PRODUCT CATALOG

HIROSE ELECTRIC CO.,LTD.

# PS3 Series

# High Current Connector

High-Current

Floating

Finger Protect



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

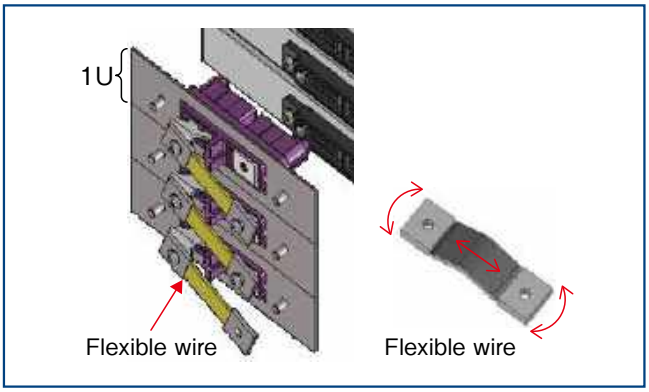
Product Page
https://www.hirose.com/en/product/series/PS3

Jun. 2023

# Features

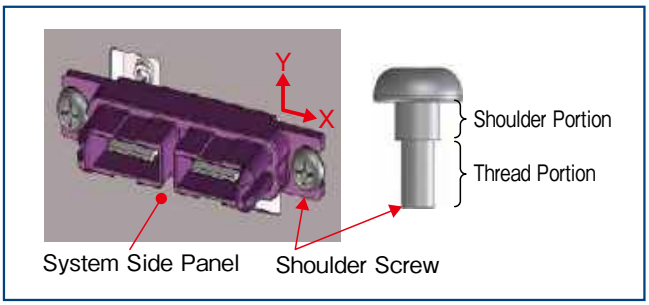
1. Power contact supports up to 150A (Derating Curve, Ambient Temp 25℃ : 210A) with 50mm sq. 1/0 AWG wire.

2. Unique blade contact design enables slim size and mounting to standard 1U rack (44.5mm × 482.6mm).



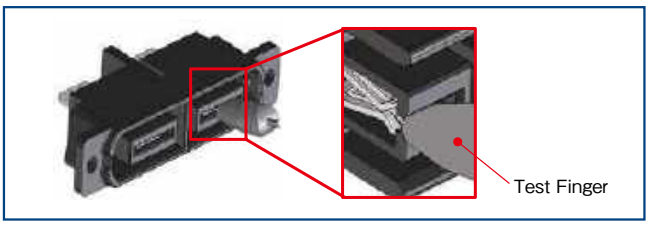

3. Special screws are used in the receptacle to allow the floating (±2.0mm) in X Y directions.

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.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# Product Specifications

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

| | | |
|---|---|---|
| Applicable Cable | Power | 5 to 1/0 AWG<br>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 |

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# 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**
❶ ❷ ❸ ❹ ❺ ❻ ❺ ❻

## ■ Dust Cap

**PS3 - 2 U - DC**
❶ ❷ ❸ ❼

| | | | |
|---|---|---|---|
| ❶ Series Name | PS3 | ❺ No. of Signal Contacts (per block) | |
| ❷ No. of Power Contacts | | ❻ Signal Contact Gender | P : Male Contact<br>S : Female Contact |
| ❸ Current Capacity of Power Contact | U : 150A | ❼ Dust Cap | |
| ❹ Power Contact Gender | P : Male Contact<br>S : Female Contact | | |

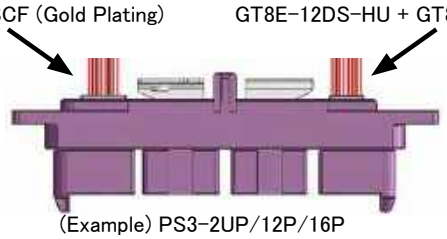
# Combination List

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)



