KALATEC

AUTOMAÇÃO

XINJE

TG/TE series HMI

manual【Hardware】

1-1 Features

Xinje TG series HMI have high quality display: 16 million true color TFT-LCD, support BMP and JPG format, have rich 3D photo gallery, has the flexible components choice space, user-defined animation, convenient mode setting switch, precise touch calibration function, data acquisition save function, curve shows, and other forms of data management ways, offers two USB interfaces, perform high speed data download, high speed loading and high-speed operation, can communication with several PLC simultaneously, support Ethernet communication.

1-1-1 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
■ **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 and other Modbus-TCP devices
➢ Drive the panel printer directly, economical and flexible
➢ Support free format communication, user edits the driver program

1-1-2 Module naming rule
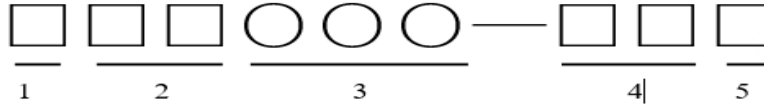
1: Special type   C: for CAD function
                                             S: for vision function
                                             Empty: normal type
2: Series name   TG
3: Display size   465: 4.3''
                                         765: 7.0''
                                         865: 8.0''
                                         A62: 10.1''
                                         C65: 15.6''
4: 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
5: Type   Empty: Normal type
                         (P): oil resistant

Special models

TG765-XT: compact type of TG765-MT, it has USB-B port, one RS232 port, without clock.

TG765-XT-C: compact type of TG765-MT, it has USB-B port, one RS232 port, with clock.

1-1-3 Product models

Model	LCD size	LCD type	Notes
TG465-MT/UT TG465-MT/UT(P)	4.3''	TFT-LCD	TG series: normal model CTG series: for CAD function STG series: for vision function MT: USB-B download port UT: USB-B download port, USB-A U-disk port ET: USB-B download port, USB-A U-disk port, Ethernet port XT: compact type of TG765-MT, it has USB-B port, one RS232 port, without clock. XT-C: compact type of TG765-MT, it has USB-B port, one RS232 port, with clock.
TG765-MT/UT/ET TG765-MT/UT/ET(P) CTG765-ET/UT STG765-ET TG765-XT TG765-XT-C	7''		
TG865-MT/UT/ET TG865-MT/ET(P) CTG865-ET STG865-ET	8''		

TGA62-MT/ET	10.1"		(P): oil resistant
TGA62-MT/ET(P)			
CTGA62-ET			
TGC65-MT/UT/ET	15.6"		

1-2 General specifications

HMI specifications

<table>
<tr><th colspan="2">Item</th><th>TG465</th><th>TG765</th><th>TG865</th><th>TGA62</th><th>TGC65</th></tr>
<tr><td rowspan="8">Screen</td><td>Size</td><td>4.3"</td><td>7.0"</td><td>8.0″</td><td>10.1″</td><td>15.6"</td></tr>
<tr><td>Type</td><td colspan="5">16 million colors</td></tr>
<tr><td>Resolution</td><td>480*272</td><td>800*480</td><td>800*600</td><td>800*480</td><td>1366*768</td></tr>
<tr><td>Brightness</td><td>Non-adjustable</td><td colspan="3">Adjustable (through register PFW100)</td><td>Non-adjustable</td></tr>
<tr><td>Touch panel</td><td colspan="5">4-wire resistance mode</td></tr>
<tr><td>Using life</td><td colspan="5">More than 50000 hours, temperature 25℃, running for 24 hours</td></tr>
<tr><td>Language</td><td colspan="5">Chinese, English, Japanese, Korean, German, French, Arabic…</td></tr>
<tr><td>Character</td><td colspan="5">Any font and size</td></tr>
<tr><td>Memory</td><td>Capacity</td><td>64MB</td><td colspan="4">128MB (TG765-XT is 64MB)</td></tr>
</table>

