

# HRS General-purpose Multi-Contact Circular Waterproof Connectors

## RM-W Series



### Overview

High performance waterproof circular connectors and cable assemblies used in variety of applications requiring high reliability, ease of assembly and small size.

### Features

#### 1. Variety of types

Plugs : Available in 3 types - straight / long back shell, straight / short back shell, right angle back shell.

Receptacles : Waterproof types with front, back or flange panel mounting.

All types with 2, 3, 4, 8, 10, 12, 15, 20, 31, 40, 55 contacts. Contacts in 2 plating types: gold or silver.

#### 2. Dust and water protection

When fully mated, the connector meet requirements of IP67 (48 hours at depth of 1.8 m)  
(Single-body waterproof receptacles also meet requirements of IP67.)

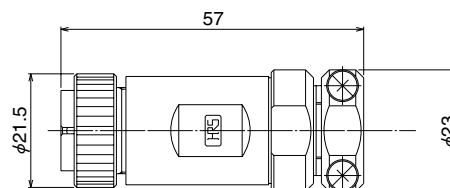
#### 3. Cable exit in 360° directions

The right-angle plugs permit exiting of the cable over a 360-degree range in any direction.

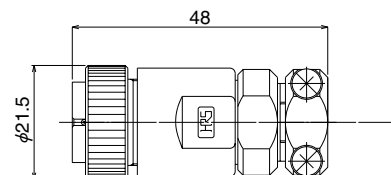
### Applications

Base stations, factory automation equipment, robotic equipment, exploration and construction equipment, research instrumentation, variety of industrial and measuring instruments. Any other applications requiring high reliability waterproof circular connectors.

#### Plug – straight

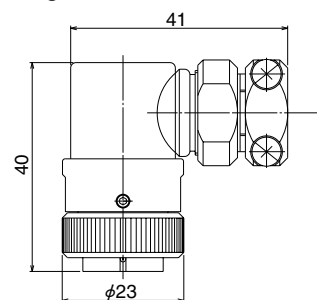


Long backshell

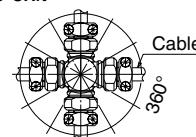


Short backshell

#### Plug – Right angle



360° Cable exit



## ■Product Specifications (RM15WT size products)

|        |                                      |                                                                                                                          |
|--------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Rating | Voltage rating                       | 600V AC, 840V DC (2 pos.)<br>500V AC, 700V DC (3, 4, 8 pos.)<br>350V AC, 490V DC (10 pos.)<br>350V AC, 490V DC (12 pos.) |
|        | Current rating                       | 10A (2, 3, 4 pos.)<br>5A (8, 10, 12 pos.)                                                                                |
|        | Operating temperature range (Note 1) | -25°C to +85°C                                                                                                           |
|        | Storage temperature range (Note 2)   | -25°C to +85°C                                                                                                           |

| Characteristic                          | Specification                                          | Conditions                                                                                                                           |
|-----------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| 1. Contact resistance                   | 2 m Ω max.(2, 3, 4 pos.)<br>4 m Ω max.(8, 10, 12 pos.) | 1A DC                                                                                                                                |
| 2. Insulation resistance                | 1000 M Ω min                                           | 500V DC                                                                                                                              |
| 3. Withstanding voltage                 | No flashover or insulation breakdown.                  | 1800V AC/one minute (2 pos.)<br>2000V AC/one minute (3 pos.)<br>1500V AC/one minute (4, 8 pos.)<br>1000V AC/one minute (10, 12 pos.) |
| 4. Vibration                            | No electrical discontinuity for 10μs max.              | Frequency: 10 to 55Hz, single amplitude of 0.75mm,for 3 hours in 3 axis.                                                             |
| 5. Shock                                | No electrical discontinuity for 10μs max.              | Acceleration of 490m/s <sup>2</sup> , 11ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.                        |
| 6. Durability<br>(insertion/withdrawal) | 4 m Ω max.(2, 3, 4 pos.)<br>8 m Ω max.(8, 10, 12 pos.) | 2000 cycles                                                                                                                          |
| 7. Temperature cycle                    | Insulation resistance: 100 M Ω min.                    | Temperature : -55°C → Room temperature → +85°C → Room temperature<br>Time : 30 → 10 to 15 → 30 → 10 to 15 (Minutes)<br>5 cycles      |
| 8. Humidity                             | Insulation resistance: 100 M Ω min. (Dry state)        | 96 hours at temperature of 40°C and humidity of 90% to 95%.                                                                          |
| 9. Water / dust protection              | 0When mated with corresponding connector.              | Complete dust protection. No water penetration when submerged for 48 hours at the depth of 1.8 meter.                                |

