

PS3 Series

# High Current Connector



High-Current



Floating



Finger Protect

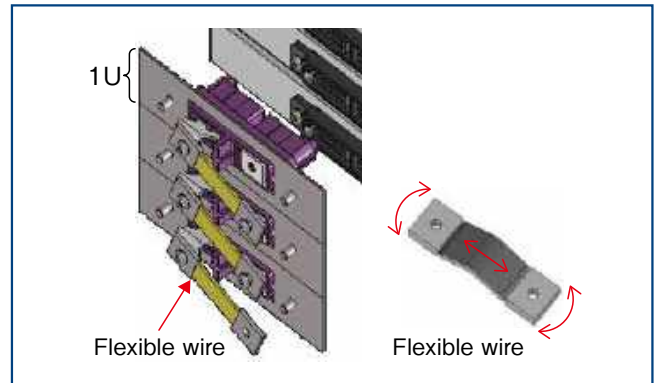


Dec.1.2023 Copyright 2023 HIROSE ELECTRIC CO., LTD. All Rights Reserved.



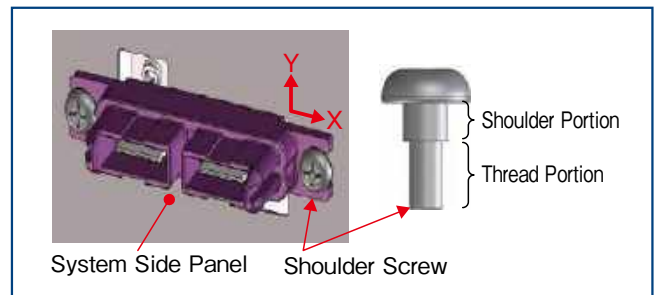
# Features

1. Power contact supports up to 150A (Derating Curve, Ambient Temp 25°C : 210A) with 50mm sq. 1/0 AWG wire.
2. Unique blade contact design enables slim size and mounting to standard 1U rack (44.5mm × 482.6mm).

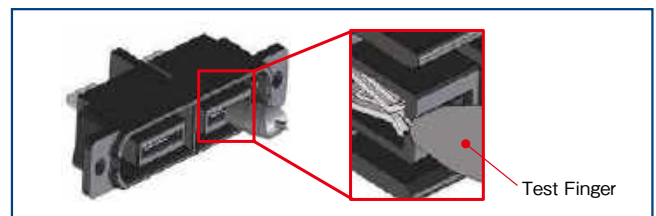


3. Special screws are used in the receptacle to allow the floating ( $\pm 2.0\text{mm}$ ) in X Y directions.

Connector floating is allowed by using flexible wire without missing flexibility in short distant wiring between 1U connection.



4. The cable connection to the power contact is made by means of a screw to a JIS round crimp contact.
5. The plug side (battery side) has finger protection design to prevent shock hazard and provide safety and security.



6. A special dust cap is available and can be used with both the plug and receptacle.
7. The plug and receptacle have been UL, C-UL and TÜV certified.

## Product Specifications

Rated Current (Note 1) (Note 3)	Power	Power, 50sq, 1/0 AWG (Derating Curve, Ambient Temp 25°C)	Signal	Operating Temperature (Note 4)	-40 to +105°C
	150A	210A	1A	Storage Temperature Range	-40 to +60°C
Rated Voltage (Note 1)	1000V AC/DC				

Applicable Cable	Power	5 to 1/0 AWG 14 to 50sq (WL1, WL2) (Note 1, Note 2)
	Signal	20 to 22 AWG

Note 1 : UL, C-UL and TÜV certifications have been certified while changing conditions such as rated current and voltage multiple times.

For details, see the "Conditions on Safety Standards (UL, C-UL, TÜV)"

Note 2 : Select your cables based on the current capacity needed for your application.

Flexible wires are recommended to provide flexibility to the receptacles (system side).

Note 3 : Used 50sq (1/0 AWG) cable.