Electric specifications

<table>
<tr><th colspan="2">Item</th><th>TG465</th><th>TG765</th><th>TG865</th><th>TGA62</th><th>TGC65</th></tr>
<tr><td rowspan="5">Electric</td><td>Input voltage</td><td colspan="5">DC24V (Range: DC22V-DC26V)</td></tr>
<tr><td>Consumption current</td><td>140mA</td><td>200mA</td><td>250mA</td><td>270mA</td><td>730mA</td></tr>
<tr><td>Allowable momentary power failure</td><td colspan="5">Below 10ms (Actual power failure<1s)</td></tr>
<tr><td>Withstand voltage</td><td colspan="5">AC1000V,10mA,less than 1 minute (signal and ground)</td></tr>
<tr><td>Insulated impedance</td><td colspan="5">DC500V, above 10MΩ (signal and ground)</td></tr>
<tr><td rowspan="4">Environment</td><td>Operation temperature</td><td colspan="5">0-50℃</td></tr>
<tr><td>Reserve temperature</td><td colspan="5">-20-60℃</td></tr>
<tr><td>Environment humidity</td><td colspan="5">10%RH-90%RH（no condensation）</td></tr>
<tr><td>Withstand</td><td colspan="5">10-25HZ（X,Y,Z each direction 30 minutes 2G）</td></tr>
</table>

	oscillation					
	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)	152.0*102.0*41.8	200.4*146.9*43.4	224.4*170.8*45.5	272.2*191.7*51.2	410.0*270.0*65.0
	Mounting dimension (mm)	144.0*94.0	192.0*138.5	211.4*157.8	260.2*179.7	399.0*259.0
Interface	PLC port	RS232/ RS485	RS232/RS485/RS422 (TG765-XT, TG765-XT-C only support RS232)			
	Download port	-	RS232/RS485 (TG765-XT and TG765-XT-C don't have this port)			
	Ethernet port	-	RJ45 (Only for ET series)			
	USB1	-	USB-A (accord with USB2.0), flash disk port (UT/ET support)			
	USB2	USB-B (accord with USB2.0), USB download port				

TG series HMI display area dimension:

Series	Display area dimension (mm)
TG465	95.04*53.86
TG765	154.08*85.92
TG865	162.0*121.5
TGA62	219.6*131.76
TGC65	344.23*193.54

1-3 Hardware
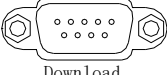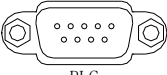
### 1-3-1 Hardware structure

The back side of TG series HMI:
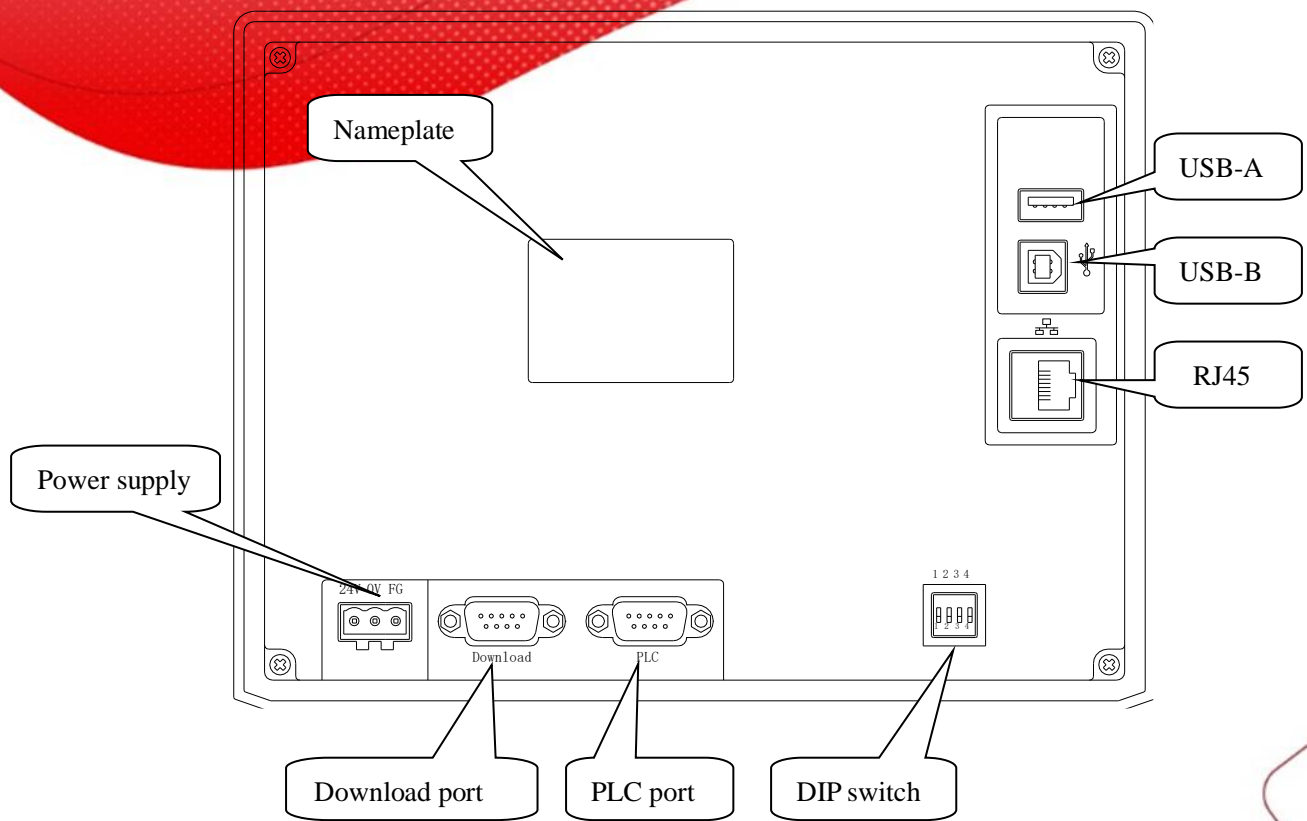
1-3-2 Ports introduction

