

# **High Current Single Pos. Cable Connector**

## PS3C, PS3CS Series

**PS3C Series** 



Please note that PS3C Series and PS3CS Series do not mate with each other.

#### Overview

High current single pos. cable connector Space-saving design with right angle plugs Highly flexible cable wiring Incorrect insertion prevention shape Supports IP2X finger protection requirements Harness operation is possible with multi-purpose tools.

#### ■Features

#### 1. Allows a high current flow

Rated current is supported up to 150 Amps. (Derating curve, ambient temp 25°C)

### 2. Space-saving and highly flexible wiring

As the plug can be mated by rotating 180 degrees, cable wiring is highly flexible, and supports various placement of the housing.

In addition, right angle plug reduces the housing protrusion, and contributes to minimizing the size of the housing.

#### 3. Incorrect insertion prevention shape

Guide key and color coding prevents mis-mating between plus and minus electrode.

#### 4. Supports IP2X finger protection.

Safety ensured by finger protection design for both the plug and receptacle.

### 5. UL, C-UL and TUV-certified

PS3C Series meets safety standards (UL, C-UL, TÜV standards). PS3CS will also be certified.

#### 6. Two variations are available.

As PS3C Series connectors use commercially available crimp contacts, to accommodate a wide variety of cable sizes.

PS3CS Series connectors are limited to a cable size of 28 to 42sq, these are smaller than PS3C connectors.

#### 7. Harness operation is possible with multi-purpose tools.

Harness operations include screwing the receptacle with a torque wrench etc. and screwing or crimping of the plug. All of these operations can be carried out with multi-purpose tools.

(Torque wrench: JIS B 4652, crimp: JIS C 9711)

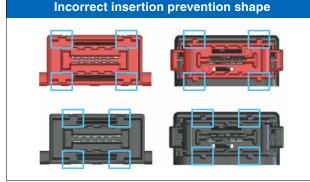
Power supply devices such as batteries and UPS etc.

#### **PS3CS Series**



# Space-saving and highly flexible wiring





#### Two variations are available.



**PS3C Series** 

Supports various cable sizes (Applicable cable: 14 to 50sq) 5 to 1/0 AWG

#### **PS3CS Series**

Similar to PS3C connectors except for the smaller size (Applicable cable : 28 to 42sq)

### **■**Product Specifications

#### **PS3C Series**

	Rated Current	150A/1pin (Note 1), 210A/1pin (Note 2)	Rated Voltage	AC/DC 1000V (Note 1)
Ratings	Applicable Cable 14 to 50sq (WL1,WL2) (Note 1) 5 to 1/0 AWG	(Note 1)	Op. Temp. Range	-40 to +105℃ (including temperature rise due to electric current)
		5 to 1/0 AWG	Stor. Temp. Range	–10 to +60°C

#### **PS3CS Series**

	Rated Current	125A/1pin(38sq) (Note 1)	Rated Voltage	AC/DC 1000V (Note 1)
Ratings	Applicable Cable		Op. Temp. Range	-40 to +105℃ (including temperature rise due to electric current)
	2 to 1 AWG	Stor. Temp. Range	–10 to +60℃	

Note 1: UL, C-UL and TÜV certifications have been obtained while changing conditions such as rated current and voltage multiple times. For details, see the "Conditions on Safety Standards (UL, C-UL, TÜV)" on page 8.

Note 2 : The value of the current is from the readings of derating curve at ambient temperature of 25  $^\circ$ C.

#### ■Materials / Finish

#### **PS3C Series**

### Receptacle

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black or Red	UL94V-0
Power female contact	Copper alloy	Silver plating	
Contact Retention plate C	PBT	Black	UL94V-0

### **●Plug**

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black or Red	UL94V-0
Power male contact	Copper alloy	Silver plating	
Contact Retention plate A	PBT	Black	UL94V-0

#### ●Plug cover

Parts	Materials	Color/Finish	Remarks
Cover A	PBT	Black or Red	UL94V-0
Cover B	PBT	Black or Red	UL94V-0
Tapping screw	Steel	Nickel	

#### ●Tapping screw

Parts	Materials	Color/Finish	Remarks
Tapping screw	Steel	Nickel	

Note: It is meant for use in repair operation when the same tapping screw attached to the plug cover is lost.

