PSS 21H-2Z42 B4

FBM242, Externally Sourced, Discrete Output Interface Module



The FBM242 Discrete Output Interface Module contains 16 discrete output channels which are sourced externally.

FEATURES

Key features of the FBM242 modules are:

- Sixteen discrete outputs
- Supports discrete output signals at voltages of:
  - 15 to 60 V dc
  - 120 V ac/125 V dc
  - 240 V ac
- Each input and output is galvanically isolated; group isolated when used with external excitation
- Compact, rugged design suitable for enclosure in Class G3 (harsh) environments
- Executes the Discrete I/O or Ladder Logic program, with the following configurable options: Input Filter Time, Fail Safe Configuration, Fail-Safe Fall-Back, and Sustained or Momentary Outputs
- Various Termination Assemblies (TAs) that contain:
  - Current limiting devices
  - Fuses
  - Relay outputs with external power source, fusing, and power distribution
  - Solid state outputs
  - Redundant power distribution

OVERVIEW

The FBM242 Discrete Output Interface Module contains 16 discrete output channels, which are sourced externally, rated up to 2 A at 60 V dc. Associated termination assemblies (TAs) provide for discrete outputs to loads of 2 A at 60 V dc, relay outputs (120 V ac/125 V dc, or 240 V ac), or relay outputs with power distribution and fusing. Each output is fully isolated from other channels and ground.

The module interfaces electrical output signals from a control processor to the field devices. It executes a digital I/O application program, with ladder logic support, and provides a Fail-Safe Configuration option for the outputs.

COMPACT DESIGN

The module has a compact design, with a rugged extruded aluminum exterior for physical protection of the circuits. Enclosures specially designed for mounting the FBMs provide various levels of environmental protection, up to harsh environments (Class G3), per ISA Standard S71.04.

VISUAL INDICATORS

Light-emitting diodes (LEDs) incorporated into the front of the module provide visual indication of the module operational status, as well as the discrete states of the individual output points.

EASY REMOVAL/REPLACEMENT

The module can be removed/replaced without removing field device termination cabling, power, or communication cabling.

FIELDBUS COMMUNICATION

A Fieldbus Communications Module or a Control Processor interfaces to the redundant 2 Mbps module Fieldbus used by the FBMs. The FBM242 accepts communication from either path (A or B) of the redundant 2 Mbps Fieldbus — should one path fail or be switched at the system level, the module continues communication over the active path.

SECURITY

Field power for contacts or solid state switches is current limited.

MODULAR BASEPLATE MOUNTING

The module mounts on a DIN rail mounted Modular baseplate, which accommodates up to four or eight Fieldbus Modules. The Modular baseplate is either DIN rail mounted or rack mounted, and includes signal connectors for redundant Fieldbus, redundant independent dc power, and termination cables.

TERMINATION ASSEMBLIES (TAs)

Field I/O signals connect to the FBM subsystem via DIN rail mounted TAs. The TAs used with the FBM242 are described in “TERMINATION ASSEMBLIES” on page 6.

FUNCTIONAL SPECIFICATIONS

Output Channels
Sixteen isolated channels.

Applied Voltage
15 to 60 V dc (maximum)

Load Current
2.25 A (maximum) per channel

Load Current-In-Rush
8 A (maximum) for 20 ms per channel at 30°C.
6.4 A (maximum) for 20 ms per channel at 70°C.

On-State Voltage Drop
0.2 V (maximum) at 2.25 A

Off-State Leakage Current
0.1 mA (maximum)

Inductive Loads
Module output may require a protective diode or metal oxide varistor (MOV) connected across the inductive load.

Output Channel Isolation
Each channel is galvanically isolated from all other channels and earth (ground). The module withstands, without damage, a potential of 600 V ac applied for one minute between any channel and ground, or between a given channel and any other channel.

CAUTION

This does not imply that these channels are intended for permanent connection to voltages of these levels. Exceeding the limits for input voltages, as stated elsewhere in this specification, violates electrical safety codes and may expose users to electric shock.

Communication
Communicates with its associated FCM or FCP via the redundant 2 Mbps module Fieldbus

Power Requirements

INPUT VOLTAGE RANGE (REDUNDANT)
24 V dc +5%, -10%

CONSUMPTION (MAXIMUM)
3 W (maximum) at 24 V dc

HEAT DISSIPATION (MAXIMUM)
6.5 W (maximum) at 24 V dc (with all outputs at 1.5 A each)

Calibration Requirements
The module and termination assemblies require no calibration.