Note 4 : Operating temperature includes the temperature rise by current flow.

## Materials / Finish

### ● Receptacle

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black	UL94V-0
Contact	Copper Alloy	Silver Plating	-
Contact Retention Plate A	PBT	Black	UL94V-0
Contact Retention Plate B	PBT	Black	UL94V-0
Floating Screw	Steel	Nickel Plating	-
Signal Male Contact	Copper Alloy	Gold Plating	-
Signal Retention Plate (12)	PBT	Black	UL94V-0
Signal Retention Plate (16)	PBT	Black	UL94V-0

### ● Plug

Parts	Materials	Color/Finish	Remarks
Insulator	PBT	Black	UL94V-0
Contact	Copper Alloy	Silver Plating	-
Contact Retention Plate C	PBT	Black	UL94V-0
Signal Female Contact	Copper Alloy	Gold Plating	-
Signal Retention Plate (12)	PBT	Black	UL94V-0
Signal Retention Plate (16)	PBT	Black	UL94V-0

### ● Dust Cap

Parts	Materials	Color/Finish	Remarks
Insulator	Silicon Rubber	Blue	UL94HB

## 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.

### Connector

**PS3 - 2 U S / 12 S / 16 S**  
 ① ② ③ ④ ⑤ ⑥ ⑤ ⑥

### Dust Cap

**PS3 - 2 U - DC**  
 ① ② ③ ⑦

① Series Name	PS3	⑤ No. of Signal Contacts (per block)	
② No. of Power Contacts		⑥ Signal Contact Gender	P : Male Contact S : Female Contact
③ Current Capacity of Power Contact	U : 150A	⑦ Dust Cap	
④ Power Contact Gender	P : Male Contact S : Female Contact		

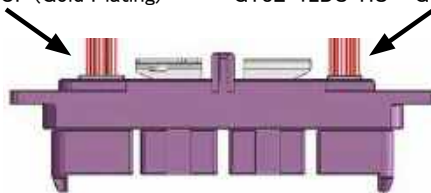
## Combination List

Signal part for Signal Hybrid Type is GT8E series (sold separately).

PS3-2UP/12P/16P < GT8E-12DS-HU + GT8E-2022SCF (Gold Plating)  
 < GT8E-16DS-HU + GT8E-2022SCF (Gold Plating)

PS3-2US/12S/16S < GT8E-12DS-HU + GT8E-2022SCF (Gold Plating)  
 < GT8E-16DS-HU + GT8E-2022SCF (Gold Plating)

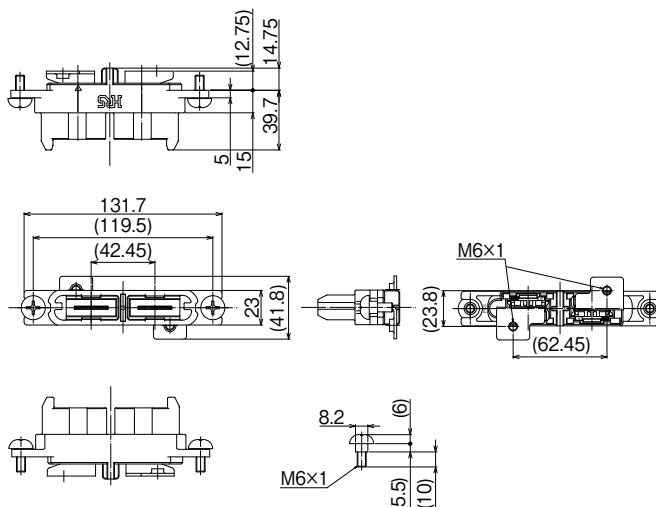
GT8E-16DS-HU + GT8E-2022SCF (Gold Plating)      GT8E-12DS-HU + GT8E-2022SCF (Gold Plating)



