EtherNet IP /PROFIBUS-DP 网关 EPS-320IP

产品手册 V 2.0 REVA



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User Manual

| 目 | 录 |
|---|---|
|---|---|

| 1 产品材 | 既述 | 4 |
|----------|---------------------------------------|-----|
| 1.1 | 产品功能 | 4 |
| 1.2 | 产品特点 | 4 |
| 1.3 | 技术指标 | 4 |
| 1.4 | 电磁兼容性能 | . 5 |
| | 1.4.1 高频干扰试验(GB/T15153.1 classIII) | 5 |
| | 1.4.2 快速瞬变脉冲群试验(GB/T17626.4 classIII) | 5 |
| | 1.4.3 静电放电干扰(GB/T 17626.2 classIII) | 5 |
| | 1.4.4 辐射电磁场(GB/T 17626.3 classIII) | 5 |
| 2 快速 | 应用指南 | 7 |
| 2.1 | 连接电源 | 7 |
| 2.2 | 连接以太网 | 7 |
| 2.3 | 配置开关 | 8 |
| 2.4 | 安装软件并配置 EPS-320IP | . 8 |
| 2.5 | 连接 PROFIBUS-DP | 8 |
| 3 硬件证 | 兑明 | 9 |
| 3.1 | 产品外观 | 9 |
| 3.2 | 指示灯 | 10 |
| 3.3 | 配置开关 | 10 |
| | 3.3.1 状态设置开关 | 10 |
| | 3.3.2 PROFIBUS-DP 地址设置开关 | 11 |
| 3.4 | 接口 | 11 |
| | 3.4.1 电源接口 | 11 |
| | 3.4.2 以太网接口 | 11 |
| | 3.4.3 PROFIBUS-DP 接口 | 12 |
| 4 配置轴 | 次件使用说明 | 13 |
| 4.1 | 用户主界面 | 14 |
| 4.2 | 配置视图界面 | 15 |
| 4.3 | 硬件通讯 | 17 |
| | 4.3.1 以太网配置 | 17 |
| | 4.3.2 上载配置 | 18 |
| | 4.3.3 下载配置 | 19 |
| 4.4 | 加载和保存配置 | 19 |
| | 4.4.1 保存配置工程 | 19 |
| | 4.4.2 加载配置工程 | 19 |
| 4.5 | EXCEL 文档输出 | 20 |
| 4.6 | 监视 | 20 |
| 5 EtherN | Iet/IP 连接参数设置 | 24 |
| 6 如何记 | 卖写 I/O 数据 | 25 |
| 6.1 | I/O 方式读写数据(推荐使用) | 25 |
| WWW.S | ibotech.net 2 SiboTech | |

User Manual

| 6.2 MSG 方式读写数据 | 29 |
|----------------------------|----|
| 6.2.1 读 I/O 数据 | |
| 6.2.2 写 I/O 数据 | |
| 7 STEP7 如何读写网关数据 | |
| 8 网络状态监视 | 40 |
| 9 典型应用 | 41 |
| 10 安装 | 42 |
| 10.1 机械尺寸 | 42 |
| 10.2 安装方法 | 42 |
| 11 运行维护及注意事项 | 44 |
| 12 版权信息 | 45 |
| 13 相关产品 | 46 |
| 附录:用 STEP 7 设置 PROFIBUS-DP | 47 |



1 产品概述

1.1 产品功能

EPS-320IP 网关是为用户提供快速便捷的连接 EtherNet/ IP 网络到 PROFIBUS-DP 网络的解决方案。该 网关支持西门子 PROFIBUS DP 主站 PLC、DCS 等 DP 主站和 AB (罗克韦尔)、OMRON 等 PLC 的互联。

1.2 产品特点

- ◆ 具有一个以太网接口 EtherNet IP 从站接口、一个 PROFIBUS-DP 从站接口;
- ◆ 以太网 10/100M 自适应;
- ◆ IP 地址冲突检测;
- ◆ 支持 DHCP、BOOTP 和静态设置;
- ◆ I/O 数据监视功能;

1.3 技术指标

[1] 支持 PROFIBUS-DP V0 协议,符合; JB/T 10308.3-2001: 测量和控制数字数据通信工业控制系统 用现场总线第 3 部分: PROFIBUS 规范;

- [2] PROFIBUS-DP 从站,波特率自适应,最大波特率 12M;
- [3] PROFIBUS-DP 输入数据最大为 244 字节,输出数据最大为 244 字节;
- [4] PROFIBUS-DP 接口 1KV 光电隔离;
- [5] 支持 ODVA 标准 EtherNet IP 通信协议;
- [6] EtherNet IP 可同时支持 3 组 I/O 连接通信;
- [7] EtherNet IP 的 I/O 数据读写支持两种方式:
 - i. 直接建立 I/O 连接读写 I/O 数据(推荐使用);
 - ii. 使用 MSG 指令读写 I/O 数据(高级功能);
- [8] 两端网络连接状态可相互监视;
- [9] 提供字节交换功能,无交换、双字节交换、四字节交换;

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EPS - 320 IP EtherNet IP/PROFIBUS DP 网关 User Manual

- [10] 供电 24VDC (11V~30V); 160mA (24VDC);
- [11] 工作环境温度: -20℃~60℃, 相对湿度 5%~95% (无凝露);
- [12] 外形尺寸: 40mm (宽)×125mm (高)×110mm (深);
- [13] 安装: 35mm 导轨;
- [14] 防护等级: IP20;

1.4 电磁兼容性能

1.4.1 高频干扰试验(GB/T15153.1 classIII)

| | 电源输入回路对地 | |
|------|----------|----------------------|
| 施加场所 | 电源输入回路之间 | |
| | 交流输入回路对地 | |
| | 第1波波高值 | 2.5~3kV |
| | 振荡频率 | 1.0~1.5MHz |
| 施加波形 | 1/2 衰减时间 | ≥6µs |
| | 重复频度 | 50 回以上/s |
| | 试验设备输出阻抗 | $150{\sim}200\Omega$ |

1.4.2 快速瞬变脉冲群试验(GB/T17626.4 classIII)

| 电压峰值 | 电源输入和交流加入回路: 2kV 弱电回路: 1kV |
|------|-------------------------------|
| 重复频率 | 5 kHz |

1.4.3 静电放电干扰(GB/T 17626.2 classIII)

| 施加场所 | 通常运用时,操作者触及部分 |
|-------|---------------------------|
| 电压、电流 | 6kV 接触放电,放电的第一个峰值电流 22.5A |
| 次数 | 每处1秒以上的间隔10回以上 |
| 极性 | 正极性 |

1.4.4 辐射电磁场(GB/T 17626.3 classIII)

| | 电波频率 | 150MHz, 400MHz, 900MHz | |
|-----|----------------|------------------------|----------|
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User Manual

| 试验场强 | 10 V/m |
|------|-------------------------|
| 辐射方法 | 使得天线前端触碰装置,或接近端子,断续辐射电波 |





2 快速应用指南

2.1 连接电源

使用直流 24V 电源供电, 电源接线如下图:



2.2 连接以太网

以太网接口采用 RJ-45 插座, 10/100M 自适应。



RJ-45 port

| 引脚 | 信号说明 |
|----|---------------------------|
| S1 | TXD+, Tranceive Data+, 输出 |
| S2 | TXD-, Tranceive Data-, 输出 |
| S3 | RXD+, Receive Data+, 输入 |
| S4 | Bi-directional Data+ |
| S5 | Bi-directional Data- |
| S6 | RXD-, Receive Data-, 输入 |
| S7 | Bi-directional Data+ |
| S8 | Bi-directional Data- |





2.3 配置开关

配置开关位于产品下方,共两位,请将模式(位1)拨至运行(Off),功能(位2)拨至0(Off),接通电源(或重新启动)使设置生效。

| 模式(位1) | 功能(位2) | 说明 |
|--------|----------|---|
| Off | Off | 运行模式, 允许读写配置数据 |
| Off | On | 运行模式,禁止读写配置数据 |
| On | Off 或 On | 配置模式, IP 地址固定为 192.168.0.10, 此模式只能读写配置数据,不能进行 EtherNet/IP 和 PROFIBUS 通信 |

2.4 安装软件并配置 EPS-320IP

登录上海泗博官方网站(www.sibotech.net)下载网关对应配置软件 EP-123,下载后安装配置软件 EP-123。按照提示即可轻松完成安装。然后将 EPS-320IP 的拨码开关拨到配置状态(按照配置开关的功能 表),给 EPS-320IP 上电,打开 EP-123 即可对 EPS-320IP 进行配置。

2.5 连接 PROFIBUS-DP

建议使用标准的 PROFIBUS-DP 连接器进行接线。

通过 EPS-320IP 侧面的旋码开关设置 PROFIBUS 地址, 0~99。

将 EPS-320IP 的拨码开关拨到运行状态,给 EPS-320IP 上电。

将 GSD 文件导入到 PROFIBUS 组态软件(如 STEP7 或 TIA Portal)中,并进行设置(具体步骤见产品手册附录)。

PBF 状态灯熄灭并且 STA 状态灯闪烁表示 PROFIBUS 连接成功!





