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XINJE

MTG765-UT wireless HMI

User manual

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1 MTG765-UT introduction

1-1 Features

■ Display

- 7.0 inches LCD, 16.77 million colors, ultra brightness screen, support bmp, jpeg format pictures, full color, display more vividly
- High speed 400MHz CPU, 128MB memory, excellent data processing ability, fast downloading speed
- Improve the startup loading speed greatly, decrease the waiting time, screen jump and animation more smooth
- Larger storage capacity
- New appearance design, wireless connection, nice touch, good visual effect
- Touch adjustment function
- Support the generation of two-dimensional code
- Support Chinese, English, Japanese, Korean and other language, the font can be set to any size and type, support underline, italics and bold, various artistic effects
- Rich picture library, screen running without stuck

■ Control

- Digital control, dynamic data display and monitor, bar chart, real-time/historic graph, time trend graph, XY trend graph, XY line chart, discrete/continuous data bar chart, real-time alarm, historic alarm records, etc.
- User-defined data collection and storage
- User authority setting, 9 levels of password protection
- Import the program through the USB-A port by flash disk, make the downloading easier
- Powerful C functions including operation, command, communication
- USB-A (USB2.0) port can backup the data in the flash disk, the speed up to 480Mbps
- USB-B (USB2.0) port is for program downloading and uploading, make the data transferring faster
- User-defined animated track design

■ Communication

- Wireless communicate with XC, XD series PLC or Modbus-RTU devices, long battery life, fast speed, stable performance, good anti-interference ability

1-2 General specification

Performance

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

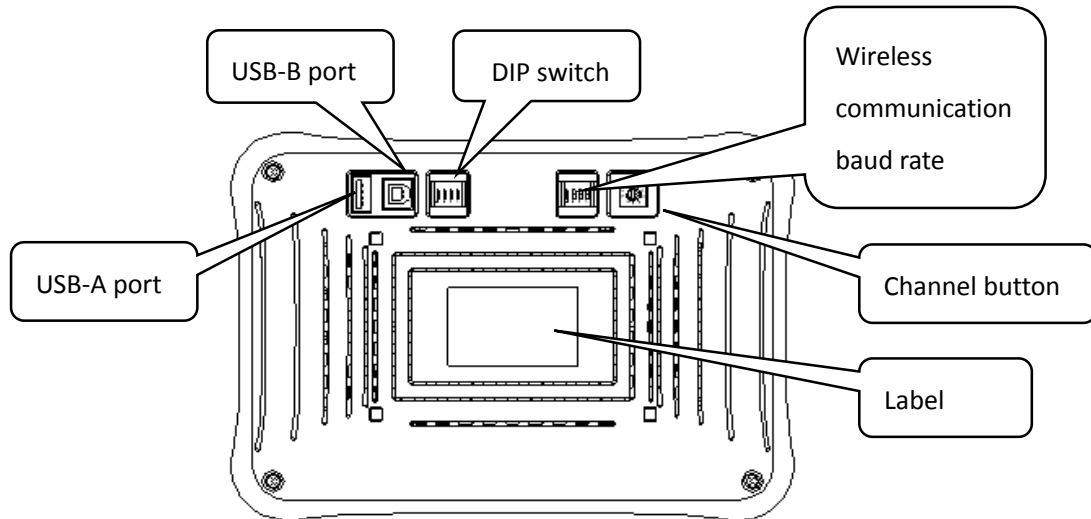
Electrical specifications

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

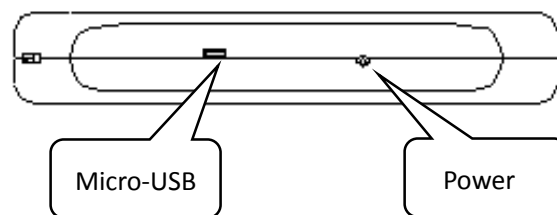
1-3 Parts

1-3-1 Structure

The following diagram is the back cover and bottom cover of MTG765-UT.



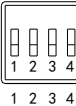






Back cover



Bottom cover

1-3-2 Interface

Appearance	Name	Function
	Channel button	Select the wireless communication channel
	Wireless communication baud rate	Set the wireless communication baud rate
	DIP switch	Set the forced-download mode and screen adjustment

	USB-B port	Upload/download program
	USB-A port	Connect to flash disk to export the data
	Micro-USB	Charging port
	Power	Power supply switch

1. Channel button

All the devices in the network must be on the same channel. If there are groups of S-BOX or some other signal source which may interfere the devices, it can change the channel. The channel range is from 0 to 9.

