The use manual of ODOT-S7PPI&MPI V2.0

SIEMENS SIMATIC® S7 Series PLC Ethernet Communication Processor

The use of manual



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The product function described in this document is based on product firmware version V8.1.3.3.

1.ODOT-S7*PI's application

1.1 Product model

ODOT-S7*PI product has two models:ODOT-S7PPI and ODOT-S7MPI, and they are known as ODOT-S7*PI or ODOT-S7*PI module collectively.

- ODOT-S7PPI: is used for the Ethernet communication of SIEMENS SIMATIC S7-200 PLC (contain two types :CN and imported); and according to the type of the X2 extended interface, it has two models: "Straight" and "Bridge".
- ODOT-S7MPI: is used for the Ethernet communication of SIEMENS SIMATIC S7 PLC (contain S7-200、S7-300、S7-400); It has only one model:"Straight".

ODOT-S7*PI can also be used for the Ethernet communication of SIMENS SINUMERIK cnc system, and the controller of the system is SIMATIC S7 controller.

About order information ,see: Ordering information .

1.2 Functions and applications

ODOT-S7*PI product has powerful communication function, additional software support and wide application range, and it has been checked in the projects of numerous customer.

1.2.1 Equipment information

At persent, manufacturing enterprise management towards integrated information-based direction development, and if you want to realize the production management in the workshop level, you need to build the equipment information network firstly, also can be called the networking equipment. For most enterprises, they usually require: 1. Networking equipment can't affect the existing operation of the production; 2. The transformation of the existing equipment is less; 3. The duration of the networking equipment is short; 4. The network communication is stable, and easy to maintain; 5. It has very little investment; 6. The system is open and extensible.

The function of ODOT-S7*PI product can fully meet the above requirements ,and ODOT-S7*PI of SiChuan LingDian has finished many enterprises' spinning workshop production management system of cotton textile industry, and in these sysytems, there are hundreds of ODOT-S7*PI module in charge of 24 hours real-time collecting the equipment's data and transmiting it reliably and high-speedly to the server for recording and analysising in the production management information center.

1.2.2 S7 series PLC's programming and debugging

We provide Siemens's programming driver, and it will be integrated in the Siemens PG/PC interface after been installed, including NetS7PD (PPI), NetS7PD(MPI) and NetS7PD (PROFIBUS), so the ODOT-S7*PI can also be used as Ethernet's programming tool for S7 series PLC.

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About programming debugging, see: <u>Rapid start of application</u> <u>driven's programming</u>.

1.2.3 The automation projects of using Ethernet communication

Ethernet communication has many advantages compared to RS485, ODOT-S7*PI product support to communicate with almost all of the SCADA software and the man-machine interface in industrial control field, and up to 32 Ethernet connections of TCP client.

About SCADA and HMI's communication, see: <u>SCADA and the man-machine equipment's</u> communication

1.2.4 Communicating with S7PLC through ModbusTCP

ODOT-S7*PI project has integrated ModbusTCP server, Modbus register address is automatically mapped to the corresponding data area of the S7 series of PLC, and support to collect the data of PLC for multiple clients through ModbusTCP.

About ModbusTCP's communication, see: ModbusTCP's communication.

2.Hardware and interface

2.1 hardware and interface diagram



2.2 installation

The ODOT-S7*PI module is mounted directly on the communication port of plc.

2.3 interface description

ODOT-S7*PI has four interfaces:DB9 communication common port X1 $_{\circ}$ DB9 communication master port X2 $_{\circ}$ RJ45 communication port X3 and the external power supply terminal X4.

S7 bus interface X1

X1 interface is DB9 common port, and can be directly inserted into the communication port(PPI port MPI port or PROFIBUS port) of PLC of S7 series. The definition of the communication port's pin is consistent with the PLC, and the 3 pin is RS485's B line, the 8 pin is RS485's A line and the 5 pin is the logic. The 7 pin is 24VDC power's positive of PLC, and the 2 pin is 24VDC power's negative of PLC. The 2/7 pin's 24VDC power is the default power supply input for ODOT-S7*PI. The X1 interface supports multiper band rate, include: 9.6K, 19.2K, 45.45K, 93.75K, 187.5K, 500K and 1.5Mbps.

Extended S7 bus interface X2

X2 interface is DB9 master port, and it is different in the "straight" and "bridge":

- In the "straight", it is connected with X1 interface, and its interface definition is consistent with X1 interface, and it is used to connect the communication equipment(such as Siemens touch screen, CP5611 communication card) of Siemens company.
- In the "bridge", it is isolated with X1 interface, and only 3 pin, 5 pin and 8 pin of interface definition are effective, and it is used to connect the communication equipment (such as MCGS, eView touch screen) of `non Siemens company, and its supported baud rate includes 9.6k, 19.2k and 187.5k.

Ethernet port communication X3

Ethernet communication standard RJ45 port follows the Ethernet wiring standard.1 pin is TX+,2 Pin is TX-,3 pin is RX+ and 6 pin is RX-.It has a yellow link lamp and a orange active lamp.It supports 10/100M baud rate adaptive and line sequence(cross T568A/direct T568B)adaptive.The definition of the line sequence is:

Ethernet Cables

RJ45 Pin	Color	Function (100Mbit)	Function (1Gbit)	RJ45 pin for Straight cable (MDI, EIA/TIA568A)	RJ45 pin for Crossover cable (MDI-X, EIA/TIA568B)
1	Green	TX+ Data	Data A+	1	3
2	Green/White	TX- Data	Data A-	2	6
3	Orange	RX+ Data	Data B+	3	1
4	Blue	-	Data C+	4	4
5	Blue/White	-	Data C-	5	5
6	Orange/White	RX- Data	Data B-	6	2
7	Brown	-	Data D+	7	7
8	Brown/White	-	Data D-	8	8

The external 24VDC power supply terminal X4

X4 interface is ODOT-S7*PI's optional external 24VDC power input terminals.The power input's specification: 24VDC ±20%/100mA. If there is a power supply for PLC's communication port (usually does not need an external power supply). Please pay attention to the polarity mark when wiring, the terminal near the RJ45 interface is 24VDC positive input.

attention:

- At present, the hardware version of the ODOT-S7*PI does not support PLC's communication port and the external terminal's power supply at the same time, and long time dual power supply may damage the PLC's communication port!
- Ususlly,Siemens PLC's communication port has power of 24VDC supply; if ODOT-S7*PI has be inserted in the PLC's communication port, but the Pwr power indicator light doesn't light,you should pull of ODOT-S7*PI module from the PLC, and through the external power supply terminal X4 to separately access to 24VDC, if the Pwr lamp is not bright, the module has damaged, and the module needs to be repaired; if the Pwr lamp is bright, 24VDC power internal of PLC's communication port has damaged.

2.4 The description of indicator lamp

ODOT-S7*PI product has four LED indicators: the red Pwr power indicator and the green Bus bus indi cator located in the panel, the Yellow Link lamp and orange Active lamp located in the Ethernet X3 i nterface RJ45's socket .

The red Pwr power indicator lamp

Pwr indicator is used to indicate whether ODOT-S7*PI has power supply. Usually,the lamp should bright immediately after been inserted into the PLC's communication port. If Pwr lamp is not bright, you should pull down the module from the PLC, and through the external terminal to supply power, if Pwr lamp is still off, the module needs to be repaired.

operate Pwr lamp's status	meaning	Troubleshooting
---------------------------	---------	-----------------



Insert the	Always bright	Normal power supply	Trouble-free
ODOT-S7*PI into	Fation ish and an	Abnormal nower	Chaola the neuron
the PLC's	Extinguish, micro	Abhormai power	check the power
communication	light, flashing	supply	supply or take it to be
port			repaired

The green Bus indicator lamp

Bus indicating lamp is used to indicate the state of the S7 bus.Usually, after inserting the ODOT-S7*PI into the PLC's communication port, Bus lamp should be turned into continuous bright in a few seconds;Then, if there is data communication, Bus lamp will flashing alternately based on the communication frequency.

The implementation process of ODOT-S7*PI after having power supply: After the system is initialized, it will start detecting the baud rate of PLC's communication port automatically, When after locking the baud rate ,ODOT-S7*PI will check the S7 network whether there is the other equipment having the same station address, if there is, Bus lamp will flashing in 1HZ.If there is not the other equipment having the same station address on the network, Bus lamp will be continuous bright.If the baud rate can't be locked, Bus lamp will flashing two times in 1HZ, and ODOT-S7*PI will try to lock the baud rate again.

operate	Bus lamp's status	meaning	Troubleshooting
After ODOT-S7*PI having power	Continuous bright for a few seconds	The baud rate has been locked,the system is operating normally	Trouble-free
suppiy	Flashing in 1Hz	There is the same station address on S7 bus	Modifying ODOT's station address through Webpage or ODOT
	Flashing two times in 1Hz after interval seconds	Can't detect the baud rate	Checking the PLC's communication port, or consulting the Beichen's technology support
	extinct	System or indicator lamp has fault	Taking it to be repaired
In the process of communication	flashing	Representingthecommunicationresponse'sfrequency	Trouble-free

If Bus lamp is extinct for a long time, there is internal fault in the system, and it needs to be repaired.

The yellow Link indicating lamp of ethernet socket

The Link lamp is located above the RJ45 socket of Ethernet, and it is used to indicate the Ethernet's link has been established or not. The lamp will be continuous light after

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operate	Link lamp's status	meaning	Troubleshooting						
ODOT-S7*PI has electricity and	Continuous light immidiately	The network has been connected	Trouble-free						
Ethernet network	extinct	There is the failure of the system or the network	Checking the network connection of local and remote						

ODOT-S7*PI accesses the network.

The orange Active indicating lamp of ethernet socket

The Active lamp is located below the RJ45 socket of Ethernet, and it is used to indicate the Ethernet's data communication has been activated or not. If there is data communication, the Active lamp will flash.

operate	Active lamp's status	meaning	Troubleshooting
ODOT-S7*PI has electricity and connected to the	flashing	Thereisdatacommunicationwithremote device	Trouble-free
Ethernet network	extinct	There is not data communicaton	Trouble-free
	Continuous light(non fashing quickly)	There is failtue on the Ethernet part	taking it to be repaired

3. Rapid start of application

When you first get the ODOT-S7*PI products, you can according to the following steps to complete the preliminary test of products.

3.1 The start of ODOT-S7PPI's application

3.1.1 **Providing power supply** observeing the indicator light

Providing power supply to the Siemens S7-200CPU (such as CPU224CN), and inserting the ODOT-S7PPI into the CPU's DB9 communication port. ODOT-S7PPI's indicator light should be the correct state: the red Pwr lamp should be bright immediately, and the green Bus lamp should be turned into continuous bright in a few seconds.

The right status of the Indicator lamp indicates that ODOT-S7PPI has completed detecting the baud rate of the CPU's communication port (baud rate is locked) and has entered into the bus network of S7. We call this state is the ready state of ODOT-S7PPI. When ODOT-S7PPI enters the ready state, you can use the all communication of Ethernet port.

About the indicator light on the detailed description, See: <u>The description of indicator lamp</u>.

3.1.2 Connecting the computer, seeing the Web Webpage

The computer's network card is connected to the RJ45 port of ODOT-S7PPI with the Ethernet cable (cross or straight line), and we observe the Yellow Link indicator light of ODOT-S7PPI's RJ45 port (the light is located above the RJ45's socket), and it should be continuous light. If the Link light is continuous light, ODOT-S7PPI has established an Ethernet connection.

If the computer has started the wireless network card ,please disabling the wireless network card (sometimes, it will affect the cable card's communication).

The IP of the computer's local network card has been set to 192.168.1.100.As shown below:

3条内结义好此功能了则可以获 常需要从网络系统管理员处获得	取日动指微的 IP 设宜。否则, 适当的 IP 设置。
○ 自动获得 IP 地址 @)	
● 使用下面的 IP 地址 (⊆): -	
IP 地址(L):	192 .168 . 1 .100
子网掩码 (U):	255 .255 .255 . 0
默认网关 @):	
○ 自动获得 DWS 服务器地址((E)
●使用下面的 DNS 服务器地支	ut (E) :
首选 DNS 服务器 (P):	
备用 DNS 服务器(A):	· · ·

Running the Internet Explorer browser on the computer, and you should input: 192.168.1.188 (this is

the factory IP address of the ODOT-S7*PI)in the address bar, and input the account(admin) 、 the password(admin) and click login in, the browser should be able to display the internal Web Webpage of ODOT-S7PPI, As shown below:

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Web page is introduced in detail.See:4.1 <u>built-in Web page</u>.

3.1.3 MicroWIN's programming, debugging

MicroWIN's programming has two methods, one is using SIEMENS's own S7TCP's drive (MicroWIN's version requires above V4.0 SP6); two is using ODOT's programming drive(installing the STEP7's programming drive of ODOT-S7*PI(NetS7PD) from the product's CD).

1, Using SIEMENS's own S7TCP's drive

Running MIcroWIN software, you should click "set PG/PCinterface" in the left navigation bar, and select "TCP/IP-> card" in the interface dialog box, and click "OK" button, as shown below:

设置 PG/PC 接口	
访问路径 LLDP	
应用程序访问点():	
Micro/WIN> TCP/IP -> Intel (R) 82577LM Gigab 🗸
(Standard for Micro/WIN)	
为使用的接口分配参数 (P):	
TCP/IP -> Intel(R) 82577LM Gigab	属性 (B)
EPC/PPI cable (PPI)	诊断 (1)
TCP/IP -> Intel (R) 82577LM C	复制(Y)
TCP/IP (Auto) -> Intel (R) 825	删除 (L)
(Assigning Parameters to Your NDIS CPs with TCP/IP Protocol (RFC-1006))	
度口	
添加/删除:	选择 (<u>C</u>)
	取消 帮助

You should click "communication" in the left navigation bar, and click the button in the pop-up dialog box of communication, and input IP address of ODOT-S7*PI, as shown in the following figure:

通信				IP 地址浏览器			×
地址 主机: 远程: PLC 类型:	PengZhang	CCP/IP → Intel(R) 主机: PengZha	82577LM Gigab ing	以下 IP 地址已经 表中的IP地址条目 地址已供使用。	被输入您的系统 。您还可以修改	i。要选择需要使用 7此列表中的条目、	的IP地址,双击下 删除条目和增加新
厂 随项目保存设置				IP 地址 192.168.1.188	本地 這	程 说明	
网络参数						1	
接口:	TCP/IP -> Intel(R) 82577LM Gigab						>
协议:	ТСРИР			地址和 TSAP 属 IP 地址	* 本	地 远程	
连接超时				192 . 168 .	1 . 188	·	
输入接收数据超时时间。通 时数值。	信负荷大的连接可能需要较大的超			此地址的说明			
超时时间:	3 秒						保存
设置 PG/PC 接口		确认	取消			确认	取消

IP 地址浏览器					X
以下 IP 地址已经补 表中的IP地址条目。 地址已供使用。	波输入您的 。您还可以	系统。要 修改此列	选择需要使用的 表中的条目、删	IIP地址,j I除条目和:	双击下 增加新
4 TP thtt	木地	远程	道明		
192.168.1.188					
•					Þ
ー地址和 TSAP 属的 フ ^{IP} 地址	ŧ	本地	远程		
192 . 168 .	1 . 188				
					*
			3		~
册除地址 1				保存	
新地址			确认	Į Į	消

Double clicking the icon"double click refresh"to find PLC, as shown below:

通信		
地址 主机: 远程: PLC 类型:	PengZhang 192 . 168 . 1 . 188 CPU 224 CN REL 02.01	CPU 224 CN REL 02.01 State Sta
网络参数	TCP/P -> Intel(R) 82577LM Ginab	
协议:	тсрир	
─ 连接超时 ────────────────────────────────────	时间。通信负荷大的连接可能需要较大的超	
超时时间:	3 秒	
设置 PG/PC 接		确认 取消

Selecting the PLC you have searched, and clicking the button "confirm". attention:

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When using the S7TCP driver of Siemens, you need to pay attention to the settings of S7 interface parameter "ODOT S7TCP target PLC address"(default is 2), and usually the station address of PLC is 2 ;

If you can't find the PLC, and the Bus lamp of module is continuous light, then it is likely that the station address of PLC is not 2. You can see the actual station address of PLC from the home page's "the table of slave station address" of the inside Web of ODOT, and then modify parameter "the S7TCP target address of PLC ", and search PLC again.

If you use the STEP7 driven programming of module, you need not to pay attention to the parameter "the S7TCP target address of PLC", and the drive will search all the possible station of PLC automatically.

2、 Using the STEP7 driven programming of ODOT

According to the following steps to set:

¥4.0 STEP 7 MicroWIN S78 运行MicroWIN软件 ↓ ↓ 量 PG/PC接口)按 置 PG/PC接口]按 钮	
	Ket S7 (PPI) 没置 TCP/TP网络 的TT地址或规名: 192.168.1.168 192.168.1.168 S地建案 印約11地址或规名: 10000 室砂 5

地址 0 本地: 0 远程: 2 PLC 类型: CPU 224 CN REL 02.0* 厂随项目保存设置 网络参数 接口: NetS7 协议: PPI 模式: 11 位 最高站地址(HSA): 31	NetS7(PPI) 地址:0 PU 224 CN REL 02.01 地址:2 双击 刷新
网络参数 接口: NetS7 协议: PPI 項式: 11位 最高站地址(HSA): 31 31 31	
 「 支持多主站 传输速率 波特率 187.5 kbps 「 想先的活动转率 	
1 3至決別1日02付手 设置 PG/PC 接口	
[双击刷新],选择查找到的PLC,点击[确认]	
Ħ1 - [SIMATIC LAD]	
(2) 调试(2) 工具(2) 窗口(2) 帮助(2)	
	波特率 187.5 kbps □ 搜索所有波特率 设置 PG/PC 接口 [双击刷新],选择查找到的PLC,点击[确认] [目 - [SITATIC LAD] (如臣) 调试@) 工具① 窗口 ② 帮助 ③ (四) □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □

When we use MicroWIN to upload and download or monitoring program, the green Bus lamp of ODOT-S7PPI will flash, the orange Active lamp of RJ45 (the light located below the RJ45's socket) will flash quickly.

Selecting the appropriate drivers for MicroWIN

- When there is more than one ODOT-S7PPI in your network ,you should choose the S7TCP driver of Siemens, and input IP address of all the ODOT-S7PPI in the IP address book, you can find all of the PLC;
- 2) when using a ODOT-S7PPI to connect a plurality of S7-200PLC you want to use the ODOT drive, and you can also find all of the PLC

About programming driver Settings, See: <u>STEP7 MicroWIN driven's programming</u> .

3.2 The start of ODOT-S7MPI's application

3.2.1 Providing power supply, observeing the indicator light

Providing power supply to the Siemens S7-300/400CPU (such as CPU315-2DP) ,and inserting the ODOT-S7MPI into the CPU's DB9 communication port. ODOT-S7MPI's indicator light should be the correct state:the red Pwr lamp should be bright immediately,and the green Bus lamp should be turned into continuous bright in a few seconds.

The right status of the Indicator lamp indicates that ODOT-S7MPI has completed detecting the baud rate of the CPU's communication port (baud rate is locked) and has entered into the bus network of S7. We call this state is the ready state of ODOT-S7PPI. When ODOT-S7MPI enters the ready state, you can use the all communication of Ethernet port.

About the indicator light on the detailed description, See: <u>The description of indicator lamp</u>.

3.2.2 Connecting the computer, seeing the Web Webpage

The computer's network card is connected to the RJ45 port of ODOT-S7MPI with the Ethernet cable (cross or straight line), and we observe the Yellow Link indicator light of ODOT-S7MPI's RJ45 port (the light is located above the RJ45's socket), and it should be continuous light. If the Link light is continuous light, ODOT-S7MPI has established an Ethernet connection.

If the computer has started the wireless network card ,please disabling the wireless network card (sometimes, it will affect the cable card's communication).