- 3 硬件说明
- 3.1 产品外观



注:此图仅供参考,产品外观应以实物为准。







3.2 指示灯

| 指示灯 | 状态 | 说明 |
|---------|-------------|----------------------|
| CT A | 绿灯闪烁 | 有数据通信 |
| SIA | 绿灯灭 | 无数据通信 |
| | 在灯亭中 | PROFIBUS-DP 总线数据通信失 |
| PBF | 红月 币完 | 败 |
| | 红灯灭 | 数据通信正常 |
| | 红灯(绿灯)闪烁 | DHCP 或 BOOTP 状态 |
| MS | 红灯(绿灯)常亮 | IP 地址有冲突 |
| | 红灯(绿灯)灭 | 正常通信状态 |
| | 绿灯常亮 | EtherNet IP 连接已建立 |
| NC | 经收益 | EtherNet IP 未建立连接或连接 |
| INS | 绿灯闪烁 | 已断开 |
| | 绿灯灭 | EtherNet IP 未启动 |
| MS、NS 利 | ISTA 一起闪烁一次 | 启动状态 |
| MS | S和NS常亮 | |

3.3 配置开关

3.3.1 状态设置开关

配置开关位于产品下方,共两位,功能如下表所示。

| Off | | | |
|-----|---|---|--|
| On | 1 | 2 | |

| 模式(位1) | 功能(位2) | 说明 |
|--------|----------|------------------------------|
| Off | Off | 运行模式,允许读写配置数据 |
| Off | On | 运行模式,禁止读写配置数据 |
| | | 配置模式, IP 地址固定为 192.168.0.10, |
| On | Off 或 On | 此模式只能读写配置数据,不能进行 |
| | | EtherNet/IP 和 PROFIBUS 通信 |

注意: 重新设置配置开关后须重新启动 EPS-320IP, 使设置生效!





3.3.2 PROFIBUS-DP 地址设置开关



如上图所示其 PROFIBUS 地址计算公式为:

PROFIBUS 地址 = ($A \times 10$) + ($B \times 1$)

3.4 接口

3.4.1 电源接口



| 引脚 | 功能 |
|----|---------------|
| 1 | GND, 电源地 |
| 2 | NC,无连接 |
| 3 | 24V+, 直流正 24V |

3.4.2 以太网接口

以太网接口采用 RJ-45 插座, 10/100M 自适应。

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User Manual



RJ-45 port

| 引脚 | 信号说明 |
|----|---------------------------|
| S1 | TXD+, Tranceive Data+, 输出 |
| S2 | TXD-, Tranceive Data-, 输出 |
| S3 | RXD+, Receive Data+, 输入 |
| S4 | Bi-directional Data+ |
| S5 | Bi-directional Data- |
| S6 | RXD-, Receive Data-, 输入 |
| S7 | Bi-directional Data+ |
| S8 | Bi-directional Data- |

3.4.3 PROFIBUS-DP 接口



PROFIBUS-DP 接口采用 DB9 孔型接头,其引脚定义如下:

| 引脚 | 信号说明 |
|----|-------------|
| 3 | PROFI_B,数据正 |
| 5 | GND |
| 8 | PROFI_A,数据负 |





4 配置软件使用说明

EP-123 是一款基于 Windows 平台,用来设置网关 EPS-320IP 相关参数及命令的配置软件。本说明书 主要说明 EPS-320IP 的配置方法。

本软件通过 PC 机的以太网口和 EPS-320IP 连接通讯,上载或下载配置文件,在通讯前,请确保 EPS-320IP 和 PC 机处于同一以太网网络中。按照提示安装完后,双击软件图标即可进入软件登陆主界面:

| 选择设备类型 | |
|--------|-----------|
| Sih | oTech |
| | |
| 010 | oreen |
| 选择设备 | EPS-320MP |
| 选择设备 | EPS-320MP |

选择 EPS-320IP 进入配置 EPS-320IP 的界面:

| ※ 两关配置软件EP-123 | | |
|---------------------------------------|---|---------------------------------|
| 文件 (E) 编辑 (E) 工具 (E) 帮助 (H) | | |
| D 🚘 🖬 🛱 🗑 🗙 占 占 🖄 🔳 🖻 🖵 | | |
| · · · · · · · · · · · · · · · · · · · | 配置 | |
| 交合 现场员线 以太网 | NL直 高技業型 Profibus输入字节数 Profibus输出字节数 | Profibus 通过Profibus主站的组态软件设置 |
| | ļ | |
| 就绪 | | 数字 // |

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4.1 用户主界面

用户主界面包括:标题栏,菜单栏,工具栏,状态栏,设备版块,配置版块和注释版块。

备注:在该软件中,所有的灰色部分为不可更改项。

| × 務美配置数件EP-123 文件(1)編輯(2) I具(1) 報助(2) □ ☞ ■ 〒 〒 暦 ☆ × ★ 古 歳 ■ ■ @ Q | 莱单栏 | 标题栏 |
|---|--|--|
| 玻璃总线 现场总线 送太平 ↓ 工具栏 ↓ 设备版块:可选择操 作对象,包括现场总 线或子网,可增加节 点和命令 | 配置 协议类型选择 IF设定方式 IF地址 子网境码 网关地址 DNS1 DNS2 输入字节数Instance102 输出字节数Instance101 输入字节数Instance112 输出字节数Instance122 输出字节数Instance122 输出字节数Instance122 输出字节数Instance122 | EtherNet/IP从站 静态配置 192.168.0.10 255.255.0 192.168.0.1 0.0.0 1.10.0 1.10.0 1.10.0 1.10.0 1.10.0 1.10.0 1.10.0 1.10.0 1.10.0 |
| 就绪 | | 数字 |

工具栏:

工具栏如下图所示:

모 🖬 📓 🗑 🏹 古 古 🖧 👅 🗗 🖵

从左至右可用的功能分别是:新建、打开、保存、上载配置信息、下载配置信息、Excel 配置文档输出和监控。

□新建:新建一个配置工程

☑ 打开:打开一个配置工程

■保存:保存当前配置

▲上载配置信息:将配置信息从模块中读取上来,并且显示在软件中

www.sibotech.net





▲下载配置信息:将配置信息从软件中下载到模块

Excel 配置文档输出:将当前配置输出到本地硬盘,以.xls 文件格式保存

♀监视: 监视网关内存输入缓冲区数据

4.2 配置视图界面

在设备视图界面,单击现场总线,显示配置视图界面如下:

| ※ 两关配置软件EP-123 | | |
|---------------------------------------|--|----|
| 文件 (2) 编辑 (2) 工具 (1) 帮助 (H) | | |
| D 🗃 🖬 🗑 🗑 X 占 占 🛝 🗎 🔂 🖸 | | |
| ····································· | 配置 | |
| 改备 | RL査 - - - - - - - - - - - - - | |
| 就绪 | | 数字 |

总线类型: PROFIBUS

PROFIBUS 输入字节数:由 PROFIBUS 主站组态软件设置。

PROFIBUS 输出字节数:由 PROFIBUS 主站组态软件设置。

在设备视图界面,单击以太网,显示配置视图界面如下:

User Manual

| 设备 | 配置 | | |
|---------------------------|---|--|--|
| ▼# 现场总线 <u>↓大</u> ★ | bla lr设定方式 Ir设定方式 Ir设址 ONS1 DNS2 bNS2 输入学节数Instance102 输入学节数Instance111 输入学节数Instance112 输入学节数Instance122 输出学节数Instance122 输出学节数Instance121 网络状态指示 数据字节交换方式 | EtherNet/IP从站 静态配置 192.168.0.10 255.255.255.0 192.168.0.1 0.0.0 248 244 248 244 248 244 248 244 248 244 248 244 248 244 248 244 248 244 248 244 248 244 248 244 万端网络相互监视 7交換 | |

协议类型:固定为 EtherNet/IP 从站

IP 设置方式: 静态配置、BOOTP、DHCP 可选

IP 地址:设置设备的 IP 地址

子网掩码:设置设备的子网掩码

网关地址:设置设备的网关地址

DNS1: 略

DNS2: 略

输入字节数 Instance102: 范围 5~248, 默认为 248

输出字节数 Instance101: 范围为 1~244, 默认为 244

输入字节数 Instance112: 范围为 5~248, 默认为 248

输出字节数 Instance111: 范围为 1~244, 默认为 244

输入字节数 Instance122: 范围为 5~248, 默认为 248

输出字节数 Instance121: 范围为 1~244, 默认为 244

网络状态指示:可选择 两端网络相互监视、PROFIBUS 端监视 EtherNet/IP 网络状态、

EtherNet/IP 监视 PROFIBUS 网络状态、无指示

数据字节交换方式:可选择不交换、双字节交换、四字节交换 www.sibotech.net 16





4.3 硬件通讯

硬件通讯菜单项如下:

| 工具(T) | 帮助(H) | |
|------------|------------|-----|
| 串口配 | 置(2) | 😹 🔟 |
| 以太网 | 配置(E) | |
| 上载配 | 置心 | |
| 下载配 | 置(11) | |
| 冲突检 | :测(I) | |
| 文挡输 |)出(0) | |
| 通信调 |]]]]]] (S) | |

