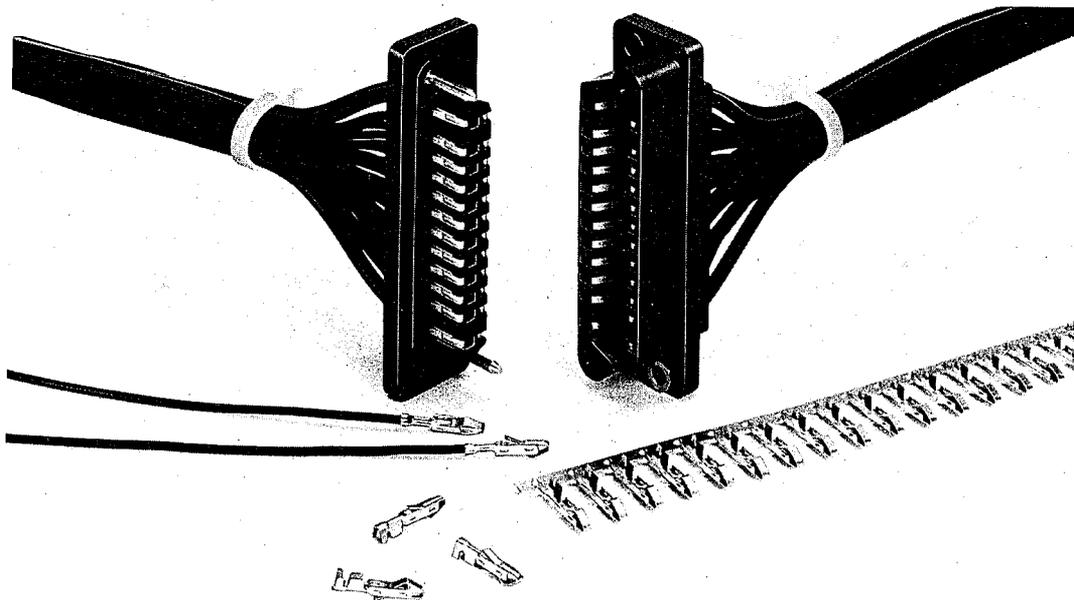


## QR/P SERIES PLUG-IN CRIMP CONNECTORS

### General

QR/P series connectors have been developed for Plug-in Connection Power and Signal Circuits in copier machine or other equipments which impose the connectors repeated insertion and extraction for maintenance work of them. Available number of pins are 4, 8,

12, 16, and 24. Wire termination is done by crimping which offers higher reliability. Especially, the unique, sexless contact assures soft and smooth coupling operation which is the most appropriate for Plug-in connection by machine itself.



### Features

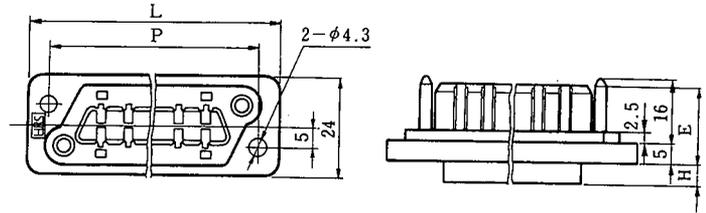
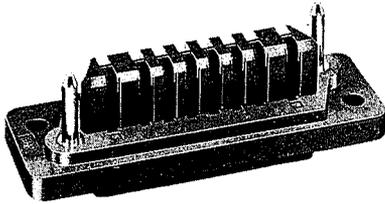
- (1) The selective plating sexless contact is commonly used for both plug and receptacle housings.
- (2) As QR/P series are crimp type connectors their housing and contacts are supplied separately. The sexless feature of the contact offers customers higher utilization and easier inventory control.
- (3) The two pairs of contacts at both ends are sequenced for power circuits. They are longer than the others. The molding material is UL94V-0 glass-reinforced polyester.
- (4) The Guide Pin is made of steel nickel plated to be strong enough against accidental coupling shock.
- (5) The mount of a receptacle housing is done through Floating Bushes. Thus, they may help to give smoother coupling of connectors by a self-adjusting function.

### Applications

Main applications are PPC, Data Communications, Vending Machines, Instrument, Automatic Equipment, etc.