FUNCTIONAL SPECIFICATIONS (CONTINUED)

Regulatory Compliance

ELECTROMAGNETIC COMPATIBILITY (EMC)

European EMC Directive 89/336/EEC
Meets: EN 50081-2 Emission standard
EN 50082-2 Immunity standard
EN 61326 Annex A (Industrial Levels)

CISPR 11, Industrial Scientific and Medical (ISM) Radio-frequency Equipment - Electromagnetic Disturbance Characteristics - Limits and Methods of Measurement
Meets: Class A Limits

IEC 61000-4-2 ESD Immunity
Contact 4 kV, air 8 kV

IEC 61000-4-3 Radiated Field Immunity
10 V/m at 80 to 1000 MHz

IEC 61000-4-4 Electrical Fast Transient/Burst Immunity
2 kV on I/O, V dc power and communication lines

IEC 61000-4-5 Surge Immunity
2kV on ac and dc power lines; 1kV on I/O and communications lines

IEC 61000-4-6 Immunity to Conducted Disturbances induced by Radio-frequency Fields
10 V (rms) at 150 kHz to 80 MHz on I/O, V dc power and communication lines

IEC 61000-4-8 Power Frequency Magnetic Field Immunity
30 A/m at 50 and 60 Hz

PRODUCT SAFETY - TERMINATION ASSEMBLIES WITH LOW VOLTAGE INPUTS

Underwriters Laboratories (UL) for U.S. and Canada
UL/UL-C listed as suitable for use in Class I, Groups A-D; Division 2; temperature code T4 enclosure based systems. These modules are also UL and UL-C listed as associated apparatus for supplying non-incendive communication circuits for Class I, Groups A-D hazardous locations when connected to specified I/A Series® processor modules as described in the *I/A Series DIN Rail Mounted Subsystem User's Guide* (B0400FA). Communications circuits also meet the requirements for Class 2 as defined in Article 725 of the National Electrical Code (NFPA No.70) and Section 16 of the Canadian Electrical Code (CSA C22.1). Conditions for use are as specified in the *I/A Series DIN Rail Mounted Subsystem User's Guide* (B0400FA).

European Low Voltage Directive 2006/95/EC and Explosive Atmospheres (ATEX) directive 94/9/EC
CENELEC (DEMKO) certified for use in CENELEC certified Zone 2 enclosures and certified as associated apparatus for supplying non-incendive field circuits for Zone 2, Group IIC, potentially explosive atmospheres when connected as described in the *I/A Series DIN Rail Mounted Subsystem User's Guide* (B0400FA). Also see, "Certifications for Termination Assemblies" on page 10.

PRODUCT SAFETY - TERMINATION ASSEMBLIES WITH RELAY OUTPUTS OR HIGH VOLTAGE INPUTS

Underwriters Laboratories (UL) for U.S. and Canada
UL/UL-C listed as suitable for use in ordinary locations and compliant with UL 3121, First Edition, and Canadian Standard, C22.2 No.1010.1-92 when connected to specified I/A Series processor modules as described in the *I/A Series DIN Rail Mounted Subsystem User's Guide* (B0400FA).

European Low Voltage Directive 73/23/EEC
Certified for use in ordinary locations and compliant with IEC 61010 when connected as described in the *I/A Series DIN Rail Mounted Subsystem User's Guide* (B0400FA).

ENVIRONMENTAL SPECIFICATIONS(1)

Operating Conditions

TEMPERATURE

Module

-20 to +70°C (-4 to +158°F)

Termination Assembly

PVC

-20 to +50°C (-4 to +122°F)

PA

-20 to +70°C (-4 to +158°F)

RELATIVE HUMIDITY

5 to 95% (noncondensing

ALTITUDE

-300 to +3000 m (-1000 to +10 000 ft)

Storage Conditions

TEMPERATURE

-40 to +70°C (-40 to +158°F)

RELATIVE HUMIDITY

5 to 95% (noncondensing)

ALTITUDE

-300 to +12 000 m (-1000 to +40 000 ft)

Contamination

Suitable for use in Class G3 (Harsh) environments as defined in ISA Standard S71.04, based on exposure testing according to EIA Standard 364-65, Class III.