2. Wireless communication baud rate

The wireless transferring speed is set by the DIP switch. The higher the speed, the shorter the communication delay and transferring distance. Please refer to the following table for details. For the reasons of obstacles blocking or shielding, the transferring distance maybe different from the table, please confirm it according to the actual conditions.

Testing location	DIP1	DIP2	Transferring speed (bps)	Communication distance (meter)	Notes
Building	ON	ON	4800	40~60	At least 3 walls
	ON	OFF	9600	20~45	
	OFF	ON	19200	15~35	
	OFF	OFF	115200	10~20	
Underground garage	ON	ON	4800	80~11	At least 1 wall and many metal block objects
	ON	OFF	9600	70~90	
	OFF	ON	19200	35~60	
	OFF	OFF	115200	15~30	

3. DIP switch

Switch	DIP1	DIP2	DIP3	DIP4	Function
State	ON	OFF	OFF	OFF	Undefined
	OFF	ON	OFF	OFF	Forced-download

	OFF	OFF	ON	OFF	System menu: clock adjustment, touch screen calibration
	OFF	OFF	OFF	ON	Undefined



For some special conditions, the HMI cannot download or the screen cannot display normally, please try forced-download.

How to do:

- (1) Power off the MTG765-UT, turn on DIP switch 2
- (2) Power on the MTG765-UT, connect USB cable, download the program
- (3) Turn off the switch 2, repower on the HMI.

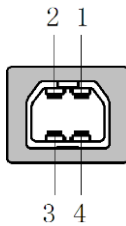
1	2	3	4
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				ON
				OFF

4. USB-B port

MTG765-UT has one USB-B port (USB2.0) which is located at the back left side of the cover. It can download and upload program. The transferring speed is 480Mbps.

USB-B port pin definition:





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



- (1) Please use shielding USB cable



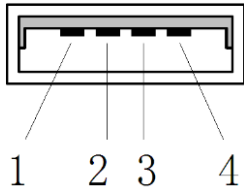
- (2) please install the USB driver
- (3) connect the PC and HMI via USB cable, click  or  to download program.

5. USB-A port

The USB-A (USB2.0) has the following functions:

Data import and export, data backup, the transferring speed is 480Mbps.

USB-A interface diagram



Pin	Definition	Notes
1	+5V	+5V voltage signal
2	DATA+	Data signal +
3	DATA-	Data signal -
4	-5V	-5V ground signal

6. Micro-USB port

Standard Micro-USB port, the interface to charge the wireless HMI. Input parameters: 5.0V-2.0A 9.0V-2.0A 12V-1.5A.

7. Power

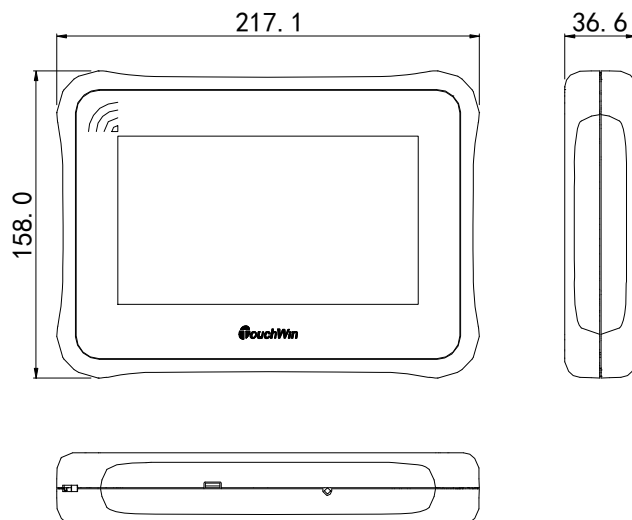
Please touch and hold the power button to startup or shut down the MTG765-UT HMI.

1-4 Dimensions

1-4-1 Dimensions

MTG765-UT

(Unit: mm)



1-4-2 Using environment

MTG765-UT is often used indoor.



Do not use the HMI in dangerous environment filled with flammable gas, vapour or dust, do not install the HMI in the environment whose temperature is changing too fast or the humidity is too high, otherwise the moisture will condense inside the HMI.

1-5 Programming software

MTG765-UT is fit for the programming software Touchwin v2.d.3k and up version.

The details please refer to Touchwin software manual.

Note:

The communication device in the software only can be PLC port device, and the device model must be XINJE XC or XD series PLC or Modbus RTU device. The communication parameters must be 19200bps, 8 data bit, 1 stop bit, even parity.

