TOPCO
It's all about control

AUTOMATIONDIRECT.com

Productivity®2000

Programmable Controller

We didn't invent the PLC, we made it affordable!

12 reasons you ~~want~~ NEED Productivity2000

1

The Productivity2000 PLC was designed in the USA to offer you the lowest cost of ownership in its class. Here's some proof. Compare our new P2000 PLC CPU (P2-550) to an Allen Bradley CompactLogix PLC CPU (1769-L33ER).

The Allen Bradley CPU offers 2MB of user memory, a 1GB SD card slot, three communica-tions ports (Serial communication is extra!) and LED on/off CPU status indicators. Of course, you will also need to purchase programming software for the Allen Bradley CPU.

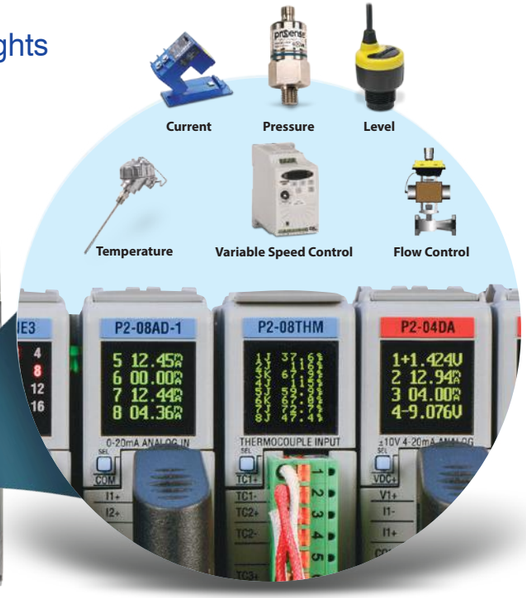
The AutomationDirect P2-550 CPU offers 50MB of built-in memory, a removable micro SD card slot (up to 32GB of data storage and portable program downloads), 5 built-in communications ports, a high reso-lution OLED text messaging display with keypad, and LED status indicators also. Our USA designed programming software (developed inhouse) is free ($0) with no annual licensing fees. Download as many copies as you want! Give it to your friends! You'll also get our free ($0) unlimited phone-in technical support which has received top service awards for the last 14 years in our industry.

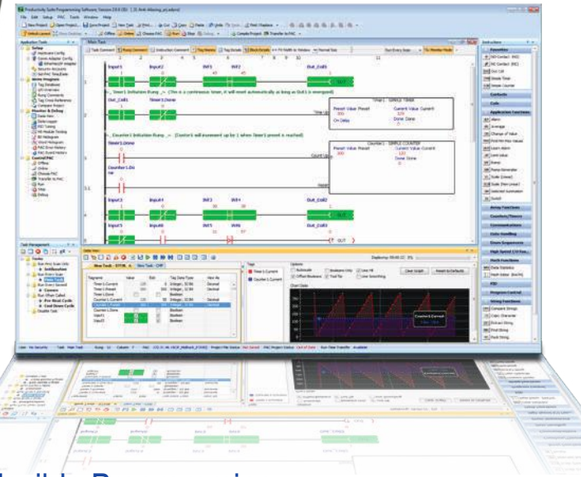
Productivity2000 Engineered in USA

AutomationDirect's Product Development team in partnership with FACTS Engineering, one of our trusted PLC hardware suppliers for over 20 years, took advantage of years of combined experience in the North American controls market and engineered the Productivity2000's features to give you the best price/performance ratio we've offered to date.

3 Messages displayed vs blinking lights

The analog and temperature modules for the P2000 have a built-in OLED display on the front of the module. Get accurate process variable data (current, voltage and temperature) as well as system diagnostics in real-time, just by reading the display on the Productivity2000 hardware. No tools required! No other PLC in its class has this feature. Check out the significantly higher priced Allen Bradley temperature (or analog) module with just a blinking light.





CPU includes FREE
Software
Unlimited copies

5 COMM PORTS
Ethernet
Remote I/O (GS drives only)
USB
RS-232
RS-485
PLUS Built-in OLED Message Display

2 5 built-in communication ports

Imagine the agony of shelling out for an Allen Bradly CompactLogix CPU and having to pay even more, up to more, for it to communicate with your existing serial devices! With Productivity2000 you get 5 communica-tions ports with 3 different protocols standard on every CPU.

RS-232, RS-485, Ethernet, Remote I/O (GS Drives only), USB (programming) – Built in!

Modbus RTU, Modbus TCP/IP, Ethernet/IP – Included!

Need more serial connections? No problem, an optional 4 port serial communications module is available if the need arises.

Modbus® EtherNet/IP™

Modbus® is a registered trademark of Schneider Electric, licensed to the Modbus Organization, Inc.

2 YEAR WARRANTY

4 5 Minutes to set up a PID loop

Complex operations like PID loops are made effortless with Productivity Suite's easy-to-use instructions. Fill-in-the-blank, function block style configurations save you time and unnecessary headaches. With 50MB of user memory you can configure, tune and control as many processes as you need, without limits, and the integrated auto-tuning functionality will get you up and running in no time.

5 Flexible Programming

The Productivity2000 is a tag name based controller which allows for more freedom and flexibility than fixed-memory controllers.

- Does your application need 2000 timers but only 15 counters? No problem!
- Or maybe it needs 4000 real numbers and only 30 integers? No problem!

What about connectivity? No problem there either, with P2000 you can choose to program via the Ethernet port or use the plug-and-play USB Port.

Need to incorporate an HMI/SCADA interface? Problem solved! Easily import your tag database into HMI/SCADA software such as Point of View, C-more and Dataworx for trouble-free development.

Improved documentation, faster troubleshooting, reduced development time, easy setup and an overall better programming experience, all at an unbeatable price!

We didn't invent the PLC, we made it affordable!