The IP of the computer's local network card has been set to 192.168.1.100.As shown below:

internet 协议(ICP/IP)員	itt ? 🔀
常規	
如果网络支持此功能,则可以获取	双自动指派的 IP 设置。否则,
溶需安於內積水境自建贝如获得3	ean troat
○ 自动获得 IP 地址(0)	
●使用下面的 IP 地址(5):	
IP 地址(I):	192 .168 . 1 .100
子网掩码(U):	255 . 255 . 255 . 0
默认网关 (0):	
● 使用下面的 DMS 服务器地址	· (E):
首选 DNS 服务器 (P):	
备用 DNS 服务器(A):	
	高級(火)
	明正 取消

Running the Internet Explorer browser on the computer, and you should input: 192.168.1.188 (this is the factory IP address of the ODOT-S7*PI) in the address bar, and input the account(admin) 、 the password(admin) and click login in, the browser should be able to display the internal Web Webpage of ODOT-S7PPI, As shown below:

▲ 登入 × +			$\heartsuit - \Box \times$
く > C 企 🖯 Http://192.168.1.188/	👶 🖉 🗸 点此想	國家 C	
	l企业 👿 三菱FX S 下载中心- 參三菱plc_ ≫	: 👫 扩展 🗸 😵 网	银 ~ 🗛 翻译 ~ »
登录帐号: 登录密码:	默认帐号:admin 默认密码:admin		
	登录		
			41 0 1111
今日优选	[2] 快男類 (2) 白力暴家 (四) 热点资讯 (3)		()) (110% <u>"i</u>
▲ 工业以太网通讯处理器 × +			ΰ – Ο
く) C 企 • http://192.168.1.1/2	88/Login.cgi?act=admir 🍪 🔗 🖂	儿童手表首发直降100	۰ د 🖬 ۵
] 🫅 同行 捞 百度文库	: 🔡 扩展 🗸	😭 网银 🗸 🗛 翻译 🗸

工业以太网通讯处理器ODOT-S7MPI V2.0



Web page is introduced in detail.See:4.1 <u>built-in Web page</u>.

3.2.3 Setting the protocol model of ODOT-S7MPI

ODOT-S7MPI can work in the mode of PPI (the same as ODOT-S7PPI, used for S7-200), and it can also work in the mode of MPI or PROFIBUS(for S7-300/400),and the default settings of factory is http://www.odot.cn 17 /110 TEL:400-0024-485 the mode of MPI Master-Slave Station, and pay attention to "the mode of S7 communication's protocol" in the home page of web. If it is the mode of "PPI", clicking the "the parameters of Serial bus interface "on the left navigation bar, and set it to the mode of "MPI Master-Slave Station", and clicking the button of [confirmed]. As shown below:



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Attention: how to choose the mode of S7 communication's protocol:

When inserted in the PPI communication interface of S7-200: select PPI mode;

When inserted in the PPI communication interface of S7-200 (with reading and writing communication) or inserted on EM277: select the **MPI slave station mode**;

When inserted in the MPI communication interface of S7-300: select the **MPI master-slave station mode**;

When inserted in the PROFIBUS communication interface of S7-300: select **PROFIBUS mode**.

3.2.3 STEP7's programming, debugging

NetS7PD8801_setup_x86.exe
 NetS7PD8802_setup_x64.exe

of

Installing the STEP7's programming driver NETS7PD

ODOT-S7*PI from the product's CD ,and running the STEP7 software after installation. Tested according to the following steps:

ODOT-S7MPI之STEP7编程设置

SIMATIC Manager	software	9 SIMATIC Manaş 9 File Edit Ins □ ☞ ₽ ☞ 1 37300test	ger - [s7300test ert PLC View	C:\Program Files (x86)\Siemens\Ste Options Window Help Customize Access Protection CAx Data Set PG/PC Interface
Attention: if ODOT-S7MPI Modul inserted in PROFIBU interface, need to choose NetS7PD (PROFIBUS)	(2置 PG/PC 接口 (2回 PG/PC 接口 (2回 道路 2 1128 / 2021 (2回 道路 2 1128 / 2021 (2回 2 115年 2 125 / 2021 (2回 2 115年 2 125 / 2021 (2回 2 115 / 2021	PRD 通配器 Info 7)> #+C7P0 0021) (?):		■性 - Net57PD(MP() ● 決定置 122/2019頃 ● 決定型 1001 100 「122 100 1.100 日本記録 現日号 (型込いの2): 102 ● 洗品野 (型形): 10000 ● 読ん語 (型形): 10000
2	地网络中的设备 <u>试备名称 序列F</u> 0007-57#FI 00285 注:1. 请禁用 <u>计算机的</u> ; 2. 如果设备和计算 	・ ・	0FM标记 57协议 FFI主从站 时设备。 适IFI按钮,设置成网—F 设置IF	工产地址 工产地址 00:42:43:100:77:71 192:158:1:188 可投后才可以通讯。 运行诊断 重新查找



When you use the STEP7 to upload or download, monitor program, the green Bus lamp of ODOT-S7MPI will flashing, the orange Active lamp of RJ45 (the lamp located below the socket of RJ45) will flash quickly.

About programming driver Settings ,See:<u>STEP7、MicroWIN driven's programming</u>。

4. Product's related software

ODOT-S7*PI's related software:

Built-in Web page: the configuration and diagnostics of the basic parameters;

NetDevice software: the configuration and diagnostics of the comprehensive parameter;

NetS7PD's driven programming: ODOT-S7*PI's driven programming of STEP7、 MicroWIN;

Among them, NetDevice software can be installed together through the product's CD\software installation\SETUP.EXE . NetS7PD can be installed through the product's CD\STEP's driven programming.

4.1 Built-in Web page

ODOT-S7*PI product is built in the simple Web page, for the configuration and diagnostics of the basic parameters. When the computer connects to ODOT-S7*PI through the ethernet, you can input IP address of ODOT-S7*PI in the IE browser to view the built-in Web page.

4.1.1 The home page

The default displayed page is the home page, as shown below:



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The basic information of the device: Preset from the factory; the default identification of OEM is "----", can also be specified by the customer when ordering.

The parameters of serial bus's interface: Show the current setting parameters of the S7bus's interface.

The state of S7 bus's interface: Including the current S7 bus's protocol mode of ODOT-S7*PI, the S7 bus's state, the address table of master and slave and the state of automatic baud rate.

Ethernet interface's parameters: Show the current setting of the Ethernet interface's parameters.

4.1.2 The parameters of serial bus's interface

setting parameters of the serial bus 's interface of ODOT-S7*PI, as shown below:

	以太网通讯处理器 × +		
< >	C 🛆 😌 http://192.168.1.188	3/Login.cgi?act=a	dmir 🍪 🔗 💛 招式简单粗暴称霸全服 🛛 🔍 🔲 🕤 👻 🗮
〉 🛕 收藏 🗸 🙁 ī	互度 🔁 网址大全 💁 Process 📄 业务公司 [🖿 同行 🙁 百度文库	: 🚼 扩展 🗸 😢 网银 🗸 📶 翻译 🧹 🚿
		T W U + x	M通讯处理哭ODOT-S7MPI V2 0
	-		
	串行总线接口参数		
首页	基本设置:		
串行总线接口参数	修改以下各项参数,点击I确认I按钮后;	设备将重启。	
以太阿接口参数			1115 K
通识涂晰	设置	_	
10 NG 13 BU	模块站地址: •		范围: 0-126, 默认为0。
固件升级	57总线最高站地址: 31		氾围: 10-126, 默认为31。 共国: 2.2 周光出来。
	站息进讯里讯/X数1 3		泡围: U-8, 默认为3。
	地址间隔刷新系数: 10		范围: 1-100,默认为10。
	S7通讯协议模式: MPI主	人站 🗸	S7总线通讯协议模式的选择,本模块支持PPI,MPI,Profibus DP等协议。
	S7总线波特率自动检测:开启、	•	支持对S7总线波特的自动检测,也可关闭后手动选择S7总线通 讯波特率。
	扩展总线接口波特率自动检测: <mark>开启、</mark>	•	支持扩展总线接口的波特率自动检测,仅当桥接型时设置有 效。扩展接口可连接HMI触摸屏等设备。可关闭后手动选择扩展 口波特率。
	高级设置:		
		74.	描述
	 S7总线-->波特率: 19200	•	S7总线波特率选择,可选9600、19200、187500等波特率。
	扩展总线(HMI端)>波特率: 19200	•	扩展总线的波特率选择,可选9600、19200、187500波特率。
		确认	

Click on the confirmation, module will restart

Module station address: ODOT-S7*PI's default station address is 0. This address can not be as the same as the station address of other equipment of S7 bus,must be unique. According to the default definition of Siemens, the address of programming device PG/PC is 0; the address of touch screen TP/OP is 1; the default address of CPU is from 2 onwards.

S7 bus's highest station address: Specifying the possible highest station address of S7 bus, and the default address is 31; ODOT-S7*PI will search the PLC equipment on the network according to the parameters.

Site communication's retry count: the retry count of ODOT-S7*PI when the error occurs on communication, and the default is 3.

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The coefficient of address's interval refresh : the coefficient affects the speed of ODOT-S7*PI searching the other equipment, and the default is 10.

the mode of S7 communication's protocol: protocol mode:

When inserted in the PPI communication interface of S7-200: select PPI mode;

When inserted in the PPI communication interface of S7-200 (with reading and writing communication) or inserted on EM277: select the **MPI slave station mode**;

When inserted in the MPI communication interface of S7-300/400: select the **MPI master-slave** station mode;

When inserted in the PROFIBUS communication interface of S7-300/400: select **PROFIBUS mode**.

S7 bus baud rate detection automatically: The default for "open".in "open" state no need to set S7 bus--> baud rate, will automatically identify the PLC communication port baud rate.

Expand bus interface baud rate of automatic detection: the default for [open], in [open] state without setting the expansion bus (HMI)-->baud rate, will automatically identify the HMI communication port baud rate, this parameter is meaningful only for the bridge type module.

Advanced Settings:

S7 bus--> baud rate:only while [S7 bus baud rate detection automatically] status is [close], according to the connection of the PLC communication port baud rate, to set the parameters manually.

Expand bus (HMI)-->baud rate: only while [Expand bus interface baud rate of automatic detection] status is [close], according to the connection of the HMI communication port baud rate, to set the parameters manually. this parameter is meaningful only for the bridge type module.

When you have changed the above parameters, please click [confirmed] button, the ODOT-S7*PI will be reset and restarted. Please refresh the home page in the address bar and view the settings of S7 interface's parameter is valid.

4.1.3 The parameters of Ethernet's interface

Setting ODOT-S7*PI's parameters of Ethernet's interface, as shown below:

	大网通讯处理器 × +	♡ – □ ×
\sim $<$ $>$ $<$	🕈 🏠 📴 http://192.168.1.188/Login.cgi?act=admin8	apwc 🏶 🖉 🗸 招式简单粗暴称霸全服 🛛 🔍 🔲 🈏 🕌
D 🍐 收藏 🗸 😤 百月	토 😧 网址大全 🚾 Process 📄 业务公司 🛅 同行 🐇 百度文库	: 🔓 扩展 🗸 😵 网银 🗸 🗛 翻译 🗸 🚿
	エルロー	大网通讯处理哭ODOT-S7MPI V2 0
	二	
	以太网接口参数	
首页	基本设置:	
串行总线接口参数	修改以下各项参数,点击[确认]按钮后设备将重启。	
以太网接口参数	N - 199	- I
NS 171 1A Mr.	设置	描述
週代诊断	IP地址: 192 . 168 . 1 . 188	本地IP地址,默认为192.168.1.188
固件升级	掩码: 255 . 255 . 255 . 0	掩码地址,默认为255.255.255.0。
	网关: 192 . 168 . 1 . 1	网关地址,默认为192.168.1.1。
	S7TCP默认目标PLC地址: 2	指定S7TCP通讯的PLC地址,如WINCC的TCP/IP通道,默认为2。
	通讯目标PLC地址由槽号决定: 关闭 ━	开启后,S7TCP的目标PLC地址,由槽号决定,适用于S7300, S7400的S7TCP诵讯。
	高级设置:	
	设置	描述
	S7TCP服务器端口号: 102	
	ModbusTCP端口号: 502	ModbusTCP通讯端口号,默认为502。
	S7开放协议端口号: 1099	S7开放协议端口号,固定为1099。
		登入密码修改,登入帐号为: admin。
		登入密码修改确认,登入帐号为: admin。

Setting the IP address, subnet mask and gateway settings (the router's address);

the destination PLC's address of S7TCP: The default is 2.When configuration software(kingview, WINCC) communication with PLC by the S7TCP Drive, this parameter must consistent with PLC station address.

PLC communication target address is determined by the slot number: The default is [close]. Namely,[the destination PLC's address of S7TCP]parameter is effective.if this parameter is [open], the destination PLC's address of S7TCP is determined by the slot number.

Advanced Settings:

S7TCP Server port: The default is 102.

ModbusTCP port: The default is 502.

Warning!

It is forbidden to enter illegal IP address like 0.0.0.0, or ODOT-S7*PI's Ethernet port will failure!

When you have changed the above parameters, please click [confirmed] button, the ODOT-S7*PI will be reset and restarted. Please come back to the address bar and input a new IP address to refresh the home page and view the settings of parameters of Ethernet's interface are valid.

4.1.4 Communication's diagnosis

Providing the basic information of diagnostic As shown below:

```
http://www.odot.cn
```



S7Bus -->the total number of communication's request: All number of communication's request sent to PLC;

The times of correct response: the number of correct response in response to PLC;

The times of error response: the number of incorrect response sent from PLC;

Note: for S7-300/400's communication, a communication request may result in multiple correct response. Therefore the times of correct response and the times of error response will be greater than the total number of requests.

Expand bus-->the total number of communication's request: All number of communication's request HMI send to module;

The times of correct response: the number of correct response in response to module;

The times of error response: the number of incorrect response sent from module;

The total number of Ethernet's communication connection: All connection's number of Ethernet's client;

Ethernet TCP connections: all EtherNet client connections.

running time: the operation running time, after power on.

The last time of the internal fault: the failure of system of ODOT-S7*PI, should not generate fault under normal conditions;

4.2 **NetDevice software**

NetDevice software is the configuration software of the equipment's parameter of ODOT-S7*PI. Features include: equipment's searching, parameter's configuring, operation's diagnosing and ODOTS7 protocol's testing; the following chart:

💱 Net模块配置和	诊断工具	NetDevice V8.0.	1.2						
本地连接 192.16	8.1.50	• Q 搜索设	潘 📝 设置	iptste 🔅	修改设备参数	🔗 设备运行诊断	2 设备配置主页	🝌 通讯测试	
设备名称	序列号	出厂日期	固件版本	OEM标识	协议品牌	MAC地址	IP地址	子网掩码	网关
ODOT-S7MPI V2.0	32623	2018.01.29	8, 1, 3, 3		西门子S7系列	00:42:43:00:7F:6F	192, 168, 1, 188	255, 255, 255, 0	192, 168, 1, 1

Before Search equipment, you should select the network interface.

If the computer and the module is through the wiring, please select "local connection";

If the computer and the module is through a wireless connection, please select "wireless network connection".

[Search equipment]: Click Q (g button, can display all the ODOT - S7MPI module on the network, we can see some basic information module, including: serial number, production date, firmware version, IP address, subnet mask, gateway and other information.

[Set IP address]: When the ODOT has been searched is not in the same subnet with the computer, you

need to set its IP to the same subnet with the computer firstly. Click Settings button, Modify the parameters of "IP address", "subnet mask", "gateway", Change is completed, click "Settings" button to save the parameters.

😤 Net模块配置和	口诊断工具NetDevi	ce V8.0.1.2				
本地连接 192.1	68.1.50 - 🖸	捜索设备	2设置IP地址		修改设备参数	🔗 设备运
设备名称 1	序列号 出厂日	期 固件版 3	本 OEM核	识	协议品牌	MAC地址
ODOT-S7MPI V2.0) 32625 201 <mark>8</mark> .0	1.29 8.1.3.3	;		西门子S7系列	00:42:43:0
	 没置iP地址 产品序列号: IF设置 IF地址: 子网境码: M关地址: 	1921、168 、 1 255 、255 、255 192 、168 、 1 设置	32625 .188 .0 .1			

[Modify device's parameters]:

Click button, Setting the working's parameters, including the parameters of S7 bus's interface, the parameters of Ethernet's interface, Modbus TCP address mapping table, as shown in the following figure:

http://www.odot.cn

Net-S7参数配置		A REAL PROPERTY.		
Net模块IP地址: 192.168.1.188	3		上载参数	
Net欄架IP地址: 192.168.1.188 S7.& <u>以枝口参数配置</u> 以太 阿枝口参数配置 Modbus映射表 数据交换	5 57总线接口 扩展总线接口 模块站地址: 57总线最高站地址: 站点通讯重试次数: 地址间隔刷新次数: 57总线通讯协议模式: 57总线通讯波特率:	0 金 31 金 3 金 10 金 MPI主从站 V 自动识别 V	上载参救	
	设置模块的57总线通讯接	口的参数。		

attention: the interface of data exchange is invalid.

The parameters of **S7 bus's interface**, the parameters of **Ethernet's interface** and the parameters of the built-in Web page of ODOT-S7*PI are the same, See: <u>Built-in Web page</u>.

Modbus TCP address mapping table: Built into the default address mapping table, mapping rules for all region (0 ~ 65535) : It is recommended to use the default address mapping table.

Net-S7参数配置		· BArran Inner11	BENALE-E-
Net模块IP地址: 192.168.1.188	3		上载参数
	新建映	射块 编辑映射块 删除映射块 <mark>默认</mark> 翻	配置 映射地址查询 自动分配映射地址(推荐)
以太网接口参数配置	ID	Modbus数据区	STPLC数据区
Modbus映射表	0	Coil:0~65535	S7:Q0.0~8191.7
数据交换	1	InputCoil:0~65535	S7:10.0 [~] 8191.7
	2	InputRegsiter:0~65535	S7: MW0~131070
	3	HoldingRegsiter:0~65535	S7: DB1. DBW0~131070

[the diagnosis of equipment's operation]: Providing the detailed diagnostic's information of operation, as shown in the following figure:

10:00
)0:00 : 故 陵
)0:00 :故障
动陵
お随
APR
FFFE
18 19

[the configuration page of device]: Click ^{企會配置主页} button,Calling the IE browser to display the built-in Web page of ODOT-S7*PI.

[the communication test of ODOTS7]: Click 通訊测试 button the dialog box used to test the ODOTS7's protocol.具体请见 ODOTS7 协议规范。

4.3 NETS7PD driven programming

NETS7PD is the driven programming of ODOT-S7*PI, detailed instructions see: <u>STEP7</u>, <u>MicroWIN driven's programming</u>.

5.STEP7、 MicroWIN driven's programming

5.1 NETS7PD's Installing and uninstalling

5.1.1 Application conditions

If you want to use the NETS7PD driver, the computer must install the SIEMENS's STEP7 software or MicroWIN software firstly, the icon of "set PG/PC interface" should be exist in the control panel, as shown below:



5.1.2 Install

NETS7PD (NETS7PD64 is 64 bit's driver) can be installed in the file of "product's CD\STEP7's driven programming", and it will pop-up a dialog box after the success of the installation , as shown in the following figure:

2	InstallShield Wizard 完成
0	InstallShield Wizard 成功地安装了 NetS <i>T</i> PD 180 I编程驱动 _x86 。 请重启电脑后,使用BCNetS7编程驱动。

It will appear three communication path: NetS7 (PPI), NetS7 (MPI) and NetS7(PROFIBUS) in the "set PG/PC interface" after the installation is complete . The following diagram:

设置 PG/PC 接口	x
访问路径 LLDP / DCP PNIO 适配器 Info	
应用程序访问点 (A):	
STONLINE (STEP 7)> NetSTPD (MPI)	
(STEP 7 的标准设置)	
为使用的接口分配参数 (2):	.
NetS7PD (MPI) 属性 (R)	
🕎 NetS7PD (MPI) 🕢 诊断(D)	
WetS7PD (PPI)	
Q NetS7PD (PROFIBUS)	
(NetS7PD (MPT))	
按口	
132日 (法中国)(四期令), (注4-12-(四))	
2%/加加加水・	
确定 取消 帮助	տ

5.1.3 uninstall

You can uninstall NETS7PD in the "add or remove programs" in the control panel, and select "NETS7PD" and click the "Y" button, It will deleted successfully ,as shown below:

	A AND THE R		- • ×
중 → ▼ • 控制面板 • 档	診 ▶ 程序和功能	- 49	搜索程序 🔎
文件(F) 編輯(E) 查看(V) 工具	』(T) 帮助(H)		
控制面板主页 查看已安装的更新 17开或关闭 Windows Diff	卸载或更改程序 若要卸载程序,请从列表中将其选中,然后单击"卸载"、"更改";	成"修复"。	
1111-107-03 millions -385	组织 ▼ 卸載 更改 修复		= • 🔞
	名称	安装时间	发布者
	🔁 TeamViewer 13	2018/4/8	TeamViewer E
	得NetS7PD1801编程驱动_x86	2018/3/21	
	2 程序和功能	2018/3/14 2018/3/14	Adobe Syste Adobe Syste
	确实要卸载 NetS7PD1801编程驱动_x86 吗? remove driver	2018/3/13 2018/3/9	PROFIBUS 8 360安全中心
		2018/3/6 2018/2/27 2018/2/24	Alipay.com (

5.2 The operating environment of NETS7PD

The operating environment of NETS7PD driver is Windows2000,WindowsXP and 32, 64 mode of Win7. In the environment of Win7's 64 bit,you should install NETS7PD64Setup1400.exe (you need have administrator's privileges to install).

