



Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions
E105P

H Series Fieldbus 24VDC Expansion
Power Supply, Series A (PSSSE24A)

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WARNING

- To avoid unpredictable system behavior that can cause personal injury and property damage:
- Disconnect electrical supply (when necessary) before installation, servicing, or conversion.
- Disconnect air supply and depressurize all air lines connected to this product before installation, servicing, or conversion.
- Operate within the manufacturer's specified pressure, temperature, and other conditions listed in these instructions.
- Medium must be moisture-free if ambient temperature is below freezing.
- Service according to procedures listed in these instructions.
- Installation, service, and conversion of these products must be performed by knowledgeable personnel who understand how pneumatic products are to be applied.
- After installation, servicing, or conversion, air and electrical supplies (when necessary) should be connected and the product tested for proper function and leakage. If audible leakage is present, or the product does not operate properly, do not put into use.
- Warnings and specifications on the product should not be covered by paint, etc. If masking is not possible, contact your local representative for replacement labels.

Safety Guide

For more complete information on recommended application guidelines, see the Safety Guide section of Pneumatic Division catalogs or you can download the **Pneumatic Division Safety Guide** at: www.parker.com/safety

Introduction

Follow these instructions when installing, operating, or servicing the product.

H Series Fieldbus 24VDC Expansion Power Supply, Series A

(PSSSE24A)

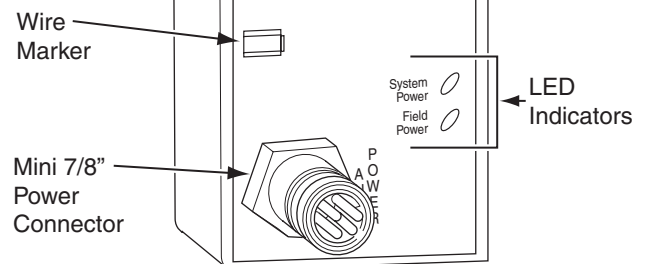
The 24VDC expansion power supply unit (PSSSE24A) passes 24VDC field power to the I/O modules to the right of the power supply. This unit extends the backplane bus power for up to 17 I/O modules to the right of the supply and creates a new field voltage partition.

The expansion power supply also separates field power from I/O modules to the left of the unit, effectively providing functional and logical partitioning for:

- separating field power between input and output modules
- separating field power to the analog and digital modules
- grouping modules to perform a specific task or function

You can use multiple expansion power units with the I/O adapters to assemble a full system. For instance, if you are using the PSSCDM12A or PSSCDM18PA adapter, you may use a PSSSE24A expansion power unit to add additional modules in 5 to 17 module increments. For example, if you had a 36 module system with a I/O adapter, you would have two PSSSE24A expansion power units to provide more PointBus current for modules to the right of the supply.

PSSSE24A **24VDC** **Expansion** **Power Supply**



ATTENTION



Do not connect 120/240VAC to the PSSSE24A terminals. Damage to the supply will result.

ATTENTION



You can only use the PSSSE24A expansion power unit with the I/O adapters.

WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application, including consequences of any failure and review the information concerning the product or systems in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

EXTRA COPIES OF THESE INSTRUCTIONS ARE AVAILABLE FOR INCLUSION IN EQUIPMENT / MAINTENANCE MANUALS THAT UTILIZE THESE PRODUCTS. CONTACT YOUR LOCAL REPRESENTATIVE.

Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. *Safety Guidelines for the Application, Installation and Maintenance of Solid State Controls* (available online at www.parker.com/pnei/hseriesfieldbus) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and also because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.





In no event will Parker Hannifin Corporation be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Parker Hannifin Corporation cannot assume responsibility or liability for actual use based on the examples and diagrams.


No patent liability is assumed by Parker Hannifin Corporation with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual we use notes to make you aware of safety considerations.

WARNING	Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.
	
IMPORTANT	Identifies information that is critical for successful application and understanding of the product.
ATTENTION	Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you: <ul style="list-style-type: none">• Identify a Hazard• Avoid a Hazard• Recognize the Consequence
	
SHOCK HAZARD	Labels may be located on or inside the equipment to alert people that dangerous voltage may be present.
	
BURN HAZARD	Labels may be located on or inside the equipment to alert people that surfaces may be dangerous temperatures.
	

