



Pneumatic Division
Richland, Michigan 49083

Installation & Service Instructions
E109P

H Series Fieldbus Relay Output
Module, Series A (PSSTR4M12A)

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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

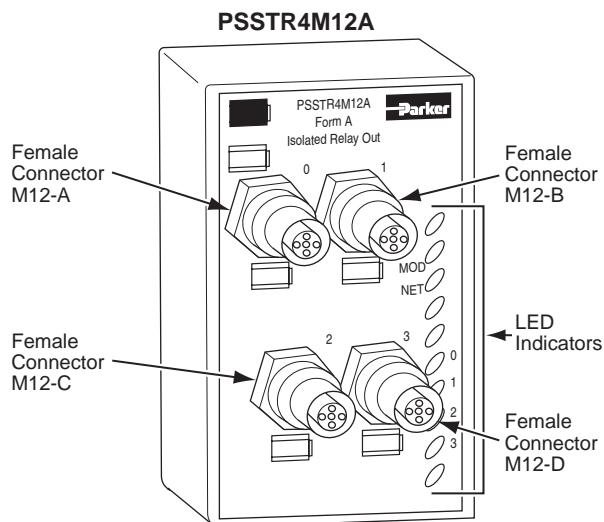
Introduction

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

H Series Fieldbus Relay Output Module, Series A

(PSSTR4M12A)

The sealed IP67 housing of the module requires no enclosure. (Note that environmental requirements other than IP67 may require an additional appropriate housing.) I/O connectors are sealed M12 (micro) style. The mounting base ships with the module. The PSSTR4M12A module is shown below.



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/pneu/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

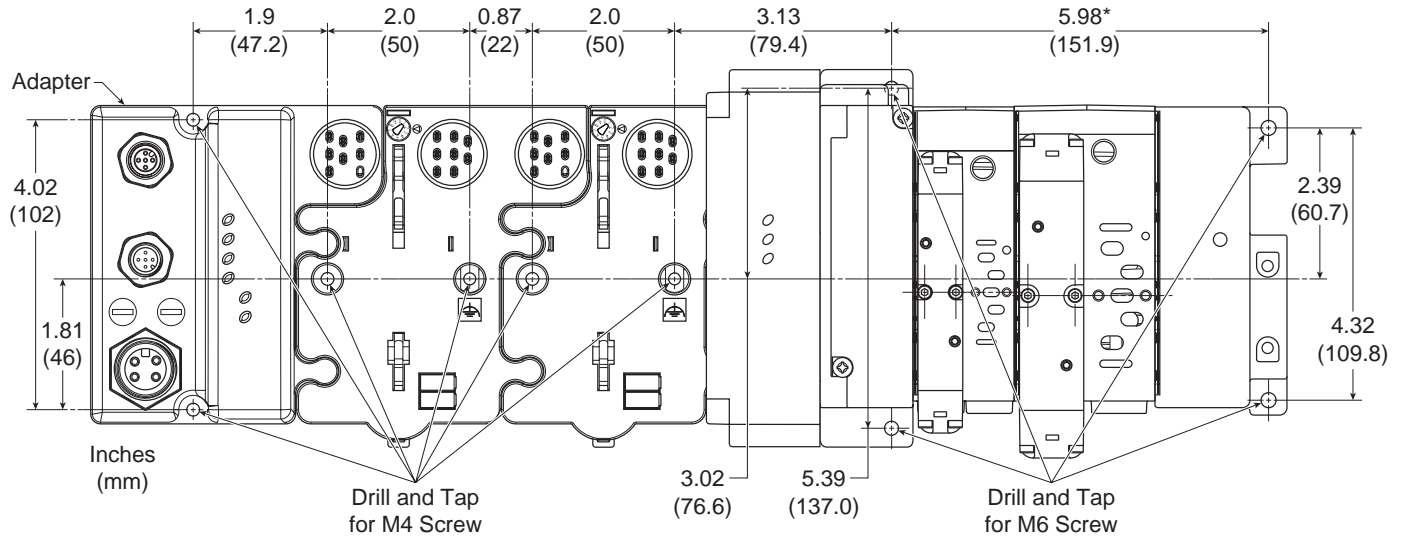
This equipment is sensitive to electrostatic discharge, which can cause internal damage and affect normal operation. Follow these guidelines when you handle this equipment:

- Touch a grounded object to discharge potential static.
- Wear an approved grounding wrist strap.
- 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.

