

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.

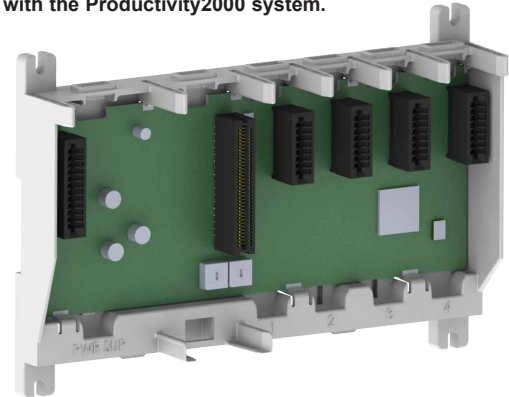
Equipment damage or serious injury to personnel can result from the failure to follow all applicable codes and standards. We do not guarantee the products described in this publication are suitable for your particular application, nor do we assume any responsibility for your product design, installation,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

P2-04B, P2-07B, P2-11B, P2-15B Bases

The P2-04B, P2-07B, P2-11B, and P2-15B are multi-slot I/O bases for use with the Productivity2000 system.



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Warranty: Thirty-day money-back guarantee. Two-year limited replacement. (See www.productivity2000.com for details).

| Document Name | Edition/Revision | Date |
|---------------|------------------|-----------|
| P2-BASES-DS | 4th Ed., Rev A | 8/24/2023 |

General Specifications

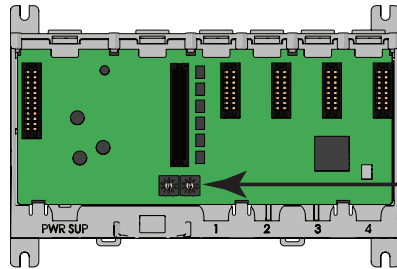
| | |
|-----------------------|---|
| Operating Temperature | 0° to 60°C (32° to 140°F) |
| Storage Temperature | -20° to 70°C (-4° to 158°F) |
| Humidity | 5 to 95% (non-condensing) |
| Altitude | 2,000 meters max |
| Pollution Degree | 2 |
| Environmental Air | No corrosive gases permitted |
| Vibration | IEC60068-2-6 (Test Fc) |
| Shock | IEC60068-2-27 (Test Ea) |
| Heat Dissipation | 3W |
| Overvoltage Category | II |
| Enclosure Type | Open Equipment |
| Weight | P2-04B: 204g (7.2 oz) P2-07B: 294g (10.4 oz) P2-11B: 430g (15.2 oz) P2-15B: 521g (18.4 oz) |

