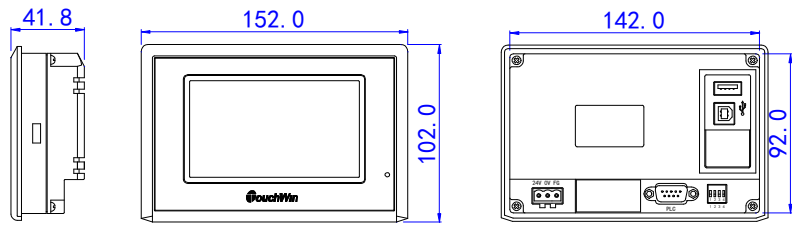
Pin	Color	Name	Explanation
1	Orange white	TXD+	Send +
2	Orange	TXD-	Send -
3	Green white	RXD+	Receive +
4	Blue	-	-
5	Blue white	-	-
6	Green	RXD-	Receive -
7	Brown white	-	-
8	Brown	-	-

3-4 Dimensions and installation

3-4-1 Product dimensions

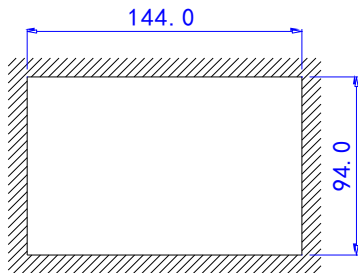
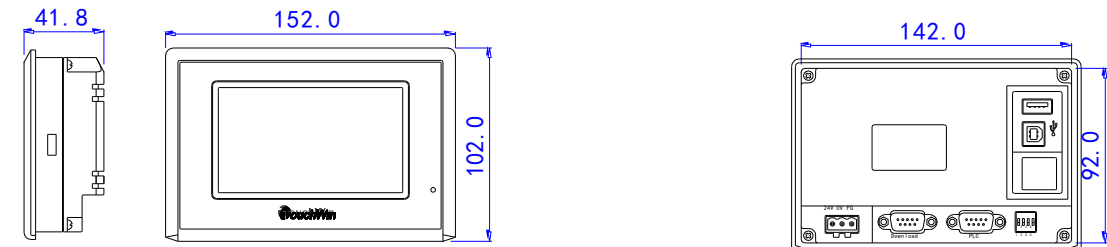
■ TG465-XT/MT/UT/ET

Unit: mm



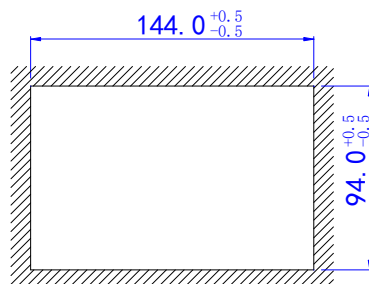
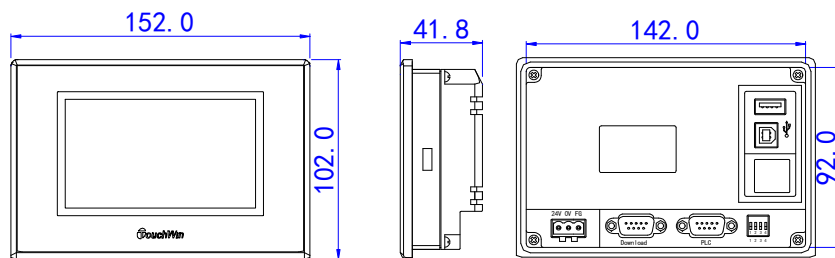
■ TG465-MT2/UT2, TGM465-MT2

Unit: mm



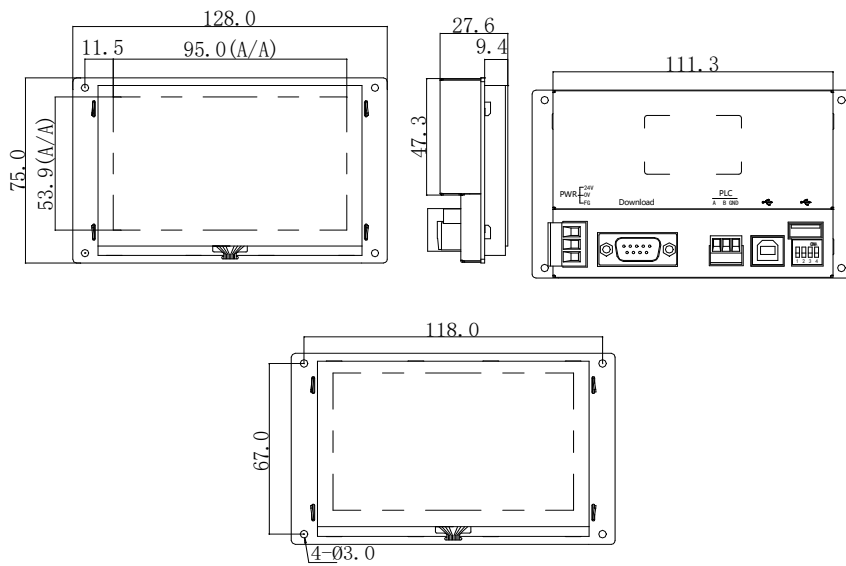
■ TG465-MT(P)/UT(P)

Unit: mm



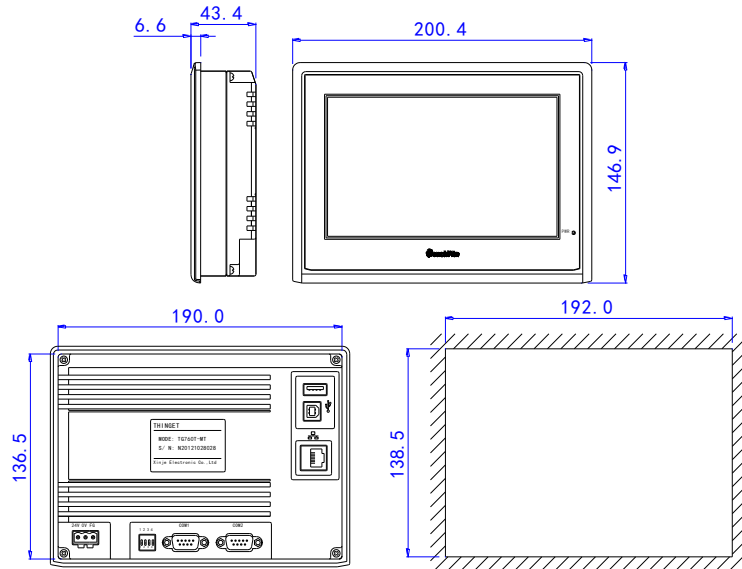
■ TGM465B-MT

Unit: mm



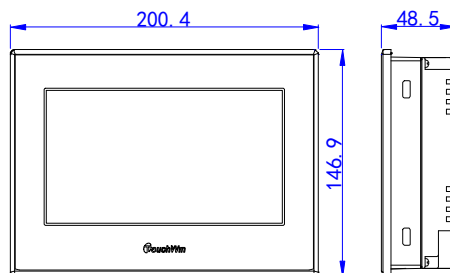
■ TG765-MT/UT/ET/NT, CTG765-ET, STG765-ET

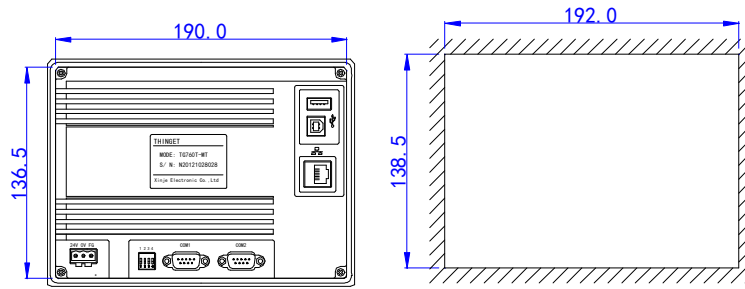
Unit: mm



■ TG765-MT(P)/UT(P)/ET(P)

