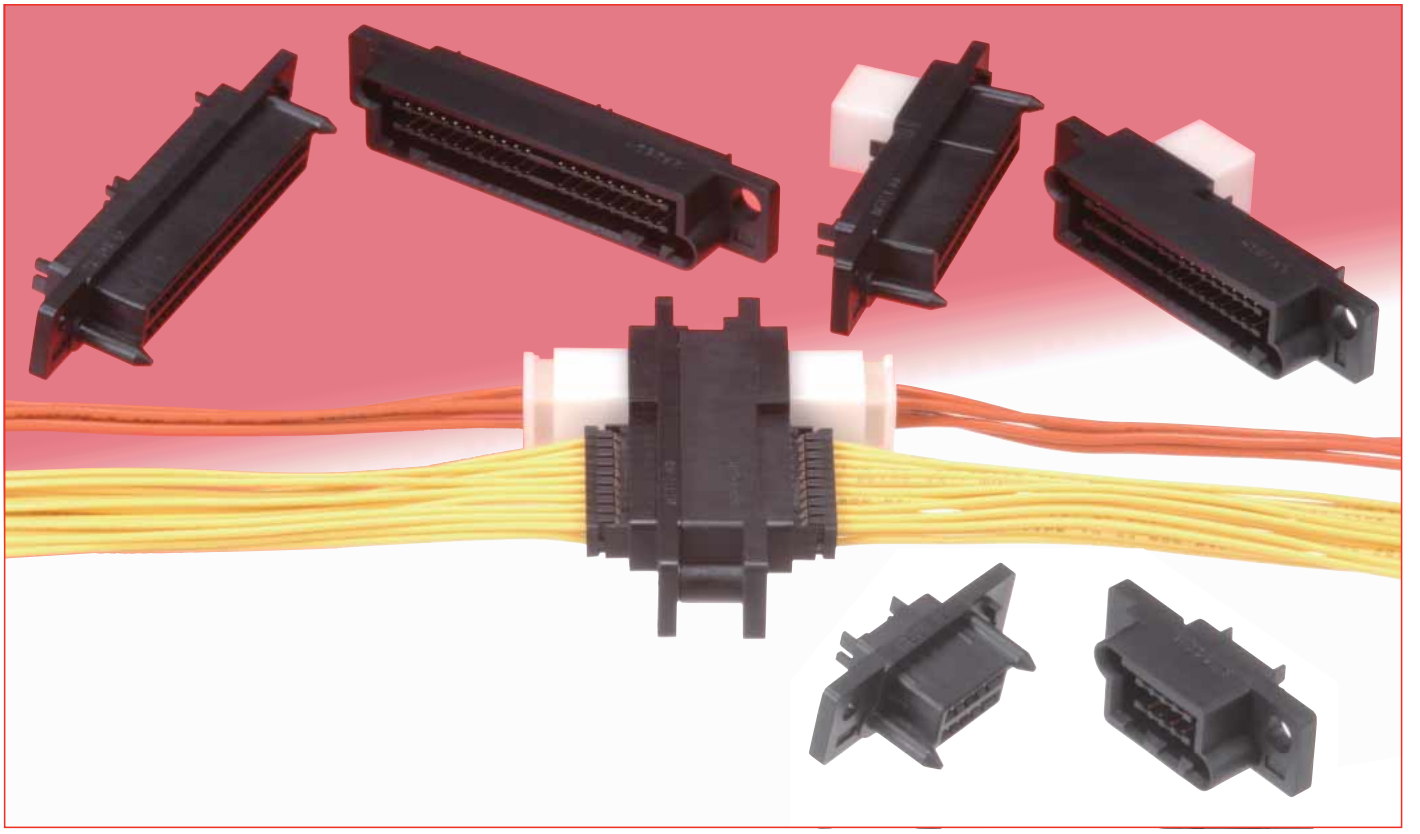
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Ultra-small Rack/Panel Crimp Connectors

QR/P15 Series



■Overview

Expansion of the proven QR/P Series with a separate panel-mounted plugs / receptacles connecting with detachable crimp terminated connectors.

Plugs / receptacles can be mounted on the panels and the terminated connectors may be inserted at later time, allowing wire crimp termination to be done away from the equipment.

Available in 8 or 24 positions (with 4 positions for power contacts) and 40 positions.

