

# Push-In Plus Terminal Block Sockets PYF-DD-PU/P2RF-DD-PU

# Sockets with Push-In Plus Terminal Blocks Reduce Wiring Time for Relays and Timers

- Wiring time is reduced by 60%\* in comparison with traditional screw terminals.
- No screw loosening means maintenance-free application.
- Light insertion force and strong pull-out strength to achieve both less wiring work and high reliability.
- 'Hand-free' structure that holds an inserted screwdriver to achieve easier wiring work for stranded wires.
- Two wires can be independently inserted into each terminal hole.
- DIN Track mounting or screw mounting.
- Use with MY and G2R-S relays; H3RN-B, H3Y-B, H3YN-B timers; and K7L-B liquid leak detector

\*According to OMRON actual measurement data from November 2015.



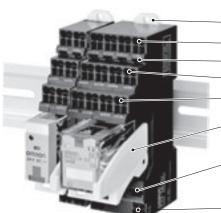
Refer to Safety Precautions on page 6.



For the most recent information on models that have been certified for safety standards, refer to your OMRON website.

#### **Features**

- · Coil terminals and contact terminals are completely separated in an organized wiring layout.
- A Release Lever is provided as a standard feature.
- DIN terminal numbers are indicated.
- The double fixture rail with DIN hook tabs attached to the top and bottom lets you mount the Socket from either the top or bottom.
- Front-in short bar enables easy installation without interference in duct when wiring.
- Please refer short bar correspondence table in page 5 for further information of short bar.
- There are screw mounting holes in the DIN hooks on the PYF- -- -- PU and P2RF- -- PU. Pull out the DIN hook tabs to mount the Sockets with screws.



DIN hook tab (the fixture rail)

Contact terminals (commons)

Contact short bar insertion holes

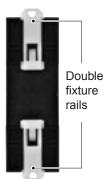
NO contact terminals

NC contact terminals

Release lever (standard feature)

Coil short bar insertion holes

Coil terminals



Back of Push-In Plus Terminal Block Socket

The fixture rails can be pulled out to mount the Relays with screws.



### PYF-□□-PU/P2RF-□□-PU

## **Ordering Information**

#### **Sockets**

Applicable model (typical example)				Socket
		No. of poles	Model *	
Conoral Burnosa Balaya	MY Series	MY2	2	PYF-08-PU
General Purpose Relays	Wit Selles	MY4	4	PYF-14-PU
Timoro	H3Y Series	H3Y(N)-2-B	2	PYF-08-PU-L
Timers	H3YN Series	H3Y(N)-4-B	4	PYF-14-PU-L
General Purpose Relays	G2R-□-S (S) Series	G2R-1-S (S)	4	P2RF-05-PU
Timers	H3RN Series	H3RN-1-B	! 	P2RF-03-P0
General Purpose Relays	G2R-□-S (S) Series	G2R-2-S (S)		
Timers	H3RN Series	H3RN-2-B	2	P2RF-08-PU
Liquid Leakage Sensors	K7L Series	K7L-□B		

Note: \*The PYF-□□-PU-L Sockets do not have release levers.

#### **Accessories (Order Separately)**

#### **Short Bars**

Pitch	Applicable models	No. of poles	Colors	Model *	Minimum order (quantity)
		2		PYDN-7.75-020□	
7.75 mm	PYF-□□-PU and	3	Red (R)	PYDN-7.75-030□	
7.75 11111	P2RF-□□-PU	4			PYDN-7.75-040□
		20	Blue (S) Yellow (Y)	PYDN-7.75-200□	10
31.0 mm	PYF-□□-PU	8		PYDN-31.0-080□	
15.5 mm	P2RF-□□-PU	8		PYDN-15.5-080□	

**Note:** Use the Short Bars for crossover wiring within one Socket or between Sockets.

\* Replace the box ( $\square$ ) in the model number with the code for the covering color.