#### **PS3CS Series**

#### Receptacle

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black or Red	UL94V-0
Power female contact	Copper alloy	Silver plating	
Contact Retention plate C	PBT	Black	UL94V-0
Metal color	Steel		

#### ●Plug

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black or Red	UL94V-0
Power male contact	Copper alloy	Silver plating	
Contact Retention plate A	PBT	Black	UL94V-0

#### Plug cover

Parts	Materials	Color/Finish	Remarks
Cover A	PBT	Black or Red	UL94V-0
Cover B	PBT	Black or Red	UL94V-0
P-tight screw	Steel	Nickel	

#### ●P-tight screw

Parts	Materials	Color/Finish	Remarks
Tapping screw	Steel	Nickel	

Note: It is meant for use in repair operation when the same P-tight screw attached to the plug cover is lost.

#### **■**Product Number Structure

Refer to the chart below when determining the product specifications from the product number. Please select from the product numbers listed in this catalog when placing orders.

1. Connector product name

2. Plug cover

$$\frac{PS3C}{0} - \frac{1}{0} \frac{U}{0} \frac{P}{0} - \frac{CV}{0} \frac{L}{0}$$

3. Screw

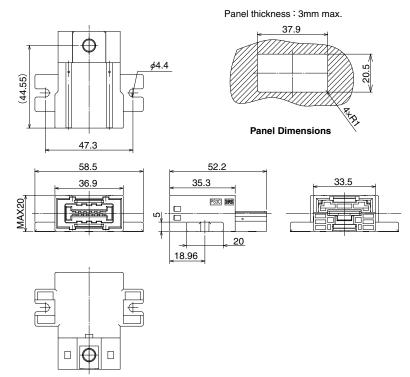
$$\frac{PS3C}{0} - \frac{1}{4} \frac{U}{6} \frac{P}{6} - \frac{TS}{9}$$

1 Series name : PS3C	6 Power contact shapes : Male contact
2 Shape of PS3C Series : S : Small size type	Female contact
3 Shape of mating key: A: A key	Shape of case : CV : Cover
B: B key	8 Shape of cover : L : L-shape type
4 No. of power contacts	Shape of screw : TS : Tapping screw
6 Current capacity of power contact : U : 150A	PS : P-tight screw

### **■PS3C Series**

### ● Receptacle

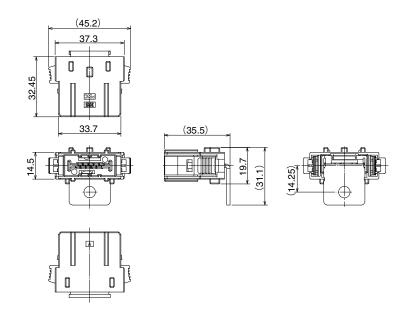




Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3C-A-1US	236-1062-0 00		Black	1pcs.
PS3C-B-1US	236-1063-2 00		Red	1pcs.

### **●Plug**

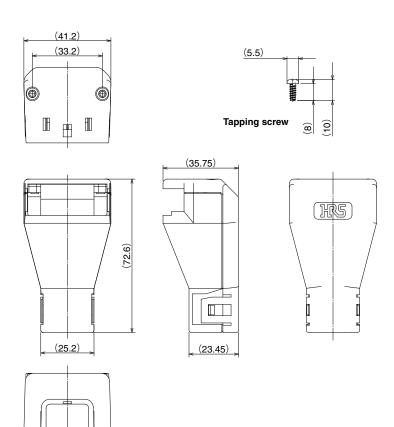




Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3C-A-1UP	236-1064-5 00		Black	1pcs.
PS3C-B-1UP	236-1065-8 00		Red	1pcs.

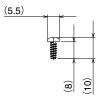
### ●Plug cover





Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3C-1UP-CVL	236-1066-0 00		Black	1pcs.
PS3C-1UP-CVL(01)	236-1066-0 01		Red	1pcs.

### ●Tapping screw



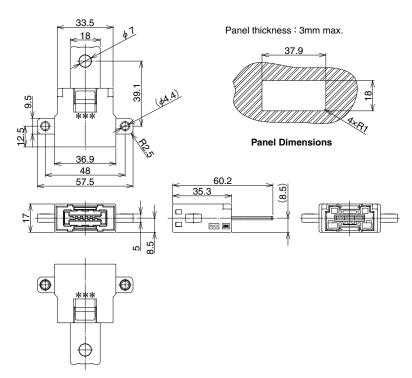
Part No.	HRS No.	RoHS
PS3C-1UP-TS	236-1068-0 00	0

It is meant for use in repair operation when the same tapping screw attached to the plug cover is lost. Sold by the box (60 pieces in one box)

### **■PS3CS Series**

### ● Receptacle

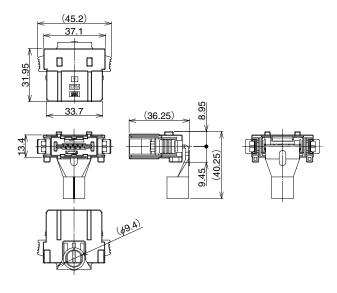




Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3CS-A-1US	236-1074-0 00		Black	1pcs.
PS3CS-B-1US	236-1075-0 00		Red	1pcs.

