

QR/P Series

Rectangular, High Pin Count, Rack and Panel Crimp Connector



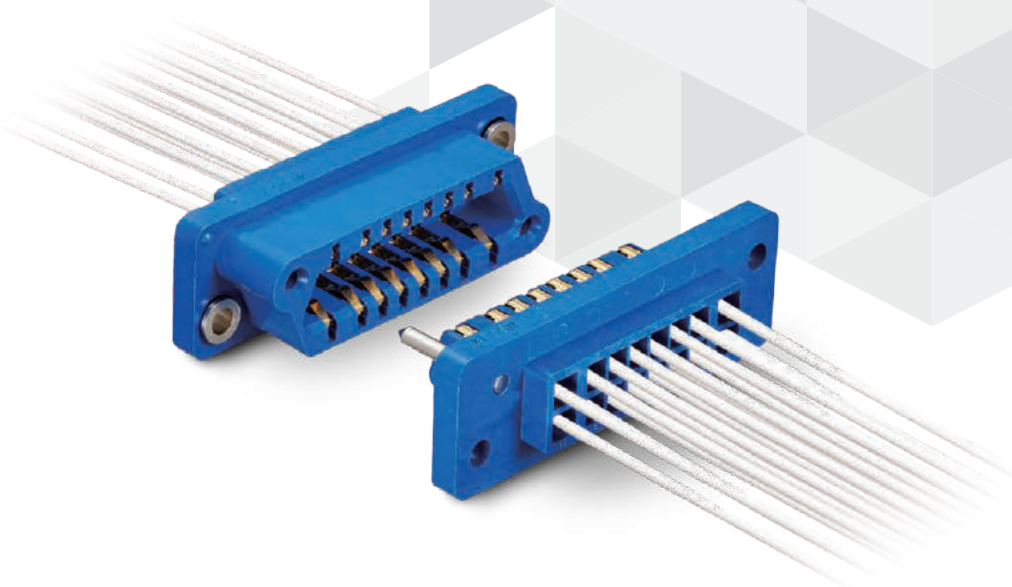
Multiple Position



Floating



Plug-In



Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Россия +7(495)268-04-70

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Казахстан +7(7172)727-132

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Киргизия +996(312)96-26-47

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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		2.5A	
	22 AWG				1A	
	24 AWG		1A			

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 ⑨

Contact

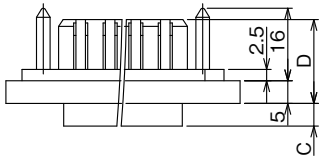
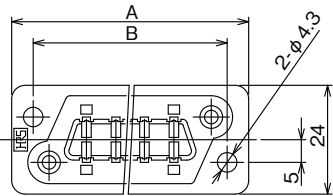
QR/P - X C - 1 1 1

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

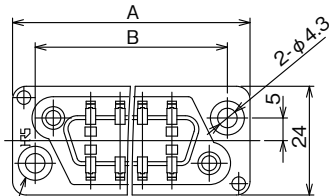


Unit : mm

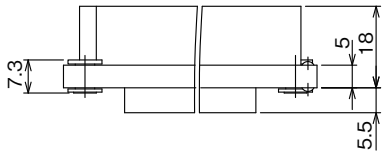
Part No.	HRS No.	No. of Pos.	A	B	C	D	Purchase Unit
QR/P-4P-C(21)	CL0221-0013-0-21	4	41.0	31.0	5.0	18.5	30pcs per bag
QR/P-8P-C(21)	CL0221-0001-0-21	8	52.0	42.0			
QR/P-12P-C(21)	CL0221-0002-3-21	12	61.0	51.0			
QR/P-16P-C(21)	CL0221-0003-6-21	16	70.0	60.0			
QR/P-24P-C(21)	CL0221-0004-9-21	24	86.5	77.0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

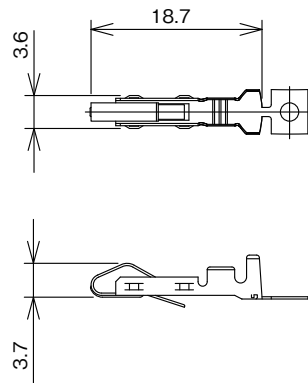
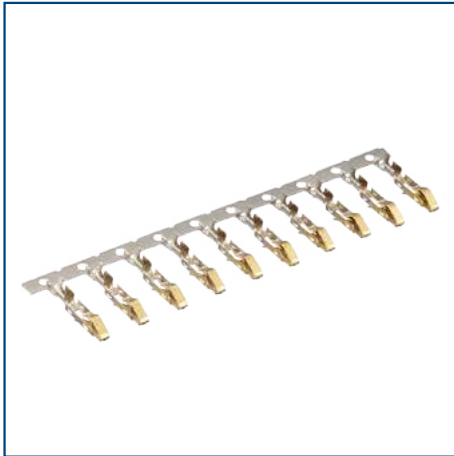


Unit : mm

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.

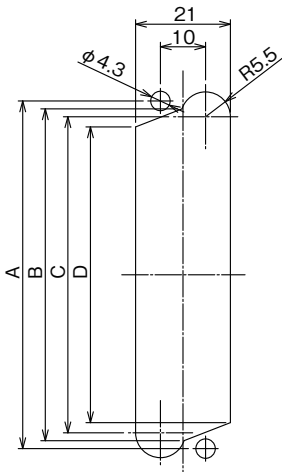
Contact (Male and Female Dual-purpose Contact)



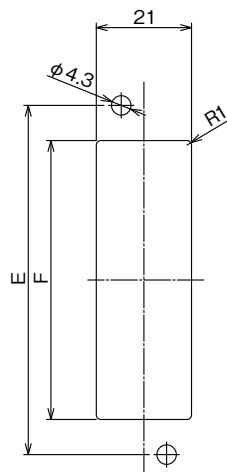
Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P-XC-111(12)	CL0221-0009-2-12	14 to 16 AWG	Loose	100pcs per bag
QR/P-XC-211(12)	CL0221-0011-4-12		Reel	3,500pcs per reel
QR/P-XC-121(12)	CL0221-0010-1-12	18 to 24 AWG	Loose	100pcs per bag
QR/P-XC-221(12)	CL0221-0012-7-12		Reel	5,000pcs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

QR/P1 Series

Small, Rectangular, High Pin Count, Rack and Panel Crimp Connector



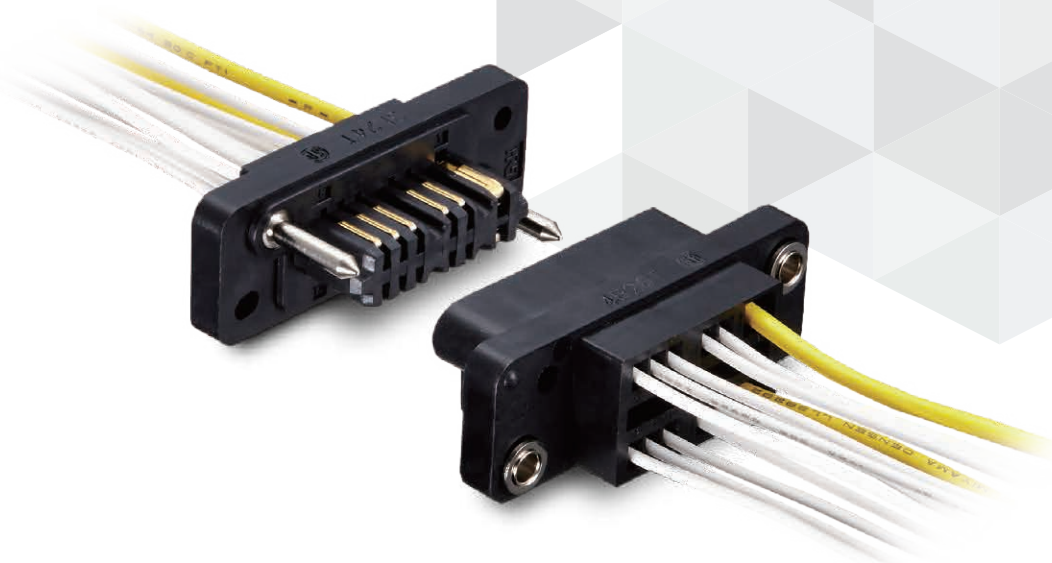
Multiple Position



Floating



Plug-In



Overview

The QR/P1 Series is a more compact version of the rectangular, multi-pin count and plug-in connection QR/P Series for racks and panels, which has been well received in the market. The QR/P1 Series is a compact rack and panel connector that enables even higher density mounting.

Five different pin counts are available: 8, 12, 16, 24, and 32. Wire connection is performed using crimp termination for easier workability and high reliability.

Features

1. Plug-in Design

The plug-in design enables a large effective mating length.