■Features

1. Fully terminated connectors (crimp contacts) can be inserted / removed from the panel mounted plugs/receptacles. Polarization assures correct orientation, preventing incorrect insertion of the connectors in the module.

2. Sequenced contact mating (40-position only)

The protection of the circuit is assured by having the 4 contact at each end of the receptacle protrude forward by 0.8 mm, with electrical wipe of 4.0 mm.

Remaining contacts electrical wipe is 3.2 mm.

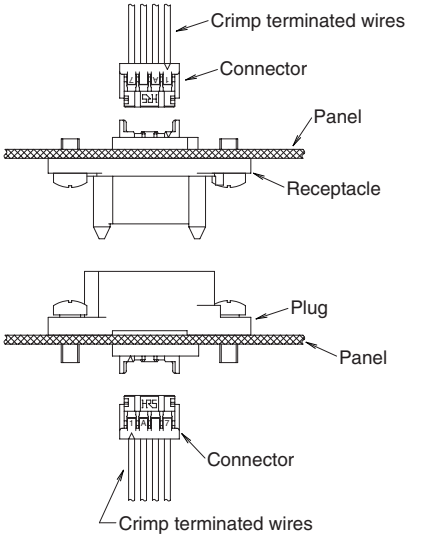
3. Accepts power supply connections (24-position only)

The 24-position connectors incorporate power supply contacts. The power supply connections use an MDF6 Series 4-position connector (3.5 mm pitch, UL and CSA recognized, and can handle 6A a current using AWG #16 conductors.

4. Reliable connections.

Two-point contacts assure highly reliable electrical and mechanical connection.

●Separate connection to panel-mounted connectors



■Applications

PPC, data communications equipment, automatic vending machines, measuring instruments and other applications requiring small rack-and-panel connectors.

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■Specifications

Ratings	Current rating	Signal: 1 A Power: 6 A	Operating temperature range:−10°C to +60°C
	Voltage rating	30V AC, DC	

Item	Specification		Conditions
1. Insulation resistance	1,000 MΩ min.		500 V DC
2. Withstanding voltage	No flashover or insulation breakdown		500 V AC / 1 minute
3. Contact resistance	50 mΩ max.		100 mA
4. Mating/ Unmating forces	8 pos.	0.8 N min. 8 N max.	Measured when mated with corresponding connector
	24 pos.	2.8 N min. 28 N max.	
	40 pos.	4.0 N min. 40 N max.	
5. Durability	Contact resistance: 60 mΩ max.		1,000 cycles No damage, cracks or parts dislocation.
6. Vibration	No electrical discontinuity of 10 μs or longer		Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 3 directions for 2 hours No damage, cracks or parts dislocation.
7. Shock	No electrical discontinuity of 10 μs or longer		Acceleration of 490 m/s², 11 ms duration, sine half-wave, 3 cycles in each of the 3 axis No damage, cracks or parts dislocation.
8. Temperature cycle	Contact resistance: 60 mΩ max. Insulation resistance: 1,000 MΩ min.		No damage, cracks or parts dislocation. Temperature: -55 → +5 to 35 → +85 → +5 to 35 °C Time: 30 → 5 → 30 → 5 min. 5 cycles
9. Humidity (Steady state)	Contact resistance: 60 mΩ max. Insulation resistance: 1,000 MΩ min.		No damage, cracks or parts dislocation. 96 hours at 40°C, R.H. 90% to 95%
10. Hydrogen sulfide	Contact resistance: 60mΩ max.		96 hours at a concentration of 3 ppm

■Materials / Finishes

●Plug

Part	Material	Finish	Remarks
Insulator	PBT	Color: Black	UL94V-0
Contacts	Phosphor bronze	Selective gold plated	————
Pin socket	Polyamide	Color: Black, white (Natural)*	UL94V-0
Shoulder Screw	Steel	Nickel plated	————

●Receptacle

Part	Material	Finish	Remarks
Insulator	PBT	Color: Black	UL94V-0
Contacts	Phosphor bronze	Selective gold plated	————
Pin socket	Polyamide	Color: Black, white (Natural)*	UL94V-0

*Insulator bodies for the MDF6 connectors in the 24-position power supply connector will be white.

