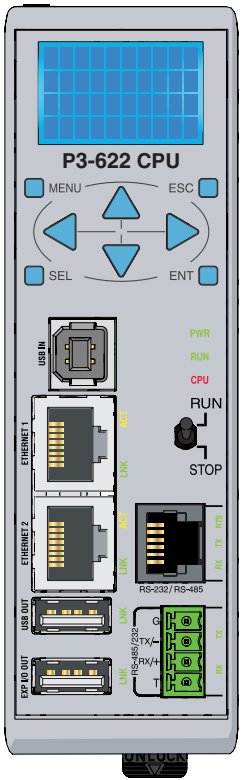
CPU Specifications

User Memory	50MB (Includes program, data and documentation)		
Memory Type	Flash and Battery Backed RAM		
Retentive Memory	492K		
Scan Time	2.4 ms (3K Boolean, 1K I/O)		
Display	LCD, 4x10 characters, backlit, 8 control buttons.		
Communications; 6 Integrated Ports	**USB IN:** Programming, Monitoring, Debug, Firmware **ETHERNET 1**: (10/100Mbps Ethernet) Programming, Monitoring, Debug, Firmware, Email SMTP Client, MQTT/MQTTS, Modbus TCP Client (32 Slaves) and Server (32 Masters), Ethernet IP Scanner (128 connections) and Adapter (16 connections) **ETHERNET 2***: (10/100Mbps Ethernet) 32 GS Drives, 16 Remote Base Groups, 4 ProtosX TCP couplers, 4 PS-AMC modules **USB OUT**: (2.0) Data Logging or Project Transfer. **EXP I/O OUT:** (2.0 Proprietary) 4 P3-EX Local Expansion Bases **RJ12:** RS-232/485 Programmable **TB (4 pin):** RS485/232 Programmable Removable Terminal Block Included		
Hardware Limits of System	**17 Base Groups:** 1 Local (P3-622) + 16 Remote (P3-RS / P3-RX) **5 Bases per Base Group:** 1 P3-622, P3-RS or P3-RX + 4 Expansion (P3-EX) **85 Bases Total:** 1 (CPU) + 16 (Remote) + 68 (Expansion) **59,840 Hardware I/O Points** (All 64-point I/O Modules) **32 GS Series Drives** as Remote I/O		
Instruction Types	Application Functions Array Functions Counters/Timers Communications Data Handling	Drum Sequencers Math Functions PID Program Control String Functions	System Functions Contacts Coils Motion Control
Real Time Clock Accuracy	±1s per day typical at 25°C ambient ±2s per day maximum at 60°C ambient		

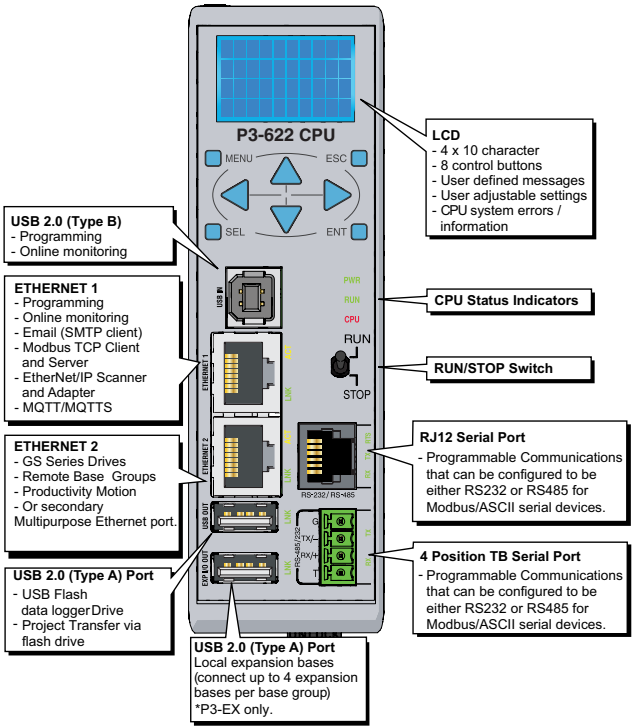
*The 'ETHERNET 2' port can be configured as 'Default (Remote I/O)' or 'User Defined'. If 'User Defined' is selected this port will have the same specification as the 'ETHERNET 1' port with the exception that this port does not have Default Gateway or DNS capability.



P3-622 CPU

The P3-622 is a full featured, high-performance CPU for use with the Productivity3000 Programmable Controller.