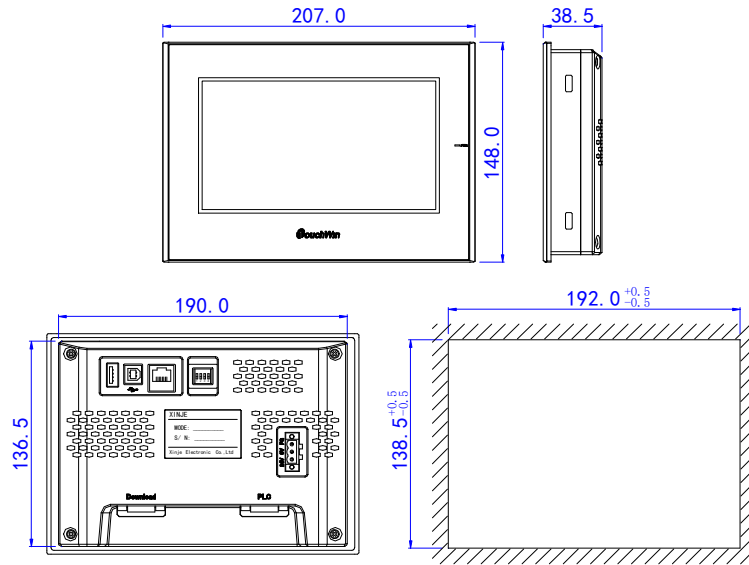
Unit: mm





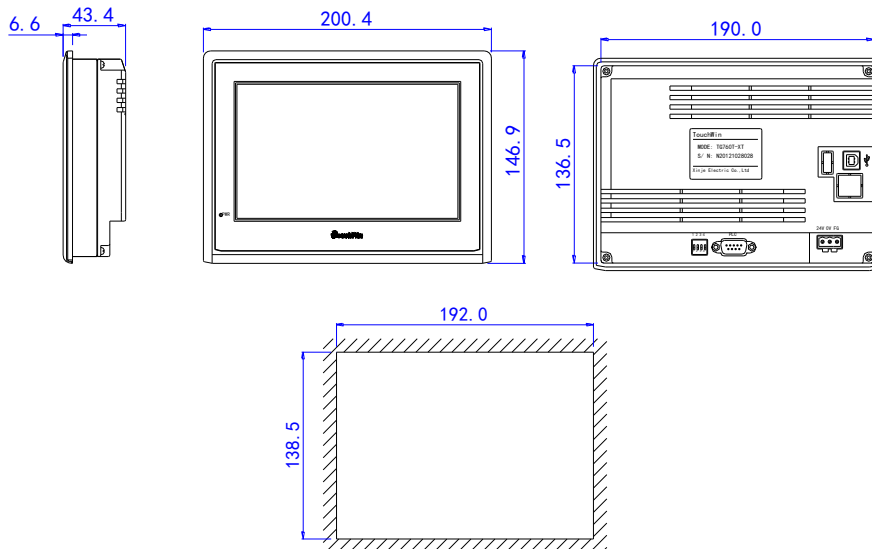
■ TG765S-XT/MT/UT/ET, TGM765S-MT/ET

Unit: mm



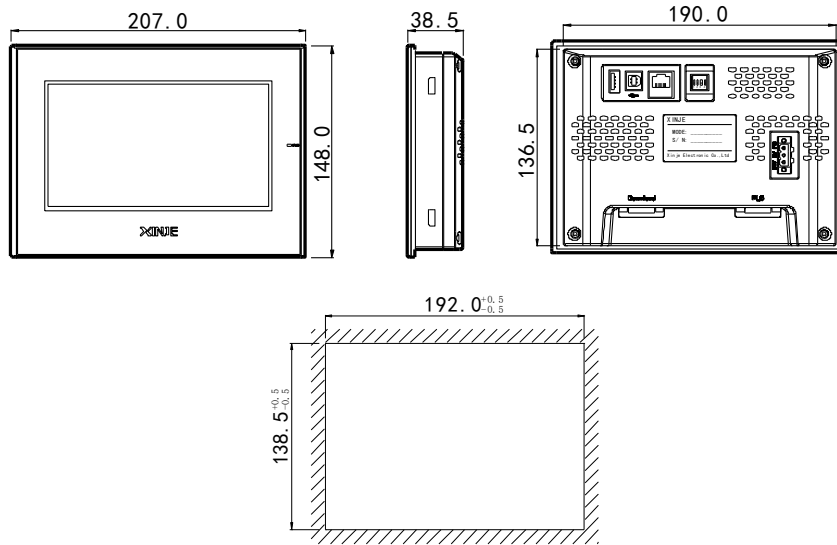
■ TG765-XT, TG765-XT(P), TG765-XT-C, TG765-XT(P)-C

Unit: mm



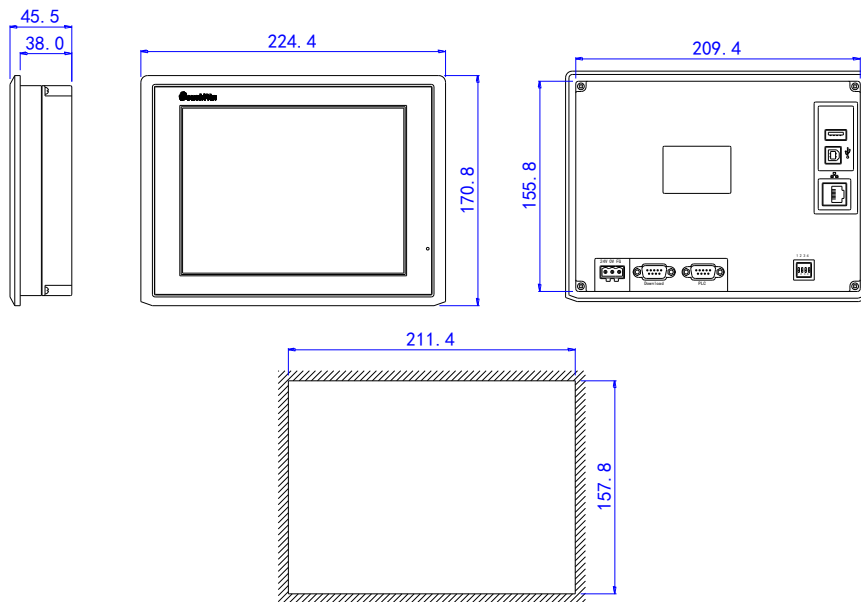
■ TGM765L-MT/ET

Unit: mm



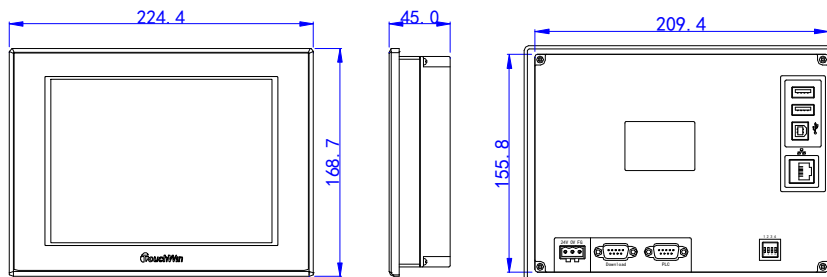
■ TG865-MT/ET/NT, TGM865-ET, CTG865-ET, STG865-ET

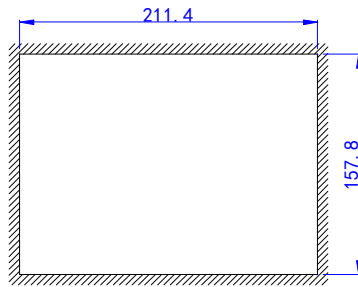
Unit: mm



■ TG865-MT(P)/ET(P)

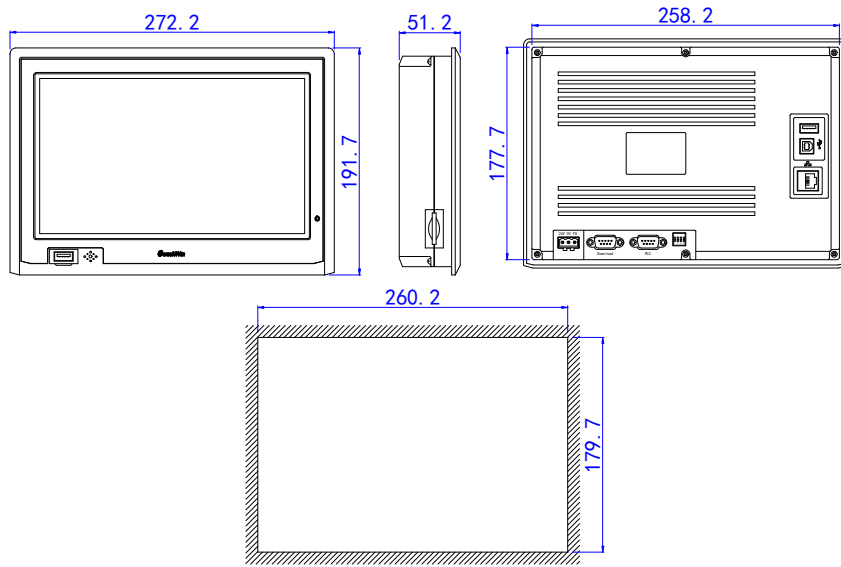
Unit: mm





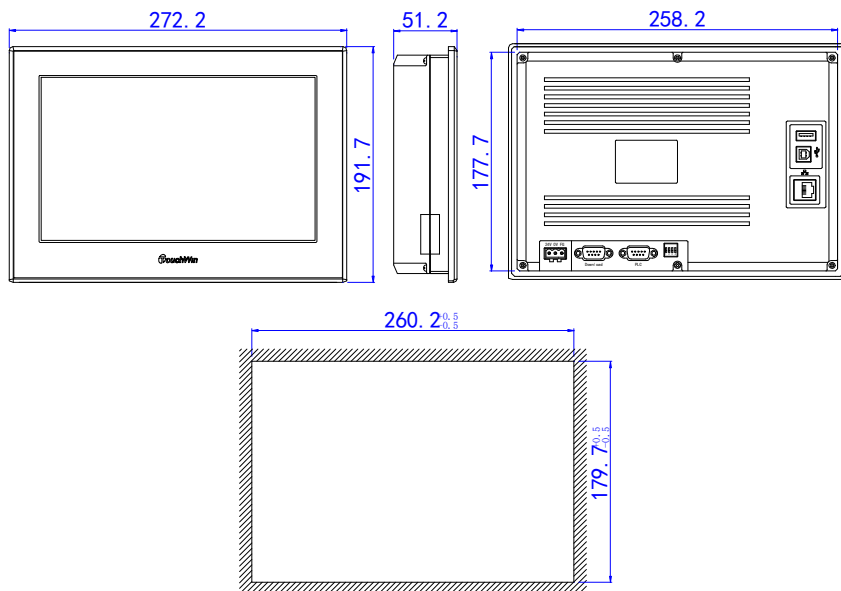
■ TGA62-MT/ET, CTGA62-ET

Unit: mm



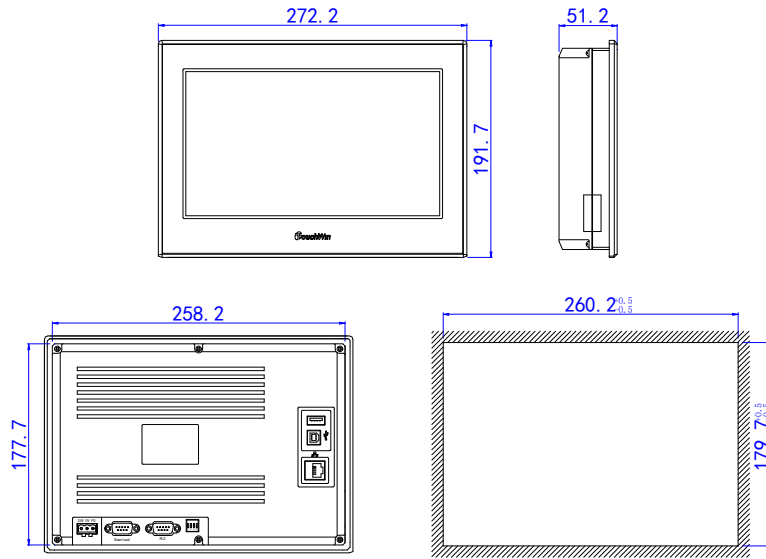
■ TGA62-MT(P)/ET(P)

