

Water-proof shielded 220A connector

EV2 Series



■ Features

1. The connection is made using a multi-purpose crimp contact.

The EV2 connector replaces conventional screw terminated connections creating a stable electrical connection.

2. Rated current of 220A using 40mm² cables. (Ambient Temperature 25°C)

This product is mainly used for power supply.

3. Resistant to random vibration (ISO 16750-3, JASO D 014-3)

4. Water-proof design, meets IP68

Oil-resistant through use of specialized rubber.

5. Shield design for noise reduction

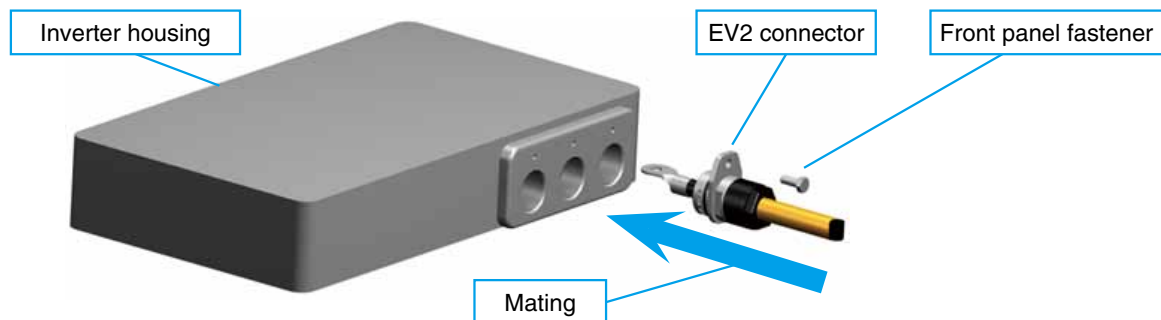
Designed to connect the braided shield of the cable with the connector body.

6. TÜV pending

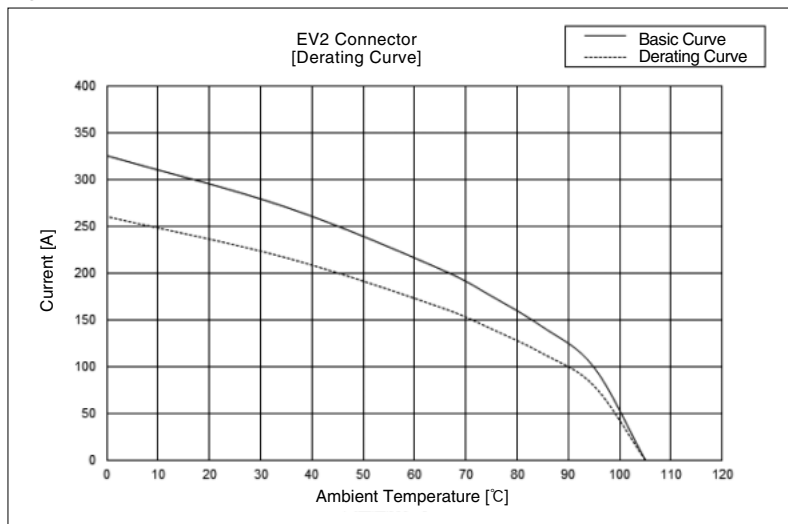
7. RoHS supported.

■ Connector connection is possible.

Using a multi-purpose crimp contact, mating operation and bolt fastening completes the connection.



[Reference] Derating curve



Note 1 : The derating curve is derived from the basic curve multiplied by the derating factor of 0.8.

Note 2 : The value of rated current varies with the ambient temperature. It is recommended to use the product within the derating curve zone.

When using a TÜV approved product, please use the product within the specified range as well as the derating curve area.

Note 3 : The measurement method of the derating curve is shown below.

Test specimen : This product, unused prior to testing.

Test cable conductor cross sectional area : Receptacle side (38mm²)

Plug side (40mm²)

Test condition : Power supplied while the specimen is in a stationary state and then measured.

Applications

Hybrid construction equipment , power conditioners, machine tools, small generators, and other inverter sections.

Product Specifications

| | | | | |
|-------------|------------------------|---------------------------------|-----------------------------|--------------------------|
| Ratings | Rated voltage | AC 800V, DC 800V | Operating temperature range | -40°C to +105°C (Note 1) |
| | Rated current (Note 3) | 220A (Ambient Temperature 25°C) | Storage temperature range | -10°C to +60°C |
| TÜV Pending | Rated voltage | AC 1000V, DC 1000V | Operating temperature range | -40°C to +105°C (Note 1) |
| | Rated current (Note 3) | 200A | Storage temperature range | -10°C to +60°C |

Note 1 : Including temperature rise due to current carrying.

