

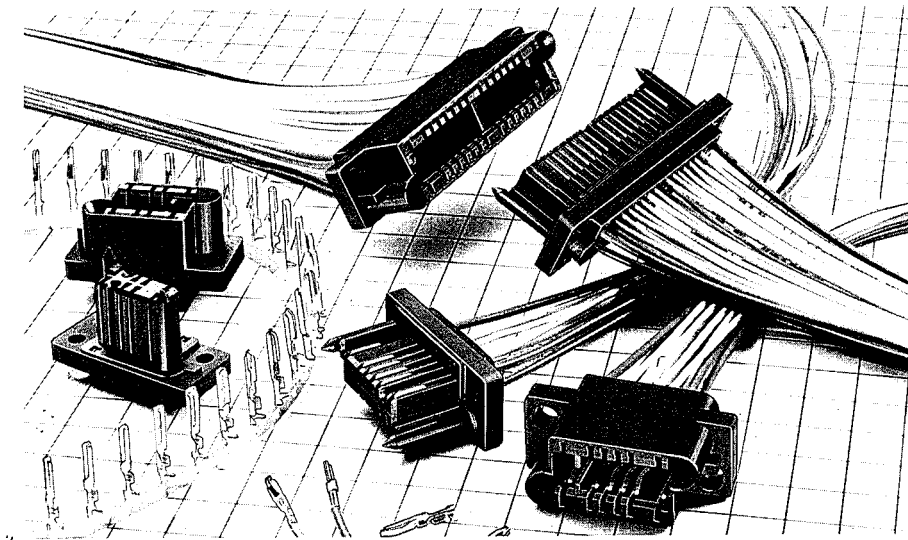
QR/P4 SERIES

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)

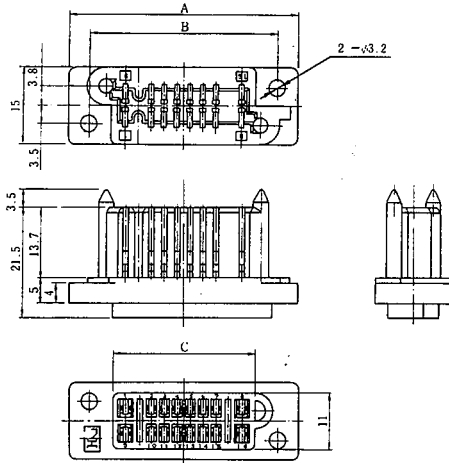
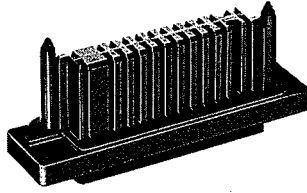
▲ Contact

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

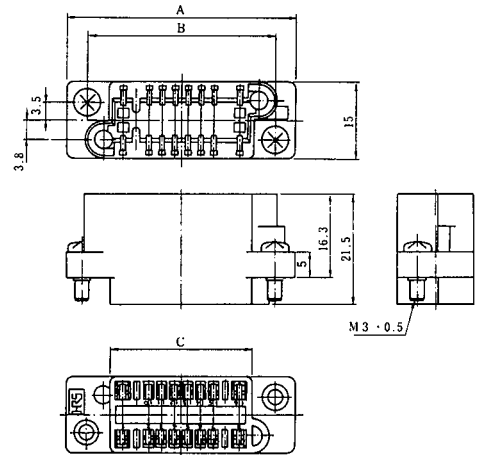
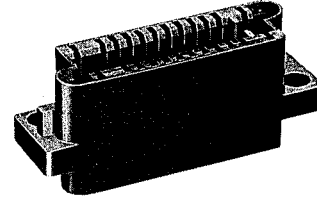
Male Housing



