

# The Modicon<sup>®</sup> Premium<sup>™</sup> PLC

Standardize on a single platform for multiple discrete manufacturing and process control applications



Make the most of your energy<sup>SM</sup>

**Schneider**  
Electric

# Standardize your control across your facility!

Featuring unrivaled processing power, the Modicon Premium PLC delivers more flexibility, more diagnostics and more openness to create a highly-versatile, cost-effective control solutions. It enables you to standardize on a single platform for multiple discrete manufacturing and process control applications, while at the same time, allowing you to take advantage of a flexible architecture that integrates multiple CPU levels, plug-and-play rack support and open communication standards. It also features multi-axis interpolated motion control, weigh scale monitoring, integrated Preventa™ safety relays and reflex functionality for fast, independent processing of critical input/output (I/O).

The diversity of installed equipment can often lead to disparate automation systems that are complex to implement, resulting in downtime and lost production. The Modicon Premium PLC's wide range of specialized functions helps to ensure the overall performance of your solutions.

It also offers a powerful multitasking system that optimizes cycle times and allows you to execute your application quickly and efficiently including numerical and table instructions. You can specify just the right amount of memory for the application even if you want to load the entire source project, store your application's diagnostic data, process complex data structures or store recipes and production data.



# Optimized for industry processes

Compact, flexible and optimized for rapid processes, the Modicon Premium PLC specializes in manufacturing equipment and processes. It is especially well-suited to industrial sectors such as automotive, electronics, food & beverage, packaging, oil & gas, material handling and a host of others. Thanks to its ability to integrate distributed architectures, the Modicon Premium PLC provides ideal solutions for infrastructure projects, particularly in the water and transport sectors.



