

# PLA applications module



With drive and plc functionality merging closer together, the extended functionality of the Sprint digital drive offers more than just drive control

## PLA APPLICATIONS MODULE

The logical step has been to offer that applications functionality for use as a stand-alone module that can be used to enhance any control system - This is the PLA applications module.

The PLA provides an applications module that can compliment and enhance any analogue or digital drive control system, simplifying system design and reducing or eliminating the need for costly extended functionality on PLC or PC based systems.

Designed primarily for use by system integrators, the PLA offers extremely powerful and flexible method of processing analogue and digital signals via easy to use configurable software blocks.

Evolved from Sprint Electrics PLX series of DC drives, the PLA is packed with many features and functions that are often required by engineers in producing solutions for diverse applications and motion tasks.

The PLA offers a means of interconnecting analogue and digital signals via its range of configurable inputs and outputs to the internal application blocks, enabling the user to define a control strategy to exactly meet the demands of the process or application. The block diagram created is extremely flexible and has a unique "Configuration Checker" detecting shorts within the user defined connections.

### The standard blocks in the PLA include:

Diameter Calculator.

Motorised pot simulator with power loss memory.

Taper tension calculator.

2 high performance PID's with gain profiling.

Torque compensation for inertia and friction.

2 Summers with inverting scaling clamping and hysteresis.

Latch with Set, Reset, Clock and Data inputs.

2 Filters with precision time constants from milliseconds to 30 secs

Batch Counter with roll-over facility.

Delay timer with roll over facility.

4 change over switches.

Linear or 'S' ramp with independent up down rates for Forward and Reverse.

3 input digital decoder with 8 programmable output values.

4 comparators with programmable hysteresis and aperture option.

4 Quadrant parameter profiler with Linear, square, cubic or 4th power profiling laws.

8 Multifunction blocks with AND, OR, INVERT, SIGN CHANGE, RECTIFY, COMPARE.

## Comprehensive input/output facilities include:

- 8 bipolar analogue inputs with programmable range, scalers, offset and clamps.
- 8 digital inputs with adjustable comparator threshold.
- 3 analogue outputs with programmable scaler, rectifier and offset.
- 4 Digital inputs that can also be used as encoder inputs up to 100KHz.
- 4 Digital input/outputs with programmable logic threshold and selectable invert.
- 3 Digital outputs with programmable logic threshold and selectable invert.

All digital outputs have an output capability up to 350mA short circuit protected.

A high voltage input suitable for tachogenerators or other sources up to +/-200V.

An isolated bipolar input suitable for voltages up to +/-1000V DC

An isolated input suitable for measuring AC voltages up to 690V AC.

All of the above inputs can be programmed and monitored in engineering units using the superb diagnostic facilities available within the PLA.

The PLA is powered from a 24Vdc supply as standard. There is a 40-character alphanumeric backlit display with a menu structure that has been designed for ease of use. Rapid access to the English 'parameter set' is made simple via 4 ergonomically designed keys. Packaged in a similar style to the PLX dc drives, the PLA measures 289H x 216W x 110D mm. Also included free with the PLA is Sprint Electrics 'PL PILOT' configuration and monitoring software complete with PC to PLA programming lead.

As a "Windows" based package 'PL PILOT' requires no previous knowledge of any programming language, making even the most demanding of applications quick and easy to set-up. Monitoring is also made easy using only the PLA or PL Pilot, with the ability to view on-line the voltage present and state of all the analogue and digital inputs and outputs.

Signals can also be analysed further using the scope facility that can be configured to operate through analogue output 3 of the PLA; thus any parameter viewed on the alphanumeric display of the PLA can also be monitored using an oscilloscope across this output. PL Pilot also enables the user to save entire application configurations to disk or to save just the configuration of an individual block (i.e. the PID settings), these can then form the basis of a library that the user can call upon for other applications. The user can also save up to 3 complete PLA configurations within the unit.

An RS232 port provides an essential programming port but also enables the PLA to communicate to remote equipment such as other PLA's, Drives, operator interfaces and other devices. Further connectivity can be achieved for the more demanding applications by the addition of a Profibus card.

## CD-ROM VERSION OF SPRINT ELECTRIC WEB SITE OFFERS A HOST OF FREE SOFTWARE AND DRIVES DATA

A WEALTH OF USEFUL INFORMATION AND SOFTWARE FOR THE SELECTION, SPECIFICATION AND CONFIGURATION OF DC DRIVES HAS BEEN CRAMMED ON TO A NEW CD.

Available free on request and included with every Sprint Electric digital DC drive, the CD-ROM is an off-line version of Sprint Electric's recently redesigned and expanded web site [www.sprint-electric.com](http://www.sprint-electric.com). It includes full specifications, technical manuals and troubleshooting guides for Sprint's entire range of over 50 digital and analogue DC drives - the widest selection currently available from any manufacturer.



Also included is a full version of Sprint's PL Pilot software for the configuration of single or multiple PL/X digital drives. This easy to use Windows-based package makes programming and diagnostics for these sophisticated drives straightforward, even for users with no specialist knowledge.

Other useful features for expert and inexperienced users alike are the detailed glossary of drives terms and a comprehensive section giving detailed answers to frequently asked questions on drives configuration.

A news section gives details on Sprint's latest product launches and applications, while a selection of web links enables users with internet access to connect direct to other drives web sites.

This practical and informative CD-ROM is of use to anyone designing, operating or installing DC drive systems, whether or not they are using Sprint's range of modern products.

Visit our website for all the latest information regarding DC drives

[www.sprint-electric.com](http://www.sprint-electric.com)

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