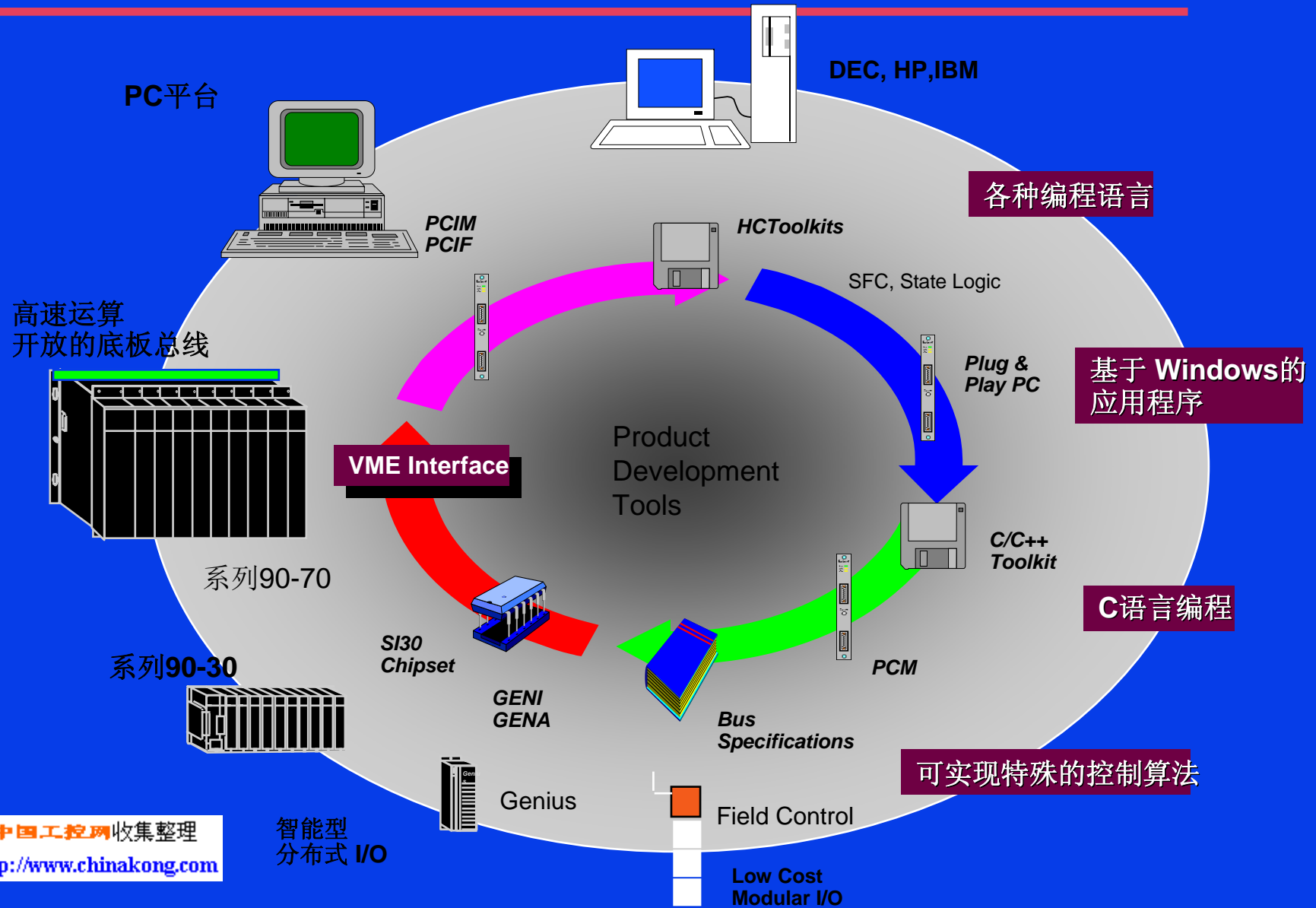




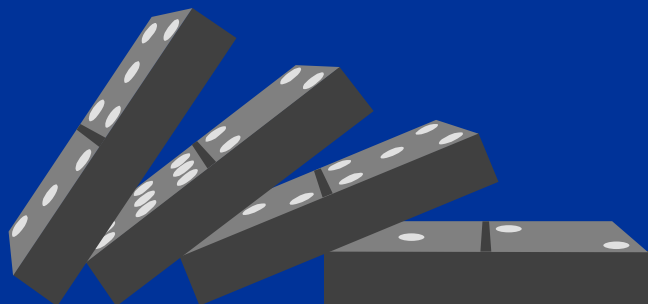
Series 90™ -30 PLC



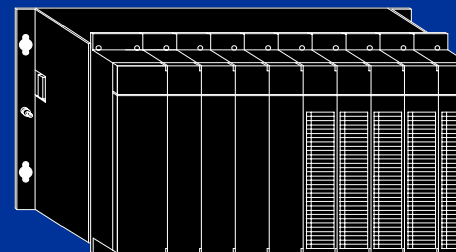


Series 90™-30 PLC

GE PLC系统的发展

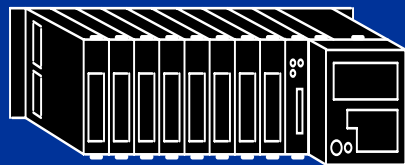
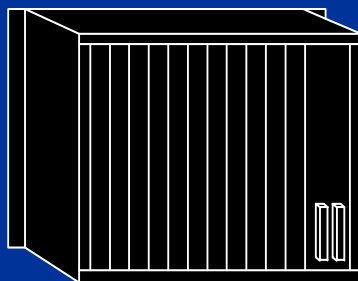


70年代到80年代中期
系列1
系列3, 系列5
系列6, 6000 PLC



80年代后期到90年代
系列90 PLC
系列 90-30
系列 90-70
系列 90-MICRO

1970年GE的第一台
PLC问世



我们将不懈地努力发展领先的技术



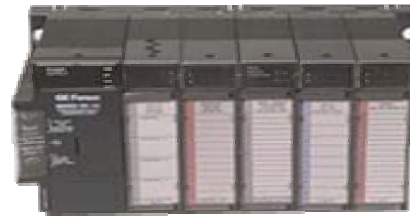
Series 90™-30 PLC

GE Fanuc PLC 产品一览



VersaMax PLC&IO

S90-30 PLC



S90-70 PLC



Field Control IO



Genius IO



Micro& Nano PLC





FANUC

Series 90™-30 PLC

产品范围划分

FEATURES

PC Control



Series 90-70
PLC



Series 90-30
PLC



VersaMax
PLC



Micro PLC



VALUE



Series 90™-30 PLC

A Cost-Effective, Small to Mid-Range PLC

电源模块

底板



CPU模块

IO模块

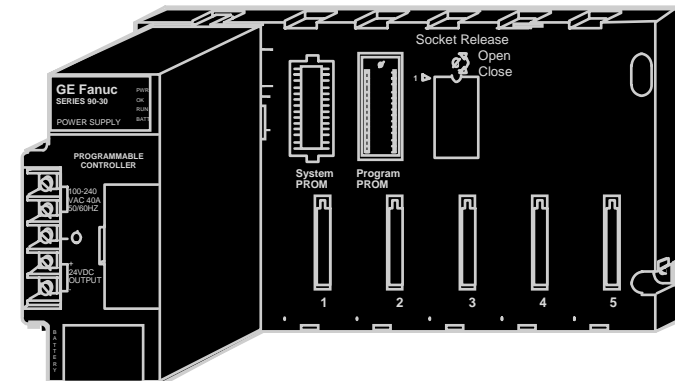
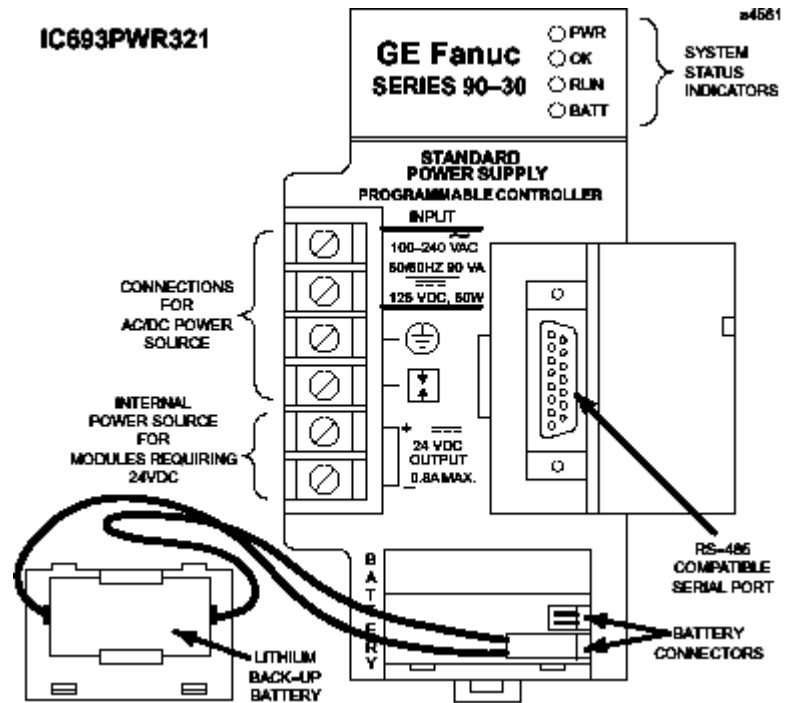
Power in a Small Package!!