Note 1: Includes temperature rise caused by the current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating temperature range and humidity range covers non-conducting condition of installed connectors in storage, shipment or during transportation.

## ■Materials

| Item      | Material                                | Finish                                       | Remarks |
|-----------|-----------------------------------------|----------------------------------------------|---------|
| Body      | Zinc alloy, brass, pliable PVC          | Chrome plated or nickel plated               | —————   |
| Insulator | Diallyl phthalate, PBT                  | Color: Black                                 | UL94V-0 |
| Contacts  | Brass, phosphor bronze, or copper alloy | Silver plated or gold plated                 | —————   |
| Gasket    | SIR (black or red), or NBR (gray)       | Color: black or red (SIR), color: gray (NBR) | —————   |

Note: Do not mix different contact plating.

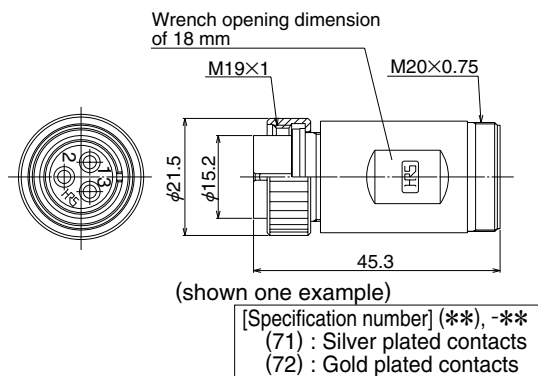
## ■Ordering Information

**RM 15 W T P\*\* - 2 P (\*\*)**  
1
2
1
3
4
5
6
7

|                                                       |                                                                 |
|-------------------------------------------------------|-----------------------------------------------------------------|
| <b>①</b> Series name : RM-W                           | <b>⑤</b> Number of Contacts                                     |
| <b>②</b> Shell size                                   | <b>⑥</b> Contact type<br>P : Male contact<br>S : Female contact |
| <b>③</b> Lock type<br>T : Screw Lock                  |                                                                 |
| <b>④</b> Connector type<br>P : Plug<br>R : Receptacle | <b>⑦</b> Plating<br>(71) : Silver plated<br>(72) : Gold plated  |

## ■Plugs - straight, long back shell

### RM15WTPZA-10S(71)



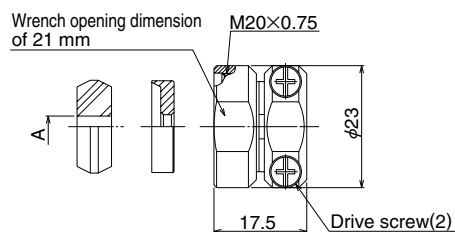
| Part Number        | CL No.         | Number of Contacts | Weight | RoHS |
|--------------------|----------------|--------------------|--------|------|
| RM15WTPZA-2P(**)   | 109-1734-5-**- | 2                  | 43g    | YES  |
| RM15WTPZA-3P( 72 ) | 109-1602-4- 72 | 3                  | 45g    |      |
| RM15WTPZA-4P(**)   | 109-1735-8-**- | 4                  | 44g    |      |
| RM15WTPZA-8P(**)   | 109-1736-0-**- | 8                  | 43g    |      |
| RM15WTPZA-10P(**)  | 109-1737-3-**- | 10                 | 44g    |      |
| RM15WTPZA-12P(**)  | 109-1738-6-**- | 12                 | 44g    |      |

| Part Number       | CL No.         | Number of Contacts | Weight | RoHS |
|-------------------|----------------|--------------------|--------|------|
| RM15WTPZA-2S(**)  | 109-1729-5-**- | 2                  | 45g    | YES  |
| RM15WTPZA-3S(**)  | 109-1601-1-**- | 3                  | 47g    |      |
| RM15WTPZA-4S(**)  | 109-1730-4-**- | 4                  | 45g    |      |
| RM15WTPZA-8S(**)  | 109-1731-7-**- | 8                  | 45g    |      |
| RM15WTPZA-10S(**) | 109-1732-0-**- | 10                 | 45g    |      |
| RM15WTPZA-12S(**) | 109-1733-2-**- | 12                 | 45g    |      |