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

Base Specifications

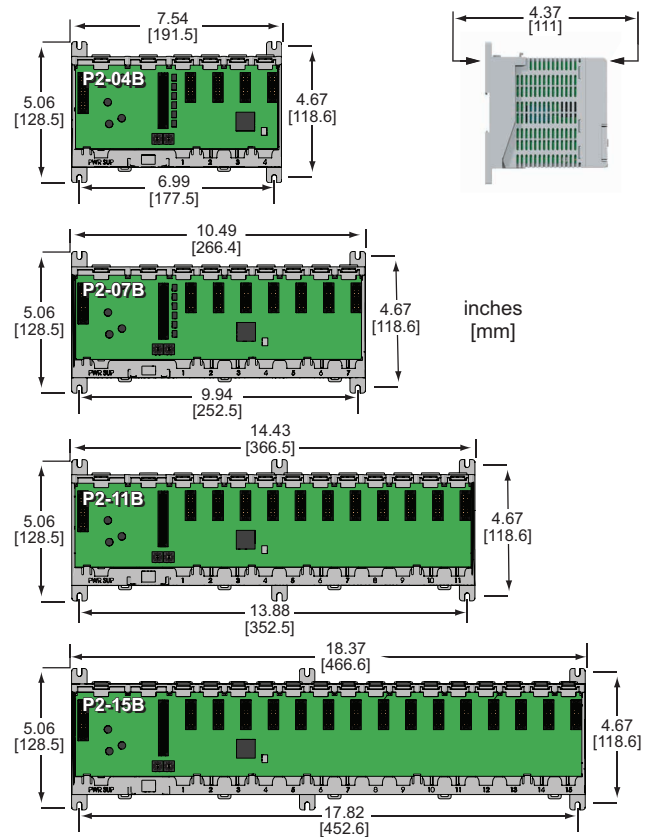
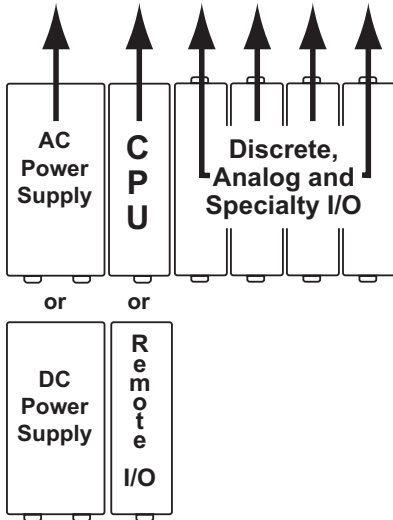
| | |
|----------------------------------|--|
| Input or Output Modules per Base | 4, 7, 11, or 15 |
| Power Supply Slots | 1 (P2-01AC, P2-01DCAC, P2-01DC, P2-02DC) |
| CPU Slots | 1 (P2-550, P2-622) |
| Module Types Supported | Discrete, analog and specialty |
| Module Placement Restrictions | None. Any I/O module may be installed in any I/O slot without power supply budget or module type restrictions. |
| I/O Module Hot Swap Support | Yes. (All discrete and analog modules can be software enabled for Hot Swap operation) |
| Module Keying | Electronic to slot |
| Maximum Number of Local Bases | 1 |

Base Configuration and Dimensions



Rotary Switches are for setting the Remote Slave Node Address. See P2-RS insert for details.

Note: If CPU is installed switch settings are ignored.



Panel Mounting Requirements

Enclosures

Your selection of a proper enclosure is important to ensure safe and proper operation of your Productivity2000 system. Applications for the Productivity2000 system vary and may require additional hardware considerations. The minimum considerations for enclosures include:

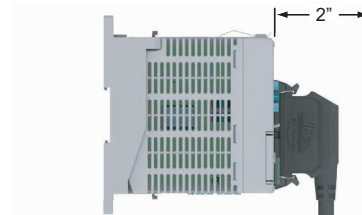
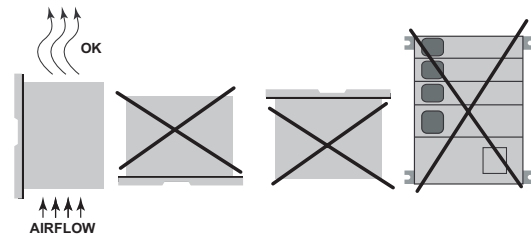
- Conformance to electrical standards
- Protection from the elements in an industrial environment
- Common ground reference
- Maintenance of specified ambient temperature
- Access to the equipment
- Security or restricted access
- Sufficient space for proper installation and maintenance of the equipment