(Example) PS3-2UP/12P/16P

## Receptacle

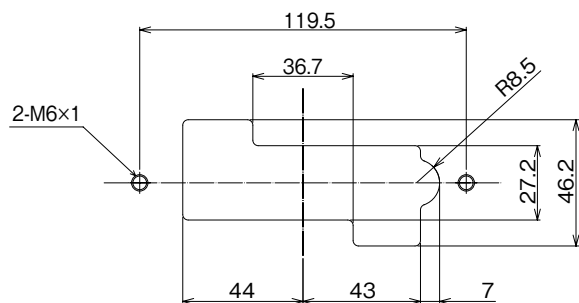
### ● PS3-2UP (Power Type)



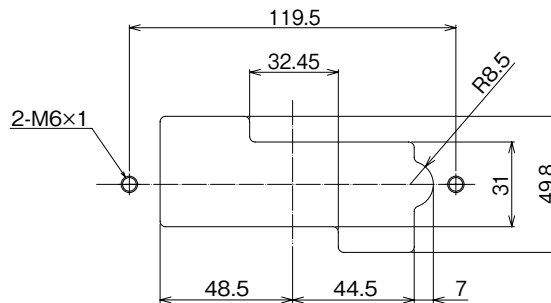
Part No.	HRS No.	Purchase Unit
PS3-2UP(10)	CL0236-1042-2-10	40pcs per box
PS3-2UP(11)	CL0236-1042-2-11	1pc per bag

### ■ Panel Cut-Out Dimensions

Corner radius : 2mm Max.  
Panel thickness : 3mm Max.

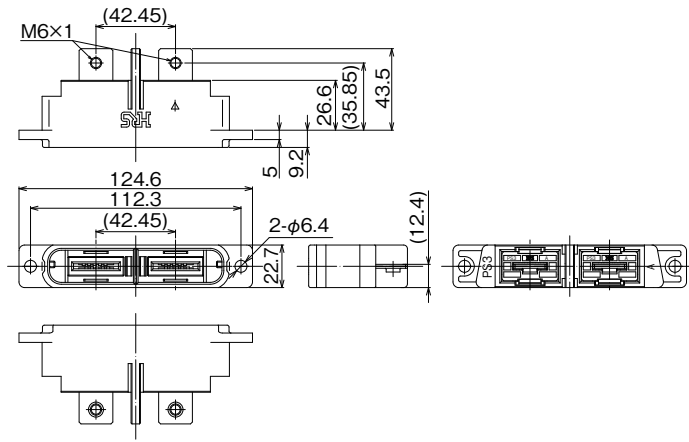


Corner radius : 2mm Max.  
Panel thickness : 3mm Max.



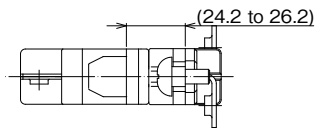
## Plug

### ● PS3-2US (Power Type)



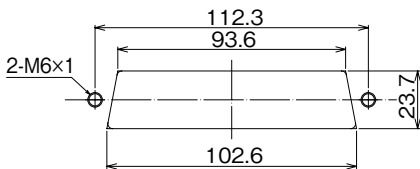
Part No.	HRS No.	Purchase Unit
PS3-2US(10)	CL0236-1041-0-10	40pcs per box
PS3-2US(11)	CL0236-1041-0-11	1pc per bag

### ■ Distance Between Panels



### ■ Panel Cut-Out Dimensions

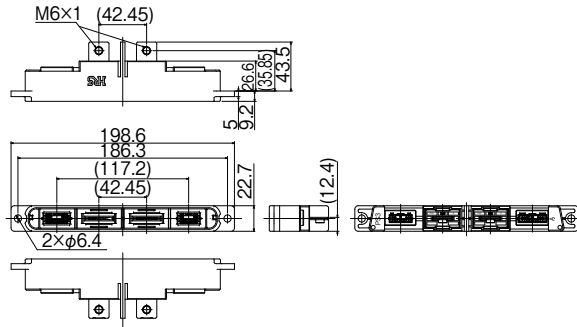
Corner radius : 2mm Max.  
Panel thickness : 3mm Max.