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

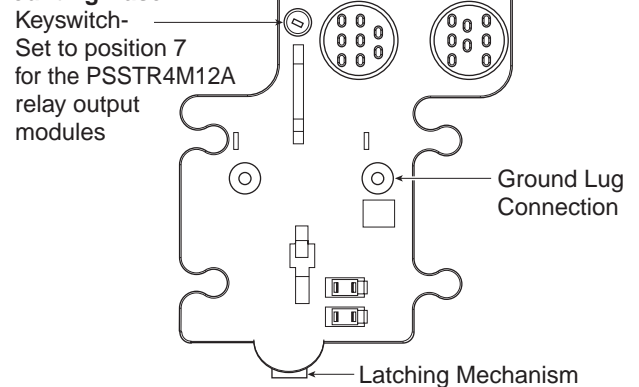


* Depending on the type and number of manifolds, this dimension may vary. Refer to Catalog 0600P-# for additional information.

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.)

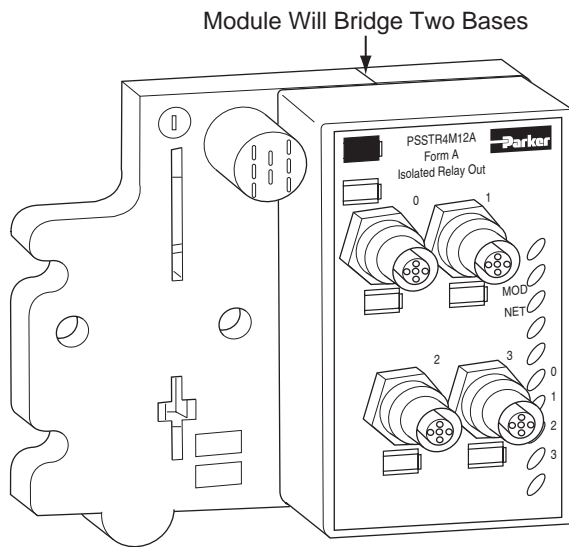
Mounting Base



Install the Relay Output Module

To Install the Relay Output Module, Proceed as Follows:

1. Using a bladed screwdriver, rotate the keyswitch on the mounting base clockwise until the number 7 aligns with the notch in the base.
2. Position the module vertically above the mounting base. The module will bridge two bases.



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

Remove the Relay Output Module From the Mounting Base

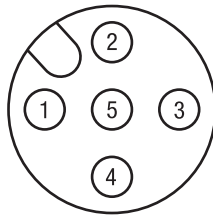
To Remove the Module from the Mounting Base:

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.

Wire the Relay Output Module

Following are wiring instructions for the relay output module.

PSSTR4M12A



(view into connector)

Pin 1 - 24VDC

Pin 2 - Output 0B (M12-A)
Output 1B (M12-B)
Output 2B (M12-C)
Output 3B (M12-D)

Pin 4 - Output 0A (M12-A)
Output 1A (M12-B)
Output 2A (M12-C)
Output 3A (M12-D)

