

QR/P Series

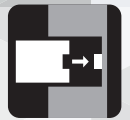
Rectangular, High Pin Count, Rack and Panel Crimp Connector



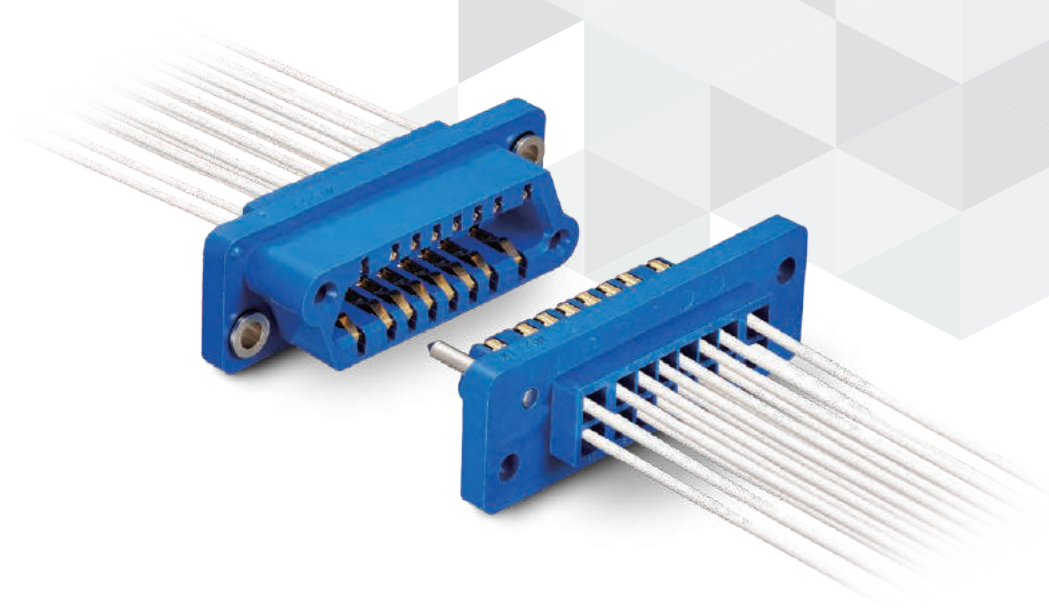
Multiple Position



Floating



Plug-In



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General

The QR/P Series is a plug-in, rectangular, multi-pin count rack and panel connector for the connection and disconnection of power and signal circuits between units and racks of various electronic equipment.

Five different pin counts are available: 4, 8, 12, 16 and 24. Wire connection is performed using crimp termination for easier workability and high reliability.

Hirose's unique ribbon-shaped, male and female dual-purpose contacts assure smooth insertion/removal, making this the ideal rack and panel connector for plug-in connections.

Features

1. Margin in the effective mating length due to the plug-in design.
2. The males and female housings use the same contacts for a reduction in part procurement and management.
3. Floating bushing enables a floating design.
4. UL, CSA, TÜV certified.

Product Specifications

| | | |
|-----------------------|-----------------------|------------------------------|
| Operating Temperature | -10 to +60°C | |
| Rated Current | Power | 13A Max. (When using 14 AWG) |
| | Signal | 7A Max. (When using 18 AWG) |
| Rated Voltage | Power | 600V AC |
| | Signal | 250V AC |
| Contact Resistance | 10mΩ Max. (1A DC) | |
| Insulation Resistance | 5000MΩ Min. (500V DC) | |
| Withstand Voltage | Power | 3000V AC for 1 min. |
| | Signal | 1000V AC for 1 min. |

| Safety Standard | | UL | CSA | | TÜV |
|-----------------------|--------|--------------|---------|---------|------------------|
| Operating Temperature | | -10 to +60°C | | | |
| Rated Voltage | Power | 120V AC | 250V AC | 600V AC | 250V AC, 300V DC |
| | Signal | | | | 125V AC, 150V DC |
| Rated Current | 14 AWG | 10A | 10A | - | 10A |
| | 16 AWG | | 8A | 1A | |
| | 18 AWG | 3A | 3A | - | 5A |
| | 20 AWG | | 2A | | 1A |
| | 22 AWG | | | | |
| | 24 AWG | | | | |