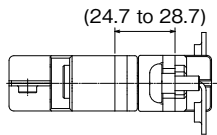
## Plug

### ● PS3-2US/12S/16S (Signal Hybrid Type)



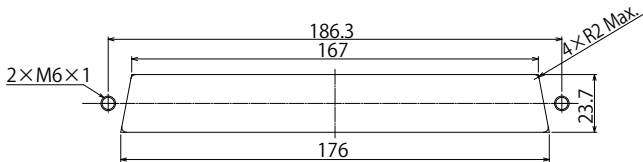
Part No.	HRS No.	Purchase Unit
PS3-2US/12S/16S(10)	CL0236-1043-5-10	40pcs per box
PS3-2US/12S/16S(11)	CL0236-1043-5-11	1pc per bag

### ■ Distance Between Panels



### ■ Panel Cut-Out Dimensions

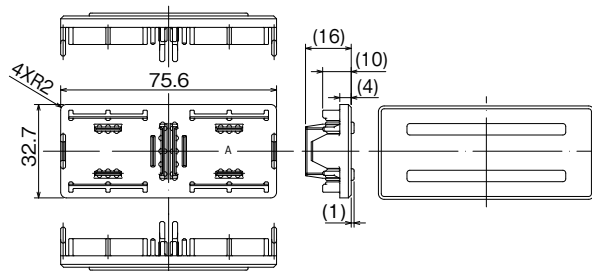
Corner radius : 2mm Max.  
Panel thickness : 3mm Max.



## Dust Cap

### ● PS3-2U-DC

This dust cap can be used for power supply part of receptacle and plug.



Part No.	HRS No.	Purchase Unit
PS3-2U-DC	CL0236-1054-1-00	40pcs per bag

## Precautions

- M6 screws are used to attach to the panels. The recommended amount of torque used to tighten the screws should be 2.5 to 5.2 N·m.
- The recommended amount of torque used to tighten the screws to the power contacts should be 2.5 to 5.2 N·m.
- 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 swap, so it cannot be used to shut off the power.

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

The PS3 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.

● 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) 5 to 3 AWG	38 to 50sq (Note 1) 1 to 1/0 AWG
Creepage Distance (Note 2)	3.2mm Min.	
Clearance (Note 2)	3.2mm Min.	

● Table 2. Conditions for TÜV

	Condition I	Condition II	Condition III
Rated Voltage (AC/DC)	800V	600V	1000V
Rated Current	100A (cable 14 to 22sq, 5 to 3 AWG) (Note 1) 125A (cable 38sq, 1 AWG) (Note 1) 150A (cable 50sq, 1/0 AWG) (Note 1)		
Overvoltage Category	II	III	
Contamination Level	3		
Creepage Distance (Note 2)	12.6mm Min.	12.6mm Min.	16mm Min.
Clearance (Note 2)	6mm Min.	6mm Min.	8mm Min.
Insulation System	Basic insulation (Panel should be grounded)		
Recommended Panel for PS3-2UP Side	Recommended Panel 1	Recommended Panel 1	Recommended Panel 2 (Note 3)
Recommended Panel for PS3-2US Side	Recommended Panel 3		

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 crimp contacts
- Between power contact and panel
- Between crimp contact and panel
- Between screw (attached to power contact) and panel

Note 3 : In case of recommended panel 2, reverse attachment of receptacle is possible. Please be careful in panel attachment.

## While Taking into Consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please review the Drawing and Product Specifications sheets.

Use an appropriate cable when using the connector in combination with cables.

If considering usage of a non-specified cable, please contact your sales representative.

If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.

If considering usage for below mentioned applications, please contact your sales representative.

In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/defense etc. Hirose must review before assurance of reliability can be given.

**HIROSE**