Pin 3 - Common

Pin 5 - No Connect

ATTENTION

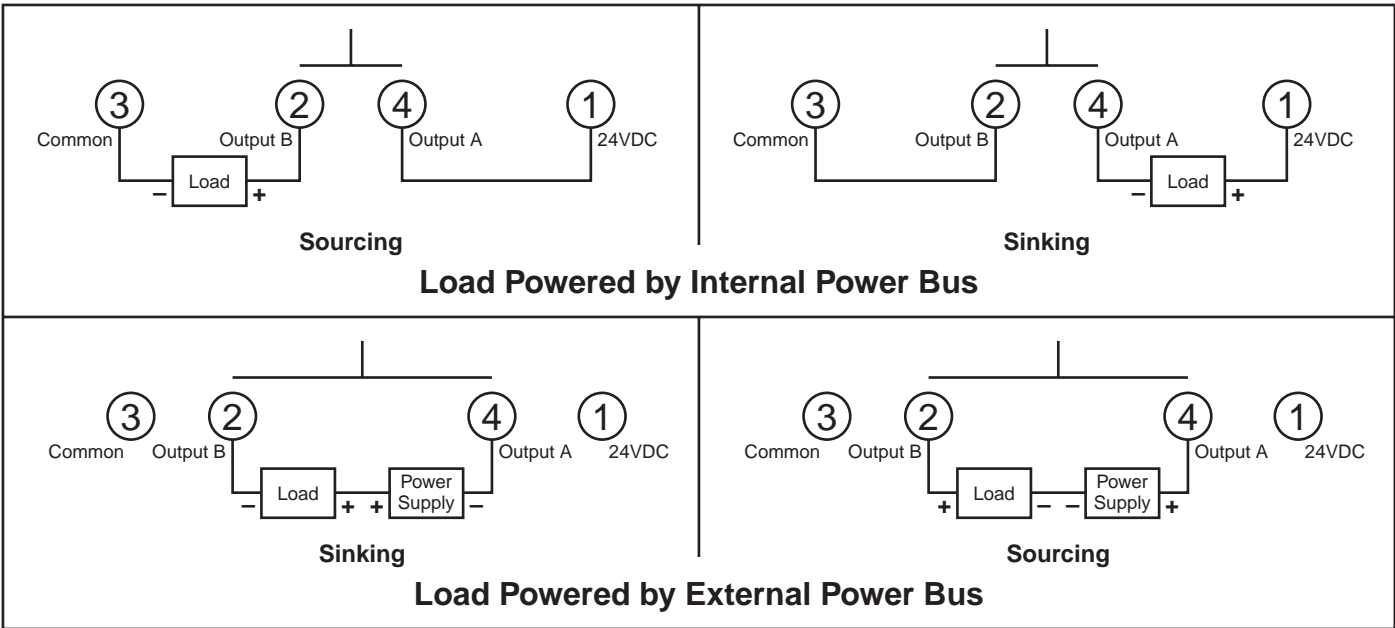


Make sure all connectors and caps are securely tightened to properly seal the connections against leaks and maintain IP67 requirements.

WARNING



PSSTR4M12A is rated for 5-28.8 VDC only. Do not connect it to an AC power source.



Communicate With Your Module

I/O messages are sent to (consumed) and received from (produced) the I/O module. These messages are mapped into the processor's memory. The I/O relay output module consumes 1 byte of output data (scanner Tx - status). It does not produce data (scanner Rx).

Default Data Map for the Relay Output Modules

PSSTR4M12A

Message Size: 1 Byte

	7	6	5	4	3	2	1	0	
Consumes (Scanner Tx)	Not Used				Ch3	Ch2	Ch1	Ch0	Output State

Where: 0 = OFF, 1 = ON

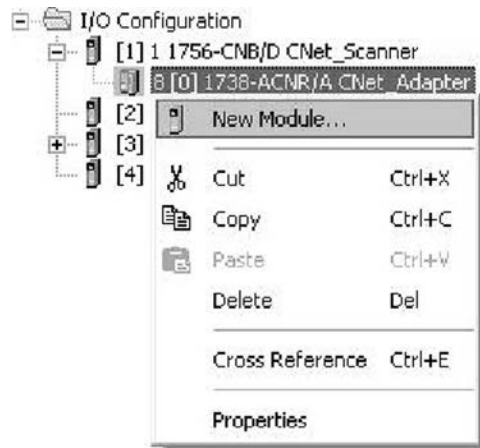
EDS File Requirements

The EDS file is available online at www.parker.com/pneu/hseriesfieldbus.