## ■Applicable Strain reliefs

### ● External cable clamp + internal, self-tightening

#### JR16WCC-10(72)



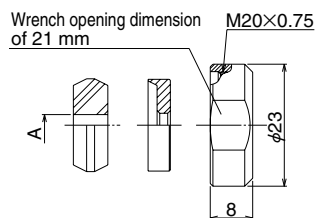
(shown one example)

| Part Number   | CL No.        | A | Weight | RoHS |
|---------------|---------------|---|--------|------|
| JR16WCC-4(72) | 114-2052-6-72 | 4 | 17.5g  | YES  |
| JR16WCC-6(72) | 114-2053-9-72 | 6 | 17.5g  |      |
| JR16WCC-8(72) | 114-2054-1-72 | 8 | 17.5g  |      |

| Part Number    | CL No.        | A  | Weight | RoHS |
|----------------|---------------|----|--------|------|
| JR16WCC-10(72) | 114-2055-4-72 | 10 | 17.5g  | YES  |
| JR16WCC-11(72) | 114-2154-6-72 | 11 | 17.5g  |      |
| JR16WCC-12(72) | 114-2056-7-72 | 12 | 17.5g  |      |

### ● Internal, self tightening

#### JR16WCCA-10(72)



(shown one example)

| Part Number    | CL No.        | A | Weight | RoHS |
|----------------|---------------|---|--------|------|
| JR16WCCA-4(72) | 114-2076-4-72 | 4 | 16g    | YES  |
| JR16WCCA-6(72) | 114-2077-7-72 | 6 | 16g    |      |
| JR16WCCA-8(72) | 114-2078-0-72 | 8 | 16g    |      |

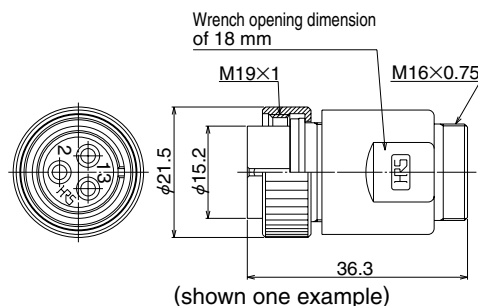
| Part Number     | CL No.        | A  | Weight | RoHS |
|-----------------|---------------|----|--------|------|
| JR16WCCA-10(72) | 114-2079-2-72 | 10 | 16g    | YES  |
| JR16WCCA-11(72) | 114-2155-9-72 | 11 | 16g    |      |
| JR16WCCA-12(72) | 114-2080-1-72 | 12 | 16g    |      |

Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$

2. When using the self-tightening strain relief verify the cable pull force requirements.

## ■Plugs - Straight, short back shell

### RM15WTPZ-10S



(shown one example)

[Specification number] (\*\*), -\*\*  
(71) : Silver plated contacts  
(72) : Gold plated contacts

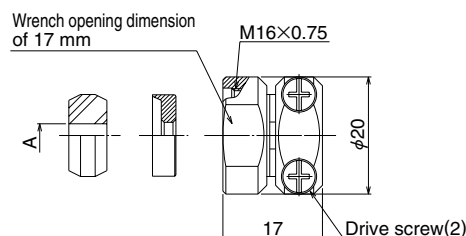
| Part Number      | CL No.         | Number of Contacts | Weight | RoHS |
|------------------|----------------|--------------------|--------|------|
| RM15WTPZ-2P(**)  | 109-1616-9-**- | 2                  | 32g    | YES  |
| RM15WTPZ-3P(**)  | 109-1622-1-**- | 3                  | 34g    |      |
| RM15WTPZ-4P(**)  | 109-1617-1-**- | 4                  | 33g    |      |
| RM15WTPZ-8P(**)  | 109-1618-4-**- | 8                  | 32g    |      |
| RM15WTPZ-10P(**) | 109-1619-7-**- | 10                 | 33g    |      |
| RM15WTPZ-12P(**) | 109-1620-6-**- | 12                 | 33g    |      |