12 reasons you ~~want~~ NEED Productivity2000

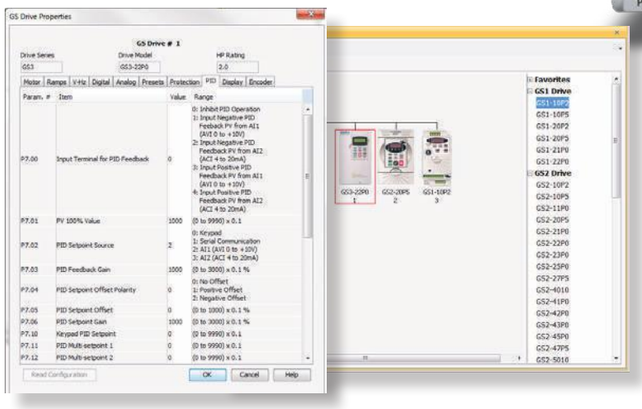
6 Get started in seconds with auto-discovered I/O modules

Simply clip each I/O module in the base and power up. The P2000 will automatically discover the modules and create a realistic picture of your configuration in the free Productivity Suite software. Physical I/O tags will be generated based on each module's position in the base and that's it! You are ready to program with the auto-configured settings just seconds after power-up or you can reconfigure the setup and assign new tags manually.

7 Hot-swappable I/O - keeps you up and running!

Avoid costly shutdowns, production losses and long start-up operations with Productivity2000 hot-swappable hardware.

8 VFDs can be set up in minutes with auto-discovery

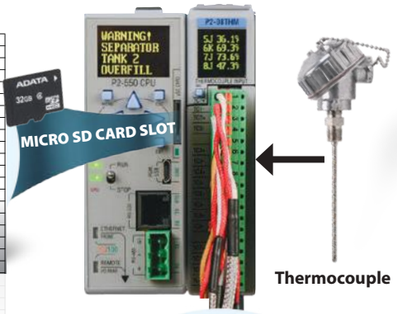


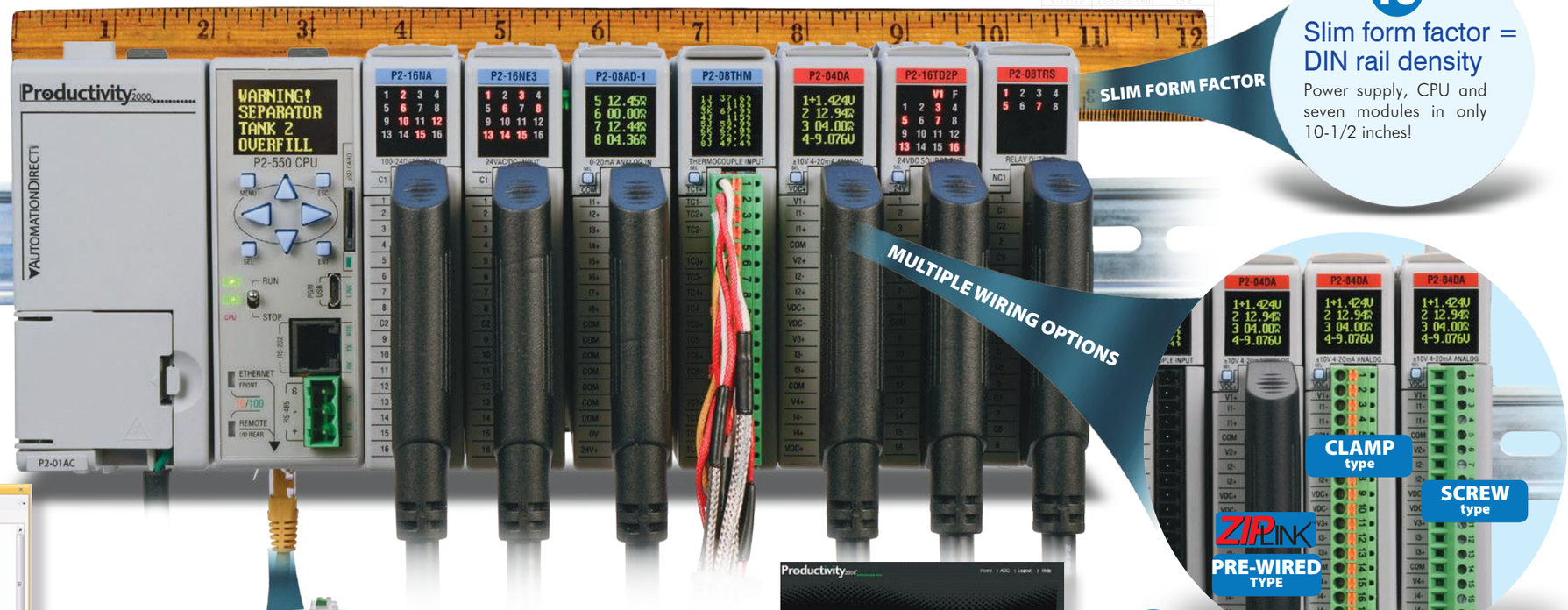
The Productivity2000 programming software is designed to recognize any AutomationDirect GS drive series. Simply connect the drive to the remote I/O port via the GS-EDRV100 and it is discovered in the Free Productivity Suite software. No more searching through drive manuals to find the parameter you need. Each parameter, with description, range, and value, is available in the software. These parameters can be read from, edited or written to the drive right from the Productivity Suite Hardware Configuration, making initial setup almost too easy! Store all of your drive parameters in the CPU for safekeeping and communicate to your drives with simple read/write instructions in the software. This can save you hours of time!

9 Built-in Data Logging

Track up to 64 tags at a time and save the data to the removable micro SD card stored in the CPU. Capture up to 32GB of data either periodically (minute, hour, day, week, etc.) or when certain events occur. Scheduling and setup is done with the easy-to-use Data Logger configuration tool in the software. Log tag data, system errors and system events which can be used to track efficiency and performance, troubleshoot reccurring or intermittent faults, and predict future breakdowns.