The NETS7PD driver supports all software that can access to Siemens's PG/PC interface, such as:

- STEP7 V5.3~5.5,STEP7 V11 is not supported;
- MicroWIN V4.0 SP3~SP9
- WINCC V5、V6、V7

5.3 NETS7PD's settings

Double clicking "setting PG/PC interface" in the control panel, and selecting "the application's access point" in the dialog box , as shown below:

设置 PG/PC 接口	×
访问路径 LLDP / DCP PNIO 适配器 Inf 应用程序访问点(A): STONLINE (STEP 7)> NetS	• 7PD (MPI)
(STEP 7 的标准设置) 为使用的接口分配参数(P): NetSTPD(MPI)	属性 (ß)
WetS7PD (MPI)	诊断 (0) 夏制 (1) 刪除 ℂ)
(NetSTPD (MFI))	
接口 添加/删除:	选择 (0)
确定	取消 帮助

Note:

You can also enter into the "setting the PG/PC interface" in MicroWIN software or STEP7 software, the difference is that "the application's access point" will be fixed for MicroWIN or S7ONLINE (STEP7), is not allowed to modify.

Among them, MicroWIN, MPI (WINCC), S7ONLINE (STEP7) represents the different application respectively. And then in the "distributing the parameters of using interface", you can select NetS7 (PPI), NetS7 (MPI) or NetS7(PROFIBUS). For MicroWIN's programming, you should choose NetS7 (PPI);For WINCC or S7ONLINE (STEP7), you should choose NetS7 (MPI) or NetS7(PROFIBUS), depending on the communication port of S7-300/400PLC that ODOT-S7*PI inserted into: if ODOT-S7*PI is inserted into the communication port of MPI, you need to choose NetS7 (MPI); if it is inserted into the communication port of PROFIBUS, you need to choose NetS7(PROFIBUS).

Clicking the [attribute] button on the right side after you choice a good access point, it will pop-up a dialog box, as shown in the following figure:

属性 - NetS7PD(MPI)	属性 - NetS7PD(MPI)
通讯设置 TCP/IP网络	通讯设置 TCP/IP网络
_通讯参数	· 快速确认
模块的IP地址:	✓ 快速确认
192. 168. 1. 188	快速确认仅用于当同时通讯的SIMATIC S7 连接数小于16个的场合。
The local search 查找本地的模块 STTCF通讯端口号(默认102): communication port 通讯超时(褒秒): 10000 Communication timeout	
	确定 取消 Wersion

The IP address or domain name of module: entering in the IP address of module domain name or the IP address of remote communication router or domain name.

[The local search]: Clicked to search for the module on the local network.

Communication timeout: Setting the parameter of Ethernet's communication timeout of driven, the default is 10000 milliseconds; if the network is not good or module is connected through the Internet remote, please set it larger, such as 30000 milliseconds.

Rapid confirmation : The default is been ticked, and it can accelerate the speed of PLC's communication, if the number of module's ethernet connection is not more than 16, you need ensure it is ticked.

[version]: Viewing the latest version and using the document.

It will pop-up a dialog box after Clicking the [the local search] button , as shown in the following figure:

本地网络中的设备	
	牛版本 OEM标识 S7协议 MAC地址 IP地址
0D0T-S7MPI 032622 2018-01-29 8.1	.3.3 MPI主从站 OO:42:43:OO:7F:6E 192.168.1.188
	的关于五的几岁
注:1. 请奈用计算机的无线网下,占则可能; 2. 如果设备和计算机不在同一网段请先;	g系不到设置。 复击[设置IP]按钮,设置成同一网段后才可以通讯。
Choice deviceSet parame 选择设备 设置参数	ters set IP Operation diagnosis research 设置IP 运行诊断 重新查找

[choice device]: Selecting a device you have searched, the IP address will be entered in"ODOT IP address or domain name" of [attribute] dialog box automatically.

[set parameters]: Setting the parameters of module , and the parameters and the inparameters of built-in Web page are the same, detailed instructionssee: <u>Built-in Web page</u> 。

[set IP]: When the module and the computer are not in the same subnet, you need set them to the http://www.odot.cn 32 /110 TEL:400-0024-485

same segment firstly by[setting IP], then it can be used to data communication.

[Operation diagnosis]: running a diagnostic on module

[research]: searching the device of module

Clicking the [Operation diagnosis] button can make a diagnosis to the current access point corresponding to the module, as shown in the following figure:

运行诊断 - IP=192.168.1.1	188
┌─S7总线接口信息	
S7协议模式:	MPI从站
S7总线状态:	运行
自动波特率检测:	完成
当前波特率:	187500 bps
主站地址表:	0 2
从站地址表:	
总的请求次数:	0
正确响应次数:	0
错误响应次数:	0
- 以太网客户端统计 S7 TCP: NetS7: ModbusTCP:	
┌系统运行信息────	
设备运行时间:	0天00:00
内部故障代码:	无故障
	关闭

6.SCADA and the man-machine equipment's communication

ODOT-S7*PI supports most SCADA software (PC monitorconfiguration software) in the industrial area, the man-machine device can communicate with S7 series PLC by ODOT-S7*PI.

The driver connection of configuration software communicates with ODOT-S7*PI includs:

- Through the driver of Siemens PG/PC interface NetS7 (PPI/MPI/PROFIBUS);
- Through theS7TCP channel of Siemens;
- Through SIMATIC NET or the OPC server of PC Access;
- Through ModbusTCP communication;
- Through KepWareOPC server;

How to choose a suitable driver:

• If the configuration software supports to communicate with Siemens CP243/343/443 Ethernet module, you can select the S7TCP channel directly;

Note: when using the S7TCP driver to communicate with module, you should pay attention to "S7TCP target PLC address" of module, the reason is that CP Ethernet module of Siemens can only communicate with the CPU on the same machine frame, and module can communicate with a plurality of CPU on S7 bus.

• If the configuration software supports to communicate with PC Adapter, CP5611, CP5613 of RS485 device(access S7ONLINE of PG/PC interface), you can choose NetS7 (PPI/MPI/PROFIBUS) drive;

• If the configuration software supports OPC communication, you can choose OPC server of the other company;

• If the configuration software supports ModbusTCP communication, you can choose ODOT-S7*PI drive directly;

6.1 The settings of Siemens WINCC through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to WINCC, the methods include: OPC (PC Access OPC server), the TCP drive of WINCC and the ModbusTCP driver of WINCC V7.

Note: If you use the TCP drive of WINCC to connect to S7-200 ,the firmware version of module must be V 8.1.3.3,see:<u>release's difference</u>。

6.1.1 Through PC Access OPC server

1. Opening the WINCC software, creating a new project; right clicking "variable management", selecting "add new driver", selecting "OPC.chn", as shown below:

🔮 WinCCExplorer - C:\Pl	OGRAN FILESISIENENSIVIN	CC\VINCCPROJECIS\test-op 🔳 🗖 🔀
文件(1) 編輯(1) 視問(1) 工具	(江) 程助 20	
	** 17 H II II II	
 C test-opc ● 计算机 ○ 副 支援管理 	名称 分内部支量 SIMATIC S7 PROTO	类型 内部支量 COL SUITE WinCC 通讯驱动相
E SIMATIC ST PROTO	含加新的驱动程序	2
● 结构支量	查找范围(L): 🔂 bin	· · • • • •
 □ 我警记录 □ 我警记录 □ 支量记录 ④ 我表编辑器 ● 全局脚本 ■ 文本庫 ① 用户管理器 ● 交叉未引 △ 加載在紙修改 	PDLCuche OFC cha Profibus DP. chn Profibus FMS. chn SIMATIC SO5 TCPIP. chn SIMATIC S5 Ethernet Layer 4.	SIMATIC SS Ethernet IF CI SIMATIC SS Profibus FDL (SIMATIC SS Programmers Po SIMATIC SS Serial 3984R (SIMATIC ST Protocol Suite CMN SIMATIC TI Ethernet Layer
	文件名 (g): [OPC.cha 文件类型 (g): [WinCC 通讯驱动程/	打开 @) 事 (*. chn) 王 取消
	C De deret a	A / JATWIT

2 Right-clicking the OPC connection, selecting"system parameters", openning the "OPC item manager", selecting "S7-200.OPCServer", as shown below:



3、"Browse server":

•
下一步 ->

4、 Clicking "next", search the variables of the OPC server internal;

		C Protection Section 1	
ST200.0FCServer Stervin Stervin SevFLC SevFolder	Itens NewIten1 NewIten2 NewIten3 NewIten4 NewIten5 NewIten5	数据类型 8 位无符号 8 位无符号 位 位 16 位无符号 16 位无符号	
~ 返回	I	満加条目 条目	I Ritt

5. Selecting all the variables, "add enter", adding the variables to the WINCC.


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6.1.2 Through the TCP/IP driver of WINCC

 Openning the WINCC software, creating a new project, right-clicking "variable management", selecting "add new driver", selecting "SIMATIC S7 Protocol Suite.chn".



2 Right-clicking the TCP/IP connection, selecting" new driver's connection", defining the name of a connection, clicking "properties", in the "IP address", entering the IP address of ODOT-S7PPI, clicking "ok".

WinCCExplorer - C:\USERS\PUBLIC\DOCUMENTS\SIEM	ENS\WINCCPROJECTS\MC	DDBUS\MODBUS.mcp [激活的	1	
文件(F) 编辑(E) 视图(V) 工具(T) 帮助(H)				
□ ≥ ■ > X = □ □ \ 5 33 (?			
E- MODBUS	名称	类型	参数	上次更改
	📦 vb1	无符号 8 位数	DB1,DBB0	2018/2
	a	无符号 8 位数	ABO	2018/2
● 🂝 内部变量	• •			
MODBUS TCPIP	_			
	(;	连接属性 (只读)		x
SIMATIC S7 PROTOCOL SUITE	ſ	<u>~</u>		
Industrial Ethernet		帛規 组 受重		
Industrial Ethernet (II)		名称 NewConnection	同性(0
		F位: 107.11 服务哭利来	Ψ.	
	ſ	连接参数 - TCP/IP		×
		·*++>		
B Soft PLC		送援		
		_S7 网络地址————————————————————————————————————		
NewConnection		IP 地址(I): []	92, 168, 1, 188	
		机架号(R.): 0		
」 菜单和工具栏		插槽号(T): 2		
		□ 发送/接收原始数据块(¥)	
		法快速酒 (の)・ 「10	2	
		庄顶风凉 (c). [-	
→ <u> </u> 文本库				
			•	
			取消	表印h
		NHAE	44/13	1740

3、Right-clicking the "TCP/IP" connection, selecting "system parameters", selecting "TCP/IP"-> your network card in the "logical device name(D)" of the "unit" option.

系统参数 - TCP/IP
SIMATIC S7 单位
- 选择逻辑设备名称
CP 类型/总线结构: TCP/IP
逻辑设备名称 @): TCP/IP -> Realtek PCIe F▼
▼ 自动设置 (A)
作业处理
□ 写(带优先权)(\)
确定 取消 帮助

6.1.3 Through the ModbusTCP driver of WINCC V7

 Openning the Wincc software, newwing a project, right-clicking "variable management", selecting "add new drive connection", selecting "Modbus TCPIP.chn" in the pop-up dialog box, clicking "ok".

追识 * 新建文件夹			100 -	
A series A	88	侍改日期	85	*
AT COMENC	🌲 zh-1W	2012/12/0 15:29	义 作光:	
10 TE	🕌 新建文件夹	2012/12/6 16:58	文件夹	
12 点型	Allen Bradley - Ethernet IP.chn	2011/11/23 22:44	CHN 文件	
💹 最近的同的位置 🗉	Mitsubishi Ethernet.chn	2011/11/23 22:45	6 CHN 文件	
	Modbus TCPIP.chn	2011/11/23 22:44	CHN 文件	
二月月	OPC.chn	2011/11/23 22:42	2 CHN 文件	
B 855	Profibus DP.chn	2011/11/23 22:42	CHN 文件	
2 那片	Profibus FMS.chn	2011/11/23 22:41	L CHN 文件	
To ever	SIMATIC 505 TCPIP.chn	2011/11/23 22:41	L CHN 文件	
2 × 10	SIMATIC S5 Ethernet Layer 4.CHN	2011/11/23 22:41	L CHN 文件	
● 首次	SIMATIC S5 Profibus FDL.chn	2011/11/23 22:43	CHN 文件	
	SIMATIC \$5 Programmers Port A\$51	2011/11/23 22:41	L CHN 文件	

2、 Right-clicking the "Modbus TCPIP/IP unit #1", selecting "new driver connection", newwing a name, clicking" properties", entering the IP address of ODOT in the "server" in the pop-up properties dialog box, entering the station address of PLC in the "remote slave station address", clicking confirm.

连接属性 (只读)	交量属性 23
常规 组 变里	常规 限制/报告
	安望属性
名称 NewConnection_1 属性(0)	名称 (X): VWO
单位: Modbus TCP/IP 单元 #1 👻	数据类型(T): 无符号 16 位数 ▼
服务器列表	
Modbus TCPIP 厪性	地址 调整 Modbus TCP/IP 变量属性
CPU 类型: Premium, Micro 👤	◎ IJ 区域: 4x 保持寄存器 / 2MW
服务器: 192 . 168 . 1 . 188	□ 变重尾 4x 400001
端口: 502	3. 线性市 过程值
远程从站的地址: 255	值1 值2
▶ 转换字类型数据为 16 位数值	确定 取消 帮助
RBJ	
确定 取消 帮助	确定 取消 帮助

3、 Right-clicking "variable name", newwing the variables, we create a VWO variable, the settings of the corresponding address, please clicking "select", selecting "4x hold register" in the "regional" in the pop-up dialog box, entering "400001" in the "4x", The mapping relationship between S7 200PLC data area and Modbus data area, see: ModbusTCP Communication。

6.2 The settings of Siemens PC Access through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to PC Access, two methods include: the TCP/IP driver of Siemens and ODOTS7 driver (PPI).

6.2.1 Through the TCP/IP driver of Siemens (S7TCP)

1. Through the control panel or MicroWIN software, openning the "set PG/PC interface", selecting MicroWIN -> TCP/IP.

置 PG/PC 接口	
方问路径 LLDP	
应用程序访问点(<u>A</u>):	
Micro/WIN> TCP/IP -> Intel (R)	82577LM Gigab 🔽
(Standard for Micro/WIN)	
为使用的接口分配参数 (2):	
TCP/IP -> Intel(R) 82577LM Gigab	
📰 ISO Ind. Ethernet -> Intel (F	诊断 (0)
PC/PPI cable(PPI)	信告(の)
E TCP/IP -> Intel (R) 82577LM C	
CP/IP -> NdisWanIp	册除(L)
(Assigning Parameters to Your NDIS CPs with TCP/IP Protocol (RFC-1006))	
添加/删除:	选择 ([)
确定 (取消 帮助

2、 Openning S7-200 PC Access software.

	が豊富く	21 249		1 10 10 10 10	1.000	
Trojec	et at's New	名称「	地址	教務英型	存取	注解
1	間切(1) 算制(2) 結構(2)	Ctrl+X Ctrl+C Ctrl+V				
	\$671C (8)					
	调制解调器 (8) PG/PC接口 (2)					
alt:1:47 ct	>#9	I.C.	18	_		<u>م</u>
目代码	р. С	数值	时间标记	质量	1	
117599 /	ç	SCIE!	10110145-16	原墨		

 $3_{\times}\,$ Creating a new connection of PLC , entering in the IP address of ODOT-S7PPI .

DSBKBK	11 200				
 Project That's Nev Hicrofin(TCP/IP) 	名称	√ 地址	数据类型	存取	注解
Ba Aevrat.	LCEPT				
	一般 名称: IP地址:	NewFLC 114 . 224 . 186	. 249 🛐		
测试客户机 项目代码 /	TSAP 本地:	00.00		t	《态,关闭
	远程:	00.00			
				Riff	

4. Creating new variable group (file), or creating new variable (project) directly.



L ur un a		安設	- 1	414	教務部制	7230	注解
7 Yhat's	New in (ICP/IP)			0.8	1.000.010	1.005	1 Sarder
	割切(t) Ctri 复制(C) Ctri 粘筋(t) Ctri	14X 14C 14V					
	AN (Q) HINKELC (D)	•	文件类(E) 项目(E)				
测试客户机	重新命名 (b) 届性 (b)			190			状态;关闭
與目代码 /		数值	6 1	时间标记	质量		

5、 Creating new variable (project).

Tran alter state	NO PC ACCESE		
DORUKBEX	项目属性	×	
Project Project Project Protocology Profile Profile	符号名称: 名称: 代码:	Newltem MicroWin NewPLC NewFolder Newltem) ie MP
- SeeFolder	内存位置 地址: 数据类型:		
测试客户机 项目代码 /	工程单位 高: 低:	[0.0000000 [0.0000000	≥ 态:关闭
	说明 注解:		
准备就绪			NUN

6. Testing the variable, putting the variable into the test area, clicking the test of client

🖥 Project.pca - S7-200	PC Access				
文件(王) 編輯(王) 视图(王) 扶	态(5) 工具(1) 帮助	\$ (E)			
日盛日本市商×	30				
Son Project Troject That's New Hicrofin (ICF/IP) Hicrofin (ICF/IP) NewFolder NewFolder	名称 /	地址	数据类型	存取	注解
	SevIteni	VBO	BTTE	ky	Contraction -
	BewIten2	VB1	BTTE	EX	
	SewIten3	IO. 0	BOOL	EY	
	BRewIten4	IO. 1	BOOL	RY	
	B NewIten5	980	WORD	EY	
	SevIten6	QW2	WORD	EF	
	c				>
测试客户机	1000				状态,打开
項目代码 /	教值	时间标记	景景		
💭 MicroWin, NewPLC, NewFolder, 1	levI 37	11:30:19:062	Good		
💼 MicroWin, NewPLC, NewFolder, 1	fewI 122	11:30:19:187	Good		
💼 MicroWin, NewPLC, NewFolder, 1	fewI O	11:29:44:920	Good		
💼 MicroWin, NewPLC, NewFolder, 1	levI O	11:29:44:920	Good		
💭 MicroWin. NewPLC. NewFolder. 1	fexI 0000	11:29:44:920	Good		
🗯 WicroWin, NewPLC, NewFolder,)	fevI 0000	11:29:44:920	Good		
启动和停止测试客户机				c	AP NUM

6.2.2 Through NetS7PD(PPI) driver

1. Through the control panel or MicroWIN software, openning the "set PG/PC interface", selecting MicroWIN -> NetS7PD(PPI).

设置 PG/PC 接口	×
访问路径 LLDP / DCP PNIO 适配器 Inf	0
应用程序访问点 (A):	
STONLINE (STEP 7)> NetS	7PD (MPI) 🔹
(STEP 7 的标准设置)	
为使用的接口分配参数 (P):	
NetS7PD (MPI)	属性(R)
MetS7PD (MPI)	诊断(0)
WetS7PD (PPI)	
🔛 NetS7PD (PROFIBUS)	复制(Y)
PC Adapter (Auto)	删除(L)
4 m	
(NetS7PD (MPI))	
┌接口	
添加/删除:	选择(C)
 确定	

 $2\,{\scriptstyle \sim}\,$ Clicking the "properties" button on the right.