4.3.1 以太网配置

以太网配置对话框界面如下:

| 以太网配置 | | |
|-------|-----------|---|
| | ☞ 使用搜索功能 | |
| | 要连接的IP地址: | |
| | | |
| | 确定 取消 | 1 |
| | 确定 取消 | |

图 24: 以太网配置界面视图

当"使用搜索功能"勾上时,软件和硬件通讯时会搜索以太网中所有可识别的硬件,并显示在设备列

表中:

| Jser Manual | | | | |
|-------------|--------------|-------------------|-----|--|
| 建素设备 | | | ÿ | |
| 型号 | IP地址 | MAC地址 | 固件版 | |
| EPS-320IP | 192.168.0.10 | 64-ea-c5-22-01-1e | 1.7 | |
| | | | | |
| | | | | |
| < | | | > | |
| 登陆 | 吊 | 新 | 取消 | |

选中设备后点击登陆可连接到设备。

当"使用搜索功能"不勾上时,软件和硬件通讯时只会访问指定 IP 的硬件,并只把这一个硬件显示在 设备列表中。

4.3.2 上载配置

选择上载配置,登陆到所选硬件后,可以将网关配置信息从设备上载到软件中,显示界面如下:

| 上裁配置 | | | × |
|------|------|---------|---|
| | 上载配置 | 置已成功完成! | |
| | 上载 | 退出 | |



4.3.3 下载配置

选择下载配置,登陆到所选硬件后,可以将配置好的网关信息下载到网关设备,显示界面如下:

| 下载配置 | | | × |
|------|-------|--------|---|
| | 下载配置百 | 已成功完成! | |
| | 下载 | 退出 | |

备注: 在下载之前,请先确认所有的配置数据正确。

4.4 加载和保存配置

4.4.1 保存配置工程

选择"保存",可以将配置好的工程以.chg 文档保存。

| 文件 (2) | 编辑(E) | 工具(T) |
|--------|----------------|-------|
| 新建 @ | <u>I)</u> C | trl+N |
| 打开(| <u>)</u>) C | tr1+0 |
| 保存(\$ | 5) C | trl+S |
| 另存为 | t (<u>A</u>) | |
| 退出 (2 | D | |
| | | |

4.4.2 加载配置工程

选择"打开",可以将以保存的.chg 文件打开。

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User Manual

| 文件(E) | 编辑(图 |) 工具(T) |
|-------|----------------|---------|
| 新建 (| <u>4</u>) | Ctrl+N |
| 打开(| <u>)</u> | Ctrl+0 |
| 保存(| <u>s</u>) | Ctrl+S |
| 另存为 | t (<u>A</u>) | |
| 退出 0 | () | |
| - | | |

4.5 EXCEL 文档输出

Excel 配置文档输出有助于用户查看相关配置。

选择文档输出 ,将配置信息输出到 Excel 文档保存,选择合适的路径,如下所示:

| 另存为 | | ? | × |
|--|-------------------|---|---|
| 保存在(<u>I</u>): | 🕒 我的文档 | | |
| My Albums 图片收藏 器的形状 武的音乐 武接收到的 | 文件 | | |
| 文件名(M): | EPS-320IP | |] |
| 保存类型 (I): | Excel File(*.xls) | | İ |

4.6 监视

该功能用于监视网关内存输入输出缓冲区数据,显示界面如下:



User Manual

| 序号 | 时间 | 输入 / 输出 | 数据 / 异常代码 | |
|----|----|---------|-----------|--|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

监视数据如下:

| 序号 | 时间 | 数据方向 | | | | | | | | | | | | | | | |
|-------------|--------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 46 | 14:19:58 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 47 | 14:19:59 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 48 | 14:19:59 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 49 | 14:20:00 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 50 | 14:20:00 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 51 | 14:20:01 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 52 | 14:20:01 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 53 | 14:20:02 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 54 | 14:20:02 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 55 | 14:20:03 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 56 | 14:20:03 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00, |
| c | | | | | | | | | | | | | | | | | > |
| 细内容 :击报又 | ₹ ζ,将显示报爻 | 2详细内容。 | | | | | | | | | | | | | | | |

用户点击"保存内容"按钮可以保存接收到的数据到计算机硬盘:



User Manual

| 另存为 | | ? 🛛 |
|--|--------------------|----------|
| 保存在(L): | 🕒 我的文档 | - 🔁 🖆 📰- |
| ☐ My Albums 圖 图片收藏 圖 我的形状 급 我的音乐 ☐ 我接收到的 | 文件 | |
| 文件名 @): | EPS-320IP | 保存 (2) |
| 保存类型(T): | Excel File (*.xls) | |

当用户使用"保存内容"选项后,"保存内容"按钮会变成"停止保存",点击该按钮可以取消保存接

收到的数据到计算机硬盘:

| 序号 | 时间 | 数据方向 | | | | | | | | | | | | | | | |
|--------------|------------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 22 | 15:04:11 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 23 | 15:04:12 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 24 | 15:04:12 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 25 | 15:04:13 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 26 | 15:04:13 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 27 | 15:04:14 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 28 | 15:04:14 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 29 | 15:04:15 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 30 | 15:04:15 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 31 | 15:04:16 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 32 | 15:04:16 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| < | | | | | | | | | | | | | | | | | > |
| :細内容 :击报又 | ,将显示报文 ,将显示报文 | 2详细内容。 | | | | | | | | | | | | | | | |

当用户点击"暂停显示"按钮后,会暂停停止显示收到的数据:

User Manual

| 序号 | 时间 | 数据方向 | | | | | | | | | | | | | | | - |
|--------------|-------------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|
| 46 | 14:19:58 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 47 | 14:19:59 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 48 | 14:19:59 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 49 | 14:20:00 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 50 | 14:20:00 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 51 | 14:20:01 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 52 | 14:20:01 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 53 | 14:20:02 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 54 | 14:20:02 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 55 | 14:20:03 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 56 | 14:20:03 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 - |
| < | | | | | | | | | | | | | | | | | > |
| F蚶円谷 望击报文 | ; ,将显示报5 | 之详细内容。 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

当用户使用"暂停显示"选项后,"暂停显示"按钮会变成"继续显示",点击该按钮会清空以前的显

示项,重新开始显示:

| 序号 | 时间 | 数据方向 | | | | | | | | | | | | | | | |
|-----|----------|--------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 2 | 14:21:49 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 3 | 14:21:50 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 4 | 14:21:50 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 5 | 14:21:51 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 6 | 14:21:51 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 7 | 14:21:52 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 8 | 14:21:52 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 9 | 14:21:53 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 10 | 14:21:53 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 11 | 14:21:54 | EtherNet->PROFIBUS | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 12 | 14:21:54 | PROFIBUS->EtherNet | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| ¢ | | | | | | | | | | | | | | | | | > |
| 击报又 | ,将显示报文 | ζ详细内容。 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |

User Manual

5 EtherNet/IP 连接参数设置

网关提供的连接参数如下:

Input Instance: 102 (4+244Bytes), 112 (4+244Bytes), 122 (4+244Bytes);

Output Instance: 101 (244Bytes), 111 (244Bytes), 121 (244Bytes);

Configuration Instance: 113 (10Bytes).