2. Floating bushing enables a floating design.

3. UL, CSA, TÜV certified.

Product Specifications

Rated Current	Power	13A Max. (When using 14 AWG)	Operating Temperature	-10 to +60°C
	Signal	3A		
Rated Voltage	Power	250V AC		
	Signal	125V AC		

Item	Specifications	Conditions
Contact Resistance	Power Contact : 10mΩ Max. Signal Contact : 15mΩ Max.	Measured at 1A DC
Insulation Resistance	5000MΩ Min.	Measured at 500V DC
Withstanding Voltage	No flashover or insulation breakdown	Power : 1000V AC for 1 min. Signal : 500V AC for 1 min.

Safety Standard			UL		CSA		TÜV	
Operating Temperature			-10 to +60°C					
Rated Voltage	Power		120V AC	250V AC	125V AC	250V AC	250V AC, 300V DC	
	Signal						125V AC, 150V DC	
Rated Current	14 AWG		10A	3A	10A	3A	10A	
	16 AWG				8A			
	18 AWG		3A	1A	3A	1A	5A	
	20 AWG						2.5A	
	22 AWG						1A	
	24 AWG	Power	2A	1A	2A	1A		
		Signal	1A	0.5A	1A	0.5A		
	26 AWG		1A	0.5A	1A	0.5A		
	28 AWG							

Material / Finish

Item	Material	Color/Finish	Remarks
Insulator	PBT	Black	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/P1 - 12 P - C (21)

① ② ③ ④ ⑪

Contact

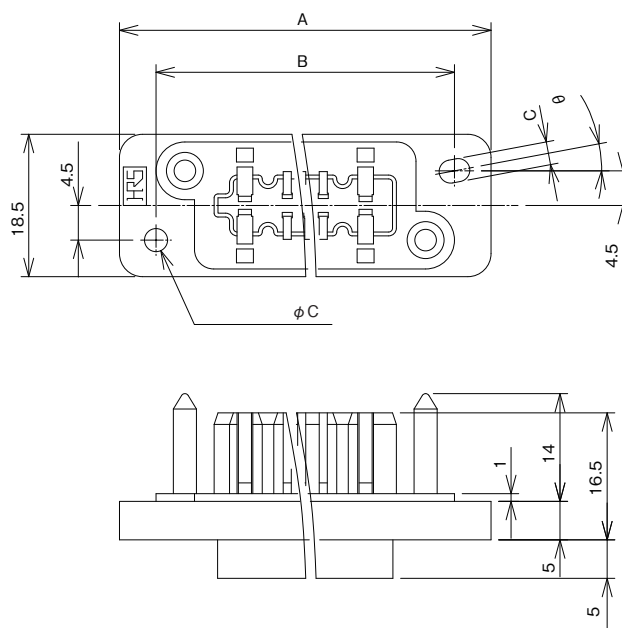
QR/P1 - PC 1 A - 1 1 1

① ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

① Series Name	QR/P1	⑦ Size of Barrel	A : For Thin Cable B : For Thick Cable
② No. of Pos.	8,12,16,24,32 pos.	⑧ Contact Type	1 : Loose Piece Contact 2 : Reel Contact
③ Insulator Gender	P : Male Insulation Case S : Female Insulation Case	⑨ Applicable Cable	(Power Contact) 1 : 18 to 24 AWG 2 : 14 to 16 AWG (Signal Contact) 1 : 24 to 28 AWG 2 : 20 to 24 AWG
④ Contact Connection Method	C : Crimp Connection		
⑤ Terminal Shape Symbol	PC : Male Crimp Contact SC : Female Crimp Contact	⑩ Surface Treatment	1 : Partial Gold Plating (Nickel Underplating)
⑥ Contact Type	1 : Power Contact 2 : Signal Contact	⑪ Specification	(21) : UL, CSA, TÜV

Housing

Male Housing

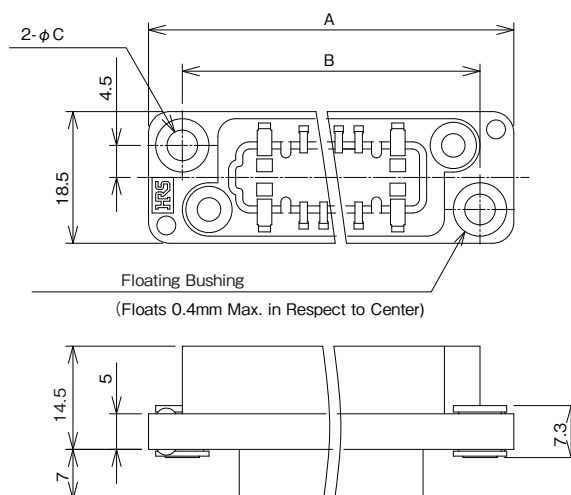


Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	θ	Purchase Unit
QR/P1-8P-C(21)	CL0221-0124-0-21	8	46.4	36.9	3.0	13.4°	50pcs per bag
QR/P1-12P-C(21)	CL0221-0100-2-21	12	51.0	42.0	3.0	12.1°	
QR/P1-16P-C(21)	CL0221-0110-6-21	16	57.6	48.1	3.0	10.6°	
QR/P1-24P-C(21)	CL0221-0112-1-21	24	68.8	59.3	3.0	8.6°	30pcs per bag
QR/P1-32P-C(21)	CL0221-0131-6-21	32	85.5	76.0	4.2	6.0°	

Note : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Female Housing



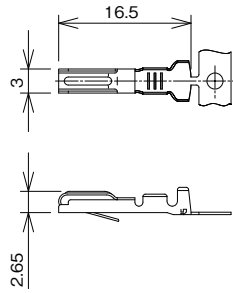
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
QR/P1-8S-C(21)	CL0221-0125-3-21	8	46.4	36.9	4.3	50pcs per bag
QR/P1-12S-C(21)	CL0221-0101-5-21	12	51.0	42.0	3.3	
QR/P1-16S-C(21)	CL0221-0111-9-21	16	57.6	48.1	4.3	
QR/P1-24S-C(21)	CL0221-0113-4-21	24	68.8	59.3	4.3	30pcs per bag
QR/P1-32S-C(21)	CL0221-0132-9-21	32	85.5	76.0	4.3	

Note : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Contact

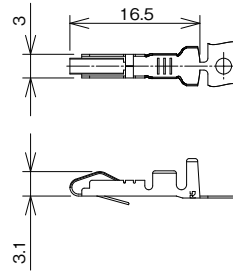
Male Power Contact



QR/P1-PC1A-211(12)

Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-PC1B-121(12)	CL0221-0114-7-12	14 to 16 AWG	Loose	100pcs per bag
QR/P1-PC1B-221(12)	CL0221-0118-8-12		Reel	3,000pcs per reel
QR/P1-PC1A-111(12)	CL0221-0102-8-12	18 to 24 AWG	Loose	100pcs per bag
QR/P1-PC1A-211(12)	CL0221-0106-9-12		Reel	5,000pcs per reel

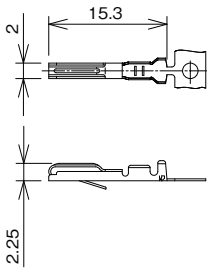
Female Power Contact



QR/P1-SC1A-211(12)

Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-SC1B-121(12)	CL0221-0116-2-12	14 to 16 AWG	Loose	100pcs per bag
QR/P1-SC1B-221(12)	CL0221-0120-0-12		Reel	3,000pcs per reel
QR/P1-SC1A-111(12)	CL0221-0104-3-12	18 to 24 AWG	Loose	100pcs per bag
QR/P1-SC1A-211(12)	CL0221-0108-4-12		Reel	5,000pcs per reel

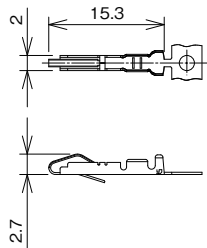
Male Signal Contact



QR/P1-PC2A-211(12)

Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-PC2B-121(12)	CL0221-0115-0-12	20 to 24 AWG	Loose	100pcs per bag
QR/P1-PC2B-221(12)	CL0221-0119-0-12		Reel	5,000pcs per reel
QR/P1-PC2A-111(12)	CL0221-0103-0-12	24 to 28 AWG	Loose	100pcs per bag
QR/P1-PC2A-211(12)	CL0221-0107-1-12		Reel	5,000pcs per reel

Female Signal Contact

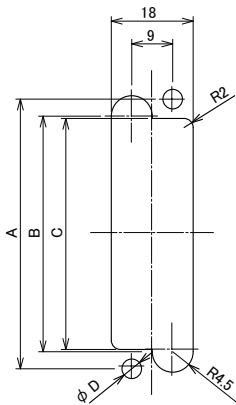


QR/P1-SC2A-211(12)

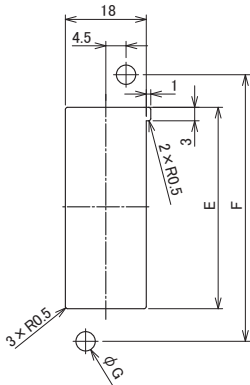
Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-SC2B-121(12)	CL0221-0117-5-12	20 to 24 AWG	Loose	100pcs per bag
QR/P1-SC2B-221(12)	CL0221-0121-2-12		Reel	5,000pcs per reel
QR/P1-SC2A-111(12)	CL0221-0105-6-12	24 to 28 AWG	Loose	100pcs per bag
QR/P1-SC2A-211(12)	CL0221-0109-7-12		Reel	5,000pcs per reel

Panel Mounting Dimensions (For Female Housing)

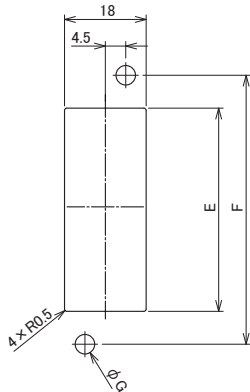
Female Housing (QR/P1-#S-C)



Attachment from Panel Rear Side



Attachment from Panel Front Side
(8 pos.)