Unit: mm



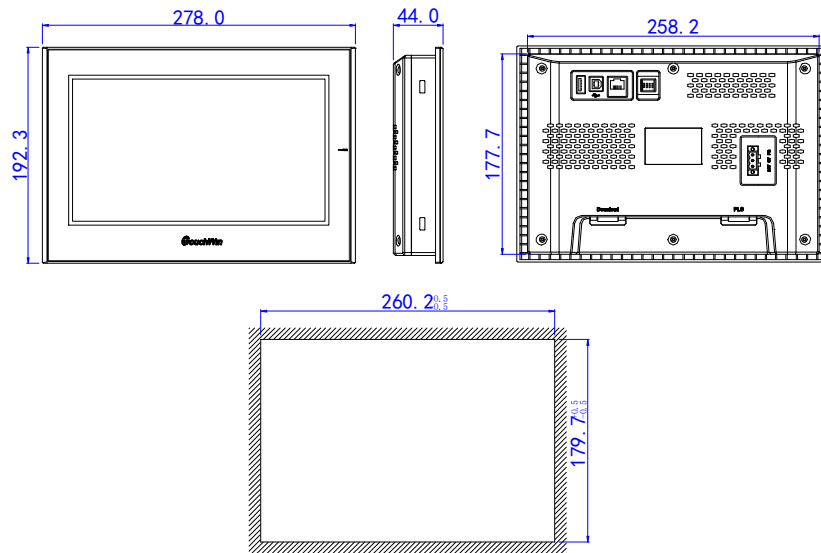
■ TGA63-MT/ET/UT/NT

Unit: mm



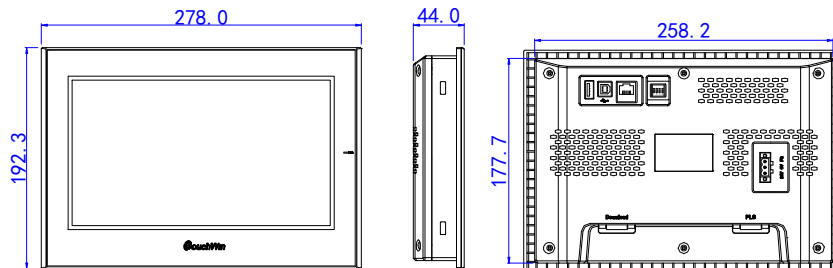
■ TGA63S/G-MT/ET/UT

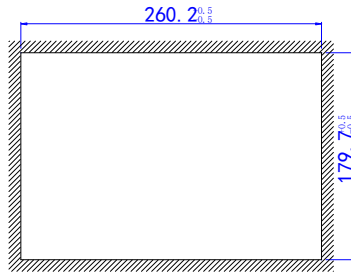
Unit: mm



■ TGMA63S-MT/ET

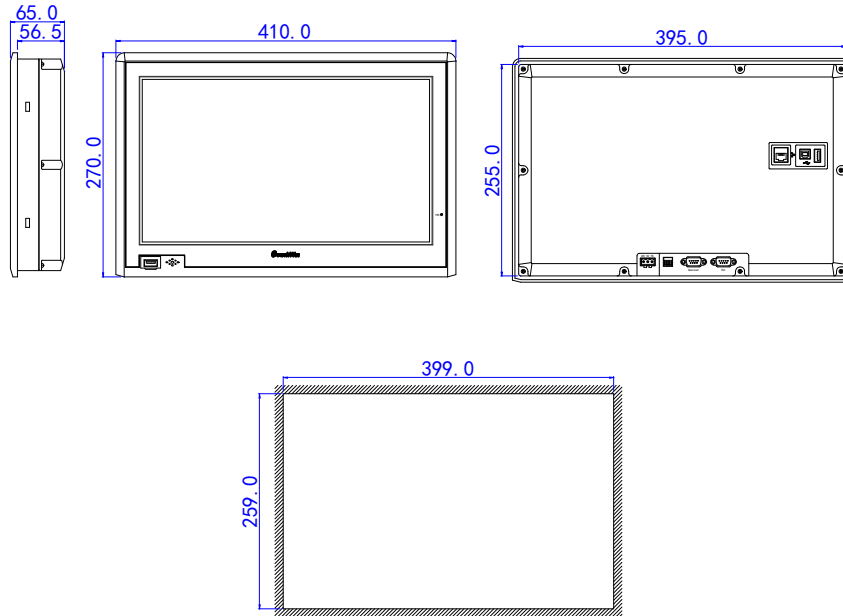
Unit: mm





■ TG(M)C65-ET

Unit: mm

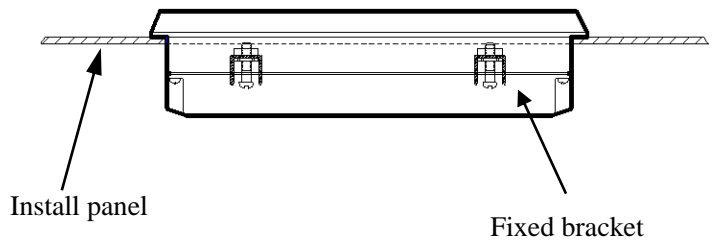
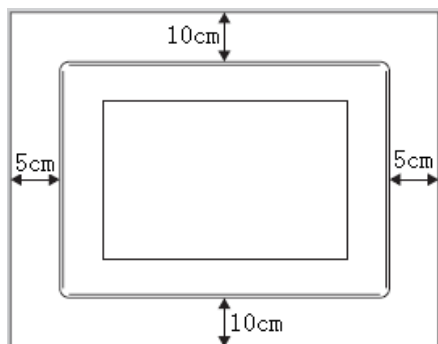


3-4-2 Installation and using environment

Install requirements:

TG has four ferric mounting racks when out of factory, there are two square holes on the up, down side of TG, use mounting rack to fix the TG with control cabinet.

In order to avoid TG temperature too high after long time working, please keep 10cm space on the up/down and 5cm on the left/right side of the TG when installing.



Install steps:

1. Refer to the dimension in the former chapter to open a rectangle mounting hole in the control cabinet;
2. Add airproof circles in the airproof slot when installing;
3. Insert the bottom of TH into the mounting hole of control cabinet;
4. Insert the install rack into the fix hole of TG then tighten the screw;
5. Connect TG and PLC with communication cable.

Notice: The communication cable can be offered by the supplier or made by user according to the connection diagram, input +24V DC power to start working

Environment:

Please use TG series touch screen indoor.

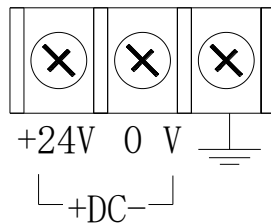


Do not use TG in below environment:

Inflammable gas, steam, dust, fast vary temperature, high humidity (it may cause moisture inside TG).

Power supply requirements:

TG series touch screen use DC +24V power supply only. The permitted voltage range is 20V~26V. The connection is as below:



Besides, if connect high voltage or AC power supply with TG, the TG may be damaged and cause electric shock to human body.



If use the DC +24V output of PLC, make sure the PLC has enough current to drive the TG.

4 TE series HMI

4-1 Features

- New cover design, silver color, more refined appearance
- 7 inch normal dimension, the models include TE765-MT/UT/ET, TE765-MT(P)/UT(P)/ET(P)
- Use long life LED backlight to extend the using life, industry LCD can withstand high vibration
- Fit for serious environment, resistant to corrosive liquids and gases, running temperature -10°C-60°C
- 400MHz CPU, 128M internal memory, perfect data processing ability, fast download and running speed, better animation effect

4-1-1 Product features

■ Display

- 16 million true colors TFT-LCD, support BMP and JPG format, better color and display;
- 128MB memory, perform high speed data download, high speed loading and high-speed operation
- Memory capacity increase substantially;
- Support multi-language: Chinese, English, Japanese, Korean, German, French, Arabic, etc. The fonts support any size, artistic effect, bold, italic, etc.
- Rich images of material, screen operation

■ Control

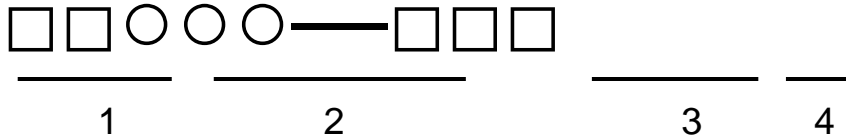
- Switch control, dynamic monitor and display data, bar map, real time trend map, time trend map, XY trend map, discrete/continue column map, real time alarm, history alarm record...
- User-defined data collection and saving function
- Set user authority, 9 levels password protection
- Simulate online/offline, upload/download data, configuration function
- Powerful C function block
- USB-A port inside, connect flash disk to copy data, speed up to 480Mbps
- Special USB-B port for data download, make the data transfer faster
- User-defined animation design
- Contain all function of TH series

■ Communication

- Two ports communication independently, can connect two different devices at the same time
- Add Ethernet interface communication, can communicate with TBOX, Siemens S7-1200, S7-200 Smart and other Modbus-TCP devices

- Drive the panel printer directly, economical and flexible
- Support free format communication, user edits the driver program

4-1-2 Module naming rule



- 1: Series name TE
- 2: Display size 765: 7.0"
- 3: Interface type ET: USB-B download port, USB-A flash disk port , Ethernet port
 UT: USB-B download port, USB-A flash disk port
 MT: USB-B download port
- 4: Type Empty: Normal type
 (P): oil resistant

4-1-3 Product models

Model	Display	LCD type	Notes
TE765(S)-MT TE765(S)-MT(P) TE765(S)-XT	7"	TFT-LCD	USB-B download port
TE765(S)-UT TE765(S)-UT(P)	7"	TFT-LCD	USB-B download port, USB-A flash disk port
TE765(S)-ET TE765(S)-ET(P)	7"	TFT-LCD	USB-B download port, USB-A flash disk port, Ethernet port

Note: The model marked in red indicates that it has been discontinued.