2 MTG765-UT application

The handheld wireless HMI (MTG765) plays the advantages of good intuitive, strong interactivity and anti-interference ability in industrial field application. The HMI integrated wireless communication module and mobile power, is able to wireless monitor the filed status. It has long battery life, stable monitoring performance, is easy to debug and control.

It is fit for the occasions that the distance is not too far, wiring is complicated or hard to do. It needs to use together with wireless communication module S-BOX.

Note:

- (1) wireless RF data module S-BOX worked based on 433MHz carrier frequency, the serial port parameters are 19200bps, 8 data bits, 1 stop bit, even parity, the parameters cannot be changed.
- (2) S-BOX can be equipped with mobile antenna to enhance the wireless communication ability.

2-1 One master one slave communication

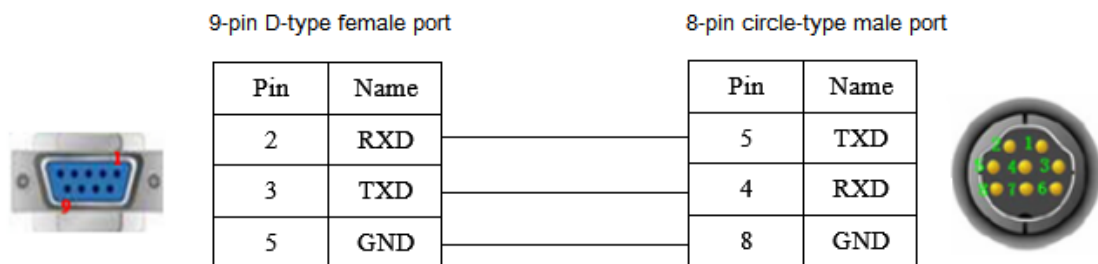
This application will make the wireless communication between MTG765-UT and XC3 series PLC.

The devices in the network: MTG765-UT, S-BOX-T, XC3-32T-E, DVP cable.

2-1-1. Connection

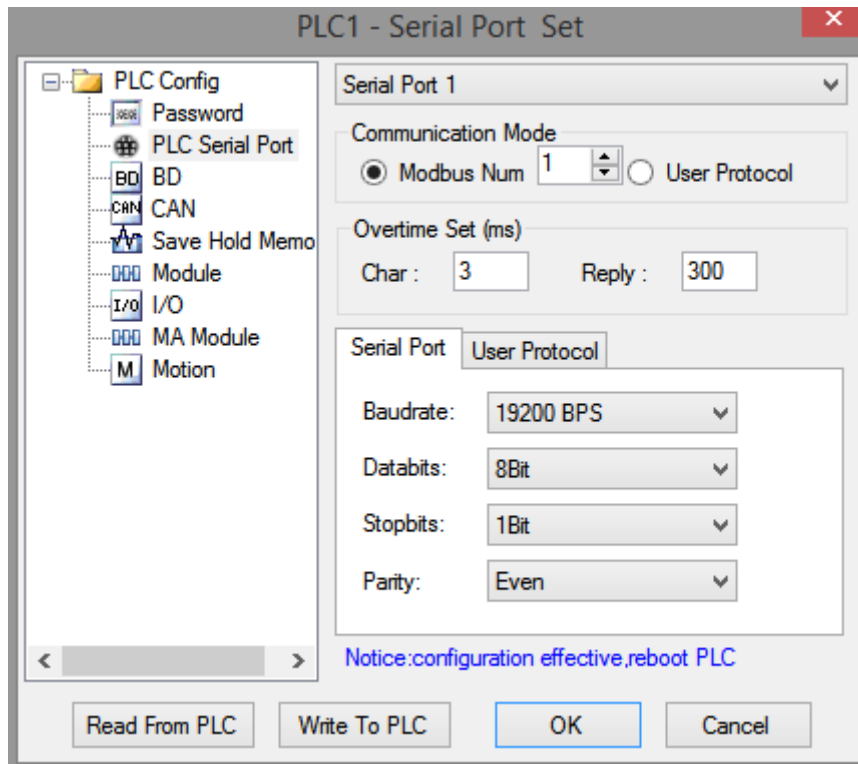
S-BOX-T needs to connect DC24V power supply, and connect to PLC com1 port via DVP cable.

