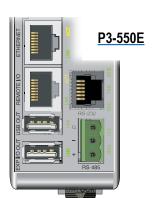
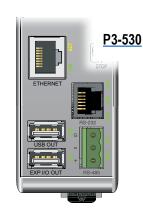
## **CPU Modules - Communications**

## **Port Specifications**

The <u>P3-550E</u> and <u>P3-530</u> CPUs have several communications ports. The following pages list specifications and pin-out diagrams for these ports.





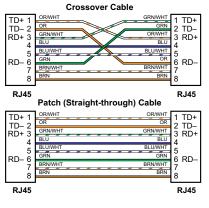
#### Remote I/O Port (P3-550E)

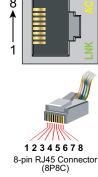
RJ-45 style connector used for connecting to a Remote I/O network consisting of <u>P3-RX</u> Remote Slaves and/or <u>GS-EDRV100</u> units with GS drives.

#### **Ethernet Port**

RJ-45 style connector used for:

- Connection to a PC running the Productivity Suite programming software
- EtherNet/IP Scanner (CPU is the originator, up to 128 connections, max 32 devices) P3-550E
- EtherNet/IP Adapter (CPU is the target, up to 16 connections, max 4 devices)
   P3-550E
- Modbus TCP Client connections (Modbus requests sent from the CPU)
- Modbus TCP Server connections (Modbus requests received by the CPU)
- Outgoing E-mail





10/BASE-T/100BASE-TX

Ethernet Specifications		
Port Name	ETHERNET	REMOTE I/O <u>P3-550E</u>
Description	Standard transformer isolated Ethernet port with built-in surge protection for programming, online monitoring, Email (SMTP client), EtherNet/IP Scanner/ Adapter and Modbus/TCP client/server connections (fixed IP or DHCP).	Standard transformer isolated Ethernet port with built-in surge protection for connection to the <u>P3-RX</u> remote I/O system. Supports 16 Remote I/O slaves and 32 GS Series drives.
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. (Cables available at automationdirect.com)	

# **CPU Modules - Communications**

### **Port Specifications**

# P3-550E P3-550E RS-232 RS-232 RS-485

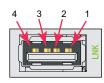
#### **USB OUT Port**

Used for data logging (<u>P3-530</u>) or data logging and project transfers (<u>P3-550E</u>) to and from a USB-FLASH Pen Drive.

#### EXP I/O OUT Port

USB port used only for Expansion I/O connections to local <u>P3-RX</u> modules in a Productivity3000 base with I/O.

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 recommended) for data logging (P3-550E/P3-530) or program transfer (P3-550E), with built-in surge protection. Not compatible with older full speed USB devices. A 0.5 m male-to-female "port extender" cable is included to assist with Flash drive connection.	Proprietary USB 2.0 Master output for connection to 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: 6ft. cable part # P3-EX-CBL6 (included with P3-EX module)



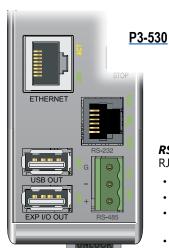
Mating face of USB type A female

**USB OUT** 

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

#### **EXP I/O OUT**

Pin#	Signal
1	Reset
2	<ul><li>– Data</li></ul>
3	+ Data
4	GND



#### RS-232 Port

RJ-12 style connector used for:

- Modbus RTU Master connections
- Modbus RTU Slave connections
- ASCII full or half duplex communications
- Custom Protocol Incoming and Outgoing communications

6	RTS
<b>^</b>	TXD
1	RXD

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	Request to Send
6	GND	Logic Ground

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 bps.	
+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 modem control.	
GND	Logic ground	
Maximum Output Load (TXD/RTS)	3kV, 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	
Cable Options	FA-ISOCON for converting RS-232 to isolated RS-485	

# **CPU Modules - Communications**

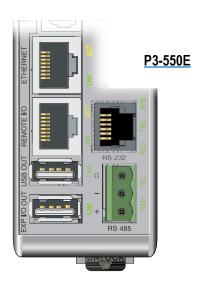
## **Port Specifications**

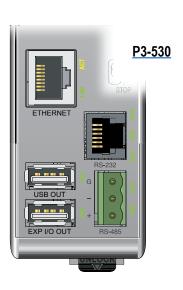
#### RS-485 Port

A 3-pin removable terminal block used for:

- Modbus RTU Master connections
- Modbus RTU Slave connections
- ASCII Incoming and Outgoing communications
- Custom Protocol Incoming and Outgoing communications

Removable connector included.





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 bps.	
TXD+/RXD+	RS-485 transceiver high	
TXD-/RXD-	RS-485 transceiver low	
GND	Logic ground	
Input Impedance	19kV	
Maximum load	50 transceivers, 19kV each, 60V 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	1.5 V with 60V load	
Fail safe inputs	Logic high input state if inputs are unconnected	
Maximum Common Mode Voltage	-7.5 V to 12.5 V.	
Port Status LED	Green LED illuminated when active for TXD and RXD	
Cable Options	Q8302-1 (cut to length) or Belden 9841 equivalent	





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

<sup>\*</sup>Removable connector included.

Terminal Block Specifications	
Number of Positions	3
Pitch	5mm
Wire Range	28–12 AWG Solid Conductor 30–12 AWG Stranded Conductor
Screw Driver Width	1/8 inch (3.175mm) maximum
Screw Size	M2.5
Screw Torque	4.5 lb·in (0.51 N·m)