Vibration

7.5 m/s^2 (5 to 500 Hz)

PHYSICAL SPECIFICATIONS

Mounting

MODULE

FBM242 mounts on a Modular Baseplate. The baseplate can be mounted on a DIN rail (horizontally or vertically), or horizontally on a 19-inch rack using a mounting kit. Refer to PSS 21H-2W6 B4 for details.

TERMINATION ASSEMBLY

The TA mounts on a DIN rail and accommodates multiple DIN rail styles including 32 mm (1.26 in) and 35 mm 1.38 in)

Mass

MODULE

284 g (10 oz) approximate

TERMINATION ASSEMBLY

Compression

127 mm (5.02 in) – 272 g (0.60 lb, approximate)

148 mm (5.75 in) – 285 g (0.65 lb, approximate)

216 mm (8.51 in) – 320 g (0.70 lb, approximate)

Ring Lug

196 mm (7.78 in) – 310 g (0.68 lb, approximate

321mm (12.64 in) – 600 g (1.6 lb, approximate

Part Numbers

MODULE

P0916TA

TERMINATION ASSEMBLIES

Refer to “FUNCTIONAL SPECIFICATIONS - TERMINATION ASSEMBLIES” on page 8

Dimensions - Module

HEIGHT

102 mm (4 in),114 mm (4.5 in) including mounting lugs

WIDTH

45 mm (1.75 in)

DEPTH

104 mm (4.11 in)

Dimensions - Termination Assembly

COMPRESSION SCREW

Refer to page 12

RING LUG AND KNIFE SWITCH

Refer to page 14

(1) The environment ranges can be extended by the type of enclosure containing the module. Refer to the Product Specification Sheet (PSS) applicable to the enclosure that is to be used.

PHYSICAL SPECIFICATIONS (CONTINUED)

Termination Cables

CABLE LENGTHS
Up to 30 m (98 ft)

CABLE MATERIALS
Polyurethane or Low Smoke Zero Halogen (LSZH)

TERMINATION CABLE TYPE
Type 4 or type 4H - Refer to Table 1

CABLE CONNECTION
37-pin male D-subminiature

Construction - Termination Assembly

MATERIAL
Polypropylene (PVC), compression
Polyamide (PA), compression
PVC, ring lug
PVC, knife terminal

FAMILY GROUP COLOR
Dark blue - discrete

TERMINAL BLOCKS
Outputs- 2 tiers (switch and solid state), 3 tiers (relay), 16 positions
Power Distribution - 2 tiers, 4 positions

Field Termination Connections

COMPRESSION - ACCEPTED WIRING SIZES

Solid/Stranded/AWG
0.2 to 4 mm^2/0.2 to 2.5 mm^2/24 to 12 AWG

Stranded with Ferrules
0.2 to 2.5 mm^2 with or without plastic collar

RING-LUG - ACCEPTED WIRING SIZES
#6 size connectors (0.375 in (9.5 mm))
0.5 to 4 mm^2/22 AWG to 12 AWG

Termination Assembly Switching Relays

ELECTRICAL SERVICE LIFE
100,000 operations at rated resistive load
5,000,000 operations at no load.

5 A RELAY

Type
Single-Pole, Double-Throw, Normally Open (SPDT_NO)

Switching Current
5 A at up to 120 V ac (see “GENERAL PURPOSE PLUG-IN RELAY TERMINATION ASSEMBLY SPECIFICATIONS” on page 15)

TERMINATION ASSEMBLIES

General Description

Field I/O signals connect to the FBM subsystem via DIN rail mounted termination assemblies (TAs). Multiple types of TAs are available with FBMs to provide I/O signal connections, signal conditioning, optical isolation from signal surges, external power connections, and/or fusing for protection of the FBM and/or field device as required by the particular FBM. Since these features are built into the termination assemblies (where required), in most applications there is no need for additional termination equipment for field circuit functions such as circuit protection or signal conditioning (including fusing and power distribution).

The DIN rail mounted termination assemblies connect to the FBM subsystem baseplate by means of removable termination cables. The cables are available in a variety of lengths, up to 30 meters (98 feet), allowing the termination assemblies to be mounted in either the enclosure or in an adjacent enclosure. Refer to “FUNCTIONAL SPECIFICATIONS - TERMINATION ASSEMBLIES” on page 8 for termination cable part numbers and specifications.

