

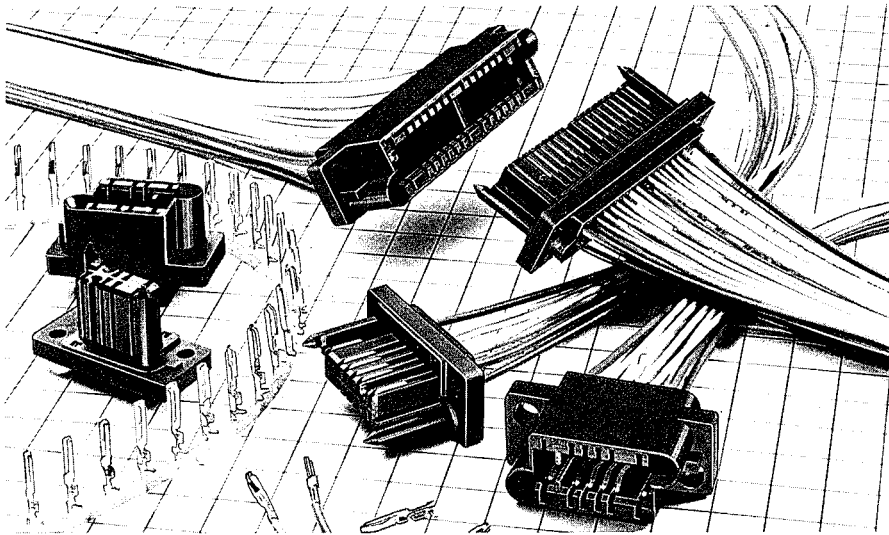
## QR/P4 SERIES

Small Rectangular Multi-electrode Solderless Connectors  
for Racks and Panels

### General

QR/P4 Series is a series of small connectors for rack and panel application. This is a smaller-size version of the QR/P and QR/P1 Series, whose rectangular multi-electrode plug in connectors for racks and panels have been well received in the market.

Six models with different numbers of contacts are available: 8, 12, 16, 24, 32 and 40. Wires are connected to the connectors without solder for easier connection and higher reliability.



### Features

- (1) The pins can be smoothly inserted into the receptacle, and give stable contact pressure because of their point contact with the receptacle blades. Furthermore, they have a larger allowance for the variation of connection length — a characteristic of plug-in connectors.
- (2) The connector size has been made smaller by separating the terminals for signals from those for voltage supply.
- (3) The pitch of the signal terminals inside the housing is 2.54mm. Two pairs of diametrically opposed electrodes (four electrodes in total) on the two sides are arranged with a pitch of 5.08mm so that they can withstand high voltage, and can be used for power supply. In addition, a nonflammable material (UL94V-0) is used as the insulating housing of the connectors.
- (4) Guide pins and the housing body are molded as one piece to achieve a smaller connector size.
- (5) Since the connectors are mounted on racks or panels with stepped screws, connection and disconnection can be done easily.
- (6) The contact for female terminals in the housing is deeper than the fitting surface of the housing which conforms to the finger test (UL Standard 1950).
- (7) The connectors of this series have passed UL, CSA and TÜV standard.

### Applications

PPC, Transmission and reception equipment, Data Communication, Vending Machine, Measuring Instrument, Automatic Equipment, Switchboards, etc.

## Specification

Item	Specifications	
Contact Resistance	Power	Max. 15mΩ at DC1A
	Signal	Max. 15mΩ at DC1A
Insulation Resistance	Min. 5000MΩ at DC500V	
Withstand Voltage (for 1 minute)	Power	AC 2000V
	Signal	AC 500V
Rated Current	Power	3A
	Signal	1A
Rated Voltage	Power	AC 300V
	Signal	AC 250V

Item	Material	Finish
Insulator	PBT resin *: UL94V-0	Black
Contact	Phosphor Bronze	Selective Gold plated over Nickel