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属性 - NetS7PD(PPI)	
通讯设置 TCP/IP网络	
通讯参数	
模块的IP地址:	
192. 168. 1. 188	
查找本地的模块	
S7TCP通讯端口号 (默认102): 102	
通讯超时(毫秒): 10000	
确定 取消 版本	

3、Clicking "local search", selecting the equipment have been searched, the ODOT-S7MPI must be set to PPI slave mode(in Web set), clicking "select equipment".

本地网络中的设备	×				
设备名称 序列号 出厂日期 固件版本 OEM标识 S7协议 MAC地址 IP地址					
0001-STMP1 032622 2016-01-29 8.1.3.3 PP1)A3A 00:42:43:00:17:68 192.168.1.1	00				
 注: 1. 请禁用计算机的无线网卡,否则可能搜索不到设备。 2. 如果设备和计算机不在同一网段请先点击[设置IP]按钮,设置成同一网段后才可以通讯。					
	重新查找				

4、 Please back to the PC Access software, creating a new PLC.

Trojec			1000	1		
2 Yh	ct	名称 七	地址	素要要型	存取	注解
₫œ	型切(L) 复制(L) 粘贴(L)	C1+2+2 C1+2+C C1+2+Y				
	Maric (g)					
	调制解调器 (2) FG/TC接口 (2)	•				
and in the se	540	16.			14	0.44- M.S.
夏日代码	- p.	17 (G	STRETT	2.9	-	、高:大田
())武谷) 夏日代码	weinerwein (1) F6/IC接口(1) 2机	15	門间标记	82	1	٩.৯

- 5. Creating new variable group (file), or creating new variable (project) directly.
- 6. Testing the variables, putting the variable into the test area, clicking the test of client.

6.3 The settings of KingView through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to KinView, the methods include: the TCP/IP driver of Siemens s7-200 \sim OPC server (Siemens PC Acess) \sim Modbus TCP driver.

6.3.1 Through the TCP driver of Siemens S7-200

1. Openning the project browser of Kingview--equipment (COM1), double-clicking "new" on the right



2、 Selecting Siemens S7-200 series(TCP) driver

1	一 西门子
	 ・ ST Series ・ ST Series ・ ST SR列 ・ ST -200系列 ・ ST -200系列(BP) ・ ST -200系列(ST) ・ ST -200系列(ST)
	+ ST-200, \$7] (05B) + ST-300/400ForTCtr1
6	● 57-300系列
100	▲ 57-300系列(57) 👱
Dist.	您所选的设备
100	生产厂家: 未遗定
	设备名称: 未选定
	生产厂家: 未选定 设备名称: 未选定

3、 Entering the name of the equipment.

请给要安装的设备指定唯一的逻辑名称 [1][20]	

 $4_{\rm N}$ Entering the IP address of ODOT-S7PPI, the slot of CPU $\,$ (the default is 0) $\,$.

4.此设置指南 在这一步,请力要安装的设备指定地址。 使用默认值或按地址帮助按钮取得设备地 址帮助信息。 192.168.11.83:0 地址帮助	×
你所指定的设备地址必须在32个字节以内。	

 尝试恢复间隔: [30]	— v
最长恢复时间:	
24	小时
☞ 使用动态优化	

6、 Completing the settings of parameters.

	你所要安装的设备信息:
	新设备为西门子生产的 57-200系列 (TCP)
ER	设备逻辑名: \$7200
	设备地址:192.168.1.88:0
	通讯方式: TCP
- AND	

6.3.2 Through PC Access OPC

1、Openning the project browser of Kingview--equipment (OPC server), double-clicking "new" on the right.

·	程刻	范書	test							
工程	<u>الات</u> ا	記畫[<u>s</u>]	查看[<u>v</u>]	工具[1]	帮助[注]	Î.				
I	福	一次回 大団	国小图	[]] 详细	が新た	运行	报警	 历史	「「「「「「「「」」」	一 月 月月
副 画面 智·站点 研 变量 晶 系统		数4000 mm 数400 mm 300 mm 3	变量 費典 組 器 器 品 置 开发系统							
就绪										

2、Selecting"S7-200.OPCServer".

网络基本尔 dn.	Manual		orce24 B
本机 orc 路径 orc服务器信息		er1)	BEICHEN NETLINK OPC. V3 ST200. OPCServer CCOPC. XMLWrapper
			KingView, View, 1 KEPware, KEPServerEx, V4 HilscherGmbH. OpcServer, 1 OPCServer, WinCC
BEICHEN BCNet.	S7 OPCSer	ver	OPCServerHDA.WinCC
读写方式		1000	
(● 异步读	C	同步读	
 异步写 	C	同步写	
当出现通信故障	朝时, 设定	恢复策略	
尝试恢复间隔:	30	秒	
最长恢复时间:	24	小时	
订阅频率:	1000		
☞ 使用动态优	化		査找 确定 取消

6.3.3 Through ModbusTCP

1. In the device configuration, selecting PLC- Modicon -Modbus(Ethernet) -TCP driver.

	⑦克韦尔	^
	HodRTUServer	
	Hodbus Plus	
R.	😥 Hodbus (RTV)	
	■ Modbus (EIU) unpack	
	UNITEWAY	
A Day	■ 欧姆龙	~
	您所选的设备	10
	生产厂家: 臭迪康	
	设备名标: Modbus (以太阿)	

2、 Entering the IP address of ODOT-S7PPI+the port number+the station address of S7-200PLC

设备配置向导——设备:	地址设置指南	X
	在这一步,请力要安装的设备指定地址。 使用默认值或按地址帮助按钮取得设备地 业帮助信息。 192 168 1.188:502 2 地址帮助 地址帮助 你所指定的设备地址必须在32个字节以内。	
-	< 上一步 @) 下一步 @) > 取消	

6.4 The settings of MCGS through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to MCGS(The general version and the embedded version), the methods include: the TCP/IP driver of Siemens s7-200 、 OPC server (Siemens PC Acess) 、 Modbus TCP driver.

6.4.1 Through the TCP driver of Siemens S7-200

1、Openning the configuration environment of MCGS--equipment window, selecting the PLC- Siemens -S7CP243_1TCP



★ 10000日本环境 - 工作台 : 00 文件(2) 保留(2) 芸術(2) 広人(2) ○1621日 - 5(2) × 105161			
MCGS 组	weiden [The prove of the prov		×
MICOOSI MI	可迭被备	违定设备 设备名称 西门子S7200_CP243-1	驱动程序 D:MCGSiPregra

2 In the attribute settings of equipment , entering the remote IP address in the IP address of ODOT-S7PPI .

98 <u>26</u> 100 100 2 20	<u>a</u>	<u> </u>	
ICGS组态软件	いって		
正作会 : D:\#C65\YBURK\新建工程Q.#C6+	基本属性 道道道接 设备	·调试 数据处理	
◎主控窗口 ◇ 役备窗口 図 用户窗口 物 実时数据	N 设备属性名	设备属性值	F
0	(内部属性)	设置设备内部属性	f
28gu	采集优化	0-不优化	l
	[在线帮助]	資看设备在线帮助	1
	设备名称	设备0	I
🔲 设备组成: 设备复口 💦 🗖 🔀	设备注释	百门子S7200_CP243-1以太	ł
	初始工作状态	1-启动	I
	最小采集周期(ms)	1000	I
	通讯等待时间(ms)	1000	I
	本地IP地址	192.168.1.100	l
	本地端口号	3000	ł
	远端IP地址	192.168.1.188	ł
	远端端口号	102	Ŀ

3、 Clicking "set internal attribute of the equipment" to create new variables.

F 号	设备通道	读写类型	增加通道
1010			
通道类型:	Ⅴ数据存储器	数据位的位数:	16位 无符号二述
通道地址:	0	_ 连续通道个数:	1
業作方式: ○	只读 〇 只写	◎ 读写	
			收 收 19

4、 Clicking "quick connect variables" after creating new variables, then clicking "start equipment's debugging" to monior the variables.

索引	连接变量	通道名称	通道处理	调试数据	采集周期
> 0000		通讯状态		0	1
>0001	Data01	读写Q0000.0		0	1
0002	Data02	读写10000.0		0	1
> 0003	Data03	读写VWUB0000		4386.0	1
				and the second se	

6.4.2 Through PC Access OPC

- 1. Openning the configuration environment of MCGS--equipment window, selecting OPC server.
- 2、Selecting "S7-200.OPCServer".

NET REPUBLICATION (1997) PC设备0-[0PC设备]		
ので記名其性協議		MEN BOOPCES
本属性 通道连接 设备	i调试	网络带点
设备属性名	设备属性值	OPC账条器
设备名称	OPC设备0	OPC.BCNeLS7
设备注释	0PC设备	选择计算机上注册的OPC服务器
0PC服务器	in the second	BEICHEN.NETLINK.OPC.V3
网络节点		S7200.0PCServer
奴据米集方式	0-同步光旗	KingView.View.1
的缩上作状态	1-1640	KEPware.KEPServerEx.V4
較小元和同約[ms] 影響這該該fime]	10000	HüscherGmhH.OncServer.1
Providence and and	10000	体田OPC18 厂 从注册来中寄托 厂
		CONFICTION PROFILM PROFILM
		查找旧 确定M 家浦(G)

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6.4.3 Through ModbusTCP

1. In the device configuration, selecting "general TCP/IP parent device"-"standard Modbus TCP sub device";

2 In "the remote IP address", entering "ODOT-S7PPI's IP address"; In "equipment address", entering "S7-200PLC's station address".

通用TCP/IP父授备0-[#	(用TCP/IP父设备)		4
	iTCP手设备]		1
本属性 设备测试		基本属性 通道连续 设	备调试 数据处理
设备属性名	设备属性值	设备属性名	设备属性值
设备名称	通用TCPAP公设备0	(内部属性)	设置设备内部属性
设备注释	通用тсряр交设备	采集优化	0-万优化
初始工作状态	1-启动	(在純帮助)	查看设备在线帮助
最小采集周期[ms]	1000	说备名称	设备0
数据采集方式	0-同步采集	设备注释	标准ModbusTCP子设备
网络类型	1 - TCP	初始工作状态	1-启动
服务器内客户设置	0-零户	最小采集周期[ms]	1000
本地IP地址	192.168.1.100	设备地址	2 填入S720PLC站地址
本地端口号	3000	通讯等待时间	500
送程IP地址	192.168.1.188	快速采集次数	0
运程端口号	502	16位整数解码顺序	0 - 12
2		32位整数解码顺序	0 - 1234

6.5 The settings of iFIx through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to iFIX, the methods include: the S7 driver of iFIX(need to purchase a license) \sim OPC server (Siemens PC Acess) \sim Modbus TCP driver.

6.5.1 Through PC Access OPC

1、 Openning the system configuration of iFIX (SCU-FIX).



2、 Selecting "OPC Client" driver.

SCADA 支持	数据库定义	3
● 启用(E) ○ 禁止(D)	数据库名称[N]:	DATABASE
1/0驱动器定义		
1/0驱动器名称: OPC	OPC Client v7.41f	
已配置的I/O驱动器		(A)
		设置世
		用除(1)
OFFEESARA DEC - OFC Client v7 SIM - Simulation Dri SM2 - Sim Driver 2 s	41£ Ver 6.40s	
(确定())	取消©	

3、 "configuration", selecting the local connection "Use Local OPC Client Driver", "Connet..." Connect the OPC server

(* Use Local OFC Client Dr.	Remote machine name or TCP/IP	
🔿 Vse Remote OPC Client Dri)	
To run the User Interface, you must first connect to an I/O Briver OLE Automation OPC Client Briver.	9. Sateork	
If you want to connect to the OPC Client Driver on this machine, select "Use Local OPC Client".		
If you want to connect to a OPC Client Driver on another machine, select "Use Remote OPC Client" and enter the machine name, or a TCP/IP address of the machine that has the driver that you want to connect to.		
You can use the tree browser to help select a remote machine name.		
E Chan Min Midlan and	. I	

4、 "Add OPC Server", selecting "S7-200.OPCServer", "Finish"。

	Select an OPC Server		<u>04</u> 24
arc arc	Select an OPC Data Access Server		
	Machine Local Machine		
	Programmatic ID	Description	
	Intellution.OPCEDA.3 Intellution.OPCFDA.3 Intellution.OPCiFIX Intellution.OPCiFIX.1 REPware.KEFSerwerEx.V4 KingView.View.1 MCOS.OPC.Serwer OPCServerWinA.VieCC OPCServerWinA.VieCC OPCServerMDA.VieCC.1 Froficy.Historian.HDA ST200.OPCServer	Intellution OPC EDA Server Proficy iFII OPC EDA in proces OPC Data Access 2.0 Server for DPC Data Access 2.0 Server for XEFvare Enhanced OPC/DDE Server KingView View MCOS.OPC. Server OPCServer.WinOC OPCServer.WinOC OPCServerMDA TinOC OPCServerMDA TinOC Proficy Mistorian MDA Server 3.5 ST200 PC Access OPC Server	
	K	H	
	Number of Servers 18	Search Again	
	< Buck	Einish Help	

5. Adding group and item, "Add Group", "Add Item"; browsing OPC server, "Browse Server"; the variables in the Server will be corresponded to the variables in iFIX.

Iten IDs:		Access Faths:
CPU224.Output.Q00 CPU224.Output.Q01 CPU224.Output.Q02 CPU224.Output.Q02 CPU224.Output.Q03 CPU224.Output.Q04 CPU224.Output.Q05 CPU224.Output.Q05 CPU224.Output.Q05	<	⊕ CFU224. V_Area. DB1. DBYO
CPU224. V. Area. DB1. DBN0 CPU224. V. Area. DB1. DBN0 CPU224. V. Area. DB1. DBN10 CPU224. V. Area. DB1. DBN12 CPU224. V. Area. DB1. DBN16 CPU224. V. Area. DB1. DBN16 CPU224. V. Area. DB1. DBN2 CPU224. V. Area. DB1. DBN2 CPU224. V. Area. DB1. DBN20 CPU224. V. Area. DB1. DBN24 CPU224. V. Area. DB1. DBN24 CPU224. V. Area. DB1. DBN24		
CPU224.V Area.DB1.DBM28		Access
CPU224. V_Area. DB1. DB90		
IFIX Process Database Tag		
Enable iFix FDB Tag Auto-creatic		Tag Desc A/-

6.5.2 Through ModbusTCP

In the device configuration, selecting the Moubus TCP driver.

6.6 The settings of ForceControl through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to ForceControl, the methods include: the TCP driver of Siemens S7-200 、 OPC server (Siemens PC Acess) 、 Modbus TCP driver.

6.6.1 Through the TCP driver of Siemens S7-200

1、 Openning the development system of ForceControl -- IO equipment configuration, selecting "PLC-SIEMENS (Siemens) - S7-200 TCP protocol".

(金·开发系统)		- C ×
主文件(2) 編編(2) 登着(2) 工具(2)	🗗 tollanager	
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	文件化 机图仪 帮助仪 图 印刷	
工程項目 9× ● 100 ● 支量 ● 支量 <td< th=""><th>실 xl * 월 XIZYENCE (基명土) * 월 LG * 월 MITSVBISHI(三菱) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MITSVBISHI (三菱) * 월 MITSVBISHI (三) * 월 MITSVBISHI (三) *</th><th>名称 →ECNet →aodbus →S7200</th></td<>	실 xl * 월 XIZYENCE (基명土) * 월 LG * 월 MITSVBISHI(三菱) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MODICOS (英语语) * 월 MITSVBISHI (三菱) * 월 MITSVBISHI (三) *	名称 →ECNet →aodbus →S7200
(四、潮注以其 (2) 被助法的	Itia	121-00

2、 Entering the equipment name.

设备名称: S7200	
更新周期: 50 超时时间: 8	毫秒 ▼ 秒 ▼
 · 设备地址: · 」 通信方式: TCP/IP网络 · 故障后恢复查询 周期: 300 秒 ▼ 最大时限: 60 	.▼
	高级

3、 Entering the IP address and the port number(the default is 102) of ODOT-S7PPI, completing the settings.

	设备IP地址: 192.168.1.	189 端口: 102
	「 启用备用通道	
R.	备用IP地址	
	广主通道恢复后自动切回。	方式: 📃 💌
	「 本机网卡冗余	
	本机网卡IP地址	前日: 0
	备用阿卡卫地址	第四. 0
	☞ 连续采集失败 3	次后重新初始化链接

6.6.2 Through PC Access OPC

1. Openning the development system of ForceControl -- IO equipment configuration, selecting "OPC--MICROSOFT OPC CLIENT-OPC CLIENT 3.6"



2. Entering the equipment name.



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3、Selecting "OPC.ODOT.S7".

 服务器节点		-
服务器名	OPC. Net. S7	刷新(2)
重连时间 (秒) OPC组名称 刷新时间 (ns)	ST200. OPCServer CCOPC. XMLWr apper KingView. View. 1 Intellution. OPCiFIX. 1 KEPware. KEPServerEx. V4 HilscherGmbH. OpcServer. OPCServer. WinCC Intellution. iFixOPCClie MCGS. OPC. Server HilscherGmbH. OpcServer Intellution. OPCEDA Intellution. OPCEDA Intellution. OPCIFIX KingView. View OPCServerHDA. WinCC Proficy. Historian. HDA	i nt

6.6.3 Through ModbusTCP

1、 Openning the development system of ForceControl -- IO equipment configuration, selecting "PLC-MODICON (Modicon) —modbus TCP communication".

Iolanager			
文件(2) 视图(V) 帮助(H)			
🗉 Ø 🔍			
্ৰম	名称	描述	设行
王 😡 GE (通用电气) 🔨	BCNet		否
 HITACHI (日立) KDN (前道恩) KEYENCE (基恩士) LG MITSUBISHI (三菱) MODICON (夏迪康) MCR037 (UNITELWAY编程口通道) 	⇔nodbus ⇔S7200		香香
● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	<		>
	·/	数字	- /

2. Entering the equipment name; the equipment address (S7-200PLC's station address);

	设备名称: MBTCP	
	设备描述:	
	更新周期: 50	臺秒 -
	超时时间: 8	1秒 -
\geq	设备地址: 2	
	通信方式: TCF/IP网络 故障后恢复查询 周期: 300 秒 ▽ 最大时限: 6	
		高级

3、Entering the IP address and the port number(the default is 502) of ODOT-S7PPI 的 IP, completing the settings.

设备IP地址: 192.168.1	1.189 端口: 502
■ 主通道恢复后自动切回。	方式
「本机网卡冗余 本机网卡IP地址。	前口: 0
备用阿卡IP地址	160: P
☞ 连续采集失败 3	次后重新初始化链接

6.7 The settings of KepWare OPC through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to KepWare OPC, the method is through the TCP driver of Siemens S7-200.

6.7.1 Channel settings

1. Openning Kepware OPC Configuration, adding a channel, entering the channel name, the next step;

0000000000	四日ちょう	1 13 × 1 22	
Click to add a channel	w Ghannel - Iden	tification	8
		A channel name can be from 1 to 296 characters in length. Names can not contain periods, double quotations or start with an underscore. Channel name:	
		(上一步回 下一步的) 取油	一般約

2、 Selecting Siemens TCP/IP Ethernet driver, the next step;

New Channel - Devi	ce Driver	
	Select the device driver you want to assign to the channel. The drop-down list below contains the names of all the drivers that are installed on your system.	
	Device driver: Siemens TCP/IP Ethemet	
	_<上一步(B) 下一步(N)>	8 B

 $3\sqrt{3}$ Selecting the network card of the computer;

New Channel - Netw	ork Interface	
	This channel is configured to communicate over a network. You can select the network adapter that the driver should use from the list below. Select 'Default' if you want the operating system to choose the network adapter for you.	
	Network Adapter: Realtek RTL8168C((192.168.1.105)	
	_<上→步®) 下→步图)> 取消	帮助

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4. According to the need to choose the mode (the default is ok), the next step;

	You can control how the server processes writes on this channel. Set the optimization method and write-to-read duty cycle below. Note: Writing only the latest value can affect batch processing or the equivalent.	
Contraction of the second seco	Optimization Method	
	Duty Cycle Perform 10 🔅 writes for every 1 read	
	(上	凝銑

5、 Complete the settings of channel parameter.