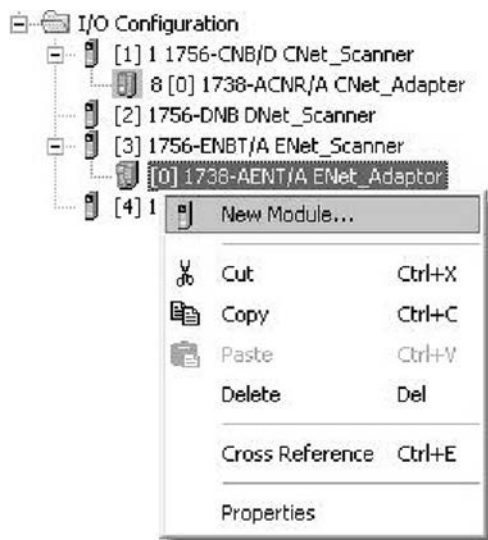
Add Relay Output Module to RSLogix 5000 I/O Configuration

To add your relay output module to RSLogix 5000 I/O configuration, follow these steps:

- In RSLogix 5000:
 - For ControlNet, highlight the **PSSCCNA** or **1738-ACNR** (**Shown**), right click and select **New Module**.

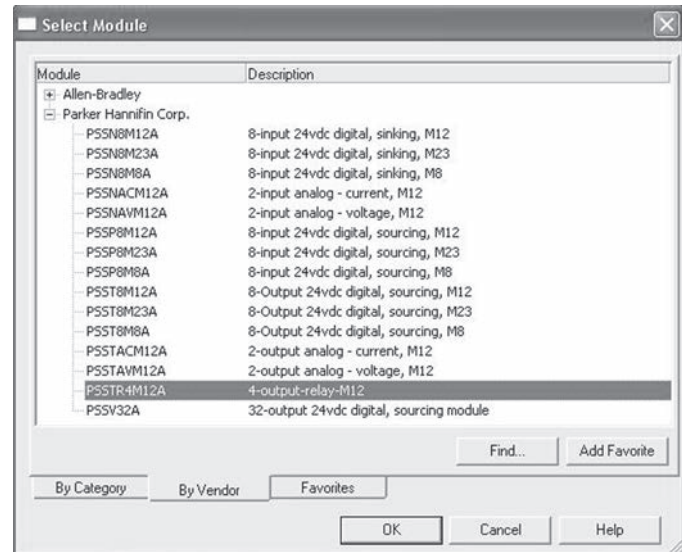


- For EtherNet/IP, highlight the **PSSCENA** or **1738-AENT** (**Shown**), right click and select **New Module**.

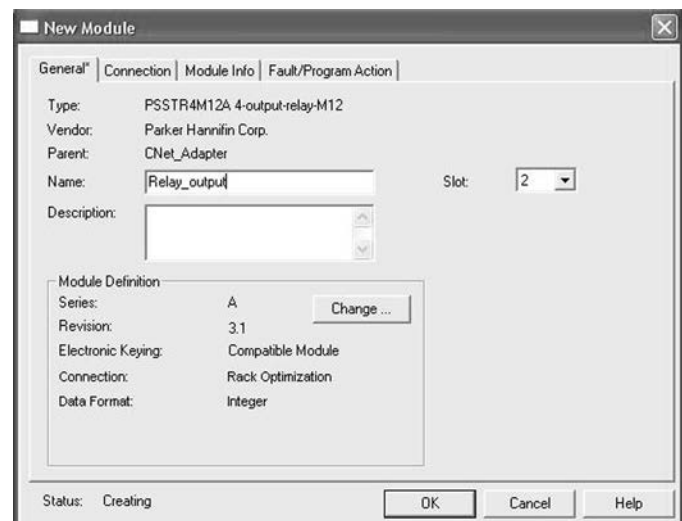


If your RSLogix 5000 is Version 15.X or greater:

- Choose the **PSSTR4M12A** module from the list of Parker modules.