4-2 General specifications

HMI specifications

Item		TE765-MT TE765-MT(P)	TE765-UT TE765-UT(P)	TE765-ET TE765-ET(P)
Screen	Size	7.0"		
	Type	16 million colors		
	Resolution	800*480		
	Brightness	Adjustable (through register PFW100)		
	Touch panel	4-wire resistance mode		

	Using life	More than 50000 hours, temperature 25°C, running for 24 hours
	Language	Chinese, English, Japanese, Korean, German, French, Arabic...
	Character	Any font and size
Memory	Capacity	128MB

Electric specifications

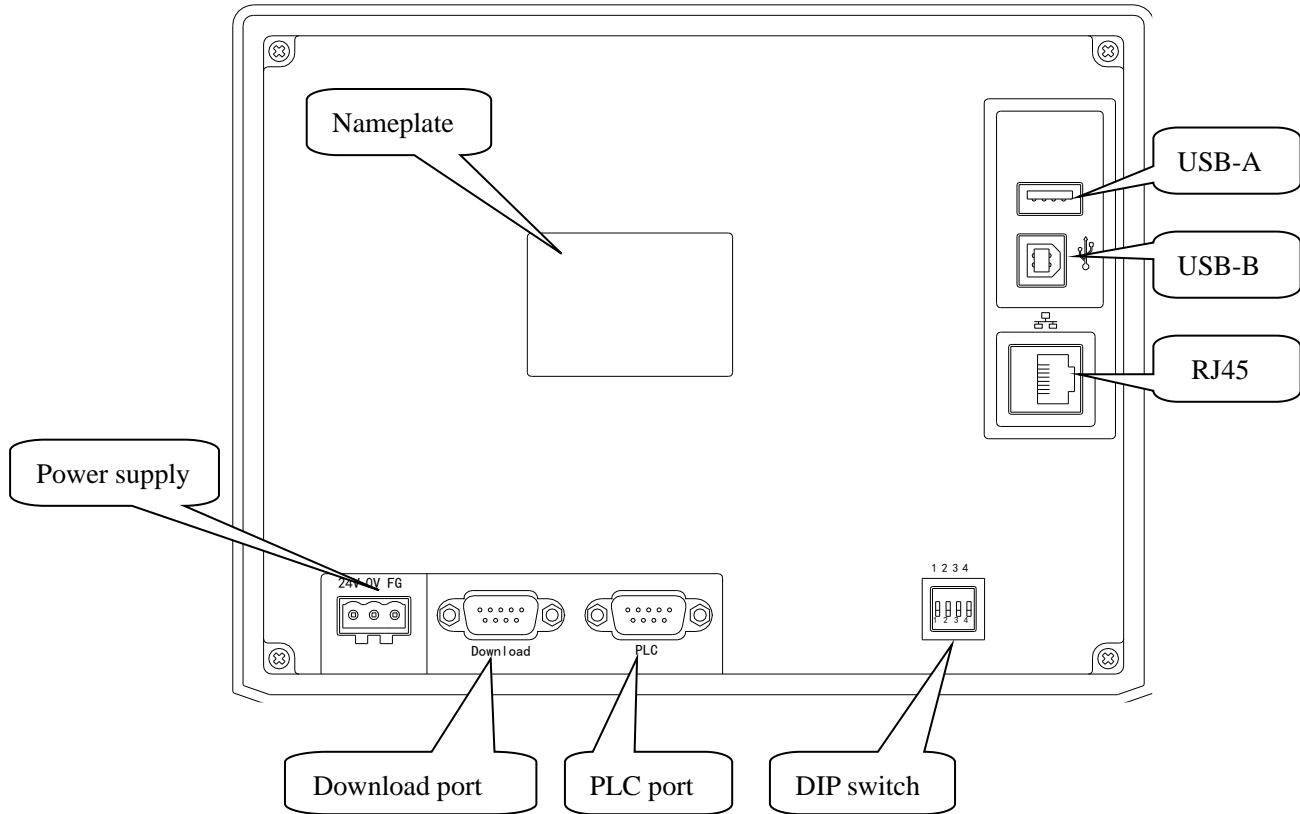
Item		TE765-MT TE765-MT(P)	TE765-UT TE765-UT(P)	TE765-ET TE765-ET(P)
Electric	Input voltage	DC24V (Range: DC22V-DC26V)		
	Consumption current	200mA		
	Allowable momentary power failure	Below 10ms (Actual power failure<1s)		
	Withstand voltage	AC1000V,10mA,less than 1 minute (signal and ground)		
	Insulated impedance	DC500V, above 10MΩ (signal and ground)		
Environment	Operation temperature	-10-60°C		
	Reserve temperature	-20-65°C		
	Environment humidity	10%RH-90%RH (no condensation)		
	Withstand oscillation	10-25Hz (X,Y,Z each direction 30 minutes 2G)		
	Anti-jamming	Voltage noise:1500Vp-p, pulse 1us, 1 minute		
	Surrounding air	No corrosive gas		
	Protection construction	IP65		
Construction	Cooling method	Natural air cooling		
	Exterior dimension (mm)	200.4*146.9*43.4		
	Mounting dimension (mm)	192.0*138.5		
Interface	PLC port	RS232/RS485/RS422		
	Download port	RS232/RS485		
	Ethernet port	-	-	RJ45
	USB1	USB-A (accord with USB2.0), flash disk port (UT/ET support)		
	USB2	USB-B (accord with USB2.0), USB download port		

Note: The flash erasure life is 100000 times.

4-3 Hardware

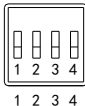
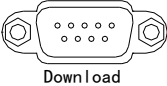
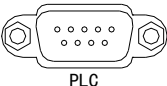
4-3-1 Hardware structure




The back side of TE series HMI:



4-3-2 Ports introduction

TE series HMI port:

Outline	Name	Function
	DIP switch	Force-download, touch area adjustment
	Download port	RS232/RS485
	PLC port	RS232/RS485/RS422

	USB-A	Connect to flash disk to store data
	USB-B	Connect USB cable to download/upload program
	Ethernet port	Support TBOX, Siemens S7-1200 and other devices which support Modbus-TCP protocol

1. DIP switch

TE series has 4-bit DIP switch at the back side; they can set the function of COM1 port.

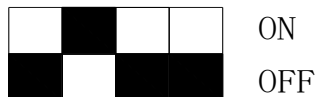
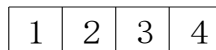
Switch	DIP1	DIP2	DIP3	DIP4	Function
State	ON	OFF	OFF	OFF	Undefined
	OFF	ON	OFF	OFF	Force-download mode
	OFF	OFF	ON	OFF	System menu: Adjust clock and touch panel,
	OFF	OFF	OFF	ON	Undefined



If the screen cannot show normally after downloading the program, please use force-download.

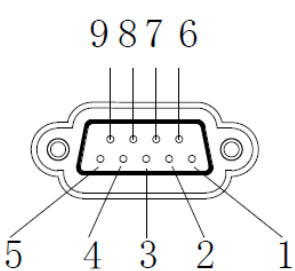
Step:

- (1) Cut off the power of TE, turn ON DIP switch 2;
- (2) Power on TE, connect the download cable to PC to download the program;
- (3) Turn OFF DIP switch 2 after finishing the download, repower on the TE.

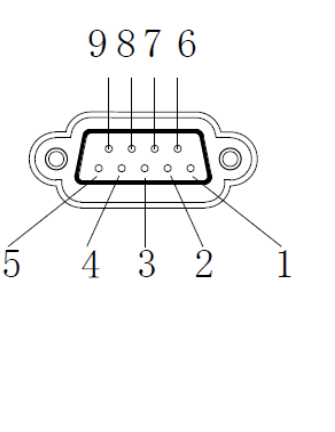


2. Communication interface

The Pins definition of download port:

	Pin	Name	Description
	1	NC	Unused terminal
2	RXD	RS232 receive	
3	TXD	RS232 send	
4	A	RS485 + signal	
5	GND	Signal ground	
6	NC	Unused terminal	
7	B	RS485 - signal	
8	NC	Unused terminal	
9	NC	Unused terminal	

The Pins definition of PLC port:

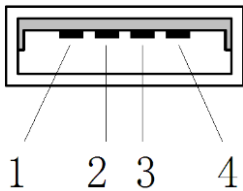
	Pin	Name	Description
	1	TD+	RS422 send +
	2	RXD	RS232 receive
	3	TXD	RS232 send
	4	A	RS485 + signal
	5	GND	Signal ground
	6	TD-	RS422 send -
	7	B	RS485 - signal
	8	RDD-	RS422 receive -
	9	RDD+	RS422 receive +

3. USB-A port

USB-A (accord with USB2.0) of TE series HMI has below function:

- Backup management, data export/import, the speed can up to 480 Mbps.