■Ordering information

QR / P15 - 24 (4) P- C (50)

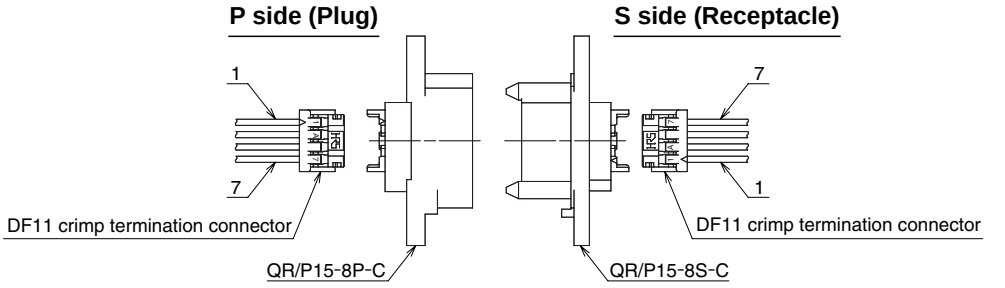
❶ ❷ ❸ ❹ ❺ ❻

❶ Series name		: QR/P15
❷ Number of contacts		: 8, 24, 40
❸ Number of power contacts		: 4 (24 position connector only)
❹ Connector type	P	: Plug
	S	: Receptacle
❺ Series number		
❻ Specification number	50	: Standard

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■Connector Mating Charts and Wiring Termination Tables

●8-pos.

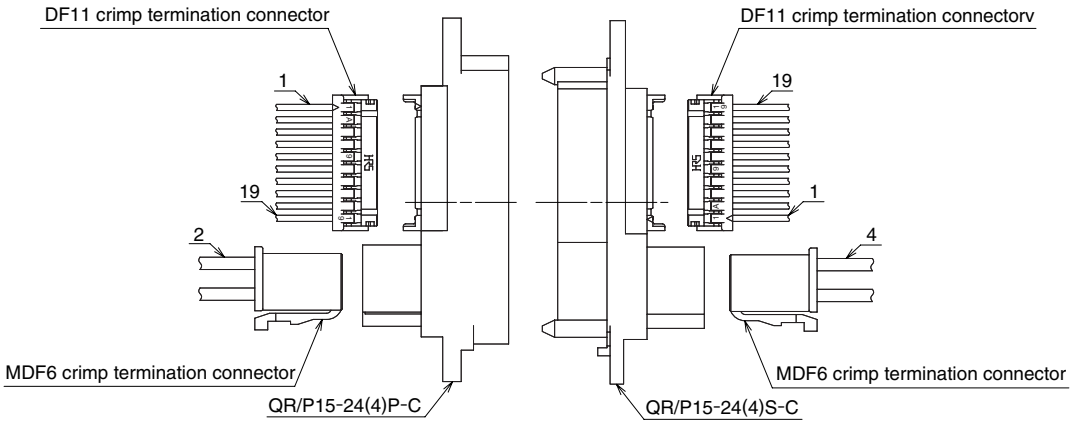


	Number of contacts	Part Number	CL No.	RoHS
Wire connection in applicable connectors	8	DF11-8DS-2C	CL543-0503-0	YES

8 pos. Signal (DF11 connector)

P side	1	3	5	7	2	4	6	8
S side	7	5	3	1	8	6	4	2

●24-pos.



	Number of contacts	Part Number	CL No.	RoHS
Wire connection in applicable connectors	20	DF11-20DS-2C	CL543-0509-7	YES
	4	MDF6-4DS-3.5C	CL543-0074-1	

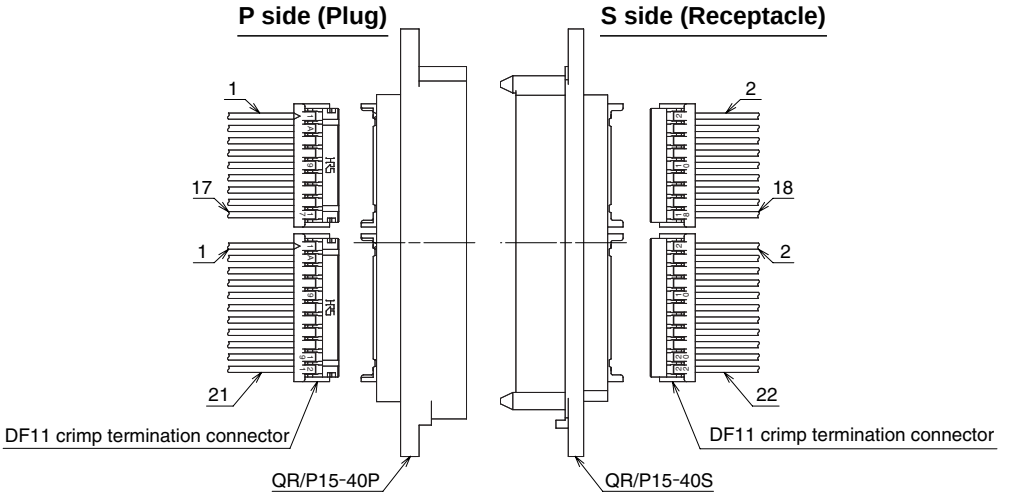
20 pos. Signal (DF11 connector)