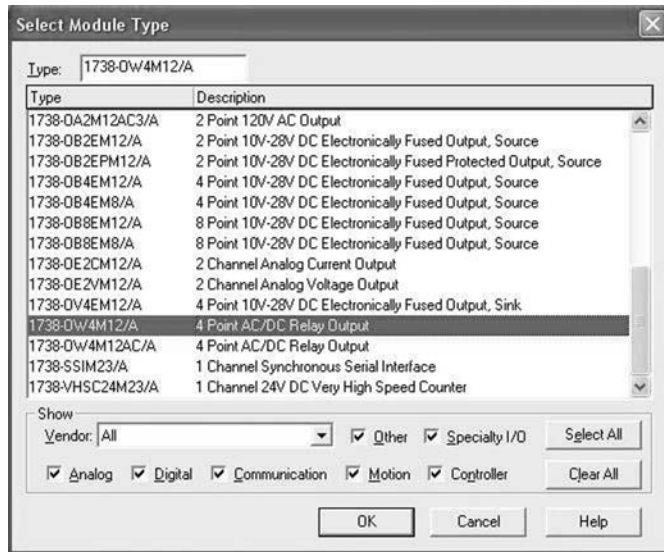
- Enter a name and click OK.



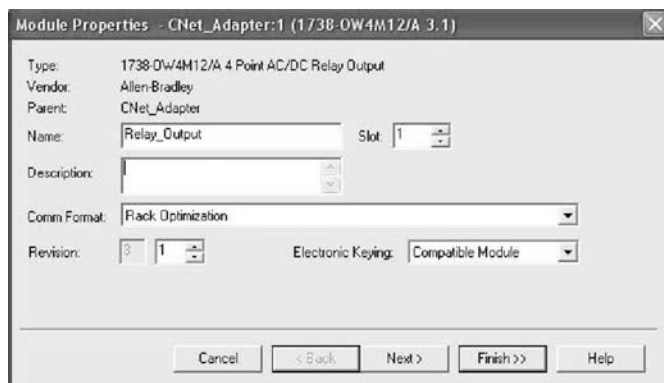
- Notice that the PSSTR4M12A is now under the I/O configuration.

If your RSLogic 5000 is Version 13.X:

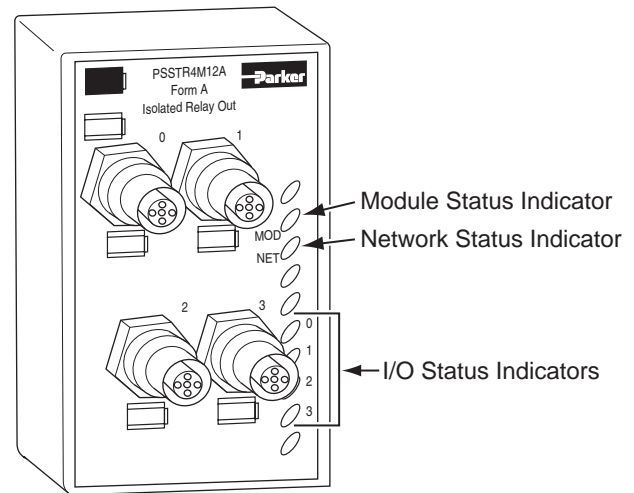
- Choose the equivalent Rockwell Automation module 1738-OW4M12/A.



- Enter a name (optional), slot number, and comm. format. Make sure to choose **Compatible Module for Electronic Keying** setting.