Input Instance 102、112、122 数据长度可在配置软件 EP-123 中设置,范围 5~248 字节,其中前 4 个 字节为实时帧头(保留);

Output Instance101、111、121 数据长度可在配置软件 EP-123 中设置,范围 1~244 字节。

在 RSLogix5000 中的参数配置举例如下图:

| Module Properties: ER | letMaster (ETHERNET-MODULE 1.1) |
|--|--|
| General Connection Module Info Type: ETHERNET-MODU Vendor: Allen-Bradley Parent: ENetMaster Name: ENetAdapter Description: Comm Format: Comm Format: Data - DINT Address / Host Name 192 . 168 Comm Format: International States | LE Generic Ethernet Module Connection Parameters Assembly Instance: Input: 102 62 (32-bit) 61 (32-bit) 0utput: 101 61 (32-bit) 10 (8-bit) 9tatus Input: Status Output: |
| Status: Offline | OK Cancel Apply Help |

注意: 在上图中设置的"Size"大小(即设置的字节数),与配置软件 EP-123 中设置的 Instance 对应的输入输出字节数一致。



6 如何读写 I/O 数据

6.1 I/O 方式读写数据(推荐使用)

下面以 RSLogix 5000 为例说明如何使用 I/O 方式读写 I/O 数据。

在 EtherNet IP 主站模块上右键,点击"New Module...",如下图所示:



在弹出的选择模块窗口中,点开"Communications"前面的"+",选择"ETHERNET-MODULE",点

击"OK"如下图所示:

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User Manual

Select Lodule

| | 10/100 Mbps Ethernet Port on CompactLogix5335E 1788 Ethernet to DeviceNet Linking Device 1788 10/100 Mbps Ethernet Bridge, Twisted-Pai 1788 10/100 Mbps Ethernet Bridge w/Enhanced W 1794 10/100 Mbps Ethernet Adentar, Twisted-Pa | Allen-Bradley Allen-Bradley Allen-Bradley Allen-Bradley Allen-Bradley |
|---|--|---|
| Drivelogix5730 ETHERNET-BRIDGE ETHERNET-MODULE EtherNet/IP PH-PSSCENA/A Digital Drives Drives HMI | 1794 10/100 Mbps Ethernet Adapter, Twisted Ta 1794 10/100 Mbps Ethernet Port on DriveLogix5730 Generic EtherNet/IP CIP Bridge Generic Ethernet Module SoftLogix5800 EtherNet/IP Ethernet Adapter, Twisted-Pair Media | Allen-Bradley Allen-Bradley Allen-Bradley Allen-Bradley Allen-Bradley Allen-Bradley Parker Hannifin Corp. |
| • | | Þ |
| | uder I. Frusika I | Eind Add Favorite |

在弹出的窗口设置 EPS-320IP 的相关信息,如下图所示:

| Ne v B odule | | | | 设置I | nstance 以及 | 对 |
|---|---|--|-----------------------------|-------------------------------------|--------------------------------|------|
| Type: Vendor: Parent: Na <u>m</u> e: Descri <u>p</u> tion: | ETHERNET-MODULE Generic Ethernet M Allen-Bradley Master EPS320IP 设置添加的 EtherNet IP 从站的名称 | Module Connection Para | Assembly Instance 102 | 应的字 表示 2 244 字 Size: 62 | 2节数。本设 248 字节输入 节输出。 | 2置、, |
| Comm <u>F</u> ormat Address / H IP <u>A</u> ddre C <u>H</u> ost Na | Data - DINT Iost Name ess: 192 . 168 . 0 . 10 ame: EPS-320IP 的 IP 地址 | Output: Configuration: Status Input: Status Output: | 101 | 61 | ☆ (32-bit) → (8-bit) - | |
| 🔽 Open Mod | uļe Properties | OK | Ca | ncel | Help | |

在上图中需要设置的模块信息包括:

Name: 给添加的 EtherNet IP 从站模块(EPS-320IP 模块)命名。

Comm Fomat: 设置数据类型。用户可选将数据类型设置为 DINT、INT、SINT、REAL 等。该设置确



×



认之后不能更改。如果需要更改数据类型可新建模块。

IP Address: 设置要连接的 EtherNet IP 从站模块的 IP 地址即 EPS-320IP 的 IP 地址。EPS-320IP 的 IP 地址是通过软件 EP-123 下载到模块中的地址。

Connection Parameters: 设置通讯中使用的连接参数, EPS-320IP 支持的连接参数请参见上一章。

注意: 在上图中设置的 "Size" 大小 (即设置的字节数), 与配置软件 EP-123 中设置的 Instance 对应的输入、输出字节数应保持一致。

点击 "OK",在弹出的界面中设置主站轮询时间间隔,默认 10ms,如下图所示:

| ■ ■odule Properties: ■aster (ETHERNET-■ODVLE 1.1) | × |
|---|---|
| General Connection Module Info | |
| | |
| Major Fault On Controller If Connection Fails While in Run Mode | |
| | |
| Module Fault | |
| | |
| | |
| | |
| | |
| Status: Offline OK Cancel Apply Hel | p |

设置完主站轮询时间间隔后,点击"OK"保存。双击"Controller Tags",在弹出的窗口中,点开 "EPS320IP:O",如下图所示:



User Manual

| 👫 RSLogix 5000 - Controller in Controller1. ACI | [1756-L55] * | | | | | |
|--|----------------------------------|-----------------------|--------------|---------------------------|-------------|----------|
| $\underline{\underline{F}} ile \underline{\underline{F}} dit \underline{\underline{V}} iew \underline{\underline{S}} earch \underline{\underline{L}} ogic \underline{\underline{C}} ommunications \underline{\underline{T}} ool$ | s <u>W</u> indow Help | | | | | |
| | - <u>&</u> && | 22 00 | | | | |
| Offline 🛛 🗸 🗖 RUN | Path: AB_ETHIP-1\192.168.0.147\B | ackplane\0* 🗸 🗸 | 뭚 | | | |
| No Forces | Ki j | | | | | |
| No Edits | | -(U)(L)- | • | | | |
| Redundancy by | Favorites Add-On Alarms | K Bit K Timer/Counter | Ā | | | |
| | Controller Tags - Control | ler (controller) | | | | |
| - Controller Controller | | | | | | |
| Controller Fault Handler | Scope: Tootroller | Show Show All | | | | |
| - Cower-Up Handler | Name 🛆 | Value 🔶 Fo | orce 🗲 Style | Data Type | Description | A |
| 🖻 🖮 Tasks | EPS320IP:C | {} | {} | AB:ETHERNET_MODULE:C:0 | | |
| MainTask | EPS320IP:1 | {} | {} | AB:ETHERNET_MODULE_DINT_2 | | |
| Unscheduled Programs / Phases | E-EPS320IP:0 | {} | {} | AB:ETHERNET MODULE DINT 2 | | |
| 🖻 🚖 Motion Groups | EPS320IP:0.Data | {} | {} Hex ▼ | DINT[61] | | |
| Ungrouped Axes | EPS320IP:0.Data[0] | 16#0000 0000 | Hex | DINT | | |
| Add-Un Instructions | EPS320IP:0.Data[1] | 16#0000 0000 | Hex | DINT | | |
| - User-Defined | EPS320IP:0.Data[2] | 16#0000 0000 | Hex | DINT | | |
| 🕀 🙀 Strings | T-EPS320IP-0 Data[3] | 16#0000_0000 | Hex | DINT | | |
| Add-On-Defined | EPS320IP:0. Data[4] | 16#0000 0000 | Hex | DINT | | |
| Hodule-Defined | EPS320IP 0 Data[5] | 16#0000 0000 | Hex | DINT | | |
| | +-EPS320IP:0 Data[6] | 16#0000_0000 | Hav | DINT | | |
| 🖻 😁 I/O Configuration | +-EPS220IP:0 Data[2] | 16#0000_0000 | Hey | DINT | | |
| 1756 Backplane, 1756-A7 | +-EPC220IP.0.Data[7] | 16#0000_0000 | Heu | DINT | | |
| [1] 1756-DNB DeviceNet_master | | 16#0000_0000 | Hex . | DINT | | |
| 🖻 - 🗍 [2] 1756-ENBT/A Master | | 16#0000_0000 | Hex | | | |
| E thernet | EPS320P:0.Data[10] | 16#0000_0000 | Hex | DINI | | |
| 1756-ENBT/A Master | EP5320IP:0.Data[11] | 16#0000_0000 | Hex | DINI | | |
| | EPS320IP:0.Data[12] | 16#0000_0000 | Hex | DINI | | |
| | +-EPS320IP:0.Data[13] | 16#0000_0000 | Hex | DINT | | |
| | + EPS320IP:0.Data[14] | 16#0000_0000 | Hex | DINI | | |
| | EPS320IP:0.Data[15] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:0.Data[16] | 16#0000_0000 | Hex | DINT | | |
| | ± EPS320IP:0.Data[17] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:0.Data[18] | 16#0000_0000 | Hex | DINT | | |