Series 90™-30 PLC

90-30 Power Supply

- 100-240 VAC Auto Ranging
- 48-65 Hz Auto Ranging
- 125 VDC
- 24-48 VDC Auto Ranging
- Modular Power Supply
- Common Across 90-30 Family
- 24Vdc Available to User
- Up to 250 mA @ 24 VDC Available

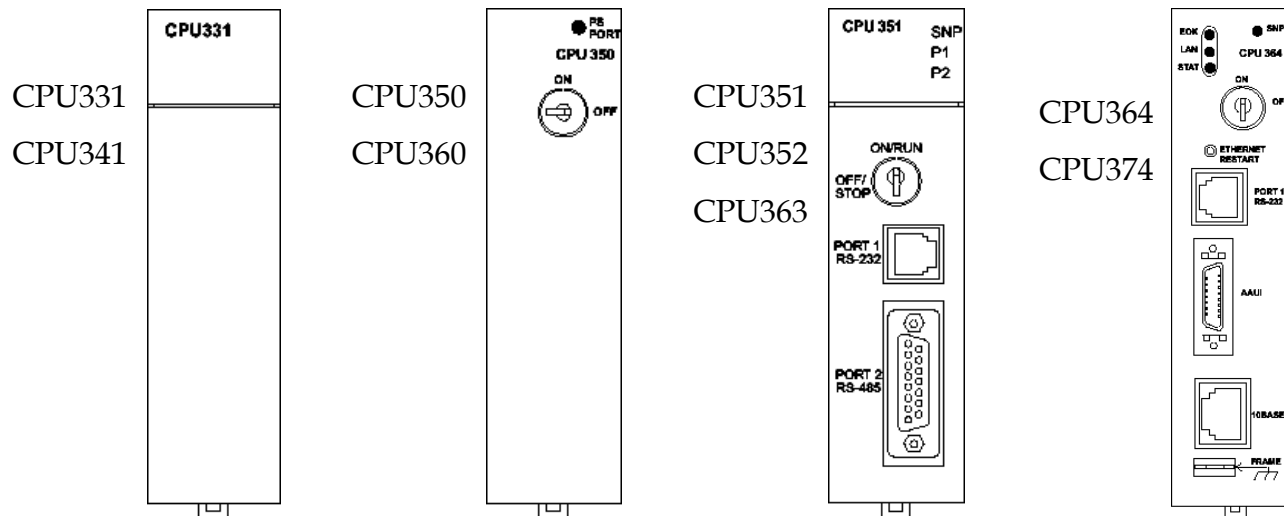




Series 90™-30 PLC

Performance and Capacity

CPU Model	311	313	323	331	341	35X, 36X
User Memory	6K	12K	12K	16K	80K	32K—240K
Registers	512	1024	1024	2048	9,999	9,999—32K
Discrete I/O	160	160	320	1024	1024	4096
Analog Input	64	64	64	128	1024	2048
Analog Output	32	32	32	64	256	512
Boolean Execution	18	0.6	0.6	0.4	0.3	0.22 (msec/K)

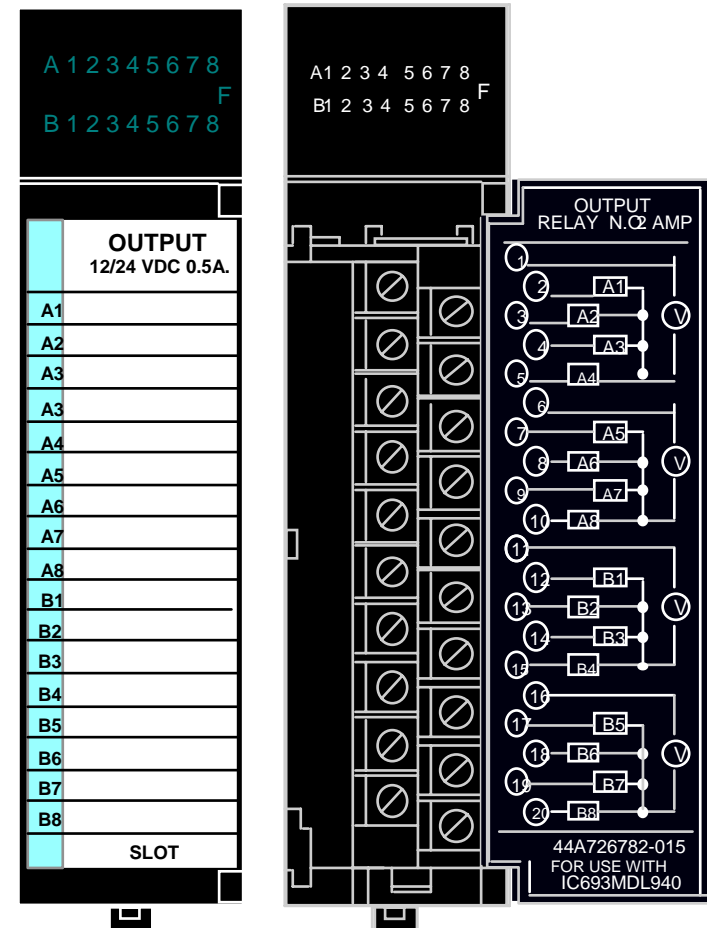




Series 90™-30 PLC

I/O Module Characteristics

- Common I/O for 30 Family
- Enclosed Modules
- Removable Terminal Block
- No Tools Required for Insertion or Extraction
- Common to all Discrete and Analog I/O
- LED Matrix - per Point Indication
- Blown Fuse Indicator
- Fused Outputs > .5 Amps
- Wiring Diagram





Series 90™ -30 PLC

Module Selection

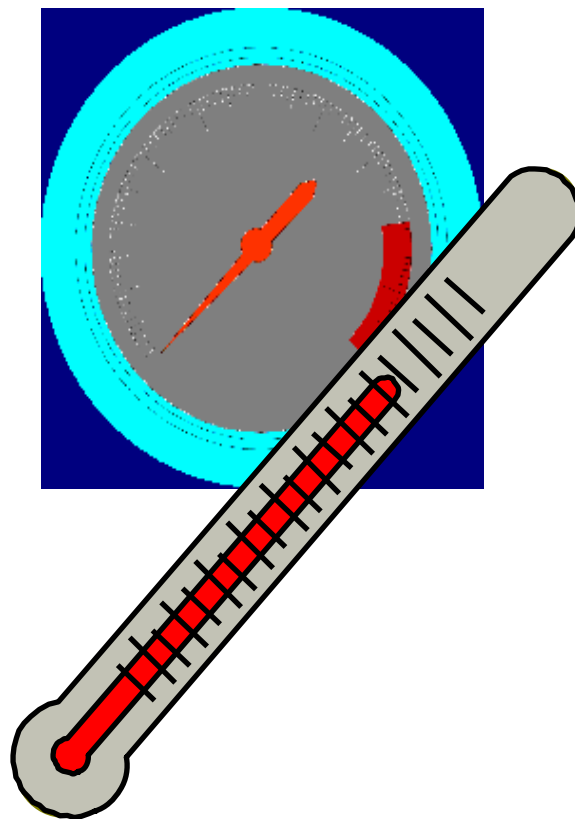
	INPUT	OUTPUT	MIXED
TTL	32 Point	32 Point	
24 Vdc	8, 16, 32 Point	8,16,32 Point	8 In, Relay Out
24 Vac	16 Point	(Use Relay Output)	
125 Vdc	8 Point	6 Point Isolated	
120 Vac	16 Point 8 Point Isolated	12,16 Point 5, 8 Point Isolated	8 In, 8 Relay Out
240 Vac	8 Point Isolated	5, 8 Point Isolated	
Relay	N/A	16 Point 8 Point Isolated	
Analog	4 Channel 16 Channel	2 Channel 8 Channel	4 In, 2 Out