#### Labels

Applicable models	Model	Minimum order (sheet) (quantity per sheet)
PYF-□□-PU and P2RF-□□-PU	XW5Z-P4.0LB1	5 (1 sheet/60 pieces)

#### **Parts for DIN Track Mounting**

Туре		Model	Minimum order (quantity)	
DIN Tracks	1 m	PFP-100N		
DIN Hacks	0.5 m	PFP-50N	<del></del>	
End Plate * Spacer		PFP-M	10	
		PFP-S	10	

Refer to your OMRON website for details on the PFP-.

\*When mounting DIN rail, please use End Plate (Model PFP-M).

# Ratings/Characteristics

#### **Characteristics**

#### PYF-□□-PU(-L)

Item	Model	PYF-08-PU (-L)	PYF-14-PU (-L)
Ambient o	perating temperature	-40 to 70°C	
Ambient o	perating humidity	5 to 85%	
Continuo	is carry current *	10 A	6 A
	Between contact terminals of same polarity	2,000 VAC, 1 min	2,000 VAC, 1 min
Dielectric strength	Between contact terminals of different polarity	2,000 VAC, 1 min	2,000 VAC, 1 min
	Between coil and contact terminals	2,000 VAC, 1 min	2,000 VAC, 1 min
Insulation	resistance	1,000 MΩ min. (at 500 VDC)	
Weight (a)	oprox.)	80 g 87 g	

<sup>\*</sup> The continuous carry current of 10 A for PYF-08-PU(-L) is for an ambient temperature of 55°C. At an ambient temperature of 70°C, the value is 7 A.

#### P2RF-□□-PU

Item	Model	P2RF-05-PU	P2RF-08-PU
Ambient o	perating temperature	-40 to 70°C	
Ambient o	perating humidity	5 to 85%	
Continuo	us carry current *	10 A	6 A
	Between contact terminals of same polarity	1,000 VAC, 1 min	1,000 VAC, 1 min
Dielectric strength	Between contact terminals of different polarity		3,000 VAC, 1 min
	Between coil and contact terminals	4,000 VAC, 1 min	4,000 VAC, 1 min
Insulation	resistance	1,000 MΩ min. (at 500 VDC)	
Weight (a)	oprox.)	40 g 45 g	

<sup>\*</sup>The continuous carry current of 10 A for P2RF-05-PU is for an ambient temperature of 55°C. At an ambient temperature of 70°C, the value is 7 A. The continuous carry current of 6 A for P2RF-08-PU is for an ambient temperature of 55°C. At an ambient temperature of 70°C, the value is 5 A.

#### **Applicable Standards**

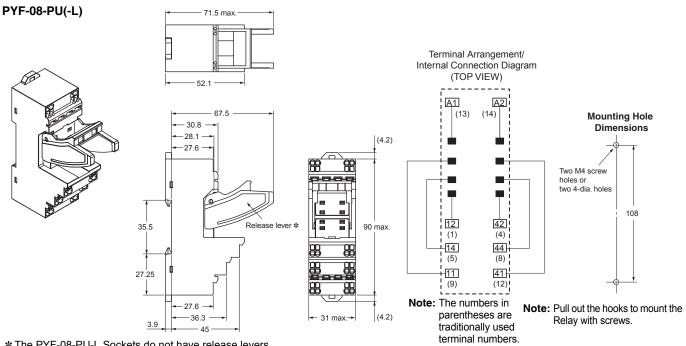
• UL 508, CSA C22.2 No.14, TÜV (EN 61984)

Note: The continuous carry current of the PYF-08-PU and P2RF-05-PU for TÜV certification is 10 A at an ambient temperature of 55°C and 7 A at an ambient temperature of 70°C.