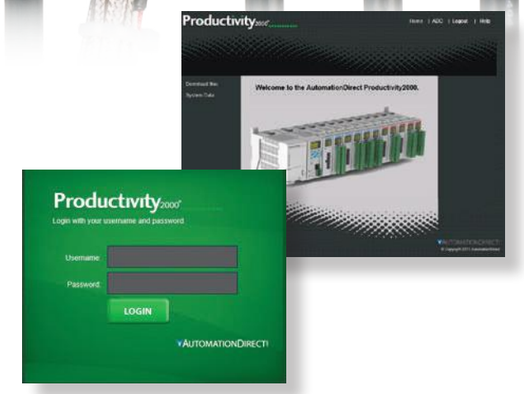
Date	Time	Tank1Temp
4/13/15	12:35:49.538	79.400002
4/13/15	12:35:50.467	79.400002
4/13/15	12:35:51.468	78.900002
4/13/15	12:35:52.468	78.800003
4/13/15	12:35:53.468	78.900002
4/13/15	12:35:54.468	79.5
4/13/15	12:35:55.468	79.400002
4/13/15	12:35:56.468	78.900002
4/13/15	12:35:57.468	78.900002
4/13/15	12:35:58.468	78.900002
4/13/15	12:35:59.469	79.5
4/13/15	12:36:00.469	79.5
4/13/15	12:36:01.469	79.5
4/13/15	12:36:02.469	79
4/13/15	12:36:03.469	79.099998
4/13/15	12:36:04.469	79.099998
4/13/15	12:36:05.469	79.700005
4/13/15	12:36:06.470	79.700005
4/13/15	12:36:07.470	79.099998





10 Slim form factor = DIN rail density

Power supply, CPU and seven modules in only 10-1/2 inches!



11 Choose the wiring option YOU prefer

Productivity2000 is all about productivity, even down to the wiring. Three wiring options are available to better serve the specific needs of your application.

Two terminal blocks, one screw type and one clamp type, are available, as well as our ZIPLink wiring system. Why spend the time wiring each I/O point to a terminal when you can get them prewired? ZIPLink pre-wired cables and terminals not only save you valuable time but also keep your installation clean and efficient, which helps when troubleshooting, and ZIPLink uses half the space at a fraction of the cost of standard terminal blocks. Simply snap the ZIPLink connector to the I/O module, connect your field wiring to the ZIPLink terminal and your wiring job is done.

12 Built-in Web Server

Access data files and system tags remotely from any web browser, anywhere! The secure login prevents unwanted access and helps to keeps data safe.

Book 1 (14.3)

Affordable hardware, small in size, rich on features

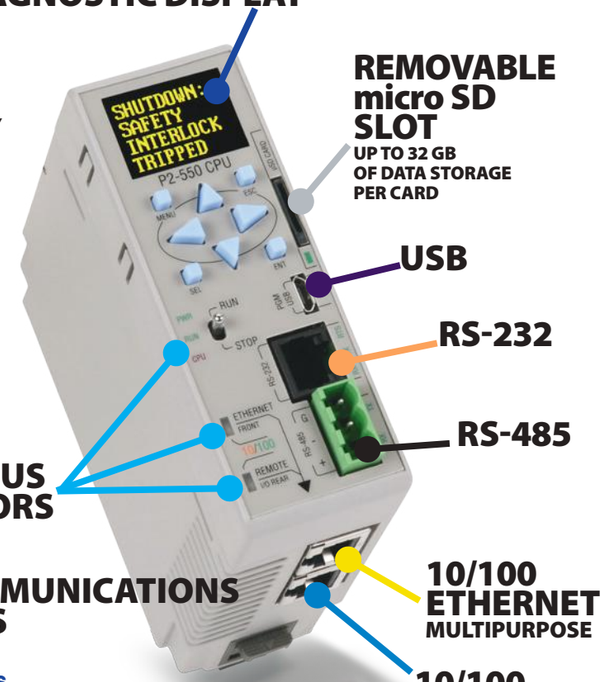
See technical specification pages for more in-depth information on each I/O module

www.Productivity2000.com

Powerful CPU

The 50MB of memory and fast scan time is just for starters - this CPU does the work of at least four or five pieces of hardware compared to other controllers. With its five built-in communications ports, it does the usual CPU stuff like storing and running the program, plus -

- Plug-and-play USB programming (uses standard A-micro B cable)
- Tag database and program documentation storage in CPU (Program pre-loaded on PC not necessary)
- Supports five built-in communications ports simultaneously
- High-speed Ethernet port for HMI and peer-to-peer or business system networking (no Ethernet communications module needed)
- Support for EtherNet/IP devices
- Two serial ports for peripheral device interface or controller networking
- micro SD data logging right from the CPU



PLC CPU with three built-in communications protocols

P2-550: CPU module – 50MB user memory, 5 communications ports including USB plug and play programming port, 3 communications protocols, 4 line by 10 character OLED diagnostic display, tag name based control with microSD data logging and project transfer.

2 YEAR WARRANTY

Productivity2000

Serial Communication:
Up to 44 additional ports per system!

P2-SCM: serial communications module. Provides three RS-232 ports and one RS-485 port utilizing Modbus RTU Master/Slave, ASCII IN/OUT and custom protocol(s) at up to 38.4 kbaud.

Power Supply - Got to have it

P2-01AC: 100-240 VAC base power supply
No power budgeting required, use any combination of I/O modules.

Discrete I/O: We've got you covered

P2-08NE3: 8-point 24VDC Sink/Source Isolated Input Module

P2-16NE3: 16-point 24VDC Sink/Source Input Module

P2-08TD1P: 8-point 12-24VDC Sinking Output Module (overload and short circuit protected)

P2-08TD2P: 8-point 12-24VDC Sourcing Output Module (overload and short circuit protected)

P2-16TD1P: 16-point 12-24VDC Sinking Output Module (overload and short circuit protected).

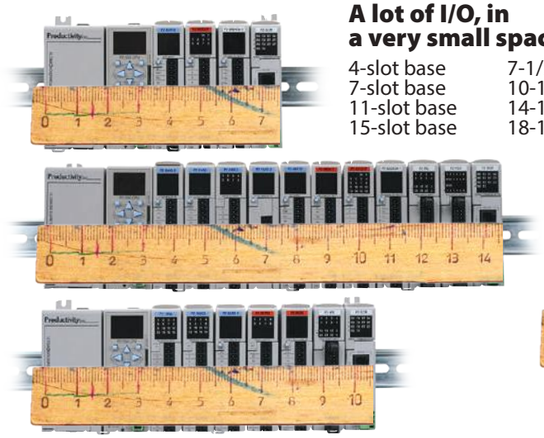
P2-16TD2P: 16-point 12-24VDC Sourcing Output Module (overload and short circuit protected)

P2-16NA: 16-point 100-240VAC Input Module

P2-16TA: 16-point 100-240VAC Output Module.

