如何在博途(TIA Portal)环境下组态PNPN耦合器?

原创文章,转载请注明出处。

更多实用资料请登录方正智芯官网: www.founderchip.com

作者:北岛李丁

前面的文章我们介绍了西门子的PNPN耦合器,今天我们来看看如何在西门子博途(TIA Portal)环境下对 PNPN耦合器进行组态并进行必要的硬件配置。



我们以CPU319F-3PNDP为当前Profinet网络的CPU。首先打开西门子博途集成开发环境,双击导航菜单"添加新设备(add new device)",在出现的对话框中,点击"控制器(Controllers)",在右边的树型菜 单栏中找到CPU319F,并给它起个设备名"SS_CPU319F",如下图:



点击OK确认后,CPU就添加到当前系统中了。然后在CPU的属性中,找到Profinet接口(Profinet interface),找到"以太网地址(Ethernet address)",在其右边的子网(subnet)中单击"添加新的 子网络(add new subnet)",系统会自动添加一个新的Profinet子网,并命名为:PN/IE_1。 在IP协议(IP Protocol)栏目中,设置CPU的IP地址,如下图:

Project3 + SS_CPU	319F [CPU	319F-3 PN/DP] 🗕 🗖 🗖				
7	5正智芯	5(Founder Chip)原创教程 🖉 Topology view 🔚 Network view 🔐 Device view				
SS_CPU319F	•	v 🖽 🕎 🦓 🌐 Q 🛨 🔤 🔤				
1 2		4 5 6 7 8 9 10 11				
Rail_0						
	e e					
	H					
		> 75%				
S_CPU319F [CPU 3	319F-3 PN/D	P] Properties Linfo L Diagnostics				
General IO ta	ags Sys	tem constants Texts				
General		Ethemet addresses				
Fail-safe		Interface antionized with				
MPI/DP interface [X1]		Interface networked with				
DP interface [X2]		Subnet: Not networked				
PROFINET interface [)	G] ≣					
General		Add new subnet 点齿这里训理PN网络				
F-parameters						
Ethernet address	es 🗌	IP protocol				
Time synchronizat	ion ,	Cat IP address in the project				
Operating mode	F	e set address in the project				
 Advanced options 	5	IP address: 192.168.0.2				
Interface optio	ns	Subnet mask: 255 . 255 . 255 . 0				
Media redunda	incy					
Real time setti	ngs					
Port [X3 P1 R]		Routeraddress: 0_0_0_0 _0 方下智术				

配置好Profinet网络及IP地址后,接下来添加PNPN耦合器。切换到网络视图(Network View),在硬件目录(Hardware catolog)中找到其它现场设备(Other field devices),依次打开各级菜单,找到PNPN耦合器(PN-PN Coupler),如下图:

Hardware catalog	
Options	
✓ Catalog	
	ivit ivit
🗹 Filter	
Field devices	~
🕶 🛅 Other field devices	
- DROFINET IO	
Drives	
Encoders	
- Gateway	
🕨 🤙 esd gmbh	
VIII SIEMENS AG	
IE/AS-i LINK PN IO	
▼ MPN/PN Coupler	
Migration	
PN/PN Coupler V1.0	
PN/PN Coupler V2.0	
✓ III PN/PN Coupler V3.0	≡
PN/PN Coupler X	1
PN/PN Coupler X	2
General	· #15:405
• 🛄 1/0 📃	の正面の

将PNPN耦合器拖拽到网络视图中,并将其连接到之前组态的PN/IE_1网络中,如下图:



选择设备视图(Device View),将PNPN耦合器的设备名称修改为SS-PNPN01。然后选择设备概览(Deive Data),添加交换数据的类型。交换数据可以根据需要定义,但耦合器双方必须相互对应,本文以IN/OUT 6 bytes/12 bytes和IN/OUT 12 bytes/6 bytes为例,如下图:

	vare catalog 👘 🗖 🛛						
Optio	ns						
opuo							
✓ Ca	talog						
		(init)					
🖂 Filt	er						
-	Head module						
	PN/PN Coupler V3.0						
- 🛅	Module	1					
•	m IN						
-	IN/OUT						
	IN/OUT 12 Bytes / 6 Bytes						
	IN/OUT 6 Bytes / 12 Bytes						
→ [🔁 ОИТ						
→ [RECORD DATA	-					
_							
PN	/DP] > Distributed I/O > PROFI	NET IO-Sy Topolog	stem (10 av view	00): PN/IE_	_1 → SS_I work view	PNPN01 _ I	∃× v
PN	/DP] ► Distributed I/O ► PROFI	NET IO-Sy	stem (10 gy view	00): PN/IE_	_1 → SS_I work view	PNPN01 _ I i	×
PN	/DP] → Distributed I/O → PROFI	NET IO-Sy	stem (10 gy view Slot	00): PN/IE_	1 → SS_I work view	PNPN01 _ P i	■ × v
PN	/DP] → Distributed I/O → PROFI	NET IO-Sy Topolog	stem (10 gy view Slot 0	DO): PN/IE_	_1 → SS_I work view Q address	PNPN01 _ P i	• ×
PN	/DP] → Distributed I/O → PROFI Device overview Module ✓ SS_PNPN01 → PN-IO-02	NET IO-Sy Topolog	stem (10 gy view Slot 0 0 x2	00): PN/IE_	1 → SS_1 work view	PNPN01 _ I Type PN/PN Coupler X2 PN-PN-Coupler	■ × v
PN	/DP] → Distributed I/O → PROFI Device overview Module ✓ SS_PNPN01 → PN-IO-02 IN/OUT 6 Bytes / 12 Bytes_1	NET IO-Sy Topolog Rack 0 0 0	stem (10 gy view Slot 0 0 X2 1	00): PN/IE_ Netro I address 8185* 8184* 05	1 → SS_1 work view Q address 011	PNPN01 Device view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 6 Bytes / 12	■ × v
··· PN	/DP] → Distributed I/O → PROFI Device overview Module ✓ SS_PNPN01 → PN-IO-02 IN/OUT 6 Bytes / 12 Bytes_1 IN/OUT 12 Bytes / 6 Bytes_1	Topolog Topolog	stem (10 3y view Slot 0 0 X2 1 2	DO): PN/IE_ Netro I address 8185* 8184* 05 617	1 ▶ SS_1 work view Q address 011 1217	PNPN01 PNPN01 Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 6 Bytes / 12 IN/OUT 12 Bytes / 6	■ × v
vice view	/DP] ► Distributed I/O ► PROFI	Topolog Topolo	stem (10 gy view Slot 0 0 X2 1 2 3	DO): PN/IE_ Networks I address 8185* 8184* 05 617	1 ▶ SS_1 work view Q address 011 1217	PNPN01 Price view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 6 Bytes / 12 IN/OUT 12 Bytes / 6	■ × v
Device view	/DP] ► Distributed I/O ► PROFI	Topolog Topolog Reck 0 0 0 0 0 0 0 0 0 0 0 0 0	stem (10 gy view Slot 0 x2 1 2 3 4	DO): PN/IE_ Netro 1 address 8185* 8184* 05 617	1 ▶ SS_1 work view Q address 011 1217	PNPN01 Price view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 6 Bytes / 12 IN/OUT 12 Bytes / 6	■ × v
Device view	/DP] ► Distributed I/O ► PROFI	NET IO-Sy RET IO-Sy Rack 0 0 0 0 0 0 0 0 0 0 0 0 0	stem (10 gy view Slot 0 0 X2 1 2 3 4 5	DO): PN/IE_ Netv I address 8185* 8184* 05 617	1 ▶ SS_1 work view Q address 011 1217	PNPN01 Price view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 12 Bytes / 6	■ × v
Device view	/DP] ► Distributed I/O ► PROFI	Ret IO-Sy P Topolog Rack 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	stem (10 gy view Slot 0 0 X2 1 2 3 4 5 6	DO): PN/IE_ Netv I address 8185* 8184* 05 617	1 ▶ SS_I work view Q address 011 1217	PNPN01 Price view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 12 Bytes / 6	×
Device view	/DP] ► Distributed I/O ► PROFI		stem (10 gy view Slot 0 0 X2 1 2 3 4 5 6 7	DO): PN/IE_ Netv I address 8185* 8184* 05 617	1 SS_I work view Q address 011 1217	PNPN01 Device view Type PN/PN Coupler X2 PN-PN-Coupler IN/OUT 12 Bytes / 12 IN/OUT 12 Bytes / 6	× ·
Device view	/DP] ► Distributed I/O ► PROFI	■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■ ■	stem (10 gy view Slot 0 0 X2 1 2 3 4 5 6 7 8	DO): PN/IE_ Networks 1 address 8185* 8184* 05 617	1 SS_I work view Q address 011 1217	PNPN01 I I I I I I I I I I I I I I I I I I I	×

硬件配置结束后,可以编译并下载到CPU中。然后连线给PNPN耦合器分配设备名。在网络视图中,选中PNPN 耦合器,单击右键,选择分配设备名(Assign device name),将设备名改成我们之前分配的名称: SS-PNPN01,如下图:



此致,PNPN耦合器的硬件配置已经完成。按照同样的方法设置另一个网络的PNPN耦合器(交换数据相互对应)。这样,两者就可以交换数据了。

好了,先介绍到这里了。相关参考文章:

<u>初识西门子PNPN耦合器(PN/PN Coupler)</u>

