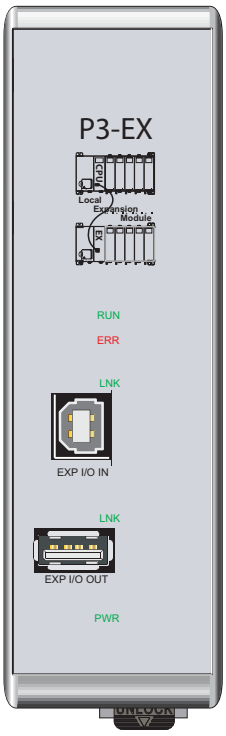
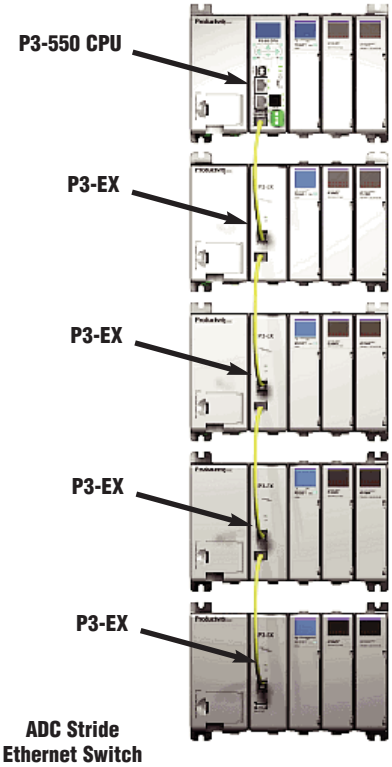
P3-EX Expansion Module

P3-EX <--->

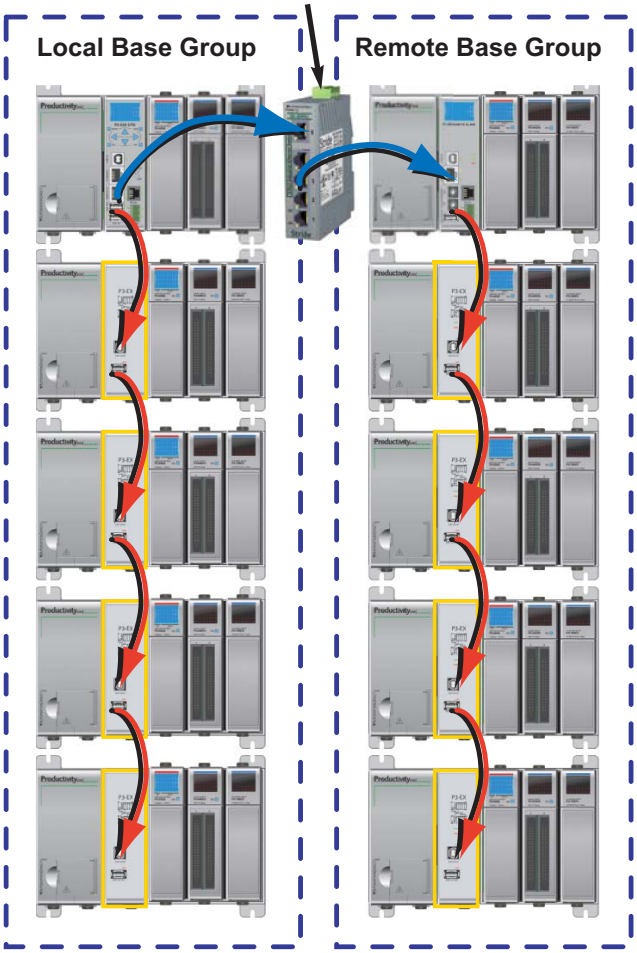
The P3-EX high-performance expansion module provides local I/O expansion to a CPU or Remote I/O. Includes 6-foot USB expansion cable.

A 6-foot USB cable is included with the P3-EX module (Replacement cable: part number P3-EX-CBL6).