Mounting Position

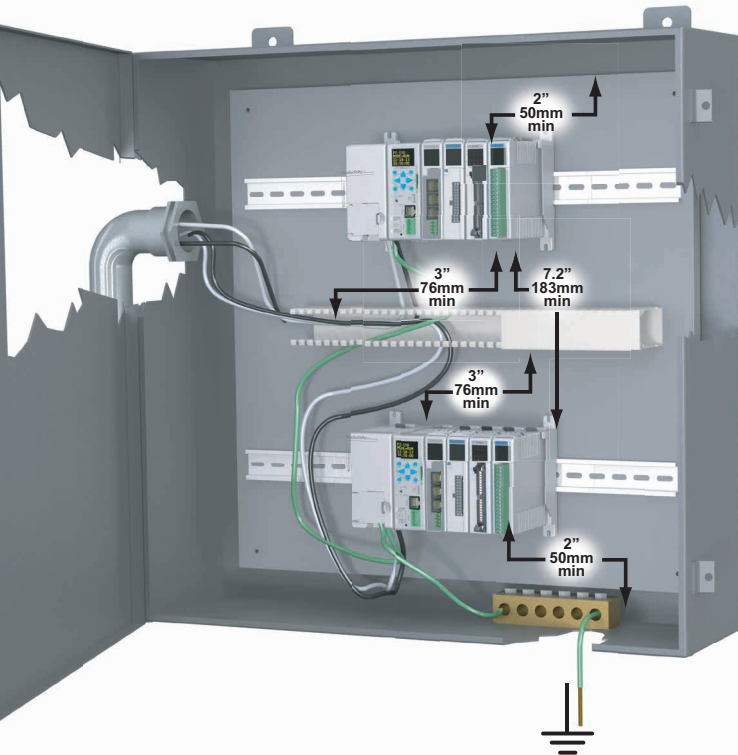
Mount the bases horizontally, as shown in the illustration, to provide proper ventilation. Do not mount the bases vertically, upside down, or on a flat horizontal surface.

Mounting Clearances

Provide a minimum clearance of 2" (50mm) between the bases and all sides of the enclosure. Allow extra door clearance for operator panels and other door mounted items. There should be a minimum of 3" (76mm) clearance between the base and any wire duct, and a minimum of 7.2" (183mm) from base to base in a multiple base installation.



NOTE: Add 2" to mounting depth when using ZIPLink cable.



Grounding

A good common ground reference (earth ground) is essential for proper operation of the Productivity2000 system. One side of all control circuits, power circuits and the ground lead must be properly connected to earth ground by either installing a ground rod in close proximity to the enclosure or by connecting to the incoming power system ground. There must be a single-point ground (i.e. copper bus bar) for all devices in the enclosure that require an earth ground.

Temperature Considerations

The Productivity2000 system should be installed within the operating temperature specifications as listed in this document. If the temperature deviates above or below the specification, measures such as cooling or heating the enclosure should be taken to maintain the specification.

Power Considerations

The Productivity2000 system is designed to be powered by 110/220 VAC, 24/48VDC, or 12–24 VDC / 24VAC / 24VDC via one of the Productivity2000 power supplies. The Productivity2000 has achieved CE certification without requiring EMF/RFI line noise filters on the AC power supply. Please review the “EU Directives” document, located in the User Manual or at www.productivity2000.com, for applications which require CE Compliance.

DIN Rail Installation

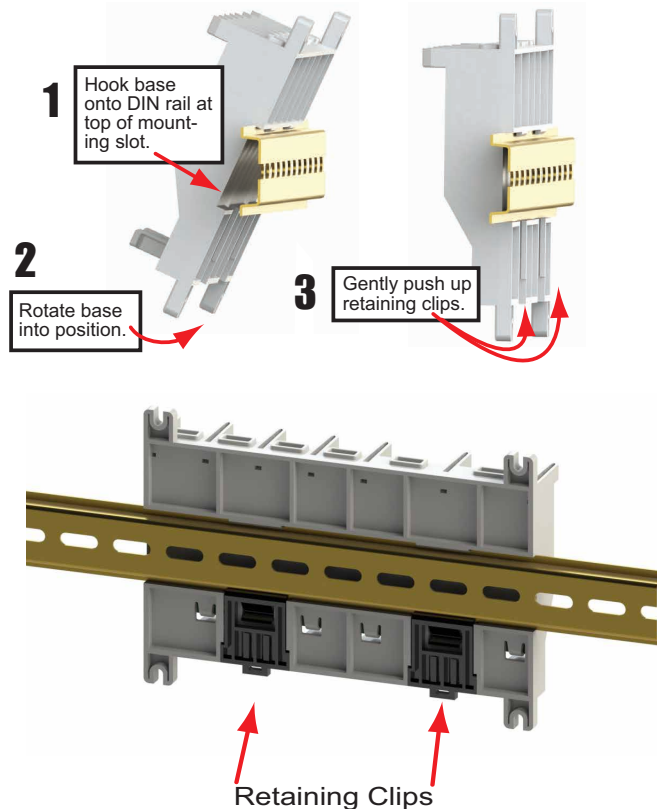
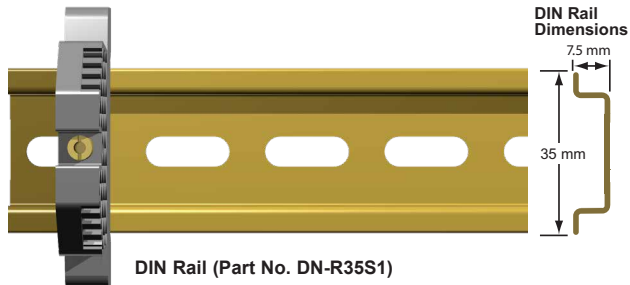
Using Mounting Rails