ATTENTION




Environment and Enclosure

This equipment is intended for use in overvoltage Category II applications (as defined in IEC publication 60664-1), at altitudes up to 2000 meters without derating. This equipment is considered Group 1, Class A industrial equipment according to IEC/CISPR Publication 11. Without appropriate precautions, there may be potential difficulties ensuring electromagnetic compatibility in other environments due to conducted as well as radiated disturbance. This equipment is supplied as “enclosed” equipment. It should not require additional system enclosure when used in locations consistent with the enclosure type ratings stated in the Specifications section of this publication. Subsequent sections of this publication may contain additional information regarding specific enclosure type ratings, beyond what this product provides, that are required to comply with certain product safety certifications.

NOTE: See NEMA Standards publication 250 and IEC publication 60529, as applicable, for explanations of the degrees of protection provided by different types of enclosure. Also, see the appropriate sections in this publication, as well as the publication E115P (“Industrial Automation Wiring and Grounding Guidelines”), for additional installation requirements pertaining to this equipment.

ATTENTION



Preventing Electrostatic Discharge

This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wriststrap.
- Do not touch connectors or pins on component boards.
- Do not touch circuit components inside the equipment.
- If available, use a static-safe workstation.
- When not in use, store the equipment in appropriate static-safe packaging.

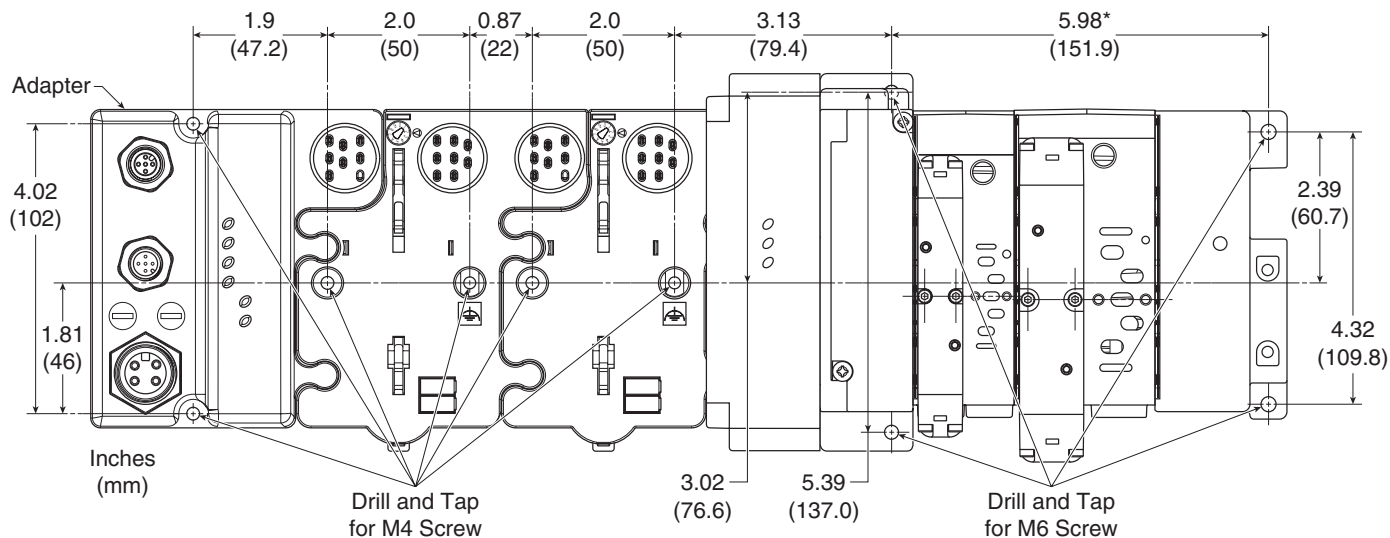
Mount the I/O Base

To mount the I/O base on a wall or panel, use the screw holes provided in the base.

IMPORTANT

The I/O module must be mounted on a grounded metal mounting plate or other conductive surface.

A mounting illustration for the base with an adapter is shown below.