Attachment from Panel Front Side
(Except 8 pos.)

Unit : mm

Type		8pos.	12pos.	16pos.	24pos.	32pos.
Rear Mount	A	36.9	42.0	48.1	59.3	76.0
	B	29.4	34.5	40.6	51.8	68.5
	C	28.4	33.5	39.6	50.8	67.5
	D	4.3	3.3	4.3	4.3	4.3
Front Mount	E	22.4	27.5	33.6	44.8	61.0
	F	36.9	42.0	48.1	59.3	76.0
	G	4.3	3.3	4.3	4.3	4.3

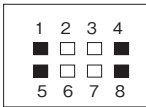
Note : The panel mounting dimensions of the male housing are symmetrical to the female housing in respect to the vertical axis.

Power Contact Arrangement

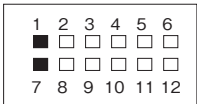
Male Housing (View from the Connection Side)

■ : Contact hole for power supply

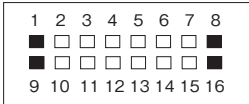
QR/P1-8P-C(21)



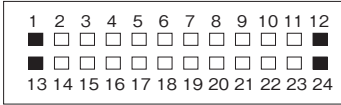
QR/P1-12P-C(21)



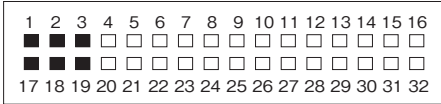
QR/P1-16P-C(21)



QR/P1-24P-C(21)



QR/P1-32P-C(21)



Tools



Manual Crimp Tool

Automatic Crimp Tool
CM-105C

Type	Part No.	HRS No.	Applicable Contact
Manual Crimp Tool	TC-QR/P1-PC1B	CL0250-0020-0-00	QR/P1-PC1B-121
	TC-QR/P1-PC1A	CL0250-0015-0-00	QR/P1-PC1A-111
	TC-QR/P1-SC1B	CL0250-0022-6-00	QR/P1-SC1B-121
	TC-QR/P1-SC1A	CL0250-0017-6-00	QR/P1-SC1A-111
	TC-QR/P1-PC2B	CL0250-0021-3-00	QR/P1-PC2B-121
	TC-QR/P1-PC2A	CL0250-0016-3-00	QR/P1-PC2A-111
	TC-QR/P1-SC2B	CL0250-0023-9-00	QR/P1-SC2B-121
	TC-QR/P1-SC2A	CL0250-0018-9-00	QR/P1-SC2A-111
Automatic Crimp Tool Applicator	AP105-QR/P1-1B-2	CL0901-2529-6-00	QR/P1-PC1B-221 QR/P1-SC1B-221
	AP105-QR/P1-2B-2	CL0901-2530-5-00	QR/P1-PC2B-221 QR/P1-SC2B-221
	AP105-QR/P1-1A-1	CL0901-2527-0-00	QR/P1-PC1A-211 QR/P1-SC1A-211
	AP105-QR/P1-2A-1	CL0901-2528-3-00	QR/P1-PC2A-211 QR/P1-SC2A-211
Extraction Tool	TC-QR/P1-21	CL0250-0019-1-00	-

QR/P4 Series

Small, Rectangular, High Pin Count, Rack and Panel Crimp Connector



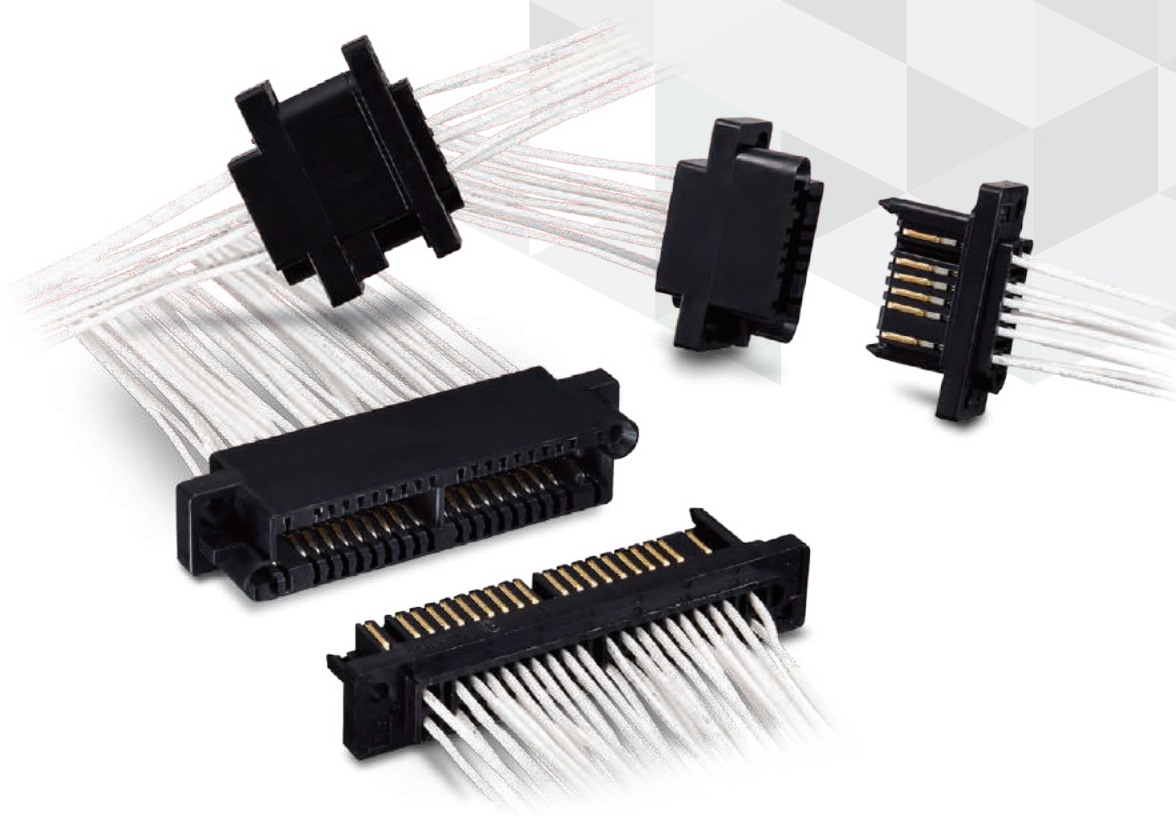
Multiple Position



Floating



Plug-In



Overview

The QR/P4 Series is a more compact version of the rectangular, multi-pin count and plug-in connection QR/P and QR/P1 Series for racks and panels, which have been well received in the market. The QR/P4 Series is a compact rack and panel connector that enables even higher density mounting.

Six different pin counts are available: 8, 12, 16, 24, 32 and 40. Wire connection is performed using crimp termination for easier workability and high reliability.

Features

1. The plug-in design enables a large effective mating length.
2. The guide pin and housing are molded into one piece for space-saving.
3. Use of stepped screws enables a floating design.
4. UL, CSA, TÜV certified.

Product Specifications

Operating Temperature	-10 to +60°C	
Rated Current	Power	3A Max. (When using 20 AWG)
	Signal	1A
Rated Voltage	Power	300V AC
	Signal	250V AC
Contact Resistance	Power Contact	15m Ω Max. (1A DC)
	Signal Contact	15m Ω Max. (1A DC)
Insulation Resistance	5000M Ω Min. at 500V DC	
Withstanding Voltage	Power	2000V AC for 1 min.
	Signal	500V AC for 1 min.