P2-08TRS: 8-point AC/DC Isolated Relay Output Module (6.25-24VDC/6-120VAC)

P2-16TR: 16-point AC/DC Relay Output Module (6.25-24VDC/6-240VAC)



A lot of I/O, in a very small space

4-slot base	7-1/2"
7-slot base	10-1/2"
11-slot base	14-1/2"
15-slot base	18-1/2"

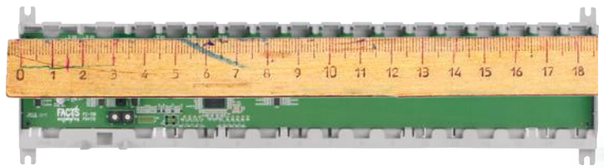
Bases: DIN rail or flush mounted

P2-04B: 4-slot base - Holds P2-01AC power supply, CPU and 4 I/O modules.

P2-07B: 7-slot base - Holds P2-01AC power supply, CPU and 7 I/O modules.

P2-11B: 11-slot base - Holds P2-01AC power supply, CPU and 11 I/O modules.

P2-15B: 15-slot base - Holds P2-01AC power supply, CPU and 15 I/O modules.



Slim form factor = DIN rail density!

POWER SUPPLY, CPU AND SEVEN MODULES IN ONLY 10-1/2 "

Incredible PLC Hardware at Unbelieveable Prices!

Actual data is better than a blinking light

Spend less time troubleshooting. Get instant, accurate process variable data (current, voltage and temperature) as well as system diagnostics in real-time with Productivity2000 hardware. No tools required!

Analog I/O: Measure it, read it, monitor it!

P2-04AD: 4-channel, 16-bit, voltage/current Analog Input Module (+/- 5 VDC, +/- 10 VDC, 0-5 VDC, 0-10 VDC, 0-20 mA) **0**

P2-08AD-1: 8-channel, 16-bit, current Analog Input Module (0-20 mA) . . . . . .

P2-08AD-2: 8-channel, 16-bit, voltage Analog Input Module (0-10 VDC) . . . . . .

P2-16AD-1: 16-channel, 16-bit, current Analog Input Module (0-20 mA) . . . . . .

P2-16AD-2: 16-channel, 16-bit, voltage Analog Input Module (0-10 VDC) . . . . . .

P2-08DA-1: 8-channel, 16-bit, current Analog Output Module (+/- 20 mA) . . . . . .

P2-04DA: 4-channel, 16-bit, voltage/current Analog Output Module. (+/- 10 VDC, 4-20 mA). . . . . .

P2-08DA-2: 8-channel, 16-bit, voltage Analog Output Module (+/- 10 VDC) . . . . . .

P2-16DA-1: 16-channel, 16-bit, current Analog Output Module (4-20 mA) . . . . . .

. **P2-16DA-2**: 16-channel, 16-bit, voltage Analog Output Module (+/- 10 VDC) . . . . . .

P2-8AD4DA-1: 8-channel IN, 4-channel OUT, 16-bit, current Analog Combination Module (0-20 mA, 4-20 mA) . . . . . .

P2-8AD4DA-2: 8-channel IN, 4-channel OUT, 16-bit, voltage Analog Combination Module (0-5 VDC, 0-10 VDC, 0-5 VDC, 0-10 VDC) . . . . . .

P2-08THM: 8-channel, 16-bit, Thermocouple Input Module (thermocouple and millivolt) . . . . . .

P2-06RTD: 6-channel, 16-bit, RTD Input Module . . . . . .

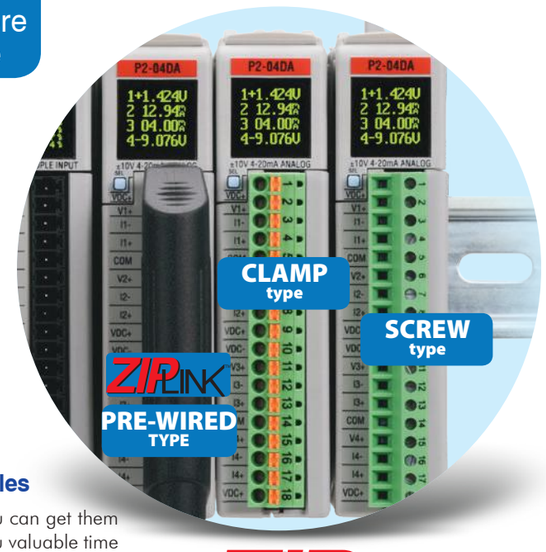
Support information at your fingertips!

Pull down the QR coded tab from the top of I/O module, and scan with your smart phone or tablet QR app to get the latest updated specifications for that module.

See technical specification pages for more in-depth information on each I/O module

2 YEAR WARRANTY

Productivity2000 Engineered in USA



Choose the wiring option YOU prefer!

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ZIPLink Modules: Save time by using pre-wired cables

Why spend the time wiring each I/O point to a terminal when you can get them prewired? ZIPLink pre-wired cables and terminals not only save you valuable time but also keep your installation clean and efficient, which helps when trouble-shooting, and ZIPLink uses half the space at a fraction of the cost of standard terminal blocks. Simply snap the ZIPLink connector to the I/O module connect your field wiring to the ZIPLink terminal and your wiring job is done.

ZIPLINK™ AUTOMATIONDIRECT.com

For more information on ZIPLinks please see the Wiring Solutions section of our online catalog at www.AutomationDirect.com/PDFcatalog

High Speed I/O: Motion for much less

P2-HSI: 2-channel, 1MHz High-Speed Counter Input Module with 5-24 VDC general purpose inputs/outputs . . . . . .