P side	1	3	5	~	15	17	19	2	4	6	~	16	18	20
S side	19	17	15	~	5	3	1	20	18	16	~	6	4	2

4 pos.Power (MDF6 connector)

P side	1	2	3	4
S side	3	4	1	2

● 40-pos.



	Number of contacts	Part Number	CL No.	RoHS
Wire connection in applicable connectors	18	DF11-18DS-2C	CL543-0508-4	YES
	22	DF11-22DS-2C	CL543-0510-6	

18 pos. Signal (DF11 connector)

P side	1	3	5	~	13	15	17	2	4	6	~	14	16	18
S side	2	4	6	~	14	16	18	1	3	5	~	13	15	17

22 pos. Signal (DF11 connector)

P side	1	3	5	~	17	19	21	2	4	6	~	18	20	22
S side	2	4	6	~	18	20	22	1	3	5	~	17	19	21

Note: Refer to the Nylon Connector Catalog for details about the wire terminations used in DF 11 and MDF6 connectors.

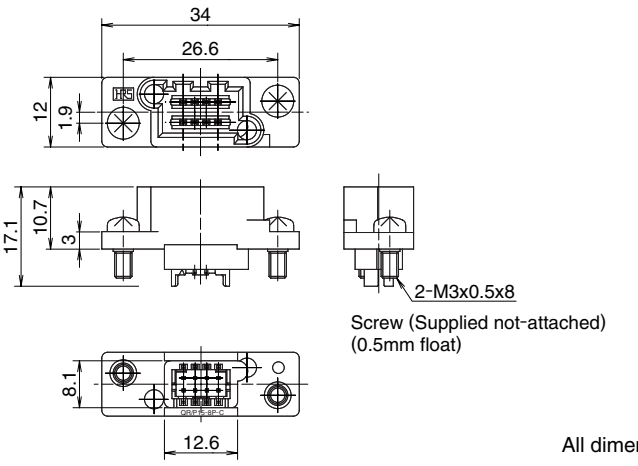
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■Plugs

●8 pos.

