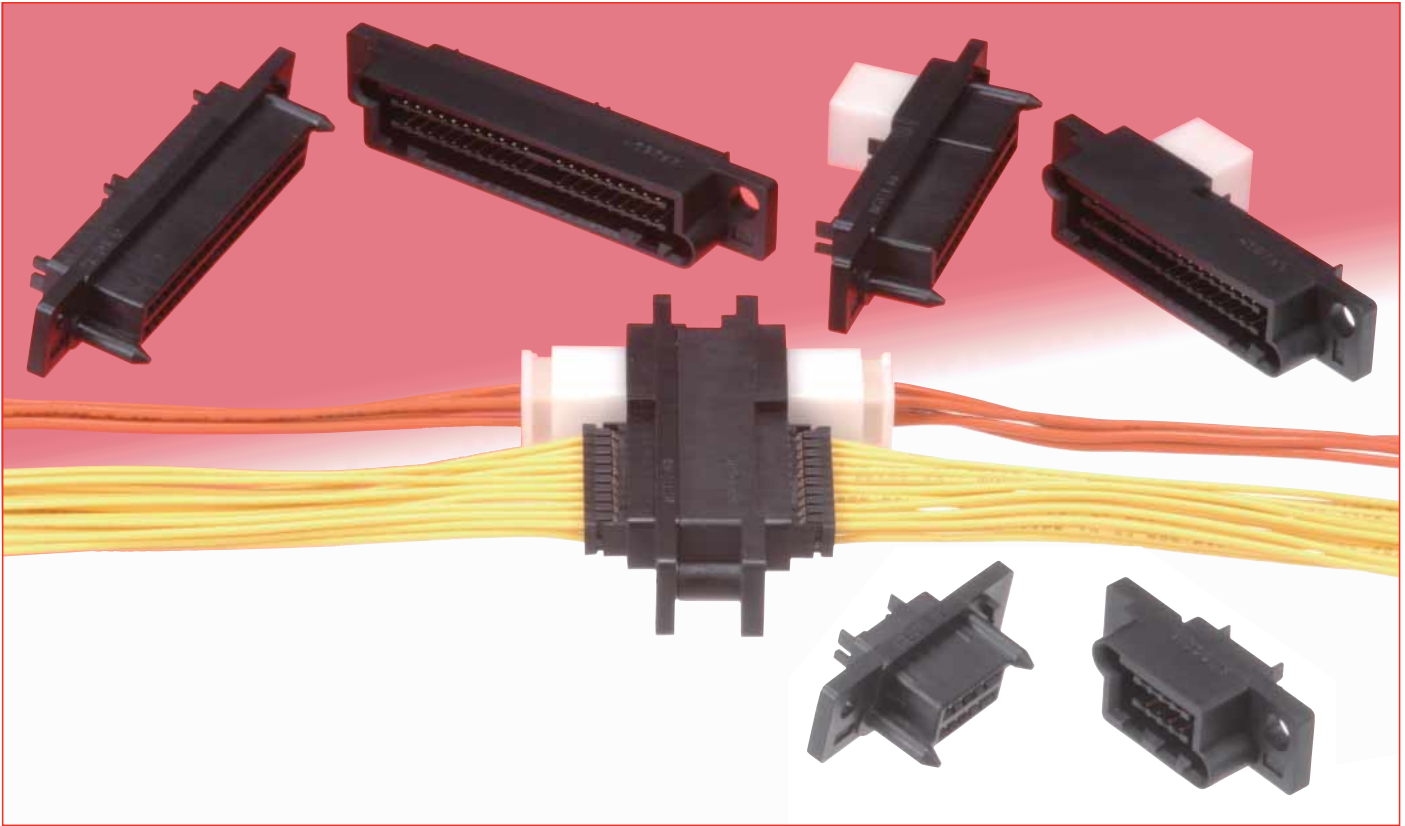


# Ultra-small Rack/Panel Crimp Connectors

## QR/P15 Series



### Overview

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

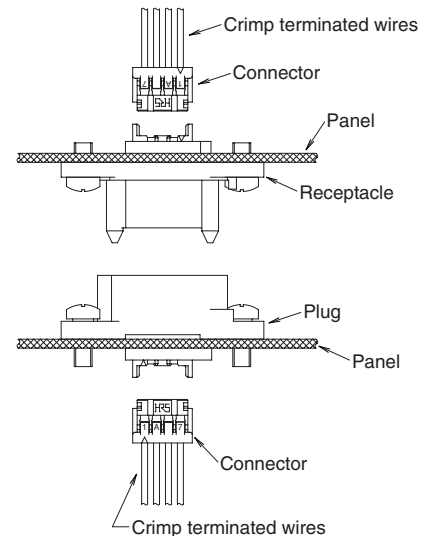
Plugs / receptacles can be mounted on the panels and the terminated connectors may be inserted at later time, allowing wire crimp termination to be done away from the equipment.