在上图中, EPS320IP:O.Data[0]~EPS320IP:O.Data[60]即为添加的 EPS320IP 模块在主站中对应的输出

数据地址。

点开 "EPS320IP:I", 如下图所示:

| 👫 RSLogix 5000 - Controller in Controller1. | CD [1756-L55]* | | | | | |
|--|-----------------------------------|----------------------------|---------------------------|---------------------------|-------------|---------|
| <u>F</u> ile <u>E</u> dit <u>V</u> iew <u>Search</u> <u>Logic</u> <u>Communications</u> <u>T</u> | ols <u>W</u> indow Help | | | | | |
| | - && & B | 22 00 | | | | |
| Omme I. RUN | Path: AB_ETHIP-1\192.168.0.147\Ba | ackplane\0* 🛛 🚽 器 | | | | |
| No Forces | <u></u> | | 1 | | | |
| No Edits | | (U)(L)- | | | | |
| Redundancy NO | Favorites Add-On Alarms | K Bit K Timer/Counter K Ir | | | | |
| | | | 1 | | | |
| - Controller Controller | Controller lags - Controll | er (controller) | | | | |
| Controller Tags | Scope: 🗗 Controller 🛛 🚬 | Show Show All | | | | |
| | Name 🛆 ۱ | Value + Force | Style | Data Type | Description | |
| E STasks | E-EPS320IP:C | {} | .} | AB:ETHERNET_MODULE:C:0 | | |
| - 🔁 MainTask | E-EPS320IP:I | {} | .} | AB:ETHERNET_MODULE_DINT_2 | | |
| Unscheduled Programs / Phases | EPS320IP:I.Data | {} |)Hex 🗸 | DINT[62] | | |
| 🖻 🔄 Motion Groups | E-EPS320IP:1.Data[0] | 16#0000 0000 | Hex | DINT | | |
| Ungrouped Axes | ±-EPS320IP:1.Data[1] | 16#0000 0000 | Hex | DINT | | |
| Add-Un Instructions | EPS320IP1 Data[2] | 16#0000 0000 | Hex | DINT | | |
| User-Defined | T-EPS320IP1 Data[3] | 16#0000_0000 | Hey | DINT | | |
| 🕀 🎆 Strings | T-EPS320IP-I Data[4] | 16#0000_0000 | Hev | DINT | | |
| Add-On-Defined | +-EPS220IP-1 D-sta[5] | 16#0000_0000 | How | DINT | | |
| H M Module-Defined | EI 53201 | 16#0000_0000 | Han | DINT | | |
| - Trends | EFS320IP.I.Data[6] | 16#0000_0000 | linex linex | DINT | | |
| - 🔄 I/O Configuration | | 16#0000_0000 | Hex | DINT | | |
| - 1756 Backplane, 1756-A7 | EPS320P1.Data[8] | 16#0000_0000 | Hex | DINI | | |
| [1] 1756-LSS Controller | EPEPS320IP:I.Data[9] | 16#0000_0000 | Hex | DINT | | |
| 🖃 🖞 [2] 1756-ENBT/A Master | El-EPS320IP:I.Data[10] | 16#0000_0000 | Hex | DINT | | |
| E Hthernet | 世 EPS320IP:I.Data[11] | 16#0000_0000 | Hex | DINT | | |
| ETHERNET-MODULE EPS3201P | + EPS320IP:1.Data[12] | 16#0000_0000 | Hex | DINT | | |
| J 1756-ENBI/A Master | EPS320IP:1.Data[13] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:1.Data[14] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:1.Data[15] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:1.Data[16] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:1.Data[17] | 16#0000_0000 | Hex | DINT | | |
| | EPS320IP:1.Data[18] | 16#0000_0000 | Hex | DINT | | |
| | F-EPS320(P-LData[19] | 16#0000_0000 | Hey | DINT | | |

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在上图中, EPS320IP:I.Data[0] 对应的4个字节是 EtherNet IP 从站的实时帧头。 EPS320IP:I.Data[1]~EPS320IP:I.Data[61]即为添加的 EPS320IP 模块在主站中对应的输入数据地址。

6.2 MSG 方式读写数据

下面以 RSLogix 5000 为例说明如何使用 MSG 读写 I/O 数据。

6.2.1 读 I/O 数据

新建一个新工程,并处于"Offline"模式。在"Controller Tags"下新增"ReadTag"以及"ReadData" 两个新 Tags,并且将"ReadTag"的类型定义为"MESSAGE","ReadData"的类型定义为"DINT[500]":



右键点击 "ReadTag", 选择 "Configure "ReadTag"":

User Manual

| ø | Controller Tag | (s - | EyEthernet I | P (control | ler) | | | | |
|---|----------------------|------|------------------------------------|--------------|----------|-----|------------|-------------|--|
| | Scope: 🗍 MyEtherneti | Р | ✓ Show | Show All | | | | | |
| | Name | | 🛆 Value 🔸 🛙 | Force Mask 🗲 | Style | Ĩ | Data Type | Description | |
| | ⊞-Local:1:I | | {} | {} | | | AB:1756_DN | | |
| | + Local:1:0 | | {} | {} | | | AB:1756_DN | | |
| | +-Local:1:S | | {} | {} | | | AB:1756_DN | | |
| Þ | + ReadTag | | Rait "Pasatras" | | | | USOD LOE | | |
| | ⊞-ReadData | | Edit "ReadTag" : | Properties | | Alt | +Enter] | | |
| | | - | Configure "Read | - Iag″ | | | | | |
| | | - | Edit "MESSAGE" | Data Type | | _ | | | |
| | | | Go to Cross Ref Message Path Ed | erence for " | ReadTag" | Ctr | 1+E | | |
| | | | <u>G</u> o To | | | Ctr | 1+G | | |
| | | | Toggle Bit | | | Ctr | 1+T | | |
| | | | Force On | | | | | | |
| | | | Force Off | | | | | | |
| | | | Remove Force | | | | | | |
| | | X | Cut | | | Ctr | 1+X | | |
| | | | Copy | | | Ctr | 1+C | | |
| | | R | Paste | | | Ctr | 1+V | | |
| | | | Paste Pass-Thro | ugh | | | | | |
| | | | Delete | | | Del | | | |
| | | | Options | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| • | ▶\∎onitor Ta | igs | Edit Tags | / | | | | • | |

在弹出的新窗口中,需要做如下设置:

Message Type: CIP Generic

Service Type: 选择 "Get Attribute Single",此时,对应的 Service Code 变为 "e (Hex)"

Class: 4 (Hex)

Instance: 102 (4+244Bytes)、112 (4+244Bytes)、122 (4+244Bytes) 可设

Attribute: 3 (Hex)

Destination: 选择"ReadData"标签,此时,读取到的数据都会保存在这个标签中。

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User Manual

| Tessage Configuration - ReadTag | |
|--|----------------------|
| Configuration* Communication Tag | |
| Message <u>Type:</u> CIP Generic | <u> </u> |
| Service Get Attribute Single | Source Element: |
| Service e (Hex) <u>C</u> lass: 4 (Hex) | Destination ReadData |
| Instance: 102 Attribute: 3 (Hex) | New Tag] |
| | |
| 🔵 Enable 🕥 Enable Waiting 🔘 Start | 🔘 Done Done O |
| Error Code: Extended Error Error Error | 🥅 Timed Ou 🍝 |
| 确定 | 取消 应用 (A) 帮助 |

选择"Communication"标签,在Path 后面的空格中输入连接的EtherNet IP 从站对应的路径,其中路径的格式为:EtherNet IP 主站名称,EtherNet IP 主站所在的槽位号,连接的EtherNet IP 从站的IP 地址,设置好路径之后,点击"应用"、"确认"。如下图所示。

在本例中, EtherNet IP 主站名称为 "Master", EtherNet IP 主站所在的槽位号为 "2", 连接的 EtherNet IP 从站 (EPS-320IP)的 IP 地址为 "192.168.0.10"。EPS-320IP 的 IP 地址是通过软件 EP-123 下载到模块中 的地址。



User Manual

| Daula Master 2.1 | 92 168 0 10 | Iag | | F | Browse |
|---|---|-------------------|---------------|--------------------|----------------------------------|
| Master, 2, 1 | 32.168.0.10 | | | | |
| Communication N C CIP C D C CIP <u>W</u> ith Source ID | lethod <u>1</u> + <u>C</u> hannel: <u>S</u> ource Link: | | Destination | Link: 0 Node: 0 | T T T T T (Octal) |
| Connected | | 🔽 Cach <u>e</u> l | Connections 🔸 | Ň | |
| | able Waiting (|) Start | O Done | Done | 0 |
| Enable 🔾 En | abic addressed (| | | | |

在 "MainProgram" 下的 "MainRoutine" 中增加一个 "MSG" 指令并选择 "ReadTag" 作为 "Message





这是一个能够发送一条读请求的简单指令,在一般的程序中还需要增加一些逻辑命令来触发这条指 www.sibotech.net 32





令,关于该指令的详细信息请参考 RSLogix5000。

将程序下载到 PLC 并使 PLC 进入"Online"状态。

点击 "Control Tags" 并选择 "Monitor Tags",展开 "ReadData",如下图所示。地址 ReadData[0]开始 存储的数据是 PLC 通过网关 EPS-320IP 读取到的 PROFIBUS DP 主站输出的数据。