New Channel - Summ	ary	
	If the following information is correct click 'Finish' to save the settings for the new channel.	
	Name: Channel1 Device Driver: Siemens TCP/IP Ethernet Diagnostics: Disabled	
and a second	Network Adapter: Realtek RTL8168C[[192.168.1.105]	
	Write Optimization: Write only latest value for all tags 10 writes per read	
	<上一步(B) 完成 取消	帮助

6.7.2 Device settings

1. Adding a device, entering the device name, the next step;



2、 Selecting S7-200, the next step;

The device you are defining uses a device driver that supports more than one model. The list below shows all supported models. Select a model that best describes the device you are defining.	
Device model:	
 -步(B) 下步(D)> 取消 帮助	

3、Entering the IP address of ODOT-S7PPI, the next step;



4、 The other parameters can be default, completing the settings of device.

	If the following settings are correct click using the new device.	Finish' to begin
	Name: Device1 Model: \$7-200 ID: 192.168.1.190	^
0	Scan Mode: Respect client specified sc	an rate
	Connect Timeout: 3 Sec. Request Timeout: 2000 ms Fail after 2 attempts Inter-Request Delay: 0 ms	
	Auto-Demotion: Disabled	~

6.7.3 Variable settings

1、Creating a new variable group;



2、 Creating new variables;

Identification		
Name: abc	6	
Address:		
Hints		
AI00 - AI65534 Short		ОК
AI00 [rite] - AI65534 [rite] Short	_	Cancel
Al00 [r][c] - Al65534 [r][c] Word		
Al00 [r][c] - Al65534 [r][c] Word AlW00 - AlW65534 Short AlW00 - AlW65534 Word		Help
A100 [r][c] - A105354 [r][c] - Word A100 [r][c] - A165534 Short A1W00 - A1W65534 Word A1W00 - A1W65534 Word A1W00 [r][c] - A1W65534 [r][c] Short A1W00 [r][c] - A1W65534 [r][c] Word		Help
Al00 [[16] - Al5534 [[16] Word AlW0 - AlW65534 Short AlW0 - AlW65534 Short AlW0 - AlW65534 Word AlW0 - [16] - AlW65534 [16] Short AlW00 [16] - AlW65534 [16] Word AQ00 - AQ65534 Short AQ00 - AQ65534 Short		<u>H</u> elp

3、 Checking the data communication in the OPC client.

6.8 The settings of FrameView through ODOT-S7PPI

Siemens S7-200 uses ODOT-S7PPI to connect to FrameView, the methods include: the S7TCP driver of Siemens OPC server (Siemens PC Access) S Modbus TCP driver.

6.8.1 Through the S7TCP driver of Siemens

1、 Installing the driver

Selecting "basic application"--"equipment communication", executing "1.install driver", showing the following dialog box:

○ I - 映景編入 ○ 0 - 映景編出 ○ 0 - 中间相思 ○ 0 - 中间相思 ○ 0 ○ 記 ○ 0 ○ 記	☆ : ::::::::::::::::::::::::::::::	
	 ○ 70 - 沖水輸出 ○ 7 - 沖水輸出 ○ 7 - 沖水輸出 ○ 7 - 沖水輸出 ○ 7 - 市水輸出 ○ 7 - 古米輸出(中位、(COSyca/条)) ○ 77 - 古米輸出(中位、(COSyca/条)) ○ 71 - Cru的中(mayca) ○ 51 - Cru的大击 ○ 51 - Cru的大击 ○ 月 	○ T - 计印稿 ○ T - 计印稿 ○ C - 计符稿 ○ Y - ST200序组区 ○ II - CFURHP (GBy No.) ○ SI - CFURHP (GBy No.)

Selecting "S7TCP" driver from the Siemens, clicking "Install" button to install.

2、 Definingi equipment's data sheet

Select "basic application"--"equipment communication", executing"4.equipment's data sheet", displaying the definition interface of equipment's data table.Double clicking D2 equipment number, defining it by the following dialog box:

STTCP 【以太网級动】使用普通网卡,不索SIMATIC-XET,访问S	7以太网或28接口。
[1]. 這程參数	9 %
CPU机架号*100+槽号: 0 数据实	社会社: V - S7200存储区
CPV类型: S7-200 🗾 访问方	1式: 读写 🔄
设备IP地址: 192.168.1.190 👤 单元格	3式:字节(8位) ▼ 无符号整数 ▼
通讯组时[ms]: 1000	
扫描级别[1-100]: 1 开	开始地址: 30 [000018]
□ 动态扫描级别: 长度((=1024B]: 10 ×[字节(8位)]
·[2].本地参数 ····································	 普强速項:□ 元中斷标志: □ 中斷时数据保持: ☑ 尽快恢复通讯:
本机正地址[1/2]: 192.168.1.105 ▼ 设置网表	 □ 设备号支化计数标志(B1038): □ 报文日志文件(部分驱动): □ 受D1相应单元控制[0/1/2/]:

We define VB30~VB39 of S7-200PLC, a total of 10 bytes data.

Note: "the IP address of equipment" is the IP address of ODOT-S7PPI (the default is 192.168.1.188). http://www.odot.cn 62 /110 TEL:400-0024-485

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3、 Monitor equipment communication

After activating the monitoring system, you can monitor the communication state of the driver. Selecting "basic application"--"equipment communication", "6.monitor S7TCP drive", the interface is shown below:

-S7TC	P驱动程序							1
<u>중</u> 졸号	本机IP	服务器IP	CPU槽号	状态	读计数	写计数	提示	
[02]	192.168.1.105	192. 168. 1. 190	0	4	426	0	[00] - 通讯正常.	
	1	Established	1 1050	1.56.77				

4. Monitoring equipment's data sheet

Selecting "basic application"-- "equipment communication", "5.monitor" equipment's data sheets "", the interface is shown below:

	Dep				LAG		1		142		15.1		1983	
Ŧ	10		n		12		13		TE		15		16	
字节	10	81	82	83	84	85	16	87	18	19	810	811	812	813
(Dt)	00	00	00	00	00	00	00	00	00	00	00	00	00	00
[02]	00	00	82	41	55	- 41	88	- 41	02	41				

In the line of [D2], showing 10 bytes data you predefined.

6.8.2 Through PC Accsee OPC

1、Installing the driver

Selecting "basic application"--"equipment communication", executing "1.install driver", showing the following dialog box:

 昭勤 又財生 光洋 	▲ (orc驱动)通过orc支量文件,与orc服务	6器进行数据交换		
 - 松下 - 松下 - 松下 - 秋下 - 秋下 - 秋田 - 四田 <	ØCC完量(Cache) ØCC完量(Device) □<			
更新能动			安装	关闭

Selecting OPC—"OPC (customer)" drive, clicking "Install" button to install.

2、 Making the variable file

Selecting the "expansion application"--" variable file", executing"1.make variable file", creating and selecting the variable, shown in the following dialog box:

- 11	课表量文件[表量文件Look]						ald).
201910 201910		68		*		200000	
	and a second sec	(102)	(Dect)		计算机名称	Beiber	Non I Non
	costor Velices and	0.011	12-11	18	B#8-545	FORC BERKE ST	2 [
-	and the second second	(102)	(4.4)		更新完全表	ances and	
	ipart twee the	fare1	facial.		E Best		
-			_		- quint	Y-Ares will	
-					CPUDIS	245 V Area 201 2010	1
-					99224	P-Area will	
-							
÷							
10							
11							
12			_				
13							
14							
15							
16							
17							
10							
19							
20				F			
21							
22							
23							
24							
25							
26							
27							
28				1			
	d			- And			

Selecting the correct name of the computer, the name of the server selects " S7-200.OPCServer ", then you can click "test server" to confirm whether it has already connected to the server, clicking "update variable table", double clicking the variable, the variable is added to the list of the variable name, saving the variables.

3、 Defining equipment data sheet

Selecting "basic application"—"communication equipment", executing "4.equipment data sheet", displaying the definition interface of equipment data table.

Double clicking D2 equipment number, defined by the following dialog box:

102设备号/	« »
OPC客户	(进行数据交换. [3]. 通讯数据 数据类型: [0PC变量[Cache] ▼ 访问方式: [读写 ▼ 单元格式: [字节 @位) ▼ 元符号整数 ▼ 开始地址: 30 [00001E] 长度: 6 × (字节 @位)] 增强选项: 二元中断标志: □ 中断时数据保持: ☑ 尽快恢复通讯: □ 设备号表化计数标志 (\$1038): □ 提文日志文件(部分研动);

Selecting the variable table have been edited in the "OPC variable file", "communication data"--"start address" and "length" correspond to the data defined in the variable sheet (VW30~VW36 6 bytes).

4、 Monitoring equipment communication

After activating the monitoring system, you can monitor the communication state of the driver program.

Selecting "basic application"--"equipment communication", "6.monitor "OPC customer" driver", the interface is shown as below:

N OPC 🐮	户驱动程序						
设쫇号	计算机名称	服务器名称	麦量文件	连接	读取	修改	提示
[D2]	leihao	OPC. Net. S7	表量文件1. ope	4	324	0	[00] - 通讯正常.

5. Monitoring the variable sheet of equipment

Selecting "basic application"--"equipment communication", "5.monitor "equipment data sheet"", the interface is shown as below:

10												100	
7850		T 1		¥2		13		¥4		15		86	
B0	B1	82	B3	B4	BS	86	87	88	B9	B10	B11	B12	B13
00	00	00	00	00	00	00	00	00	00	00	00	00	00
00	00	12	C8	D2	C8								
1	00 10 10	80 B1 10 00 10 00	80 B1 B2 10 00 00 10 00 I2	B1 B2 B3 00 00 00 00 00 00 D2 C8	B1 B2 B3 B4 00 00 00 00 00 00 00 D2 C8 D2	B1 B2 B3 B4 B5 10 00 00 00 00 00 10 00 12 C8 12 C8	B1 B2 B3 B4 B5 B6 10 00 00 00 00 00 00 10 00 00 00 00 00 00 00 10 00 12 C8 12 C8 12	B1 B2 B3 B4 B5 B6 B7 10 00 00 00 00 00 00 00 10 00 00 00 00 00 00 00 10 00 12 C8 12 C8 1	B1 B2 B3 B4 B5 B6 B7 B8 00 </td <td>B1 B2 B3 B4 B5 B6 B7 B8 B9 10 00<!--</td--><td>B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 10 00<</td><td>B1 B2 B3 B4 B5 B8 B7 B8 B9 B10 B11 10 00</td><td>B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 10 0 00</td></td>	B1 B2 B3 B4 B5 B6 B7 B8 B9 10 00 </td <td>B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 10 00<</td> <td>B1 B2 B3 B4 B5 B8 B7 B8 B9 B10 B11 10 00</td> <td>B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 10 0 00</td>	B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 10 00<	B1 B2 B3 B4 B5 B8 B7 B8 B9 B10 B11 10 00	B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12 10 0 00

In [D2], there is 6 bytes data you have predefined.

6.8.3 Through ModbusTCP

1、Installing the driver

Selecting "basic application"--"equipment communication", executing "1.install driver", showing the following dialog box:

● 西门子/VIPA ● A3B	[LL大网络h]monaus/Tori通译	19-02.	
	 ○ 建電器(例)(01/07) ○ 并入(01)(02) ○ 并入(01)(02) ○ 有容((0)/10) ○ 現入(01)(04) ○ 現 ○ 現形 ○ 11 ○ 11<th>② hannex Samma (金融電器(10)(年个)[00/0 (金利)(年个)[00]) (本の)(年个)[00]) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10)(10) (本の)(10)(10)(10)(10)(10)(10)(10)(10)(10)(10</th><th>5]</th>	② hannex Samma (金融電器(10)(年个)[00/0 (金利)(年个)[00]) (本の)(年个)[00]) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10) (本の)(10)(10)(10)(10) (本の)(10)(10)(10)(10)(10)(10)(10)(10)(10)(10	5]
* 4740 ※ 艾默坐 ※ 光洋	并发现动脉号: 0 主	I	

Selecting MODBUS—"MB_TCPIP" driver, clicking "Install" button to install.

2、 Defining equipment data sheet

Selecting "basic application"—"communication equipment", executing "4.equipment data sheet", displaying the definition interface of equipment data table.

Double clicking D2 equipment number, defined by the following dialog box:

设备号名称/描述: 102设备号/		~	: >>
WB_TCPIP][以太网驱动]MODBUS/TCP通讯协议。	□ [3] 通讯数据	
#B単元号: 第口号: 50 设备IF地址: 19 通讯超时[as]: 扫描初別[1-100]: ☑	2 2 2.168.1.188 1000 1 动态扫描级别:	数据类型: [4xxxxx 访问方式: 读写	
- [2]. 本地参数 本机IP地址[1/2]:	2.168.1.105 💌	 增强速项:□ 无中断标志; □ 中断时数据保持; □ 尽快恢复通讯; □ 设备号责化计数标志(B1038) □ 报文日志文件(部分驱动); □ 预1相应单元控制[0/1/2/ 	: 1:

We define VW16~VW26 here, a total of 10 word data.

Note: "equipment IP address" is the IP address of ODOT-S7PPI (The default is 192.168.1.188).

3、 Monitoring equipment communication

After activating the monitoring system, you can monitor the communication state of the driver

program.

Selecting "basic application"--"equipment communication", "6.monitor "Modbus TCP" driver", the interface is shown as below:

MB_	TCPIP驱动程序	1940			~		2	×
设备号	本机IP	服务器IP	端口号	状态	读计数	写计数	提示	
[02]	192.168.1.105	192. 168. 1. 188	502	4	124	0	[00]-通讯正常.	

4. Monitoring the variable sheet of equipment

Selecting "basic application"--"equipment communication", "5.monitor "equipment data sheet"", the interface is shown as below:

双字	090				191			1	1982				DW3	
宇	10		#1		12		13		74		15		86	
F B	80	81	82	83	34	35	16	87	18	39	B10	B11	812	81
Dt]	00	00	00	00	00	00	00	00	00	00	00	00	00	0
[21	38	87	38	87	38	87	38	87	38	87	38	87	38	٨

In [D2], there is 10 word data you have predefined.

The settings of WINCC through ODOT-S7MPI 6.9

Siemens S7-300/400 uses ODOT-S7MPI to connect to WINCC, the methods include: the S7TCP driver of Siemens 、 OPC server (Siemens PC Acess) 、 Modbus TCP driver.

6.9.1 **Through S7TCP channal**

1. Creating a new WINCC project, selecting the variable management of the project, clicking the right button of the mouse, selecting the shortcut menu "add new driver", in the pop-up dialog http://www.odot.cn TEL:400-0024-485 box, selecting SIMATIC S7 PROTOCOL SUITE, selecting TCP/IP, clicking the right button of the mouse, selecting the link of the new driver.



2. Entering the connection name in the pop-up dialog box of the connection property , such as "ODOTS7MPI", clicking the Property button, in the pop-up dialog box of property, entering the IP address, and it is the IP address of ODOT-S7MPI.

连接属性 🛛 🗙	连接参数 - TCP/IP 🛛 🔀
常规	连接
名字 ODOT 57MPI 单元: TCP/IP 服务器列表 WARGHAIPO	S7 网络地址 IP 地址(I): [192.168.1.191 机架号(B): 0 插槽号(I): 0
	□ 发送/接收原始数据块 (ੴ) 连接资源 (€): 02
	输入自动化系统的 IP 地址。 例如: 142.11.0.123 确定 取消 帮助

2、 Right clicking TCP/IP, selecting "system parameter", selecting "unit" property page, setting the logical device name for the TCP/IP-> (computer's network card).

6.9.2 Through PC Access OPC

1、 Openning WINCC software, creating a new project; Right clicking "Variable management", selecting "add new driver", selecting "OPC.chn".



🔮 WinCCExplorer - C:\	PROGRAM FILES\SIEMENS\WINCC\WINCCPROJECTS\test-op	
文件 (F) 编辑 (E) 视图 (V)]	〔具 (I) 帮助 (H)	
] 🗅 📽 ■ ► ½ 🖻 🖷		
E 🦿 test-opc	名称	
	⑦内部委量 内部委員 月部委員 月部委員 ↓ SIMATIC S7 PROTOCOL SUITE WinCC 认	t 囿讯驱动程
田··· 子 内部受量 田··· ↓ SIMATIC S7 PROTO	漆加新的驱动程序 ? 🛛	
● ● ● 括构变革 ● ● ● 图形编辑器	查找范围①: C bin 💽 ← 🗈 💣 Ⅲ-	
	PDLCache	
	OPC. chn SIMATIC S5 Profibus FDL. (Profibus PDL.)	
	Profibus BMS chn	
	SIMATIC 505 TCPIP. chn	
· 交叉索引	SIMATIC S5 Ethernet Layer 4.CHN 💼 SIMATIC TI Ethernet Layer	
▲ 加載在线修改		
	文件名 (2): OPC. chn 打开 (2)	
	文件类型 (I): WinCC 通讯驱动程序 (*. chn)	
		>
test-opc\变量管理\	外部变量: 1 / 许可证: 64K	NUM //

2、Right clicking OPC connection, selecting "system parameter", openning"OPC enter Manager", selecting "S7200.OPC,Server".

✤ OPC 条目管理器	
文件(F) 视图(V) 选项(O) 帮助(H)	
http:// Web Client Network WORKGROUP WORKGROUP WILLOCAL> So S7200.0PCServer So CoDeSys.0PC.DA CODeSys.0PC.DA CODeSys.0PC.DA So CCOPC.XMLWrapper.1 So OPC.SimaticHMI.CoRtHmiRTm.1 So OPC.SimaticNET.DP.1	计算机(C) OPC 网络服务器
U Tilt + 021/2 #01/2010 000 PC 575	浏览服务器(B) 退出(E)
从刘表中选择期望的 UPC 服务器。	

3、"Browse server"

过滤标准	
类型: 所有类型	•
- 访问权限 □ 读访问 (B)	▼ 写访问 (8)
< 返回	下一步 ->

4、 Clicking "next step", Search the variables of OPC server;



S7200.OPCServer - (WIN7-20160620JP)			X
S7200.0PCServer	Items ☐ qb0 ☐ vb0	<u>数据类型</u> 8位无符号 8位无符号	
<-返回		添加条目 条	目属性

5. Selecting all the variables, "add enter", adding the variables to the WINCC.

WinCCExplorer - C:\USERS\PUBLIC\DOCUMENTS\SIEM		BUS\MODBUS.mcp		and the second s	
文件(F) 编辑(E) 视图(V) 工具(T) 帮助(H)					
□> ■> Х=□ -5>發 2 2 2 2 2 2 2 2 2	•				
🖻 📑 MODBUS	名称	类型	参数	上次更改	
	ab0	无符号 8 位数	"Microwin.NewPLC.ab0"	2018/4	
	wb0	无符号 8 位数	"Microwin.NewPLC.vb0"	2018/4	
🗊 💝 内部变量	•				
🖶 📙 MODBUS TCPIP					
NewConnection_1					
OPC Groups (OPCHN Unit #1)					
S7200_OPCServer					
SIMATIC S7 PROTOCOL SUITE					
→ 八 图形编辑器					
1 全局脚本					
6 时间同步					
MODBUS\登录管理\OPC\OPC Groups (OPCHN Unit #1)\S7	200 OPCServer\			外部容量: 4 / 许可证: 128	

系統参数 - TCP/IP		×
SIMATIC S7 单元		
选择逻辑设备名称		
CP 类型/总线结构:	TCP/IP	
逻辑设备名称 (2):	ealtek RTL8168C(P)/81 💌	
▶ 自动设置(A)	STONLINE TCP/IP -> 11b/g Wireless TCP/IP -> Microsoft TV/V TCP/IP -> MdisWanIp	
- 作业处理	TCP/IP (Auto) -> 11b/g Wi TCP/IP (Auto) -> Microsof TCP/IP (Auto) -> Realtek	
输入新的设备名称或从列表	中选择被请求的设备。	
	取消 帮助	

 6_{\sim} Creating the new variables in the new connection.