Series 90™-30 PLC

特殊信号模拟量输入模块

- ◆ 热电偶输入模块：
可接收 J、K、R、S 类型的热电偶信号，
12 位或 16 位分辨率，带冷端补偿
- ◆ 热电阻输入模块：
12 位分辨率，0.5 或 0.125 度的精度，6 通
道，3 线制，非线性补偿
- ◆ 应变片信号输入模块：
可用于称重系统或接收毫伏信号





Series 90TM-30 PLC

Other Specialty Modules

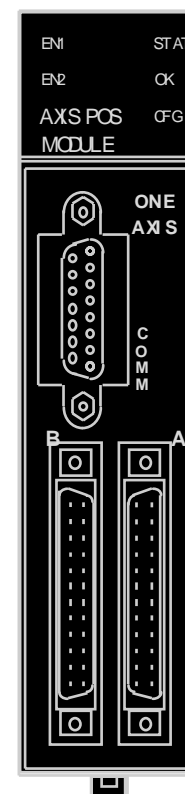
- **High Speed Counter**
- **Genius Communications Modules**
- **Axis Positioning Module**
- **I/O Link**
- **Communications Modules**
- **Programmable Coprocessor**
- **Cimplicity 90-ADS**
- **Third Party Modules**



Series 90™-30 PLC

轴定位模块 (APM)

- ◆ 轴定位模块可控制 1-2 台伺服电机(轴)
- ◆ 轴定位模块向伺服系统提供 -10V至 +10V速度给定信号
- ◆ 轴定位模块接收伺服电机的编码器反馈信号
- ◆ Power Mate J 模块用于连接交流伺服电机，通过数字信号与伺服系统相连
- ◆ Power Mate J 与 Fanuc 的 a 系列、β系列伺服马达相连



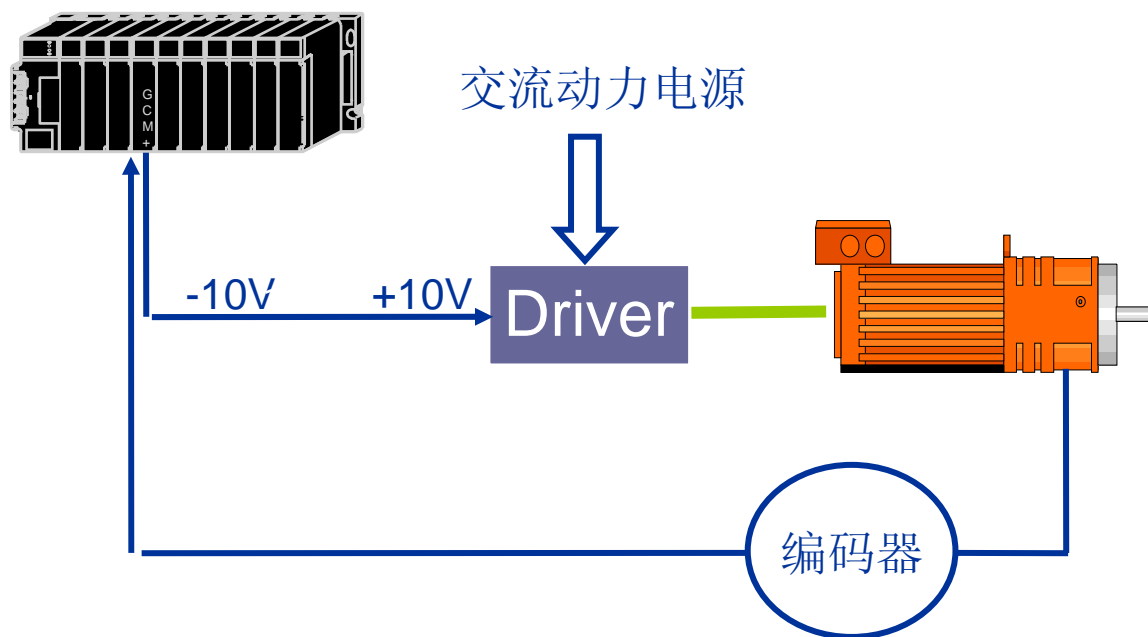
APM



Series 90™-30 PLC

轴定位模块 (APM)

- ◆ 轴定位模块可完成冶金生产线中的线材定位，包装生产线中的定位控制
- ◆ 运动控制程序存储在 APM 模块内，CPU通知APM模块执行相应的运动程序

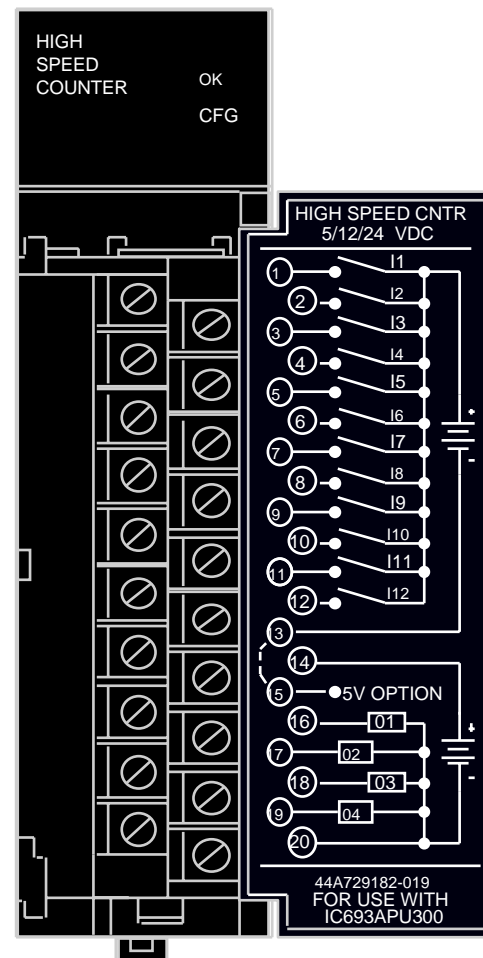
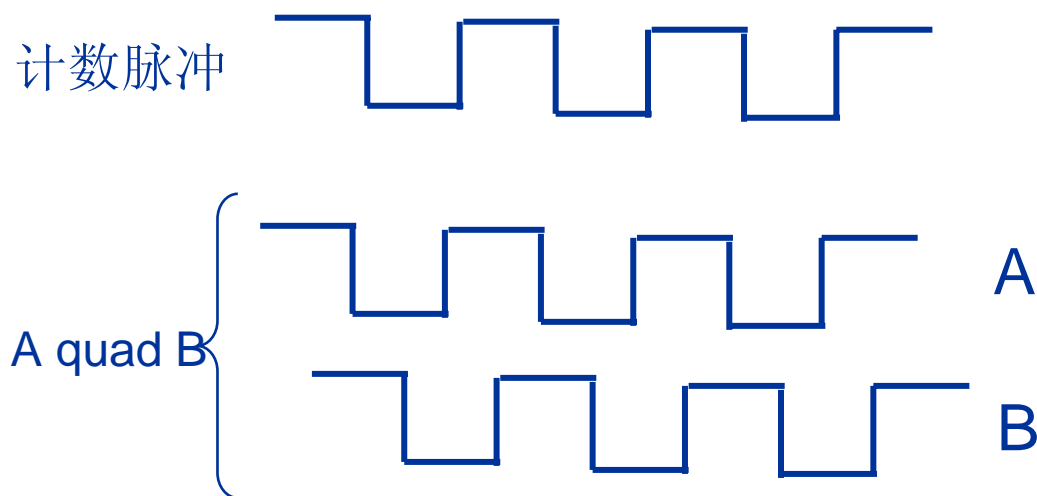