USB-A port definition



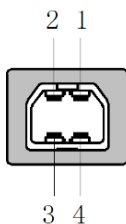
Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA+	Data signal +
3	DATA-	Data signal -
4	-5V	-5V voltage signal

4. USB-B port

TE has one USB-B port (accord with USB2.0), located at the back side of TE, the functions are shown as below:

- To download the data, the speed can up to 480Mbps.

USB-B port definition





Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA-	Data signal -
3	DATA+	Data signal +
4	GND	Ground signal

(2) Please use shielded USB cables.



(2) Please install USB driver before using. Download the driver from www.xinje.com.

(3) Connect TE with PC, open Touchwin software, click “ or ” to download the program.

5. RJ45 port

The pins definition of RJ45 port

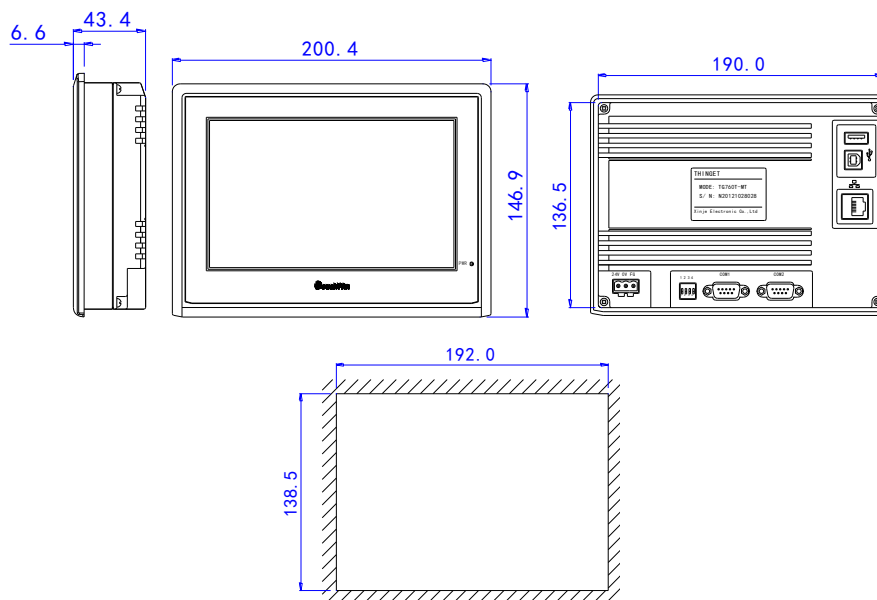
	Pin	Color	Name	Explanation
	1	Orange white	TXD+	Send +
	2	Orange	TXD-	Send -
	3	Green white	RXD+	Receive +
	4	Blue	-	-
	5	Blue white	-	-
	6	Green	RXD-	Receive -
	7	Brown white	-	-
	8	Brown	-	-

4-4 Dimensions and installation

4-4-1 Product dimensions

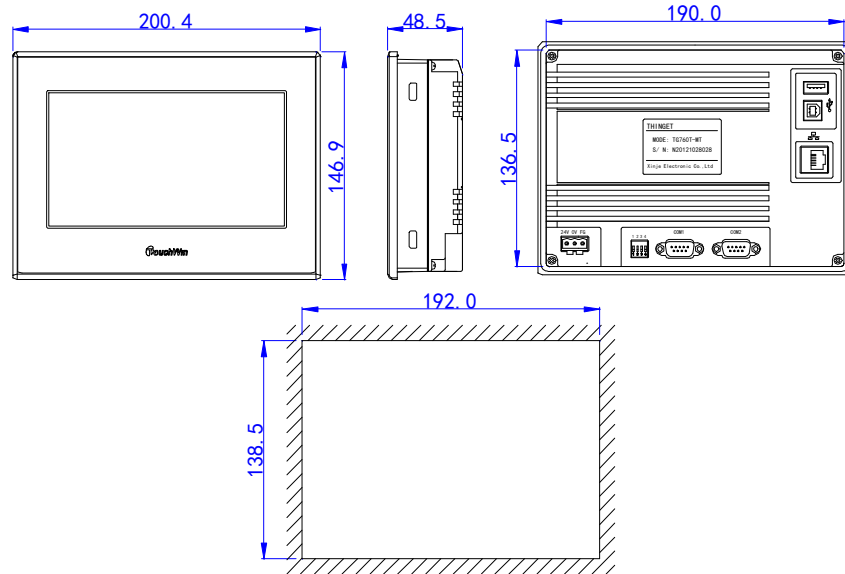
TE765-MT/UT/ET

(Unit: mm)



■ TE765-MT(P)/UT(P)/ET(P)

Unit: mm

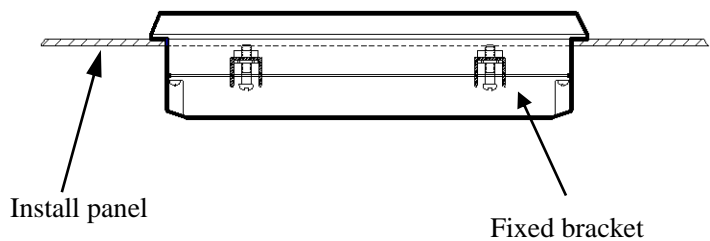
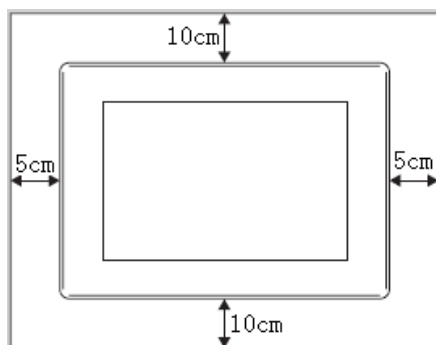


4-4-2 Installation and using environment

Install requirements:

TE has four ferric mounting racks when out of factory, there are two square holes on the up, down side of TE, use mounting rack to fix the TE with control cabinet.

In order to avoid TE temperature too high after long time working, please keep 10cm space on the up/down and 5cm on the left/right side of the TE when installing.



Install steps:

1. Refer to the dimension in the former chapter to open a rectangle mounting hole in the control cabinet;
2. Add airproof circles in the airproof slot when installing;
3. Insert the bottom of TH into the mounting hole of control cabinet;
4. Insert the install rack into the fix hole of TH then tighten the screw;
5. Connect TE and PLC with communication cable.

Notice: The communication cable can be offered by the supplier or made by user according to the connection diagram, input +24V DC power to start working

Environment:

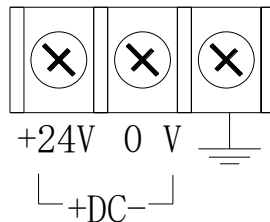
Please use TE series touch screen indoor.



**Do not use TE in below environment:
Inflammable gas, steam, dust, fast vary temperature, high humidity (it may cause moisture inside TG).**

Power supply requirements:

TE series touch screen use DC +24V power supply only. The permitted voltage range is 20V~26V. The connection is as below:



Besides, if connect high voltage or AC power supply with TE, the TE may be damaged and cause electric shock to human body.



If use the DC +24V output of PLC, make sure the PLC has enough current to drive the TE.

5 RT800 series HMI

5-1 Features

■ Display

- TFT true color, 16.77 million color display, support BMP and JPEG format pictures, fuller color and more realistic display effect
- Touch calibration function
- 128MB large memory is used to realize high-speed download, high-speed loading and high-speed operation
- It supports Chinese, English, Japanese, Korean and other languages. The font can be set arbitrarily, and the size can be set at will. It supports underline, italics, bold and other artistic effects such as shadow, three-dimensional, stroke and so on
- Rich picture materials, no delay in picture operation.

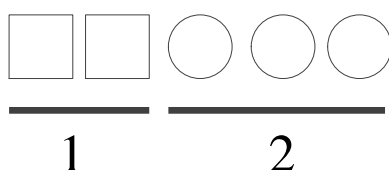
■ Control

- Switch control, dynamic monitor and display data, bar map, real time trend map, time trend map, XY trend map, discrete/continue column map, real time alarm, history alarm record...
- User-defined data collection and saving function
- Set user authority, 9 levels password protection
- Simulate online/offline, upload/download data, SCADA function
- Powerful C function block
- USB-A port inside, connect flash disk to copy data, speed up to 480Mbps
- Special USB-B port for data download, make the data transfer faster
- User-defined animation design
- Data backup (CSV file import and export)

■ Communication

- One communication port(RS485, XNET bus) can connect various devices
- Add Ethernet interface communication, can communicate with TBOX, Siemens S7-1200, S7-200 Smart and other Modbus-TCP devices
- Support free format communication, user edits the driver program

5-1-1 Module naming rule



- 1: Series name RT series
 2: Display size 800: 8"

5-2 General specifications

HMI specifications

Item		RT800
Screen	Size	8.0"
	Type	16.77 million colors
	Resolution	800*600
	Brightness	Adjustable (through register PFW100)
	Touch panel	4-wire resistance mode
	Using life	More than 50000 hours, temperature 25°C, running for 24 hours
	Language	Chinese, English, Japanese, Korean, German, French, Arabic...
	Character	Any font and size
Memory	Capacity	128MB