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



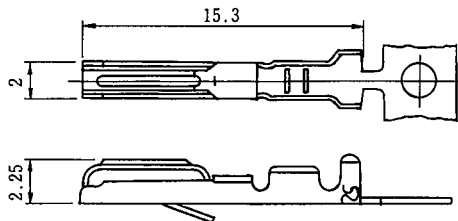
Unit:mm

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

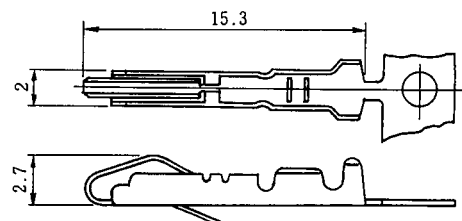
Thick Wire Male Contact



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

Thick Wire Female Contact

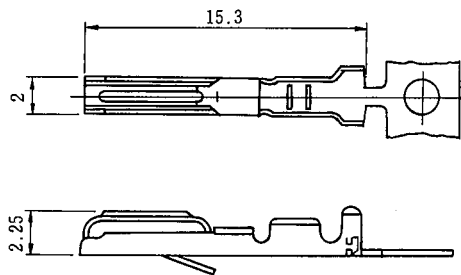


Selective gold plating with nickel under plating

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

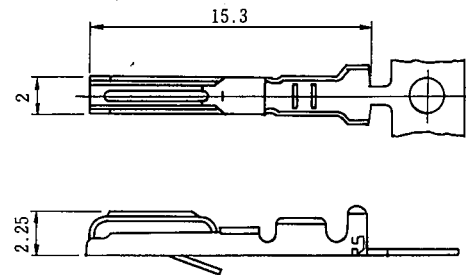
Thin Wire Male Contact



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

Thin Wire Female Contact

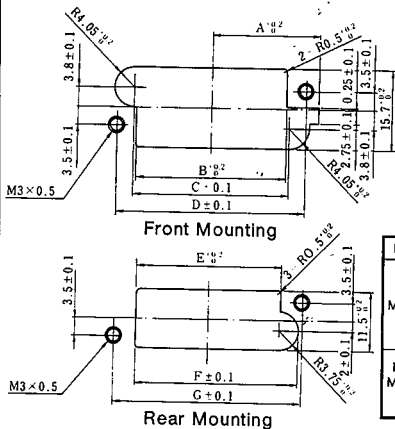


Partly gold plated over nickel plating

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

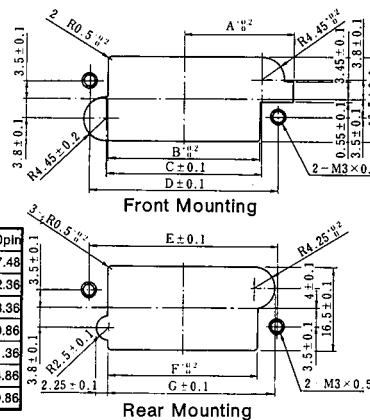
Panel Cutout

QR/P4-*P-C



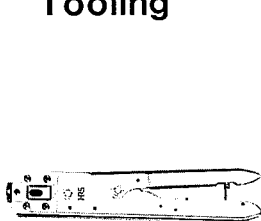
No. of Pins	8pin	12pin	16pin	24pin	32pin	40pin
Rear Mounting	A 15.87	18.45	20.97	26.05	32.4	37.48
	B 19.18	24.3	29.34	39.5	52.2	62.36
	C 20.16	25.3	30.34	40.5	53.2	63.36
	D 26.68	31.8	36.84	47	59.7	69.86
Front Mounting	E 18.18	23.3	28.34	38.5	51.2	61.36
	F 21.68	26.8	31.84	42	54.7	64.86
	G 26.68	31.8	36.84	47	59.7	69.86

QR/P4-*S-C

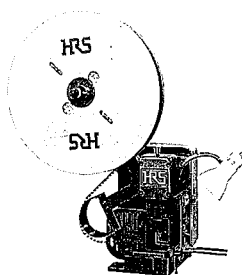


No. of Pins	8pin	12pin	16pin	24pin	32pin	40pin
Rear Mounting	A 16.37	18.95	21.49	26.57	32.9	37.98
	B 19.68	24.8	29.84	40	52.7	62.88
	C 20.18	25.3	30.34	40.5	53.2	63.36
	D 26.68	31.8	36.84	47	59.7	69.86
Front Mounting	E 26.68	31.8	36.84	47	59.7	69.86
	F 19.18	24.3	29.34	39.5	52.2	62.36
	G 22.68	27.8	32.84	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
Extraction Tool	CL250-0029-5	TC/QR/P4-21	QR/P1-SC2.PC2