| Part Number      | CL No.         | Number of Contacts | Weight | RoHS |
|------------------|----------------|--------------------|--------|------|
| RM15WTPZ-2S(**)  | 109-1611-5-**- | 2                  | 34g    | YES  |
| RM15WTPZ-3S(**)  | 109-1621-9-**- | 3                  | 36g    |      |
| RM15WTPZ-4S(**)  | 109-1612-8-**- | 4                  | 34g    |      |
| RM15WTPZ-8S(**)  | 109-1613-0-**- | 8                  | 34g    |      |
| RM15WTPZ-10S(**) | 109-1614-3-**- | 10                 | 34g    |      |
| RM15WTPZ-12S(**) | 109-1615-6-**- | 12                 | 34g    |      |

## ■Applicable Strain reliefs

### ● External cable clamp + internal, self-tightening

#### JR13WCC-10(72)



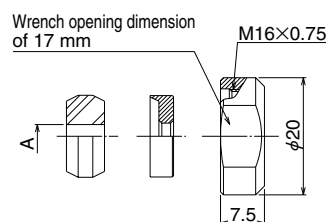
(shown one example)

| Part Number   | CL No.        | A | Weight | RoHS |
|---------------|---------------|---|--------|------|
| JR13WCC-4(72) | 114-2045-0-72 | 4 | 17g    | YES  |
| JR13WCC-5(72) | 114-2046-3-72 | 5 | 17g    |      |
| JR13WCC-6(72) | 114-2047-6-72 | 6 | 17g    |      |

| Part Number    | CL No.        | A  | Weight | RoHS |
|----------------|---------------|----|--------|------|
| JR13WCC-7(72)  | 114-2048-9-72 | 7  | 17g    | YES  |
| JR13WCC-8(72)  | 114-2049-1-72 | 8  | 17g    |      |
| JR13WCC-9(72)  | 114-2050-0-72 | 9  | 17g    |      |
| JR13WCC-10(72) | 114-2051-3-72 | 10 | 17g    |      |

### ● Internal, self tightening

#### JR13WCCA-10(72)



(shown one example)

| Part Number    | CL No.        | A | Weight | RoHS |
|----------------|---------------|---|--------|------|
| JR13WCCA-4(72) | 114-2069-9-72 | 4 | 12g    | YES  |
| JR13WCCA-5(72) | 114-2070-8-72 | 5 | 12g    |      |
| JR13WCCA-6(72) | 114-2071-0-72 | 6 | 12g    |      |

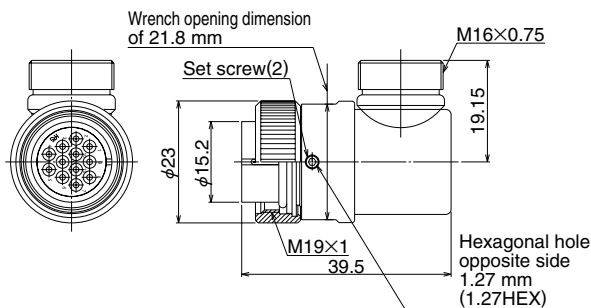
| Part Number     | CL No.        | A  | Weight | RoHS |
|-----------------|---------------|----|--------|------|
| JR13WCCA-7(72)  | 114-2072-3-72 | 7  | 12g    | YES  |
| JR13WCCA-8(72)  | 114-2073-6-72 | 8  | 12g    |      |
| JR13WCCA-9(72)  | 114-2074-9-72 | 9  | 12g    |      |
| JR13WCCA-10(72) | 114-2075-1-72 | 10 | 12g    |      |

Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$

2. When using the self-tightening strain relief verify the cable pull force requirements.

## ■Plugs - right angle

### RM15WTLP-10S



(shown one example)

| Part Number      | CL No.        | Number of Contacts | Weight | RoHS |
|------------------|---------------|--------------------|--------|------|
| RM15WTLP-12P(71) | 109-0997-9-71 | 12                 | 62.3g  | YES  |

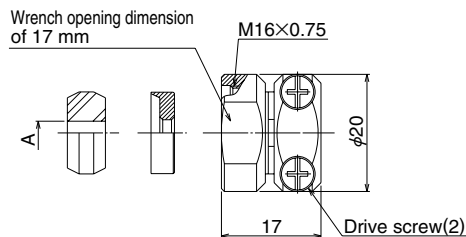
| Part Number      | CL No.        | Number of Contacts | Weight | RoHS |
|------------------|---------------|--------------------|--------|------|
| RM15WTLP-10S(71) | 109-0999-4-71 | 10                 | 63.1g  | YES  |

Notes : 1 Gasket material: NBR, body plating: nickel  
2 Recommended set screw tightening torque: 0.2 to 0.3 N·m.  
HRS recommended tool: PB205/1.27(CL 150-0066-3)

## ■Applicable Strain reliefs

### ● External cable clamp + internal, self-tightening

#### JR13WCC-10(72)



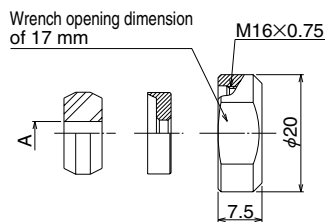
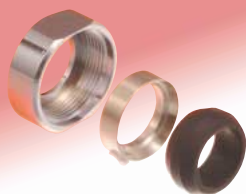
(shown one example)

| Part Number   | CL No.        | A | Weight | RoHS |
|---------------|---------------|---|--------|------|
| JR13WCC-4(72) | 114-2045-0-72 | 4 | 17g    | YES  |
| JR13WCC-5(72) | 114-2046-3-72 | 5 | 17g    |      |
| JR13WCC-6(72) | 114-2047-6-72 | 6 | 17g    |      |

| Part Number    | CL No.        | A  | Weight | RoHS |
|----------------|---------------|----|--------|------|
| JR13WCC-7(72)  | 114-2048-9-72 | 7  | 17g    | YES  |
| JR13WCC-8(72)  | 114-2049-1-72 | 8  | 17g    |      |
| JR13WCC-9(72)  | 114-2050-0-72 | 9  | 17g    |      |
| JR13WCC-10(72) | 114-2051-3-72 | 10 | 17g    |      |

### ● Internal, self tightening

#### JR13WCCA-10(72)



(shown one example)

| Part Number    | CL No.        | A | Weight | RoHS |
|----------------|---------------|---|--------|------|
| JR13WCCA-4(72) | 114-2069-9-72 | 4 | 12g    | YES  |
| JR13WCCA-5(72) | 114-2070-8-72 | 5 | 12g    |      |
| JR13WCCA-6(72) | 114-2071-0-72 | 6 | 12g    |      |

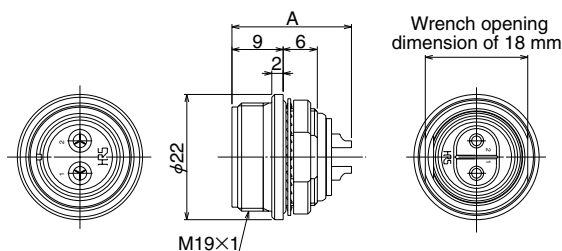
| Part Number     | CL No.        | A  | Weight | RoHS |
|-----------------|---------------|----|--------|------|
| JR13WCCA-7(72)  | 114-2072-3-72 | 7  | 12g    | YES  |
| JR13WCCA-8(72)  | 114-2073-6-72 | 8  | 12g    |      |
| JR13WCCA-9(72)  | 114-2074-9-72 | 9  | 12g    |      |
| JR13WCCA-10(72) | 114-2075-1-72 | 10 | 12g    |      |

Notes : 1 Cable jacket diameter: Use  $A \pm 0.2\text{mm}$   
2 When using the self-tightening strain relief verify the cable pull force requirements.