Electric specifications

Item		RT800
Electric	Input voltage	DC24V (Range: DC22V-DC26V)
	Consumption current	250mA
	Allowable momentary power failure	Below 10ms (Actual power failure<1s)
	Withstand voltage	AC1000V,10mA, less than 1 minute (signal and ground)
	Insulated impedance	DC500V, above 10MΩ (signal and ground)
Environment	Operation temperature	0-50°C
	Reserve temperature	-20-60°C
	Environment humidity	10%RH-90%RH (no condensation)
	Withstand oscillation	10-25Hz (X,Y,Z each direction 30 minutes 2G)
	Anti-jamming	Voltage noise:1500Vp-p, pulse 1us, 1 minute
	Surrounding air	No corrosive gas
	Protection construction	IP65
Constru	Cooling method	Natural air cooling

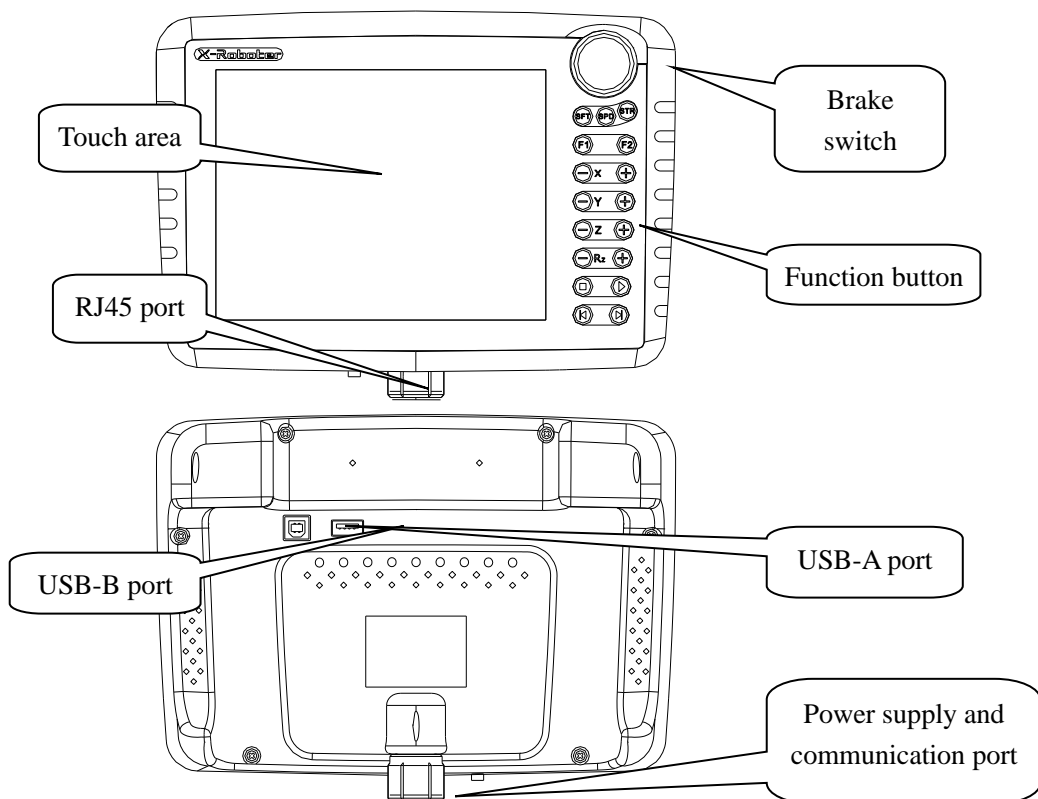
ction	Exterior dimension (mm)	257.8*178.0
	Display dimension (mm)	162.0*121.5
Interface	PLC port	RS485/X-NET bus
	Ethernet port	RJ45
	USB1	USB-A (accord with USB2.0)
	USB2	USB-B (accord with USB2.0), USB download port

Note: The flash erasure life is 100000 times.

5-3. Part description

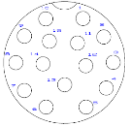



5-3-1. Structure

As shown in the figure below, the front and back areas of RT800 are:



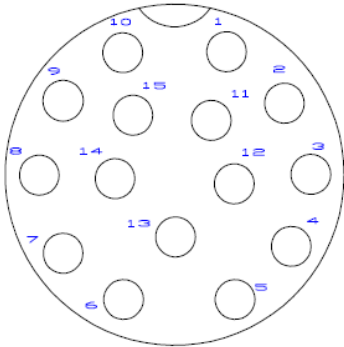
5-3-2. Interface

The RT800 interface is described as follows:

Port	Name	Function
	COM2 (PLC port)	Support RS485, X-Net bus
	USB-A port	Connect flash disk to store data
	USB-B port	Connect USB cable to upload/download program
	Ethernet port	Support TBOX, Siemens S7-1200 and other Modbus-TCP devices

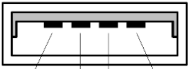
1. Function definition of communication port pins

The power interface and communication port of RT800 teaching machine are 15-core round aviation plugs, which need to be wired by the customer. The interface definition is shown in the table below.

	Pin	Definition	Explanation
	1	GND	RS485 GND signal
	2	A	RS485 +
	3	B	RS485 -
	4, 5, 6, 7, 8	NC	Empty terminal
	9, 10	24V	24V+
	11, 12	0V	24V-
	13	FG	
	14, 15	Brake switch	Emergency stop switch signal

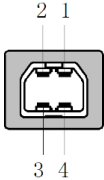
2. USB-A port

The USB-A (USB2.0) port of RT800 teaching machine has the following functions: backup management, complete data import and export functions, and the transmission rate reaches 480Mbps.

 USB-A interface	Pin	Definition	Explanation
	1	+5V	+5V voltage signal
	2	DATA+	Data +
	3	DATA-	Data -
4	-5V	-5V voltage signal (ground signal)	

3. USB-B port

RT800 teaching machine has a USB-B port (USB2.0), which is located on the upper right side of the reverse side to realize the following functions: data download function, and the transmission rate reaches 480Mbps.



 <p>USB-B interface</p>	Pin	Definition	Explanation
	1	+5V	+5V voltage signal
	2	DATA-	Data +
	3	DATA+	Data -
4	GND	Signal ground	



(1) Please use shielded USB cables.

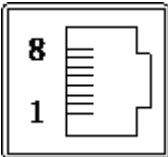


(2) Please install USB driver before using. Download the driver from www.xinje.com.

(3) Connect RT800 with PC, open Touchwin software, click “ or ” to download the program.

4. RJ45 port

RJ45 interface pin defintions:

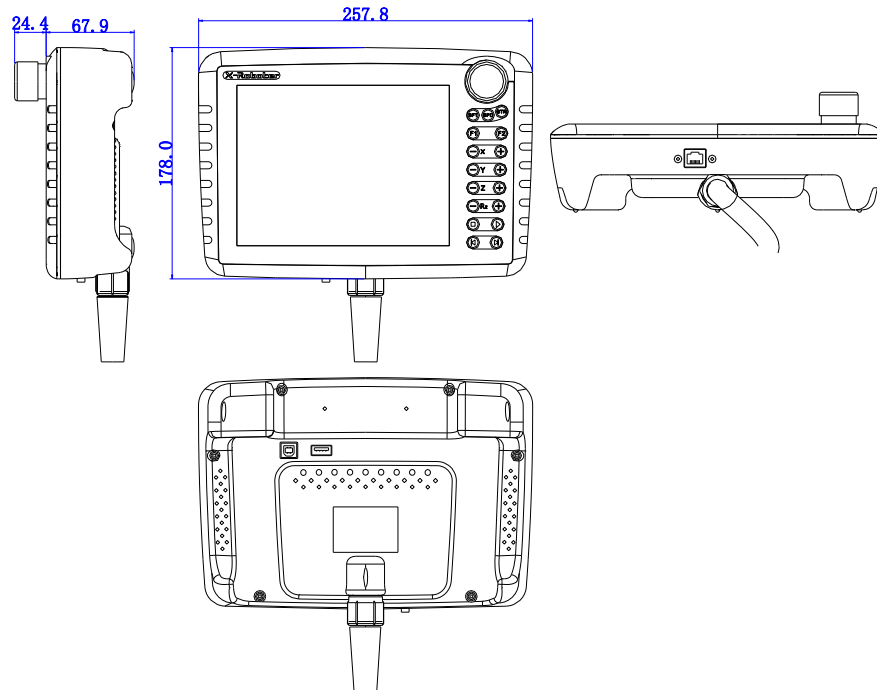
	Pin	Color	Definition	Explanation
	1	Orange white	TXD+	Data send +
	2	Orange	TXD-	Data send -
	3	Green white	RXD+	Data receive +
	4	Blue	-	-
	5	Blue white	-	-
	6	Green	RXD-	Data receive -
	7	Brown white	-	-
8	Brown	-	-	

5-4. Product dimension and installation

5-4-1. Production dimension

■ RT800

(Unit: mm)



5-4-2. Product installation and using environment

■ Environment

RT800 teaching machine is generally used indoors, please use it correctly within the specified environment.



Do not use it in dangerous environment filled with flammable gas, water vapor or dust, and do not install it in an environment with too fast temperature change or high humidity, otherwise it will cause moisture to condense inside the product.

■ Power supply

RT800 teaching machine can only use DC power supply. The power supply specification is DC +24V (voltage range: 22V ~ 26V), which meets the DC power supply standard of most industrial control equipment. Connect the positive pole of DC power supply to "+24V" terminal and the negative pole of DC power supply to "0V" terminal.

In addition, connecting high voltage or alternating current to the power input in the man-machine interface will make the equipment unusable and may cause electric shock to human body. Such mistakes or serious electric shock can lead to personal injury, even death, as well as equipment damage.



If the DC output of PLC is used to drive the RT800 teaching machine, it must

be considered that the +24V DC output of some controllers may not have enough current to support the RT800 teaching pendant.