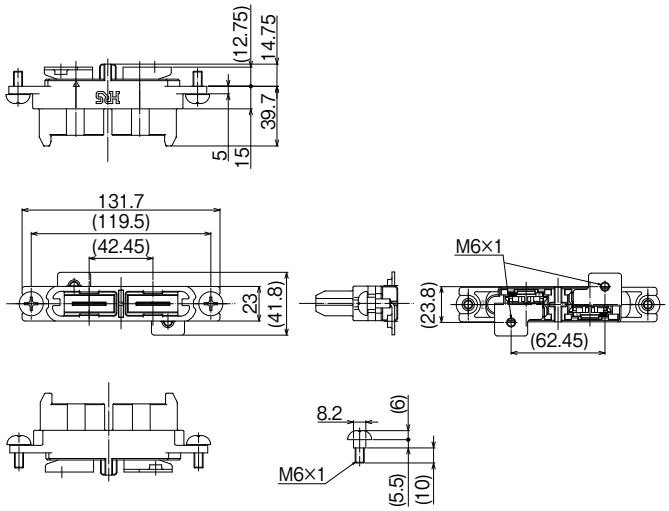
(Example) PS3-2UP/12P/16P

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# Receptacle

## ● PS3-2UP (Power Type)

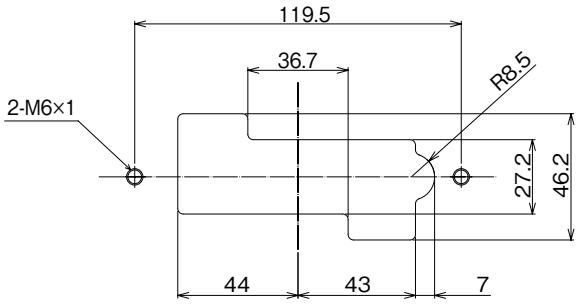




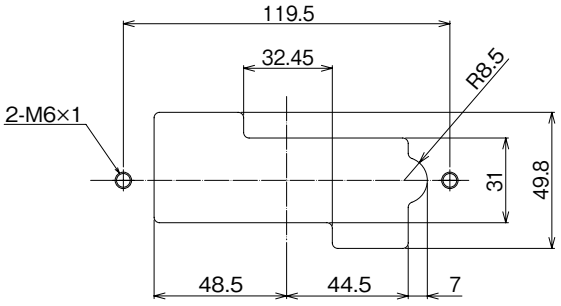

| Part No. | HRS No. | Purchase Unit |
|---|---|---|
| PS3-2UP(10) | CL0236-1042-2-10 | 40pcs per box |
| PS3-2UP(11) | CL0236-1042-2-11 | 1pc per bag |

## ■ Panel Cut-Out Dimensions

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




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

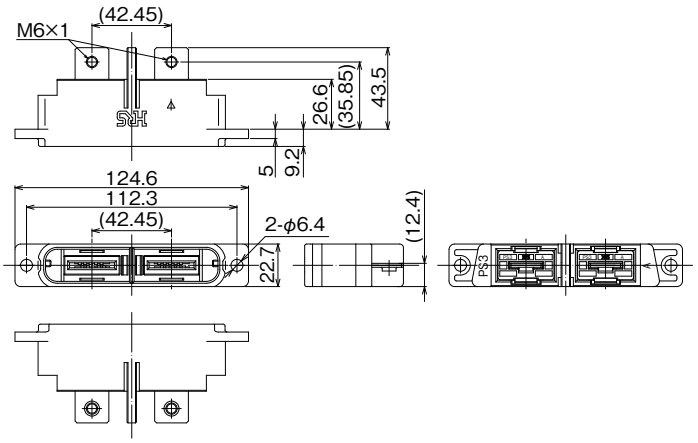



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# Plug

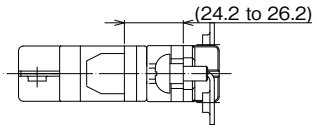
## ● PS3-2US (Power Type)





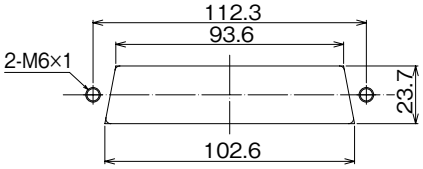

| Part No. | HRS No. | Purchase Unit |
|---|---|---|
| PS3-2US(10) | CL0236-1041-0-10 | 40pcs per box |
| PS3-2US(11) | CL0236-1041-0-11 | 1pc per bag |

