6ES7216-2BD23-0XB8   
是[南京](https://www.baidu.com/s?wd=%E5%8D%97%E4%BA%AC&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1Y3nWbYn19bPj99nWDLnhmv0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPjcLPjnLnH6s" \t "_blank)产的[西门子PLC](https://www.baidu.com/s?wd=%E8%A5%BF%E9%97%A8%E5%AD%90PLC&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1Y3nWbYn19bPj99nWDLnhmv0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPjcLPjnLnH6s) -----S7200CN系类CN 是中国产的  
 s7 200 有cn和没cn的没太大区别  
 国产cn的便宜 不带cn进口的贵  
 带cn的只能使用 中文编程界面编程  
 6ES7 -些列名称主要是PLC  
 216 代表 CPU型号 24输入和16点输出  
 2BD23代表的是2个端口，[继电器输出](https://www.baidu.com/s?wd=%E7%BB%A7%E7%94%B5%E5%99%A8%E8%BE%93%E5%87%BA&tn=44039180_cpr&fenlei=mv6quAkxTZn0IZRqIHckPjm4nH00T1Y3nWbYn19bPj99nWDLnhmv0ZwV5Hcvrjm3rH6sPfKWUMw85HfYnjn4nH6sgvPsT6KdThsqpZwYTjCEQLGCpyw9Uz4Bmy-bIi4WUvYETgN-TLwGUv3EPjcLPjnLnH6s)，电源是AC220V   
 0XB8这个没有什么意义，8代表国产 0 代表进口