CPU Front Panel



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.

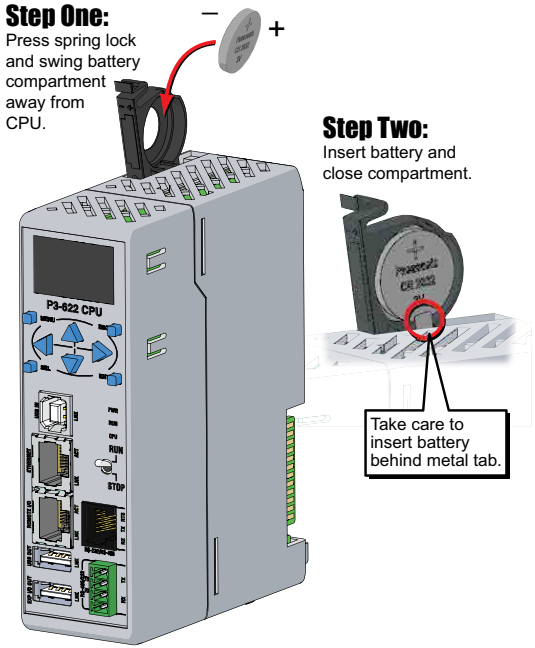
Step Three:

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.

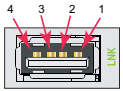
Battery Installation Procedure



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 P3-622. 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.	

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 for data logging, program transfer with built-in surge protection. Not compatible with older full speed USB devices. A 0.5 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	480Mbps	
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

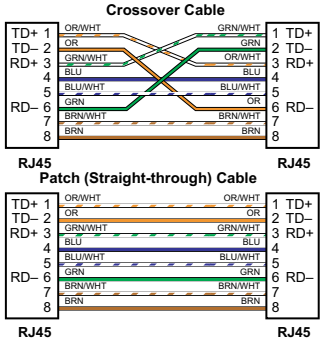
Pin #	Signal
1	Reset
2	– Data
3	+ Data
4	GND

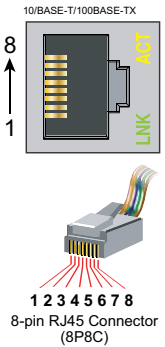
Port Specifications

Ethernet Specifications

Port Name	ETHERNET 1	ETHERNET 2*
Description	Standard transformer isolated Ethernet port with built-in surge protection for programming, online monitoring, MQTT/MQTTS, Email (SMTP client), Modbus/TCP client/server connections (fixed IP or DHCP) and EtherNet/IP Scanner/Adapter.	Standard transformer isolated Ethernet port with built-in surge protection for connection of P3-RS/RX, ProtosX remote I/O, GS Drives with optional communication modules, and PS-AMC modules.
Transfer Rate	10/100 Mbps	
Port Status LED	Green LED is 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. Both ports support Auto MDI/MDI-X Go to AutomationDirect.com for Ethernet cables. For example: C5E-STPBL-S10	

*The 'ETHERNET 2' port can be configured as 'Default (Remote I/O)' or 'User Defined'. If 'User Defined' is selected this port will have the same specification as the 'ETHERNET 1' port with the exception that this port does not have Default Gateway or DNS capability.



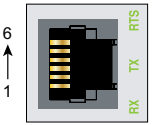


RS-232 Specifications

TXD	RS-232 Transmit output
RXD	RS-232 Receive input
RTS	Handshaking output for modem control (RJ12 Only)
GND	Logic ground
Maximum Output Load (TXD/RTS)	3kΩ, 1000 pf
Minimum Output Voltage Swing	±5V
Output Short Circuit Protection	±15mA

RJ12 Connector

Description	Programmable RS232/485 Port - Non-isolated RS-232 DTE port connects the CPU as a MODBUS RTU Master/Slave or ASCII peripheral device. Includes selectable internal termination for RS485 mode, - Non-isolated RS-485 port connects the CPU as a Modbus/ASCII master or slave to a peripheral device. Includese support to enable internal termination. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active
Data Rates	Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200
+5V Cable Power	210mA maximum at 5V when in RS-232 mode, ±5%. Reverse polarity and overload protected.
Port Status LED	Green LEDs illuminated when active for TXD, RXD and RTS
Cable Options	EA-MG-PGM-CBL D2-DSCBL USB-RS232 with D2-DSCBL FA-CABKIT