### ■ Distance Between Panels




### ■ Panel Cut-Out Dimensions

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

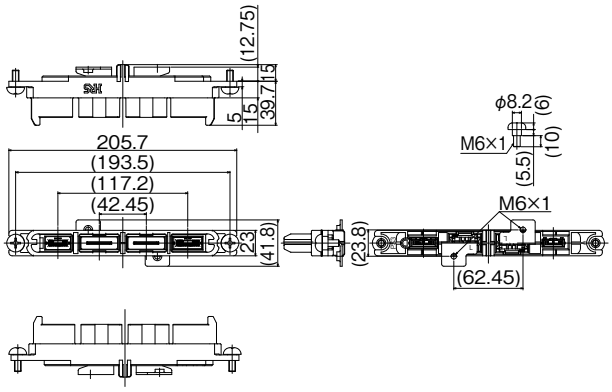



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# Receptacle

## ● PS3-2UP/12P/16P (Signal Hybrid Type)

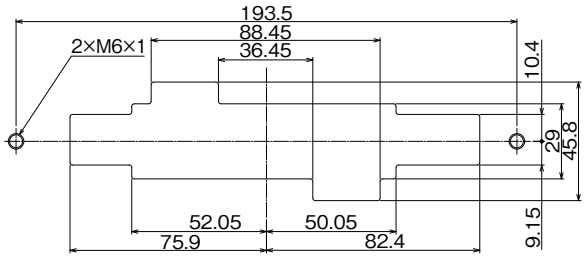




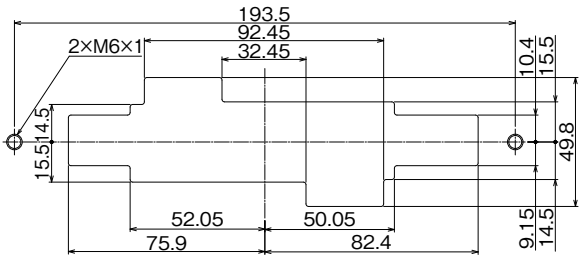

| Part No. | HRS No. | Purchase Unit |
|---|---|---|
| PS3-2UP/12P/16P(10) | CL0236-1044-8-10 | 40pcs per box |
| PS3-2UP/12P/16P(11) | CL0236-1044-8-11 | 1pc per bag |

## ■ Panel Cut-Out Dimensions

Corner radius : 1mm Max.
Panel thickness : 3mm Max.




Corner radius : 1mm Max.
Panel thickness : 3mm Max.

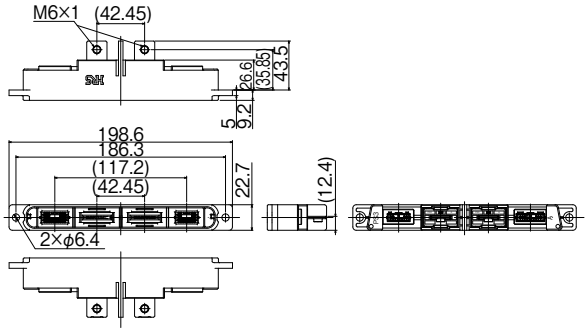



Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

# Plug

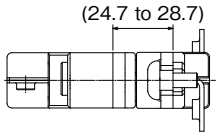
## ● PS3-2US/12S/16S (Signal Hybrid Type)





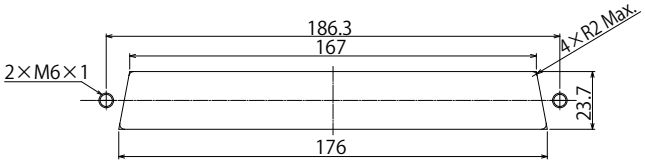

| Part No. | HRS No. | Purchase Unit |
|---|---|---|
| PS3-2US/12S/16S(10) | CL0236-1043-5-10 | 40pcs per box |
| PS3-2US/12S/16S(11) | CL0236-1043-5-11 | 1pc per bag |

### ■ Distance Between Panels




### ■ Panel Cut-Out Dimensions

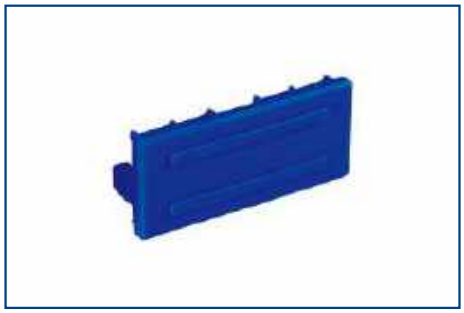
Corner radius : 2mm Max.
Panel thickness：3mm Max.

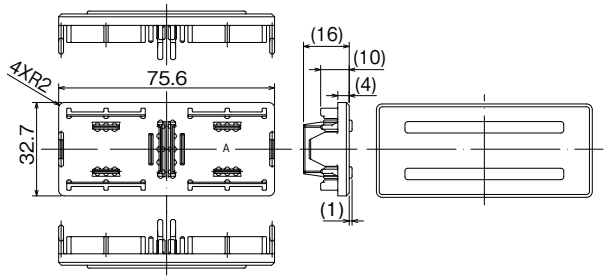



# Dust Cap

## ● 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 |

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

## 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)<br>5 to 3 AWG | 38 to 50sq (Note 1)<br>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)<br>125A (cable 38sq, 1 AWG) (Note 1)<br>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.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

Feb.1.2024 Copyright 2024 HIROSE ELECTRIC CO., LTD. All Rights Reserved.

## 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 ELECTRIC CO.,LTD. 2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN
https://www.hirose.com

※The contents of this catalog are current as of date of 6/2023. Contents are subject to change without notice for the purpose of improvements.
※The HRS logo and "HIROSE" are trademarks of HIROSE ELECTRIC CO., LTD.