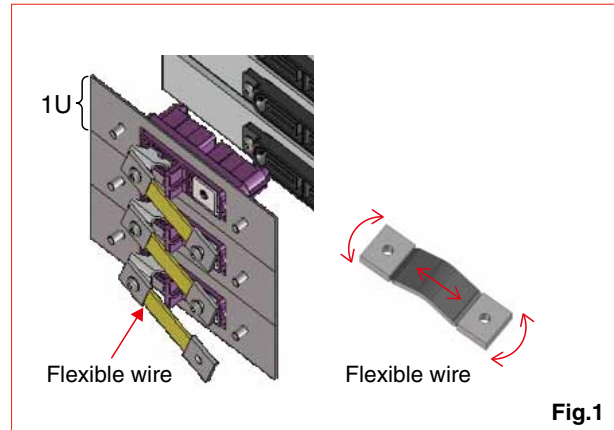


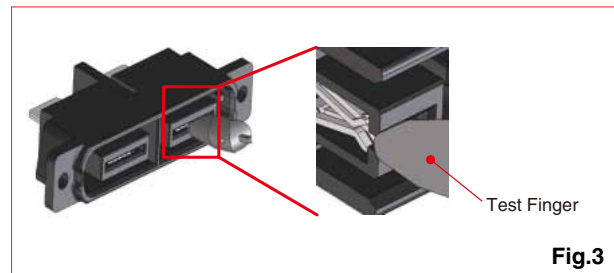
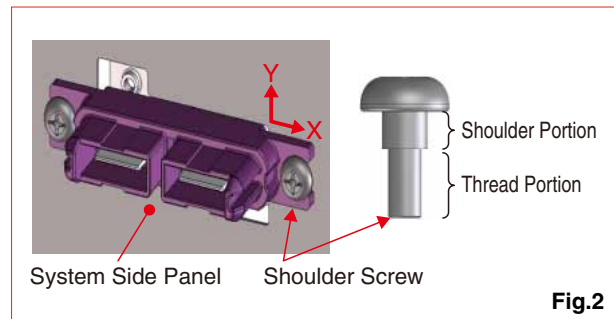
High Current Connector

PS3 Series



■ Features

1. Power contact supports up to 150 Amps (210A/1pin Derating curve, ambient temp 25°C) with 50mm sq. O/I AWG wire.
2. The unique blade contacts help to create a slim design and allows it to be utilized in a standard 1U rack size (44.5mm × 482.6mm). (Fig.1)
3. Special screws are used in the receptacle to allow the floating (± 2.0 mm) in XY axial directions.
Connector floating is allowed by using flexible wire without missing flexibility in short distant wiring between 1U connection. (Fig.1, 2)
4. The cable connection to the power contact is made by means of a screw to a JIS round crimp contact.
5. For added safety, the plug side (battery side) is designed to prevent shock hazard and provides for more user safety and security. (Fig.3)
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

| | | | | | |
|---------|------------------|---|--------------|-------------------|---|
| Ratings | Rated Current | Power | Signal | Rated Voltage | AC, DC 1000V (*1) |
| | | 150A/1pin (*1) 210A/1pin (Derating curve, ambient temp 25°C) | 1A/1pin | | |
| | Applicable Cable | 5 to 1/0 AWG 14 to 50sq (WL1, WL2 *1 *2) | 20 to 22 AWG | Op. Temp. Range | -40 to +105°C (including temperature rise due to electric current) |
| | | | | Stor. Temp. Range | -40°C ~ +60°C |

*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 6.

*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).

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

Materials / Finish

Receptacle

| Parts | Materials | Color/Finish | Remarks |
|-----------------------------|--------------|---------------|---------|
| Insulator | PBT | Black | UL94V-0 |
| Contact | Copper alloy | Silver plated | — |
| Contact Retention plate A | PBT | Black | UL94V-0 |
| Contact Retention plate B | PBT | Black | UL94V-0 |
| Floating screw | Steel | Nickel plated | — |
| Signal male contact | Copper alloy | Gold plated | — |
| Signal Retention plate (12) | PBT | Black | UL94V-0 |
| Signal Retention plate (16) | PBT | Black | UL94V-0 |

Plug

| Parts | Materials | Color/Finish | Remarks |
|-----------------------------|--------------|---------------|---------|
| Insulator | PBT resin | Black | UL94V-0 |
| Contact | Copper alloy | Silver plated | — |
| Contact Retention plate C | PBT resin | Black | UL94V-0 |
| Signal female contact | Copper alloy | Gold plated | — |
| 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.