Safety Standard		UL, CSA	TÜV
Operating Temperature		-10 to +60°C	
Rated Voltage	Power	300V AC	250V AC, 300V DC
	Signal	250V AC	125V AC, 150V DC
Rated Current	20 AWG	3A	2.5A
	22 AWG		1A
	24 AWG	2A	
	26 AWG	1A	
	28 AWG		

Materials / Finish

Item	Material	Color / Finish	Remarks
Insulator	PBT	Black	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/P4 - 12 P - C (21)

① ② ③ ④ ⑩

Contact

QR/P1 - PC 2A - 1 1 1

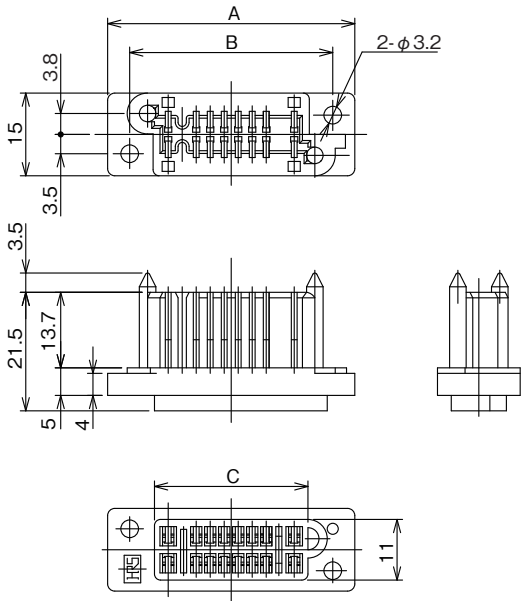
① ⑤ ⑥ ⑦ ⑧ ⑨

① Series Name	QR/P4 QR/P1 (Note 1)	⑥ Size of Barrel	2A : Thin Cable (UL1007) 2B : Thick Cable (UL1007) (Note 2)
② No. of Pos.	8, 12, 16, 24, 32, 40	⑦ Contact Type	1 : Loose Contact 2 : Reel Contact
③ Insulator Gender	P : Male Insulation Case S : Female Insulation Case	⑧ Applicable Cable	1 : Thin Cable 24 to 28 AWG 2 : Thick Cable 20 to 24 AWG
④ Contact Connection Method	C : Crimp Connection	⑨ Surface Treatment	1 : Partial Gold Plating (Nickel Underplating)
⑤ Contact Type	PC : Male Crimp Contact SC : Female Crimp Contact	⑩ Specification	(21) : UL, CSA, TÜV

Note 1 : The QR/P4 Series uses the contacts of the existing QR/P1 Series.
Note 2 : For 4 contact holes on both sides.

Housing

Male Housing

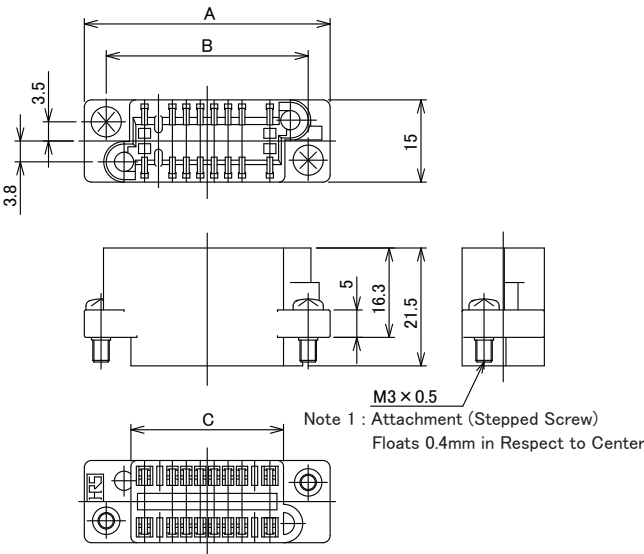


Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
QR/P4-8P-C(21)	CL0221-0159-5-21	8	34.68	26.68	17.68	50pcs per bag
QR/P4-12P-C(21)	CL0221-0139-8-21	12	39.8	31.8	22.8	
QR/P4-16P-C(21)	CL0221-0155-4-21	16	44.84	36.84	27.84	
QR/P4-24P-C(21)	CL0221-0141-0-21	24	55.0	47.0	38.0	
QR/P4-32P-C(21)	CL0221-0153-9-21	32	67.7	59.7	50.7	
QR/P4-40P-C(21)	CL0221-0211-3-21	40	77.86	69.86	60.86	

Note : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Female Housing



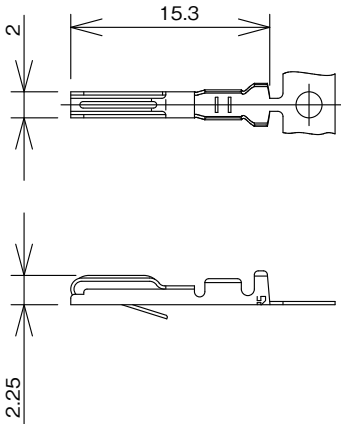
Unit : mm						
Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unit
QR/P4-8S-C(21)	CL0221-0160-4-21	8	34.68	26.68	17.68	50pcs per bag
QR/P4-12S-C(21)	CL0221-0140-7-21	12	39.8	31.8	22.8	
QR/P4-16S-C(21)	CL0221-0156-7-21	16	44.84	36.84	27.84	
QR/P4-24S-C(21)	CL0221-0142-2-21	24	55.0	47.0	38.0	
QR/P4-32S-C(21)	CL0221-0154-1-21	32	67.7	59.7	50.7	30pcs per bag
QR/P4-40S-C(21)	CL0221-0212-6-21	40	77.86	69.86	60.86	

Note 1 : It is also possible to purchase only the stepped screw of attachment.
Part No. QR/P4-SCREW(01) HRS No.CL0221-0181-4-01 Purchase Unit 100pcs per bag

Note 2 : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Contact

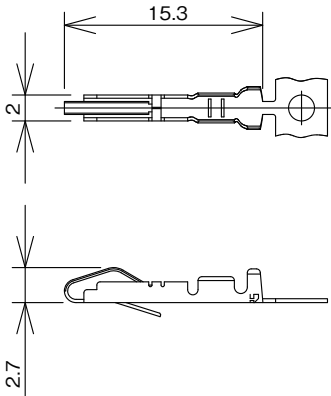
Male Contact for Thick Cable



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-PC2B-121(12)	CL0221-0115-0-12	20 to 24 AWG	Loose	100pcs per bag
QR/P1-PC2B-221(12)	CL0221-0119-0-12		Reel	5,000pcs per reel

Note : The contacts for thick cables can be crimped when using an applicable cable size of 24 AWG, but the contacts for thin cables are recommended.

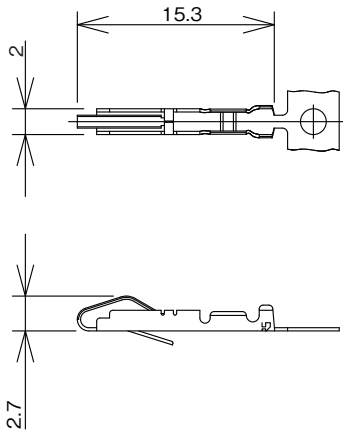
Female Contact for Thick Cable



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-SC2B-121(12)	CL0221-0117-5-12	20 to 24 AWG	Loose	100pcs per bag
QR/P1-SC2B-221(12)	CL0221-0121-2-12		Reel	5,000pcs per reel

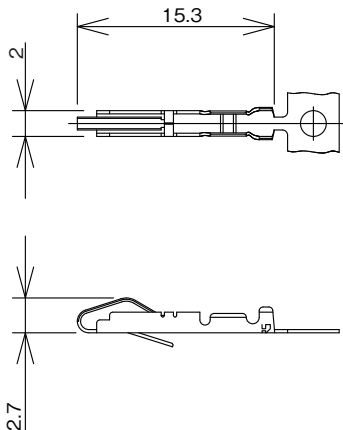
Note : The contacts for thick cables can be crimped when using an applicable cable size of 24 AWG, but the contacts for thin cables are recommended.

Male Contact for Thin Cable



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-PC2A-111(12)	CL0221-0103-0-12	24 to 28 AWG	Loose	100pcs per bag
QR/P1-PC2A-211(12)	CL0221-0107-1-12		Reel	5,000pcs per reel

Female Contact for Thin Cable

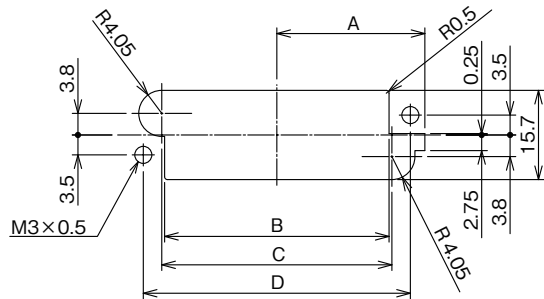


Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P1-SC2A-111(12)	CL0221-0105-6-12	24 to 28 AWG	Loose	100pcs per bag
QR/P1-SC2A-211(12)	CL0221-0109-7-12		Reel	5,000pcs per reel

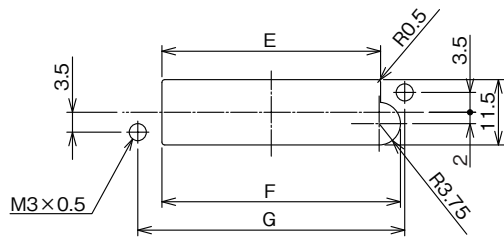
Panel Mounting Dimensions

Male Housing
(QR/P4-#P-C)