TG 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

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
	OFF	OFF	OFF	ON	Undefined
	OFF	ON	OFF	OFF	Force-download mode
State	OFF	OFF	ON	OFF	System menu: Adjust clock and touch panel, Import program of flash disk
	ON	OFF	OFF	OFF	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.
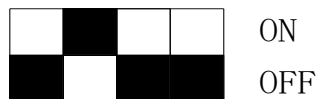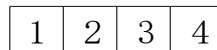
2. Communication interface

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: TG465, TG765-XT and TG765-XT-C don't have this port.

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 +

TG765-XT, TG765-XT-C PLC 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

TG465 COM2 (PLC 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

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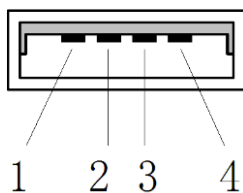
Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA+	Data signal +
3	DATA-	Data signal -
4	—5V	-5V voltage signal

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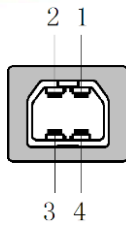
Pin	Name	Description
1	+5V	+5V voltage signal
2	DATA-	Data signal -
3	DATA+	Data signal +
4	GND	Ground signal

(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

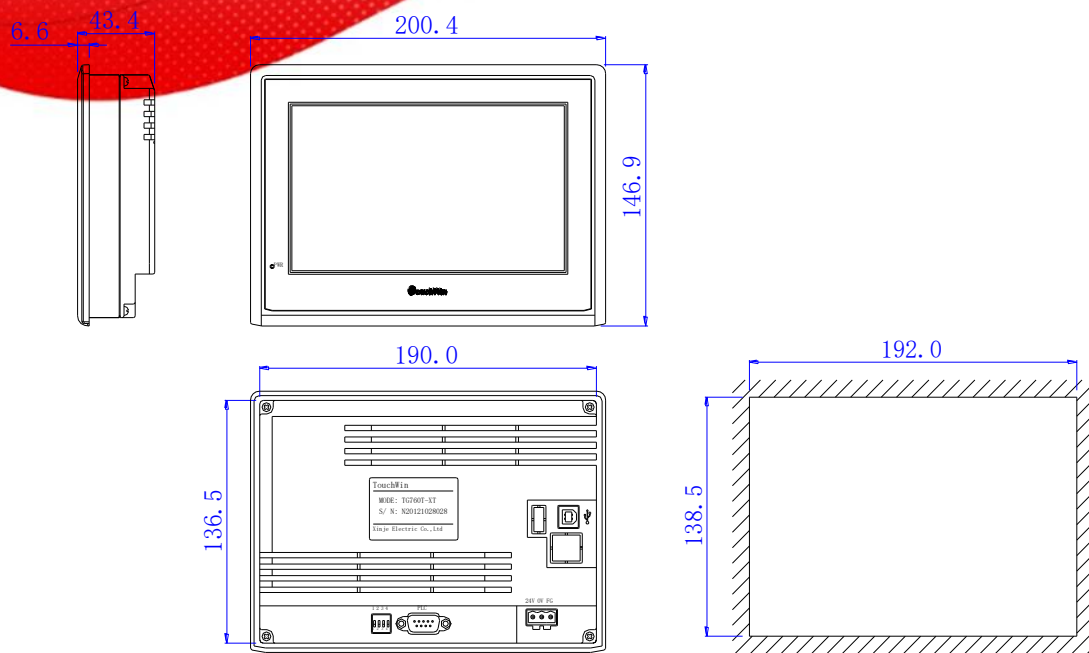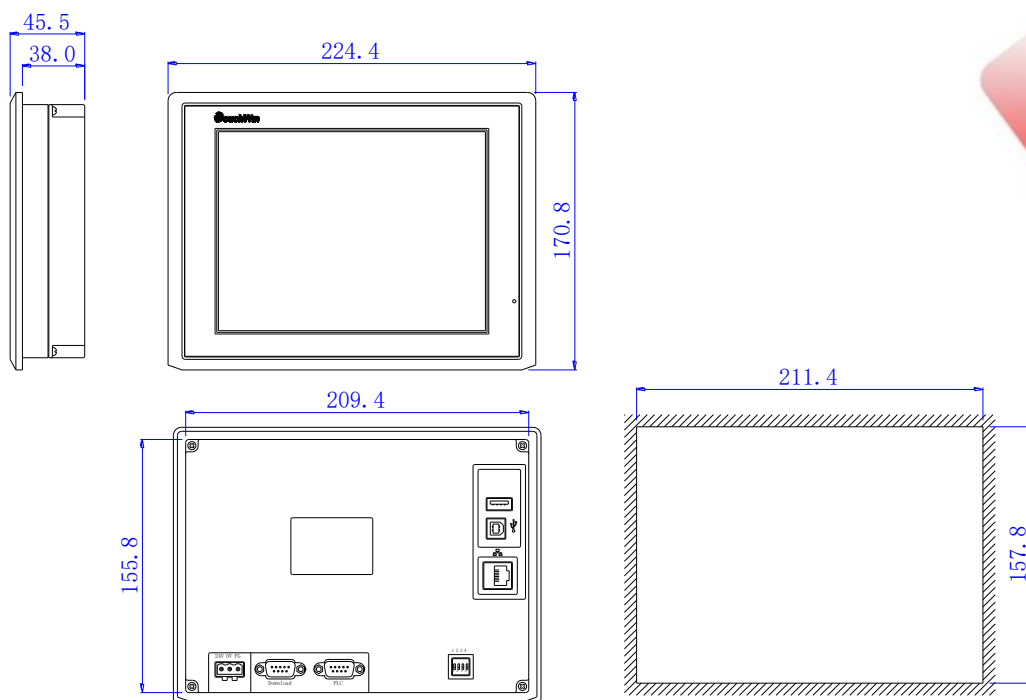**TG465**   **(Unit: mm)**

41.8   152.0   142.0

102.0   92.0

144.0

94.0
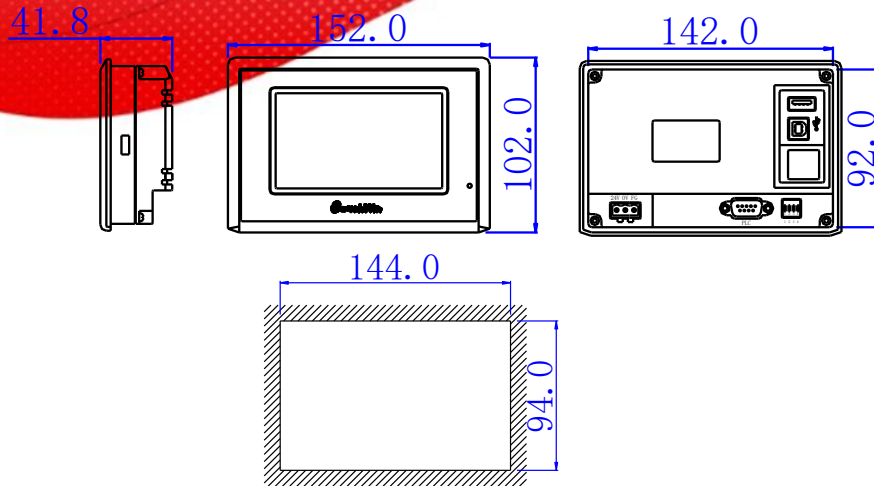
TG765-MT/UT/ET, CTG765, STG765   **(Unit: mm)**