6 RT700 series HMI

6-1 Features

■ Display

- TFT true color, 16.77 million color display, support BMP and JPEG format pictures, fuller color and more realistic display effect
- Touch calibration function
- 128MB large memory is used to realize high-speed download, high-speed loading and high-speed operation
- It supports Chinese, English, Japanese, Korean and other languages. The font can be set arbitrarily, and the size can be set at will. It supports underline, italics, bold and other artistic effects such as shadow, three-dimensional, stroke and so on
- Rich picture materials, no delay in picture operation.

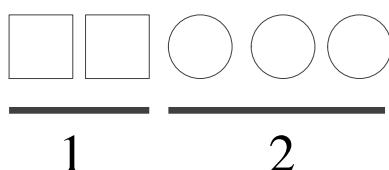
■ Control

- Switch control, dynamic monitor and display data, bar map, real time trend map, time trend map, XY trend map, discrete/continue column map, real time alarm, history alarm record...
- User-defined data collection and saving function
- Set user authority, 9 levels password protection
- Simulate online/offline, upload/download data, SCADA function
- Powerful C function block
- USB-A port inside, connect flash disk to copy data, speed up to 480Mbps
- Special USB-B port for data download, make the data transfer faster
- User-defined animation design
- Data backup (CSV file import and export)

■ Communication

- One communication port (RS485, XNET bus) can connect various devices
- Support free format communication, user edits the driver program

6-1-1 Module naming rule



- 1: Series name RT series
 2: Display size 710: 7"
 711: 7"
 712: 7"
 750: 7"

5-2 General specifications

HMI specifications

Item		RT710	RT711	RT750	RT712
Screen	Size	7.0"			
	Type	16.77 million colors			
	Resolution	800*480			
	Brightness	Adjustable (through register PFW100)			
	Touch panel	4-wire resistance mode			
	Using life	More than 50000 hours, temperature 25°C, running for 24 hours			
	Language	Chinese, English, Japanese, Korean, German, French, Arabic...			
	Character	Any font and size			
Memory	Capacity	128MB			

Electric specifications

Item		RT710	RT711	RT750	RT712
Electric	Input voltage	DC24V (Range: DC22V-DC26V)			
	Consumption current	250mA			
	Allowable momentary power failure	Below 10ms (Actual power failure<1s)			
	Withstand voltage	AC1000V,10mA, less than 1 minute (signal and ground)			
	Insulated impedance	DC500V, above 10MΩ (signal and ground)			
Environment	Operation temperature	0-50°C			
	Reserve temperature	-20-60°C			
	Environment humidity	10%RH-90%RH (no condensation)			
	Withstand oscillation	10-25Hz (X,Y,Z each direction 30 minutes 2G)			
	Anti-jamming	Voltage noise:1500Vp-p, pulse 1us, 1 minute			

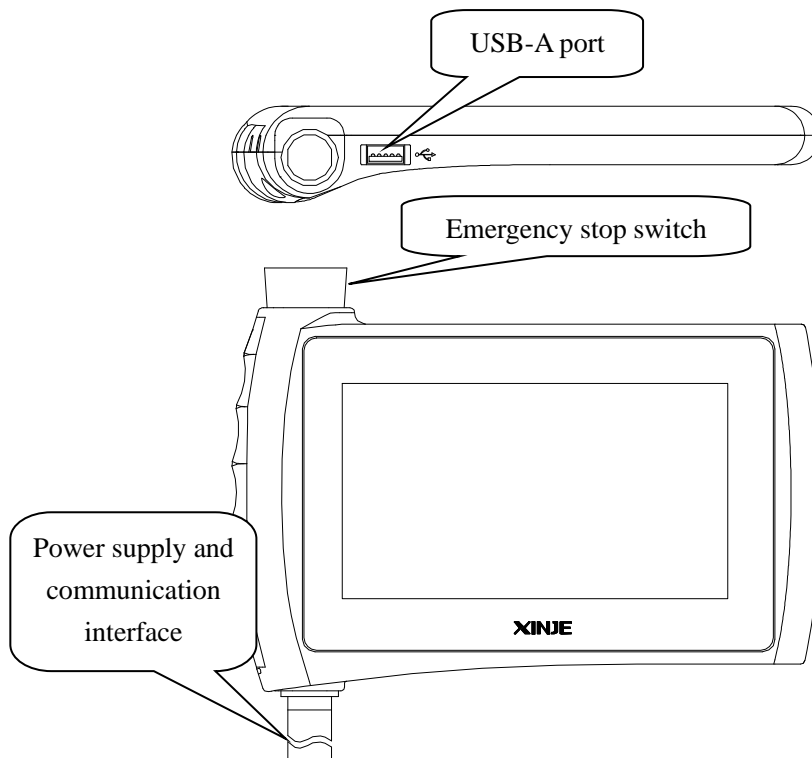
	Surrounding air	No corrosive gas			
	Protection construction	IP65			
Constru ction	Cooling method	Natural air cooling			
	Exterior dimension (mm)	236.5*154.6	245.1*161.8	272.0*177.6	236.4*158.2
	Display dimension (mm)	154.08*85.92			
Interface	PLC port	RS485/X-NET bus			
	USB1	USB-A (accord with USB2.0)			
	USB2	-	USB-B (accord with USB2.0), USB download port	USB-B (accord with USB2.0), USB download port	USB-B (accord with USB2.0), USB download port

Note: The flash erasure life is 100000 times.

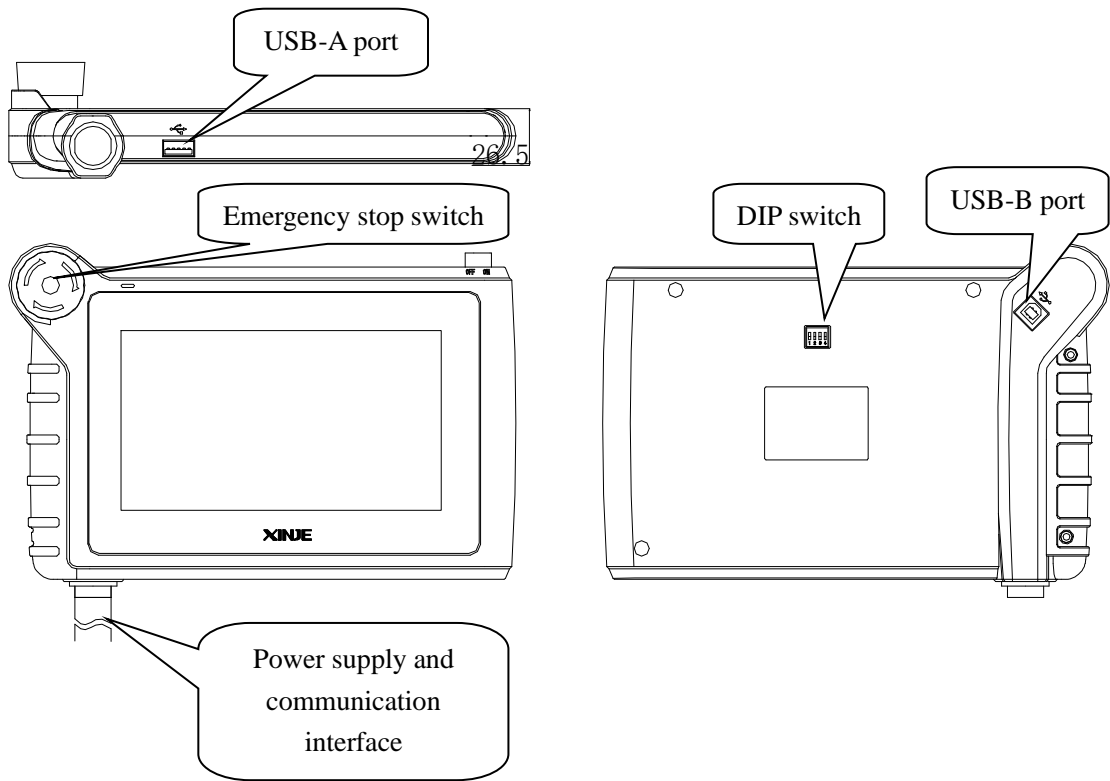
6-3. Part description

6-3-1. Structure

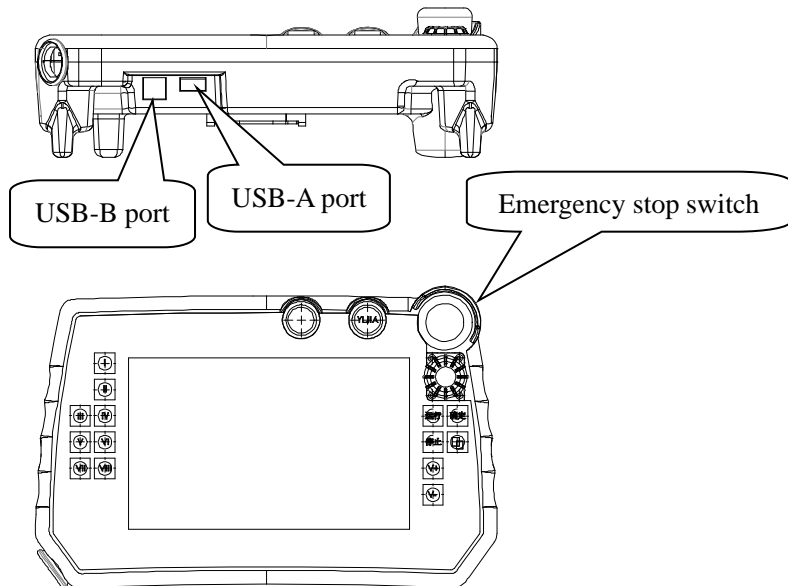
■ RT710/RT712



■ RT711

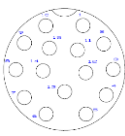

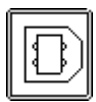


■ RT750



6-3-2. Interface

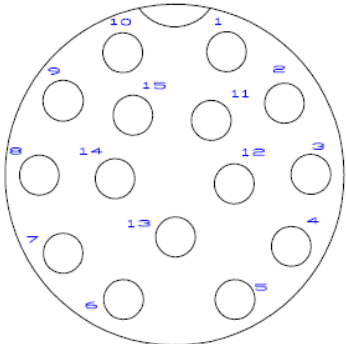
The RT700 interface is described as follows:

Port	Name	Function
	COM (PLC port)	Support RS485, X-Net bus
	USB-A port	Connect flash disk to store data
	USB-B port (RT710/RT712 no this port)	Connect USB cable to upload/download program

1. Function definition of communication port pins

The power interface and communication port of RT700 series teaching machine are 15-core round aviation plugs, which need to be wired by the customer. The interface definition is shown in the table below.

