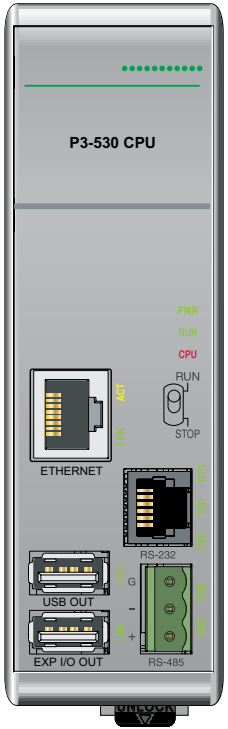
CPU Specifications

User Memory	25M (Includes program, data and documentation)
Memory Type	Flash and Battery Backed RAM
Retentive Memory	492K
Scan Time	600µs (3K Boolean, 1K I/O)
Communications; 5 Integrated Ports	**ETHERNET:** (10/100Mbps Ethernet) Programming, Monitoring, Debug, Firmware, Email SMTP Client, Modbus TCP Client (32 Slaves) and Server (32 Masters) **USB OUT:** (2.0) Data Logging using SDCZ4-2048-A10 Pen Drive **EXP I/O OUT:** (2.0 Proprietary) 4 P3-EX Local Expansion Bases **RS-232:** Modbus RTU and ASCII (half and full duplex) **RS-485:** Removable Terminal Included, (1200-115.2k Baud) ASCII, Modbus
Hardware Limits of System	**5 Bases Total** 1 P3-530 & 4 P3-EX **3520 Hardware I/O Points** (All 64-point I/O Modules)
Instruction Types	Application Functions, Array Functions, Counters/Timers, Communications, Data Handling, Drum Sequencers, Math Functions, PID, Program Control, String Functions, System Functions, Contacts, Coils, HSI/HSO
Real Time Clock Accuracy	+/- 5s per day typical at 25°C +/- 15s per day maximum at 60°C



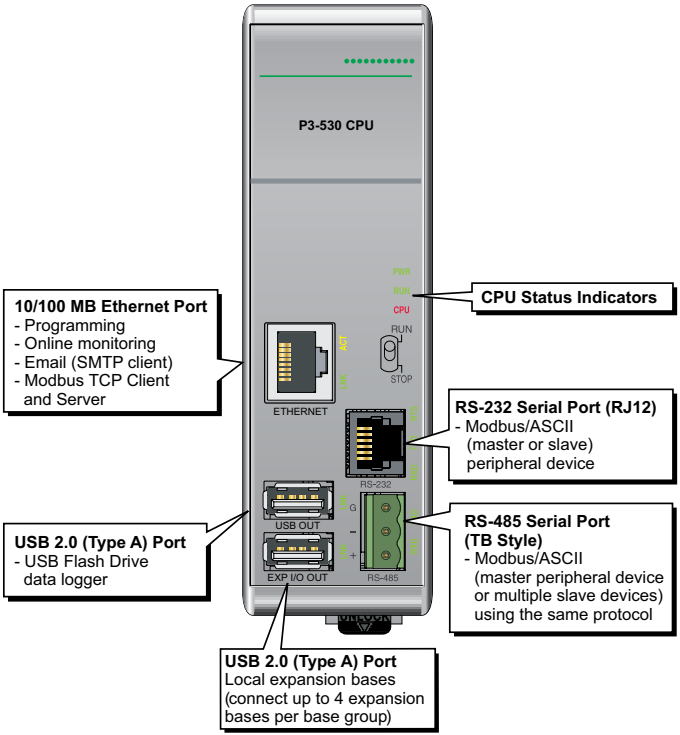
P3-530 CPU

The P3-530 is a high-performance CPU for use with the Productivity3000 Programmable Automation Controller.

Document Name	Edition/Revision	Date
P3-530-M	1st Ed. Revision G	3/1/2018

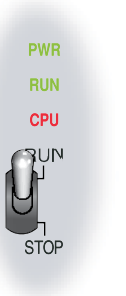
Warranty: Thirty-day money-back guarantee. Two-year limited replacement. (See www.automationdirect.com/P3000 for details).

CPU Front Panel



CPU Status Indicators

PWR	Green LED is illuminated when power is on
RUN	Green LED is illuminated when CPU is in RUN mode
CPU	Red LED is illuminated during power on reset, power down, or watch-dog time-out.