1. Connector product name

PS3 - 2 U S / 12 S / 16 S

① ② ③ ④ ⑤ ⑥ ⑤ ⑥

2. Dust cap product name

PS3 - 2 U - DC

① ② ③ ⑦

| | |
|--|---|
| ① Series name symbol | ⑤ No. of signal contacts |
| ② No. of power contacts | ⑥ Signal contact shapes P : Male contact S : Female contact |
| ③ Current capacity of power contact U : 150A | |
| ④ Power contact shapes P : Male contact S : Female contact | ⑦ Dust cap |

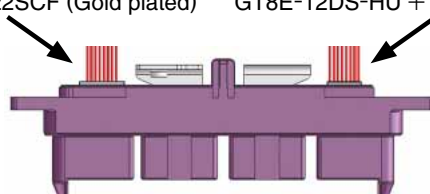
Combination List

Signal part for Power/signal hybrid type is GT8E series (sell separately).

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

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

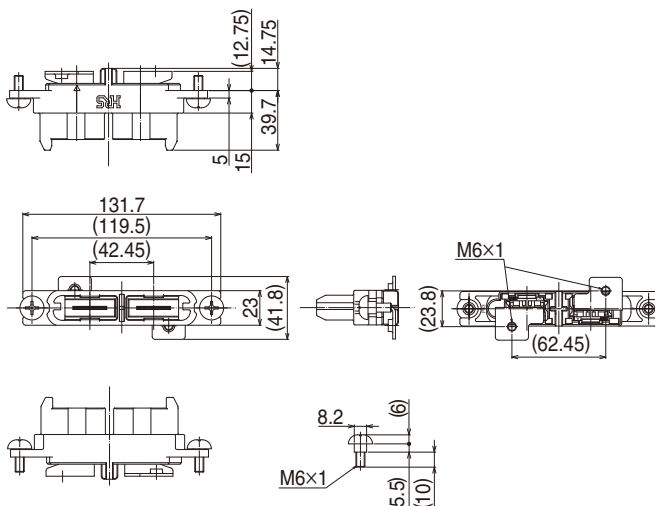
GT8E-16DS-HU + GT8E-2022SCF (Gold plated) GT8E-12DS-HU + GT8E-2022SCF (Gold plated)



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

Receptacle

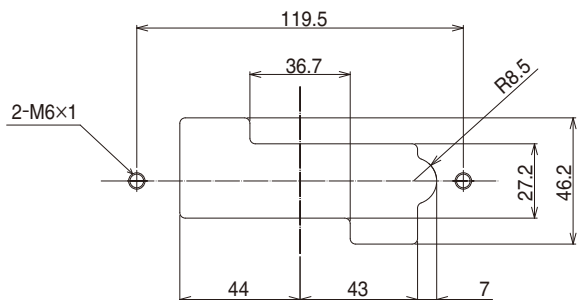
PS3-2UP (Power type)



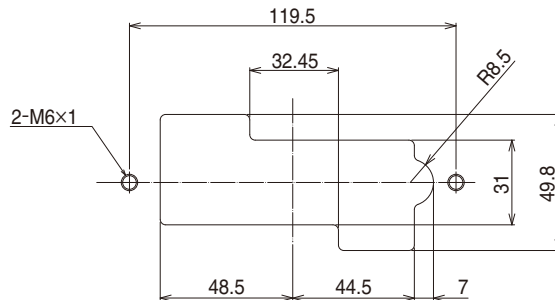
| Part No. | HRS No. | Packaging |
|-------------|---------------|---------------|
| PS3-2UP | 236-1042-2 00 | 1box (40pcs.) |
| PS3-2UP(01) | 236-1042-2 01 | 1pcs. |