Discrete Outputs

Termination assemblies with discrete outputs support sixteen 2-wire discrete output signals at passive low voltages of less than 60 V dc and active high voltage levels of 120 V ac or 240 V ac. Active termination assemblies support output signal conditioning for FBMs. To condition signals, these termination assemblies provide fuse protection, relays, solid-state

devices, and terminal blocks to connect externally supplied optional power distribution.

Low Voltage Discrete Outputs

The low voltage outputs (less than 60 V dc) use passive termination assemblies. These assemblies are available with and without output protection (fusing). Termination assemblies with protection have individual user serviceable fuses that are designed to limit the output current to 2 A. Sixteen vertically mounted, one per channel, 3.15 A sand filled fuses (temperature derated) allow a maximum of 2 A current per output channel. Termination assemblies without fusing (unprotected) are intended for use by Foxboro engineers or customers who are using interposing relays or fuse terminal blocks between the termination assembly and the field devices.

Power for the low voltage outputs can be supplied by the FBM +24 V dc auxiliary power supply (internally (FBM) sourced) or by a field voltage source (externally sourced).

High Voltage Discrete Outputs

The high voltage output (120 V ac or 240 V ac) termination assemblies use plug-in SPDT (Form C) electromechanical relays and solid-state switches. The plug-in sockets allow field replacement of individual relays. The relays and associated sockets are located under the component covers of the termination assemblies.The termination assembly's switched outputs use unsealed, general purpose relays.These assemblies are capable of providing mixed voltage and are designed to provide signal segregation by locating the low voltage inputs an the opposite side of the terminal assembly from the outputs. A solid-state output module is optionally available. High voltage discrete outputs are always externally sourced power.

The output termination assemblies come in either output or output with power distribution (user-supplied via terminals on the termination assembly). In both configurations, when the FBM output is on, the relay coil is energized and the relay contact is switched from normally closed (NC) position to the normally open (NO) position. The FBM +24 V dc auxiliary power supply is used to energize the relay coil.

Termination assemblies with power distribution have a dedicated terminal block which provides a connection to externally supplied power and distributed internally on the termination assembly to each of the output channels. The line or positive side of the supply is fused; the neutral or negative side of the supply is connected to the field.

FUNCTIONAL SPECIFICATIONS - TERMINATION ASSEMBLIES

FBM Type	Output Signal[a]	TA Part Number[b]		Term. Type[c]	TA Cable Type[d]	TA Certification Type[e]
		PVC	PA			
FBM242	16 channel, switch (protected - fused outputs) 15 to 60 V dc (externally sourced) at 2 A maximum Channel isolation provided by FBM242	P0916JY P0916RJ		C RL	4, 4H	1,2
FBM242	16 channel, switch (unprotected - no fuses) 15 to 60 V dc (externally sourced) at 2 A maximum Channel isolation provided by FBM242	P0917XX		C	4, 4H	1,2
FBM242	16 channel, switch (protected - fused outputs) 15 to 60 V dc (externally sourced) at 2 A maximum with power distribution Current is limited to 12A maximum for each group of 8 channels simultaneously Group isolation provided by termination assembly	P0917HX		C	4, 4H	1,4
FBM242	16 channel, switch (each channel is protected - fused) Redundant power 15 to 60 V dc (externally sourced) at 2 A maximum with power distribution Group isolation provided by termination assembly	P0923LH [f]		C	4, 4H	1,4
FBM242	16 channel, switch (externally sourced) SPDT (Form C) Relays with LED indicators <30 V dc at 5 A maximum, or 125 V dc at 600 mA w/resistive load, or 125 V dc at 240 mA w/inductive load Up to 250 V ac at 5 A maximum Channel isolation provided by termination assembly relays [g]	P0923LL		C	4	5

FUNCTIONAL SPECIFICATIONS - TERMINATION ASSEMBLIES (CONTINUED)