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.

**QR/P15 Series Ultra-small Rack and Panel Chimp Connectors**

**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/s <sup>2</sup> , 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**

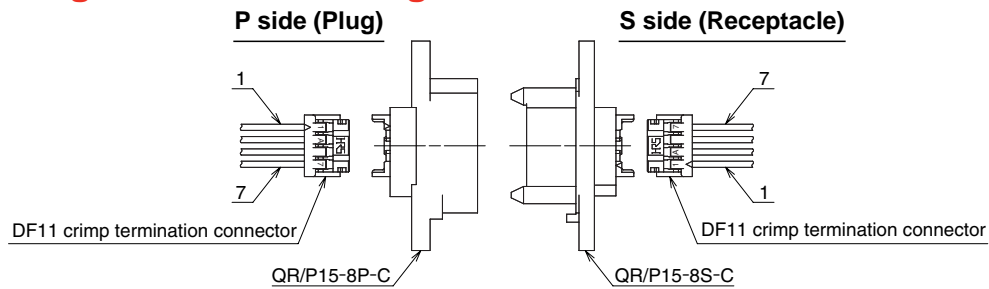
**QR / P15 - 24 (4) P- C (50)**

①      ②      ③      ④      ⑤      ⑥

① Series name	: QR/P15
② Number of contacts	: 8, 24, 40
③ Number of power contacts	: 4 (24 position connector only)
④ Connector type	P : Plug
	S : Receptacle
⑤ Series number	
⑥ Specification number	50 : Standard

## ■ Connector Mating Charts and Wiring Termination Tables

### ● 8-pos.

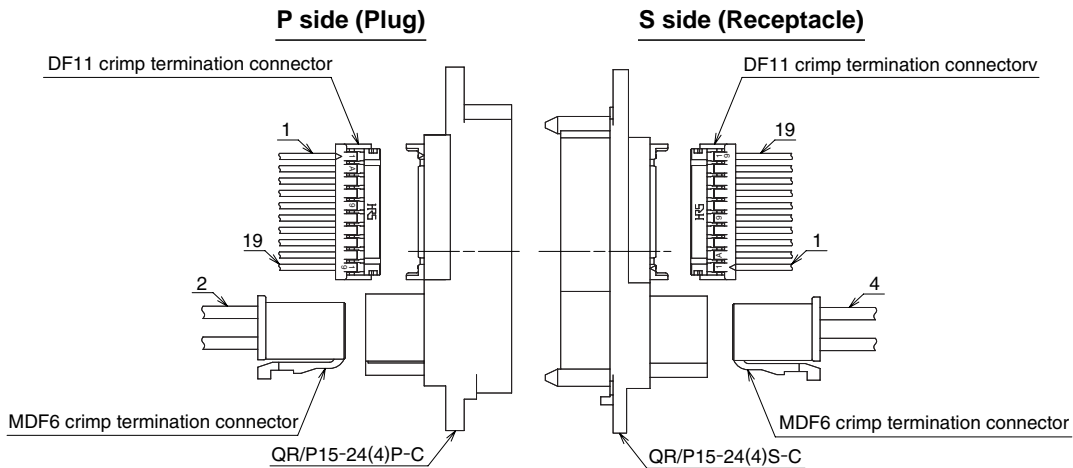


	Number of contacts	Part Number	CL No.	RoHS
Wire connection in applicable connectors	8	DF11-8DS-2C	CL543-0503-0	YES