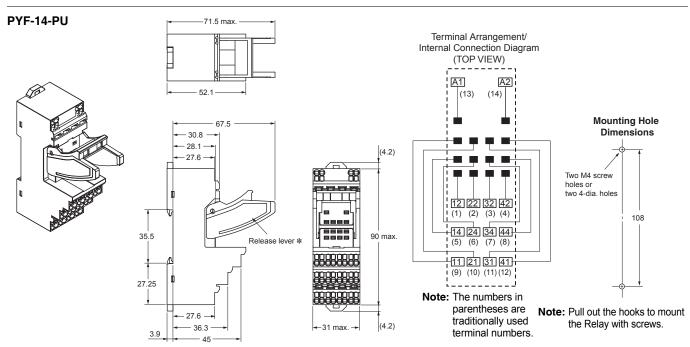
The continuous carry current of the P2RF-08-PU for TÜV certification is 6 A at an ambient temperature of 55°C and 5 A at an ambient temperature of 70°C.

**Dimensions** (Unit: mm)

#### **Sockets**

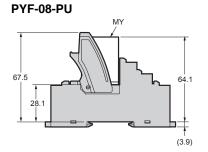


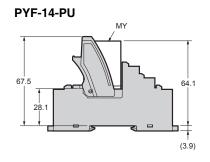
\* The PYF-08-PU-L Sockets do not have release levers.



\*The PYF-14-PU-L Sockets do not have release levers.

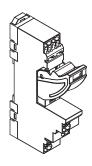
#### **Mounting Heights**

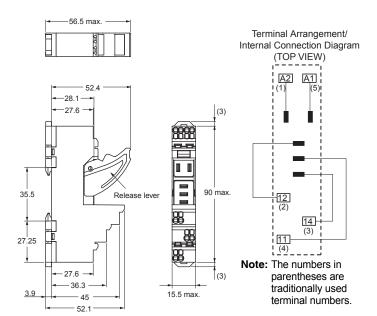


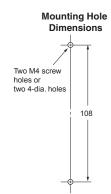


#### PYF-UU-PU/P2RF-UU-PU

#### P2RF-05-PU

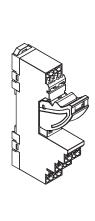


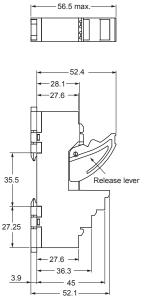


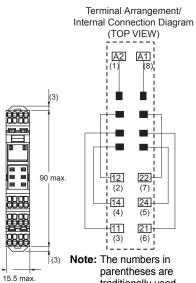


Note: Pull out the hooks to mount the Relay with screws.

#### P2RF-08-PU





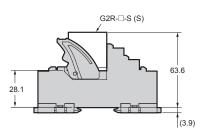


traditionally used terminal numbers.

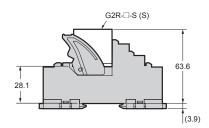
**Mounting Hole** Dimensions Two M4 screw holes or two 4-dia. holes 108

Note: Pull out the hooks to mount the Relay with screws.

#### **Mounting Heights** P2RF-05-PU



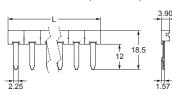
#### P2RF-08-PU



### **Accessories (Order Separately)**

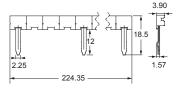
#### **Short Bars**

#### PYDN-7.75-□□ (7.75 mm)



Application	Pitch	Applicable models	No. of poles	L (Length)	Colors	Model <b>≭</b>	Maximum carry current
			2	15.1		PYDN-7.75-020□	
For Contact	PYF-□□-PU and	3	22.85		Red (R) Blue (S) Yellow (Y)	PYDN-7.75-030□	
terminals (common)	7.75 mm	7.75 IIIIII   P2RF-□□-PU	4	30.6		PYDN-7.75-040□	20 A
			20	154.6			PYDN-7.75-200□
For Coil	31 mm	PYF-□□-PU	8	224.35		PYDN-31.0-080□	
terminals	15.5 mm	P2RF-□□-PU	8	115.85		PYDN-15.5-080□	

#### PYDN-31.0-080□ (31mm)



\*Replace the box ( $\square$ ) in the model number with the code for the covering color. **Note: 1.** Use the Short Bars for crossover wiring within one Socket or between Sockets.