FBM Type	Output Signal[a]	TA Part Number[b]		Term. Type[c]	TA Cable Type[d]	TA Certification Type[e]
		PVC	PA			
FBM242	16 channel, switch (externally sourced) SPDT (Form C) Relays <30 V dc at 5 A maximum, or 125 V dc at 600 mA w/resistive load, or 125 V dc at 240 mA w/inductive load Up to 250 V ac at 5 A maximum Channel Isolation provided by termination assembly relays[g]	P0916NG P0916RK	P0916YY	C RL	4	5
FBM242	16 channel, switch (externally sourced) with power distribution SPDT (Form C) Relays[g] <30 V dc at 5 A maximum 125 V dc at 600 mA w/resistive load, or 125 V dc at 250 mA w/inductive load, or Up to 250 V ac at 5 A maximum Total current is limited to 12 A maximum for each group of 8 channels simultaneously Group (two groups of eight) isolation provided by termination assembly	P0916JZ P0916RL	P0916YZ	C RL	4	5
FBM242	16 channel, switch (externally sourced - fused outputs) SPDT (Form C) Relays 125 V ac at 2A /125 V dc at 0.6 A maximum Channel isolation provided by termination assembly relays[g]	P0926DV		Knife (h)	4	5

FUNCTIONAL SPECIFICATIONS - TERMINATION ASSEMBLIES (CONTINUED)

FBM Type	Output Signal[a]	TA Part Number[b]		Term. Type[c]	TA Cable Type[d]	TA Certification Type[e]
		PVC	PA			
FBM242	16 channel, switch (externally sourced - fused outputs) Solid State Switch 125 V ac/125 V dc at 2 A maximum Channel isolation provided by termination assembly	P0926BE		Knife (h)	4	5

(a) Maximum current is limited to12 A per 8 channels. Output inductive load limits based on current of 2 A. Inductance limit increases by a factor of 4, for each factor of 2 reduction in current. For an inductive load above stated limits, a snubber diode is required for a dc inductive load or a MOV (metal oxide varistor) is required for an ac inductive load. Diode current rating must be equal to the maximum load current and voltage rating equal to 1.3X maximum supply voltage. MOV must be rated for 120 V ac use and current rating must be equal to maximum load current.
(b) PVC is polyvinyl chloride rated from -20 to +50°C (-4 to 122°F); PA is polyamide rated from -20 to +70°C (-4 to +158°F).
(c) C = TA with compression terminals, RL = TA with ring lug terminals. Knife has compression terminals.
(d) See Table 2 for cable part numbers.
(e) See Table 1 Termination Assembly certification definitions.
(f) The "ON" volt drop for an FBM242 across the Oring diode is typically: 0.498V @ 12A; 0.520V @16 A. The typical voltage drop to a channel output is 0.6V at 1.65A per channel.
(g) See Page 15 for more detail on the relay contact rating.
(h) This is knife disconnect construction. Knives and test sockets provided for circuit validation only. Knife disconnects are not rated for interrupting loads. Power must be removed before disconnecting circuit.

Table 1. Certifications for Termination Assemblies

Type	Certification
Type 1	TAs are UL/UL-C listed as suitable for use in Class I; Groups A-D; Division 2 temperature code T4 hazardous locations. They are CENELEC (DEMKO) certified EEx nA IIC T4 for use in Zone 2 potentially explosive atmospheres.
Type 2	TAs are UL/UL-C listed as associated apparatus for supplying non-incendive field circuits Class I; Groups A-D; Division 2 hazardous locations when connected to specified DIN rail mounted FBMs and field circuits meeting entity parameter constraints specified in *DIN Rail Mounted Subsystem User's Guide* (B0400FA). They are also CENELEC (DEMKO) certified as associated apparatus for supplying field circuits for Group IIC, Zone 2 potentially explosive atmospheres. Field circuits are also Class 2 limited energy (60 V dc, 30 V ac, 100 VA or less) if customer-supplied equipment meets Class 2
Type 4	All field circuits are Class 2 limited energy (60 V dc, 30 V ac, 100 VA or less) if customer-supplied equipment meets Class 2 limits.
Type 5	The TA and its field circuitry are for use in only ordinary (non-hazardous) locations.

Table 2. Cable Types and Part Numbers

Length m (ft)	Type 4, 26 AWG[a] P/PVC	Type 4H, 22 AWG[a][b] P/PVC	Type 4 LSZH[c]	Type 4, 26 AWG[d] HP/XLPE	Type 4H, 22 AWG[b][d] HP/XLPE
0.5 (1.6)	P0916FG	-	P0928BA	P0916WD	-
1.0 (3.2)	P0916FH	-	P0928BB	P0916WE	-
2.0 (6.6)	P0931RQ	-	P0928BC	P0931RU	-
3.0 (9.8)	P0916FJ	-	P0928BD	P0916WF	-
5.0 (16.4)	P0916FK	-	P0928BE	P0916WG	-
10.0 (32.8)	P0916FL	P0916GE	P0928BF	P0916WH	P0916WN
15.0 (49.2)	P0916FM	P0916GF	P0928BG	P0916WJ	P0916WP
20.0 (65.6)	P0916FN	P0916GG	P0928BH	P0916WK	P0916WQ
25.0 (82.0)	P0916FP	P0916GH	P0928BJ	P0916WL	P0916WR
30.0 (98.4)	P0916FQ	P0916GJ	P0928BK	P0916WM	P0916WS