Series 90™-30 PLC

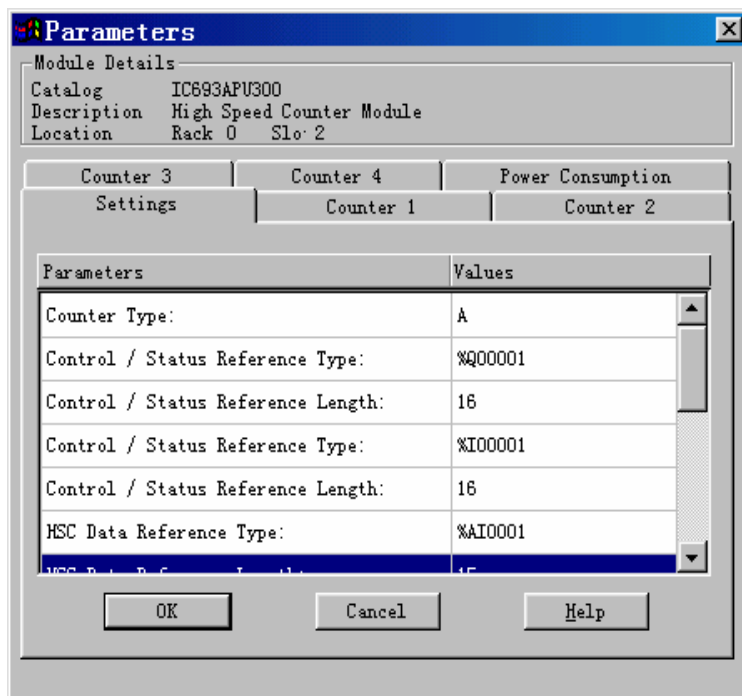
高速计数器模块 (HSC)

- ◆ 可处理高达80K(90-30)、200K(90-70)的脉冲信号，最多可同时处理 4 路信号
- ◆ 三种工作方式，可接受单相或标准编码器的 A quad B信号
- ◆ HSC内部设定可使输出触点立即动作

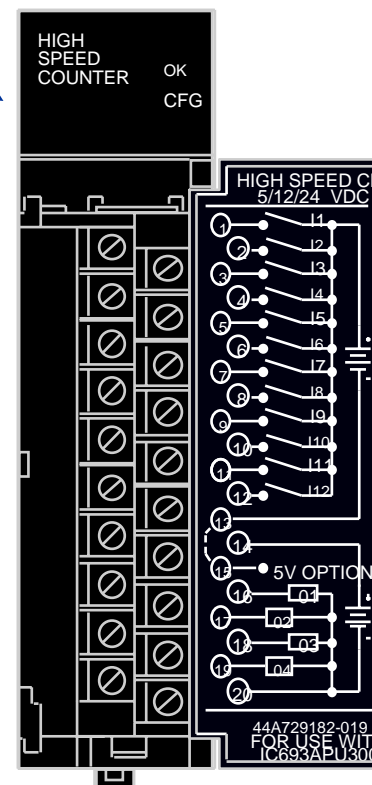
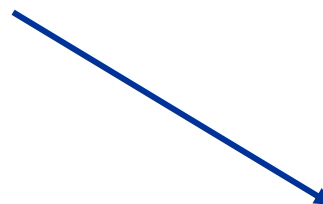




Series 90™ -30 PLC



高速计数器模块 (HSC)



- ◆ 软件设定 HSC 模块的工作方式（单相或 A quad B）
- ◆ 软件设定 HSC 与 CPU 的数据交换地址，用户程序访问 HSC 如同访问 I/O 模块

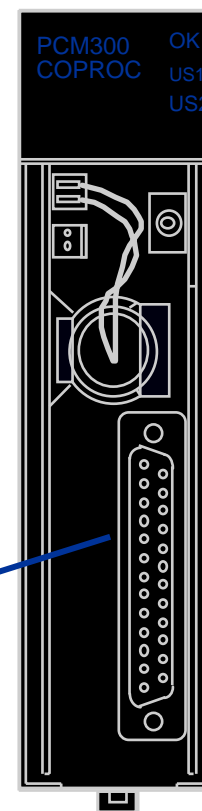


Series 90™-30 PLC

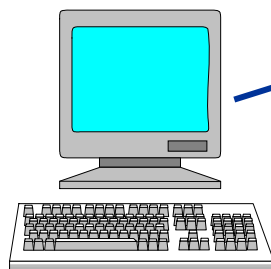
可编程协处理器模块 (PCM)

- ◆ 可编程协处理器模块集成有独立的微处理器，内置 Mega Basic 解释程序
- ◆ 用户编写的 Basic 程序可通过 Win95 的超级终端软件下载给 PCM 模块
- ◆ 用户的 Basic 程序可使PCM用来帮助 CPU 模块处理一些复杂的运算任务，或用来编写自定义的串行通讯协议(232/485) 与外部设备通讯

可编程协处理器



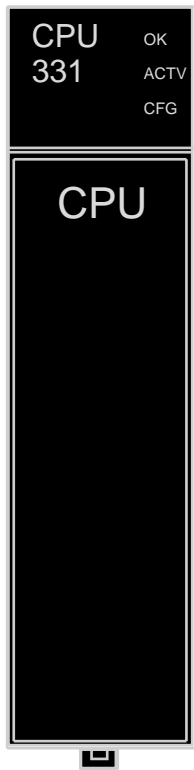
Win 95 (超级终端)



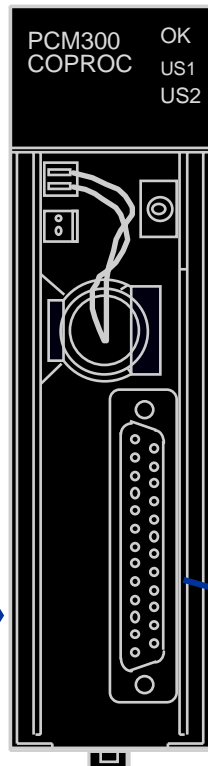


Series 90™-30 PLC

可编程协处理器模块 (PCM)



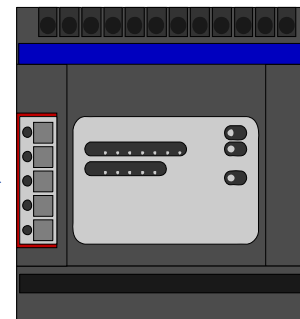
CPU模块



可编程协处理器



- ◆ 扩展 Basic 语句
- ◆ SYSLINK
- ◆ SYSREAD
- ◆ SYSWRITE



安川变频器

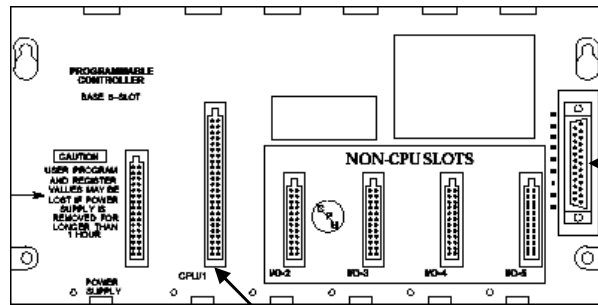
- ◆ PCM 模块协助 CPU处理任务
- ◆ PCM 模块与外部设备通讯





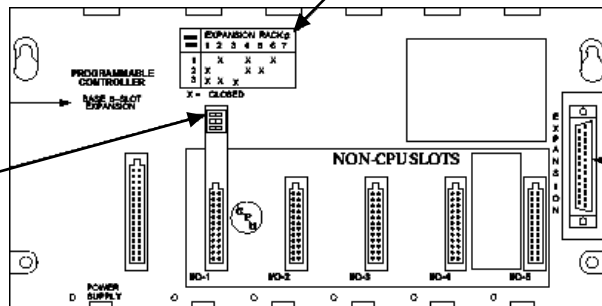
Series 90™-30 PLC

CPU底板和扩展底板



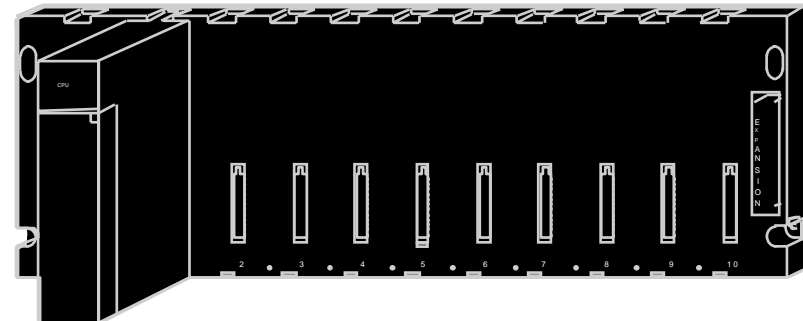
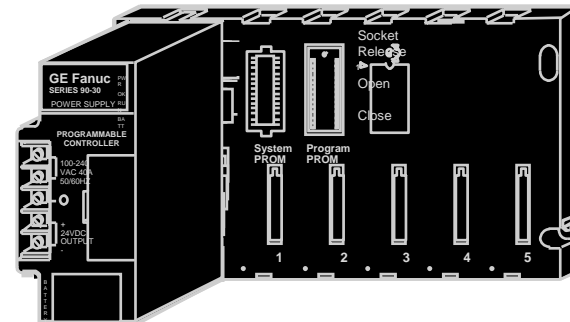
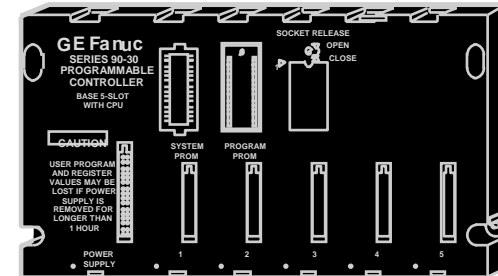
CPU槽：0号没有DIP开关