Note 2 : The value of rated current varies with the ambient temperature. It is recommended to use the product within the derating curve zone.

When using a TÜV approved product, please use the product within the specified range as well as the derating curve area.

| Item | Specifications | Conditions |
|---------------------------------------|--|---|
| 1. Contact resistance | Contact part : 0.5mΩ or less Between the exterior and the cable shield 100mΩ or less | Measured at DC 1A |
| 2. Insulation resistance | 1000MΩ or more | Measured at DC 500V |
| 3. Withstanding voltage | No flashover or breakdown | Apply AC 4260V for 1 minute. |
| 4. Repeated operation | ①Contact resistance : Maximum of 1mΩ ②Insertion and removal force : Maximum of 200N | 30 times of repeated operation |
| 5. Vibration resistance | ①No electrical discontinuity of 10μs or more ②No damage, crack or loosened parts. | Testing conditions : frequency range : 10 to 2000Hz, average acceleration 57.9m/s ² in 3 directions for 8 hours each (ISO 16750-3, JASO D 014-3) |
| 6. Shock resistance | ①No electrical discontinuity of 10μs or more ②No damage, crack or loosened parts. | Testing conditions: acceleration : 490m/s ² , duration : 11ms, and half-sine wave in 3 directions, 3 cycles for each |
| 7. Temperature cycles | Insulation resistance : Minimum of 100MΩ | -40°C : 30 minutes → Room temperature : 2 to 3 minutes → 125°C : 30 minutes → Room temperature : 2 to 3 minutes, 5 cycles |
| 8. Brine spraying | No considerable corrosion impairing electric/mechanical functions. | Left in the brine of 5% concentration for 48 hours. |
| 9. Moisture resistance (Steady state) | Insulation resistance : Minimum of 100MΩ (When dried) | Left at a temperature of 40°C and in humidity of 90 to 95% for 96 hours. |
| 10. Pressure-resistance | While the connector is mated with the applicable panel, apply an air pressure of 17.6kPa in the internals of the connector for 30 seconds. | No air bubbles generated from the internals of the connector. |

Materials / Finish

| Item | Materials | Finish | Remarks |
|-------------------|------------------------|---------------|---------|
| Resin parts | PPS resin (Black) | ———— | UL94V-0 |
| Contact spring | Stainless steel | ———— | ———— |
| Conductor section | Copper alloy | Tin plated | ———— |
| Nut | Iron | Nickel plated | ———— |
| O-ring | Nitrile hydride rubber | ———— | ———— |
| Gasket | Fluororubber | ———— | ———— |

※Use commercially available M6 bolts, crimp contacts, and electric wires.

Recommended crimping contact : R38-8 manufactured by JST

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.

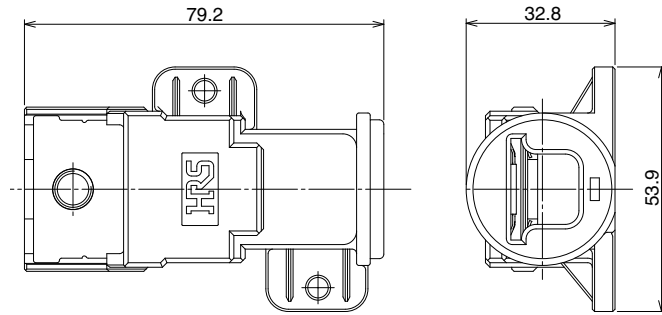
Please select from the product numbers listed in this catalog when placing orders.