6.6   43.4   200.4

146.9

190.0   192.0

136.5   138.5

THINGET
MODE: TG760T-MT
S/ N: N20121028028
Xinje Electronic Co.,Ltd
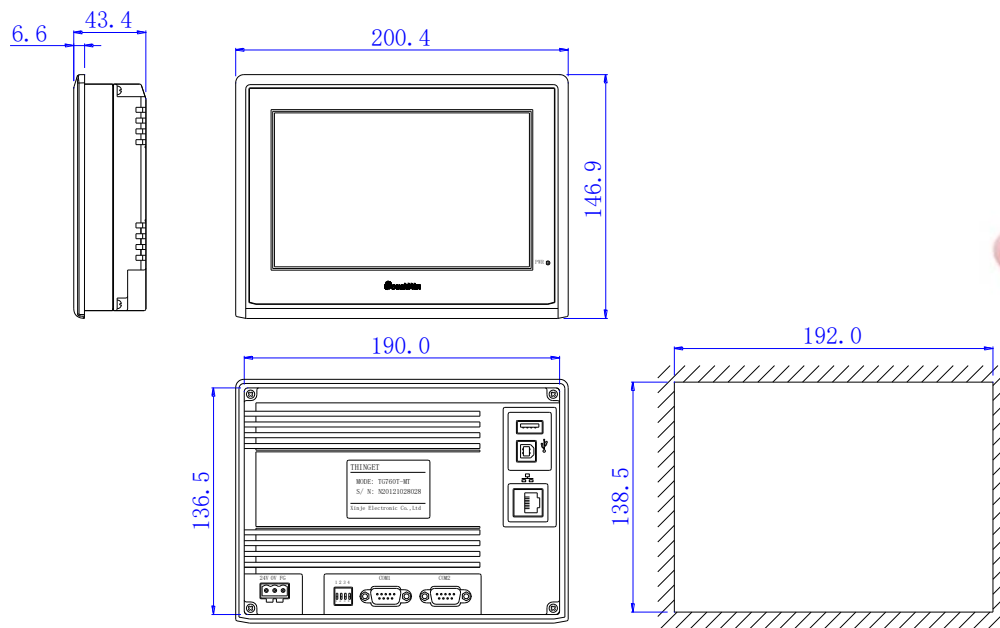
TG765-XT, TG765-XT-C   **(Unit: mm)**