### **●Plug**

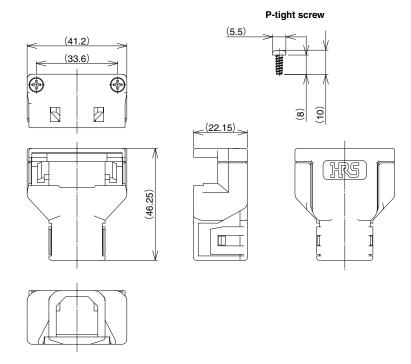




Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3CS-A-1UP	236-1076-0 00		Black	1pcs.
PS3CS-B-1UP	236-1077-0 00		Red	1pcs.

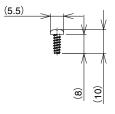
## ●Plug cover





Part No.	HRS No.	RoHS	Insulator color	Packaging
PS3CS-1UP-CVL	236-1078-0 00		Black	1pcs.
PS3CS-1UP-CVL (01)	236-1078-0 01		Red	1pcs.

### ●P-tight screw



Part No.	HRS No.	RoHS
PS3CS-1UP-PS	236-1081-0 00	0

It is meant for use in repair operation when the same P-tight screw attached to the plug cover is lost. Sold by the box (60 pieces in one box)

### Usage Precautions

- · M4 screw is used to assemble the receptacle with the housing.
- The recommended amount of torque used to tighten the screws should be 1.2 to 2.1 N·m.

#### PS3CS Plug

- The recommended fastening torque of the screw attached the power female contact on the Receptacle side is 2.5 to 5.2 N·m. Please use multi-purpose tools including torque wrench etc. (JIS B 4652) for screw-fastening.
- In addition, please use multi-purpose tools (JIS C 9711) for crimping the power male contact on the PS3CS Plug side.
- · Power contacts are silver plated and may react with the sulfide in the atmosphere.

This might cause the color to change to a dark brown.

The power contacts do not support hot-pluggable, so it cannot be used to shut off the power.

· As PS3C Series and PS3CS Series do not mate with each other, please use them only with the products of the same Series.

### Safety Standards Certifications (UL, C-UL, TÜV) (PS3C only)

The PS3C, PS3CS series has received safety certifications from the UL, C-UL, and TÜV under the conditions provided in Table 1 and Table 2.

Conditions for safety standards vary depending on submitted applications of current and voltage ratings. See Table 1 and Table 2.

(Conditions for PS3CS Series are now being adjusted.)

Table 1. Conditions for UL and C-UL

	Condition ①	Condition ②	
Rated Voltage (AC/DC)	600V		
Rated Current	100A 150A		
Cable	14 to 22sq (Note 1),	38 to 50sq (Note 1),	
Cable	5 to 3 AWG 1 to 1/0 AWG		
Creepage Distance (Note 2)	MIN : 3.2mm		
Clearance (Note 2)	MIN : 3.2mm		

Table 2. Conditions for TÜV

	Condition I	Condition II	Condition III		
Rated Voltage (AC/DC)	800V	600V	1000V		
	100A (cable 14 to 22sq) ( Note 1), 5 to 3 AWG				
Rated Current	125A (cable 38sq) (Note 1), 1 AWG				
	150A (cable 50sq) (Note 1), 1/0 AWG				
Overvoltage Category	II III				
Contamination Level	3				
Creepage Distance (Note 2)	MIN: 12.6mm	MIN: 12.6mm	MIN: 16mm		
Clearance (Note 2)	MIN: 6mm	MIN : 6mm	MIN : 8mm		
Insulation System	Basic insulation (Panel should be grounded)				

Note 1: Use the screw and crimp contact combination recommended below. The use of other screws and crimp contacts can affect clearance and creepage distance.

If you choose to use a different screw/contact combination, be sure to check the measurements for clearance and creepage. Make sure that these conditions will meet the UL, C-UL and TÜV.

· Recommended screw : JIS B 1188 spring lock washer + cross recessed head screw with captive flat washer M6×12

Recommended crimp contacts
Cable 14sq: JIS C 2805 R14-6
Cable 22sq: JIS C 2805 R22-6
Cable 38sq: NICHIFU R38-6S
Cable 50sq: NICHIFU R60-6S

Note 2 : Subjects of clearance and creepage distance are as follows.

- · Between the power contacts of plus and minus electrodes.
- · Between the crimp contacts of plus and minus electrodes.
- · Between power contact and panel
- · Between screw (attached to power contact) and panel



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