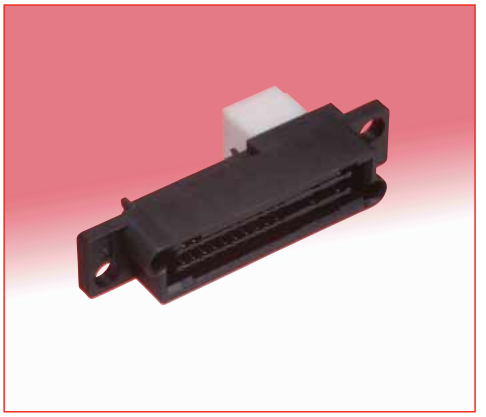


Part Number	CL No.	RoHS
QR/P15-8P-C(50)	CL221-0247-0-50	YES

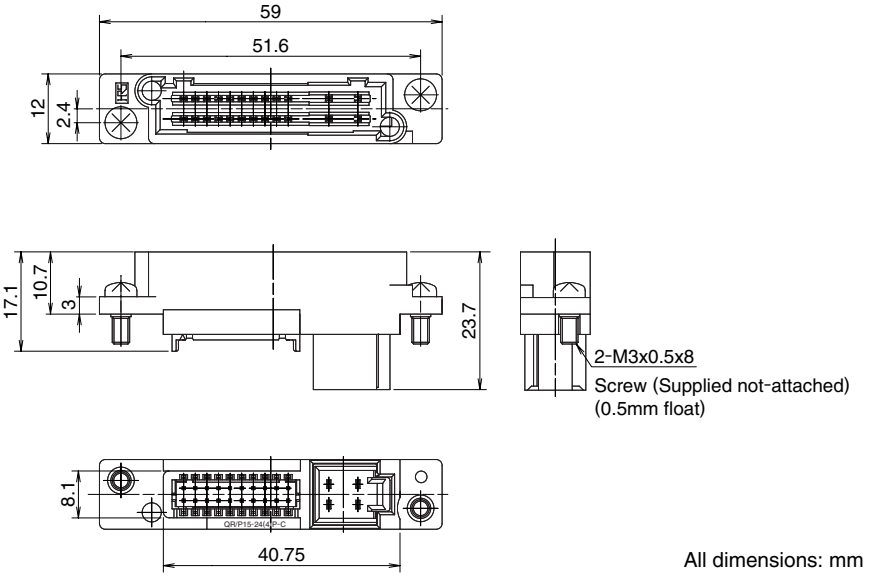


All dimensions: mm

●24 pos.



Part Number	CL No.	RoHS
QR/P15-24(4)P-C(50)	CL221-0249-6-50	YES

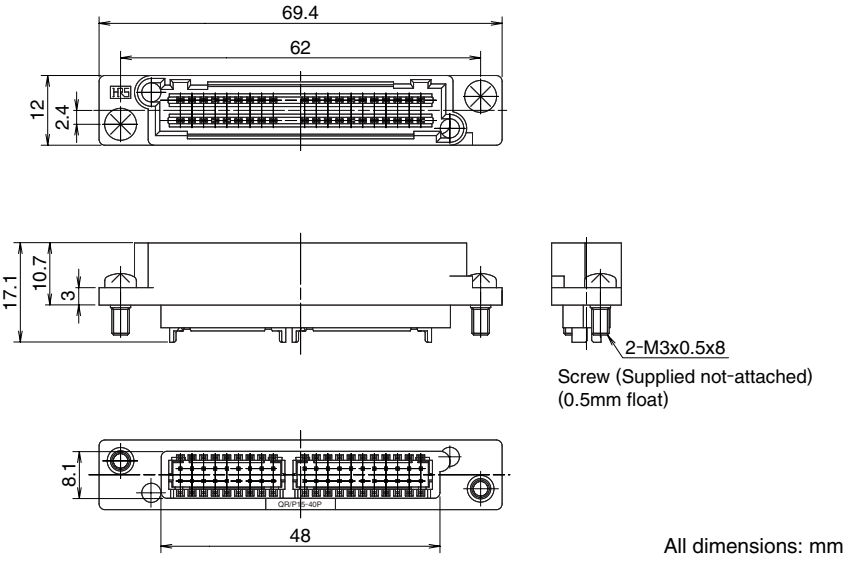


All dimensions: mm

●40 pos.



Part Number	CL No.	RoHS
QR/P15-40P(50)	CL221-0252-0-50	YES

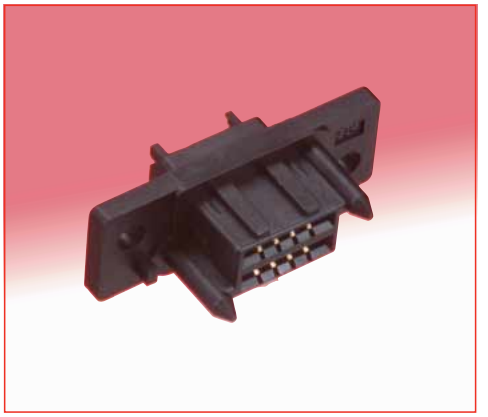


All dimensions: mm

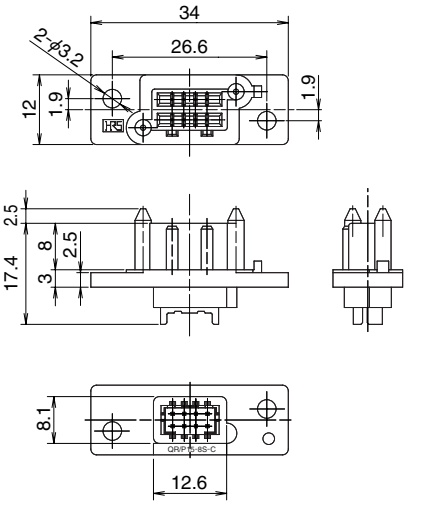
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■Receptacles

●8 pos.