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	

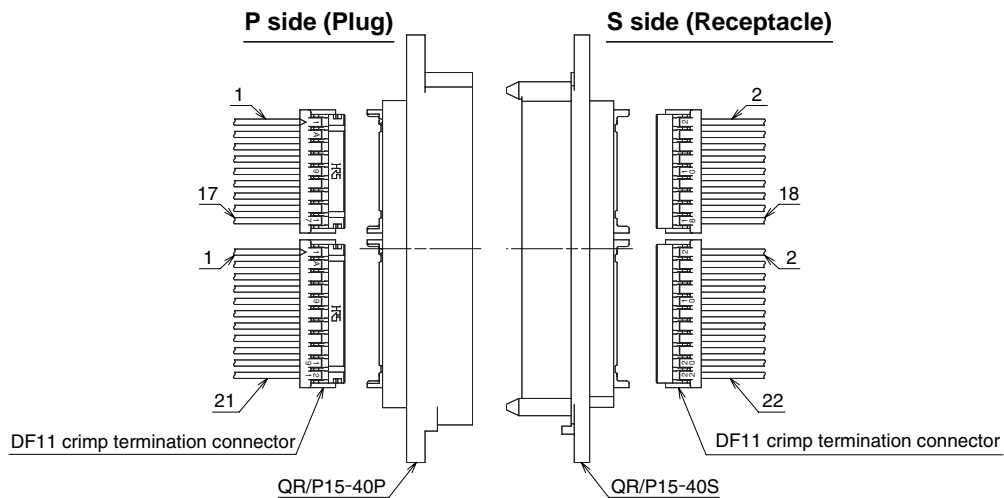
20 pos. Signal (DF11 connector)

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.

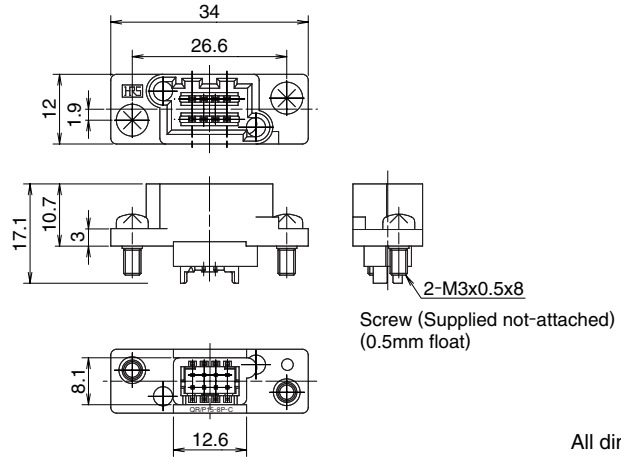
QR/P15 Series Ultra-small Rack and Pinch Connectors

■Plugs

●8 pos.

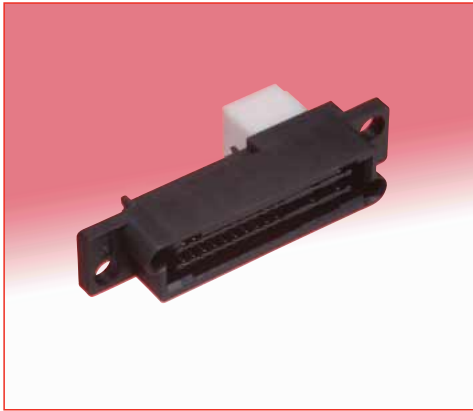


Part Number	CL No.	RoHS
QR/P15-8P-C(50)	CL221-0247-0-50	YES

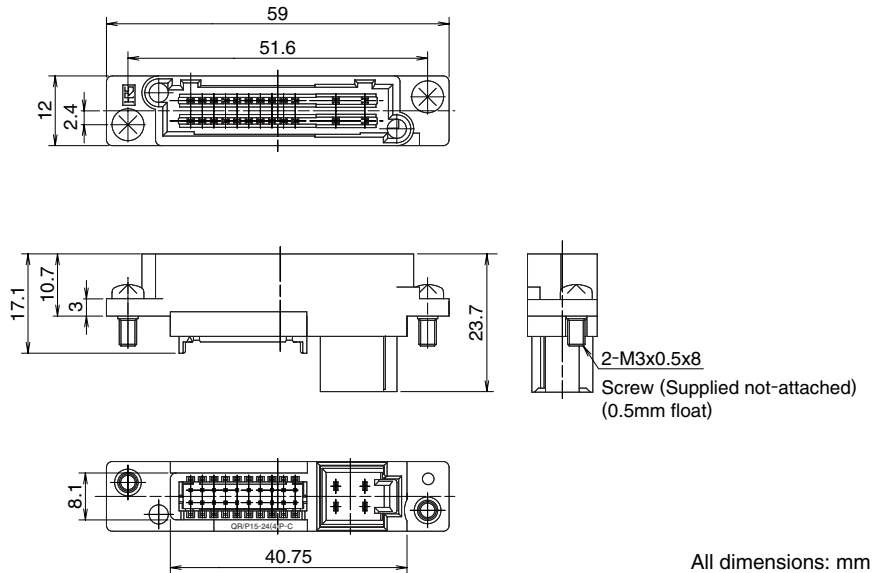


All dimensions: mm

●24 pos.