| 👫 RSLogix 5000 - Controller in Controller1.4 | CD [1756-L55]* | | | | | | _ 8 × |
|--|---------------------------|-----------------------------|------------------|------------------------|--|---------------------|-------|
| <u>File Edit View Search Logic Communications To</u> | ols <u>W</u> indow Help | | | | | | |
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| Offline | Path: AB_ETHIP-1\192.168. | 0.147\Backplane\0* | - * | | | | |
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| No Edits | NUN VON H H H | AND OR XOR SWEB NOT | CLR BTD | | | • | |
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| | | | ~ | <i>x x</i> | | | |
| E Controller Controller | Controller Tags - C | ontroller (controller) | | | | | |
| Controller Tags | Scope: 🛐 Controller | Show Show All | | | | | |
| Power-Up Handler | Name | △ Value ← Force | e 🗲 Style | Data Type | Description | | |
| 🖨 🔂 Tasks | -BeadData | (m) (r | Hev | DINT/5001 | | | |
| 🖻 🤤 MainTask | + BeadData[0] | 16#0000_0000 | Hey | DINT | | | |
| 🖃 🤐 MainProgram | | 16#0000_0000 | Llaw | DINT | | | |
| MainBoutine | | 10#0000_0000 | nex | DINT | | | |
| Unscheduled Programs / Phases | HeadData[2] | 16#0000_0000 | Hex | | | | |
| 😑 😂 Motion Groups | HeadData[3] | 16#0000_0000 | Hex | DINT | | | |
| Ungrouped Axes | H ReadData[4] | 16#0000_0000 | Hex | DINT | | | |
| Add-Un Instructions | t ReadData[5] | 16#0000_0000 | Hex | DINT | | | |
| User-Defined | E ReadData[6] | 16#0000_0000 | Hex | DINT | | | |
| 🕀 🖼 Strings | I I I ReadData[7] | 16#0000_0000 | Hex | DINT | | | |
| - 🤐 Add-On-Defined | 🗄 ReadData[8] | 16#0000_0000 | Hex | DINT | | | |
| H - M Predefined | E ReadData(9) | 16#0000_0000 | Hex | DINT | | | |
| Trends | E ReadData[10] | 16#0000_0000 | Hex | DINT | | | |
| 🖻 🚖 I/O Configuration | E BeadData[11] | 16#0000 0000 | Hex | DINT | | | |
| 🖻 🖅 1756 Backplane, 1756-A7 | E BeadData[12] | 16#0000 0000 | Hex | DINT | | | |
| [] [0] 1756-L55 Controller | E BeadData[13] | 16#0000 0000 | Hex | DINT | | | |
| H 1 [2] 1756-FNBT/A Master | T BeadData[14] | 16#0000_0000 | Hey | DINT | | | |
| a g (a) noo mann marca | T:ReadData[15] | 16#0000_0000 | How | DINT | | | |
| | + PaadData[15] | 16#0000_0000 | Hau | DINT | | | |
| | | 16#0000_0000 | Hex | DINT | | | |
| | HeadData[17] | 16#0000_0000 | Hex | DINI | | | |
| | TheadData[18] | 16#0000_0000 | Hex | DINT | | | |
| | # ReadData[19] | 16#0000_0000 | Hex | DINT | | | |
| | H ReadData[20] | 16#0000_0000 | Hex | DINT | | • T | |
| | E ReadData[21] | 16#0000_0000 | Hex | DINT | | | |
| | E ReadData[22] | 16#0000_0000 | Hex | DINT | | | |
| | E-ReadData[23] | 16#0000_0000 | Hex | DINT | | | |
| | E ReadData[24] | 16#0000_0000 | Hex | DINT | | | |
| | E ReadData[25] | 16#0000_0000 | Hex | DINT | | | |
| | E ReadData[26] | 16#0000_0000 | Hex | DINT | | T | |
| I F | Ionitor Tags A | Edit Tags / | | • | | | |
| | ·II | | | | | | |

6.2.2 写 I/O 数据

进入 "Offline" 模式, 在 "Controller Tags" 下新增"WriteTag" 以及"WriteData" 两个新 Tags, 并且 将 "WriteTag" 的类型定义为"MESSAGE", "WriteData" 的类型定义为 "DINT[500]":



User Manual

| act rag | | | | × | New Tag | | | | x |
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| Description. | | A | | | Description: | | | | ncel |
| | | | Help | | | | | He | elp |
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| <u>U</u> sage: | <normal></normal> | ~ | | | <u>U</u> sage: | <normal></normal> | | - | |
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| Data <u>Type</u> : D | DINT[500] | | | | Data Type: | MESSAGE | | | |
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| Style: | Hex | - | | | Style: | | | * | |
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| RUN OK | AT aller aller aller atter | Patr. AB_ETHP111921680144 Image: Image | i i i i i i i i i i i i i i i i i i i | → mm → mm 0.122 CPS 0.122 CPS 0.122 CPS 0.122 CPS 0.122 CPS 0.123 Compare 0.13 Hex 0.13 Hex Hex Hex < | Data Type Data Type AB:1756_DNB_500Byt AB:1756_DNB_500Byt AB:1756_DNB_500Byt AB:1756_DNB_51alue DINT[500] DINT DINT DINT DINT DINT DINT DINT DINT | NoveLogicit A File/Miss. / | | | |
| BAT B | AT Aller other ster | Petr. A&_ETHP11921680.014 Image: Controller Tecs Image: Contret | P PL PL </td <td>xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx</td> <td>Data Type Data Type AB:1756_DNB_5008yt AB:1756_DNB_4368yt AB:1756_DNB_4368yt AB:1756_DNB_4368yt DINT[500] DINT[500] DINT DINT DINT DINT DINT DINT DINT DINT</td> <td>tevel.sgcol File/Mise. /</td> <td></td> <td></td> <td></td> | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | Data Type Data Type AB:1756_DNB_5008yt AB:1756_DNB_4368yt AB:1756_DNB_4368yt AB:1756_DNB_4368yt DINT[500] DINT[500] DINT DINT DINT DINT DINT DINT DINT DINT | tevel.sgcol File/Mise. / | | | |
| Incomparison of the second secon | AT eller editr editr editr editr editr editr | Petr. A& ETHP1192 168 0.14 Petr. A& ETHP1192 168 0.14 Petr. A& ETHP1192 168 0.14 Scoge. Petr. Test. Controller Petr. Controller Petr. Test. Controller Petr. Contretr. Contretrerer Petr. Contr | 16 17.12 17.12 VPackplares(0* 1 1 PiL 20.2 97.7 570 oller (controller) Show Al 1 1 Show Show Al () (. () (. () (. () (. () (. () (. () (. 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000_0000 16#0000 0000 16#0000 16#0000 16#0000_0000 16#0000_0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 16#0000 | min min min <tdmin< td=""> min</tdmin<> | Data Type Data Type AB: 1756_DNB_50089 AB: 1756_DNB_50089 AB: 1756_DNB_496894 AB: 1756_DNB_496894 AB: 1756_DNB_496894 DINT[500] DINT[500] DINT DINT DINT DINT DINT DINT DINT DINT | Evering Control Contro | | | |
| If OK I | AT oller obit Matter atter | Patr. AB_ETHIP 111921680144 Image: Ima | P FLI DEF SPT STT P FLI DEF SPT STT Oller Cost reller Stopkand Cost reller Oller Cost reller Stopkand Cost reller Oller Cost reller Stopkand Cost reller Cost reller Stopkand Cost reller Cost reller Cost reller Stopkand Cost reller Cost reller Cost reller Cost reller Cost reller Cost reller Cost reller Cost reller <td< td=""><td>Bit State State CPS State State Hex Hex Hex Hex <</td><td>Compute/Math () Data Type Data Type AB-1756_DNB_500894 AB-1756_DNB_510089 DINT500 DINT DINT</td><td>Description et10 et10 1288/Her.S10 1288/Her.S10</td><td></td><td></td><td></td></td<> | Bit State State CPS State State Hex Hex Hex Hex < | Compute/Math () Data Type Data Type AB-1756_DNB_500894 AB-1756_DNB_510089 DINT500 DINT | Description et10 et10 1288/Her.S10 | | | |
| outroller Controller Controller Controller Controller Tari Controller Tari Controller Tari Controller Tari Controller Tari Controller Pault Hudler isks Mullarisk Mull | AT aller etat ter | Patr. AB_ETHP111921680.014 Image: Imag | i i i i i i i i i i i i | Image: State CPS Image: State CPS Image: State Compare Image: State Com | ComputerMath (N Data Type AB:1756_DNB_500By AB:1756_DNB_500By AB:1756_DNB_500By AB:1756_DNB_51atur DINT(500) DINT | Description esit0 | | | |
| FOUN | AT aller obtet ster | Patr. AB_ETHP1V921580144 Image: | P PLI | xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx | Data Type Data Type AB:1756_DNB_5008yt AB:1756_DNB_5008yt AB:1756_DNB_5008yt AB:1756_DNB_5008yt AB:1756_DNB_5108yt DINT[500] DINT[500] DINT DINT DINT DINT DINT DINT DINT DINT | biveElogical Array File/Milac. // | | | |

进入"Monitor Tags"页面,在"WriteData"标签中地址WriteData[0]开始输入一些数据,这些数据将会被PLC输出到EPS-320IP并通过PROFIBUS DP主站读取到的数据。

右键点击 "WriteTag", 选择 "Configure "WriteTag"":