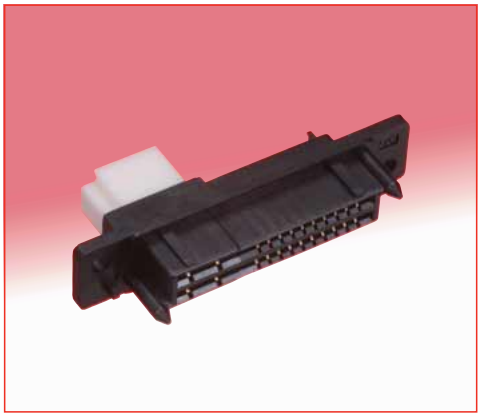


Part Number	CL No.	RoHS
QR/P15-8P-C(50)	CL221-0248-3-50	YES

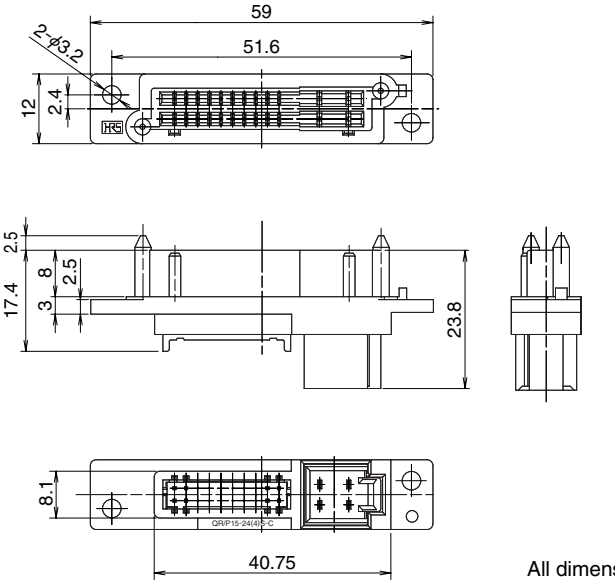


All dimensions: mm

●24 pos.

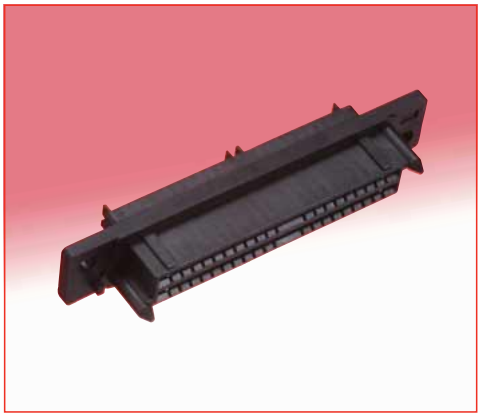


Part Number	CL No.	RoHS
QR/P15-24(4)S-C(50)	CL221-0250-5-50	YES

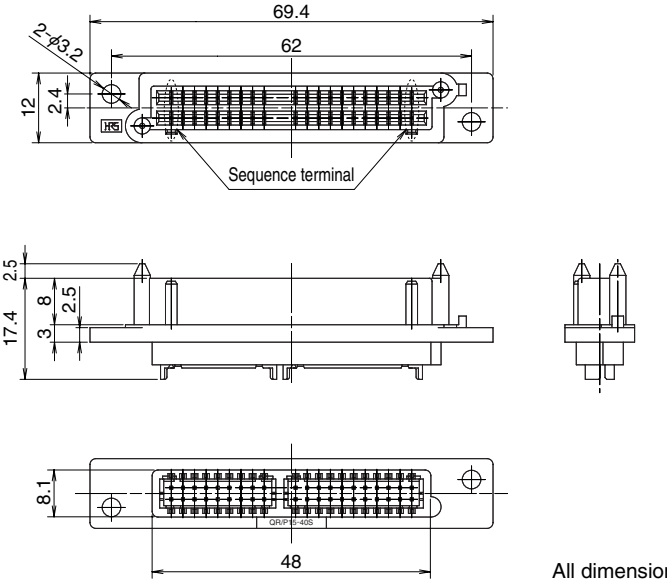


All dimensions: mm

●40 pos.