P2-HSO: 2-channel, 1MHz High-Speed Pulse Output Module with 5-24 VDC general purpose inputs/outputs . . . . . .

Specialty I/O

P2-08SIM: 8-point Input Simulator Module with 8 hand-operated switches. . . . . .

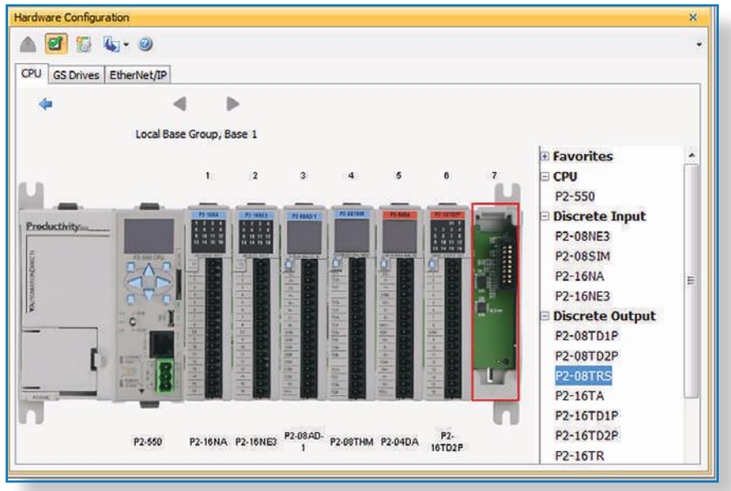
0 P2-FILL: Filler Module for unused slot connections in base . . . . . .

Fast Programming with FREE software!

Productivity2000

Developed inhouse with customer feedback

Productivity Suite is our FREE programing software for the Productivity2000. Our own engineers developed this software at our headquarters near Atlanta, Ga. It was designed with input from our technical service team who communicate on a daily basis with our customers. As a result, Productivity Suite was built to meet the needs of our customers and it provides a quick, user-friendly way to program our Productivity family of PLCs. Based on customer feedback we have continually improved our software since its first release. Now Productivity Suite is even better with numerous features added to make your Productivity2000 programming even more productive.



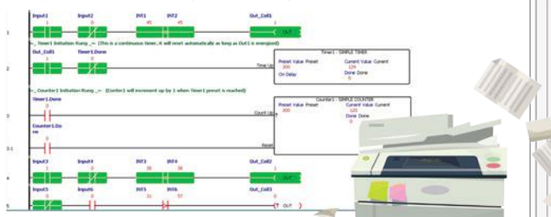
www.Productivity2000.com

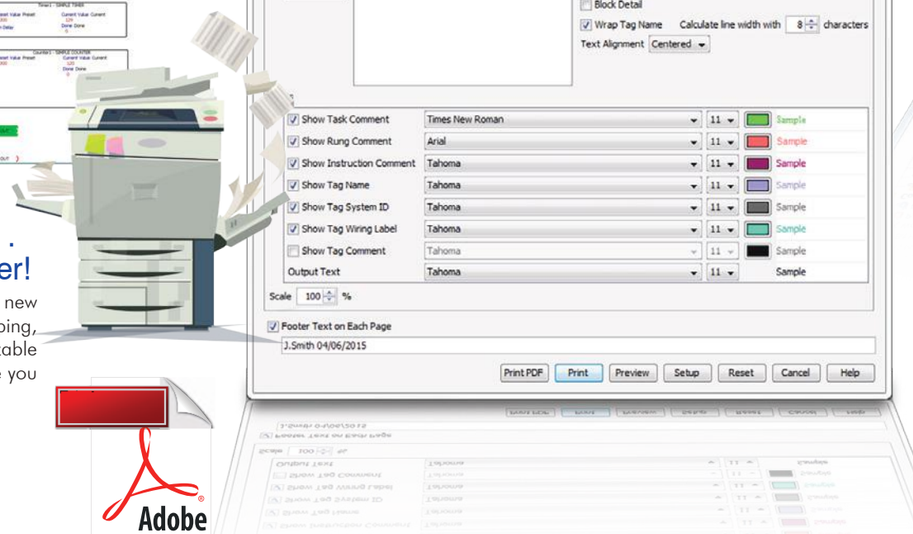
Download as much as you need. No license or key needed

FREE Software!

That's right, it's FREE! Get all of the benefits without any extra cost. Forget licenses or licensing fees, download the software to as many PCs as needed or take it for a test drive and try it before you buy it. After all, you bought the controller, why pay more to control it?

Compare our FREE price to the retail price of the RSLogix 5000 Enterprise Series software (Mini Edition) used Allen Bradley CompactLogix PLC CPU (1769-L33ER).