Ratings authorized by QR/P4 safety standard			
Safety standard		UL, CSA, TÜV	
Operating temperature		-10~+60°C	
Rated Voltage	Power supply	AC 30V	AC 380V, DC450V
	Signal unit	AC 250V	AC 120V, DC150V
Rated current	AWG # 20	3A	2.5A
	AWG # 22		1A
	AWG # 24	2A	
	AWG # 26	1A	
	AWG # 28		

## Ordering Information

### ▲ Connector Unit

QR/P4 — 12P — C (01)

(1) (2)(3) (4) (10)

### ▲ Contact

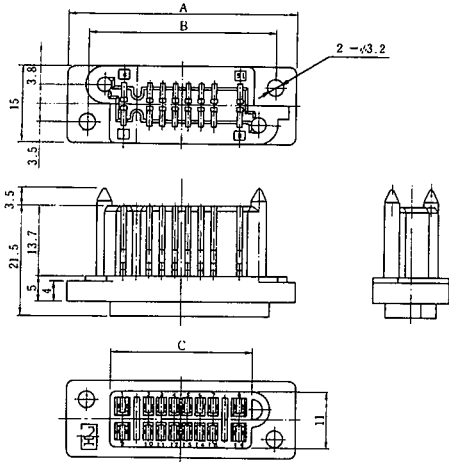
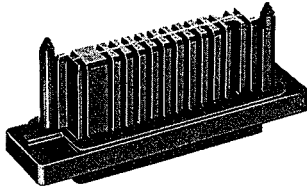
QR/P1 — PC 2A — 1 1 1

(1) (5) (6) (7) (8) (9)

- |   |   |
|---|---|
| (1) Series Name                         | (6) Size of Barrel  |
| (2) No. of Pins (8, 12, 16, 24, 32, 40) | 2A: Thin Wire (UL1007 Type)   |
| (3) Type of Housing                     | 2B: Thick Wire (UL1007 Type) . . . For 4 contact holes at both ends |
| P: Plug Housing                         | (7) Contact Type  |
| S: Socket Housing                       | 1 : Loose Contact   |
| (4) Type of Termination                 | 2 : Chain Contact   |
| C : Crimping                            | (8) Applicable Wire   |
| (5) Type of Contact                     | 1 : Thin Wire AGW#24~#28  |
| PC: Pin Contact                         | 2 : Thick Wire AWG#20~#24   |
| SC: Socket Contact                      | (9) Finish  |
|   | 1 : Selective Gold plated over Nickel                               |
|   | (10) UL, CSA, TÜV Approved Spec.                                    |

## Housing

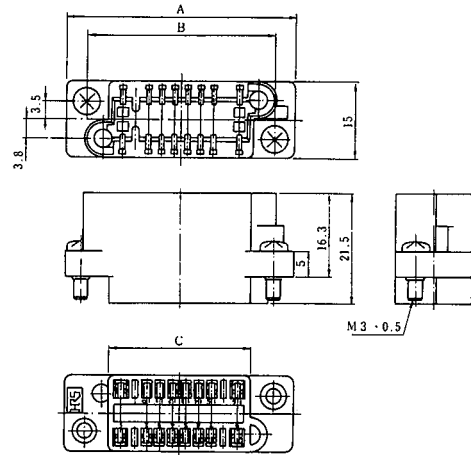
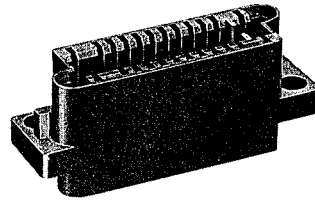
### Male Housing