The Productivity2000 bases can be secured to the cabinet using mounting rails. You should use rails that conform to DIN EN standard 50 022. Refer to our catalog for a complete line of DIN rail, DINnectors and DIN rail mounted apparatus. These rails are approximately 35mm high, with a depth of 7.5mm. If you mount the base on a rail, you should also consider using end brackets on each end of the rail. The end brackets help keep the base from sliding horizontally along the rail. This helps minimize the possibility of accidentally pulling the wiring loose.

If you examine the bottom of the base, you'll notice retaining clips. To secure the base to a DIN rail, place the base onto the rail and gently push up on the retaining clips. The clips lock the base onto the rail.

To remove the base, pull down on the retaining clips, slightly lift up the base, and pull it away from the rail.

End Bracket (Part No. DN-EB35)



Agency Approvals

Some applications require agency approvals for particular components. The Productivity2000 agency approvals are listed below:

- UL (Underwriters' Laboratories, Inc.)
- CUL (Canadian Underwriters' Laboratories, Inc.)
- CE (European Economic Union)

Note: See the "EU Directive" topic in the Productivity2000 User manual. Information can also be obtained at: www.productivity2000.com

Safety Guidelines

WARNING: Providing a safe operating environment for personnel and equipment is your responsibility and should be your primary goal during system planning and installation. Automation systems can fail and may result in situations that can cause serious injury to personnel or damage to equipment. Do not rely on the automation system alone to provide a safe operating environment. You should use external electro-mechanical devices, such as relays or limit switches, that are independent of the P2000 application to provide protection for any part of the system that may cause personal injury or damage. Every automation application is different, so there may be special requirements for your particular application. Make sure you follow all national, state, and local government requirements for the proper installation and use of your equipment.

Plan for Safety

The best way to provide a safe operating environment is to make personnel and equipment safety part of the planning process. You should examine every aspect of the system to determine which areas are critical to operator or machine safety. If you are not familiar with automated system installation practices, or your company does not have established installation guidelines, you should obtain additional information from the following sources.

- NEMA — The National Electrical Manufacturers Association, located in Washington, D.C., publishes many different documents that discuss standards for industrial control systems. You can order these publications directly from NEMA. Some of these include: ICS 1, General Standards for Industrial Control and Systems ICS 3, Industrial Systems ICS 6, Enclosures for Industrial Control Systems
- NEC — The National Electrical Code provides regulations concerning the installation and use of various types of electrical equipment. Copies of the NEC Handbook can often be obtained from your local electrical equipment distributor or your local library.
- Local and State Agencies — many local governments and state governments have additional requirements above and beyond those described in the NEC Handbook. Check with your local Electrical Inspector or Fire Marshall office for information.

Safety Techniques

The publications mentioned provide many ideas and requirements for system safety. At a minimum, you should follow these regulations. Using the techniques listed below will further help reduce the risk of safety problems.

- Orderly system shutdown sequence in the P2000 control program.
- Emergency stop switch for disconnecting system power.