## Plug Housing

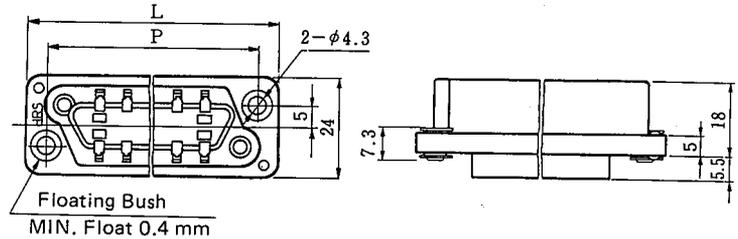
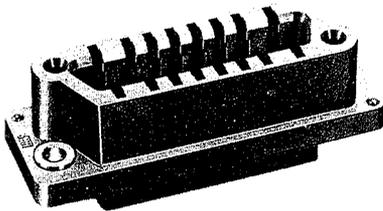


Unit: mm

HRS No.	No. of Pin	Part No.	L	P	H	E
CL221-0013-0-01	4	QR/P-4P-C(01)	41	31	5	18.5
*CL221-0001-0-01	8	QR/P-8P-C(01)	52	42	5	18.5
*CL221-0002-3-01	12	QR/P-12P-C(01)	61	51	5	18.5
*CL221-0003-6-01	16	QR/P-16P-C(01)	70	60	5	18.5
*CL221-0004-9-01	24	QR/P-24P-C(01)	86.5	77	5.5	18

\*: Standard

## Receptacle Housing

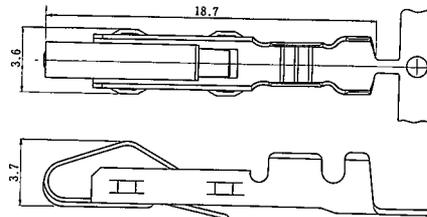
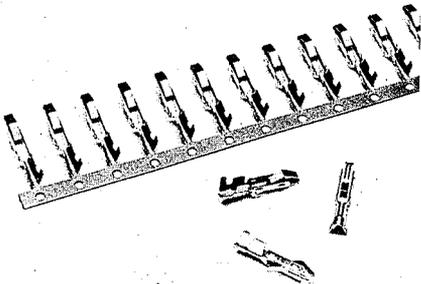


Unit: mm

HRS No.	No. of Pin	Part No.	L	P
CL221-0014-2-01	4	QR/P-4S-C(01)	41	31
*CL221-0005-1-01	8	QR/P-8S-C(01)	52	42
*CL221-0006-4-01	12	QR/P-12S-C(01)	61	51
*CL221-0007-7-01	16	QR/P-16S-C(01)	70	60
*CL221-0008-0-01	24	QR/P-24S-C(01)	86.5	77

\*: Standard

## Sexless Crimp Contact



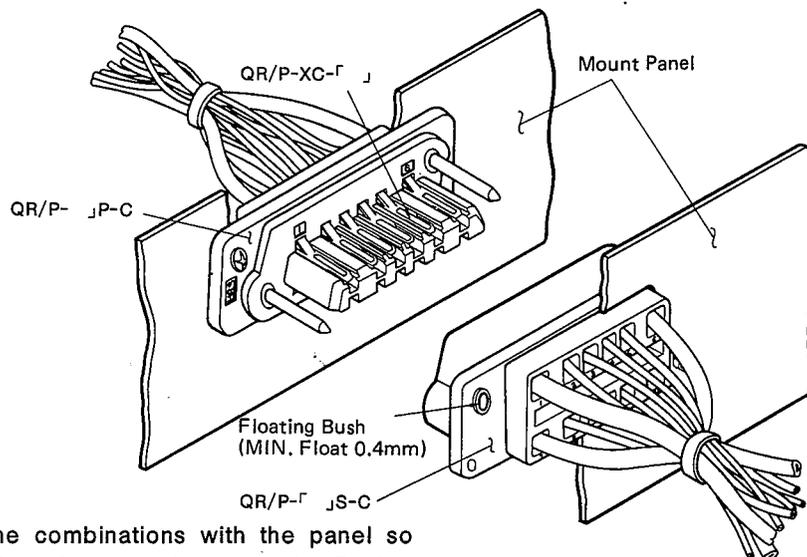
Applicable Wire	HRS No.	Part No.	Type	Plating
AWG#14-16	CL221-0009-2-12	QR/P-XC-111(12)	Loose	Selective gold over Nickel Plating
	CL221-0011-4-12	QR/P-XC-211(12)	Chain	
AWG#18-24	CL221-0010-1-12	QR/P-XC-121(12)	Loose	
	CL221-0012-7-12	QR/P-XC-221(12)	Chain	

\*: Standard

Note\* Loose-piece terminals are available in packs. Each pack contains 100 terminals. Strip terminals are available in reels. Each reel contains QR/P-XC-221 Pin 3,500. QR/P-XC-221 Pin 5,000 terminals.