底板DIP开关设定说明



底板DIP开关
设定扩展机架
(1~7号)机架号

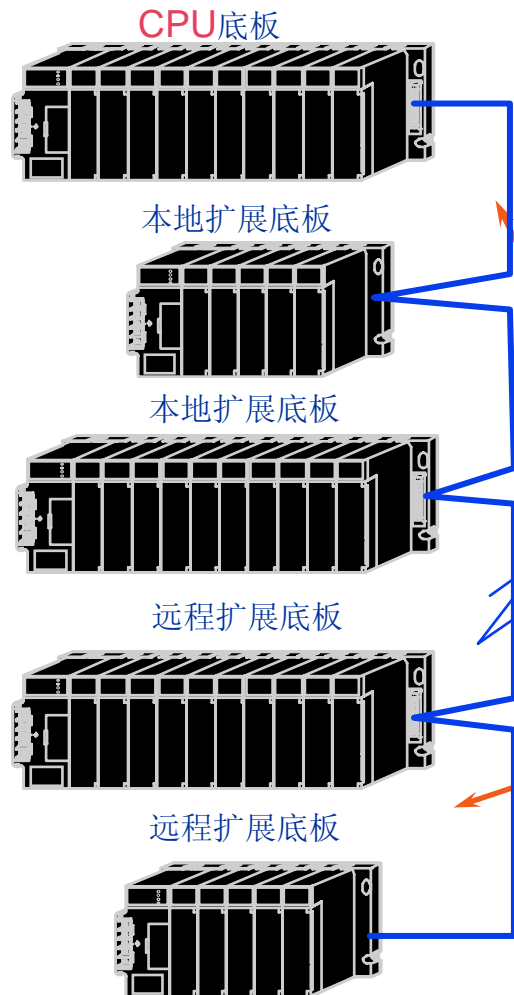
机架扩展通讯口集成在底板上





Series 90™-30 PLC

Model 331/35x/36x - 扩展系统

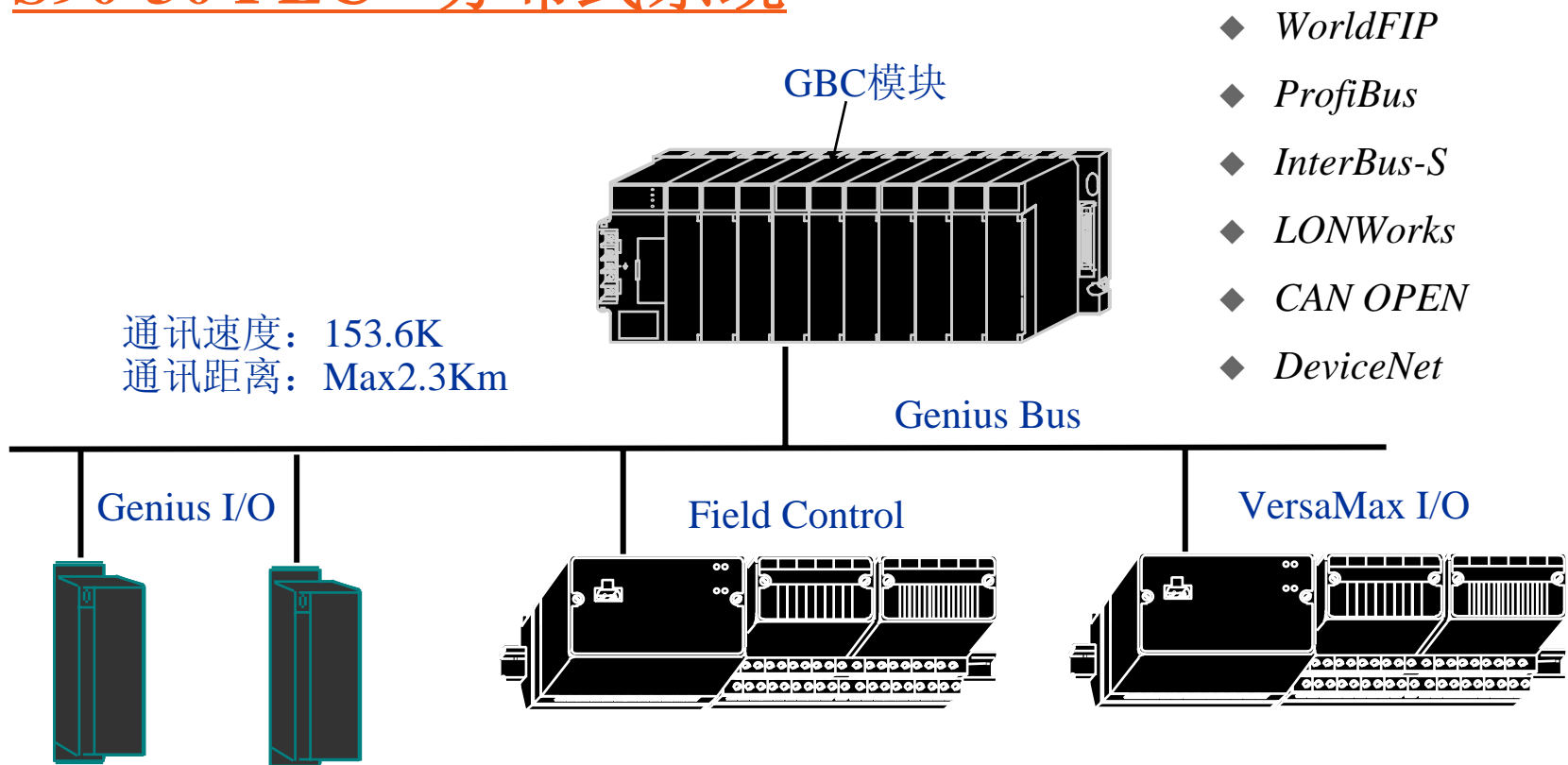


- Model 331 5 Racks
Total, 49 Slots
- Model 350 8 Racks
Total, 79 Slots
- 50 Ft. Maximum for
Local Expansion I/O
- 700 Ft. Maximum for
Remote Expansion
I/O