6.10 The settings of KingView through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7MPI to connect to KingView, the methods include: S7TCP、Modbus TCP driver.

6.10.1 Through S7TCP

1、 Openning the project browser of Kingview--equipment (COM1), double clicking "new" on the right.



2、 Selecting Siemens S7-300 series(TCP) driver

	 S7-200系列(TCP) S7-200系列(USB) S7-300/400ForTCtrl S7-300系列 MPI(串口) 	<
	TCP MPI (圓讯卡) ● ST-300系列(0P) ● ST-300系列(ST) ● ST-400H	
N.Law	■ ST-400系列	×
	您所透的设备 生产厂家: 西门子	
	设备名称: S7-300系列	
高级查找	通信描述: TCP	

3、 Entering the name of the equipment.

请给要安装的设备指定唯一的逻辑名称	
■ 指定冗余设备	
〈上一步®)下一步®)〉 取	A

 $4_{\rm N}$ Entering the IP address of ODOT-S7MPI, the slot of CPU $\,$ (the default is 3) $\,$.
设备配置向导——设备:	地址设置指南	
	在这一步,请为要安装的设备指定地址。 使用默认值或按地址帮助按钮取得设备地 址帮助信息。 192.168.1.191:3 地址帮助	
	你所指定的设备地址必 须在32个字节以内。 〈上一步(g) 下一步(g) 〉 取消	

 5_{\sim} The communication parameters can be the default.

尝试恢复间隔: 30	B
最长恢复时间:	
24	小时
☞ 使用动态优化	

6、 Completing the settings of parameters.

	A CONTRACTOR
	新设备为 西门子 生产的 S7-300系列 .
	设备逻辑名: \$7300
2	设备地址:192.168.1.191:3
	通讯方式: TCP

6.10.2 Through PC Access OPC

1、 Openning the project browser of Kingview--equipment (OPC server), double clicking "new" on the right.



2、 Selecting"S7200 OPC Server".

网络节点名 (如:	Mcompute	r1)	orc服务器
本机 DPC 路径			BEICHEN. NETLINK. OPC. V3 S7200. OPCServer CCOPC. XMLWr apper
orc服务器信息			KEPware. KEPServerEx. V4 HilscherGubH. OpcServer. 1
OPCServer			OPCServerHDA. WinCC
读写方式			
☞ 异步读	CI	同步读	
○ 异步写	CI	同步写	
当出現通信故障	堕时,设定(灰复策略一	
尝试恢复间隔:	30	8	
最长恢复时间:	24	小时	
订阅频率:	1000	毫秒	
反 使用动态优	W.		春找 确定 取油

3、 Defining the variables in the data dictionary.

支量名:	0590			
夜量类型:	1/0整数		-	(<u>1997</u>
描述:				
结构成员:			→ 成员类都	
成员描述:				
支化灵敏度	0	初始值	0	状态
最小值	0	最大值	999999999	「 保存参数
最小原始值	0	最大原始值	999999999	「 保存数值
连接设备	A-BLAOPC. BCKet. ST	-	采集频率 1	
寄存器	\$7300. 82. DB1. DW0	*	转换方式	
数据类型:	USHORT	-	④ 线性	○ 开方 _ 高級
读写属性:	G HE C Rit	CRE	厂 允许008访问	

6.10.3 Through ModbusTCP

1. In the device configuration, selecting PLC- Modicon -Modbus(Ethernet) -TCP driver.

	〒 罗克韦尔	~
	□ 臭進廉 (中 ModRTUServer	
	Hodbus Plus	
	Hodbus (ASCII)	-
	Modbus (RTU) unpack	
	回 Hodbus (以太网)	
1	₩ HodbusTcpServer	
	UNITEWAY	~
	你好读你的没名	0.000
	生产厂家: 夏迪康	
	设备名称: Modbus(以太网)	
高级查找	通信描述: TCP	

- 2, Entering the equipment name (such as modbustcp)
- 3、 Entering the IP address of ODOT-S7MPI+the port number+the station address of S7-300PLC

业帮助信息。
192,168,1,188:502,2
地址帮助
你所指定的设备地址必须在32个字节以内。

4. Defining the variables in the data dictionary.

安量名:	08FO				CONTRACTOR OF
麦量类型:	1/0整数		•		
貓述:	l.				
納成员:	[- 成员英国	1	Y
8员描述:	1	_			
化灵敏度	10	初始值	0	状态	
最小值	0	最大值	999999999	FI	保存参数
小原始值	10	最大原始值	999999999	E 1	保存数值
连接设备	nodbustcp	•	采集频率 10	0	
寄存器	40001		转换方式		THE OWNER OF THE OWNER OF T
数据类型:	USHORT	•	☞ 线性 (开方	高級
读写属性:	☞ 读写 ○ 只读	○ 只写	厂 允许DDE访问		

6.11 The settings of MCGS through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7MPI to connect to MCGS(The general version and the embedded version), the methods include: S7TCP、OPC server 、 Modbus TCP driver.

6.11.1 Through S7TCP

1、 Openning the configuration environment of MCGS--equipment window, selecting the PLC- Siemens-S7CP343&443TCP-Siemens CP443-1 ethernet module.

可选设备	选定设备		
* 😋 莫迪康	设备名称	驱动程序	
 ● 面门子 ● ProfiBus98设备 ● ProfiBus98设备 ● RK512 ● S7-200-PPI ● S7-200-PPI ● S7-200-PPI ● S7008400MPI ● S709438443TCP ● S7CP3438443TCP ● S7CP34384444444444444444444444444444444444	西门子CP443-1以太同	D:\MCGS\Progra	

2、 In the attribute settings of equipment , entering the remote IP address in the IP address of ODOT-S7MPI .

设备属性名	设备属性值	-	
初始工作状态	1-启动		
最小采集周期(ms)	1000		
TCP/IP通讯延时[ms]	1000		
重建TCP/IP连接等待时间	ឆ][s] 10		
机架号[Rack]	0		
槽号[Slot]	3		
快速采集次数	0		
本地IP地址	192.168.1.105		
本地端口号	3000		
远端IP地址	192.168.1.191		
远端端口号	102	102	

3、 Clicking "set internal attribute of the equipment" to create new variables.

序号	设备通道	读写类型	增加通道
通道			
寄存器类型:	V数据寄存器 <u>▼</u>	数据类型:	16位 无符号二 <u>t</u>
寄存器地址:	0	通道教量:	1
DB换号:	1		
業作方式: ○ 」	ママ (1) マン (1) マ	◎ 读写	
		1	角认 取消

4、 Clicking "quick connect variables" after creating new variables, then clicking "start equipment's debugging" to monior the variables.

索引	连接变量	通道名称	通道处理	调试数据	采集周期
20000		通讯状态		0	1
-0001	Data01	读写Q区0.1		1	1
- 0002	Data02	读写M区0.0		1	1
20003	Data03	读写DB1:WUB0		41538.0	1

6.11.2 Through PC AccessOPC

- 1. Openning the configuration environment of MCGS--equipment window, selecting OPC server.
- 2、Selecting "S7200 OPC Server".

ing (Rebui		
opcitien-lobcitiel	_	-
OT COMPANY SHE		ALE-VERMORCH & ST
本属性 通道连续 设备	iiiit i	网络节点
设备属性名	设备属性值	OPC服务目
很备名称 设备注释 	OPCR음0 OPCR음	NetS7 选择计算机上注册的OPC服务器
OPC版务器 网络节点 教護采集方式 初始工作状态 最小采集周期(ms) 重新连接话时(ms)	e-同步杀集 1-启动 1000 10006	BEICHEN NETLINK.OPC.V3 S7280.0PCServer CCOPC.XMLWrapper KingView.View.1 KEPware.KEPServetEx.V4 HillschertfimMH.OncServer.1
	- History	使用OPC1.0 「 从注册表中查找 「 查找(3) [确定(20] 取消(3)

6.11.3 Through ModbusTCP

- In the device configuration, selecting "general TCP/IP parent device"-"standard Modbus TCP sub device";
- 2. In "the remote IP address", entering "ODOT-S7MPI's IP address"; In "equipment address", entering "S7-300PLC's station address".

sam min vias	ALL ALL XI GIDI	MIN IN M	1	
CONS				
⇒ 總相TCP/IP父役备0-[編 ⇒ 役畜0-[結准Modbuil	離TCP/IP欠後者] iTCP手被者]	X		
ITCP/TER GROUNDER		ROKHRT - 1201	1	
6本属性 设备测试		基本属性 建速速接 设。	and and the second	
设备属性名	被备属性值	秋奈英性 石	说会属性课	ŀ
说曼名称	通用TCPMP公司备0	(内部属性)	设置设备内部属性	f
说备注释	通用TCPMP公设备	采集优化	0不优化	н
初始工作状态	1-启动	在线帮助	查看设备在线帮助	H
最小采集周期[ms]	1000	领备名称	祝岳0	н
数据乐集方式	0-何步乐集	说番连释	标准ModbusTCP于很紧	Ш
网络类型	1 - TCP	机始工作状态	1-启动	н
服务群/客户设置	0-3月	最小采集周期(ms)	1000	Ш
本地PP地址	192.168.1.100	很备地址	2 填入S7300站地址	2
本地端口号	3000	通讯等待时间	500	£.
远程iPR地址	192.168.1.188	快速采集次数	0	н
送程端口号	502	16位整数解码顺序	0-12	P
Sector Contractor	22220	32位整数解码顺序	0-1234	

6.12 The settings of iFIX through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7MPI to connect to iFIX, the methods include: the S7 driver of iFIX(need to purchase a license) \sim Modbus TCP driver.

6.12.1 Through ModbusTCP

In the device configuration, selecting the Moubus TCP driver.

6.13 The settings of ForceControl through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7PPI to connect to ForceControl, the methods include: S7TCP Modbus TCP driver.

6.13.1 Through S7TCP

1、 Openning the development system of ForceControl -- IO equipment configuration, selecting "PLC-SIEMENS (Siemens) - S7 series TCP protocol".

ter finning	C Jolanager		
	1279日の 第1890 1279日の 第1890 1279日の 第1890	Con.	1.000
	A X S	288 수) ECite 수) ECite 4) ECite 821 4) 51200	1960 (
□□ 单注设置 ● 有助说明	40, 1/07(# \$1/8	((数字)

2、 Entering the equipment name and the equipment address (S7300PLC's station adderss).

设备名称: \$7300	
で會描述: 更新周期: 50	
超时时间:8	秒 🔹
设备地址: 通信方式: TCP/IP网络	<u>*</u>
故障后恢复查询 周期: 300 秒 ▽ 最大时	限: 60 分钟
14	高级

3、Entering the IP address and the port number(the default is 102) of ODOT-S7MPI, completing the settings.

	设备IP地址: 192.16	8.1.189 端口: 102
	「 启用备用通道	
SR.	备用IP地址	
	Г 主通道恢复后自动切	回,方式: 📃
	「「本机网卡冗余	
Ster	本机网卡IP地址	第日: 0
	备用阿卡卫地址	9 . 口將
	☞ 连续采集失败 3	次后重新初始化链接

6.13.2 Through ModbusTCP

1、Openning the development system of ForceControl -- IO equipment configuration, selecting "PLC-MODICON (Modicon) —modbus TCP communication".



2、Entering the equipment name and the equipment address (S7-300PLC's station address);

	设备名称: MBTCP	
	设备描述:	
	更新周期: 50	毫秒,
	超时时间: 8	1秒 、
~	设备地址: 21	
	通信方式: TCP/IP网络 故障后恢复查询 周期: 300 秒 ▽ 最大时限:	- 50 分钟
		高级

3、 Entering the IP address and the port number(the default is 502) of ODOT-S7MPI, completing the settings.

设备IF地址: 192.168.1.	189 第二: 502
1 主通道恢复后目动切回。) 「「本机网卡冗余 本机网卡订地址」 备用网卡订地址」	前口 [0 前口: [0
☞ 连续采集失败 3	- 次后重新初始化链接

6.14 The settings of KepWare OPC through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7MPI to connect to KepWare OPC, the method is through the S7TCP driver of Siemens.

6.14.1 Channel settings

1. Openning Kepware OPC Configuration, adding a channel, entering the channel name, the next step;

🙆 KEPSozverEX - Runt	ine (Demo Expires)	00:00:00)	
Eile Edit View Icals E	notice Help		
	四日子りと、		
Rick to add a channel	New Ghannel - Ide	ntification	
		A channel name can be from 1 to 256 characters in length. Names can not contain periods, double quotations or start with an underscore. Channel name:	
		<u>《上一步回【下一步回》</u> 取消	帮助

2、 Selecting Siemens TCP/IP Ethernet driver, clicking the next step;

Select the device driver you want to assign to the channel. The drop-down list below contains the names of
all the drivers that are installed on your system.
Device driver:
Stemens TCP/IP Ethemet

3、 Selecting the network card of the computer;

This channel is configured to communicate over a network. You can select the network adapter that the driver should use from the list below. Select 'Default' if you want the operating system to choose the network adapter for you.	
Network Adapter: Realtek RTL8169C((192.168.1.105)	
<上一步(B) 下一步(N)> 取消 帮助	

4. According to the need to choose the mode (the default is ok), clicking the next step;

	You can control how the server processes writes on this channel. Set the optimization method and write-to-read duty cycle below. Note: Writing only the latest value can affect batch processing or the equivalent.	
Contraction of the second	Optimization Method <u>W</u> rite all values for all tags Write only latest value for <u>n</u> on-boolean tags Write only latest value for <u>all</u> tags	
	Duty Cycle Perform 10 * writes for every 1 read	

5、 Complete the settings of channel parameter.

Name: Channel1 Device Driver: Siemens TCP/IP Ethemet Diagnostics: Disabled Network Adapter: Realtek RTL8168C[[192.168.1.105] Write Optimization: Write only latest value for all tags 10 writes per read		lame: Channel1 evice Driver: Siemens TCP/IP Ethemet riagnostics: Disabled	
Network Adapter: Reatek RTL8168C[[192.168.1.105] Write Optimization: Write only latest value for all tags 10 writes per read	NR	etwork Arlanter	
Write Optimization: Write only latest value for all tags 10 writes per read		ealtek RTL8168C([192.168.1.105]	
		/rite Optimization: /rite only latest value for all tags 0 writes per read	
		<u>≥</u> ,	

6.14.2 Device settings

1. Adding a device, entering the device name, clicking the next step;

Channell		Bescrip
Click to add a device.	New Device - Name	
	A device name can be from 1 to 256 of in length. Names can not contain periods, doubt quotations or start with an underscore.	haracter:
	★上一步回 下一步回> 取消	」

2 Selecting S7-300, clicking the next step;

	The device you are defining uses a device driver that supports more than one model. The list below shows all supported models. Select a model that best describes the device you are defining.
	Device model
 <±-	-步(B) 下一步(N) 》 取消 将助

3、Entering the IP address of ODOT-S7MPI, clicking the next step;

The device you are defining may be multidropped as part of a network of devices. In order to communicate with the device, it must be assigned a unique ID. Your documentation for the device may refer to this as a "Network ID" or "Network Address."
Device (D: 192,169,1,190

4. The other parameters can be default, completing the settings of device.

If the following settings are correct click 'Finish' to using the new device.	begin
Name: Device1 Model: S7-300 ID: 192.168.1.190 Scan Mode: Respect client specified scan rate	< 10
Connect Timeout: 3 Sec. Request Timeout: 2000 ms Fail after 2 attempts Inter-Request Delay: 0 ms Auto-Demotion: Disabled	-

6.14.3 Variable settings

1、 Creating a new variable group;

Lile Idit Fire Irals Duties	Selp	-010/	And hard to
	· · · · · · · · · · · · · · · · · · ·	K 🔯	
Channell	Tag Name	Address Data Type d a static tag. Tags are not requ	Scan Rate Scaling ired, but are browsable by OPC clie
New Tag G	roup		
Name: ji	stoupi	Cancel Help	
	<		
Ready		Default User	Clients: 0 Active tags: 0 of 0

2、Creating new variables;



4、 Checking the data communication in the OPC client.

6.15 The settings of FrameView through ODOT-S7MPI

Siemens S7-300/400 uses ODOT-S7MPI to connect to FrameView, the methods include: the S7TCP driver of Siemens Modbus TCP driver.

6.15.1 Through the S7TCP driver of Siemens

1、Installing the driver

Selecting "basic application"--"equipment communication", executing "1.install driver", showing the following dialog box:

● 西门子/VIPA STPPI	▲ [以太阿認动]使用普通网卡,不需SIMATIC-	NET,访问S7以太网或P8接口。
- STPFI/TCP - ST200 - WI - STCOM - STCOM - STCOM - STCOM - STAOH - DFN - 39648 - SSASSI1 - ScalanceX - AB - MODBUS/施附德 - GZ - SK内龙 - 三蕨 	 ✓ I - 映象输入 ✓ Q - 映象输出 ✓ B - 中间标志 ✓ DB - 数据块 ✓ FI - 外设输入 ✓ FI - 外设输出 ✓ T - 计时器 ✓ C - 计数器 ✓ V - S7200存储区 ✓ IF - 诊断螺/中区(1089te/条) ✓ JT - CPU时钟(889te) ✓ S1 - CPUt大态 	 ☑ S2 - 集成DF接口从站状态 ☑ S3 - 扩展DF接口从站状态 ☑ S4 - 集成DF接口从站故障 ☑ S5 - 扩展DF接口从站故障 ☑ S6 - 模块状态 □ □ □ □ □

Selecting "S7TCP" driver from the Siemens, clicking "Install" button to install.

2、 Definingi equipment's data sheet

Selecting"basic application"--"equipment communication", executing"4.equipment's data sheet", displaying the definition interface of equipment's data table.

Double clicking D2 equipment number, defining it by the following dialog box:

STTCP 【以太网秘动]使用普通网卡,不蕾SIMATIC-KET,访问ST以太网或PK接口. [1].這程參数 [1].這程參数 [2] [2] [2] [2] [2] [3].通讯数据 [3].通讯数器 [3] [3].通讯数器 [3] [3].通讯数器 [3] [3].通讯数器 [3].通讯数器 [3] [3].通讯数器 [3].1	
☑ 动态扫描级别: 按强选项:□元中断标志: 中新标志:	I
- [2].本地参数 本机IP地址[1/2]: [192.168.1.105 	8); (];

We define DB1.DBB0~DB1.DBB19 of S7-300PLC, a total of 20 bytes data.

注意: Note: "the IP address of equipment" is the IP address of ODOT-S7MPI (the default is 192.168.1.188).

3、 Monitor equipment communication

After activating the monitoring system, you can monitor the communication state of the driver. Selecting "basic application"--"equipment communication", "6.monitor S7TCP drive", the interface is shown below:

.S7TC	P驱动程序		- 1000					
發發音	本机IP	服务器IP	CP여름号	状态	读计数	写计数	提示	
[02]	192, 168, 1, 105	192. 168. 1. 188	2	~	324	0	[00] - 通讯正常.	
		Landrenser					Lande consideration	

4、 Monitoring equipment's data sheet

Selecting "basic application"-- "equipment communication", "5. monitor "equipment's data

sheets	"". the	interface	is shown	below:
	,			

スチ	DWO				DW1				092				DW3		
Ŧ	10		¥1		¥2		#3		84		115		16		Y
字节	BO	B1	82	B3	B4	B5	B6	87	B8	B9	B10	B11	B12	B13	Bl
[D1]	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
[02]	28	60	68	60	68	60	68	60	68	60	68	60	68	60	65

In the line of [D2], showing 20 bytes data you predefined.