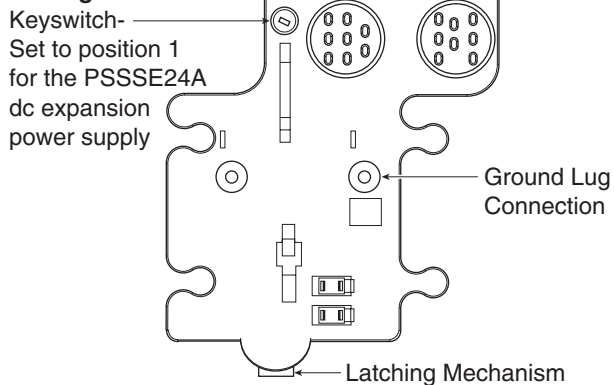


* Depending on the type and number of manifolds, this dimension may vary. Refer to Catalog 0600P-# for additional information.

Install the Mounting Base as Follows:

1. Lay out the required points as shown above in the drilling dimension drawing.
2. Drill the necessary holes for #8 (M4) machine or self-tapping screws.
3. Mount the base using #8 (M4) screws.
4. Ground the system using the ground lug connection. (The ground lug connection is also a mounting hole.)

Mounting Base

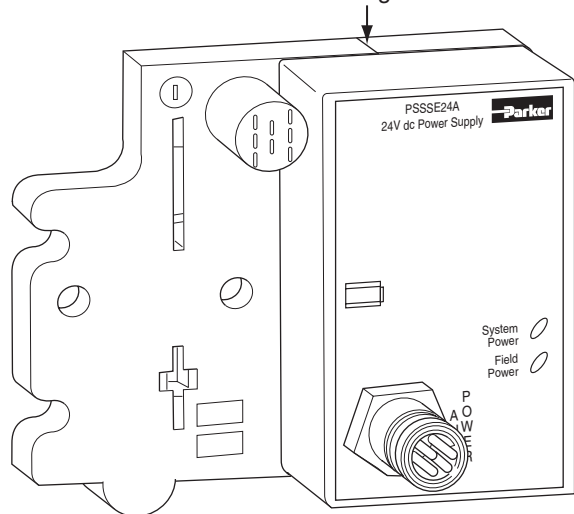


Install the 24VDC Expansion Power Supply

To Install the Power Supply, Proceed as Follows:

1. Using a bladed screwdriver, rotate the keyswitch on the mounting base clockwise until the number 1 aligns with the notch in the base.
2. Position the power supply vertically above the mounting base. The module will bridge two bases.

Module Will Bridge Two Bases



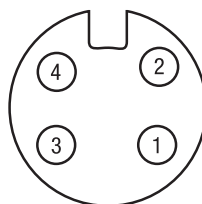
3. Push the power supply down until it engages the orange latching mechanism. You will hear a clicking sound when the power supply is properly engaged. The locking mechanism will lock the power supply to the base.

Wire the 24VDC Expansion Power Supply

Following are wiring instructions for the 24VDC Expansion Power Supply.

PSSSE24A

Male In Connector (Mini 7/8")



(view into connector)

Pin 1 - User Power +

Pin 2 - Adapter Power +

Pin 3 - Adapter Power -

Pin 4 - User Power -

Note: User power is the 24VDC power for field devices.

Adapter power is the 24VDC power for PSSSE24A. It is converted to 5VDC to power H Series Fieldbus modules.

ATTENTION



Make sure all connectors and caps are securely tightened to properly seal the connections against leaks and maintain IP67 requirements.

Remove the 24VDC Expansion Power Supply From the Mounting Base

To Remove the Power Supply from the Mounting Base:

1. Put a flat blade screwdriver into the slot of the orange latching mechanism.
2. Push the screwdriver toward the I/O module to disengage the latch. The module will lift up off the base.
3. Pull the module off of the base.

Install a Replacement PSSSE24A to an Existing System

1. Remove the module to the right of the power supply from the mounting base.
2. If you have not done so already, remove the existing power supply from the mounting base.
3. Position the replacement power supply vertically above the mounting base.
4. Push the power supply down until it engages the orange latching mechanism. You will hear a clicking sound when the power supply is properly engaged and locked to the base.
5. Place the module to the right of the power supply back onto the mounting base.

Specifications

Following are specifications for the PSSSE24A Power Supply.