6-pin RJ12 Female
Modular Connector

Pin #	RS232	RS485
6	GND	GND
5	RTS	
4	TXD	TXRX-
3	RXD	TXRX+
2	+5V, 210mA	Do not connect
1	GND	GND

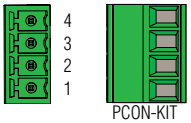
Port Specifications

RS-485 Specifications

TXD+/RXD+	RS-485 transceiver high
TXD-/RXD-	RS-485 transceiver low
GND	Logic Ground
Input Impedance	19kΩ
Termination Resistance (TB Jumper Wire "T" to "+")	120Ω. To use, add jumper between pin 1 and pin 2. Resistor is internally connected between pins 1 and 3.
Maximum Load	50 transceivers, 19kΩ each, 60Ω termination
Output Short Circuit Protection	±250mA, thermal shut-down protection
Electrostatic Discharge Protection	Contact ±4KV, Air ±8KV per IEC61000-4-2 Cable is installed for testing
Electrical Fast Transient Protection	±1KV per IEC61000-4-4
Minimum Differential Output Voltage	1.5 V with 60Ω load
Fail Safe Inputs	Logic high input state if inputs are connected
Maximum Common Mode Voltage	-7.5 V to 12.5 V

4 Position Terminal Block

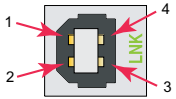
Description	Programmable RS232/485 Port - Non-isolated RS-232 DTE port connects the CPU as a Modbus/ ASCII master or slave to a peripheral device. Includes ESD and built in surge protection - Non-isolated RS-485 port connects the CPU as a MODBUS RTU Master/Salve or ASCII peripheral device. Includes ESD/EFT protection and automatic echo cancellation when transmitter is active
Data Rates	Selectable, 1200, 2400, 4800, 9600, 19200, 33600, 38400, 57600, and 115200
Port Status LED	Green LED illuminated when active for TXD and RXD
Cable Options	Go to AutomationDirect.com for RS-232 and RS-485 cables.



Pin #	RS232	RS485
4	GND	GND
3	TXD	TXRX-
2	RXD	TXRX+
1	Do not connect	TERMINATE

USB Type B Slave Input Specifications

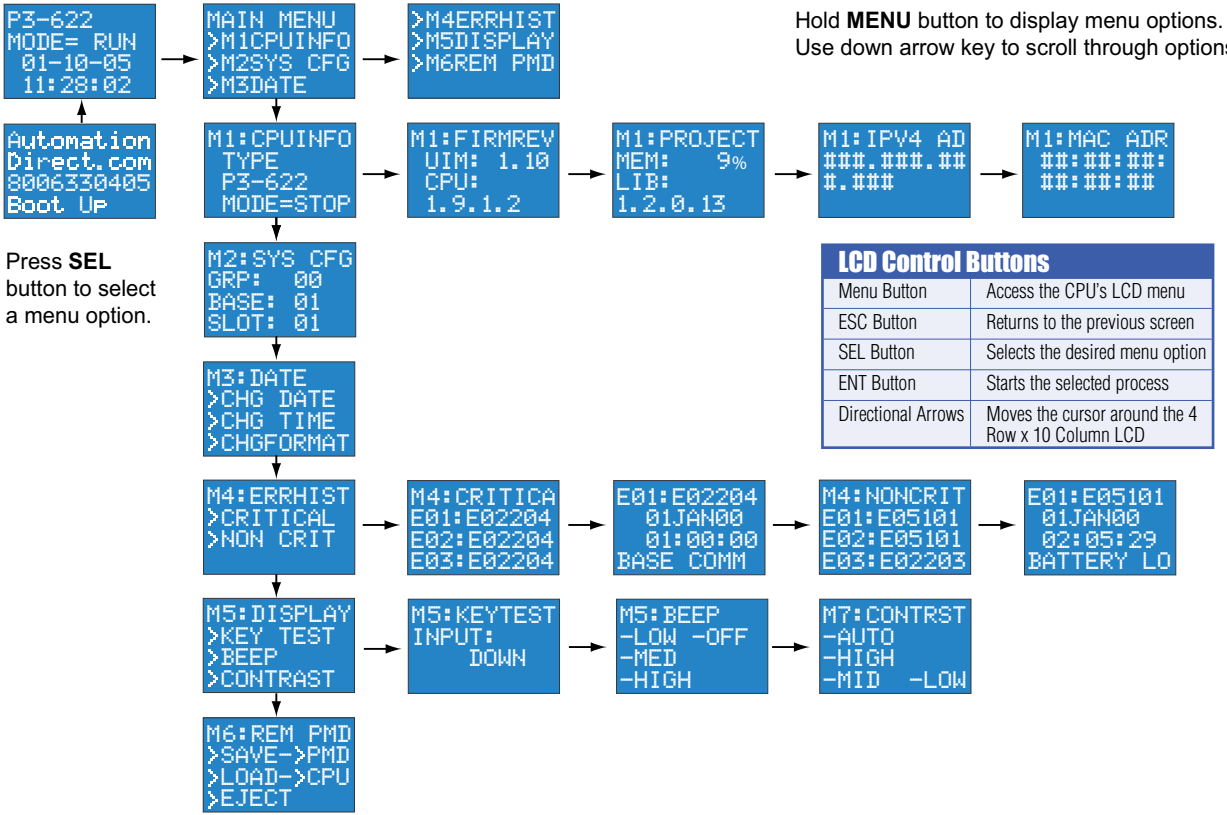
Port Name	USB IN
Description	Standard USB 2.0 Slave input for programming and online monitoring, with built-in surge protection. Not compatible with older full speed USB devices.
Transfer Rate	480 Mbps
Port Status LED	Green LED is illuminated when LINK is established to programming software.
Cables	USB Type A to USB Type B: 3 ft. cable part # USB-CBL-AB3 6 ft. cable part # USB-CBL-AB6 10 ft. cable part # USB-CBL-AB10 15 ft. cable part # USB-CBL-AB15