Diagram of recommended PCB layout dimensions

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

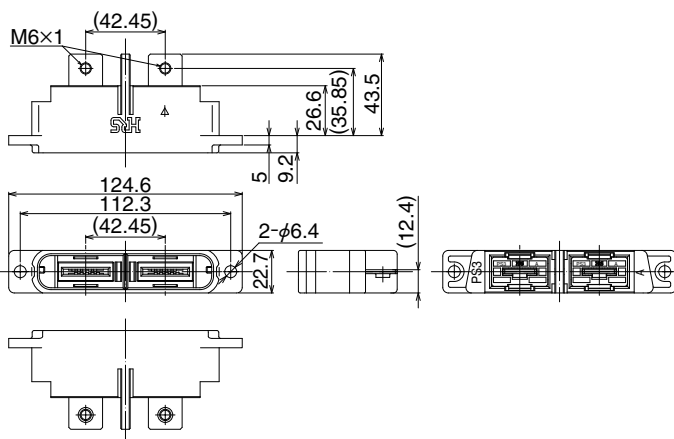


Corner radius : 2mm max.
Panel thickness : 3mm max.



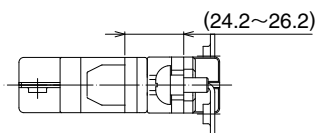
Plug

PS3-2US (Power type)



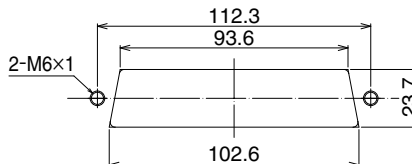
| Part No. | HRS No. | Packaging |
|-------------|---------------|---------------|
| PS3-2US | 236-1041-0 00 | 1box (40pcs.) |
| PS3-2US(01) | 236-1041-0 01 | 1pcs. |

Distance between panels



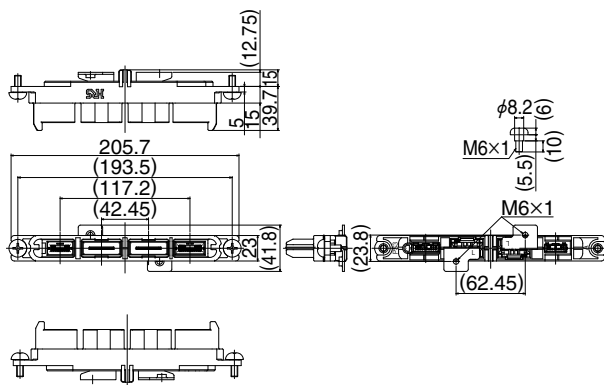
Recommended panel

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



Receptacle

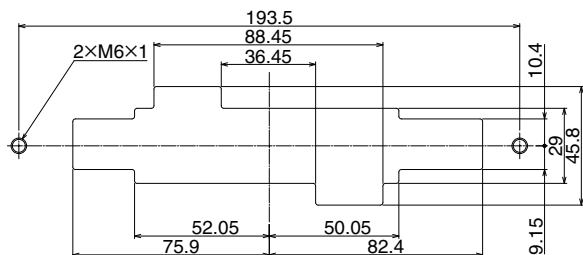
PS3-2UP/12P/16P (Signal hybrid type)



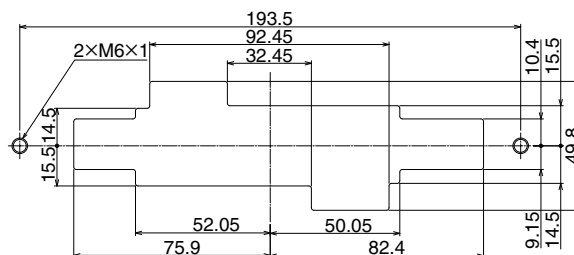
| Part No. | HRS No. | Packaging |
|---------------------|---------------|---------------|
| PS3-2UP/12P/16P | 236-1044-8 00 | 1box (40pcs.) |
| PS3-2UP/12P/16P(01) | 236-1044-8 01 | 1pcs. |

Diagram of recommended PCB layout dimensions

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

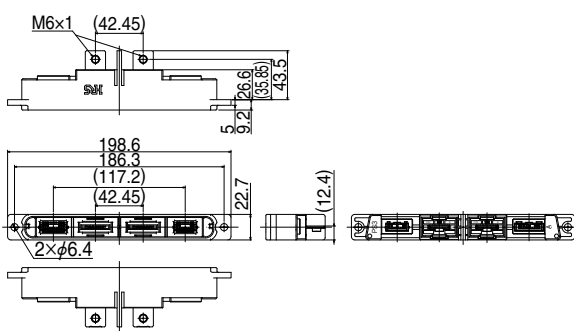


Corner radius : 1mm max.
Panel thickness : 3mm max.