Attachment from Panel Rear Side



Attachment from Panel Front Side

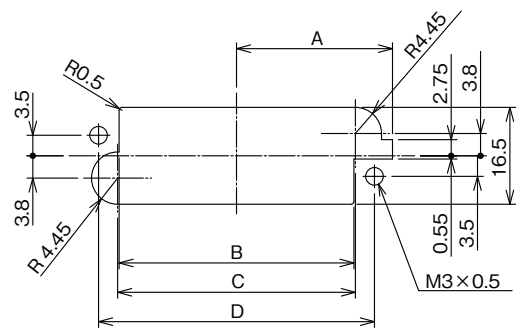


Unit : mm

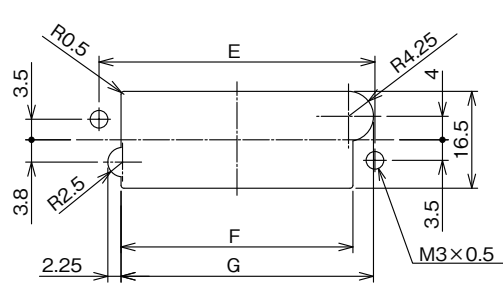
Type		8pos.	12pos.	16pos.	24pos.	32pos.	40pos.
Rear Mount	A	15.87	18.45	20.97	26.05	32.40	37.48
	B	19.18	24.30	29.34	39.50	52.20	62.36
	C	20.18	25.30	30.34	40.50	53.20	63.36
	D	26.68	31.80	36.84	47.0	59.70	69.86
Front Mount	E	18.18	23.30	28.34	38.50	51.20	61.36
	F	21.68	26.80	31.84	42.0	54.70	64.86
	G	26.68	31.80	36.84	47.0	59.70	69.86

Female Housing
(QR/P4-#S-C)

Attachment from Panel Rear Side



Attachment from Panel Front Side



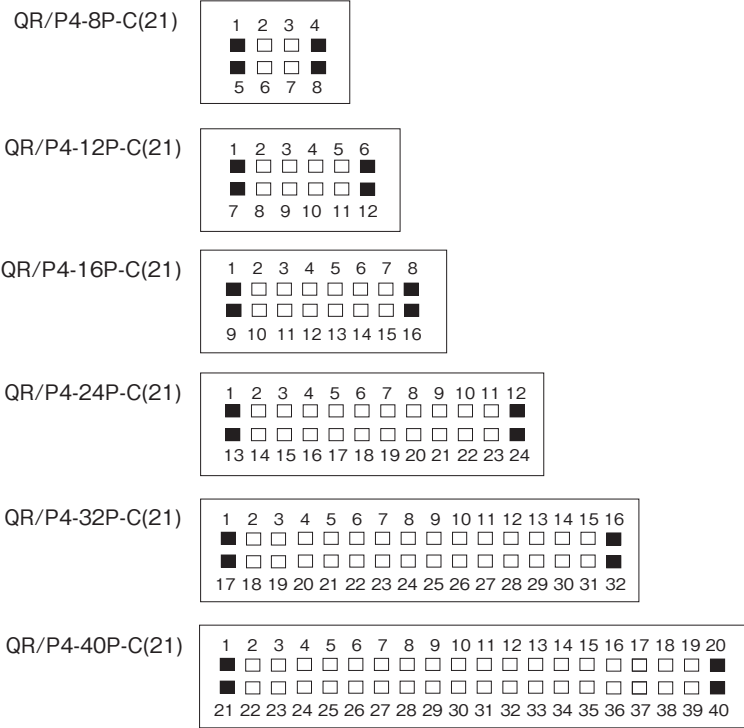
Unit : mm

Type		8pos.	12pos.	16pos.	24pos.	32pos.	40pos.
Rear Mount	A	16.37	18.95	21.49	26.57	32.90	37.98
	B	19.68	24.80	29.84	40.0	52.70	62.86
	C	20.18	25.30	30.34	40.5	53.20	63.36
	D	26.68	31.80	36.84	47.0	59.70	69.86
Front Mount	E	26.68	31.80	36.84	47.0	59.70	69.86
	F	19.18	24.30	29.34	39.5	52.20	62.36
	G	22.68	27.80	32.84	43.0	55.70	65.86

Contact Arrangement

Male Housing (View from the Connection Side)

- : Contact hole for thick cables (Can insert contacts for thin cables)
- : Contact hole for thin cables



Tools



Manual Crimp Tool

Applicator

Type	Part No.	HRS No.	Applicable Contact
Manual Crimp Tool	TC-QR/P1-PC2B	CL0250-0021-3-00	QR/P1-PC2B-121
	TC-QR/P1-PC2A	CL0250-0016-3-00	QR/P1-PC2A-111
	TC-QR/P1-SC2B	CL0250-0023-9-00	QR/P1-SC2B-121
	TC-QR/P1-SC2A	CL0250-0018-9-00	QR/P1-SC2A-111
Automatic Crimp Tool Applicator	AP105-QR/P1-2B-2	CL0901-2530-5-00	QR/P1-PC2B-221 QR/P1-SC2B-221
	AP105-QR/P1-2A-1	CL0901-2528-3-00	QR/P1-PC2A-211 QR/P1-SC2A-211
Extraction Tool	TC-QR/P4-21	CL0250-0029-5-00	QR/P1-SC2 · PC2

QR/P8 Series

Ultra-compact, Rectangular, High Pin Count, Rack and Panel Crimp Connector



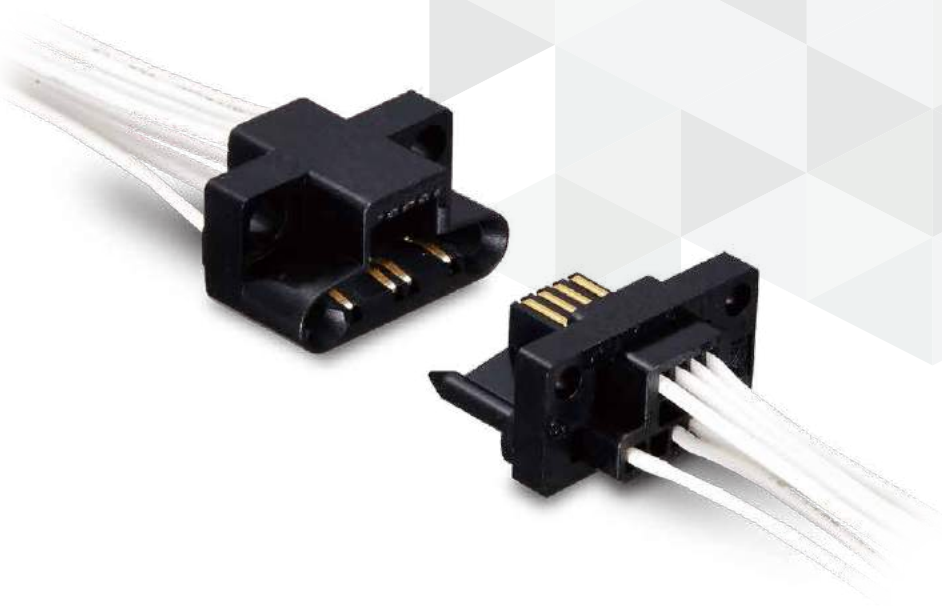
Compact



Floating



Plug-In



Overview

The QR/P8 Series is a more compact version of the rectangular, multi-pin count and plug-in connection QR/P, QR/P1 and QR/P4 Series for racks and panels, which have been well received in the market. Three different pin counts are available: 8, 12 and 20. Wire connection is performed using crimp termination for easier connection and higher reliability.

Features

1. Smaller size with the same number of pin counts as the QR/P4 Series (20% reduction)
2. The guide pin and housing are molded into one piece for space-saving.
3. Use of stepped screws enables a floating design.
4. UL, CSA, TÜV certified.

Product Specifications

Operating Temperature	-10 to +60℃	
Rated Current	Power	3A Max. (When using 20 AWG)
	Signal	2A Max. (When using 24 AWG)
Rated Voltage	Power	300V AC
	Signal	30V AC
Contact Resistance	30mΩ Max. at 1A DC	
Insulation Resistance	1000MΩ Min. at 500V DC	
Withstand Voltage	Power	2000V AC for 1 min.
	Signal	500V AC for 1 min.