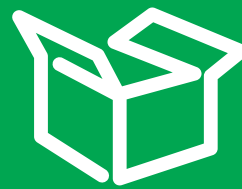
Automotive



Electronics



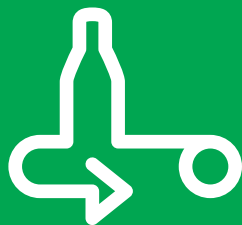
Food & beverage



Packaging



Oil & gas



Material handling

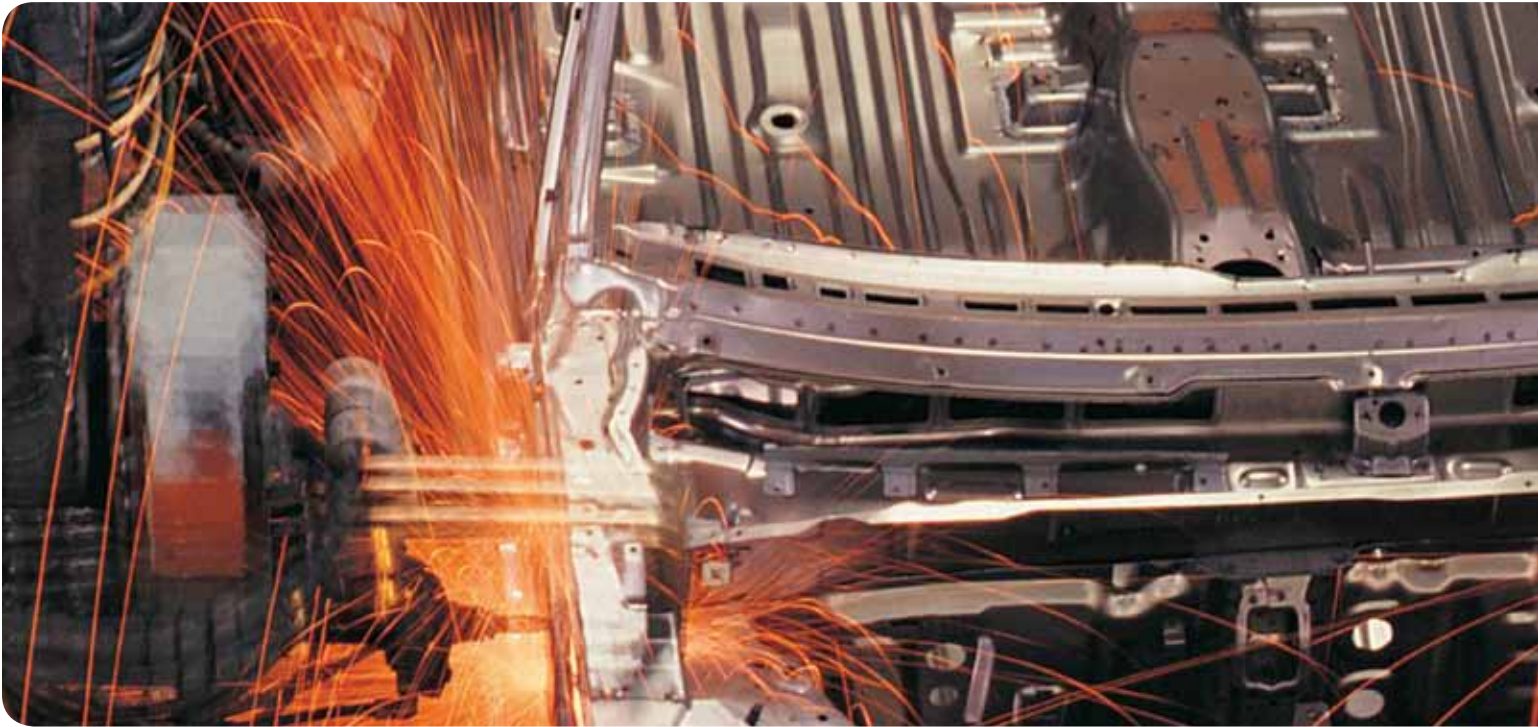


Water wastewater



Infrastructure

# Incorporating application-specific functions



## Implementation based on simple configuration

The Modicon Premium PLC simplifies setup, configuration and control by offering user-definable and programmable control loops including auto-tune capabilities. This includes calculations performed in floating point format and are expressed in engineering units. Advanced control is managed with the function block diagram (FBD) editor.

## High availability

The Modicon Premium PLC provides simple, high-availability architecture based upon Ethernet distributed I/O. It supports critical I/O through redundant modules by placed in both the primary and standby CPU racks. This includes:

- > ConneXium™ managed switches to support single or redundant ring architectures.
- > Advantys™ STB, ETB distributed I/O and other control products that support daisy chain networks and daisy chain loops.

## Flexible architecture

Multiple remote I/O racks are supported without the use of communication head and drop modules in the racks. This reduces the overall footprint of your solution, as well as the number of modules required for an application. Remote I/O updates occur more quickly without the added latency of communication modules in each rack. The Modicon Premium PLC also supports both Ethernet Modbus TCP/IP and Ethernet/IP on the same module.

Open connectivity is enhanced by featuring communication standards such as Fip, Modbus Plus, Profibus DP and Interbus. CANopen and ASInterface standards are available for connecting intelligent devices and distributed I/O.

# Optimized for process control and industrial machines



## Unrestricted memory access

The Modicon Premium PLC helps to ensure optimum memory management with 3 MB of internal RAM and multiple sizes of option cards that can be inserted in each processor to adjust processing capacity to meet your specific needs. These cards can hold the source code and data files, along with the execution code.

The flexible design of the memory allows you to use traditional symbolic variables and/or un-located variables that remove the worry of specifying addresses to create powerful data structures.

## Human machine interface (HMI)

The Modicon Premium PLC has an integrated web server within the CPU provides easy access to ready-to-use diagnostics information. Also available is an optional module that enables e-mail messaging, SMS, and direct access to relational databases such as SQL and Oracle. User-defined and configured operator screens can be added using the Unity® Pro software. These screens can be used for application and diagnostic information.

## Positioning and motion control

The Modicon Premium PLC offers state-of-the-art SERCOS communications for optimal single or multi-axis motion control. This includes:

- > Linear or infinite axes
- > Follower axes by ratio or profile cams
- > Interpolation
- > Axis control for stepper motors

It leverages the powerful Unity Pro motion function blocks to manage the Lexium™ stepper and servo drives.



# Reduce your development costs

The Unity Pro development software is the only programming tool you need to fully develop, test, debug and manage your applications that leverage the current Modicon line of industrial controllers. Its versatility, ease-of-use and built-in library of pre-tested application function blocks allow users with multi-processor applications to share ideas and information visually, so individuals and teams can benefit from their collective experience and work together more effectively. As a result, you save time and money by reducing on-site development, installation times and debugging across your application's entire lifecycle.