(1) RT710/RT711/RT712 pin definition:

	Pin	Definition	Explanation
	1	Emergency stop	Emergency stop switch signal
2	NC		
3	NC		
4	NC		
5	NC		
6	NC		
7	0V	24V-	
8	24V	24V+	
9	GND	RS485 GND signal	
10	A	RS485+	
11	B	RS485-	
12	NC		
13	NC		
14	NC		
15	COM	Emergency stop COM terminal	

(2) RT750 pin definition

Pin	Definition	Explanation
1	Emergency stop	Emergency stop switch signal
2	Key	Key switch signal
3	Rear switch	Rear switch signal
4	COM	Rear switch com terminal
5	Dial switch	Dial switch signal
6	COM	Dial switch com terminal
7	0V	24V-
8	24V	24V+
9	GND	RS485 GND signal
10	A	RS485+
11	B	RS485-
12	PLS-GND	Code disk com terminal
13	PLS-B	Code disk - signal
14	PLS-A	Code disk + signal
15	COM	Emergency stop/key COM terminal

2. USB-A port

The USB-A (USB2.0) port of RT700 teaching machine has the following functions: backup management, complete data import and export functions, and the transmission rate reaches 480Mbps.

Pin	Definition	Explanation
1	+5V	+5V voltage signal
2	DATA+	Data +
3	DATA-	Data -
4	-5V	-5V voltage signal (ground signal)

3. USB-B port

RT711/RT750 teaching machine has a USB-B port (USB2.0), which is located on the upper right side of the reverse side to realize the following functions: data download function, and the transmission rate reaches 480Mbps.



Pin	Definition	Explanation
1	+5V	+5V voltage signal
2	DATA-	Data +
3	DATA+	Data -
4	GND	Signal ground



(1) Please use shielded USB cables.



(2) Please install USB driver before using. Download the driver from www.xinje.com.

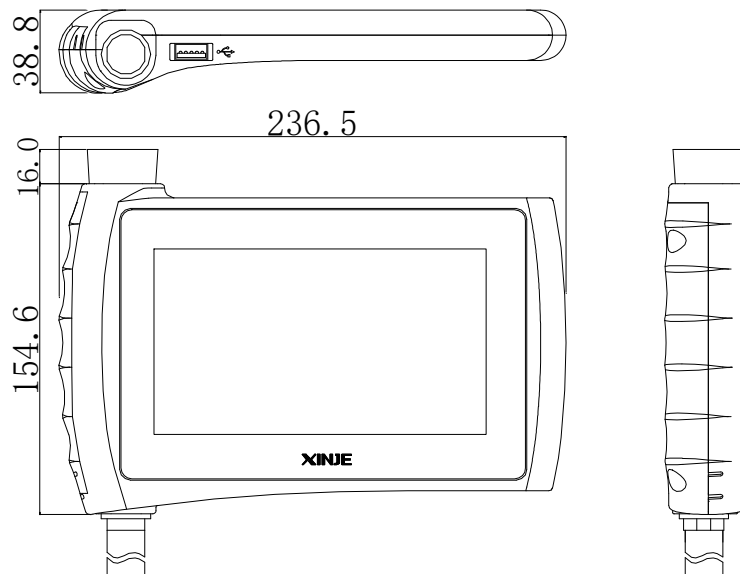
(3) Connect RT800 with PC, open Touchwin software, click “ or ” to download the program.

6-4. Product dimension and installation

6-4-1. Production dimension

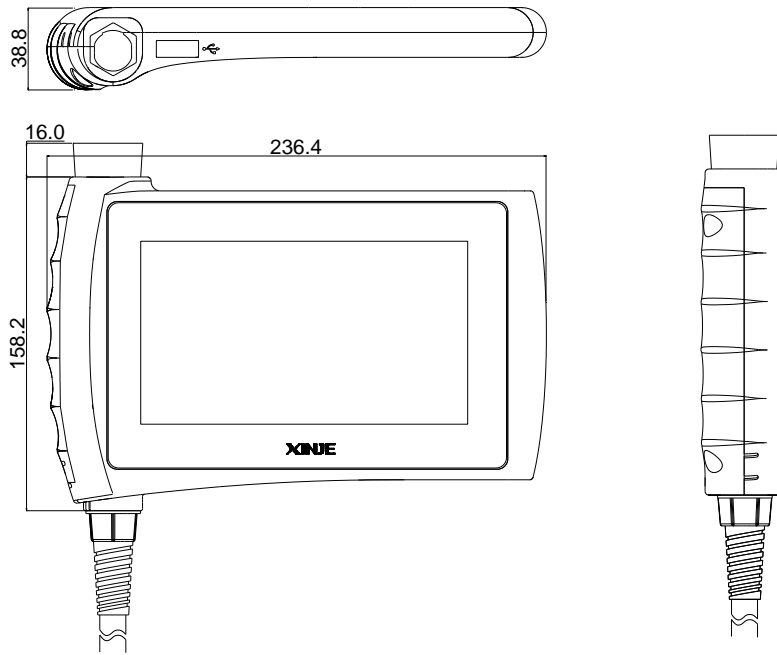
■ RT710

Unit: mm



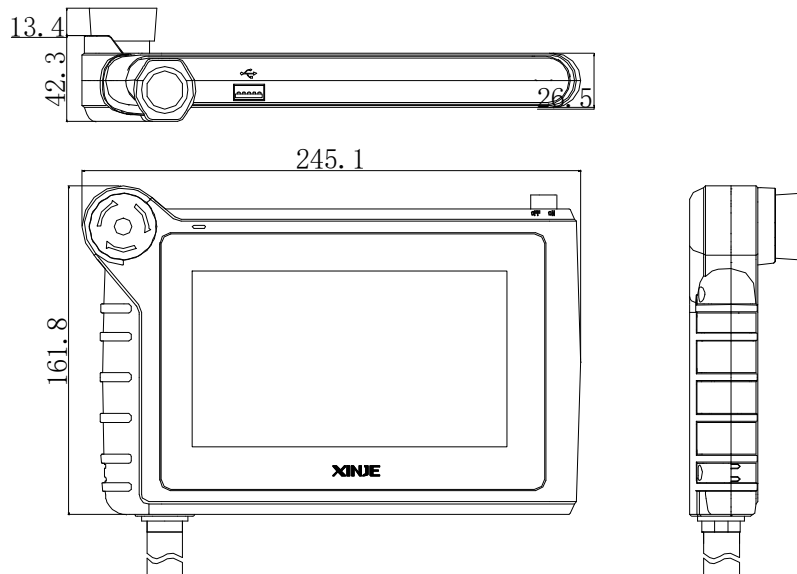
■ RT712

Unit: mm



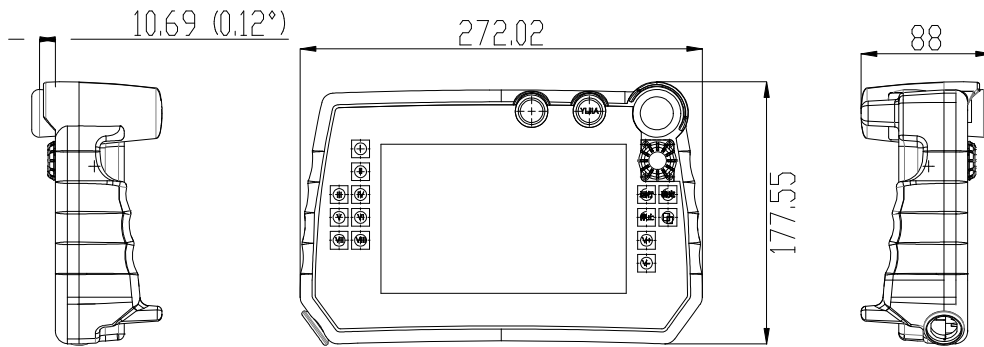
■ RT711

Unit: mm



■ RT750

Unit: mm



6-4-2. Product installation and using environment

■ Environment

RT700 teaching machine is generally used indoors, please use it correctly within the specified environment.



Do not use it in dangerous environment filled with flammable gas, water vapor or dust, and do not install it in an environment with too fast temperature change or high humidity, otherwise it will cause moisture to condense inside the product.

■ Power supply

RT700 teaching machine can only use DC power supply. The power supply specification is DC +24V (voltage range: 22V ~ 26V), which meets the DC power supply standard of most industrial control equipment. Connect the positive pole of DC power supply to "+24V" terminal and the negative pole of DC power supply to "0V" terminal.

In addition, connecting high voltage or alternating current to the power input in the man-machine interface will make the equipment unusable and may cause electric shock to human body. Such mistakes or serious electric shock can lead to personal injury, even death, as well as equipment damage.



If the DC output of PLC is used to drive the RT700 teaching machine, it must be considered that the +24V DC output of some controllers may not have enough current to support the RT700 teaching pendant.



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