- Choose **Next** to set RPI.
- Choose **Finish**. Notice that the output module is now under the I/O configuration

Troubleshoot With the Indicators**PSSTR4M12A**

Indication	Probable Cause
Module Status	
Off	No power applied to device
Green	Device operating normally
Flashing Green	Device needs commissioning due to missing, incomplete, or incorrect configuration
Flashing Red	Recoverable fault
Red	Unrecoverable fault - may require device replacement
Flashing Red/Green	Device is in self-test

Indication	Probable Cause
Network Status	
Off	Device is not on line: - Device has not completed dup_MAC-id test. - Device not powered - check module status indicator.
Flashing Green	Device is on line but has no connections in the established state.
Green	Device is on line and has connections in the established state.
Flashing Red	One or more I/O connections in timed-out state.
Red	Critical link failure - failed communication device. Device detected error that prevents it from communicating on the network.
Flashing Red/Green	Communication faulted device - the device has detected a network access error and is in communication faulted state. Device has received and accepted an Identity Communication Faulted Request - long protocol message.

Indication	Probable Cause
I/O Status	
Off	Output is inactive
Yellow	Output is active and under control

Specifications - Following are specifications for the PSSTR4M12A relay output module.

Relay Output Modules		
Outputs per Module		4 Form A isolated (normally open) electromechanical relays
Output Voltage Range (load dependent)		5-28.8VDC @ 2.0A resistive
Output Current Rating (at rated power)		Resistive: 2A @ 5-28.8VDC Inductive: 2.0A steady state @ 5-28.8VDC, L/R = 7 ms
Output Signal Delay OFF to ON, Maximum ¹		10 ms (time from valid output on signal to relay energization by module)
Output Delay Time, ON to OFF, Maximum ¹		26 ms (time from valid output off signal to relay deenergization by module)
Off-State Leakage Current (Max. at 240VAC)		1.2 mA and bleed resistor through snubber circuit
Power Rating (steady state)		60W max. for 28.8VDC resistive output 60VA max. for 28.8VDC inductive output
Initial Contact Resistance		30 mW
Switching Frequency, Maximum		1 operation/3s (0.3 Hz at rated load)
Operate/Release Time, Maximum		10 ms
Bounce Time		1.2 ms (mean)
Minimum Contact Load		100µA at 100 mVDC
Expected Life of Electrical Contacts		Minimum 100,000 operations @ rated loads
Fusing		Module outputs are not fused. If fusing is desired, you must supply external fusing.
Keyswitch Position		7
LED Indicators		4 yellow output status, logic side 1 green/red network status, logic side 1 green/red module status, logic side
PointBus Current, Maximum		90 mA @ 5VDC
Power Dissipation, Maximum		0.5W @ 28.8VDC
Thermal Dissipation, Maximum		1.7 BTU/hr. @ 28.8VDC
Isolation Voltage Between any 2 sets of contacts Customer load to logic		Tested to withstand 2550VDC for 60s Tested to withstand 2550VDC for 60s
Field Power Bus Supply Voltage Voltage Range, Maximum Supply Current		None required 5-28.8VDC 2A per channel maximum, 8A per module
Dimensions	Inches (Metric)	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 to 95% non-condensing
Shock		IEC60068-2-27 (Test Ea, Un-packaged Shock): Operating 15g, Non-operating 50g
Vibration		IEC60068-2-6 (Test Fc, Operating): 2g @ 10 to 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 80MHz to 2000MHz 10V/m with 200Hz 50% Pulse 100%AM at 900Mhz 10V/m with 200Hz 50% Pulse 100%AM at 1890Mhz
EFT/B Immunity		IEC 61000-4-4: ±3kV at 5kHz on signal ports
Surge Transient Immunity		IEC 61000-4-5: ±1kV line-line(DM) and ±2kV line-earth(CM) on signal 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
Wiring Category ²		1 - on signal ports
Weight	Imperial (Metric)	0.637 lb. (0.289 kg)
Certifications: (when product is marked)		c-UL-us UL Listed Industrial Control Equipment, certified for US and Canada 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 European Union 73/23/EEC LVD Directive, compliant with: EN61131-2; Programmable Controllers C- Tick Australian Radiocommunications Act, compliant with: AS/NZS CISPR 11; Industrial Emissions

1. OFF to ON or ON to OFF delay is time from a valid output "on" or "off" signal to output energization or de-energization.

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