Mating face of USB type B female

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

Front Panel LCD Display Monitoring and Configuration



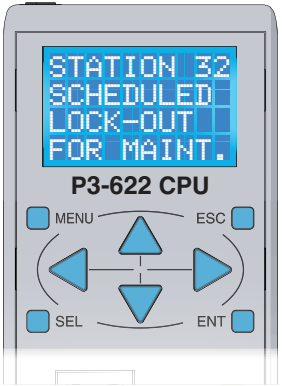
Hold **MENU** button to display menu options.
Use down arrow key to scroll through options.

Press **SEL** button to select a menu option.

LCD Control Buttons

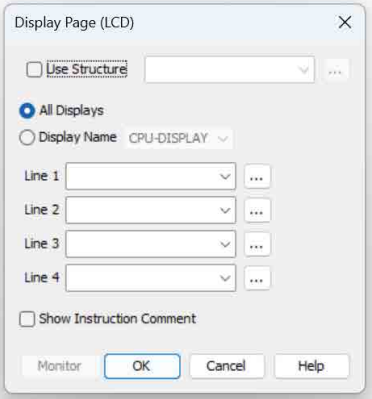
Menu Button	Access the CPU's LCD menu
ESC Button	Returns to the previous screen
SEL Button	Selects the desired menu option
ENT Button	Starts the selected process
Directional Arrows	Moves the cursor around the 4 Row x 10 Column LCD

Front Panel LCD Message Display



The CPU incorporates a 4 line x 10 character LCD for CPU system alarms and information and for displaying user defined messages.

LCD control buttons located beneath the display allow the user to navigate through a menu and arrow buttons allow for configuration of time and date settings.



For user-defined messages, the display is configured using the Productivity Suite Programming Software. The Display Page (LCD) instruction allows the user to program text into user-defined tags and display the messages based on the ladder execution.

WARNING: 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.

This publication is based on information that was available at the time it was printed. At AutomationDirect.com® we constantly strive to improve our products and services, so we reserve the right to make changes to the products and/or publications at any time without notice and without any obligation. This publication may also discuss features that may not be available in certain revisions of the product.

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 or power down.

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

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)
Altitude	2,000 meters max
Pollution Degree	2
Environmental Air	No corrosive gases permitted
Vibration	IEC60068-2-6 (Test Fc)
Shock	IEC60068-2-27 (Test Ea)
Heat Dissipation	2297mW
Overvoltage Category	II
Enclosure Type	Open Equipment
Module Location	Controller slot in the local base in a Productivity3000 System
Weight	235g (8.28 oz)
Agency Approvals	UL 61010-1 and UL 61010-2-201 File E139594, Canada and USA CE (EN 61131-2 EMC, EN 61010-1 and EN 61010-2-201 Safety)*

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

IMPORTANT!

Important Hot-Swap Information

Note: This device cannot be Hot Swapped.

Document Name	Edition/Revision	Date
P3-622-DS	1st Edition	3/28/2025