6.6 43.4

200.4

146.9

190.0

192.0

136.5

TouchWin
MODE: TG760T-XT
S/ N: N20121028028
Xinje Electric Co.,Ltd

138.5

TG865-MT/UT/ET, CTG865, STG865   **(Unit: mm)**

45.5

38.0

224.4

170.8

209.4

211.4

155.8

157.8

TGA62-MT/ET, CTGA62   **(Unit: mm)**
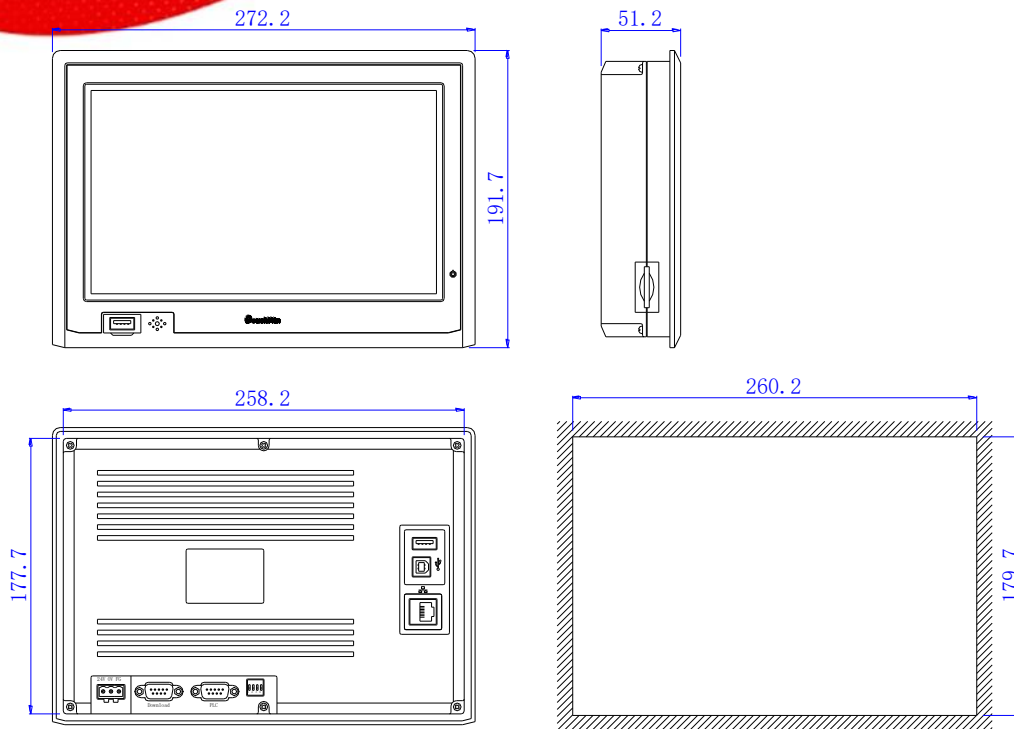
TGC65-MT/UT/ET   **(Unit: mm)**
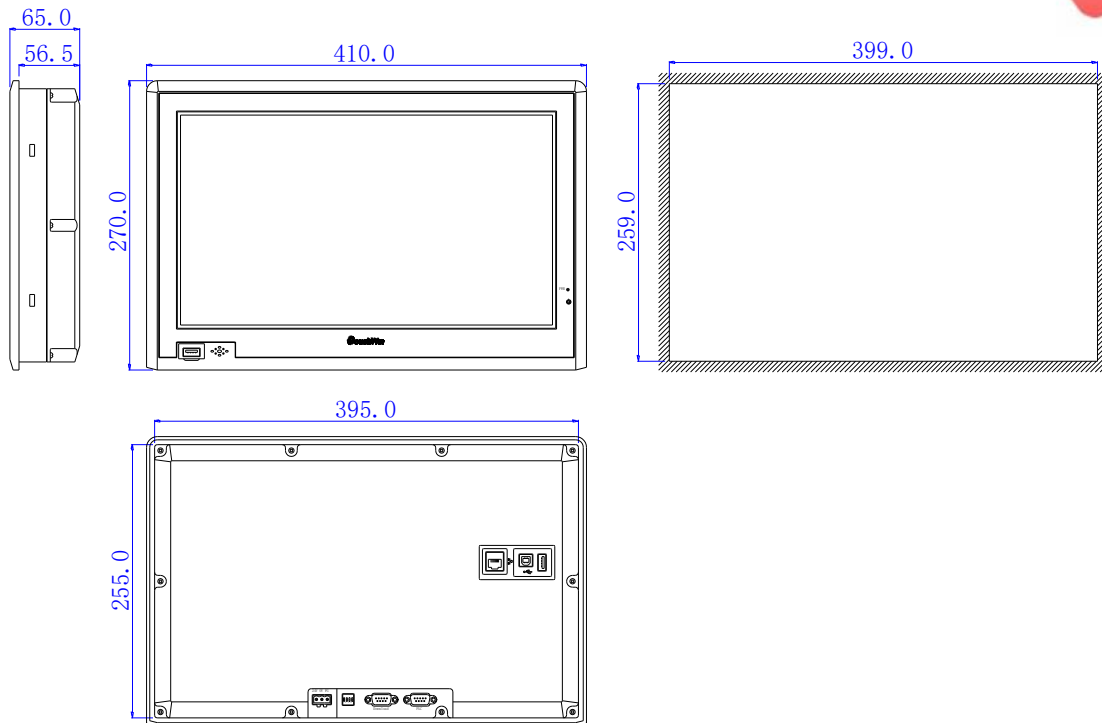
3-4-2 Installation and using environment