Series 90™ -30 PLC

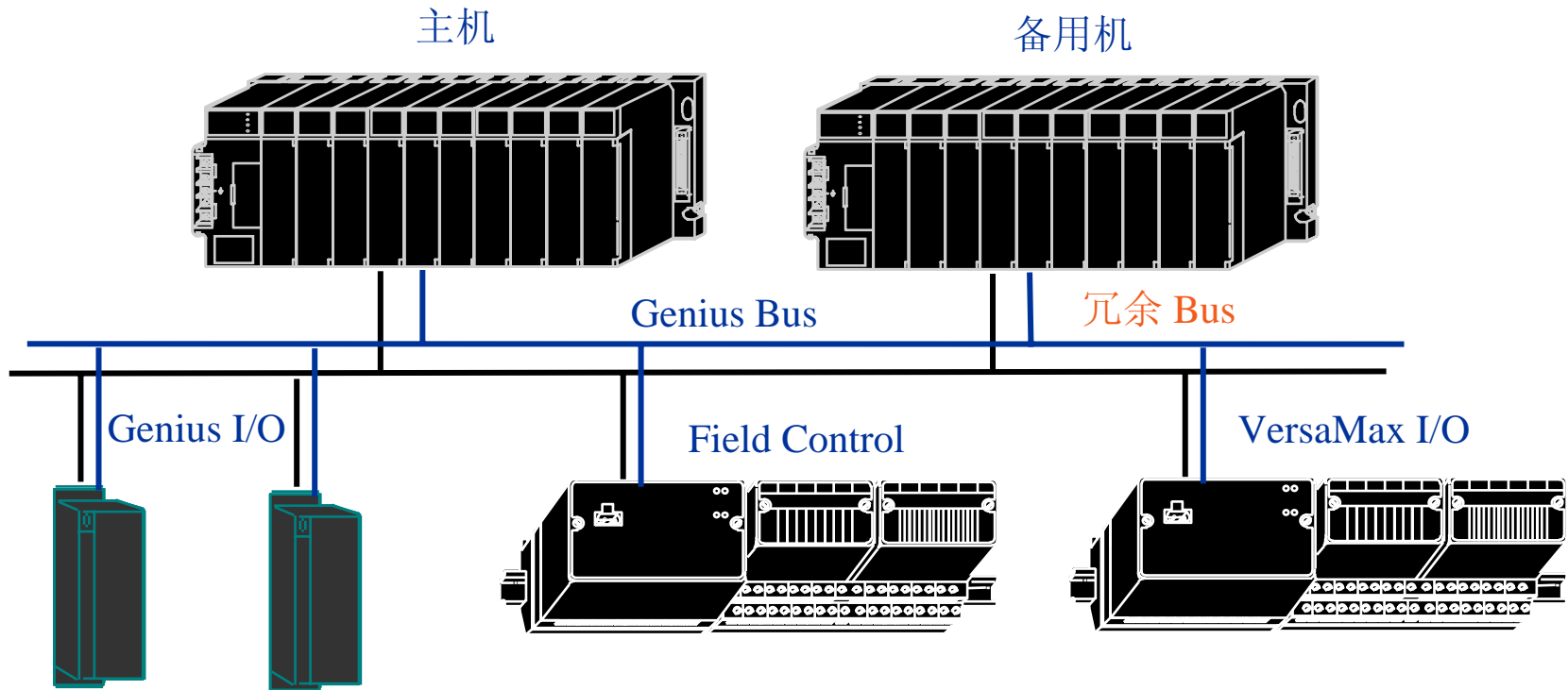
S90-30 PLC - 分布式系统





Series 90™ -30 PLC

S90-30 PLC - 双机热备系统



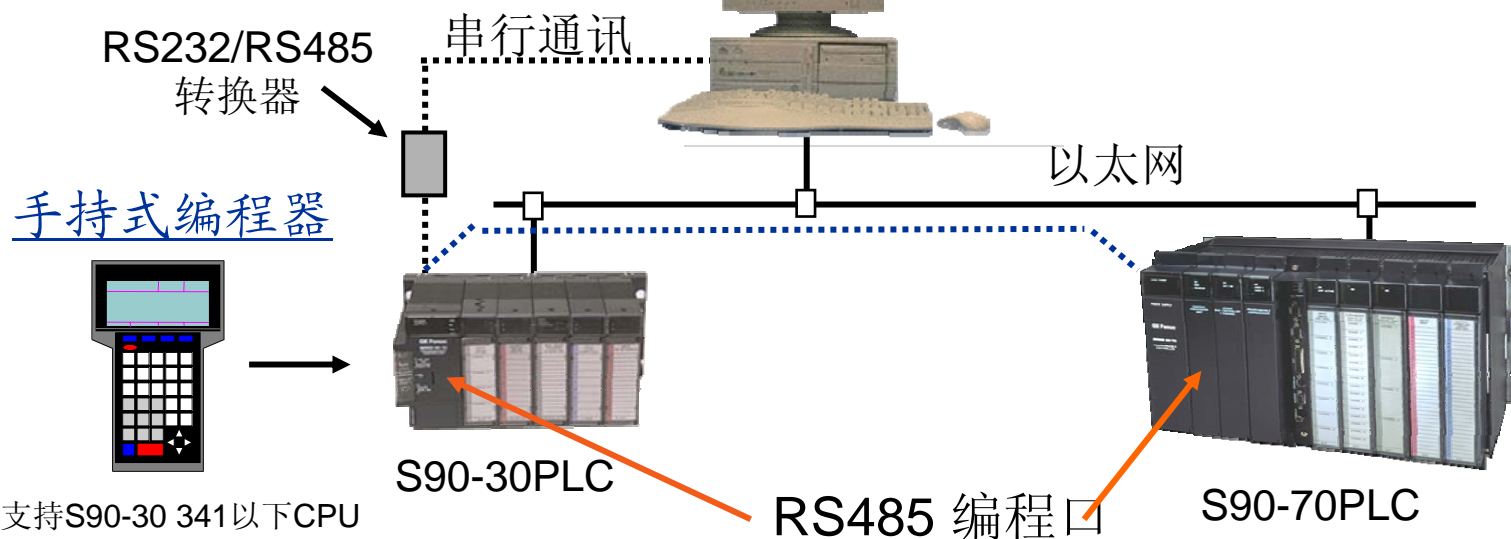
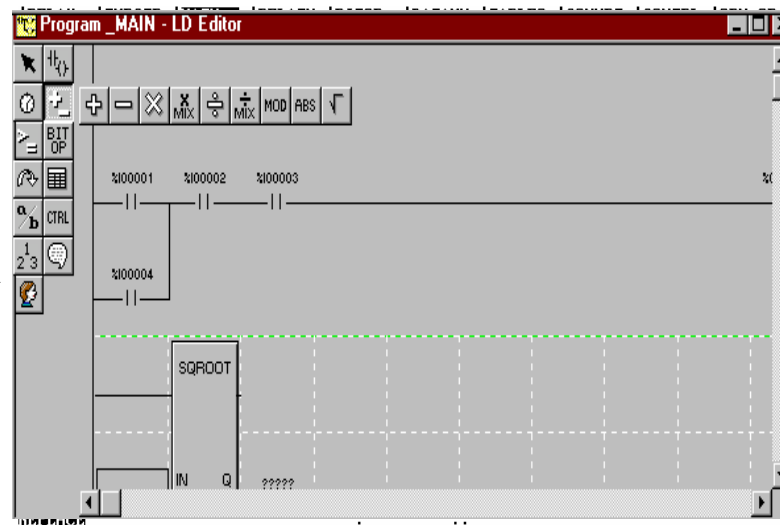


Series 90™-30 PLC

系列 90 PLC 编程与组态

计算机+编程软件:

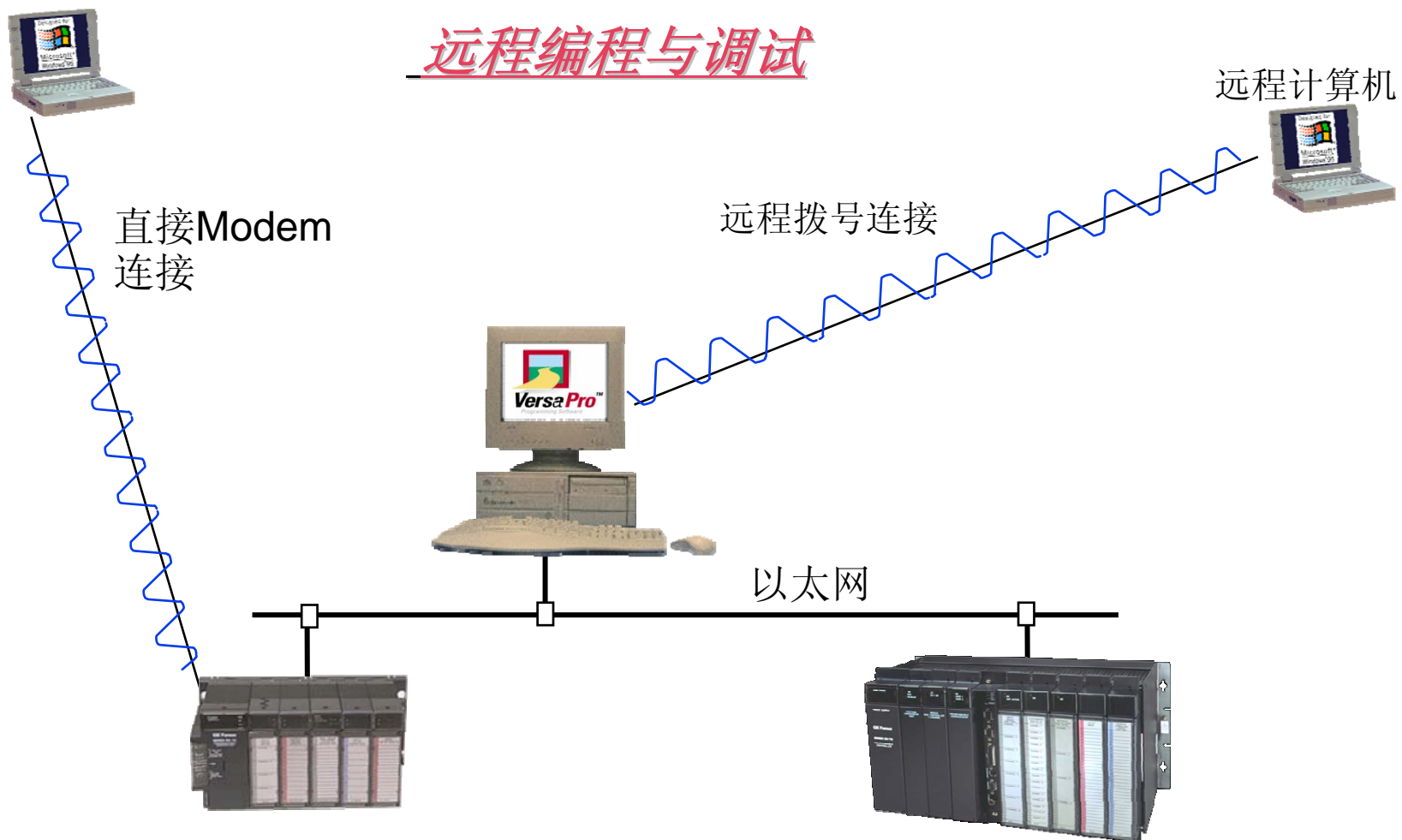
- ◆ LM90——Windows下DOS窗口
- ◆ CC90——Windows98/NT
- ◆ VersaPro——Windows98/NT