24VDC Expansion Power Supply - PSSSE24A	
I/O Module Capacity	5 to 17 I/O modules depending on each module's current rating
Power Supply adapter.	In order to comply with CE Low Voltage Directives (LVD), you must use a Safety Extra Low Voltage (SELV) or a Protected Extra Low Voltage (PELV) power supply to power the
Inputs Voltage Rating	12VDC, 24VDC nominal 10-28.8VDC range
Operating Voltage	10-28.8VDC
Input Current, Maximum	6A for 10ms
Backplane Output Current	5VDC, 1.3A
Field Side Power Requirements, Maximum	24VDC (+20% = 28.8VDC) @ 400 mA
Indicators	1 Green Field Power Status Indicator 1 Green 5V System Power Indicator
Module Location	Between I/O modules in system Breaks field power bus
PointBus Output Current	1A at 10-19.2V input; 1.3A at 19.2-28.8V input
Input Overvoltage Protection	Reverse polarity protected
Interruption	Output voltage will stay within specifications when input drops out for 10ms at 10V with maximum load
General Specifications	
Power Consumption, Maximum	9.8W @ 28.8VDC
Power Dissipation, Maximum	3.0W @ 28.8VDC
Thermal Dissipation, Maximum	10.0 BTU/hr. @ 28.8VDC
Isolation Voltage (continuous-voltage withstand rating)	50V rms Tested at 1250VAC rms for 60s
Field Power Bus Supply Voltage Voltage Range Supply Current	12VDC, 24VDC nominal 10-28.8VDC range 10A maximum
Dimensions Inches (Millimeters)	1.25H x 2.63W x 4.25D (31.75H x 66.80W x 107.95D)
Operating Temperature	IEC 60068-2-1 (Test Ad, Operating Cold), IEC 60068-2-2 (Test Bd, Operating Dry Heat), IEC 60068-2-14 (Test Nb, Operating Thermal Shock): -20 to 60°C (-4 to 140°F)
Storage Temperature	IEC 60068-2-1 (Test Ab, Un-packaged Non-operating Cold), IEC 60068-2-2 (Test Bb, Un-packaged Non-operating Dry Heat), -40 to 85°C (-40 to 185°F)
Relative Humidity	IEC 60068-2-30 (Test Db, Un-packaged Non-operating Damp Heat): 5-95% non-condensing
Shock	IEC60068-2-27 (Test Ea, Unpackaged Shock): Operating 30g Non-operating 50g
Vibration	IEC60068-2-6 (Test Fc, Operating): 5g @ 10-500Hz
ESD Immunity	IEC 61000-4-2: 6kV contact discharges 8kV air discharges
Radiated RF Immunity	IEC 61000-4-3: 10V/m with 1kHz sine-wave 80%AM from 30MHz to 2000MHz 10V/m with 200Hz 50% Pulse 100%AM at 900Mhz 10V/m with 200Hz 50% Pulse 100%AM at 1890Mhz

General Specifications (continued)	
EFT/B Immunity	IEC 61000-4-4: ±4kV at 5kHz on power ports
Surge Transient Immunity	IEC 61000-4-5: ±1kV line-line(DM) and ±2kV line-earth(CM) on power ports
Conducted RF Immunity	IEC 61000-4-6: 10Vrms with 1kHz sine-wave 80%AM from 150kHz to 80MHz
Emissions	CSPR 11: Group 1, Class A
Enclosure Type Rating	Meets IP65/66/67 (when marked)
Mounting Base Screw Torque	#8 screw, 7.5 in. lbs. in Aluminum, 16 in. lbs. in Steel
Weight Imperial (Metric)	0.637 lb. (0.289 kg)
Wiring Category ¹	1 - on power ports
Keyswitch Position	1
Certifications: (when product is marked)	<div>c-UL-us UL Listed Industrial Control Equipment, certified for US and Canada</div> <div>CE European Union 89/336/EEC EMC Directive, compliant with: EN 61000-6-4; Industrial Emissions EN 50082-2; Industrial Immunity EN 61326; Meas./Control/Lab., Industrial Requirements EN 61000-6-2; Industrial Immunity</div> <div>C-Tick Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions</div>

1. Use this Conductor Category information for planning conductor routing. Refer to Publication E115P, "Industrial Automation Wiring and Grounding Guidelines".