(a) P/PVC cable assembles polyurethane outer jacket and semi-rigid PVC primary conductor insulation temperature range: -20 to + 70°C (-4 to 158°F)

(b) Type 4H cables are used to reduce voltage drop in long (greater than 5 m (15 ft)) cable run applications.

(c) Low smoke zero halogen or low smoke free of halogen (LSZH) is a material classification used for cable jacketing. LSZH is composed of thermoplastic or thermoset compounds that emit limited smoke and no halogen when exposed to high sources of heat. Temperature range: -40 to +105°C (-40 to +221°F)

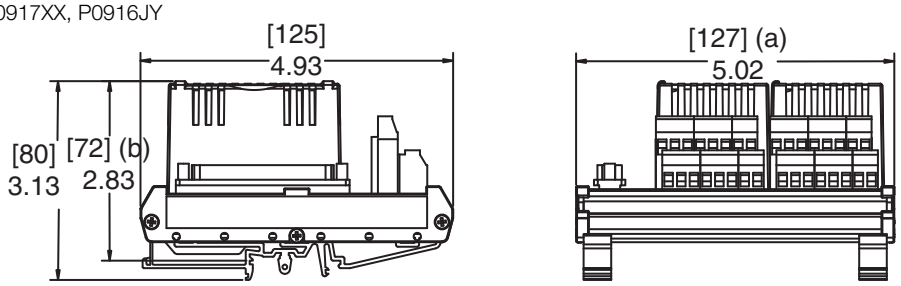
(d) H/XLPE is Hypalon outer jacket and XLPE (cross-linked polyethylene) primary conductor insulation. H/XLPE is rated from -40 to +90°C (-40 to 194°F). Hypalon cables are no longer available for purchase.