6.15.2 Through ModbusTCP

1、Installing the driver

Selecting "basic application"--"equipment communication", executing "1.install driver", showing the following dialog box:

9. 安装设备通讯驱动(最多能)	安装32驱动	,每驱动支持128并发任务)	and the second	×
 · ·	^	[以太网驱动]MODBUS/TCP通讯协议。		
■ WOUBCREAD ● MB_BIV MB_BIV/TCP MB_BIV/TCP MB_SCIFE MB_SCIFE MB_SCIFE MB_SCIFE MB_CFFS UNITIELNAN MB_TCFFSS ● GE ● 欧姆龙 ● 三菱 ● AB ● 合达 ● 研华 ■ LG ● 影響動 ● 文数生 ● 光洋		 ※ 継电器(M)[01/0F] ※ 开入(DI)[02] ※ 寄存器(R)[03/10] ※ 根入(AI)[04] ※ M ※ M ※ M ※ M ※ N ※ N	 ✓ Зихиля ✓ 4ххиля ✓ 4ххиля ✓ 继电器 (M) (单个] [01/05] ✓ 开入 (D1) (单个] [02] ✓ MB - 芋节型寄存器* ✓ 寄存器 (A) [03/06] □ <li< th=""><th></th></li<>	
更新認动			安装	闭

Selecting MODBUS—"MB_TCPIP" driver, clicking "Install" button to install.

2、 Defining equipment data sheet

Selecting "basic application"—"communication equipment", executing "4.equipment data sheet", displaying the definition interface of equipment data table.

(12设출号()				~	>>
MB_TCPIP	■【以太网號动】MODBUS/TCP通讯协议。				
-[1]. 远程参数		[3]. 通讯数据			
IIB单元号:	2	数据类型: 4xxx	EKN		-
第口号:	502	访问方式:【读写	1	*	
设备IP地址:	192. 168. 1. 188	单元格式: 字(16位)	▶ 无符号整数 ▶	
通讯超时[ns]:	1000	首地址[0/1]:	1		
扫描级别[1-100]:	1	开始地址:	1	[000001]	
	☑ 动态扫描级别:	长度:	9	×[字(16位)]	
		增强选项:	□ 无中断核	起:	
[2].本地参数 ———			 中断时炎 日 尽枯枝(1) 	y据保持:	
本机IP地址[1/2]:	192.168.1.105		□ 관습号종	U畫品: E化计数标志 (B1038):	
	治費四-6		日报文日志	(文件(部分驱动):	
	CORTA IS		□ 受01相应	2单元控制[0/1/2/];	

We define 400001~400009here, a total of 9 word data.

Note: "equipment IP address" is the IP address of ODOT-S7MPI (The default is 192.168.1.188).

3、 Monitoring equipment communication

After activating the monitoring system, you can monitor the communication state of the driver program.

Selecting "basic application"--"equipment communication", "6.monitor "Modbus TCP" driver", the interface is shown as below:

MB_1	TCPIP驱动程序							×
设츕号	本机IP	服务器IP	端口号	状态	读计数	写计数	提示	
[02]	192.168.1.105	192. 168. 1. 188	502	4	634	0	[00]-通讯正常.	

4 Monitoring the variable sheet of equipment

Selecting "basic application"--"equipment communication", "5.monitor "equipment data sheet"", the interface is shown as below:

数字	DWO				DW1				DW2		-		DW3	
7	YU		*1		12		13		84		15		10	
子节	BO	B1	82	B3	B4	BS	86	87	18	89	B10	B11	B12	B13
(D1)	00	00	00	00	00	00	00	00	00	00	00	00	00	00
[12]	78	88	86	8B	86	88	86	8B	86	88	86	8B	86	88

In [D2], there is 10 word data you have predefined.

6.16 The communication settings of ODOT-S7PPI/MPI and Siemens Ethernet

touch screen

6.16.1 Hardware configuration

A Siemens S7-200PLC and a S7-300PLC; A ODOT-S7PPI and a ODOT-S7MPI; TP177B touch screen; a computer; a switch.

Program description: Siemens S7-200, S7-300PLC through ODOT Ethernet module establish the Ethernet communication of Siemens touch screen (with the network port) and the computer. Realizing ethernet communication of the touch screen and PLC.



6.16.2 Creating a new project

Openning WinCC flexible Standard software, clicking"project"-"new", selecting the corresponding type of the touch screen (such as TP177B Color PN/DP), clicking"ensure".



6.16.3 Establishing the connection

Double clicking "communication"-"connection", in the "communication driver connetion", selecting "SIMATIC S7 300/400" drive (establishing the connection with S7 300), in the "interface", selecting

"Ethernet", in the "HMI devices"-"address", entering the IP address of the touch screen (192.168.1.106), in the "PLC devices"-"address", entering the IP address of ODOT-S7MPI (here is 192.168.1.188).

G_1 GTF 1778 6' color F		
画面 -3 添加 画面	通讯第388序 在线 注释	
□ 核板 □ 面面_1	SIMATIC 57 300/400 王开	
通讯 李章		
S 连接 图193		
採整管理		
侯叔堂孫告 英設量报告		
1972 没置 配方		
· · · · · · · · · · · · · · · · · · ·	統撥軒	
运行系统用户管理 TP 1778 6	5 [°] color PN/DP	Station
100000 10000		
项目语言 图形	し (以太阿 👻	È.
项目文本		
ih l	HMI 设备	PLC
	1811	10.00
*872 Rž	18.12	地址
本管理 英世 ④ P ① 150	18.02 192, 168, 1, 106	HB12 192, 168, 1,

Using the same method to establish a connection with the S7 200 (connection 2), in the "HMI devices"-"address", entering the IP address of the touch screen (192.168.1.106), in the "PLC devices"-"address", entering the IP address of ODOT-S7PPI(192.168.1.189).

27 Ma	function and an and the second	1
-548 	道:1969年7月 任政 任祥	
注报_1	SIMATIC 57 300/400 #	
生援_2	SIMATIC \$7 200 千开 •	
微 区域热	物社	
2 区域3	指射	
TP 177B 6" c	ISH Color PN/DP	Station
ID 1778 6" c	color PN/CP 380	Sation
5 股 区版3 TP 1778 6° c	2897 color PN/CP 接口 比太府	Station
¥数 区域3 TP 177B 6" c	1894 color PN/DP 接口 以太阿 V	Station
TP 177B 6" c	189日 このior PN/ICP 接口 以太阿 ・ シン の の の の の の の の の の の の の	Station
取 区域3	1899 まロ 以太阿 WHAT 役条	Station
取 区域3 TP 1778 6" c 类型	1894 Dolor PN/CP 接口 以太阿 NHMI 设备 拖址	Station 算法 PLC 设行 技社
★型 ④ P ○ P ○ P	2894 color PN/CP 接口 以太阿 NMZ 设备 i色址 192、168、1、106	Station 第二章 第二章 第二章 第二章 第二章 第二章 第二章 第二章 第二章 第二章
★型 ● IF	1894 color PN/DP 渡口 以太阿 NHWI 没备 地址 192、168、1、106	Station 第二日 18社 192、169、1、199 37展16神 の
●数 区域3 TP 1778 6" c 类型 ④ IP ③ ISO	1894 2007 PN/DP 接口 以太阿 NHMI 役备 地址 192, 158, 1, 106 只能在设备上组态地址	Station PLC 说 地址 192、168、1、18 方限5時 可以

6.16.4 Creating variables

Double clicking "communication"-"variables", creating the variable MW0 (connecting S7 300), creating the variable VW0 (connecting S7 200).

画面_1 七星	麦量 。5" 连接	🚙 周期					
							ZĹŢ-
名称	▲ 地址	R	相计数	采集周期	证罪	Č.	1000
MWO	MW 0	1		100 ms			
VW0	VW 0	• 1		100 ms	•		
	<						
W0 (変量)							0
常規	111	290	[uus	-11		14.10	
属性		-0197	14440			TRUE 12	
御祥							
		连援	连接_2	-			
		数据类型	Int	-			
		采集模式	循环使用	-			
		采集周期	100 ms	-			
		WALLET L WA	1.				

6.16.5 Creating a new frame

Creating the frame of two variables (MW0 of S7 300, VW0 of S7 200).

● 设备_1 (TP 177B 6'' color F	SIEMENS	SIMATIC PANEL
→ 御校 → 御校 → 爾面」 · 天最 · 「注決 · 」「注決 · 」」 · 」「注決 · 」」 · 」」 · 」 · 」 · 」 · 」 · 」 ·	1000000 57 300 37 200	
○ 项目语言 ○ 图形 □ 项目文本 B ○ 字典 ■ 5 結构 ● 5 約枚		

6.16.6 Downloading touch screen's program

Clicking "transfer", in the "computer name or IP address", entering the IP address of touch screen (192.168.1.106), clicking "transfer".

H (?	🗶 🛄 💷	स्ति 🗣 हिंछ 📑 भीता		
·····································	Ler E SIEMENS		SIMATIC PA	NEL
选择设备进行传送				
	模式	(U土网	M	□ 8用回検 ● 覆差用户管理

6.16.7 The operation of touch screen



6.17 The communication settings of ODOT-S7MPI and Siemens SmartlE

Siemens touch screen SmartIE has a high price, but can only be used to connect the S7-200; ODOT-S7MPI above the firmware version of 0.1.4.5 supports that SmartIE connects S7-300.

6.17.1 Project description

Siemens S7-300PLC through ODOT Ethernet module establishes the Ethernet communication of Siemens touch screen SMART 700 IE and the computer. Realizing ethernet communication of the touch screen and PLC.

6.17.2 Hardware configuration

A S7-300PLC; Ethernet communication module ODOT-S7 MPI; SMART 700 IE touch screen.



6.17.3 Creating a new project

Openning WinCC flexible Standard software, clicking"project"-"new", selecting the corresponding type of the touch screen (SMART 700 IE), clicking"ensure".

6.17.4 Establishing the connection

Double clicking "communication"-"connection", in the "communication driver connetion", selecting "SIMATIC S7 200" drive (establishing the connection with S7 300), in the "interface", selecting "Ethernet", in the "HMI devices"-"address", entering the IP address of the touch screen (192.168.1.106), in the "PLC devices"-"address", entering the IP address of ODOT-S7MPI (here is 192.168.1.188).

Cam: 12.9		40
1216 1216	A 5,555000 0416, 1 B . Spewtrz 57 200	
Stat 200	z	Sator
	। साम स्टब्स असर स्टब्स	Pic its
© 150	99, 169, 17, 164 Particide_haranet 6966 storte	- 第192、1648、 1、1299 67 第1548章 (日本) 5月3日 (日本) 5月31 (日本) 51

6.17.5 Creating variables

Double clicking "communication"-"variables", creating the variables (connecting S7 300).Note:the V eara of S7-200 corresponds the DB1 of S7 300.

38 ·	▲ 连接	数据类型	地址	数组计数	采集局期	注释
变量_1	连接_1	T Int	• vw o	• 1	100 ms	•
变量_2	這接_1	Int	VW 2	1	100 ms	
变量_3	连接_1	Int	VW 4	1	100 ms	
变量_4	连接_1	Int	VW 6	1	100 ms	
変量_5	道接_1	Int	VW 8	1	100 ms	
变量_6	连接_1	Bool	Q 0.0	1	200 ms	
变量_7	连接_1	Bool	M 0.1	1	100 ms	
	注: 変量_1 変量_2 変量_3 変量_4 変量_5 変量_6 変量_7	注於 注於 支量」 資源。1 支量」 資源。1				

6.17.6 Creating a new frame



6.17.7 Downloading touch screen's program

Clicking "transfer", in the "computer name or IP address", entering the IP address of touch screen (192.168.1.106), clicking "transfer".

设备_1 (Seart 700 IE)	设置用于 设备_1 Caur	t 700 IE)		
	模式	以太网	•]	口息用回传
				☑ 覆盖用户管理
	计算机名或 IP 地址	192, 168, 1, 105		☑ 覆盖配方数据记录
				C BOH FACK & VO

6.18 The settings of INTOUCH through ODOT-S7*PI

Siemens S7PLC use ODOT-S7*PI to connect to INTOUCH, the methods include: the S7TCP driver of http://www.odot.cn 95 /110 TEL:400-0024-485

Siemens.

6.18.1 Through the S7TCP driver of Siemens

1. You should set the parameter of ODOT-S7*PI module: through the S7TCP driver of Siemens, you need to pay attention to the parameter "S7TCP target PLC address", you need to enter the station address of PLC. For example: ODOT-S7PPI, the IP address:192.168.1.188,S7TCP target PLC address: 2; ODOT-S7MPI, IP address:192.168.1.189, S7TCP target PLC address: 3;

Net-S7参数配置				
Net模块IP地址: 192.168.1.188	3		上载参数 下载参数	
-S7总线接口参数配置 	以太网接口参数 STTCP服务器	魯 ModbusTCP服务器 NetS7协议服务器		
Modbus映射表 数据交换	IP地址: 子网掩码:	192 . 168 . 1 . 188 255 0	以太网接口参数 STICP服务器 Modby	uSTCP服务器 NetS7协议服务器
	网关地址:	192 . 168 . 1 . 1	服务器通讯端口号:	102
			默认目标PLC地址:	2
			通讯目标PLC地址由槽号决定:	关闭

Installing the S7TCP driver of Siemens "DASSIDirect": running "start menu / program /Wonderware/System Management Console (SMC) ", in DAServer Manager, you can find "SIDirect DAServer", shown in the following figure:



3、 Right clicking the "Configuration", selecting "Add PortCpS7 Object" in the menu; right clicking "New_PortCp_000" and selecting "Add S7Cp Object", adding a S7300 or S7400 site; you only need to enter the IP address of ODOT-S7MPI, the other parameter can be default.



Selecting "Device Group" property page. , right clicking the blank area of "Device Group" dialog, selecting "Add", adding a Device Group, you need to enter a name for"Topic_0", such as "S7300", and this name will be used in INTOUCH.

http://www.odot.cn

🖉 SIC - [ArchestrA System Hanag	ement Console (WANGHAIBO)\DAServer	Ianager\De 🔳 🗖 🔀
文件(27) 操作(26) 查看(27) 帮助(21)		
 ÅrchestrA System Management Console (WA DAServer Manager Default Group 	Node Type: S7Cp Delimiter:	. 📲 🛢
🖃 🖳 Local 😑 📑 ArchestrA. FSGateway. 2	New_S7Cp_000 Parameters Device Groups Device	te Items
🗄 🔏 Configuration	Name	Update Interval (ms)
🖃 🛃 ArchestrA. DASSIDirect. 2	57300	1000
□ Configuration		
New S7Cp 000		
± 2 New S7CP 200 000		
		>
< >		

4. Right clicking "New_PortCp_000" and selecting "Add PortCpS7_200 Object", adding a S7200 site, you only need to enter the IP address of ODOT-S7PPI, the other parameters can be default, and you need not enter the TSAP.



Selecting "Device Group" property page. , right clicking the blank area of

"Device Group" dialog, selecting "Add", adding a Device Group, you need to enter a name

💋 SEC - [ArchestrA System Hanag	ement Console (WANGHAIBO)\DAServer	Ianager\De 🔳 🗖 🗙
ArchestrA System Management Console (WA DAServer Manager Default Group Coal ArchestrA FSGateway 2	Node Type: S7CP_200 Delim	iter: .
 Configuration Configuration Configuration Configuration Configuration New PortCS7_000 New S7CP_000 New S7CP_200_000 	Name57200	Update Interval (ms) 1000
3 💷 Log Viewer	C 100 100 100 100 100 100 100 100 100 10	

5、 Right clicking "ArchestrA.DASSIDirect", selecting "Activate Server" to start the DA Server.

6 Openning the INTOUCH software, tool/configure/access name, adding two access name corresponding to the DeviceGroup of the two S7TCP site of DA Server. S7300TCP: in the "access name", entering "S7300TCP", in the "application program name", entering "DASSIDirect", in the "theme name", entering "S7300"; S7200TCP: in the "access name", entering "S7200TCP", in the "application program name", entering "S7200TCP", in the "access name", entering "S7200TCP", in the "application program name", entering "S7200";

🚼 InTouch - WindowHaker - C:\DOCU	J IS	ENTS AND SETTINGS\ALL USERS\APPLICAT	ON DATA WOND
; 文件 (E) 查看 (Y) 特别 (S) 帮助 (H)	6		
1 🖬 🖬 🗔 🖓 1 🖓 🕹 🖄 1 🕫 👘	ľ	方问名	-
44 B I U K A E = = 2		BCNetOPC	关闭
·····································		Galaxy S7200TCP	
窗口		S7300TCP	添加(A)
脚本			修改(M)
工具 🗸 🔻			BIRO(D)
□	b	你 办法问 <i>女</i>	#IFFEIDI
WindowViewer	F		
→ 提警	4	切向名風: \$7300109	确定
→ 一 / 历史记录		P点名:	取消
→ 向导/ActiveX 安装			
→ → → →		应用程序名(4):	故障转移(E)
		DASSIDirect	
		王题名山:	
		\$7300	
B SPC		安使用的物议 EI ○ DDF ○ SuiteLink ○ 消自交換	
□ □ □□ 应用程序			
	2	중 7 服务 結 定 不 即 [₩]	
	F	C DEG WITH SX	
		□ 启用辅助数据源	

7、 Selecting "mark name dictionary"

Creating the new variables of S7300, entering the "mark name", such as: "AAA"; selecting the "access name", such as "S7300TCP"; in the "project", entering the address of S7PLC, such as "db1, W0", corresponding DB1.DBW0.

TnTouch - WindowHaker - C:\DO	CUMENTS AND SETTINGS\ALL USERS\APPLICATION DATA\WONDERWARE\INTO 🔳 🖬 🗙
: 文件(g) 查看(y) 特别(s) 帮助(b)	() 运行时
🔁 🖬 🖬 🖓 🦓 🦓 🕹 🙈 🛷 -	🕅 🗳 i 🐌 🗉 🚽
▲ 经典视图 ×	标记名字典
窗口 •	○主要 ●详细 ○报警 ○详细和报警 ○成员
<u> 脚本</u> ▶	新建NI恢复RI 删除□] 保存 VI << 选择(S) >> 取消 关闭
工具 → 単 WindowNaker → 単 WindowNaker → 単 WindowNaker → 単 Mage Note → 加支系管理器	标记名(A): asa (共道Ц): //0 整型 // 通信(A): \$\$ystem 〇月演(Q) // 详释(L): AccessLevel □记录数第(L): 记录》第件(E) 《保留信(Q)
	初始值(½) 0 最小工程单位: 32768 最大工程单位(½) 32767 死区(Δ) 0 最小康始繁殖(½) 32268 最大原始繁殖(½) 32767 工程单位(Δ) (12,762) (12,762) (12,762) (12,762) (12,762) 过程单位(Δ) (12,762) (12,762) (12,762) (12,762) (12,762) 过时台(Δ) (12,762) (12,762) (12,762) (12,762) (12,762) 项目(½) (10,1,∞0) (14,762) (14,762) (14,762) (14,762)

Creating the new variables of S7200, entering the "mark name", such as: "bbb"; selecting the "access name", such as "S7200TCP"; in the "project", entering the address of S7PLC, such as "db1, W0", corresponding VW0.

标记名字典
○主要 ④详细 ○报警 ○详细和报警 ○成员
新建N] 恢复化] 删除D] 保存V] << 选择(S) ≥> 取消 关闭
标记名(A): bbb 类型(<u>T</u>): 1/0 整型
\$System
注释[C]: AccessLevel
□ 记录数据L) □ 记录事件(E) □ 保留值(I) □ 保留参数(M)
初始值 <u>(V)</u> : 0 最小工程单位: -32768 最大工程单位(<u>V</u>): 32767
死区(□): 0 最小原始数据(₩): -32768 最大原始数据(△): 32767
工程単位(E): □
访问名(<u>M</u>): \$7200TCP
项目(): db1,w0 书标记名用作项目名(U)

7.ModbusTCP's communication

ODOT-S7*PI module integrated ModbusTCP's communication server, so the ModbusTCP's client, such as the configuration software,OPC server,PLC supporting ModbusTCP, and the software realizing the development of high-level language of ModbusTCP's client , can access the internal data area of S7 series PLC directly. The address of Modbus's protocol inside ODOT has been mapped to the address area of S7 series PLC , and the function number includs: FC1,FC2, FC3, FC4, FC5, FC6 and FC16.