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.
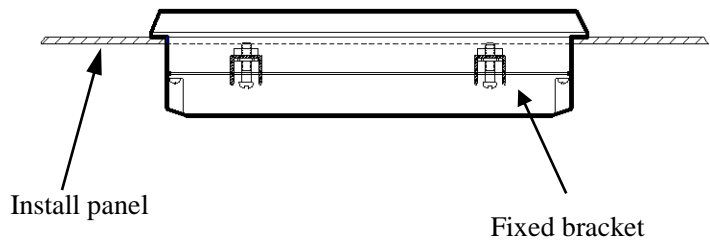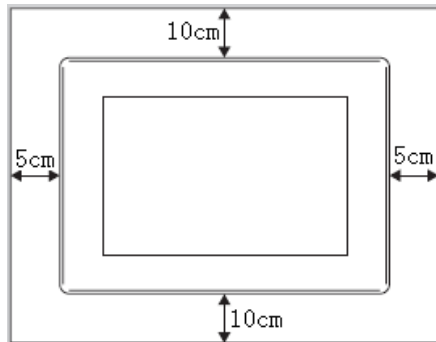
Install panel

Fixed bracket

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

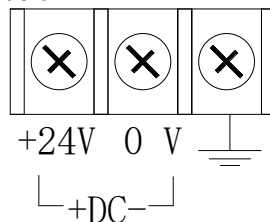**Environment:**

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.

2 **TE series HMI**

2-1 Features

- New cover design, silver color, more refined appearance
- 7 inch normal dimension, the models include TE765-MT/UT/ET
- 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℃-60℃
- 400MHz CPU, 128M internal memory, perfect data processing ability, fast download and running speed, better animation effect

2-1-1 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 and other Modbus-TCP devices
  - Drive the panel printer directly, economical and flexible
  - Support free format communication, user edits the driver program

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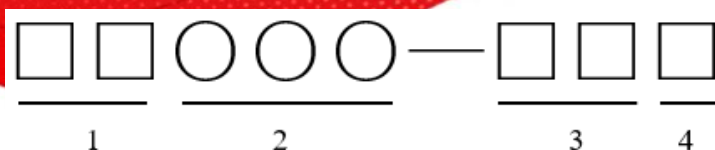
1: Series name   TE
2: Display size   765: 7.0''
3: Interface type   ET: USB-B download port, USB-A flash disk port , Ethernet port
                            UT: USB-B download port, USB-A flash disk port
                            MT: USB-B download port
4: Type   Empty: Normal type
            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

2-1-3 Product models

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

2-2 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℃, 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℃		
	Reserve temperature	-20-65℃		
	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		

TE series HMI display area dimension:

Series	Display area dimension (mm)
TG465	154.08*85.92

2-3 Hardware

2-3-1 Hardware structure

The back side of TE series HMI:

2-3-2 Ports introduction

TE series HMI port:

Outline	Name	Function
1 2 3 4	DIP switch	Force-download, touch area adjustment
Download	Download port	RS232/RS485
PLC	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

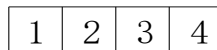TE series has 4-bit DIP switch at the back side; they can set the function of COM1 port.

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

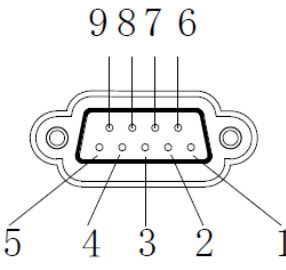**If the screen cannot show normally after downloading the program, please use force-download.**

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.