DIMENSIONS – NOMINAL

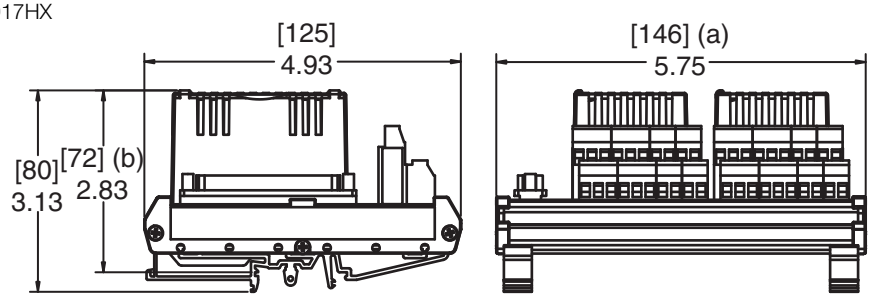
[mm]
in

Compression Termination Assemblies

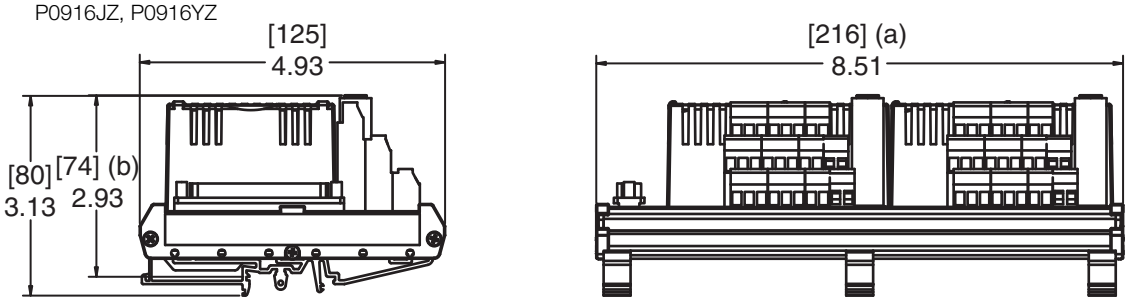
P0917XX, P0916JY



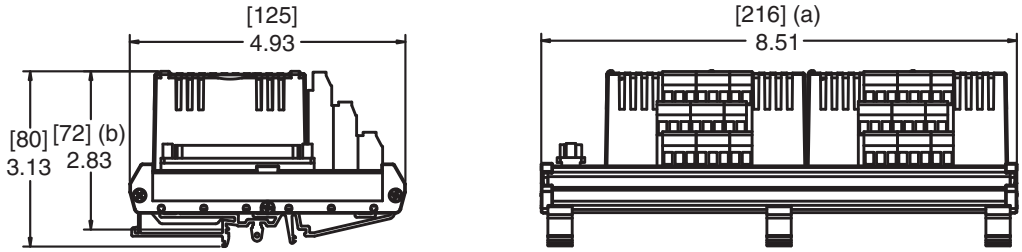
P0917HX



P0916JZ, P0916YZ



P0916NG, P0916YY, P0923LL1



(a) Overall width – for determining DIN rail loading.
(b) Height above DIN rail (add to DIN rail height for total).

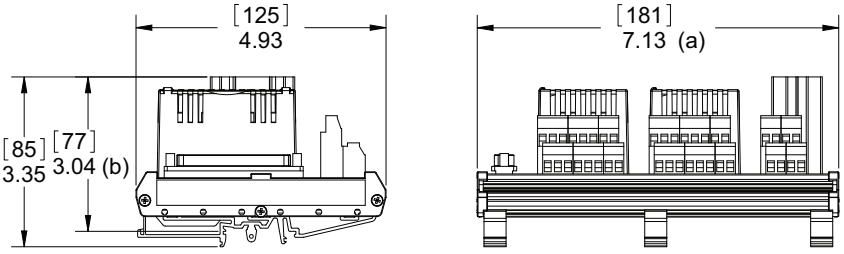
1Dimensions shown are for the PVC versions. All dimensions for this polyamide termination assembly are smaller.

DIMENSIONS – NOMINAL (CONTINUED)

[mm]
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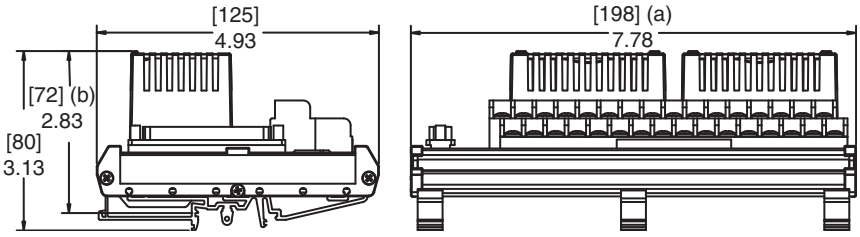
Compression Termination Assemblies (Continued)