Materials / Finish

| Item | Material | Color/Finish | Remarks |
|-----------|-----------------|---|---------|
| Insulator | PBT | Blue | UL94V-0 |
| Contact | Phosphor Bronze | Partial Gold Plating (Nickel Underplating) | — |

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 Unit

QR/P - 8 P - C (21)

① ② ③ ④ ⑤

Contact

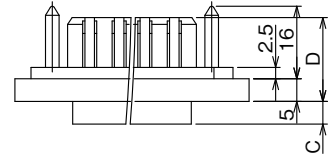
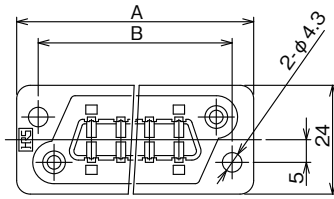
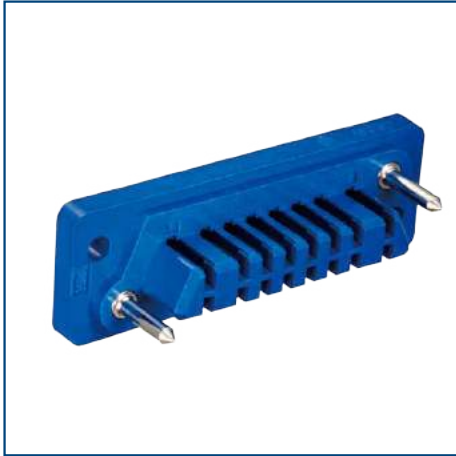
QR/P - X C - 1 1 1

① ⑤ ④ ⑥ ⑦ ⑧

| | | | |
|-----------------------------|--|---------------------|--|
| ① Series Name | QR/P | ⑥ Contact Type | 1 : Loose Piece Contact 2 : Reel Contact |
| ② No. of Pos. | 4, 8, 12, 16, 24 | ⑦ Applicable Cable | 1 : 14 to 16 AWG 2 : 18 to 24 AWG |
| ③ Insulator Gender | P : Male Insulation Case S : Female Insulation Case | ⑧ Surface Treatment | 1 : Partial Gold Plating (Nickel Underplating) |
| ④ Contact Connection Method | C : Crimping | ⑨ Specification | (21) : UL, CSA, TÜV |
| ⑤ Contact Type | X : Male and Female Dual-purpose Contact | | |

Housing

Male Housing

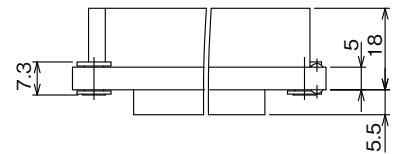
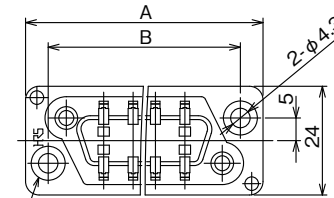


Unit : mm

| Part No. | HRS No. | No. of Pos. | A | B | C | D | Purchase Unit |
|----------------|------------------|-------------|------|------|-----|------|---------------|
| QR/P-4P-C(21) | CL0221-0013-0-21 | 4 | 41.0 | 31.0 | 5.0 | 18.5 | 30pcs per bag |
| QR/P-8P-C(21) | CL0221-0001-0-21 | 8 | 52.0 | 42.0 | | | |
| QR/P-12P-C(21) | CL0221-0002-3-21 | 12 | 61.0 | 51.0 | | | |
| QR/P-16P-C(21) | CL0221-0003-6-21 | 16 | 70.0 | 60.0 | | | |
| QR/P-24P-C(21) | CL0221-0004-9-21 | 24 | 86.5 | 77.0 | 5.5 | 18.0 | 20pcs per bag |

Note : For 14-16 AWG compatible contacts, only 4 can be inserted (both sides). All contacts can be inserted for 4pos.