Safety Standard			UL, CSA	TÜV
Operating Temperature			-10 to +60℃	
Rated Current	20 AWG		3A	2.5A
	22 AWG			1A
	24 AWG	Power	2A	
		Signal		
	26 AWG		1A	
	28 AWG			
Rated Voltage	Power		300V AC	380V AC
	Signal		30V AC	30V AC

Materials / Finish

Item	Material	Color / Finish	Remarks
Insulator	Polycarbonate	Black	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/P8

-

12

P

-

C

(21)

1

2

3

4

5

Contact

QR/P8

-

PC

-

1

1

1

1

6

7

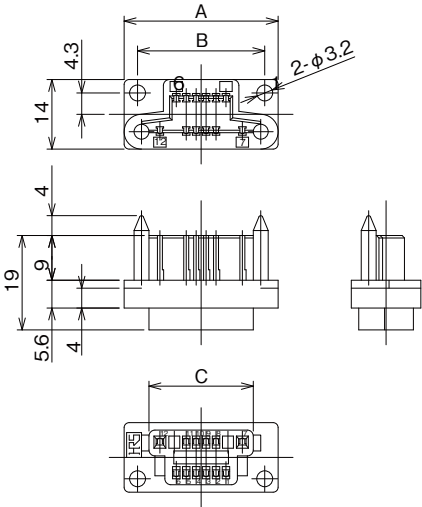
8

9

1 Series Name	QR/P8	6 Contact Gender	PC : Male Crimp Contact SC : Female Crimp Contact
2 No. of Pos.	8, 12, 20	7 Contact Type	1 : Loose Contact 2 : Reel Contact
3 Insulator Gender	P : Male Insulation Case S : Female Insulation Case	8 Applicable Cable	1 : Thick Cable 20 to 24 AWG ···2 contact holes on both sides 2 : Thin Cable 24 to 28 AWG
4 Contact Connection Method	C : Crimp Connection	9 Surface Treatment	1 : Partial Gold Plating (Nickel Underplating)
5 Specification	(21) : UL, CSA, TÜV		

Housing

Male Housing

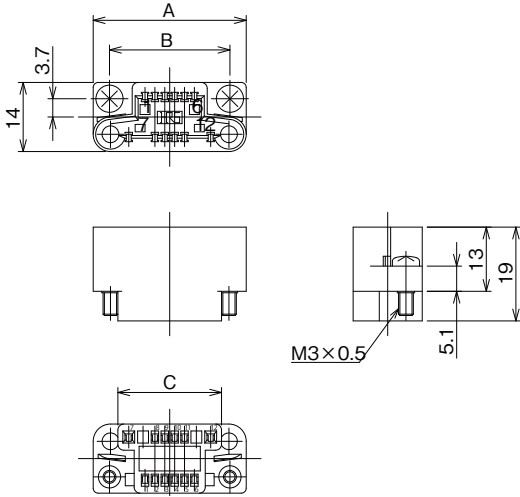


Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unint
QR/P8-8P-C(21)	CL0221-0167-3-21	8	27.0	21.6	17.0	50pcs per bag
QR/P8-12P-C(21)	CL0221-0169-9-21	12	31.0	25.6	21.0	
QR/P8-20P-C(21)	CL0221-0171-0-21	20	39.0	33.6	29.0	

Note : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Female Housing



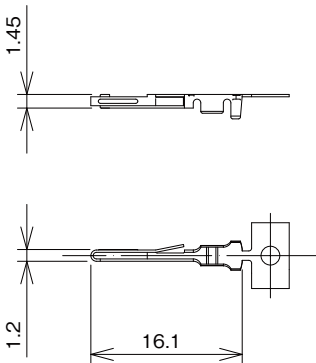
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	Purchase Unint
QR/P8-8S-C(21)	CL0221-0168-6-21	8	27.0	20.4	17.0	50pcs per bag
QR/P8-12S-C(21)	CL0221-0170-8-21	12	31.0	24.4	21.0	
QR/P8-20S-C(21)	CL0221-0172-3-21	20	39.0	32.4	29.0	

Note : When attaching to the panel, make sure that the mated clearance dimensions on the male and females sides are 1.5mm or less.

Contact

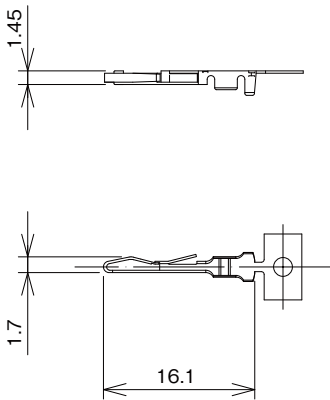
Male Contact for Thick Cable (2 Contact Holes on Both Sides)



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P8-PC-111	CL0221-0182-7-00	20 to 24 AWG	Loose	100pcs per bag
QR/P8-PC-211	CL0221-0175-1-00		Reel	8,000pcs per reel

Note : The contacts for thick cables can be crimped when using an applicable cable size of 24 AWG, but the contacts for thin cables are recommended.

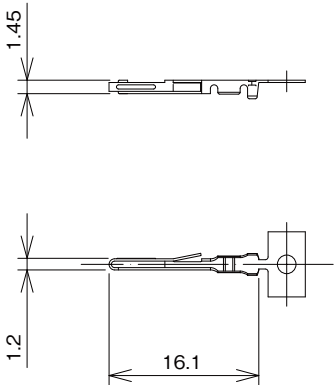
Female Contact for Thick Cable (2 Contact Holes on Both Sides)



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P8-SC-111(12)	CL0221-0183-0-12	20 to 24 AWG	Loose	100pcs per bag
QR/P8-SC-211(12)	CL0221-0173-6-12		Reel	8,000pcs per reel

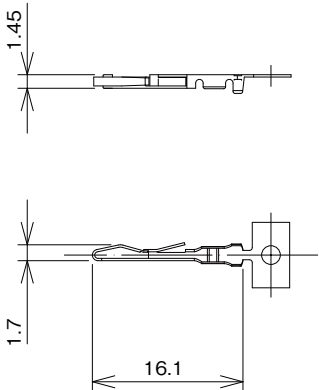
Note : The contacts for thick cables can be crimped when using an applicable cable size of 24 AWG, but the contacts for thin cables are recommended.

Male Contact for Thin Cable



Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P8-PC-121	CL0221-0184-2-00	24 to 28 AWG	Loose	100pcs per bag
QR/P8-PC-221	CL0221-0176-4-00		Reel	8,000pcs per reel

Female Contact for Thin Cable

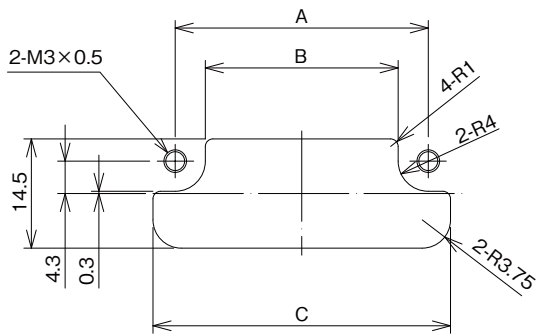


Part No.	HRS No.	Applicable Cable	Type of Packing	Purchase Unit
QR/P8-SC-121(12)	CL0221-0185-5-12	24 to 28 AWG	Loose	100pcs per bag
QR/P8-SC-221(12)	CL0221-0174-9-12		Reel	8,000pcs per reel

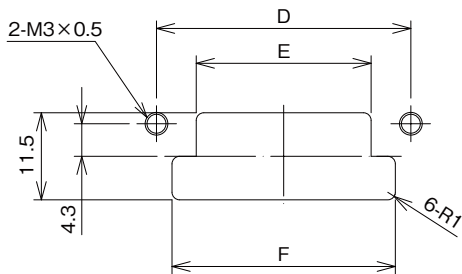
Panel Mounting Dimensions

Male Housing
(QR/P8-#P-C)

Attachment from Panel Rear Side



Attachment from Panel Front Side

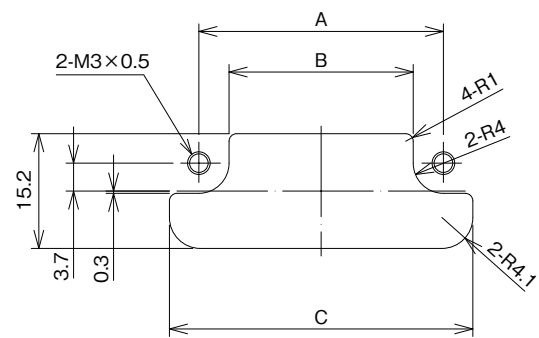


Unit : mm

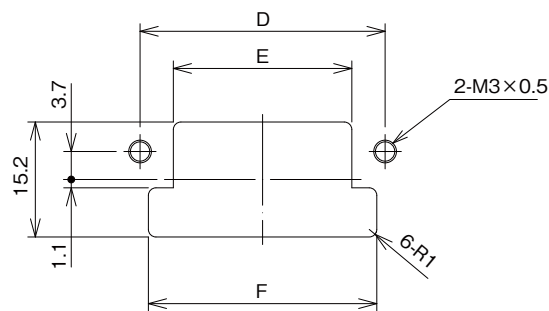
Type		8pos.	12pos.	20pos.
Rear Mount	A	21.6	25.6	33.6
	B	13.6	17.6	25.6
	C	27.5	31.5	39.5
Front Mount	D	21.6	25.6	33.6
	E	11.1	15.1	23.1
	F	17.5	21.5	29.5

Female Housing
(QR/P8-#S-C)

Attachment from Panel Rear Side



Attachment from Panel Front Side



Unit : mm

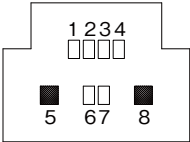
Type		8pos.	12pos.	20pos.
Rear Mount	A	20.4	24.4	32.4
	B	12.4	16.4	24.4
	C	28.2	32.2	40.2
Front Mount	D	20.4	24.4	32.4
	E	11.6	15.6	23.6
	F	18.2	22.2	30.2