The DVP cable diagram is shown as below:

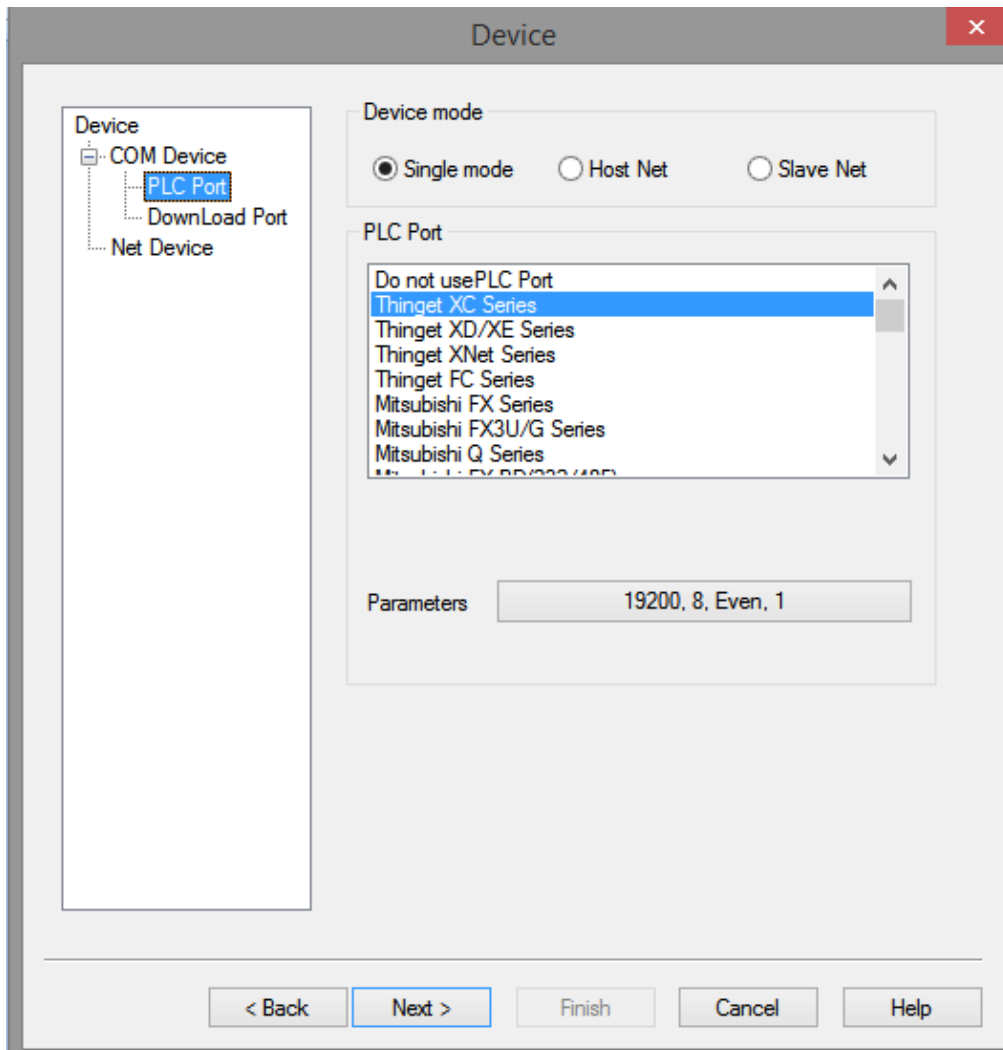


It needs to meet the following requirements when the MTG765-UT communicates with XC3 series PLC through S-BOX-T: same wireless communication channel, same wireless baud rate, same communication parameters of MTG765-UT PLC port and PLC port 1 and must be 19200bps, 8, 1, E which cannot be changed.

1. Set the serial port parameters to 19200, 8, 1, E



PLC serial port 1 settings



MTG765-UT PLC port settings

2. Set the same transferring speed for the devices in the network

Set the speed to 115200bps, set off all the DIP switch at the back of MTG765-UT and S-BOX-T.



MTG765-UT



S-BOX-T

3. Set the same communication channel for the devices

We select channel 0 for MTG765-UT and S-BOX-T. Turn the channel button to 0 for all the devices.



MTG765-UT



S-BOX-T

4. The networking is completed

Edit the HMI program and download.

2-2 One master multi slave applications

Application: MTG765-UT monitors two XD3 series PLC through left expansion board S-BOX-T-ED.

The devices in the network: 1 MTG765-UT, 2 S-BOX-T-ED, 2 XD3-16R.