1	2	3	4

ON
OFF

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:

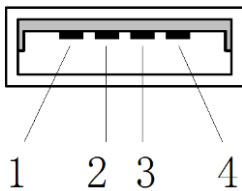| Pin	Name	Description
1	TD+	RS422 send +
2	RXD	RS232 receive
3	TXD	RS232 send
4	A	RS485 + signal
5	GND	Signal ground
6	TD-	RS422 send -
7	B	RS485 - signal
8	RDD-	RS422 receive -
9	RDD+	RS422 receive +
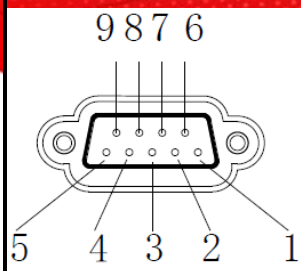
3. USB-A port

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.
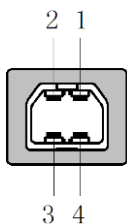
USB-A port definition

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.
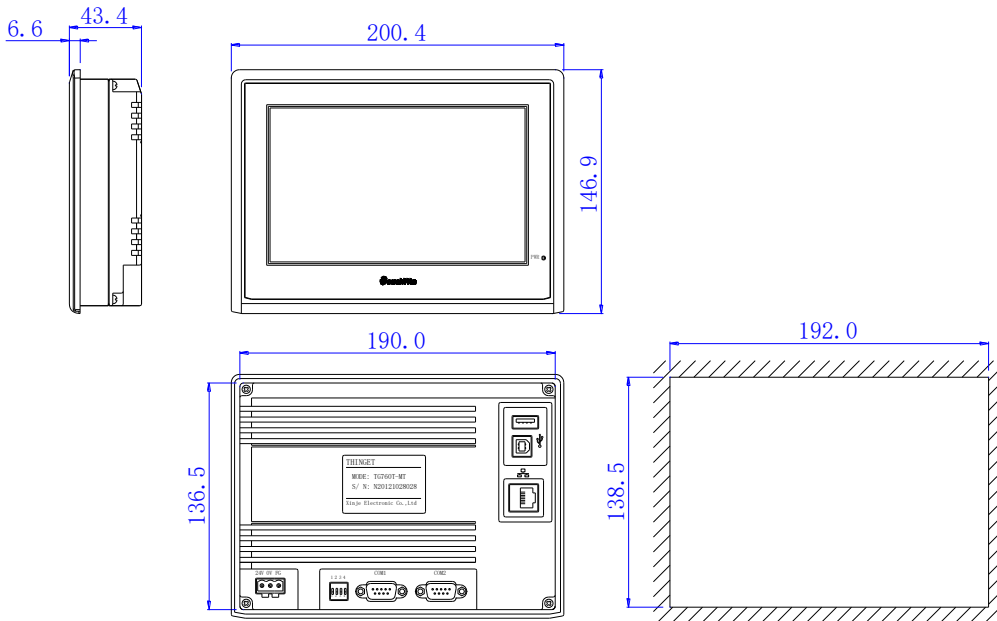
5. **RJ45 port**

The pins definition of RJ45 port

	Pin	Color	Name	Explanation
8 1	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   **(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.
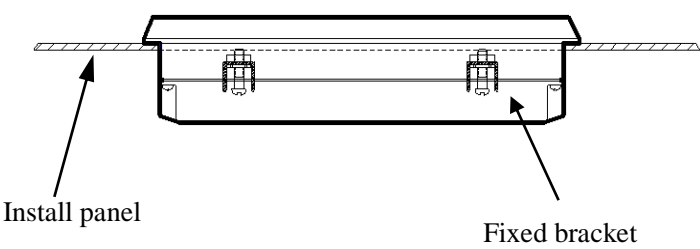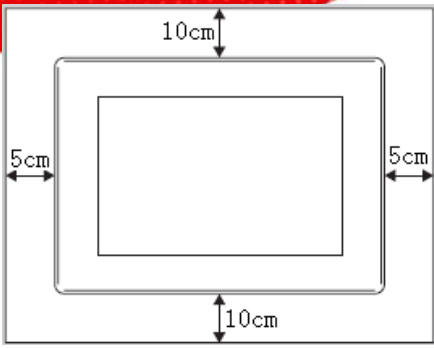
Install panel

Fixed bracket

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

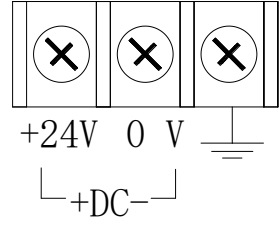**Environment:**

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.

Que esse conteúdo tenha agregado valor e conhecimento pra você!

Seu contato é importante para nós!
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