Contact Arrangement

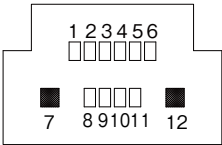
Male Housing (View from the Connection Side)

- : Contact hole for thick cables (Can insert contacts for thin cables)
- : Contact hole for thin cables

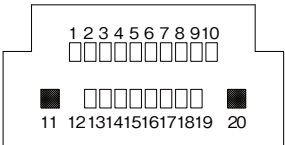
QR/P8-8P-C(21)



QR/P8-12P-C(21)



QR/P8-20P-C(21)



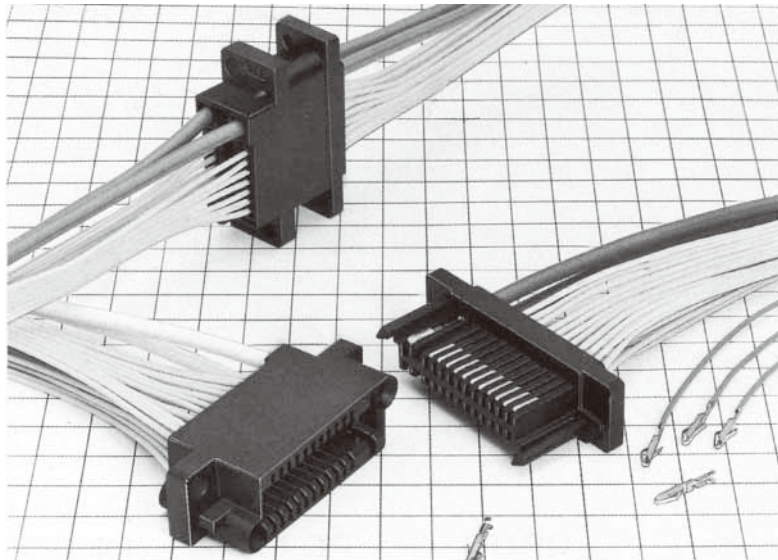
QR/P6 SERIES

QR/P6 SERIES RECTANGULAR MINIATURE MULTI-CONTACT RACK/PANEL CRIMP CONNECTOR

General

The QR/P6 Series are miniaturized versions of the QR/P and QR/P1 series. Rectangular multi-contact rack and panel connectors for plug-in connection.

Available in 6, 12, 16, and 24 contacts for highly efficient and reliable crimp termination.



Features

- (1) Offers smooth insertion/extraction and stable contact pressure through point-blade contact, and has ample allowance for the deviations in contact length specific to plug-in connection.
- (2) Miniaturized by separating power contacts from signal contacts.
- (3) Signal contacts in the housing are located in pitches of 2.54mm. The opposed contacts at one end of the connector are spaced 6.9mm so that they can withstand high voltage. Can be used for power supplies. Uses flame-retardant insulator (UL94-0).
- (4) Miniaturized using guide pins integral with the insulator.
- (5) Ensures smooth insertion and extraction, and designed to be fixed with stepped screws on a panel or rack.
- (6) The female housing is designed to allow the contact part of the female terminal to be below the mating surface, meeting the Finger Test Requirements (complying with UL 1950)
- (7) The connectors of the series have passed UL, CSA and TÜV standard.

Application

PPC, Transmission/Reception equipment, Data Communication, equipment, Vending machines,

Measuring Instruments, Automation equipment, Switch-boards.

Main Specification

General ratings of QR/P6		
Contact Resistance	Power terminal	10mΩ or less at DC1A
	Signal terminal	15.mΩ or less at DC1A
Insulation Resistance	5000MΩ or less at DC 500V	
Withstand Voltage (for 1 min.)	Power unit	AC 1000V
	Signal unit	AC 500V
Rated current	Power terminal	10A
	Signal terminal	1A
Rated voltage	AC 120V	

Main materials		
Insulator	PBT resin	Black
Terminal	Phosphor bronze	Selective Gold plating with nickel underplating

*UL94V-0

QR/P6 ratings approved by safety standards				
Safety standard		UL	CSA	TÜV
Operating temperature range		- 10 ~ + 60°C		
Rated voltage	Power supply unit	AC 250V		AC250V
	Signal unit			AC125V
Rated current	AWG#14	10A	10A	10A
	AWG#16		8A	
	AWG#18	5A	5A	5A
	AWG#20	3A	3A	2.5A
	AWG#22			1A
	AWG #24	Power supply	3A	1A
		Signal unit	1A	
	AWG#26	1A	1A	1A
	AWG#28			—

Ordering Information

▲ Connector Unit

QR / P6 — 12 P — C — (21)

(1) (2)(3) (4) (11)

▲ Contact

QR / P1 — PC 1 A — 1 1 1

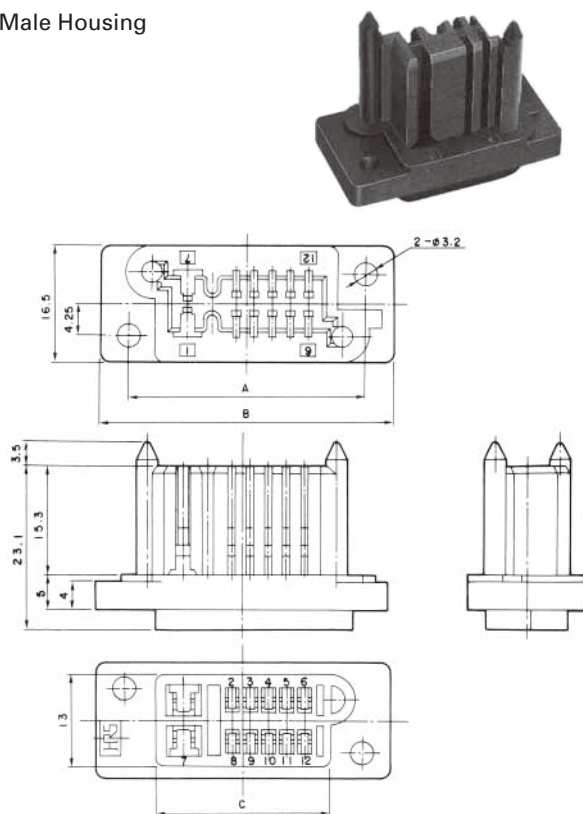
(1) (5)(6)(7) (8)(9)(10)

- (1) Series name
- (2) No.of contacts (6, 12, 16, 24)
- (3) Shape of insulator mating part
 - P: Insulator male case
 - S: Insulator female case
- (4) Type of termination
 - C: Crimp termination
- (5) Male/ Female
 - PC: Male crimp terminal
 - SC: Female crimp terminal
- (6) Type
 - 1: Power terminal
 - 2: Signal terminal

- (7) Crimp barrel size
 - A: For thin wires
 - B: For thick wires
- (8) Shape
 - 1: Loose contact
 - 2: Chain contact
- (9) Applicable wire
 - 1: Power terminal AWG # 18 - # 24
 - Signal terminal AWG # 24 - # 28
 - 2: Power terminal AWG # 14 - # 16
- (10) Surface terminal
 - 1: Selective gold plating with nickel underplating
- (11) Specifications meeting UL, CSA TÜV requirements

Housing

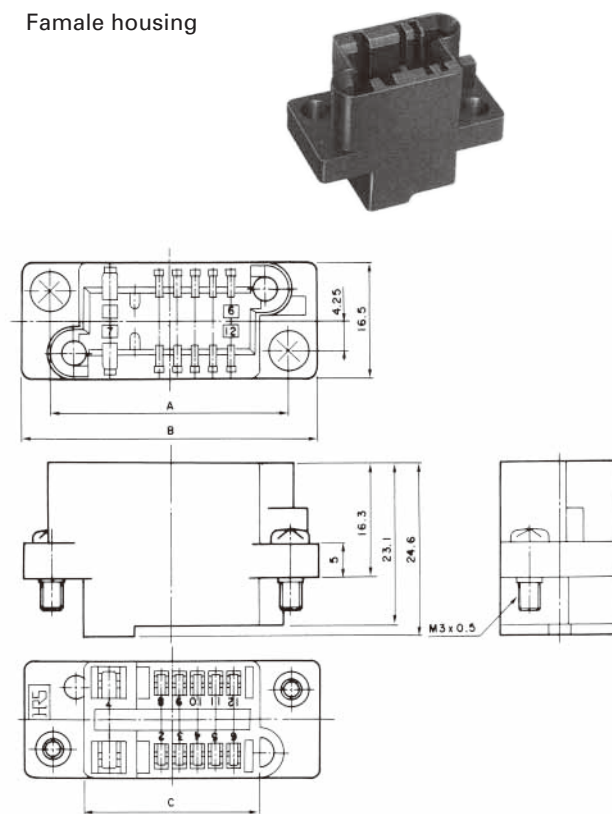
Male Housing



Unit: mm

HRS No.	No. of Pin	Part No.	A	B	C	RoHS
CL0221-0162-0-21	6	QR/P6- 6P-C (21)	24.67	32.67	15.87	○
CL0221-0163-2-21	12	QR/P6-12P-C (21)	33.47	41.47	24.67	
CL0221-0207-6-21	16	QR/P6-16P-C (21)	38.55	46.55	29.75	
CL0221-0209-1-21	24	QR/P6-24P-C (21)	48.71	56.71	39.91	