Series 90™-30 PLC

远程编程与调试

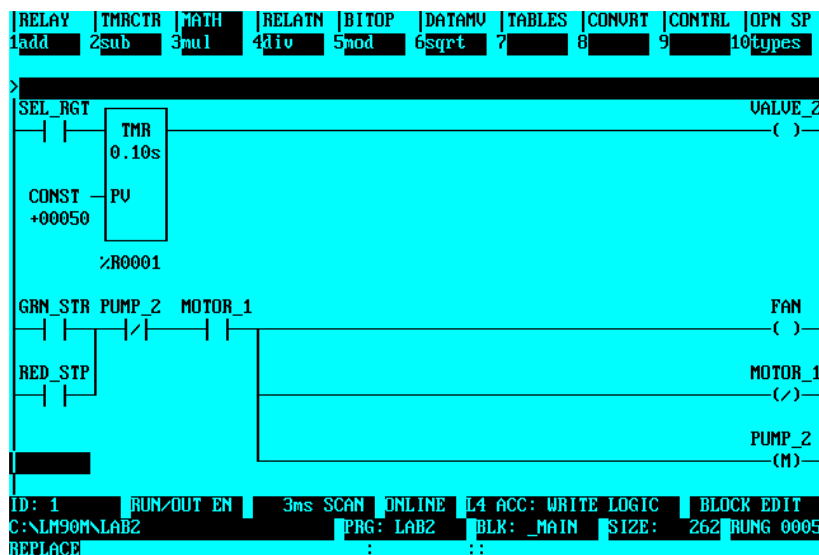
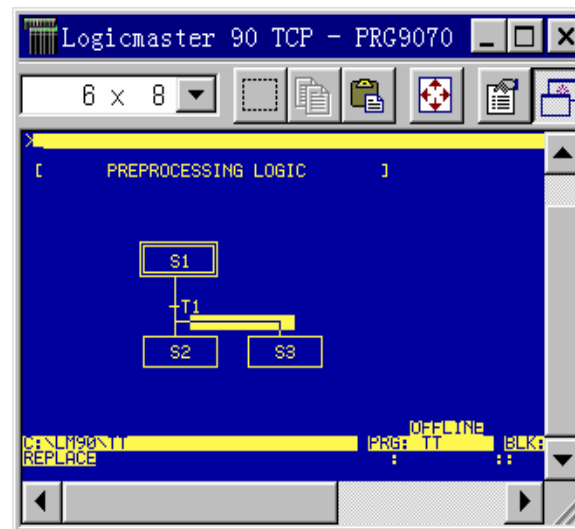




Series 90™-30 PLC

系列90 PLC 编程语言

- ◆ 指令语句编程
- ◆ 继电器梯形图 (Relay Ladder Logic) 编程
- ◆ 顺序流程图 (SFC) 编程
- ◆ 状态逻辑语言编程



- ◆ 支持用 C 语言编程
- ◆ 开发复杂的控制算法
- ◆ C 程序代码比梯形图程序快4-6倍



Series 90TM -30 PLC

Logicmaster 90

- **Program Using IBM PC or Compatible**
- **No I/F Card Required**

- **Software Configuration**
 - **Auto Configuration at Startup**
- **Decimal Addressing**
- **Password and OEM Protection**



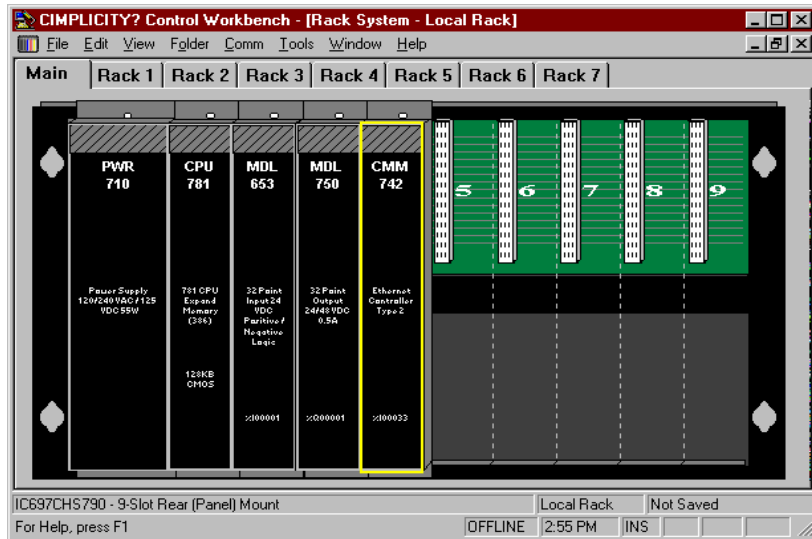
Series 90TM-30 PLC

Logicmaster 90

- **Structured Programming Through Subroutines**
- **Conform to IEC Standard (SFC, RLD, ST)**
- **Librarian features**
- **User Program Documentation**
- **Fast On-Line Data Monitoring**
- **Built-in diagnostics**
 - CPU and I/O Diagnostics