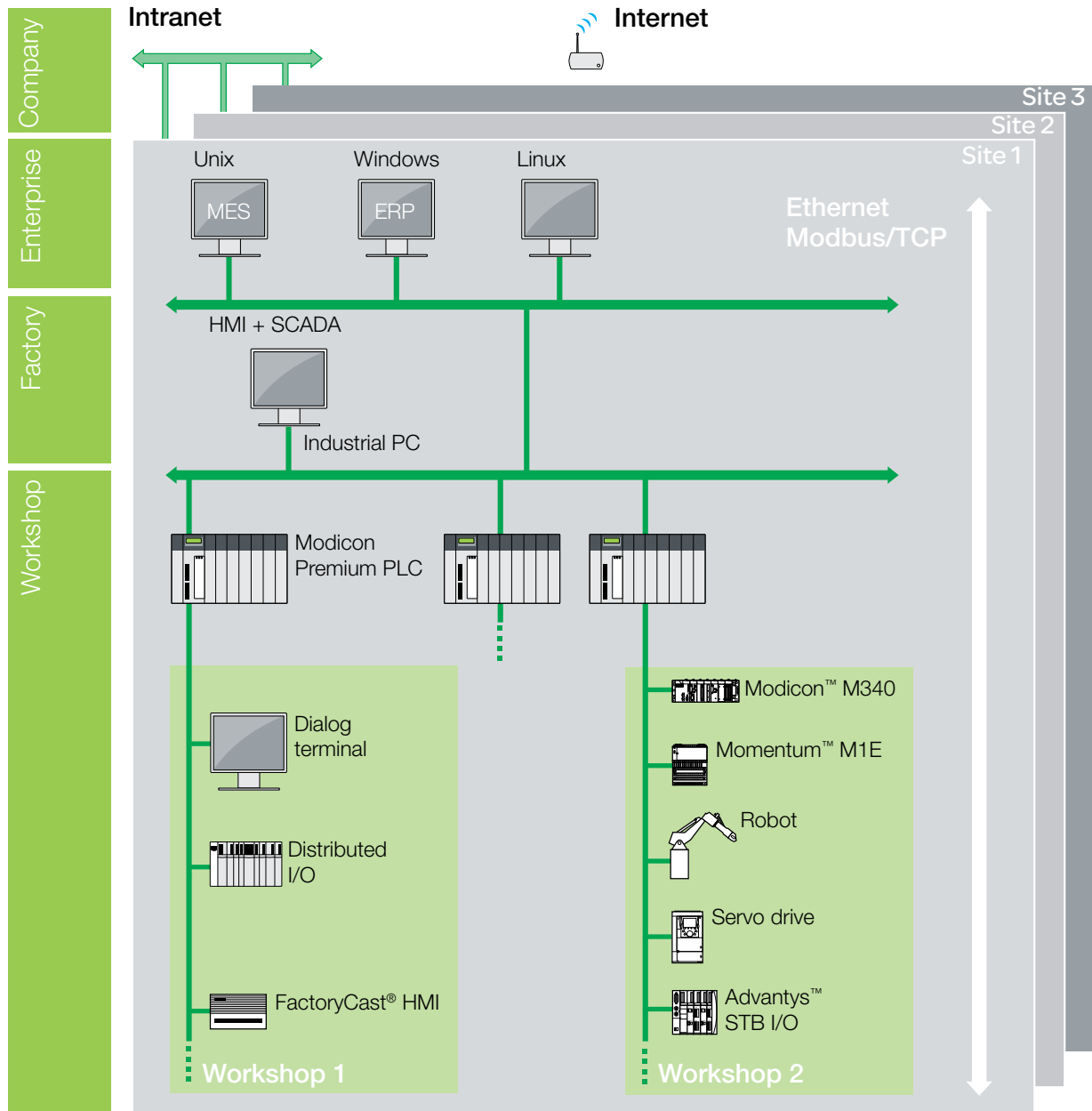
## Choose your language

Unity Pro offers five IEC 61131-3 languages as standard. Each section of code can be programmed in the language of your choice, adapted to each processing operation. The edit, debugging and operation tools are accessible whatever the language used.

- > LD: ladder diagram
- > IL: instructions list
- > ST: structured text
- > SFC: sequential function chart
- > FBD: function block diagram

# Optimal communication architecture

The Modicon Premium PLC automation platform Ethernet Modbus/TCP network Logical Ethernet communication architecture



**MES:** Manufacturing execution system (production management system)

**ERP:** Enterprise resource planning (integrated management software packages)

**HMI/SCADA:** Human machine interface/supervisory control and data acquisition

**Gateway:** Bridge to sensor/actuator bus, to installed base network, field bus, etc.



## Talk to someone you can trust

When we introduced the first programmable controller, we were responding to the needs of our customers for better, more effective machine control. More than 40 years later we continue to listen and work with you to pioneer innovative new ways of delivering value, efficiency and performance.

This commitment has earned us a reputation for dependability, innovation and reliability that is the defining characteristic of Schneider Electric team members from around the world. This includes product specialists, industry experts, distributors, partners and the countless other members of the Schneider Electric family.

For more information on how to put Schneider Electric to work for you, or about the Modicon Premium PLC, visit [www.us.Schneider-Electric.com/PLC](http://www.us.Schneider-Electric.com/PLC) or visit your local Square D distributor.

### Schneider Electric USA, Inc.

Automation and Control Center of Excellence  
8001 Knightdale Blvd.  
Knightdale, NC 27545  
Tel: 919-266-3671  
[www.schneider-electric.us](http://www.schneider-electric.us)

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### Schneider Electric Canada, Inc.

19 Waterman Avenue  
Toronto, ON M4B 1Y2  
Tel: 1-800-565-6699



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