2. When using short bar to coil terminals of PYF- PU, make sure to use PYFDN-31.0-080

When using short bar to coil terminals of P2RF- PU, A1 terminal cannot be used. In case crossover wiring of A1 terminal side is needed, crossover wiring using A1 terminals by wire is possible.

#### Short bar correspondence table

-080□ (15.5mm)		Contact terminal	Coil terminal		
3.90		(Common)	A1	A2	
<del>-</del>	PYF-□□-PU	Available	О	О	
	P2RF-□□-PU	Available		0	
12   18.5					

#### PYDN-15.5-0

-	115.85		+	3.90
		12 ↓	18.5	
2.25				1.57

#### **Parts for DIN Track Mounting**

Refer to your OMRON website for details on the PFP-....

Appearance	Туре		Model	Minimum order (Quantity)
	DIN Tracks	1 m	PFP-100N	
DIN Tracks	DIN Hacks	0.5 m	PFP-50N	_
	End Plate*		PFP-M	
5	Spacer		PFP-S	10

<sup>\*</sup>Use End Plates (PFP-M) to prevent components from sliding out of position in shipping and applications with vibration.

## **Safety Precautions**

Be sure to read the *Common Precautions for All Relays* in the website at the following URL: http://www.ia.omron.com/.

#### **Warning Indications**

MARNING	Indicates a potentially hazardous situation which, if not avoided, will result in minor or moderate injury, or may result in serious injury or death. Additionally there may be significant property damage.
Precautions for Safe Use	Supplementary comments on what to do or avoid doing, to use the product safely.
Precautions for Correct Use	Supplementary comments on what to do or avoid doing, to prevent failure to operate, malfunction, or undesirable effects on product performance.

#### **Meaning of Product Safety Symbols**



Used to warn of the risk of electric shock under specific conditions.

#### **. MARNING**

Make sure that the Socket does not have an electrical charge before you perform wiring or maintenance work. Electrical shock may occur.



#### **Precautions for Safe Use**

#### **Transportation**

- Do not use a Socket that has fallen to the floor or ground. The performance of a Socket that has been dropped may be reduced.
- Do not drop the Socket or subject it to abnormal vibration or shock during transportation or mounting. Doing so may result in deterioration of performance, malfunction, or failure.
- Do not transport a Socket when it is not packaged. Damage or failure may occur.

#### **Operating and Storage Environments**

- Do not use or store Sockets in the following locations. Doing so may result in deterioration of performance.
  - Locations subject to ambient storage temperatures outside the range -40 to 70°C
  - Locations subject to relative humidity outside the range 5% to 85%
  - · Locations subject to high temperature or high humidity
- Locations in which condensation may occur due to rapid changes in temperature
- Do not use or store Sockets in environments that contain silicone gas, sulfidizing gas (e.g., SO<sub>2</sub> or H<sub>2</sub>S), or organic gas, or near materials that contain silicone. Doing so may cause the contacts to be unstable or to fail.
- Do not use a Socket in a location subject to ultraviolet light (such as a location subject to direct sunlight). Printing may fade, the Socket may rust or corrode, and plastic parts may deteriorate.
- Before you start wiring, make sure that the Socket is securely attached and mounted to a DIN Track. If the Socket is not stable, it may fall and possibly injure a worker.
- Insert the flat-blade screwdriver fully to the bottom of the release hole.
   If the flat-blade screwdriver is not inserted correctly, the wire may not be connected correctly.
- If there is lubrication, such as oil, on the tip of the flat-blade screwdriver, the flat-blade screwdriver may fall and possibly injure a worker
- When crossover wiring by wire and short bar, make sure not to insert wrong position, it may cause short circuit, malfunction or failure.