Unit:mm

HRS No.	No. of Pin	Part No.	A	B	C
CL221-0159-5-01	8	QR/P4-8P-C(01)	34.68	26.68	17.68
CL221-0139-8-01	12	QR/P4-12P-C(01)	39.8	31.8	22.8
CL221-0155-4-01	16	QR/P4-16P-C(01)	44.84	36.84	27.84
CL221-0141-0-01	24	QR/P4-24P-C(01)	55	47	38
CL221-0153-9-01	32	QR/P4-32P-C(01)	67.7	59.7	50.7
CL221-0211-3-01	40	QR/P4-40P-C(01)	77.86	69.86	60.86

### Female Housing



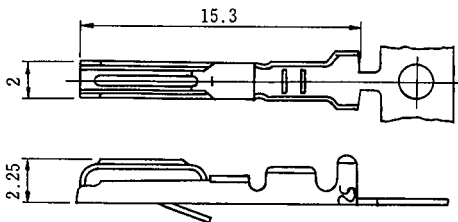
Unit:mm

HRS No.	No. of Pin	Part No.	A	B	C
CL221-0160-4-01	8	QR/P4-8S-C(01)	34.68	26.68	17.68
CL221-0140-7-01	12	QR/P4-12S-C(01)	39.8	31.8	22.8
CL221-0156-7-01	16	QR/P4-16S-C(01)	44.84	36.84	27.84
CL221-0142-2-01	24	QR/P4-24S-C(01)	55	47	38
CL221-0154-1-01	32	QR/P4-32S-C(01)	67.7	59.7	50.7
CL221-0212-6-01	40	QR/P4-40S-C(01)	77.86	69.86	60.86

Note: Determine the combinations with the panel so that the mating clearance between the P side and S side is 1.5 mm or less.

## Contact

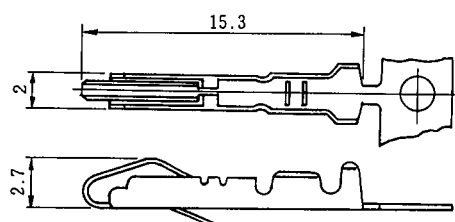
### Power Male Contact



Selective gold plating with nickel under plating

Applicable Wire	HRS No.	Part No.	Type	Packing
AWG # 20-24	CL221-0115-0-12	QR/P1-PC2B-121(12)	Loose	100pin
	CL221-0119-0-12	QR/P1-PC2B-221(12)	Chain	5,000pin

### Power Female Contact

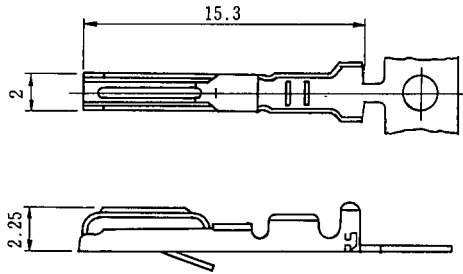


Selective gold plating with nickel under plating

Applicable Wire	HRS No.	Part No.	Type	Packing
AWG # 20-24	CL221-0117-5-12	QR/P1-SC2B-121(12)	Loose	100pin
	CL221-0121-2-12	QR/P1-SC2B-221(12)	Chain	5,000pin

## Contact

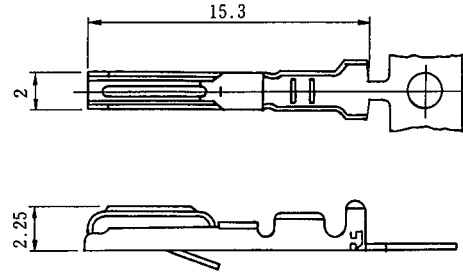
### Signal Male Contact



Partly gold plated over nickel plating

Applicable wire	HRS No.	Part No.	Type	Packing
AWG#24-28	CL221-0103-0-12	QR/P1-PC2A-111(12)	Loose contact	100pin
	CL221-0107-1-12	QR/P1-PC2A-211(12)	chain contact	5,000pin