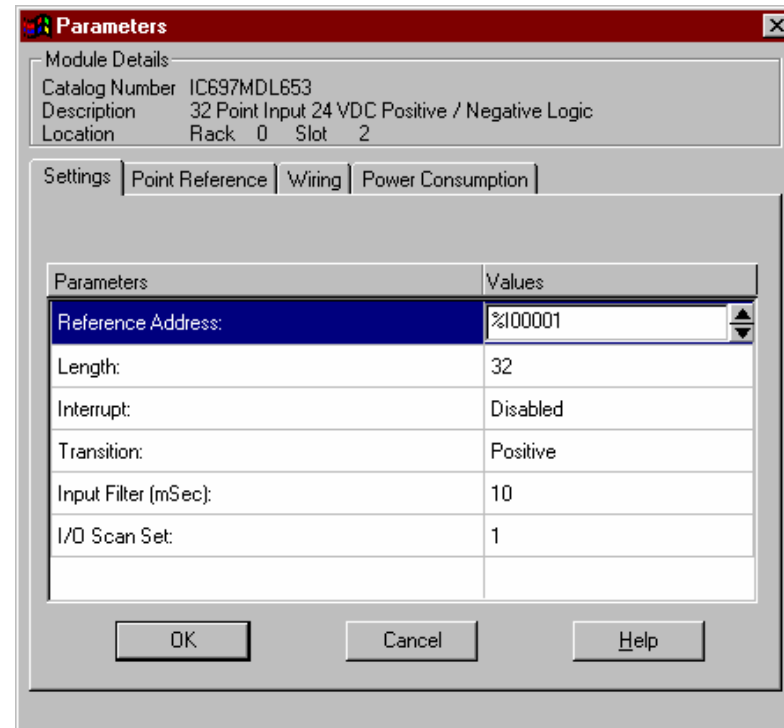
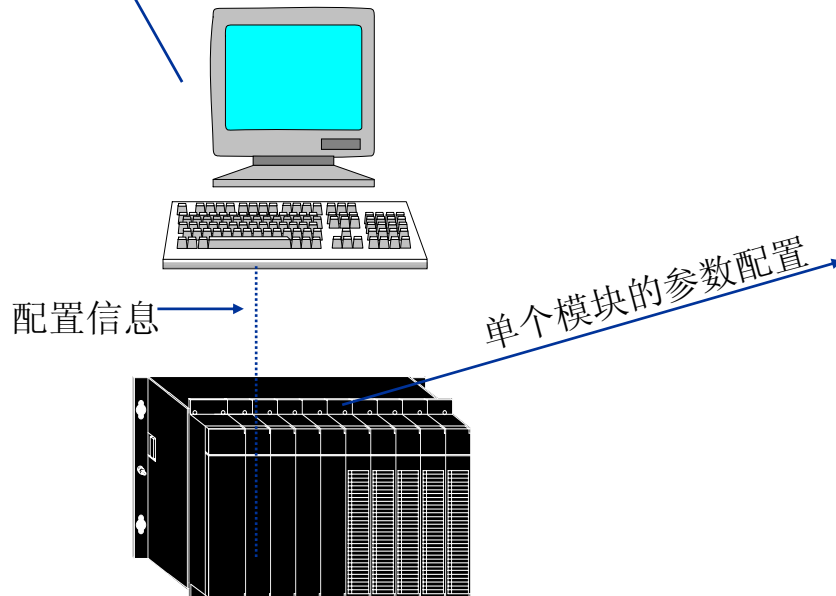


Series 90™-30 PLC



系列90 PLC 的软件组态

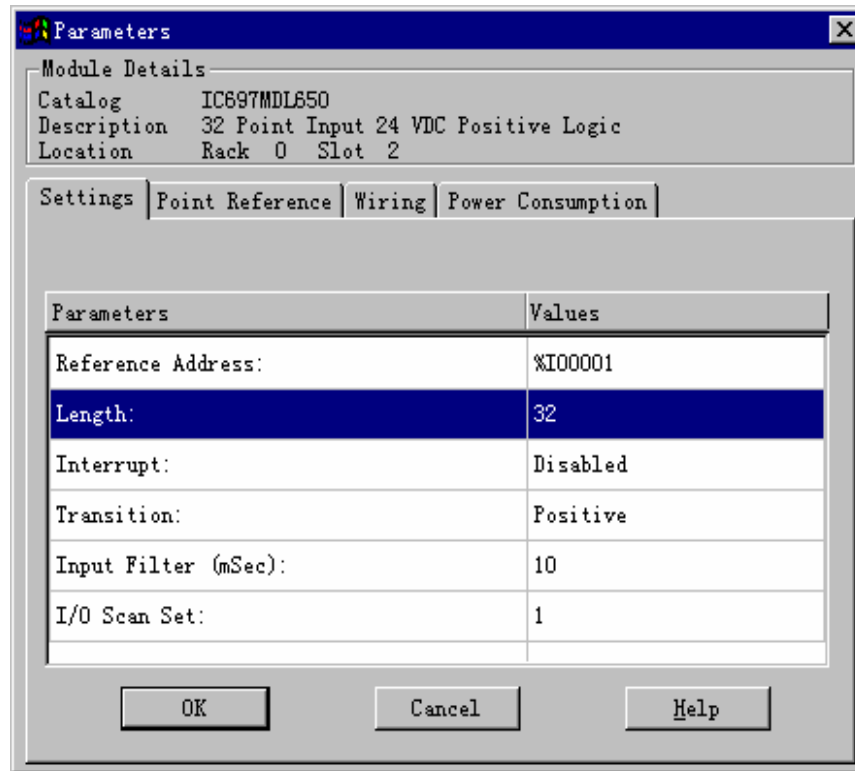
- ◆ 在 PC 机上配置 PLC 的每一个模块
- ◆ 产生的配置文件下载给 PLC 的 CPU 模块，使得 CPU 知道每个槽位的模块
- ◆ 双击某个模块，可以设置这个模块的具体参数，如 I/O 地址，特性参数等



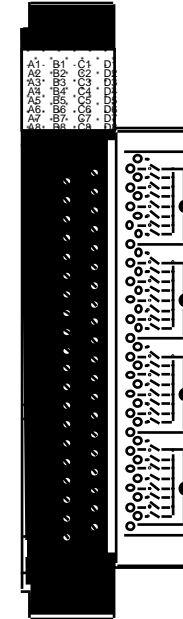


Series 90™-30 PLC

开关量模块的软件组态



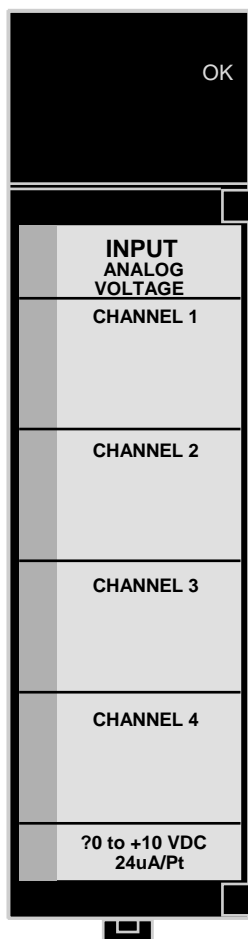
- ◆ 软件选择模块类型
- ◆ 软件设定模块的 I/O 地址
- ◆ 软件设定输入模块的第一个通道是否申请中断（S90-70）
- ◆ 软件设定外部信号滤波时间





Series 90™ -30 PLC

模拟量模块的软件组态



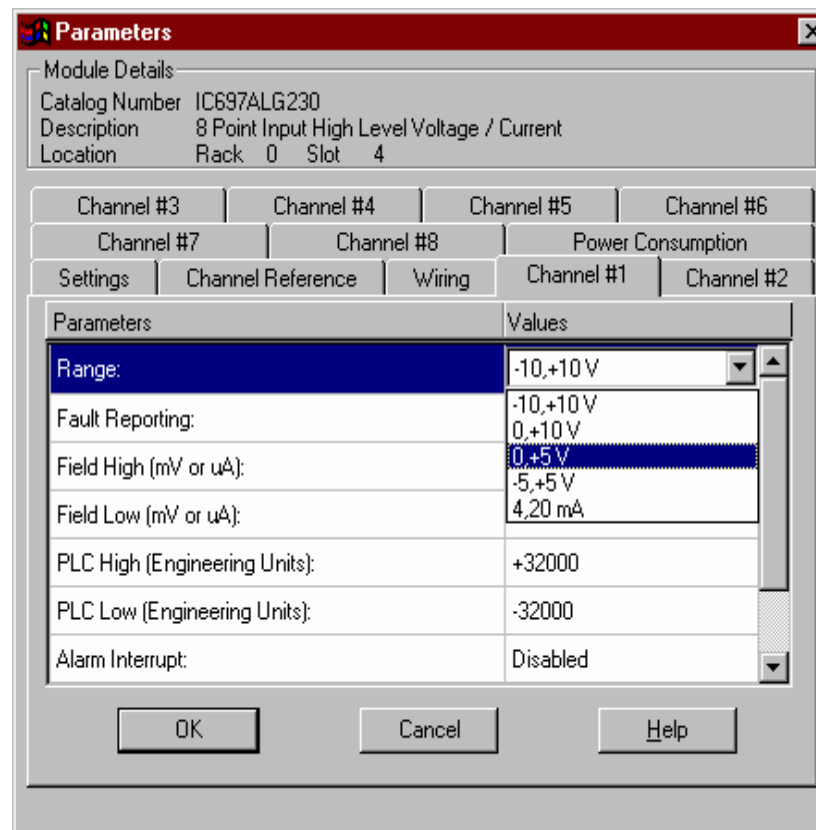
软件选择信号类型

4 - 20, 0 -20 mA

1-5V, 0-10V

软件设定上下限值

内存变量中集成有故障报警节点



- ◆ 在 PC 机上配置模拟量模块，配置信息下载给 CPU
- ◆ 参数按实际要求设置

THE POWER OF AN
Open

Mind



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