Female Housing



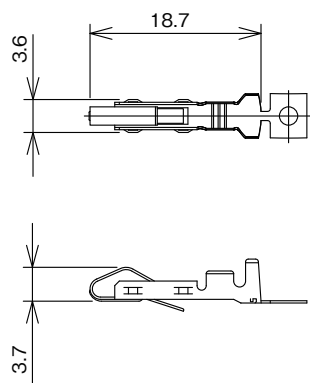
Floating Bushing
(Floats 0.4mm Max. in Respect to Center)

Unit : mm

| Part No. | HRS No. | No. of Pos. | A | B | Purchase Unit |
|----------------|------------------|-------------|------|------|---------------|
| QR/P-4S-C(21) | CL0221-0014-2-21 | 4 | 41.0 | 31.0 | 30pcs per bag |
| QR/P-8S-C(21) | CL0221-0005-1-21 | 8 | 52.0 | 42.0 | |
| QR/P-12S-C(21) | CL0221-0006-4-21 | 12 | 61.0 | 51.0 | |
| QR/P-16S-C(21) | CL0221-0007-7-21 | 16 | 70.0 | 60.0 | |
| QR/P-24S-C(21) | CL0221-0008-0-21 | 24 | 86.5 | 77.0 | 20pcs per bag |

Note : For 14-16 AWG compatible contacts, only 4 can be inserted (both sides). All contacts can be inserted for 4pos.

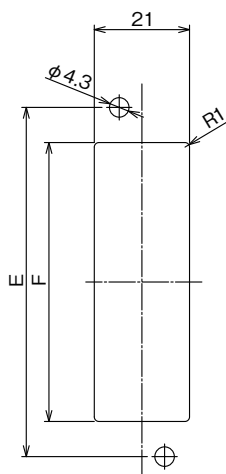
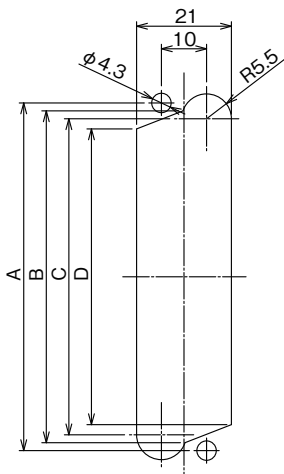
Contact (Male and Female Dual-purpose Contact)



| Part No. | HRS No. | Applicable Cable | Type of Packing | Purchase Unit |
|-----------------|------------------|------------------|-----------------|-------------------|
| QR/P-XC-111(12) | CL0221-0009-2-12 | 14 to 16 AWG | Loose | 100pcs per bag |
| QR/P-XC-211(12) | CL0221-0011-4-12 | | Reel | 3,500pcs per reel |
| QR/P-XC-121(12) | CL0221-0010-1-12 | 18 to 24 AWG | Loose | 100pcs per bag |
| QR/P-XC-221(12) | CL0221-0012-7-12 | | Reel | 5,000pcs per reel |

Panel Mounting Dimensions

Female Housing (QR/P-#S-C)



Attachment from Panel Rear Side

Attachment from Panel Front Side

Unit : mm

| Type | | 4pos. | 8pos. | 12pos. | 16pos. | 24pos. |
|-------------|---|-------|-------|--------|--------|--------|
| Rear Mount | A | 31.0 | 42.0 | 51.0 | 60.0 | 77.0 |
| | B | 26.5 | 37.5 | 46.5 | 55.5 | 73.5 |
| | C | 23.0 | 34.0 | 43.0 | 52.0 | 70.0 |
| | D | 18.5 | 29.5 | 38.5 | 47.5 | 65.5 |
| Front Mount | E | 31.0 | 42.0 | 51.0 | 60.0 | 77.0 |
| | F | 15.5 | 26.5 | 35.5 | 44.5 | 62.5 |

Note : The panel mounting dimensions of the male housing are symmetrical to the female housing in respect to the vertical axis.

Tools



Manual Crimp Tool


 Automatic Crimp Tool
CM-105C


Extraction Tool

| Type | Part No. | HRS No. | Applicable Contact |
|------------------------------------|-----------------|------------------|--------------------|
| Manual Crimp Tool | TC-2100-111 | CL0250-0027-0-00 | QR/P-XC-111 |
| | TC-2100-121 | CL0250-0028-2-00 | QR/P-XC-121 |
| Automatic Crimp Tool Applicator | AP105-QR/P-XC-1 | CL0901-2567-5-00 | QR/P-XC-211 |
| | AP105-QR/P-XC-2 | CL0901-2531-8-00 | QR/P-XC-221 |
| Extraction Tool | TC-2100-21 | CL0250-0009-8-00 | - |

While Taking into Consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please confirm 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, assurance will not be given.

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.