#### **Push-In Plus Terminal Blocks**

- Do not attempt to wire anything to the release holes.
- When you insert a flat-blade screwdriver into a release hole, do not tilt or twist the screwdriver. The terminal block may be damaged.
- Insert a screwdriver into the release holes at an angle. The terminal block may be damaged if the screwdriver is inserted straight in.
- Do not allow the flat-blade screwdriver to fall when you are holding it in a release hole.
- Do not bend a wire past its natural bending radius or pull on it with excessive force. Doing so may break the wires.
- · Do not insert more than one wire into each terminal insertion hole.
- To prevent wire materials from smoking or igniting, use the wiring materials given in the following table.

	Stripping length		
Recommended wires	Ferrules used	Ferrules not used	
0.5 to 1.5 mm <sup>2</sup> /AWG20 to AWG16 (Ferrules: 0.5 to 1.0 mm <sup>2</sup> /AWG 20 to AWG 18)	10 mm	8 mm	

Note: Please use Ferrules with UL certification (R/C).

#### Disposal

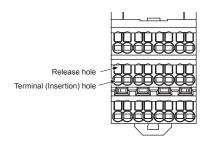
· Do not dispose of sockets by burning.

#### **Precautions for Correct Use**

- Do not transport the Socket under the following conditions. Doing so may occasionally result in damage, malfunction, or deterioration of performance characteristics.
  - · Locations subject to high temperature or high humidity
  - Locations subject to condensation due to rapid changes in temperature
- Do not use or store the Socket in the following locations. Doing so may occasionally result in damage, malfunction, or deterioration of performance characteristics.
  - Locations subject to shock or vibration
- Do not use the Socket in a location where it may be subjected to solvents or alkali liquids.
- Do not insert short bar in the hole for wire or screw driver, it may cause the result of failure of pull out.
  - If insert short bar in the hole for wire or screw driver and try to pull out, it may cause damage for short bar or socket.

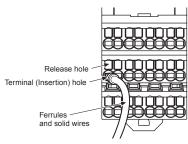
#### **Push-In Plus Terminal Blocks**

# 1. Connecting Wires to the Push-In Plus Terminal Block Part Names of the Terminal Block



#### **Connecting Wires with Ferrules and Solid Wires**

Insert the solid wire or ferrule straight into the terminal block until the end strikes the terminal block.

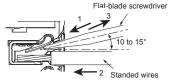


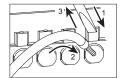
 If a wire is difficult to connect because it is too thin, use a flat-blade screwdriver in the same way as when connecting stranded wire.

#### **Connecting Stranded Wires**

Use the following procedure to connect the wires to the terminal block.

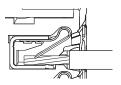
- Hold a flat-blade screwdriver at an angle and insert it into the release hole.
  - The angle should be between 10° and 15°. If the flat-blade screwdriver is inserted correctly, you will feel the spring in the release hole
- 2. With the flat-blade screwdriver still inserted into the release hole, insert the wire into the terminal hole until it strikes the terminal
- 3. Remove the flat-blade screwdriver from the release hole.





#### **Checking Connections**

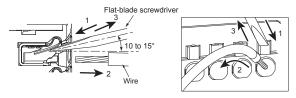
- After the insertion, pull gently on the wire to make sure that it will not come off and the wire is securely fastened to the terminal block.
- To prevent short circuits, insert the stripped part of a stranded or solid wire or the conductor part of a ferrule until it is hidden inside the terminal insertion hole. (See the following diagram.)



#### 2. Removing Wires from the Push-In Plus Terminal Block

Use the following procedure to remove wires from the terminal block. The same method is used to remove stranded wires, solid wires, and ferrules.

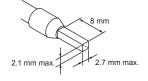
- Hold a flat-blade screwdriver at an angle and insert it into the release hole.
- With the flat-blade screwdriver still inserted into the release hole, remove the wire from the terminal insertion hole.
- 3. Remove the flat-blade screwdriver from the release hole.