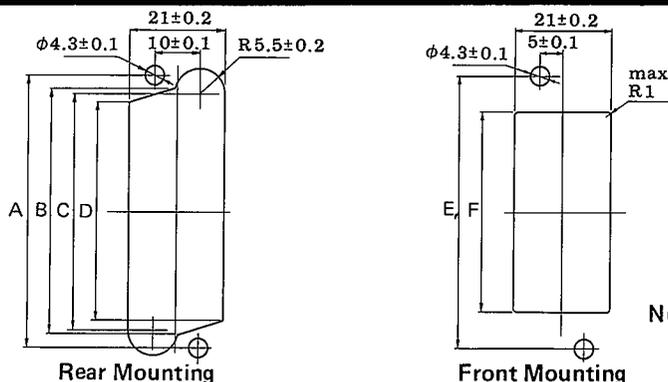
## How To Use Connectors

QR/P series connectors are primarily used in Plug-In Connection and the use is shown below.



Note: Determine the combinations with the panel so that the mating clearance between the P side and S side is 2 mm or less.

## Recommended Mounting Hole (for S Insulation Case)



Tolerance:  $\pm 0.2$

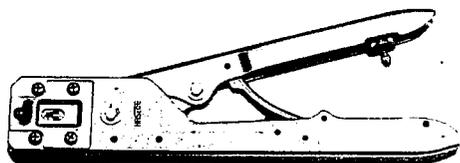
Unit: mm

No. of pin		4 pin	8 pin	12 pin	16 pin	24 pin
Rear Mounting	A	31	42	51	60	70
	B	26.5	37.5	46.5	55.5	73.5
	C	23	34	43	52	70
	D	18.5	29.5	38.5	47.5	65.5
Front Mounting	E	31	42	51	60	77
	F	15.5	26.5	35.5	44.5	62.5

Note: Panel mounting dimensions for the P insulation case are symmetrical with request to the vertical axis, in relation to the S insulation case.

## Tools

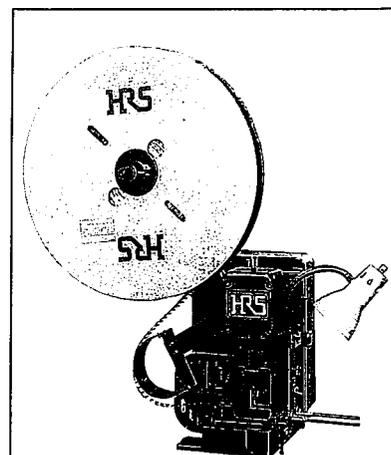
Item	HRS No.	Part No.	Applicable Contact	Applicable Cable
Hand Crimp Tool	CL250-0027-0	TC-2100-111	QR/P-XC-111	AWG#14-#16
	CL250-0028-2	TC-2100-121	QR/P-XC-121	AWG#18-#24
Applicator	CL901-2531-8	AP105-QR/P-XC-2	QR/P-XC-221	AWG#18-#24
Contact Extraction Tool	CL250-0009-8	TC-2100-21	—	—