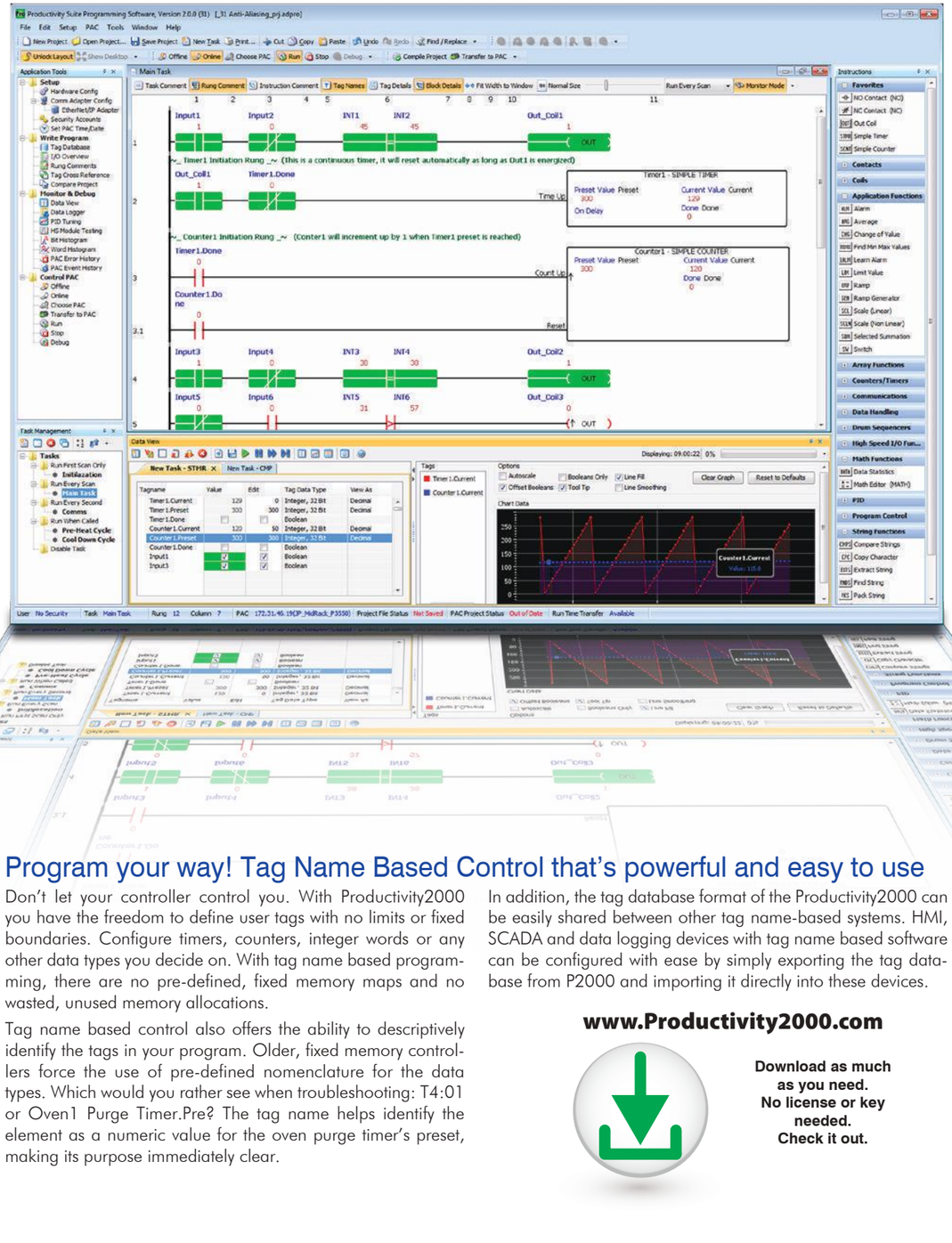


More Print Options . . . because more is better!

Optimize your print layouts with new print options. Rung/tag name wrapping, END rung trimming, fully customizable fonts and print to PDF options give you more flexibility than ever before.

Software that is Developed and Supported in the USA

Productivity2000 Engineered in USA



Program your way! Tag Name Based Control that's powerful and easy to use

Don't let your controller control you. With Productivity2000 you have the freedom to define user tags with no limits or fixed boundaries. Configure timers, counters, integer words or any other data types you decide on. With tag name based programming, there are no pre-defined, fixed memory maps and no wasted, unused memory allocations.

Tag name based control also offers the ability to descriptively identify the tags in your program. Older, fixed memory controllers force the use of pre-defined nomenclature for the data types. Which would you rather see when troubleshooting: T4:01 or Oven1 Purge Timer.Pre? The tag name helps identify the element as a numeric value for the oven purge timer's preset, making its purpose immediately clear.

In addition, the tag database format of the Productivity2000 can be easily shared between other tag name-based systems. HMI, SCADA and data logging devices with tag name based software can be configured with ease by simply exporting the tag database from P2000 and importing it directly into these devices.

www.Productivity2000.com

Download as much as you need. No license or key needed. Check it out.

We make PLC communication affordable!

5 built-in Communications Ports and 3 Protocols including Ethernet/IP!

We offer the lowest cost of ownership when it comes to communica-tion. The Productivity 2000 P2-550 CPU comes standard with 5 built-in communications ports including Ethernet, USB and Serial and support for 3 communications protocols including Ethernet/IP, Modbus TCP and ModbusRTU5. Compare this to the Allen Bradley CompactLogix PLC CPU (1769-L33ER) which only offers three built-in communications ports, none of which support basic serial communication. Are you getting what you paid for?

www.Productivity2000.com

Productivity 2000

EtherNet/IP™ Modbus®

Built-in Ethernet on the CPU has got you covered!

The Productivity2000 CPU comes standard with the #1 and #2 industrial Ethernet protocols. Modbus TCP and EtherNet/IP make up about 85% of the market and are a must for any up-to-date networked control system. With P2000, you get:

Two Ethernet ports on bottom of CPU:

Front 10/100Mbps multipurpose Ethernet port used for programming, monitoring, firmware upgrades and the following client/server connections:

- 32 Modbus TCP Client connections (CPU Master)
- 16 Modbus TCP Server connections (CPU Slave)
- 32 EtherNet/IP Adapters (CPU Master)
- 4 EtherNet/IP Scanners (CPU Slave)