# 3. Recommended Ferrules and Crimp Tools Recommended Ferrules

Applicable wire		Ferrule	Recommended ferrules		
(mm²)	(AWG)	Conduct or length (mm)	Phoenix Contact product	Weidmuller product	Wago product
0.5	20	8	AI0.5-8	H0.5/14	FE-0.5-8N-WH
0.75	18	8	AI0.75-8	H0.75/14	FE-0.75-8N-GY
1	18	8	AI1-8	H1.0/14	FE-1.0-8N-RD
Recommended crimp tool			CRIMPFOX6 CRIMPFOX6-F CRIMPFOX10S	PZ6 roto	Variocrimp4

- \*1. Make sure that the outer diameter of the wire coating is smaller than the inner diameter of the insulation sleeve of the recommended ferrule.
- \*2. Make sure that the ferrule processing dimensions conform to the following figures.



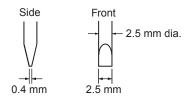
## PYF-□□-PU/P2RF-□□-PU

#### **Recommended Flat-blade Screwdriver**

Use a flat-blade screwdriver to connect and remove wires.

Use the following flat-blade screwdriver.

The following table shows manufacturers and models as of 2015/Dec.



Model	Manufacturer
XW4Z-00B	Omron
ESD0.40×2.5	Wera
SZF 0.4×2.5	Phoenix Contact
0.4×2.5×75 302	Wiha
AEF.2.5×75	Facom
210-719	Wago
SDI 0.4×2.5×75	Weidmuller

# Terms and Conditions of Sale

- Offer; Acceptance. These terms and conditions (these "Terms") are deemed part of all quotes, agreements, purchase orders, acknowledgments, price lists, catalogs, manuals, brochures and other documents, whether electronic or in catalogs, manuals, brochures and other documents, whether electronic or in writing, relating to the sale of products or services (collectively, the "Products") by Omron Electronics LLC and its subsidiary companies ("Omron"). Omron objects to any terms or conditions proposed in Buyer's purchase order or other documents which are inconsistent with, or in addition to, these Terms. Prices: Payment Terms. All prices stated are current, subject to change without notice by Omron. Omron reserves the right to increase or decrease prices on any unshipped portions of outstanding orders. Payments for Products are due net 30 days unless otherwise stated in the invoice. Discounts. Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Omron's payment terms and (ii) Buyer has no past due amounts.

- and (ii) Buyer has no past due amounts.

  Interest. Omron, at its option, may charge Buyer 1-1/2% interest per month or the maximum legal rate, whichever is less, on any balance not paid within the
- Orders. Omron will accept no order less than \$200 net billing.

  Governmental Approvals. Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Products.
- Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Omron or required to be collected directly or indirectly by Omron for the manufacture, production, sale, delivery, importation, consumption or use of the Products sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Omron.

  Financial. If the financial position of Buyer at any time becomes unsatisfactory
- <u>Financial</u>. If the financial position of Buyer at any time becomes unsatisfactory to Omron, Omron reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Omron may (without liability and in addition to other remedies) cancel any unshipped portion of Products sold hereunder and stop any Products in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts. unpaid accounts
- Cancellation: Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Omron against all related costs or expenses.

  10. Force Majeure. Omron shall not be liable for any delay or failure in delivery
- resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.

  11. Shipping: Delivery. Unless otherwise expressly agreed in writing by Omron:
  a. Shipments shall be by a carrier selected by Omron; Omron will not drop ship
- - except in "break down" situations.
    b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall
  - constitute delivery to Buyer; c. All sales and shipments of Products shall be FOB shipping point (unless oth-
- c. All sales and shipments of Products shall be FOB shipping point (unless otherwise stated in writing by Omron), at which point title and risk of loss shall pass from Omron to Buyer; provided that Omron shall retain a security interest in the Products until the full purchase price is paid;
   d. Delivery and shipping dates are estimates only; and
   e. Omron will package Products as it deems proper for protection against normal handling and extra charges apply to special conditions.

  12. Claims. Any claim by Buyer against Omron for shortage or damage to the Products occurring before delivery to the carrier must be presented in writing to Omron within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Products. portation bill signed by the carrier noting that the carrier received the Products from Omron in the condition claimed.
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