2-2-1 Connection

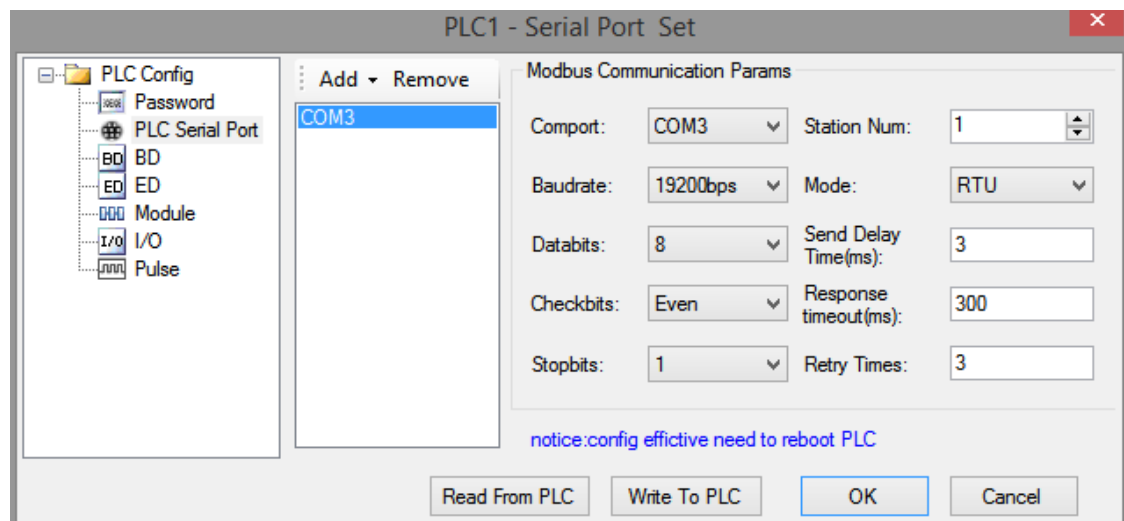
Connect DC24V power supply to S-BOX-T-ED, connect the extension cable of S-BOX-T-ED to the XD3 PLC.



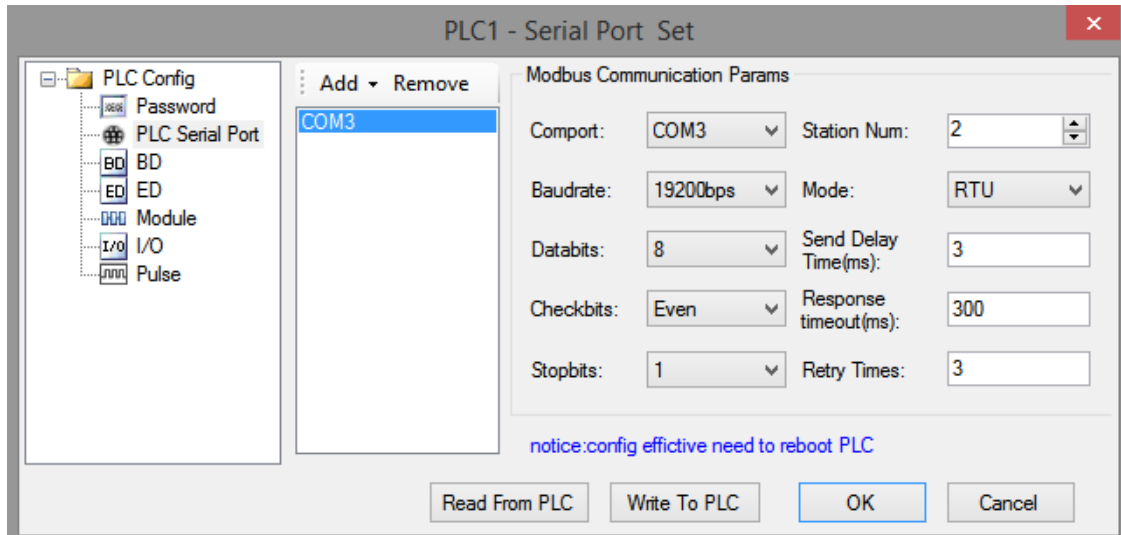
2-1-2 Parameter setting

It needs to meet the following requirements when the MTG765-UT wireless monitors the XD3 series PLC through S-BOX-T-ED: same wireless communication channel, same wireless baud rate, same communication parameters of MTG765-UT PLC port and PLC port 3 and must be 19200bps, 8, 1, E which cannot be changed.