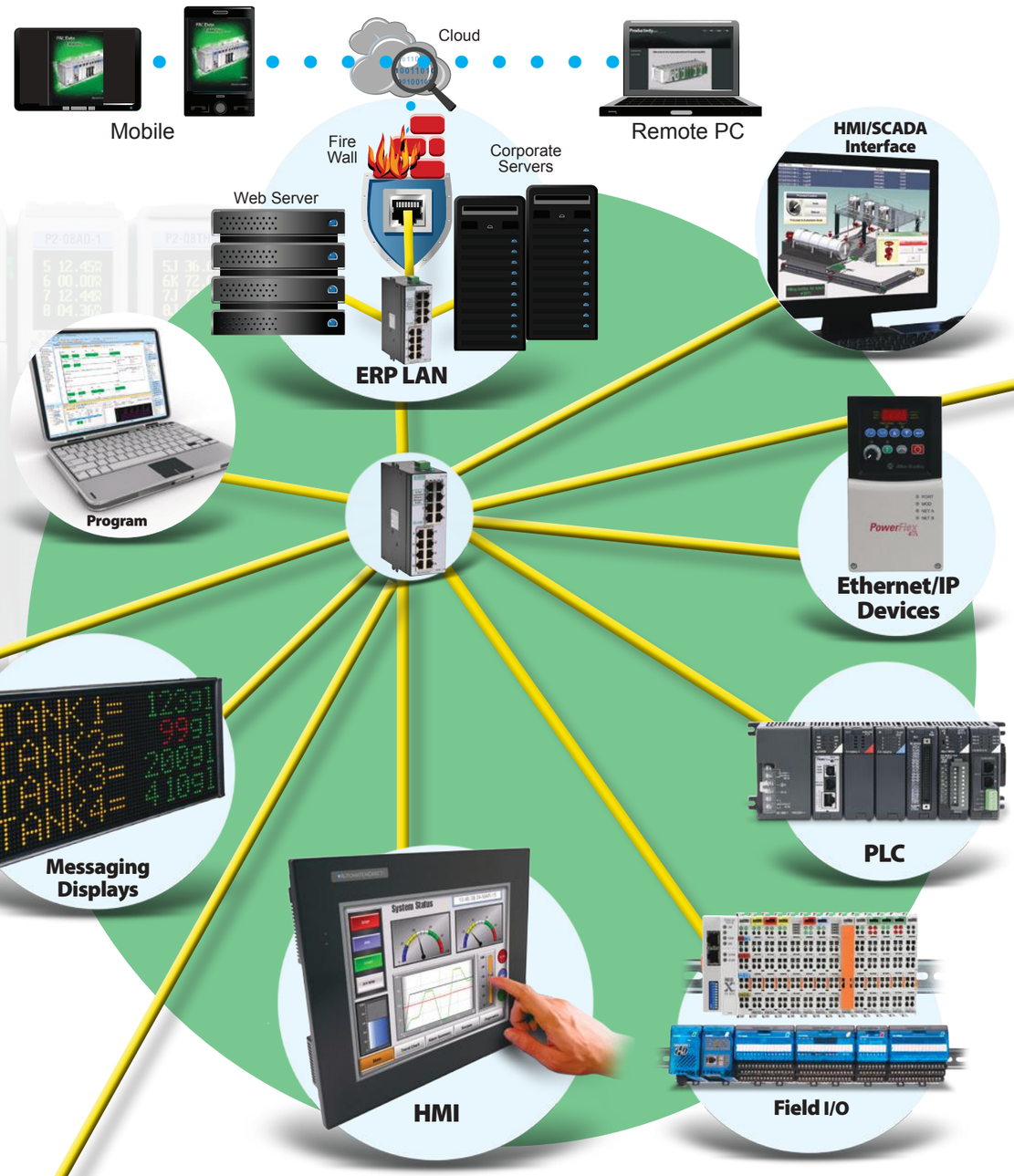
A total of 128 EtherNet/IP connections and over 5000 EtherNet/IP messages per second!

Rear 10/100Mbps Ethernet port dedicated for up to 16 GS1, GS2, or Durapulse (GS3) variable frequency drive connections.

Direct access with the Built-In Web Server

Get direct access to data files, system status and diagnostics with the integrated Web Server functionality of the Productivity2000.

PLUS!
FREE PACData Mobile App for iOS Devices.
Monitor your process anytime, from anywhere.



We make PLC communication affordable!

Got Serial? Get Connected for Less with the Productivity2000

Let's face it, serial communication has been around forever and to this day is still a viable communication method. Although Ethernet communication has made a strong push into the industrial automation market, serial communication is still very reliable and inexpensive to design into a device. For those serial connections, the P2-550 CPU provides two serial communications ports and the P2-SCM module with 4 serial ports is available if you need more.


RS-232


RS-485

Two Serial Ports included in CPU

Two serial ports are included on the P2-550 CPU for communication to peripheral devices:

(1) RJ12 (6P6C) port for RS-232 devices

(1) 3-wire screw terminal for RS-485 multi-drop devices

These ports provide Modbus RTU Master/Slave capability, ASCII In and Out capability and Custom Protocol over Serial capability. The RS-485 port can support up to 50 multi-drop devices (more if repeater is added to network).


micro SD

Removable micro SD Card Slot for Easy Data Logging and Project Transfers

Providing up to 32GB of data logging capacity, the micro SD card slot accepts a standard micro SD card. Logged data can be easily uploaded to your PC, or with the integrated web server you can access the data file on the card via a standard Web browser.

The micro SD card can also be used as an alternate method of transferring projects to/from the P2-550 CPU. Once enabled in the software, project transfer can be completed with a few simple steps using the OLED display and keypad.

Date	Time	Tank1Temp
4/13/15	12:35:49.538	79.400002
4/13/15	12:35:50.467	79.400002
4/13/15	12:35:51.468	78.900002
4/13/15	12:35:52.468	78.800003
4/13/15	12:35:53.468	78.900002
4/13/15	12:35:54.468	79.5
4/13/15	12:35:55.468	79.400002
4/13/15	12:35:56.468	78.900002
4/13/15	12:35:57.468	78.900002
4/13/15	12:35:58.468	78.900002
4/13/15	12:35:59.469	79.5
4/13/15	12:36:00.469	79.5
4/13/15	12:36:01.469	79.5
4/13/15	12:36:02.469	79
4/13/15	12:36:03.469	79.099998
4/13/15	12:36:04.469	79.099998
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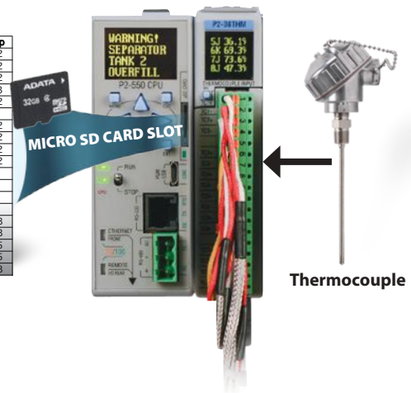
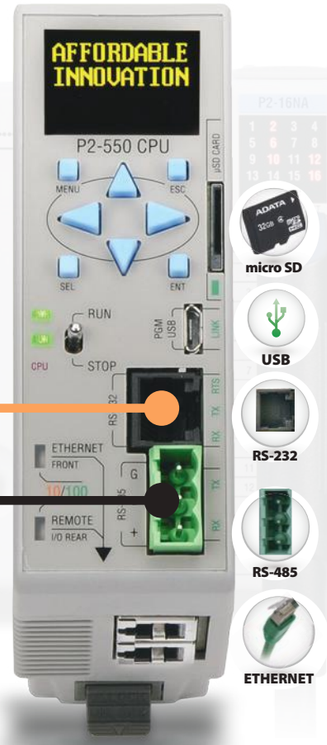


Thermocouple




USB

Plug-n-Play USB Programming

Don't waste any more time configuring baud rates, parities or pinging unrecognized controllers.