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

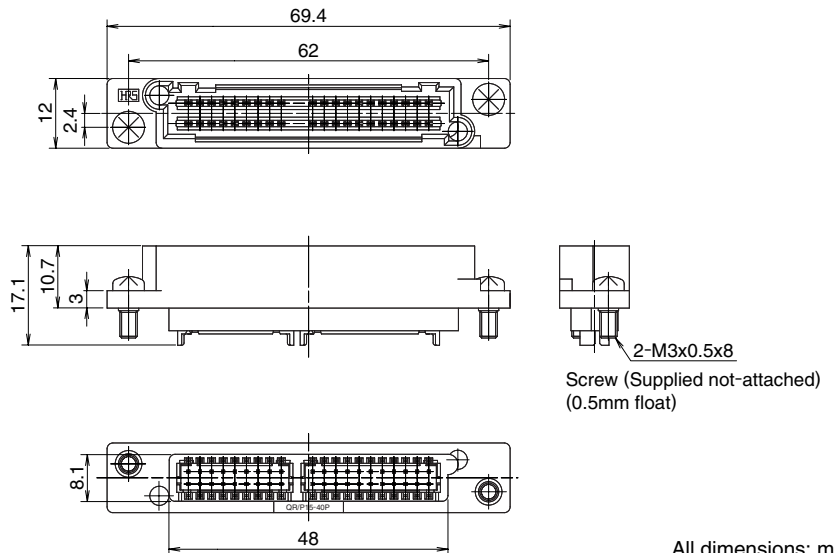


All dimensions: mm

●40 pos.



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



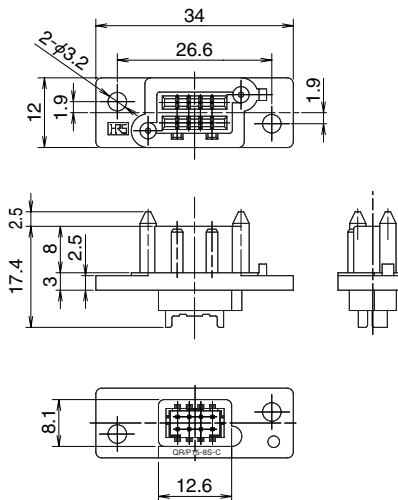
All dimensions: mm

## ■ Receptacles

● 8 pos.



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

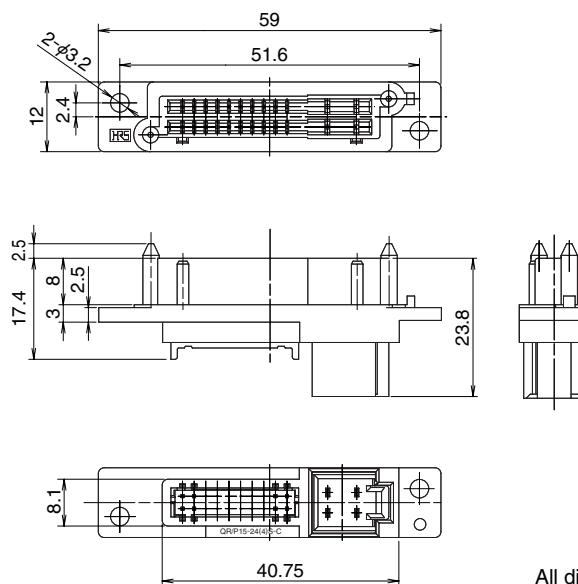


All dimensions: mm

● 24 pos.