我理解的是交换机将PLC和其他下位设备连接在一个局域网里，

然后通讯模块\*类似路由器的作用？\*把这个局域网连入工业以太网，使得上位电脑可以不在现场也可以监控修改上下载控制下位机（PLC等现场设备）

1. 通讯协议及通讯内容如下：

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **日产100吨海水淡化设备通讯** | | | | | | | | | | | | | | | | | | | | | | | |
| 1. **海水淡化设备与主控系统通讯软硬件连接** | | | | | | | | | | | | | | | | | | | | | | | |
| **硬件** | | | | | | | | | | | **软件** | | | | | | | | | | | | |
| PLC （6ES7216-2BD23-0XB8）  通讯模块（6GK7 243-1EX00-0XE0）  CP243-1 工业以太网模块 6GK7 243-1EX00-0XE0的详细介绍通讯模块介绍网站：  <https://product.gongchang.com/c979/CNC1662063042.html>  交换机交换机的作用是把它们连在同一个局域网里)连接  PC机 | | | | | | | | | | | 力控组态软件  组态软件，上位机软件的一种。组态软件<=上位机软件。又称组态[监控](https://baike.baidu.com/item/%E7%9B%91%E6%8E%A7)软件[系统软件](https://baike.baidu.com/item/%E7%B3%BB%E7%BB%9F%E8%BD%AF%E4%BB%B6)。译自英文SCADA,即 Supervisory Control and Data Acquisition（数据采集与监视控制）。它是指一些数据采集与过程控制的专用软件。它们处在[自动控制系统](https://baike.baidu.com/item/%E8%87%AA%E5%8A%A8%E6%8E%A7%E5%88%B6%E7%B3%BB%E7%BB%9F)监控层一级的软件平台和[开发环境](https://baike.baidu.com/item/%E5%BC%80%E5%8F%91%E7%8E%AF%E5%A2%83)，使用灵活的组态方式，为用户提供快速构建工业自动控制系统监控功能的、通用层次的软件工具 | | | | | | | | | | | | |
| 1. **主机到海水淡化设备（PC->PLC）通讯内容** | | | | | | | | | | | | | | | | | | | | | | | |
| **序号**  **.x代表第x位吧** | **名称** | **VB1000.0~ VB1000.7** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 控制字 | .0=1/0 | | | | | | | | .1=1 | | | | | | | | | | | | | |
| 正常启动/正常停机 | | | | | | | | 复位 | | | | | | | | | | | | | |
| 2 | 通讯检测 | **VB1019** | | | | | | | | | | | | | | | | | | | | | |
|  | PC->PLC,循环检测，周期为1s，其中0为500ms，1为500ms；连续30s无变化则认为通讯故障，海淡系统自动停机。 | | | | | | | | | | | | | | | | | | | | | |
| **3、海水淡化设备到主机（PLC->PC）通讯内容** | | | | | | | | | | | | | | | | | | | | | | | |
| 序号 | 名称 | **VB1001.0~ VB1001.7** | | | | | | | | | | | | | | | | | | | | | |
| 1 | 状态字1 | .0=1 | .1=1 | .2=1 | | | .3=1 | | | .4=1 | | | | .5=1 | | | | | .6=1 | | | | .7=1 |
| 系统正常 | 启动过程 | 正常运行 | | | 正常停机过程中 | | | 停机结束 | | | | 非正常停机 | | | | | 淡水冲洗 | | | | 淡水冲洗结束 |
| 2 | 状态字2 | **VB1002.0~ VB1002.7** | | | | | | | | | | | | | | | | | | | | | |
| .0=1/0 | .1=1 | .2=1 | | | .3=1 | | | .4=1 | | | | | .5=1 | | | .6=1 | | | | | .7=1 |
| 远程/就地 | 取水泵运行 | 原水泵运行 | | | UF反洗水泵运行 | | | RO增压泵运行 | | | | | 一级高压泵运行 | | | 压力提升泵运行 | | | | | 二级高压泵运行 |
| 3 | 故障字1 | **VB1003.0~ VB1003.7** | | | | | | | | | | | | | | | | | | | | | |
| .0=1 | .1=1 | | | .2=1 | | | .3=1 | | | | .4=1 | | | | .5=1 | | .6=1 | | .7=1 | | |
| 产水高压 | 取水泵故障 | | | 原水泵故障 | | | UF反洗水泵故障 | | | | RO增压泵故障 | | | | 一级高压泵故障 | | 压力提升泵故障 | | 二级高压泵故障 | | |
| 4 | 故障字2 | **VB1004.0~ VB1004.7** | | | | | | | | | | | | | | | | | | | | | |
| .0=1 | .1=1 | | .2=1 | | | .3=1 | | | | .4=1 | | | | .5=1 | | | | .6=1 | | .7=1 | |
| 氧化剂液位低 | 氯化铁液位低 | | 盐酸液位低 | | | 阻垢剂液位低 | | | | 还原剂液位低 | | | | 氯化钙液位低 | | | | 碳酸氢钠液位低 | |  | |
| 5 | 累计用电量 | **VB1005** | | | | | | | | | | | | | | | | | | | | | |
| 6 | 电压 | **VB1006** | | | | | | | | | | | | | | | | | | | | | |
| 7 | 有功功率 | **VB1007** | | | | | | | | | | | | | | | | | | | | | |
| 8 | 一级产水流量 | **VB1008** | | | | | | | | | | | | | | | | | | | | | |
| 9 | 二级产水流量 | **VB1009** | | | | | | | | | | | | | | | | | | | | | |
| 10 | 一级产水电导率 | **VB1010** | | | | | | | | | | | | | | | | | | | | | |
| 11 | 二级产水电导率 | **VB1011** | | | | | | | | | | | | | | | | | | | | | |
| 12 | 二级产水PH | **VB1012** | | | | | | | | | | | | | | | | | | | | | |
| 13 | 原水箱液位 | **VB1013** | | | | | | | | | | | | | | | | | | | | | |
| 14 | 超滤产水箱液位 | **VB1014** | | | | | | | | | | | | | | | | | | | | | |
| 15 | 一级产水箱液位 | **VB1015** | | | | | | | | | | | | | | | | | | | | | |
| 16 | 二级产水箱液位 | **VB1016** | | | | | | | | | | | | | | | | | | | | | |
| 17 | 累计产水量 | **VB1017** | | | | | | | | | | | | | | | | | | | | | |
| 18 | 通讯检测 | **VB1018** | | | | | | | | | | | | | | | | | | | | | |
|  | PLC->PC，循环发送，周期为1s，其中0为500ms，1为500ms | | | | | | | | | | | | | | | | | | | | | |

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