Female housing



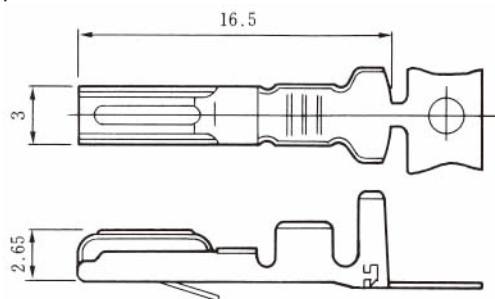
Unit: mm

HRS No.	No. of Pin	Part No.	A	B	C	RoHS
CL0221-0161-7-21	6	QR/P6- 6S-C (21)	24.67	32.67	15.87	○
CL0221-0164-5-21	12	QR/P6-12S-C (21)	33.47	41.47	24.67	
CL0221-0208-9-21	16	QR/P6-16S-C (21)	38.55	46.55	29.75	
CL0221-0210-0-21	24	QR/P6-24S-C (21)	48.71	56.71	39.91	

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

Contact

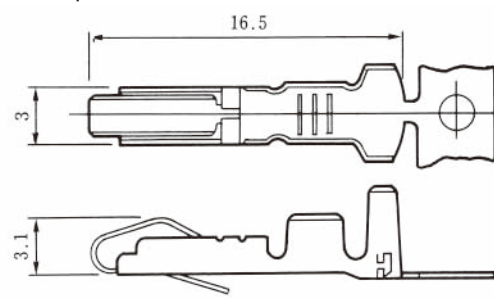
Male power terminal



Selective gold plated with nickel underplating

Applicable Wire	HRS No.	Part No.	Type	Packing	RoHS
UL1015 AWG#14~16	CL0221-0114-7-12	QR/P1-PC1B-121 (12)	Loose contact	100pin	○
	CL0221-0118-8-12	QR/P1-PC1B-221 (12)	Chain contact	3,000pin	
UL1007 AWG#18~24	CL0221-0102-8-12	QR/P1-PC1A-111 (12)	Loose contact	100pin	
	CL0221-0106-9-12	QR/P1-PC1A-211 (12)	Chain contact	5,000pin	

Female power terminal

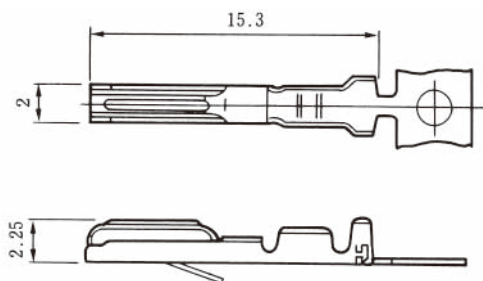


Selective gold plated with nickel underplating

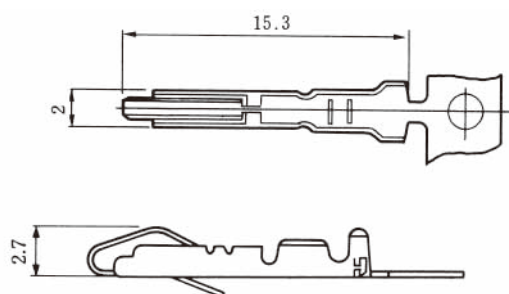
Applicable Wire	HRS No.	Part No.	Type	Packing	RoHS
UL1015 AWG#14~16	CL0221-0116-2-12	QR/P1-SC1B-121 (12)	Loose contact	100pin	○
	CL0221-0120-0-12	QR/P1-SC1B-221 (12)	Chain contact	3,000pin	
UL1007 AWG#18~24	CL0221-0104-3-12	QR/P1-SC1A-111 (12)	Loose contact	100pin	
	CL0221-0108-4-12	QR/P1-SC1A-211 (12)	Chain contact	5,000pin	

Contact

Male signal terminal



Female signal terminal



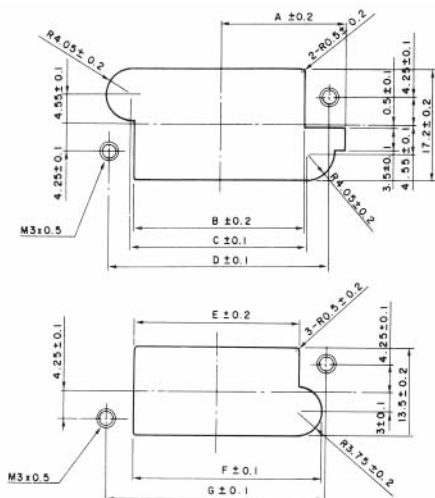
Selective gold plated with nickel underplating

Applicable Wire	HRS No.	Part No.	Type	Packing	RoHS
UL1007	CL0221-0103-0-12	QR/P1-PC2A-111 (12)	Loose	100pin	○
AWG#24~28	CL0221-0107-1-12	QR/P1-PC2A-211 (12)	Chain	5,000pin	

Selective gold plated with nickel underplating

Applicable Wire	HRS No.	Part No.	Type	Packing	RoHS
UL1007	CL0221-0105-6-12	QR/P1-SC2A-111 (12)	Loose	100pin	○
AWG#24~28	CL0221-0109-7-12	QR/P1-SC2A-211 (12)	Chain	5,000pin	

Panel Mounting Dimensions (for Cases with P Insulation)



Mounting on panel outside

Unit: mm

No. of pin		8 Pin	12 Pin	16 Pin	24 Pin
Mounting on panel inside	A	14.87	19.27	21.85	26.95
	B	17.17	25.97	31.18	41.34
	C	18.17	26.97	32.05	42.21
	D	24.67	33.47	38.55	48.71
Mounting on panel outside	E	16.37	25.17	30.25	40.41
	F	19.87	28.67	33.75	43.91
	G	24.67	33.47	38.55	48.71

Applicable Tools



Hand crimping tool



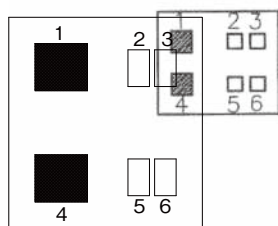
Automatic crimping machine
CM-105
CL0901-0005-4-00

Type	HRS No.	Part No.	Applicator terminay
Hand Crimp Tool	CL0250-0020-0-00	TC-QR/P1-PC1B	QR/P1-PC1B-121
	CL0250-0015-0-00	TC-QR/P1-PC1A	QR/P1-PC1A-111
	CL0250-0022-6-00	TC-QR/P1-SC1B	QR/P1-SC1B-121
	CL0250-0017-6-00	TC-QR/P1-SC1A	QR/P1-SC1A-111
	CL0250-0016-3-00	TC-QR/P1-PC2A	QR/P1-PC2A-111
	CL0250-0018-9-00	TC-QR/P1-SC2A	QR/P1-SC2A-111
Auto Crimp Machine Applicator	CL0901-2529-6-00	AP105-QR/P1-1B-2	QR/P1-PC1B-221
	CL0901-2527-0-00	AP105-QR/P1-1A-1	QR/P1-PC1A-211
	CL0901-2528-3-00	AP105-QR/P1-2A-1	QR/P1-SC1A-211
			QR/P1-PC2A-211
Hand Tool	CL0250-0242-2-00	TC-QR/P6-21	QR/P1-SC2A-211

Contacts for thick wire Contact Configuration

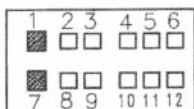
Male Housing (Viewed from Wiring Side)

■: indicates a contact hole for thick wire

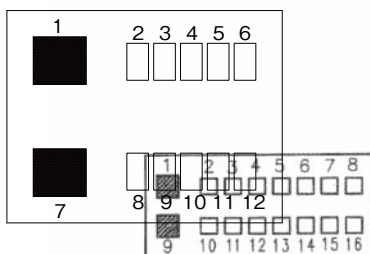


QR/P6-6P-C (01)

QR/P6-6P-C(21)



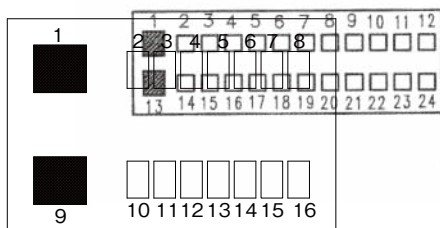
QR/P6-12P-C (01)



QR/P6-16P-C (01)

QR/P6-12P-C(21)

QR/P6-24P-C (01)



QR/P1-32P-C (01)

QR/P6-16P-C(21)

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