P0923LH

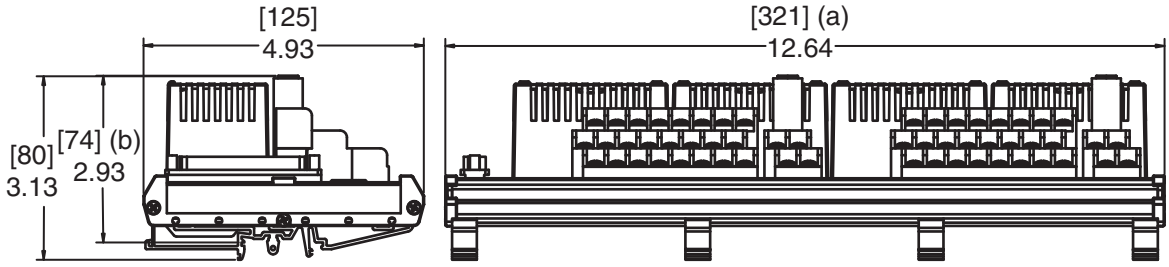


Ring Lug and Knife Switch Termination Assemblies

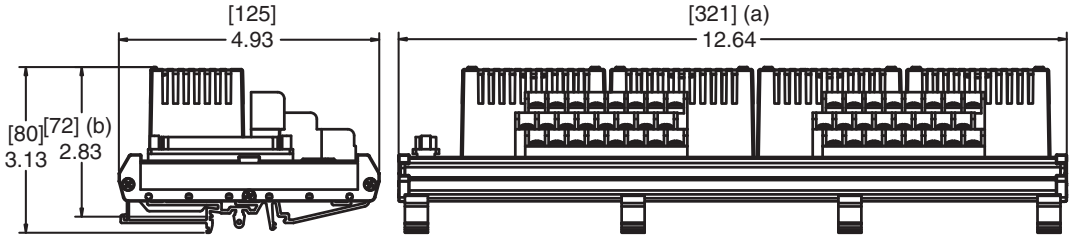
P0916RJ



P0916RL



P0916RK



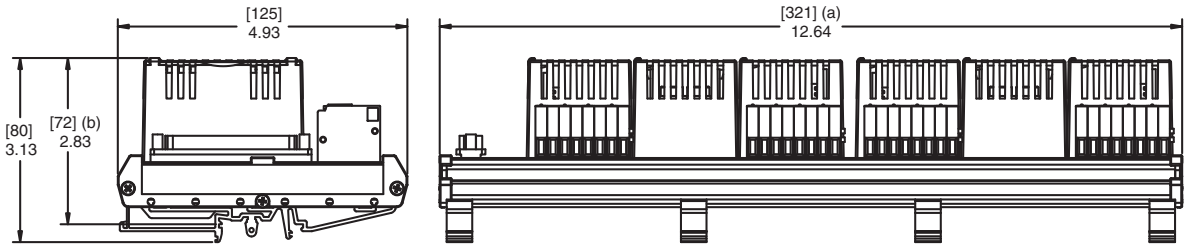
(a) Overall width – for determining DIN rail loading.
(b) Height above DIN rail (add to DIN rail height for total).

DIMENSIONS – NOMINAL (CONTINUED)

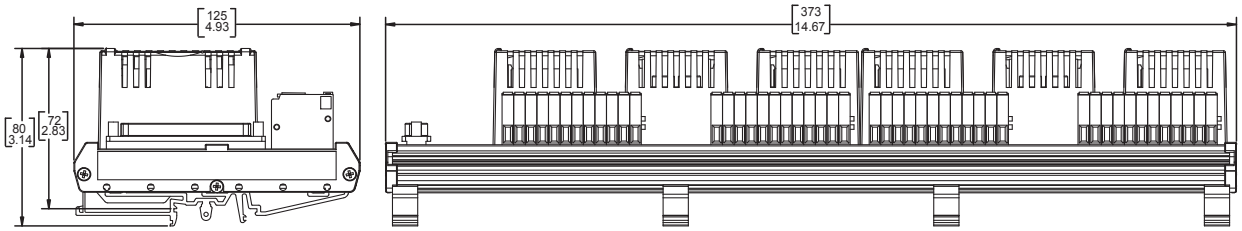
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Ring Lug and Knife Switch Termination Assemblies (Continued)

P0926BE



P0926DV



(a) Overall width – for determining DIN rail loading.
(b) Height above DIN rail (add to DIN rail height for total).

GENERAL PURPOSE PLUG-IN RELAY TERMINATION ASSEMBLY SPECIFICATIONS

Description
SPDT, plug-in, field replaceable

Rated Load

dc RESISTIVE
5 A at 30 V dc
0.6 A at 125 V dc

dc INDUCTIVE (L/R = 7 MS)
5 A at 30 V dc
0.4 A at 125 V dc

ac RESISTIVE
5 A at 240 V ac

ac INDUCTIVE (P.F. = 0.4)
2 A at 240 V ac

Carry Current
5 A

Maximum Operating Voltage
240 V ac, 125 V dc

Maximum Operating Current
5 A

Maximum Switching Capacity
1200 VA, 150 W

Minimum Permissible Load
100 mA, 5 V dc

Contact Material
AgCdO

Contact Resistance
30 m Ω maximum

Life Expectancy

MECHANICAL
20 X 10^6 operations minimum

ELECTRICAL
100 X10^3 (at rated load)

Response Time

OPERATE
15 ms maximum

RELEASE

ac
10 ms maximum

dc
5 ms maximum

RELATED PRODUCT SPECIFICATION SHEETS (PSS)

PSS Number	Description
PSS 21H-2W1 B3	DIN Rail Mounted FBM Subsystem Overview
PSS 21H-2W2 B3	DIN Rail Mounted FBM Equipment, Agency Certification

Invensys Operations Management
10900 Equity Drive
Houston, TX 77041
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