Part Number	CL No.	RoHS
QR/P15-40S(50)	CL221-0253-3-50	YES

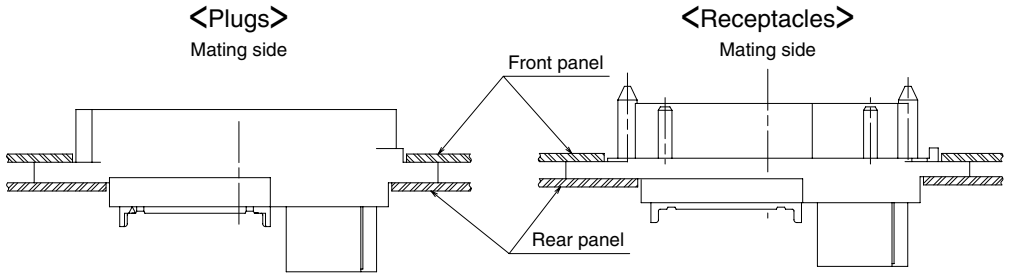


All dimensions: mm

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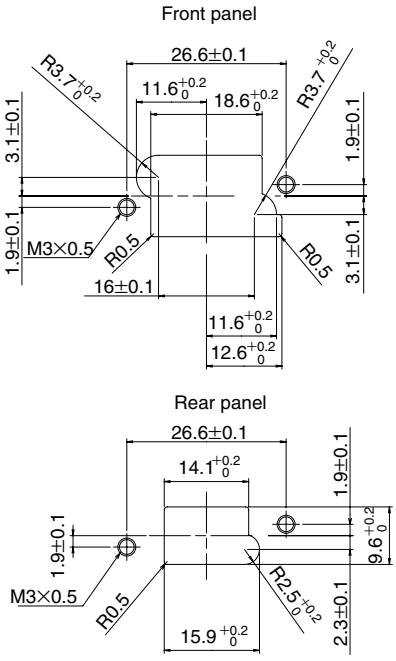
■Panel cutouts

Applicable panel thickness: 1.5mm to 3.0mm

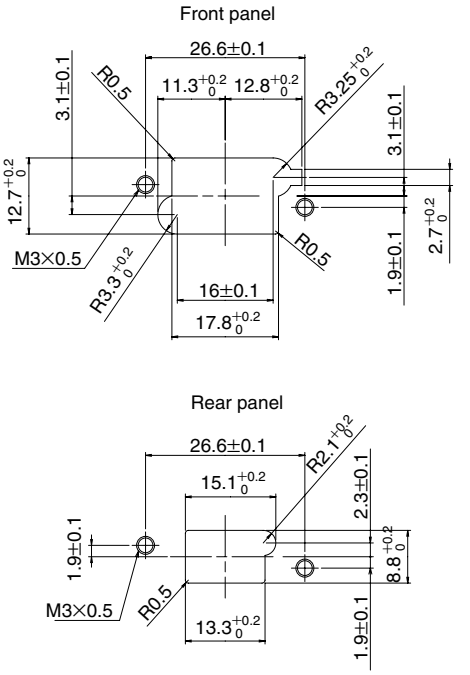


8 pos ●All views are from the mating side

QR/P15-8P-C(50)



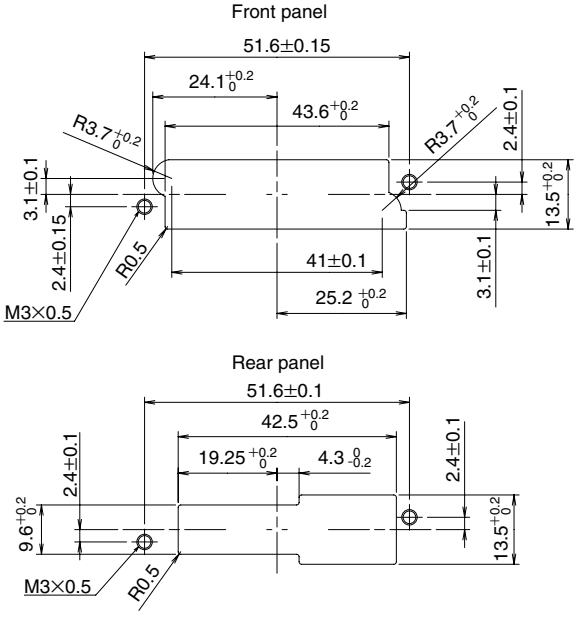
QR/P15-8S-C(50)