Hand Crimp Tool

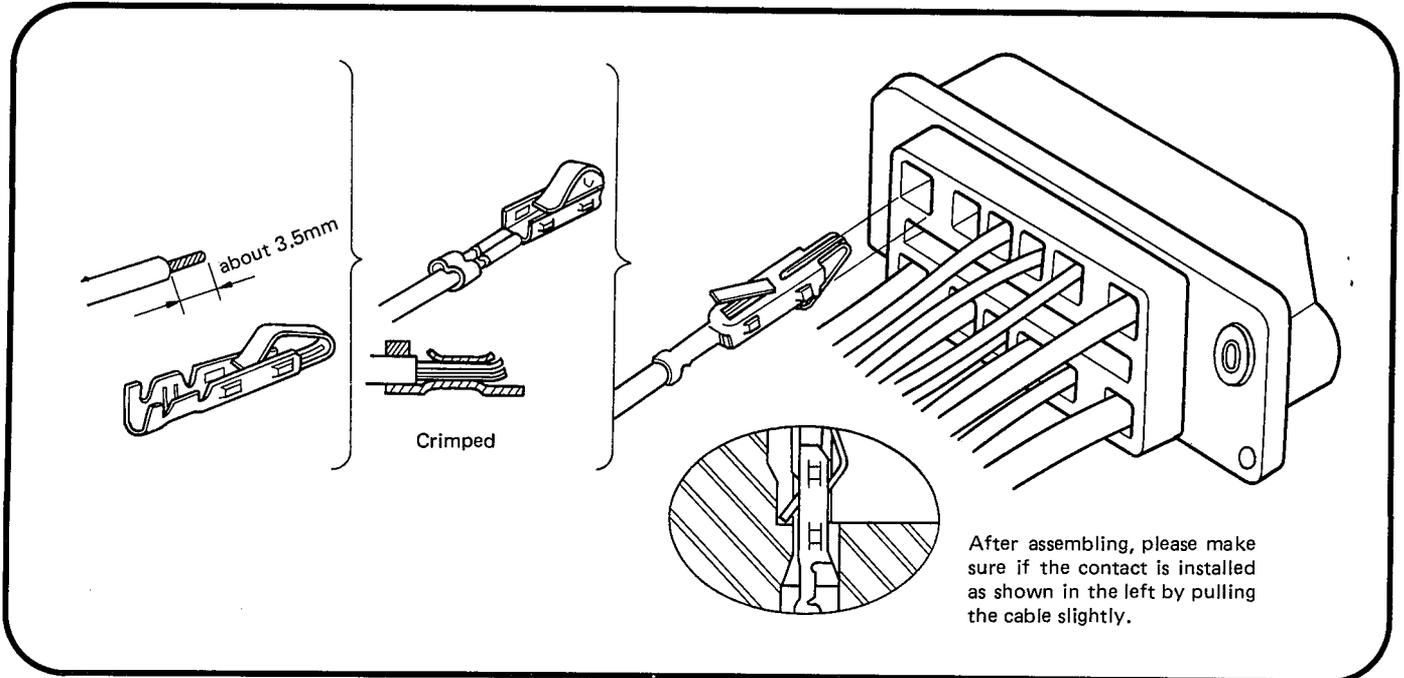


Contact Extraction Tool



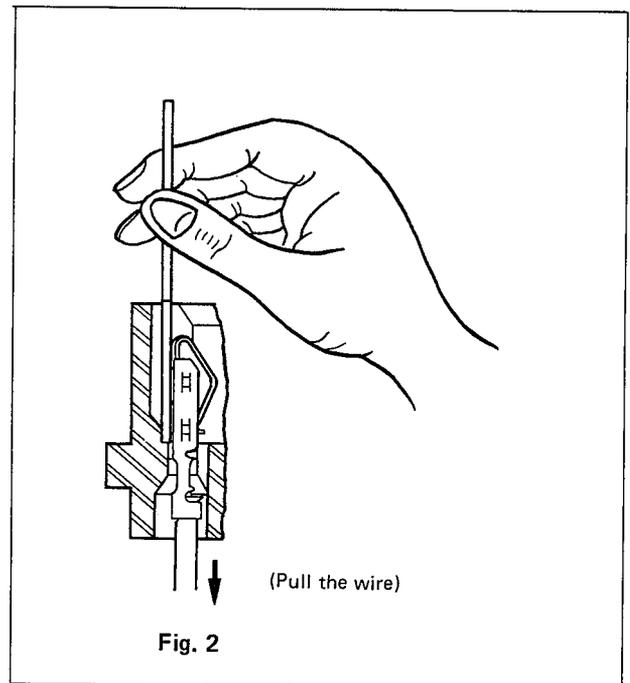
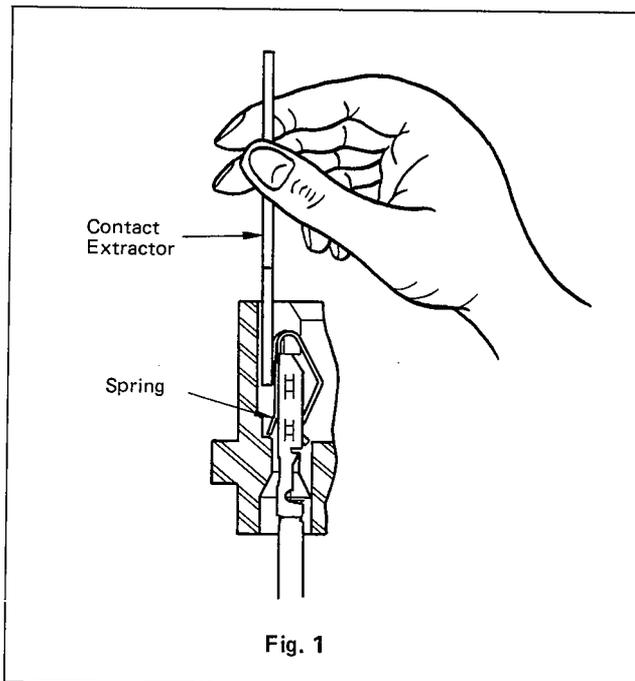
Auto Crimp Tool CM-105

## Assembling Procedure



## Procedure for Contact Extraction

In case of extracting a contact from the housing in insertion error or in circuit change, follow the steps as shown below.



1. Hold the Contact Extractor, placing the tip of the Extractor on the tip of a contact, then insert it between the contact and the housing, following to the Fig. 1.
2. When the tip of the Extractor comes into contact with a stepped part in the housing, the spring will come off from the stepped part with a snap which is felt. Then, extract the contact by pulling the wire.
3. Above Fig. 1 and Fig. 2 show how to extract a contact from socket housing. The same procedure can be employed to extract a contact from pin housing.
4. When the extracted contact is installed again in the housing, do not forget to raise up the contact spring to the original position.