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

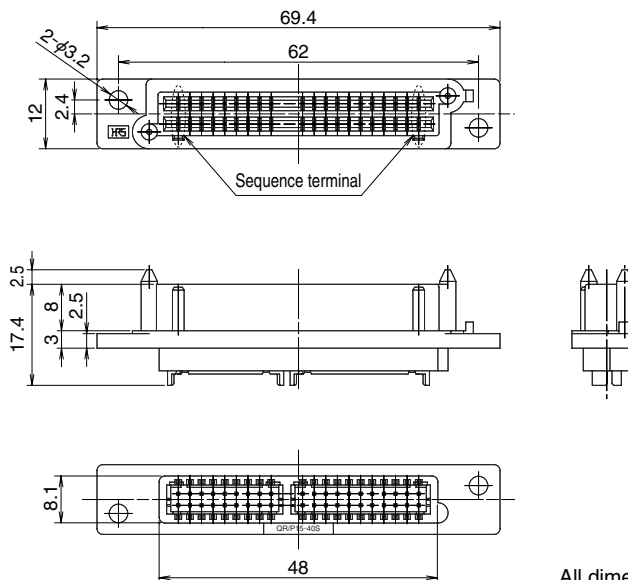


All dimensions: mm

● 40 pos.



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

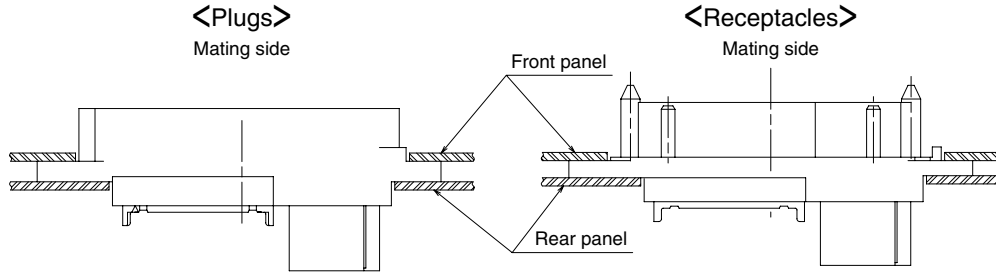


All dimensions: mm

QR/P15 Series Ultra-small Rack Panel Chimp Connectors

■ Panel cutouts

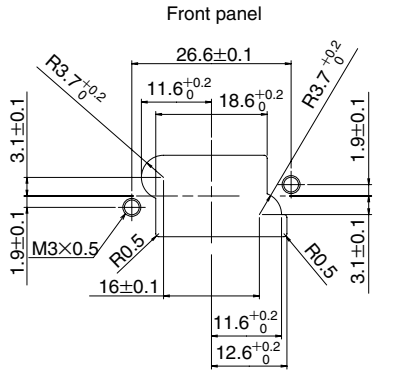
Applicable panel thickness: 1.5mm to 3.0mm



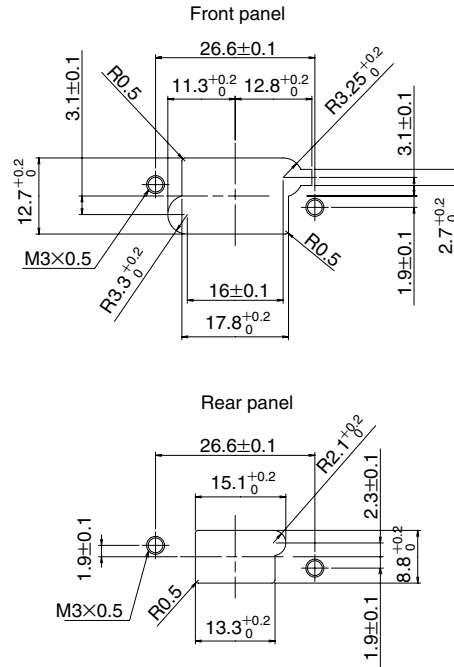
8 pos

● All views are from the mating side

QR/P15-8P-C(50)



QR/P15-8S-C(50)