CPU Run/Stop Switch Specifications

RUN position	Executes user program, run-time edits possible
STOP position	Does not execute user program, normal program load position

Battery Installation Procedure

Step One:
Press spring lock and swing battery compartment away from CPU.

Step Two:
Insert battery and close compartment.

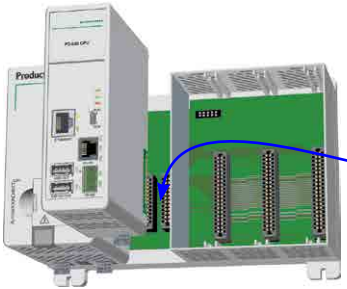
Battery (Optional)

D2-BAT-1	Coin type, 3.0V Lithium battery, 560mA, battery number CR2354

Note: Although not needed for program backup, an uninstalled battery is included with the P3-530. Install this battery if you want the CPU to retain the Time and Date along with any Tagname values that you have set up as retentive.

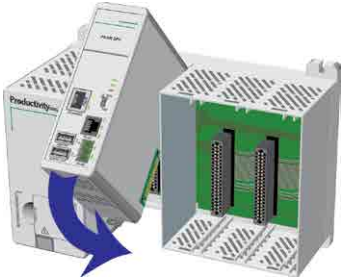
Product Comparison	P3-550	P3-530
LCD Display	✓	
USB Prog/Mon Port	✓	
Ethernet Port	✓	✓
EtherNet/IP Protocol	✓	
Remote Expansion Port	✓	
USB Memory Stick Port	✓	✓
USB Local Expansion Port	✓	✓
RS232 RJ12 Port	✓	✓
RS485 Port	✓	✓
User Memory	50MB	25MB

CPU Installation Procedure



Step One:

Locate the two sockets next to the power supply; the CPU will be inserted into this location.



Step Two:

Insert the CPU at a 45° angle into the notch located at the top of the base and rotate down until seated.

Step Three:

Snap retaining tab into the locked position.

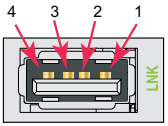
WARNING: Explosion hazard – Do not connect or disconnect connectors or operate switches while circuit is live unless the area is known to be non-hazardous. Do not hot swap.

AVERTISSEMENT: Risque d'explosion: ne pas connecter ou déconnecter les connecteurs ni actionner les commutateurs alors que le circuit est sous tension, à moins que la zone ne soit reconnue non dangereuse. Ne pas remplacer à chaud.

Port Specifications

USB Type A Master Output Specifications

Port Name	USB OUT	EXP I/O OUT
Description	Standard USB 2.0 Master output for connection to high-speed Flash drive (Sandisk SDCZ4-2048-A10) for data logging with built-in surge protection. Not compatible with older full speed USB devices. A 0.5m male-to-female "port extender" cable is included to assist with Flash drive connection.	Proprietary USB 2.0 Master output for connection with up to four P3-EX local expansion bases, with built-in surge protection.
Transfer Rate	480 Mbps	
Port Status LED	Green LED is illuminated when LINK is established to connected device	
Cables	None required	USB Type A to USB Type B: 6 ft. cable part # P3-EX-CBL6 (included with P3-EX module)



Mating face of USB type A female

USB OUT

Pin #	Signal
1	+5
2	– Data
3	+ Data
4	GND

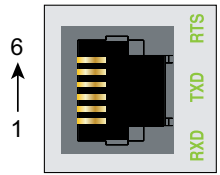
EXP I/O OUT

Pin #	Signal
1	Reset
2	– Data
3	+ Data
4	GND

Port Specifications

RS-232 Specifications

Port Name	RS-232
Description	Non-isolated RS-232 DTE port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD and built-in surge protection.
Data Rates	Selectable,1200, 2400, 9600, 19200, 33600, 38400, 57600, and 115200.
+5V Cable Power Source	210mA maximum at 5V, +/- 5%. Reverse polarity and overload protected.
TXD	RS-232 Transmit output
RXD	RS-232 Receive input
RTS	Handshaking output for flow control.
GND	Logic ground
Maximum Output Load (TXD/RTS)	3K Ω, 1,000pf
Minimum Output Voltage Swing	+/-5V
Output Short Circuit Protection	+/-15mA
Port Status LED	Green LED is illuminated when active for TXD, RXD and RTS