EV2 - 30 R * - 1 S * ()**

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

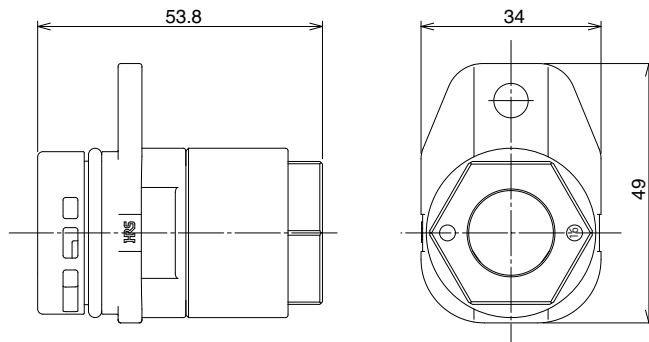
| | |
|--|--|
| ① Series name : EV2 | ⑤ Number of contacts : 1 |
| ② Connector size : Indicates the outer diameter of the mated plug section. | ⑥ Connector structure : S=With a contact spring P=Without contact spring |
| ③ Connector type : R=Receptacle P=Plug | ⑦ Contact connection method : B=Screw-fastened connection C=Crimp connection |
| ④ Serial symbols : Modification types are indicated by A, B, C, ... | ⑧ When different types of specifications are provided, attach (01), (02), ...for identification. |

■ Receptacle



| Part No. | HRS No. | Remarks |
|-------------|---------------|---------|
| EV2-30R-1SB | 139-0200-7 00 | — |

■ Plug



| Part No. | HRS No. | Remarks |
|-------------|------------|---------|
| EV2-30P-1PC | 139-0201-0 | — |

◆ Applicable Cable

| Electric Cable Manufacturer | Product Name | Support for product inquiries and purchase |
|-----------------------------|-------------------------|--|
| NISSEI ELECTRIC CO., LTD. | FM-MY 40mm ² | NISSEI ELECTRIC CO., LTD. Electric Dir. Sales Group Machida Sales Dept. Phone +81-42-729-2531 |

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◆ Applicable Tools

| Tool / Jig | Part No. | HRS No. | Remarks |
|-------------------------------------|----------------------|---------------|---|
| Crimp tools for round-form contacts | HT112/REC-Li150 | 902-1516-5 00 | Equivalent product : REC-Li150 made by IZUMI Product Company |
| Cable crimp tools | EV2-30P-1PC/CKED | 902-1521-0 00 | _____ |
| Cable crimp tools : Crimpers only | EV2-30P-1PC/CKED(61) | 902-1521-0 61 | _____ |
| Cable crimp tools : Anvil only | EV2-30P-1PC/CKED(62) | 902-1521-0 62 | _____ |
| Spring ring pressor jigs | EV2-30P-1PC/PRMD | 902-1522-0 10 | _____ |

HT112/REC-Li150



EV2-30P-1PC/CKED



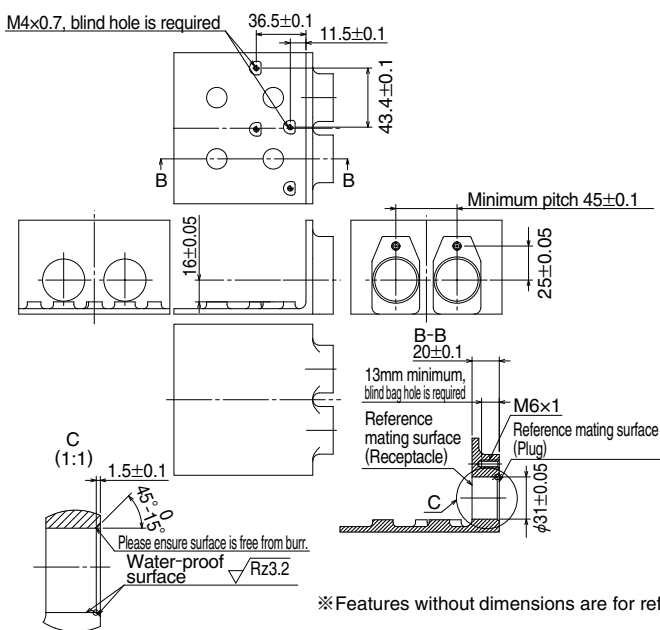
EV2-30P-1PC/PRMD



Note : Please perform maintenance of crimping tools according to the instructions of the tool manufacturer.

◆ Diagram of the panel mounting slot dimension

※ Please refer to the specification for details.



◆ Safety Precautions

⚠ Warning

- Do not touch the exposed conductor while it is energized, failing to follow this warning may cause an electric shock and injury. ⚠
- The power should be in the OFF position when inserting or extracting this connector.

⚠ Caution

- Use dedicated tools with applicable cables. Use of non-applicable items, could lead to an accident due to the insufficient performance.
- Please only use Hirose approved contacts, using unapproved contacts can result in a lowering of the product's performance and cause a serious accident. Please contact your local Hirose representative for additional information.



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