

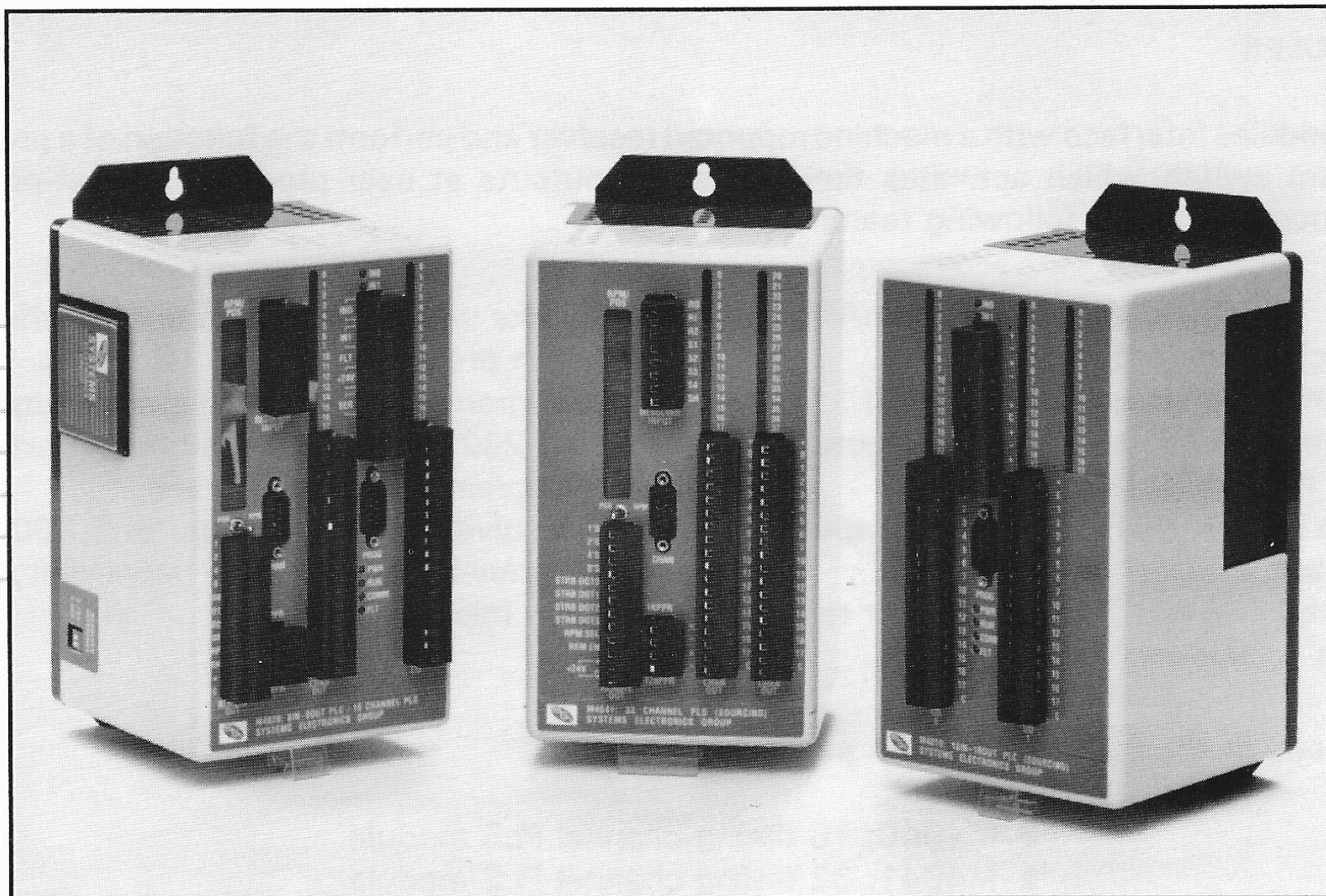


## SYSTEMS M4000

## INDUSTRIAL CONTROLLER

### PRODUCT OVERVIEW

The SYSTEMS M4000 is a series of PLC (Programmable Logic Controller) modules and PLS (Programmable Limit Switch) modules which incorporate many of the features of the SYSTEMS S3000 product line but in a smaller packaging format. Applications for the M4000 modules include: high performance, low I/O count, machine control; high speed front ends for large I/O count PLC systems; distributed control systems; high performance machine timing; etc.



### FEATURES:

- High performance: PLC scan times of 0.6msec per K, overhead scan as low as 80 microseconds. PLS resolver tracking speeds up to 6,000 RPM with output update uncertainty of less than one microsecond.
- Small package size: all modules packaged in back panel mountable 8" X 4.5" X 5.5" module.
- All programming implemented with DOS based software: PLC modules programmed with SYSdev, allowing the module to be programmed in a combination of Ladder, High-level (C), and Assembly (MCS-51). PLS modules programmed with PLSdev, allowing PLS configuration and timing channel programming with simple menu driven commands.
- High speed serial network allows PLC modules to communicate with other M4000 PLC modules or S3000 processors in distributed control systems.
- Versions available include three different PLC modules, two PLS modules and one intelligent PLS module which incorporates both features of the PLC and PLS modules.

## PLC MODULES:

The PLC modules incorporate a processor along with digital DC inputs and digital DC outputs in a single module. All PLC modules incorporate the following features:

- Built-in processor
- 10-30VDC digital inputs (sourcing)
- 10-30VDC digital outputs (1AMP sourcing)
- Two additional 10-30VDC interrupt inputs
- 24K bytes battery backed user program memory
- 2K bytes data memory
- RS-232 Programming Port
- Serial Network interface port
- 0.6 millisecond per K scan time
- 80 microsecond overhead scan time
- Programmed with SYSdev

Three versions of the PLC modules are available:

- M4010: 16 digital inputs/16 digital outputs
- M4011: 32 digital inputs/16 digital outputs
- M4012: 24 digital inputs/24 digital outputs

## PLS MODULES:

The PLS modules interface with a machine mounted resolver and perform the function of a programmable limit or cam switch which activates timing channel outputs at user programmed set-points. These modules incorporate the following features:

- Built-in 10-30VDC sourcing (100mAMP) timing channel outputs
- Programmable scale factor (2-512)
- Programmable offset (0 to scale factor-1)
- Built-in RPM/POSITION display
- Remote RPM/POSITION display output connector
- Dedicated 128 and 1024 pulse per revolution outputs
- Brake wear compensation algorithm for use with presses
- Programmable motion (speed) output
- RS-232 channel programming port
- Programmed with PLSdev
- Resolver tracking rate up to 6,000 RPM
- Channel output update uncertainty of less than one microsecond

Two versions of the PLS modules are available:

- M4040: 16 timing channel PLS module
- M4041: 32 timing channel PLS module

## INTELLIGENT PLS MODULE (M4020):

The M4020 is a combination of the M4040 PLS module with the processor and 8 in/8 out digital I/O of the M4010. This combination forms a powerful intelligent PLS module which contains 16 timing channels and yet can implement user logic (written in Ladder and High-level(C)) which activates the 8 digital outputs based on the timing channels and 8 digital inputs. This module incorporates the following:

- All the features of the M4040 PLS module
- All the features of the M4010 PLC module except that it contains 8 10-30VDC inputs and 8 10-30VDC (1AMP) outputs



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