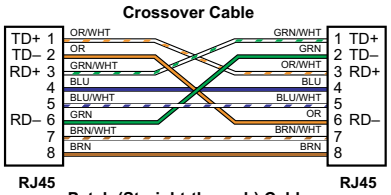


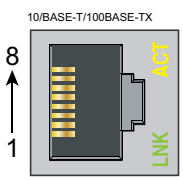
6-pin RJ12 Female Modular Connector

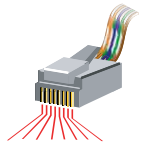
Pin #	Signal	
1	GND	Logic Ground
2	+5V	210 mA Maximum
3	RXD	RS-232 Input
4	TXD	RS-232 Output
5	RTS	RS-232 Output
6	GND	Logic Ground

Ethernet Specifications

Port Name	ETHERNET
Description	Standard transformer isolated Ethernet port with built-in surge protection for programming, online monitoring, Email (SMTP client) and Modbus/TCP client/server connections (fixed IP or DHCP).
Transfer Rate	10/100 Mbps
Port Status LED	Green LED illuminated when network LINK is established. Yellow LED is illuminated when port is active (ACT).
Cables	Use a Patch (straight through) cable when a switch or hub is used. Use a Crossover cable when a switch or hub is not used.





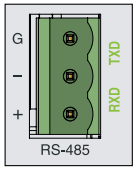


8-pin RJ45 Connector (8P8C)

Port Specifications

RS-485 Port Specifications

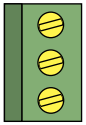
Port Name	RS-485
Description	Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active.
Data Rates	Selectable, 1200, 2400, 9600, 19200, 33600, 38400, 57600, and 115200.
TXD+/RXD+	RS-485 transceiver high
TXD-/RXD-	RS-485 transceiver low
GND	Logic ground
Input Impedance	19K Ω
Maximum load	50 transceivers, 19K Ω each, 60 Ω termination
Output Short Circuit Protection	+/- 250mA, thermal shut-down protection
Electrostatic Discharge Protection	+/-8KV per IEC1000-4-2
Electrical Fast Transient Protection	+/-2KV per IEC1000-4-4.
Minimum Differential Output Voltage	1.5V with 60 Ω load
Fail safe inputs	Logic high input state if inputs are unconnected
Maximum Common Mode Voltage	-7.5V to 12.5V.
Port Status LED	Green LED illuminated when active for TXD and RXD
Cable Options	L19827-100, L19827-500, L19827-1000 or Belden 9841 equivalent



Pin #	Signal
G	GND
–	TXD-/RXD-
+	TXD+/RXD+

Terminal Block Specifications

Number of Positions	3
Pitch	5 MM
Wire Range	28-12AWG Solid Conductor 30-12AWG Stranded Conductor
Screw Driver Width	1/8 inch (3.175mm) maximum
Screw Size	M2.5
Screw Torque	4.5 Lb-in



Removable connector included. Spare connectors available (part no. PCON-KIT).

To minimize the risk of potential safety problems, you should follow all applicable local and national codes that regulate the installation and operation of your equipment. These codes vary from area to area and it is your responsibility to determine which codes should be followed, and to verify that the equipment, installation, and operation are in compliance with the latest revision of these codes.

Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation, or operation.

If you have any questions concerning the installation or operation of this equipment, or if you need additional information, please call Technical Support at 770-844-4200.

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General Specifications

Operating Temperature	0° to 60°C (32° to 140°F)
Storage Temperature	-20° to 70°C (-4° to 158°F)
Humidity	5 to 95% (non-condensing)
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Heat Dissipation	7W
Enclosure Type	Open Equipment
Agency Approvals	UL508 file E157382, Canada & USA UL1604 file E200031, Canada & USA CE (EN61131-2*) This equipment is suitable for use in Class 1, Division 2, Groups A, B, C and D or non-hazardous locations only.
Module Location	Controller slot in the local base in a Productivity3000 System
EU Directive	See the “EU Directive” topic in the Productivity3000 Help File. Information can also be obtained at: www.automationdirect.com/P3000
Weight	260g (9 oz)

*Meets EMC and Safety requirements. See the D.O.C. for details.

WARNING: Explosion hazard – Substitution of components may impair suitability for Class I, Division 2.

AVERTISSEMENT: Risque d’explosion : la substitution de composants peut compromettre la convenance pour la Classe I, Zone 2 ou pour la Classe I, Division 2.

Hot-Swapping Information

Note: This device cannot be Hot Swapped.