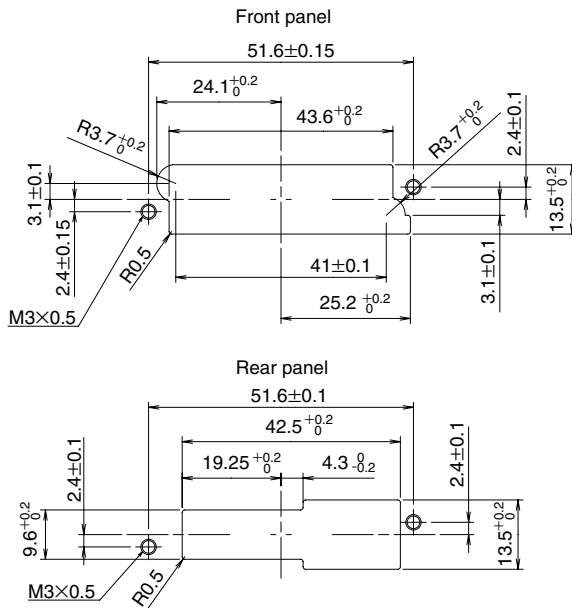


All dimensions: mm

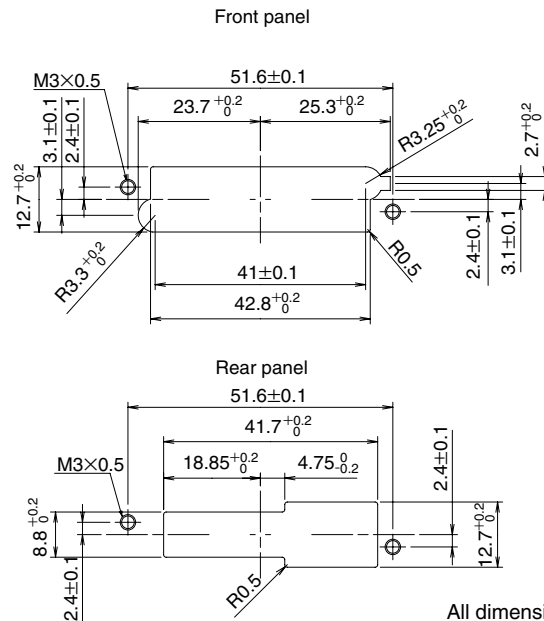
24 pos

● All views are from the mating side

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



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

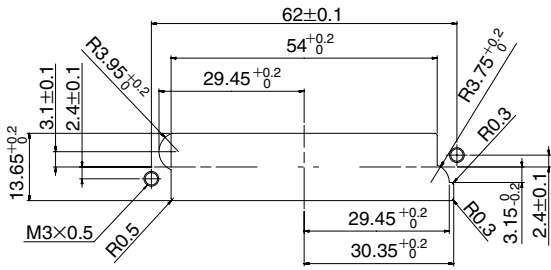


All dimensions: mm

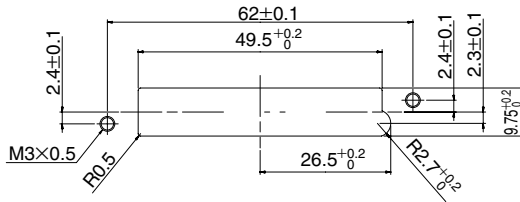
40 pos. ● All views are from the mating side

**QR/P15-40P(50)**

Front panel

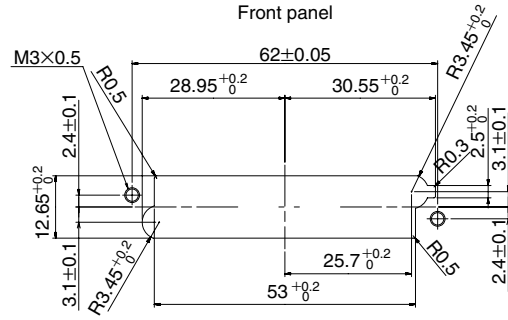


Rear panel

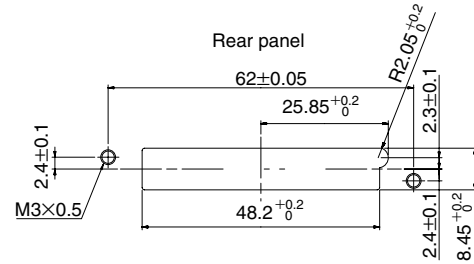


**QR/P15-40S(50)**

Front panel



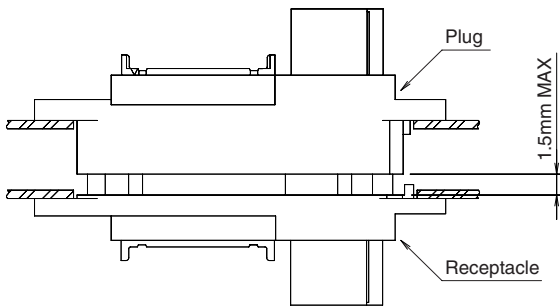
Rear panel



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.