User Manual

| E-ReadData | a | {} | {} | Hex | DINT[500] | |
|------------|--|-----------------|---------|--------|-----------|--|
| -ReadTag | | {} | {} | | MESSAGE | |
| -WriteData | L | {} | {} | Hex | DINT[500] | |
| -Writh 📝 | New Tag | | Ctr | 1+% | MESSAGE | |
| | Edit "WriteTag" Edit "WriteTag" Pro | perties | Alt | +Enter | | |
| | Configure "WriteTag | ," | Ctr | 1+I | | |
| | Edit "MESSAGE" Data | . Туре | | | | |
| | Go to Cross Referen | ce for "WriteT. | 'ag″Ctr | 1+E | | |
| | Message Path Editor | e. | | | | |
| | <u>G</u> o To | | Ctr | 1+G | | |
| | Toggle Bit | | Ctr | 1+T | | |
| | Force On | | | | | |
| | Force Off | | | | | |
| | Remove Force | | | | | |
| ¥ | Cut | | Ctr | 1+X | | |
| Ē | Сору | | Ctr | 1+C | | |
| 8 | Paste | | Ctr | 1+V | | |
| | Paste Pass-Through | | | | | |
| | Delete | | Del | | | |
| | Find All "WriteTag" | 2 | | | | |

在弹出的新窗口中,需要做如下设置:

Message Type: CIP Generic

Service Type: 选择 "Set Attribute Single",此时,对应的 Service Code 变为 "10 (Hex)"

Class: 4 (Hex)

Instance: 101 (244Bytes)、111 (244Bytes)、121 (244Bytes)可设

Attribute: 3 (Hex)

Source Element: 选择"WriteData"标签,表示"WriteData"标签中的数据作为 PLC 输出的数据。

Source Length: 以字节为单位,该值应该小于或者等于当前选择的 Instance 代表的字节数。

User Manual

| essage Con | figuratio | on - Trite | Tag | | | X |
|-------------------------------|----------------|------------------|---------|-------------------------|-----------------|---------|
| Configurati | on* Commu | mication | Tag | | | |
| Message <u>T</u> y | pe: | CIP Generic | | _ | | |
| Service S | et Attribute 9 | Single | • | <u>S</u> ource Element: | WriteData | - |
| Service - | | | | Source L <u>e</u> ngth: | 128 🛨 | (Bytes) |
| Code: 1 | 0 (Hex) | <u>C</u> lass: 4 | (Hex) | Destination | | ~ |
| Instance: 1 | 01 | Attribute: 3 | (Hex) | | Ne <u>w</u> Tag | |
| | | | | | | |
| O Rockla | O Frahla | Waiting 🧑 | . Start | Dana D | | |
| O Enable | O LNADIE | marcing U | , Juart | O Done D | | |
| 🔘 Error Coo Error Error | le: | Extended f | irror | L | limed Uu 🕈 | |
| | | | 确定 | 取消 | 应用(A) | 帮助 |

选择"Communication"标签,在Path 后面的空格中输入连接的EtherNet IP 从站对应的路径,其中路径的格式为:EtherNet IP 主站名称,EtherNet IP 主站所在的槽位号,连接的EtherNet IP 从站的IP 地址,设置好路径之后,点击"应用"、"确认"。如下图所示:

| Path: | Master.2.192. | 168.0.10 | 1 | | | Browse |
|-------|---|---|---------|-------------|------------------------|------------------------|
| | Master, 2, 192 | .168.0.10 | | | | |
| Con | nmunication Me CIP C D∐+ CIP <u>With</u> Source ID | thod <u>C</u> hannel: <u>S</u> ource Link | : 0 = | Destination | n Link: 0 n Node: 0 | ्र र र एOctal |
| Enal | ble 🔾 Enab | le Waiting |) Start | 🔾 Done | Done | 0 |
| Erri | or Lode: | Extended | 1 Error | | J IImeu | 04.4 |



在本例中, EtherNet IP 主站名称为 "Master", EtherNet IP 主站所在的槽位号为 "2", 连接的 EtherNet IP 从站 (EPS-320IP)的 IP 地址为 "192.168.0.10"。EPS-320IP 的 IP 地址是通过软件 EP-123 下载到模块中 的地址。

在"MainProgram"下的"MainRoutine"中增加一个"MSG"指令并选择"WriteTag"作为"Message Control"。如下图所示:

| 🗱 RSLogix 5000 - MyEnetIP_proj in ENB30xMI_M | SG_128byte.ACD [1756-155] |
|---|--|
| File Edit View Search Logic Communications Tools Win | dow Kelp |
| | |
| Offline D. E RUN | tr. Δ8_ETHIP-1\192168.0.147/Backplane\0* |
| No Forces BAT BAT | |
| Redundancy Red | avortites (Bit & Timer/Counter & Input/Dutput & Compare & Compute/Math & Movel.logical & File/Misc. & File/Shift & Sequencer & Equipment Phase & Progre |
| Processor Introller Tags Controller Tags Controller Tags Controller Tags Controller Tags Controller Tags Controller Tags Taks Winflowing Winflowi | ■ Trinkoutine ■ Status? ■ Status? ■ TrineScen.DN 1 TreeScen.DN 1 TreeScen. |
| | |
| View Tag Configuration Dialog | Rung 3 of 4 APP VER |

将 PLC 程序下载到 PLC 并使 PLC 进入"Online"状态,在"WriteData"中的数据将会被 PLC 通过 EPS-320IP(EtherNet IP 从站)输出到 PROFIBUS DP 主站。



7 STEP7 如何读写网关数据

EPS-320IP 提供如下 Module,在 Step7 组态时,允许的最大 Module 数为 64。EPS-320IP 允许的最大输 入字节数为 244, 最大输出字节数为 244, 且最大输入+输出字节数为 488。

| Module | 完整性 |
|---------------------------------|--------------------|
| 4 Words Input, 4 Words Output | Word 完整 |
| 8 Words Input 8 Words Output | Word 完整 |
| 24 Words Input, 24 Words Output | Word 完整 |
| 56 Words Input, 56 Words Output | Word 完整 |
| 1 Byte Input | Word |
| 1 Word Input | Byte 元金 Word 空敷 |
| 2 Words Input | Word 空敕 |
| | Word 元登 |
| 4 Words Input | Word 元登 |
| 8 Words Input | Word 元整 |
| 16 Words Input | Word 完整 |
| 32 Words Input | Word 完整 |
| 64 Words Input | Word 完整 |
| 2 Words Input Consistent | 长度完整 |
| 4 Words Input Consistent | 长度完整 |
| 8 Words Input Consistent | 长度完整 |
| 16 Words Input Consistent | 长度完整 |
| 1 Byte Output | 字节完整 |
| 1 Word Output | Word 完整 |
| 2 Words Output | Word 完整 |
| 4 Words Output | Word 完整 |
| 8 Words Output | Word 完整 |
| 16 Words Output | Word 完整 |
| 32 Words Output | Word 完整 |
| 64 Words Output | Word 完整 |
| 2 Words Output Consistent | 长度完整 |
| 4 Words Output Consistent | 长度完整 |
| 8 Words Output Consistent | 长度完整 |
| 16 Words Output Consistent | 长度完整 |

如上图所示, EPS-320IP 支持的数据块包括 Word 完整、Byte 完整以及长度完整。

对于支持 Word 完整和 Byte 完整的数据块,在 Step7 编程时可以使用 MOVE 指令对数据进行读写; www.sibotech.net 38





对于支持长度完整的数据块,在 Step7 编程时须采用打包方式发送与接收。打包方式发送主要用到 SFC15,打包接收主要用到 SFC14:



SFC14(打包接收)

| | EN | "DPWR_DAT" ENO |] | |
|--------------------------------|--------|-------------------|----------------|--|
| \#16# 0 | LADDR | RET_VAL | - MW 50 | |
| P#DB100. DBX0.0 BYTE 32- | RECORI |) | | |

SFC15(打包发送)





User Manual

8 网络状态监视

EPS-320IP 提供两端网络连接相互监视功能,可在 EP-123 中设置是否使用网络状态监视功能。

PROFIBUS 若开启网络状态监视功能,网络状态字位于输入数据的前2个字节,输入数据依次向后移动2个字节,可用最大输入数据变为242字节,若关闭则不占用输入数据字节。

EtherNet/IP 若开启网络状态监视功能,网络状态字位于输入数据的前2个字节,实时帧头之后,输入数据依次向后移动2个字节,可用最大输入数据变为242字节;若关闭则不占用输入数据字节。

网络状态字:若对方网络已建立连接则网络状态字为0;若对方网络未建立连接或连接已断则网络状态字为1。





9 典型应用



在这个典型应用中, EPS-320IP 连接 PROFIBUS 网络和 EtherNet/IP 网络,实现带有 PROFIBUS 主站的 PLC(或控制器、工控机等)与带有 EtherNet/IP 主站的 PLC(或控制器、工控机等)的数据交换。