Program, monitor or even upgrade your firmware through the plug-and-play micro USB port of the Productivity2000 CPU. This port requires no configuration, no expensive programming cable, no additional software, no frustration and is up and running in no time.

TOPCO
It's all about control

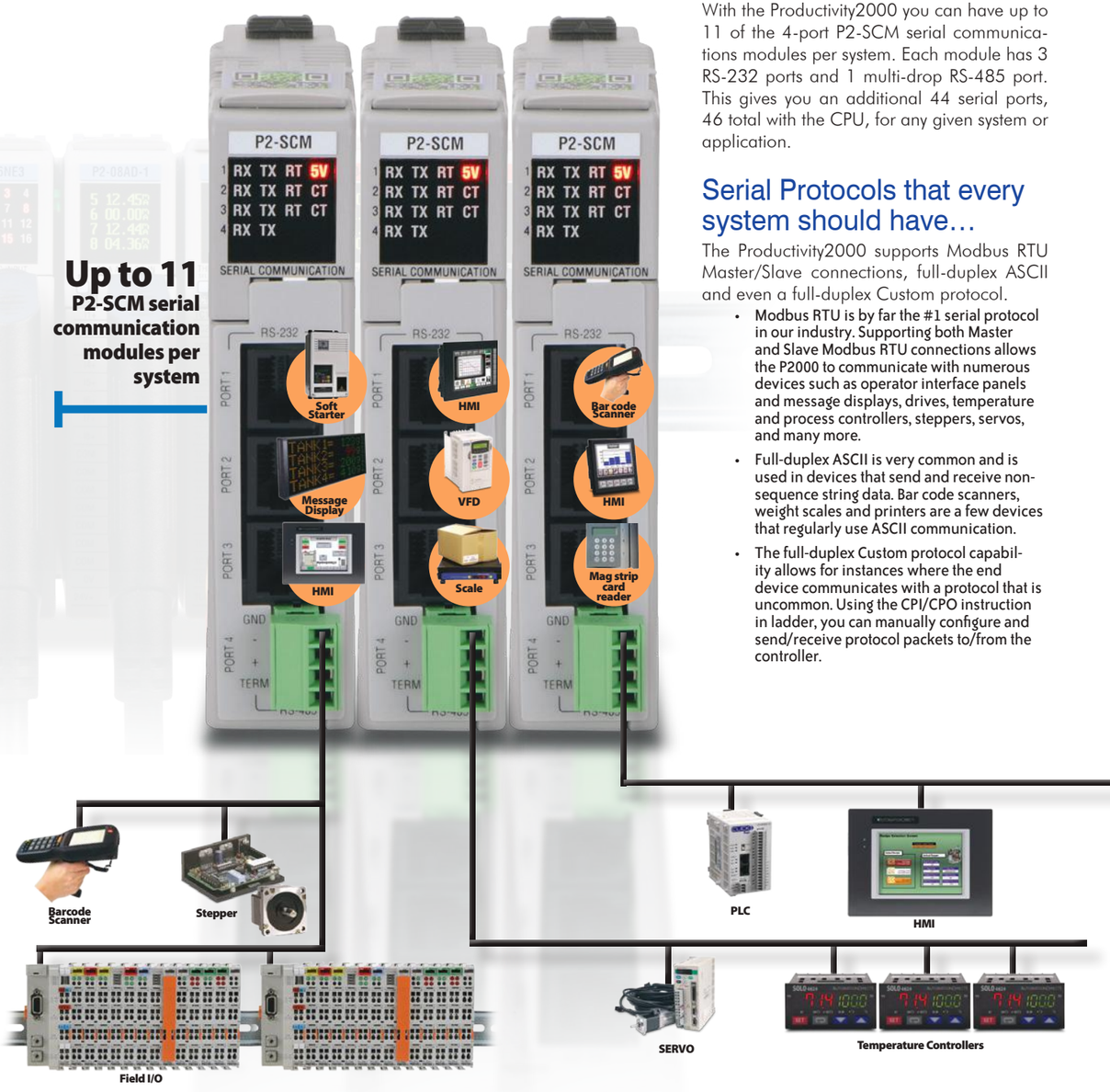
Need even more serial communications?

Up to 46 Serial Ports per System!

Serial communication has its limitations. RS-232 is a point-to-point protocol, meaning that you're typically talking to one device from that port. In applications with many serial devices talking to the control system through RS-232 communication, a lot of serial ports will be consumed and very quickly.

With the Productivity2000 you can have up to 11 of the 4-port P2-SCM serial communications modules per system. Each module has 3 RS-232 ports and 1 multi-drop RS-485 port. This gives you an additional 44 serial ports, 46 total with the CPU, for any given system or application.

Up to 11
P2-SCM serial communication modules per system



Serial Protocols that every system should have…

The Productivity2000 supports Modbus RTU Master/Slave connections, full-duplex ASCII and even a full-duplex Custom protocol.

- Modbus RTU is by far the #1 serial protocol in our industry. Supporting both Master and Slave Modbus RTU connections allows the P2000 to communicate with numerous devices such as operator interface panels and message displays, drives, temperature and process controllers, steppers, servos, and many more.
- Full-duplex ASCII is very common and is used in devices that send and receive non-sequence string data. Bar code scanners, weight scales and printers are a few devices that regularly use ASCII communication.
- The full-duplex Custom protocol capability allows for instances where the end device communicates with a protocol that is uncommon. Using the CPI/CPO instruction in ladder, you can manually configure and send/receive protocol packets to/from the controller.