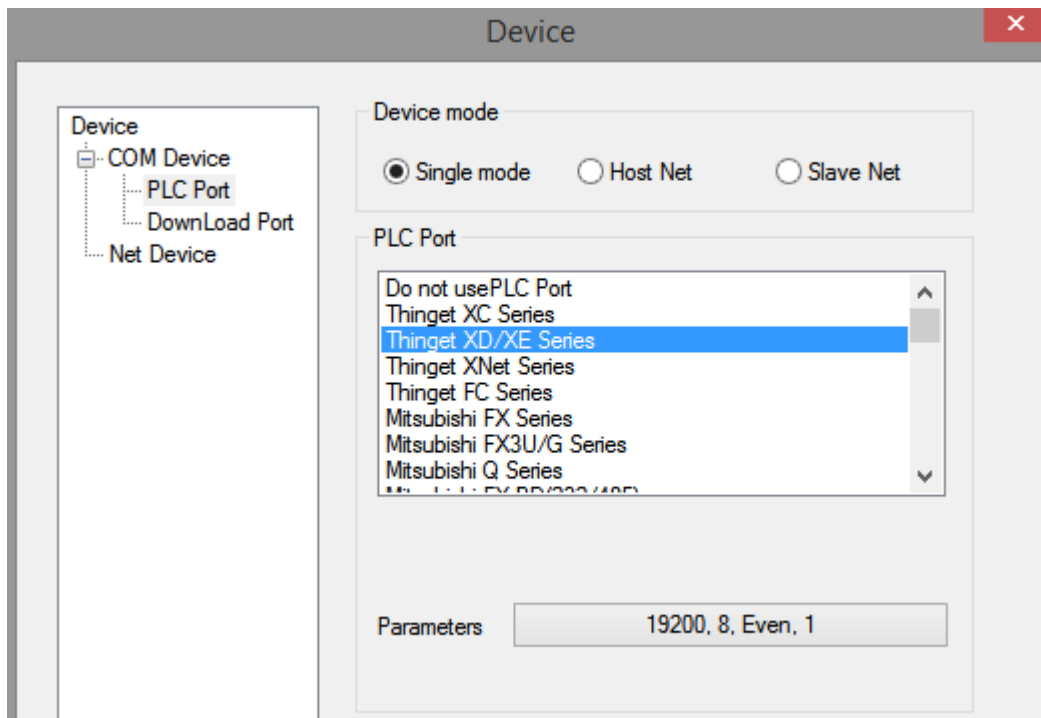
1. Set the PLC serial port parameters to 19200, 8, 1, E. The station no. of the two PLC is 1 and 2.



PLC station no.1 settings



PLC station no.2 settings



MTG765-UT PLC port settings

2. Set the same transferring speed for the devices

Set the speed to 115200bps, set off all the DIP switch at the back of MTG765-UT and S-BOX-T-ED.



MTG765-UT



S-BOX-T

3. Set the same communication channel for the devices

We select channel 0 for MTG765-UT and S-BOX-T-ED. Turn the channel button to 0 for all the devices.



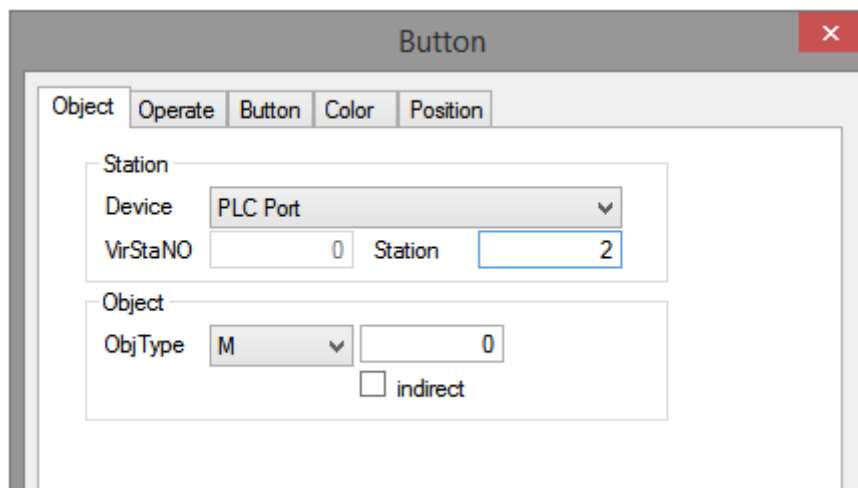
MTG765-UT



S-BOX-T-ED

4. The networking is completed

Edit the HMI program and download in the HMI. The object station no. in the HMI program is the PLC station no.



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