事务处	事务处	协 议	协 议	长度字段	长度字段	从站	功	数据地址	数据地址	指令数	指令数
理标识	理标识	标 识	标 识	(高字节)	(低字节)	地址	能	(高字节)	(低字节)	(高字	(低字
符	符	符	符				号			节)	节)
0x0	0x0	0x0	0x0	0x0	后面的字						
					节数						

The frame definition of ModbusTCP's protocol :

7.1. The mapping table of address

Modbus	S7 系列 PLC	数据类型	计算公式	功能号	最大指令数
Slave address	S7station address	byte	equal	-	-
00001~	Q0.0~	位	Q <i>m.n</i> = 00001 + <i>m</i> *8 + <i>n</i>	FC1 (read coils)	S7-200: 119 S7-300: 784
				FC5 (Write single coil)	1
10001~	10.0~	位	l <i>m.n</i> = 10001 + <i>m</i> *8 + <i>n</i>	FC2 (Read Discrete Inputs)	S7-200: 119 S7-300: 784
30001~	MWO	字(2字节)	MW m= 30001 + m/ 2, m 为 偶数	FC4 (Read input register)	S7-200: 16 S7-300: 111
40001~	DBx.DBW0	字(2字节)	DBx.DBWm = 40001 + m/2, m 为偶数(x 由参数指定, S7-200 的 V 区为 DB1)(见 <u>S7 总线接口参数</u>)	FC3 (Read input register) FC16 (write Multple registers) FC6 (write single register)	111

7.2 Using the ModScan32 to test

Unpack modscan2_cr.rar under the product's CD\using manual\software of communication test.

1. Running the software of modscan32.

2. Selecting the menu Connection/Connect, and selecting the Remote TCP/IP Server, and inputing the IP address of ODOT-S7*PI, and the Service port is 502; clicking the [OK] button.

3. Setting the Device ID in the sub window "ModSca1" to the station address of S7-200PLC (such as 2), and the function number is 03:HOLDING REGISTER, Address = 00001, Length = 10.

4. Displaying 16 hexadecimal data of 40001-40010 in the data area of the sub window corresponding to the value of S7-200's VW0-VW18.

×

5. Double clicking the data in the data area of the sub window can modify the value.

Connection Details	×
Connect	
Remote TCP/IP Server	
IP Address: 192.168.1.188	
Configuration 502	
Band 9600 Word 8 Parit NONE Stop I Band Vait for DSR from sl Wait for CIS from sla Delay 10 ms after RIS before transmitting first Delay 10 ms after last character before	
rotocol Selection OK Cancel	
Ele Connection Setup View Window Help	
ModScal	×
Address: 0001 Device Id: [2] Number of Polls: MODBUS Point Type Valid Slave Resp Length: 10 03: HOLDING REGISTER	9 onses: 9 Reset Ctrs
40001: <c456h> 40002: <c456h> 40002: <c456h> 40004: <c456h> 40005: <c456h> 40006: <c466h> 40008: <c466h> 40008: <c456h> 40008: <c456h> 400000: <c456h> 40010: <c456h> 40010: <c456h> 40010: <c456h></c456h></c456h></c456h></c456h></c456h></c456h></c466h></c466h></c456h></c456h></c456h></c456h></c456h>	

8. Diagnostic guidelines

ODOT-S7*PI module's hardware has the basic ability of hardware diagnostic, for the communication problem in the process of using, can be diagnosed by NetDevice software and Wireshark the capture tool of Ethernet packet.

8.1 Fast hardware diagnosis

The detailed hardware descriptionsee: <u>Hardware and interface</u>.

- The PLC is energized, and the ODOT-S7*PI module is inserted into the communication port of PLC, please observe the panel indicator of the module:
 - 1. Red Pwr indicator light should be bright.

If it is bright, the power source of the module is normal.

If it is extinguished, the possible reason is that:

1) The power source of the module has fault; please pull down the module from PLC, and supply the power source 24VDC from the external terminal, if the Pwr lamp is still not bright, the module can be confirmed the power source of the module has fault, and needs to repair.

2) If the Pwr light is bright when the external terminal supply the power sourse, indicating that the power source inside the communication port of PLC has fault, please change a PLC to try again.

2. Green Bus indicating light should be bright in seconds.

If it is bright, the module has found PLC, and the communication of PLC and the module is normal.

If it is flash, the module has not found PLC, the possible reason is that:

1) The communication Part of the module has fault, and can not be detected by PLC, so it need to repair.

2) The baud rate of PLC's communication port can not detect, such as greater than 1.5Mbps.

3) If the module is inserted into the PROFIBUS communication port, it maybe that PROFIBUS communication does not start (if PLC is the new factory, its PROFIBUS communication port is prohibited).

4) For ODOT-S7MPI, if it is running in the PPI/MPI/PROFIBUS protocol model, while the PLC is S7-200PLC, the Bus ligth will flash.

5) The communication port of PLC has fault.

If the Bus indicator light is not bright, the module inside the system has fault, so it needs to

repair.

- Computer is using the Ethernet cable (T568A or T568B) to connect to ODOT-S7*PI module, please observe the indicating lamp on the ethernet socket of the module:
 - 1. Yellow Link light located above the socket should be bright.

If the light is bright, the module and the computer have established Ethernet connection. If the Link light is not bright, the module has not established Ethernet connection, the possible reason is that:

- 1) Cable or socket has failure in contacting, check or replace the cable.
- 2) The Ethernet of the module has fault, needs to repair.
- 2. Orange Active light located below the socket should not be bright or flashes occasionally.

When the other device on the network communicate with the module, the Active light will flash, if there is no communication, it should be extinguished.

If the Active light is continuous bright (note: is not rapid flsahing), the Ethernet of the module has fault, so it needs to repair.

• Openning the computer's IE browser, entering 192.168.1.188 (the factory IP of the module) to the address bar of the browser, if you can see the inner Web page of the module, the module works normally

If you can not see the inner Web page of the module, the possible reason is that:

1. The computer and the module are not in the same network segment, you need to set the parameters of computer's IP address.

2. In some situations, if the wireless communication of the computer is been started, it will affect the communication of the local network card. Please disable the computer wireless network card.

3. The IP address of the module has been changed, you need to use the NetDevice software to search the module.

4. If the NetDevice software can not search for the module (note: you should add NetDevice to the exception of the firewall), the module may have fault, and needs to repair.

8.2 The communication diagnosis of module

The communication diagnostic of ODOT-S7*PI can been realized through the internal diagnosis Webpage, NetDevice software or STEP7 driven programming.

4、 Running NetDevice software, as shown blew:

》Net模块配置和	诊断工具	NetDevice V8.0.1.2	2					
本地连接 192.16	8.1.50	- 🝳 搜索设备	i 🚺 设置IP地	止 🔅 修改设备参数	🔗 设备运行诊断	设备配置主页	_入 通讯测试	
设备名称	序列号	出厂日期	固件版本 0	日本 あい こう こう こう こう こう しんしょう ほうしん ほうしん ほうしん ほうしん しんしん しんしん しんしん しんし	MAC地址	IP地址	子网掩码	网关
ODOT-STWPI V2.0	32622	2018. 01. 29	8.1.3.3	西门子ST系列	00:42:43:00:77:68	192.168.1.188	255.255.255.0	192. 168. 1. 1
搜索到1设备!								

5. Selecting the module you have searched, clicking [equipment's operation diagnosis] button, as shown below:

_S7Bus接口信息	Į				^ي ا (以太网接	幻信息-						系统	充运行信	息——				
S7协议模式:		M	IPI主从	站		TCP连	接总数:				0		;	系统运行	时间:				
S7总线状态: 运行			STTCP连接数:				0							0天0:0					
自动波特率:			宗	威		Modbu	usTCP <u>连接</u>	妾数:			0			上次内部	部故障:				
当前波特率:		18	87500Ъ	ps		NetS7	'连接数:				0						Æ	故障	
通讯请求总数	:			0		通讯词	青求总数	:			0		3	通讯代码	冯 :				
正确响应次数:		0				置讯请尔志数: 正确响应次数:					0				-		OxFFFE		
正确响应次数	:			U			错误响应次数:				0						0.1111		
正确响应次数 错误响应次数 S7总线地	业表:			0		错误叫	向应次数	::			0								
正确响应次数 错误响应次数 S7总线地: 0	<u>址表:</u>	2	3	0 0 4	5		向应次数 7	8	9	10	0	12	13	14	15	16	17	18	1
正确响应次数 错误响应次数 S7总线地; 0 0 M	<u>址表:</u>	2 M	3	0 4	5		向应次数 7	8	9	10	11	12	13	14	15	16	17	18	1
正确响应次数 错误响应次数 S7总线地归 0 0 20	<u>业表:</u>	2 M	3	4	5		向应次数 7	8	9	10	0	12	13	14	15	16	17	18	19
正确响应次数 错误响应次数 S7总线地归 0 0 8 0 40	<u>世表</u> :	2 M	3	4	5		向应次数 7	8	9	10	0	12	13	14	15	16	17	18	19
正确响应次数 错误响应次数 S7总线地归 0 0 0 40 60	· · · ·	2 M	3	4	5	6 6	向 应次数 7	8	9	10	11	12	13	14	15	16	17	18	1
正确响应次数 错误响应次数 S7总线地归 0 0 8 0 40 60 80	业表: 1 1	2 M	3	4	5	6 6	向应次数 7 	8	9	10	0	12	13	14	15	16	17	18	1
正确响应次数 错误响应次数 S7总线地打 0 0 <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u> <u>0</u>	业表: 1 1 1	2 M	3	4	5	6 6	育 7	8	9	10	0	12	13	14	15	16	17	18	11

The state of the picture's [S7 bus's interface information] is very important, for a ODOT-S7*PI module under normal working condition, the state of bus should be "run", automatic baud rate should be "complete", and can display the correct baud rate.

The address table of the master station contains all address of the master station on the network, and the address table of the slave station contains all address of the slave station on the network, S7-300/400 are the master station, S7-200 are the slave station. The ODOT module is the master station.

If the times of the error response are non 0, there is mistake in communication, the possible reason is that:

- The PLC of the upper software accesses does not exist.
- The data region of the upper software accesses does not exist in PLC.
- There is error of S7 protocol model, such as ODOT-S7MPI is in the PPI mode, but the PLC is S7-300, the error will occur when using STEP7 software to communicate

If the error response frame has data (non 16 hexadecimal FF), you can click the copy button to copy it down and provide it to Beichen's technical support, it can help us to find out the problem.

The Internal fault of the system's operation information is the system fault of the module, under normal circumstances, it should not exist, if it exists, please contact Beichen's technical support.

All error messages (except the system faults) is automatically cleared after the module has electricity again.

6、 Selecting the module you have searched, clicking the [ODOTS7 communication test]button, as shown below:

💸 Net模块配置和	诊断工具	-NetDevice V8.0.1	.2						
本地连接 192.16	8.1.50			P地址	修改设备参数	🔗 设备运行诊断	设备配置主页	ऒ 通讯测试	
设备名称	序列号	出厂日期	固件版本	OEM标识	协议品牌	MAC地址	IP地址	子网掩码	网关
ODOT-S7MPI V2.0	32622	2018.01.29	8.1.3.3		西门子S7系列	00:42:43:00:7F:6E	192.168.1.188	255.255.255.0	192.168.1.1
搜索到1设备!									.:!

ODOTS7 communication test can be used to test whether the normal communication of the module and the PLC. as shown below:

NetS7通讯测试	
模块的IP地址 192 168 1 188 连接	断开
通讯任务 读取 ▼ 地址为 2 🗢 的FLC MB ▼1 🔄 0 🗢 开始的 100 🖨	↑ 字节 ▼
发送数据帧 03 FF 08 F9 00 00 33 00 02 00 00 00 00 64 05 01	安洋
	_{友达} 250 次
接收数据帧	
$ \begin{smallmatrix} 0 & 0 & 0 & 0 & 0 & 22 & 02 & 37 & 01 & 00 & 00 & 00 & 00 & 00 & 00 & 0$	☑ 数据 接收 249 次 正确 249 次 响应
警告: 禁止对正在控制设备运行的PLC进行通讯测试! 注· 太通讯测试采用WatS7th议实现。pd于S7-2006的V区违选择DB1。	31 ms

7、 If you encounter the software problems of communication, before contacting Wuxi Beichen's technical support ,please get two pictures ready firstly: [equipment's operation diagnosis] chart and [ODOTS7 communication test] chart.

8.3 Wireshark capture tool

If there is some problems in the Ethernet application of module, you can use Wireshark to capture the data packet of the computer communicates with module to analysis. Wireshark is a free software, and it can be downloaded from the internet.

- 1、 Operating the monitoring software (MicroWIN, STEP7, WINCC etc.).
- 2、 Openning WireShark software.
- 3、 Clicking "Options" of "Capture".



4.selecting your network card in "Interface" of the pop-up dialog box, entering in "host 192.168.1.199" in "Capter Filter", 192.168.1.199 is the IP address of

ODOT-S7*PI, clicking "Start" to start capturing.

Capture						
Interface: Broadcom NetEtreme Gigabit Ethernet Driver					(Microsoft's Packet Scheduler) : \D	
IP address: 19	2. 168. 1. 104					
Link layer hea	far type:	Ethernet	Buffer size:	1	🗧 negabyte(s)	Wireless Settings
Capture pack	ets in pro	aiscuous a	node			
Limit each p	acket to 6		bytes			
Capture Filter	host 19	92.168.1.1	199			•
Capture File(s)					Display Options	
File: Browse					I ladete list of a	
Use multiple	files		-	_	C Deare tite or b	chers in real city
Next file es	ery 1		C negabyte(s)	v	Automatic scroll:	ng in live captur
Next file.es	ery 1		arnute (x)	×	Hide capture info	dialog
🖌 Ring buffer	vith 2		C file:			
Stop capture after		1 😂 file(s)		Make VezoTation		
top Capture					M Enable MAC name n	esolution
🗌 after	after 1		🗘 packet (s)		Enable network name resolution	
🗌 after		9	negabyte(s)	Y		
after		0	minute(s)	×	Enable transport	name resolution

5. Clicking "Stop" of "Capture" to stop capturing.

📶 Broadcom NetXtr	eme Gigabit Ethernet Driv	ver (Microsoft's P	
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>G</u> o	<u>Capture</u> <u>Analyze</u> <u>S</u> tatistics	felp	
	📕 Interfaces	🗣 🥥 🐺 👱 🔳	
<u>F</u> ilter:	👹 Options Ctrl+K 💕 Start	• <u>E</u> xp	
No Time	😫 Stop Ctrl+E	Destination	
/80 /.084499 781 7.108795 782 7.109093	🕍 <u>R</u> estart 🎯 Capture <u>F</u> ilters	192.168.1.104 192.168.1.199 192.168.1.104	
783 7.123797	192.108.1.199	192.168.1.104	
785 7.124305	192.168.1.199	192.168.1.104	
786 7.156186	192.168.1.104	192.168.1.199	

6. Saving the file and sending to ODOT's technical support.

9.FAQ

9.1 The use of ODOT-S7*PI module?

ODOT-S7*PI module is used for Ethernet data communication of Siemens S7 series PLC, its uses include PLC's programming and debugging, remote data's acquisition as well as equipment's maintenance through Internet. It can replace the traditional communication scheme using RS485, such as CP5611,CP5613 communication card, also can replace the communication scheme using CP243, CP343, CP443E, so it is so cost-effective. Please refer to th: <u>ODOT-S7*PI application</u>.

9.2 The technical advantages of ODOT-S7*PI module

- ODOT-S7*PI module can be used for multi master token communication of Siemens S7 ,the multi master device of Siemens can access to "the straight", such as CP5611 or Siemens's touch screen etc.;
- 2、 The perfect driver of "PG/PC" interface can be used for STEP7, MicroWIN's programming and debugging;
- 3. Non Siemens's touch screen can access to the extension communication port of "The bridge", it does not affect the original communication system, and increases a interface of Ethernet communication;
- 4. Supporting ModbusTCP communication;
- 5. Supporting the program maintenance of equipment through the Internet;
- 6. The electricity can be get from the communication port of PLC, without a power cut for the equipment, and it is plug-and-play;

9.3 The stability of ODOT-S7*PI module?

Each ODOT-S7*PI module must operate a week at a 60 degree aging box befor saling, and the number of tests of having electricity and no electricity more than 50000. We can ensure its long-term stable operation in the environment of 0 to 60 degree.

9.4 ODOT-S7MPI can be inserted in the communication port of PROFIBUS to operate?

Yes.The highest baud rate of communication ODOT-S7MPI supported is 1.5Mbps.

9.5 How to realize the connection of ODOT-S7*PI module and the remote PLC through the

internet?

There are a variety of ways to connect the remote PLC through the Internet, using the port mapping of the router or VPN, 具体请参考本手册的 Internet 远程设备维护 这一章。

9.6 The communication speed of ODOT-S7*PI module and the PLC?

For S7-200, at the baud rate of 187500bps, if you read 200 bytes of data, the time is about 20http://www.odot.cn107 /110TEL:400-0024-485

milliseconds; for S7-300/400, at the baud rate of 187500bps, if you read 200 bytes of data, the time is about 30 milliseconds (no other master access PLC).

9.7 How many connections of Ethernet client of ODOT-S7*PI module?

For S7-200, the largest number of connections of client is 24; for S7-300/400, the maximum number of connections depends on the PG connection settings of CPU parameter (the most is 16/32).

9.8 If the communication port of S7-200 has been occupied by EasyView touch screen, can

i realize the Ethernet communication by ODOT-S7PPI?

Yes, you can use "the bridge" of ODOT-S7PPI, put the communication cable of touch screen inserted in the extended communication port of module.

9.9 Does The ODOT-S7*PI module support the communication of a plurality of the

PLC located on bus at the same time?

Yes, as long as the S7 address of PLC on the bus is unique.

9.10 If the computer connects with the ODOT-S7*PI module, should I use the cross line or the straight line?

Every one is ok, ODOT-S7*PI module's Ethernet supports automatic line sequence adaptation.

9.11 How to read and write the data of PLC using ModbusTCP?

ODOT-S7*PI module has been integrated ModbusTCP server, the data area of Siemens PLC is automatically mapped to the data area of Modbus, see: <u>ModbusTCP Communication</u>.

9.12 Can ODOT-S7*PI module be used to Siemens 840D NC?

Yes. The PLC internal the system of Siemens NC is S7-300, some communication ports may not be integrated 24VDC power, you need to provide 24VDC power for module.

9.13 If the password protection has been set in PLC, can I use the ODOT-S7*PI module to read and write the data of PLC?

Yes.

10.Product's technical indicators

The ODOT-S7*PI module meet the following technical indicators:

Power supply		24VDC±20%/100mA				
The	working	0-60 Centigrade, 90% humidity, No condensation				
enviro	nment					
od-t 四川零点自动化系统有限公司 Sichuan Odot Automation System Co., Ltd.

Installation	installed at the DB9 communication port of Siemens S7PLC directly
size	65 x 33 x 17 mm
DB9	TIA/EIA RS-485 is compatible,ESD: \pm 15KV,at most 32 notes
communication	
port	
DB9	the multimaster protocol of Siemens S7 bus, supports PPI_{N} MPI and
communication	PROFIBUS, supports the baud rate (bps): 9600、19200、45450、93750、
protocol	187500、500K、1.5M
RJ45 ethernet	IEEE 802.3 is compatible, 10/100M BT, 1500Vrms, with Link/Active
	indicator light, supports Auto-MDIX
Ethernet	S7TCP, ModbusTCP, 24 connections of TCP/IP
protocol	
RoHS	Yes
production	
antiknock	4.5mm/30Hz/10Min
ESD	6KV
aging befor the	running at 60 degrees of aging box 168 hours, the number of times
factory	having electricity or not is 50000000
Communication	communicating with the PLC constantly for a month, there is no error in
stability	the 130 million times of communication

11.Ordering information

ODOT-S7PPI/the straight:

For the Ethernet data communication of Siemens S7-200, the expansion port and PLC's communication port is connected, can be used to access the multi master devices of Siemens, such as CP5611, CP5613 or touch screen.

ODOT-S7PPI/the bridge:

For the Ethernet data communication of SIEMENS S7-200, the expansion port and PLC's communication port is isolated, can be used to access the HMI devices of non SIEMENS, such as EasyView, MCGS, delta touch screen.

ODOT-S7MPI:

For the Ethernet data acquisition of SIEMENS S7-200/300/400, the expansion port and PLC's communication port is connected, can be used to access the multi master devices of SIEMENS, such as CP5611, CP5613 or touch screen.

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