EPS-320IP 支持西门子 PROFIBUS DP 主站 PLC 及 DCS 等 DP 主站和 AB (罗克韦尔)及 OMRON 等 PLC 的互联。





10 安装

10.1 机械尺寸



尺寸: 40mm (宽)×125mm (高)×110mm (深)

10.2 安装方法

35mm DIN 导轨安装

User Manual





User Manual

11 运行维护及注意事项

- ◆ 模块需防止重压,以防面板损坏;
- ◆ 模块需防止撞击,有可能会损坏内部器件;
- ◆ 供电电压控制在说明书的要求范围内,以防模块烧坏;
- ◆ 模块需防止进水,进水后将影响正常工作;
- ◆ 上电前请检查接线,有无错接或者短路。





12 版权信息

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13 相关产品

本公司其它相关产品包括:

EP-321MP, ENB-301MI、EPM-722 等

获得以上几款产品的说明,请访问公司网站 www.sibotech.net,或者拨打技术支持热线:021-3126 5138。







附录:用 STEP 7 设置 PROFIBUS-DP

以下说明怎样使用 STEP7 去设置 EPS-320IP。

首先,把*.gsd 文件复制到以下路径: Step7\S7data\gsd\



1. 打开 SIMATIC Manager **建** ; 如图 1:

| SINATIC Manager | -B - B × |
|-----------------------------------|----------|
| File FLC View Options Mindov Help | |
| | |
| | |
| | |
| | |
| | |
| | |

图 1

2. 在 File->New, 新建一个文件, 如图 2:

| IMATIC Manager | | | _ |
|----------------|---|--------------------|---|
| | | | |
| | | | |
| | | N | |
| | Vser projects libraries | | |
| | Base Storage path 7-11 B:\Sienens\Step7\S7proj\T | <u>л</u> | |
| | | | |
| | | | |
| | Hana : [7_NODBUS | Type: Trajeci 💌 | |
| | Storage location (path) | | |
| | a commercial angle of | | |
| | | Cancel Help | |

图 2





3. Insert->Station->SIMATIC 300 Station.,如图 3:

| STRATIC Ennager - 1 | LODBUS | | | | _ & × |
|--------------------------|-----------------|---------------------------|-----------|-------|-------|
| Tile Edit Insert FLC Yoe | e Griann Lindos | Help | | | |
| | 🖮 🗟 💁 👌 | a 😳 🏥 🏥 🕍 🛛 🖓 Bo Biller 🖉 | - V 💥 🖷 😢 | | |
| 🞒 T_HODBUS — 8:ASia | muns\Step7\S7 | proj\T_modbus | | _ 🗆 X | |
| | CD ISA 22 | SIVATIC 300 (3) | | | |
| | | | | | |

图 3

4. 打开 S7 PLC 硬件设置

SIMATIC 300(1)->Hardware, 双击。如图 4:

| SINATIC Manager - T_MODEUS | | | | | |
|---|--|--|--|--|--|
| <u>F</u> ile Edit Insert PLC <u>V</u> iew Options Window <u>H</u> elp | | | | | |
| D 😹 📰 🐖 👗 🛍 🗣 🐾 🏝 🏣 🏥 🏥 🚺 🔇 Jo Filter > 💽 📝 🎇 🥌 🎌 | | | | | |
| T_MODBUS E:\Siemens\Step7\S7proj\I_modbus | | | | | |
| T_MODEUS SINATIC 300(1) | | | | | |



5. 在菜单中选择 Option→Update Catalog, 在 Device 目录中更新 GSD

| | 📴 BV Comfig - [SIMATIC 300(1) (Configuration) - T_MODBUS] | | × |
|---|---|---|----------|
| | M Station Edit Insert ELT Year Options Sandon Hulp | _16 | IX. |
| 0) UL (1) Standard (2) STATIC 200 (3) UL | | | |
| () UR (| | Trefi Standard | |
| (0) VE EDFIDUS-DF alarves for STMATE ST, MT, and CT (STMATE ST | | H H PEDFIBUS DE H SIVATIC 300 H SIVATIC 400 H SIVATIC PE Saxed Central 3 H SIVATIC PE Station | 100/4 |
| distributed reck) | (c) va | REPTENS-OF always for | <u>ک</u> |
| | Fress 7L to get Help | distributed reck) | |

图 5

6. 您可以在这里找到您注册的设备, 右侧窗口/PROFIBUS DP/Additional Field Devices/Converter/EPS-320IP/, 如图6所示:



User Manual

| 🖃 🤖 EP | S-320 |
|--------|---------------------------------|
| | Universal module |
| | 4 Words Input, 4 Words Output |
| | 8 Words Input, 8 Words Output |
| | 24 Words Input, 24 Words Output |
| | 56 Words Input, 56 Words Output |
| | 1 Byte Input |
| | 1 Word Input |
| | 2 Words Input |
| | 4 Words Input |
| | 8 Words Input |
| | 16 Words Input |
| | 32 Words Input |
| | 64 Words Input |
| | 2 Words Input Consistent |
| | 4 Words Input Consistent |
| | 8 Words Input Consistent |
| | 16 Words Input Consistent |
| | 1 Byte Output |
| | 1 Word Output |
| | 2 Words Output |
| | 4 Words Output |
| | 8 Words Output |
| | 16 Words Output |
| | 32 Words Output |
| | 64 Words Output |
| | 2 Words Output Consistent |
| | 4 Words Output Consistent |
| | 8 Words Output Consistent |
| I I | 16 Words Output Consistent |

图 6

7. 设定 PLC rack, 双击 "Hardware Catalog\SIMATIC 300\RACK-300\Rai",如图7所示:



User Manual

| 🙀 HV Config - [SIMATIC 300(1) (Configuration) I_MODBUS] | |
|---|---|
| 🏘 Station Edit Insert FLC View Options Window Help | _ <u>_</u> × |
| | |
| Image: State of the state | Profi Standard ••••••••••••••••••••••••••••• |
| | |
| Image: Constraint of the second sec | ACK-300 Reil SM-300 SM-300 SM-300 SMATIC 400 SM-300 SMATIC PC Based Control 300/4 SMATIC PC Station SMATIC PC Station |
| Press F1 to get Help. | Chg |

图 7

- 8. 设定 CPU 模块,,选择对应的设备类型和所占用的槽位;
- 创建 PROFIBUS-DP 网络,设置 PROFIBUS-DP: New->Network settings,选择 DP,选择一个波特 率如 187.5Kbps,然后 "OK"。双击它,如图 8:

User Manual

| Head Config - [SIMATIC 300(1) (Conf | iguration) T_MOD | 00051 | | _ 8 × |
|---|--|--|--|------------------|
| 🙀 Station Idit Lanart MC Yoos Options B | indes Help | | | X |
| | | | | |
| 😑 (ć) UR | | | | Brefi Standard 💌 |
| 1 1 2 3 3 4 5 6 7 Address: Subset: Subset: Subset: ME 0) VR S Module Order number 1 3 4 5 6 7 | - PROFIBUS interfa aseters 2 • Properties - Kew General Network Settin Highest PROFIBUS Address: Iransmission Bate: Profile: MR | ce DP Master (R0/S2, 1) If a submet is salected, the next available address submetPROFIEDS mas 120 Change 45.45 (31.25) Mbit/s 15 Mbit/s 15 Mbit/s 1.5 Mb | IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII | |
| Frens FI to get Help. | | | | Chg |

图 8

10. 选择 PROFIBUS Master station 地址, 如图 9:

User Manual

| NIV Config - [SIMATIC 300(1) (Configuration) T_NODBUS] N Station Edit Insort ELC Yiew Options Yindow Help D 20 ℝ→ M MM 20 Paper 20 MM 20 FF 182 M2 | | X X |
|---|-------------------------|---|
| Image: Construction of the second state of the second s | Select Profibus Address | Profi Standard |
| Mm Mmm (0) UR Order number MPI address I add Order number 1 Order number MPI address I add Order number 2 Image: state st | 取消 帮助 | For the second sec |

图 9

11. 将从站 EPS-320IP 配入到 PROFIBUS 网络配置当中,并将输入输出数据块,映射到 S7-300 或者其它 控制器的内存当中。如图 10:



User Manual



图 10

操作中分为两步,第一步将 EPS-320IP,拖到左上方网络配置中,拖到 PROFIBUS-DP 总线之上,鼠标会变化形状,表示可以放入了。第二步是将数据块拖动到左下方数据映射表格中,映射到 PLC 内存。

注意: EPS-320IP 的 PROFIBUS 输入输出字节数都是在 PROFIBUS 主站的组态软件中设置的,如上图所示, 用户根据需要将相应的输入输出数据块拖到左下方表格中。EPS-320IP 允许拖动到左下方表格中的数据块 (Module)数不能超过 64 个;输入字节总数不能超过 244 字节,输出字节总数不能超过 244 字节,且输 入输出字节总数也不能超过 488 字节。

注意:从站的地址要与模块的旋码开关设置一致!

12. 编译下载到 PLC。

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