### Signal Female Contact

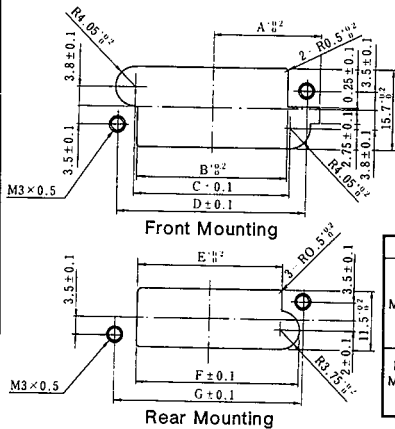


Partly gold plated over nickel plating

Applicable wire	HRS No.	Part No.	Type	Packing
AWG#24-28	CL221-0105-6-12	QR/P1-SC2A-111(12)	Loose contact	100pin
	CL221-0109-7-12	QR/P1-SC2A-211(12)	chain contact	5,000pin

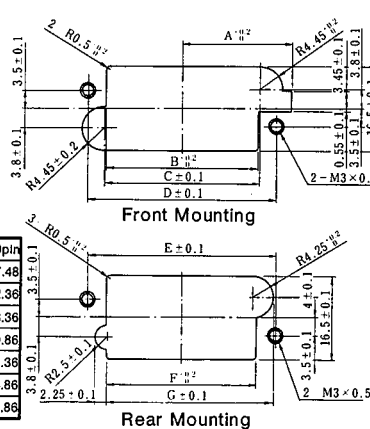
## Panel Cutout

### QR/P4-\*P-C



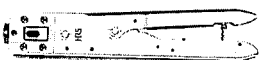
No. of Pins	8pin	12pin	16pin	24pin	32pin	40pin
Rear Mounting	A 15.87	18.45	20.97	26.05	32.4	37.48
B 19.18	24.3	29.34	39.5	52.2	62.36	
C 20.18	25.3	30.34	40.5	53.2	63.36	
D 26.68	31.8	36.84	47	59.7	69.86	
Front Mounting	E 18.18	23.3	28.34	38.5	51.2	61.36
F 21.68	26.8	31.84	42	54.7	64.86	
G 26.68	31.8	36.84	47	59.7	69.86	

### QR/P4-\*S-C

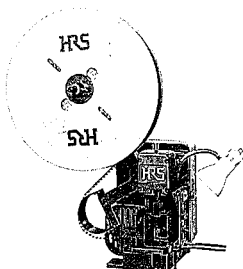


No. of Pins	8pin	12pin	16pin	24pin	32pin	40pin
Rear Mounting	A 16.37	18.95	21.49	26.57	32.9	37.98
B 19.68	24.8	29.84	40	52.7	62.86	
C 20.18	25.3	30.34	40.5	53.2	63.36	
D 26.68	31.8	36.84	47	59.7	69.86	
Front Mounting	E 26.68	31.8	36.84	47	59.7	69.86
F 19.18	24.3	29.34	39.5	52.2	62.36	
G 22.68	27.8	32.84	43	55.7	65.86	

## Tooling



Hand Crimp Tool



Auto Crimp Machine CM-105  
CL-901-0005-4

Kind	HRS No.	Part No.	Applicable Contact
Hand Crimp Tool	CL250-0021-3	TC/QR/P1-PC2B	QR/P1-PC2B-121
	CL250-0016-3	TC/QR/P1-PC2A	QR/P1-PC2A-111
	CL250-0023-9	TC/QR/P1-SC2B	QR/P1-SC2B-121
	CL250-0018-9	TC/QR/P1-SC2A	QR/P1-SC2A-111
Auto Crimp Machine Applicato	CL901-2530-5	AP105-QR/P1-2B-2	QR/P1-PC2B-221 QR/P1-SC2B-221
	CL901-2528-3	AP105-QR/P1-2A-1	QR/P1-SC2A-211 QR/P1-PC2A-211
	CL250-0029-5	TC/QR/P4-21	QR/P1-SC2.PC2