The system can have up to 132 expansion bases by adding four expansion bases at the CPU base and four expansion bases per Remote I/O Slave (up to 32 slaves). Each expansion base uses the P3-EX expansion module for USB-based I/O bus connectivity.



P3-EX Expansion Module

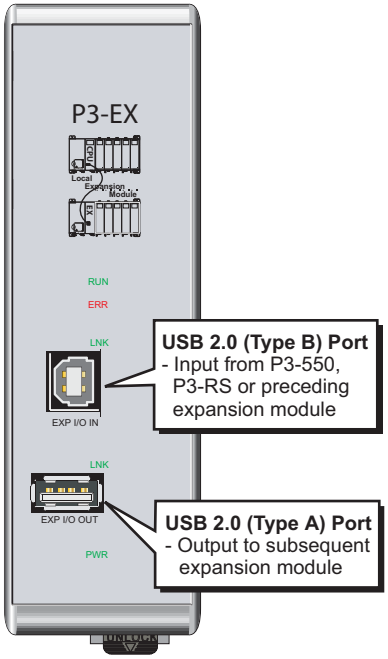
Module Specifications

Mounting Location	Controller slot of expansion base
Expansion Connectors	1 USB 2.0 Type A, 1 USB 2.0 Type B
Maximum Number of Expansion Modules per CPU or Remote Slave	4
Maximum Distance Between Modules	15 feet
Status Indicators	PWR - Green LED is illuminated when power is on. RUN - Green LED is illuminated when not in reset. Reset occurs during power-up, a watchdog timeout, or if an expansion cable is disconnected. ERR - Red LED is illuminated when a USB fault is detected. LINK - Green LED is illuminated when a USB link is established.
I/O Capabilities Max. Number of I/O per CPU System Max. Number of Expansion I/O Bases	 116,160 (CPU Base with 4 Expansion Bases plus 32 Remote Bases with 4 Expansion Bases per Remote, with 11 64-point I/O modules per base) 132 (4 per CPU, 4 per Remote Base)
Module Setup	Automatic hardware verification
Expansion I/O Addressing	Automatic via Tag Names
Standard USB Cables	6 foot: P3-EX-CBL6 (USB Type A to USB Type B)

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	MIL STD 810C 514.2
Shock	MIL STD 810C 516.2
Heat Dissipation	1W
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 a local expansion base in a Productivity3000 System
EU Directive	See the "EU Directive" topic in the Productivity3000 Help File. Information can also be obtained at: www.productivitypac.com
Weight	194g (6.24 oz)

*Meets EMC and Safety requirements. See the Declaration of Conformity for details.



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

IMPORTANT!

Hot-Swapping Information

Note: This device cannot be Hot Swapped.

Expansion Module Status Indicators

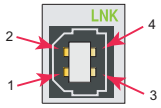
PWR	Green LED is illuminated when power is on.
RUN	Green LED is illuminated when not in reset. Reset occurs during power-up, a watchdog timeout, or an expansion cable is disconnected.
ERR	Red LED is illuminated when a USB fault is detected.
LNK	Green LED is illuminated when a USB link is established.

P3-EX Expansion Module

Port Specifications

Exp I/O Port Specifications		
Port Name	**EXP I/O IN**	**EXP I/O OUT**
Description	Proprietary USB 2.0 Slave input for connection with a CPU, Remote Slave, or preceding P3-EX expansion base. The P3-EX Expansion Module includes the 6 foot USB cable P3-EX-CBL6.	Proprietary USB 2.0 Master output for connection with the next P3-EX expansion base. Includes built-in surge protection.
Transfer Rate	480 Mbps	
Port Status LED	Green LED is illuminated when LINK is established to connected device	
Cables	USB Type A to USB Type B: 6 ft. cable part no. P3-EX-CBL6	

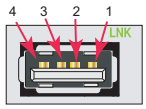
EXP I/O IN



Mating face of USB type B female

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

EXP I/O OUT



Mating face of USB type A female

Installation Procedure

Step One:
Locate the two sockets next to the Power Supply.

Step Two
Insert P3-EX 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.