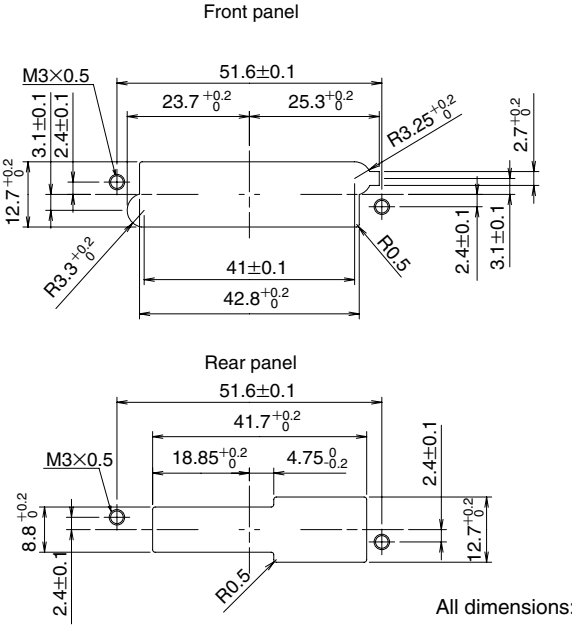
All dimensions: mm

24 pos ●All views are from the mating side

QR/P15-24(4)P-C(50)



QR/P15-24(4)S-C(50)

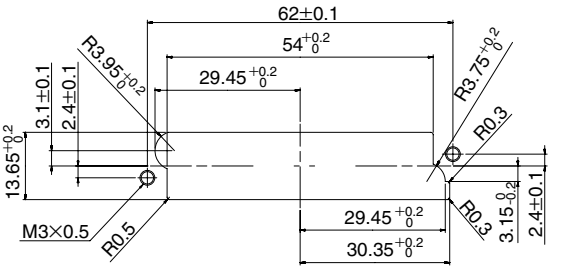


All dimensions: mm

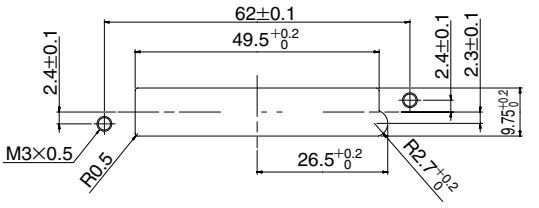
40 pos. ●**All views are from the mating side**

QR/P15-40P(50)

Front panel

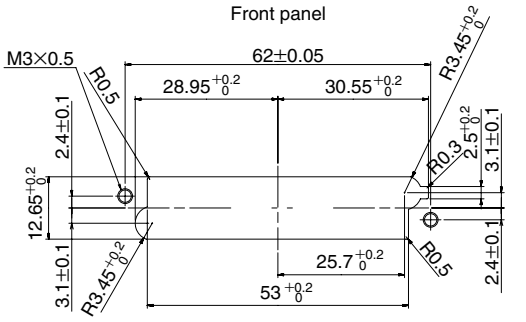


Rear panel

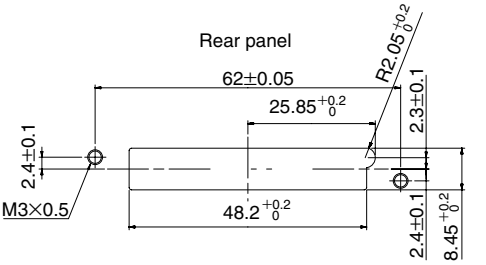


QR/P15-40S(50)

Front panel



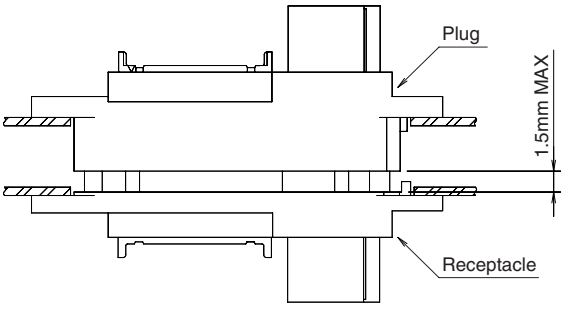
Rear panel



All dimensions: mm

■Mated condition (Shown for reference)

Note: The distance between the plug and receptacle when fully mated must be 1.5 mm max. as shown below.



■Float – Plug (Shown for reference)

Note: Floating distance for shoulder screw is ± 0.5 mm.