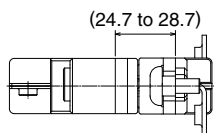
Plug

PS3-2UP/12P/16P (Signal hybrid type)



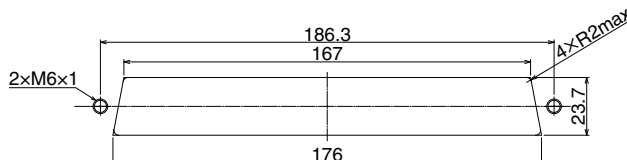
| Part No. | HRS No. | Packaging |
|---------------------|---------------|---------------|
| PS3-2US/12S/16S | 236-1043-5 00 | 1box (40pcs.) |
| PS3-2US/12S/16S(01) | 236-1043-5 01 | 1pcs. |

Distance between panels



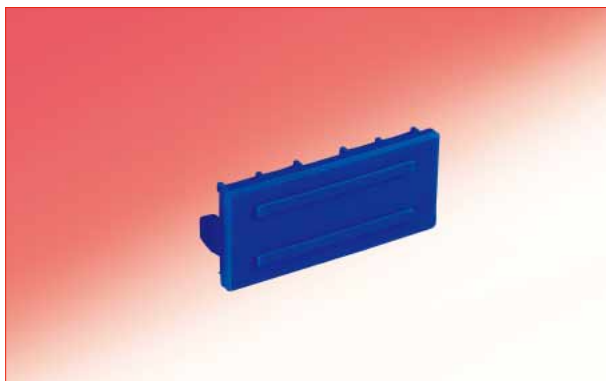
Recommended panel

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



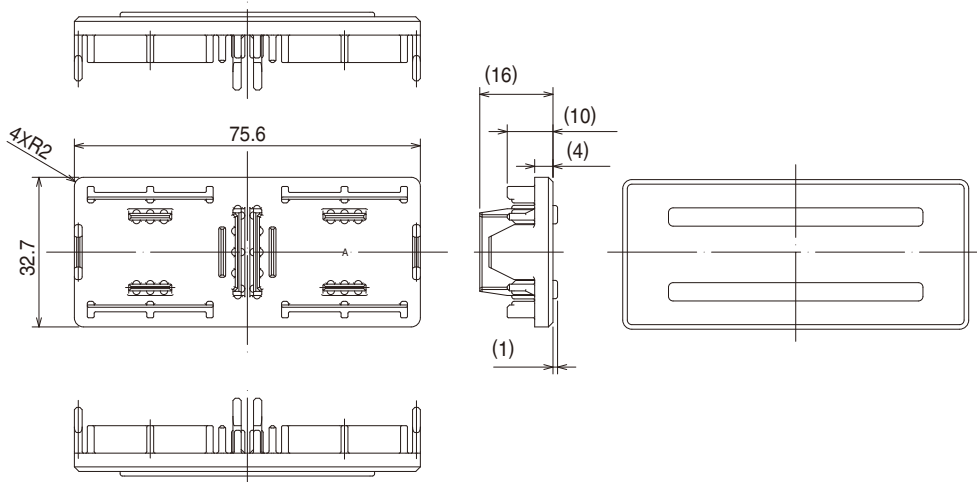
Dust cap

PS3-2U-DC



| Part No. | HRS No. | Packaging |
|-----------|------------|---------------|
| PS3-2U-DC | 236-1054-1 | 1box (40pcs.) |

This dust cap can be used on both the receptacle and plug.



◆ Usage 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 Nm.
 - The recommended amount of torque used to tighten the screws to the power contacts should be 2.5 to 5.2 Nm.
 - 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.

◆ 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 (*1) 5 to 3 AWG | 38 to 50sq (*1) 1 to 1/0 AWG |
| Creepage Distance (*2) | MIN : 3.2mm | |
| Clearance (*2) | MIN : 3.2mm | |

Table 2. Conditions for TÜV

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

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

*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

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



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