## ■ Receptacles

### ● Front panel mount

#### RM15WTRZ-10S(71)



(shown one example)

[Specification number] (\*\*), -\*\*  
(71) : Silver plated contacts  
(72) : Gold plated contacts

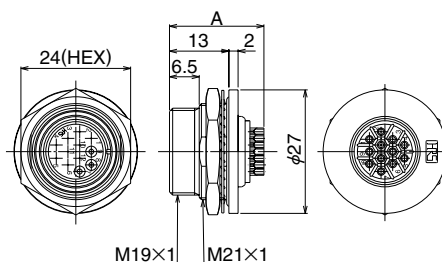
| Part Number      | CL No.         | Number of Contacts | A     | Weight | RoHS |
|------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZ-2P(**)  | 109-1631-2-**- | 2                  | 21    | 13g    | YES  |
| RM15WTRZ-3P(**)  | 109-1632-5-**- | 3                  | 22.1  | 15g    |      |
| RM15WTRZ-4P(**)  | 109-1633-8-**- | 4                  | 21    | 14g    |      |
| RM15WTRZ-8P(**)  | 109-1634-0-**- | 8                  | 20.65 | 13g    |      |
| RM15WTRZ-10P(**) | 109-1635-3-**- | 10                 | 20.65 | 14g    |      |
| RM15WTRZ-12P(**) | 109-1636-6-**- | 12                 | 20.65 | 14g    |      |

Notes : Recommended nut tightening torque: 3N·m

| Part Number      | CL No.         | Number of Contacts | A     | Weight | RoHS |
|------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZ-2S(**)  | 109-1637-9-**- | 2                  | 21.75 | 15g    | YES  |
| RM15WTRZ-3S(**)  | 109-1638-1-**- | 3                  | 22.1  | 17g    |      |
| RM15WTRZ-4S(**)  | 109-1639-4-**- | 4                  | 21.75 | 15g    |      |
| RM15WTRZ-8S(**)  | 109-1640-3-**- | 8                  | 21.6  | 15g    |      |
| RM15WTRZ-10S(**) | 109-1641-6-**- | 10                 | 21.6  | 15g    |      |
| RM15WTRZ-12S(**) | 109-1642-9-**- | 12                 | 21.6  | 15g    |      |

### ● Rear panel mount

#### RM15WTRZA-10S(71)



(shown one example)

[Specification number] (\*\*), -\*\*  
(71) : Silver plated contacts  
(72) : Gold plated contacts

| Part Number       | CL No.         | Number of Contacts | A     | Weight | RoHS |
|-------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZA-2P(**)  | 109-1651-0-**- | 2                  | 21    | 22g    | YES  |
| RM15WTRZA-3P(**)  | 109-1652-2-**- | 3                  | 22.1  | 24g    |      |
| RM15WTRZA-4P(**)  | 109-1653-5-**- | 4                  | 21    | 23g    |      |
| RM15WTRZA-8P(**)  | 109-1654-8-**- | 8                  | 20.65 | 22g    |      |
| RM15WTRZA-10P(**) | 109-1655-0-**- | 10                 | 20.65 | 23g    |      |
| RM15WTRZA-12P(**) | 109-1656-3-**- | 12                 | 20.65 | 23g    |      |

Notes : Recommended nut tightening torque: 3N·m

| Part Number       | CL No.         | Number of Contacts | A     | Weight | RoHS |
|-------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZA-2S(**)  | 109-1657-6-**- | 2                  | 21.75 | 24g    | YES  |
| RM15WTRZA-3S(**)  | 109-1658-9-**- | 3                  | 22.1  | 26g    |      |
| RM15WTRZA-4S(**)  | 109-1659-1-**- | 4                  | 21.75 | 24g    |      |
| RM15WTRZA-8S(**)  | 109-1660-0-**- | 8                  | 21.6  | 24g    |      |
| RM15WTRZA-10S(**) | 109-1661-3-**- | 10                 | 21.6  | 24g    |      |
| RM15WTRZA-12S(**) | 109-1662-6-**- | 12                 | 21.6  | 24g    |      |

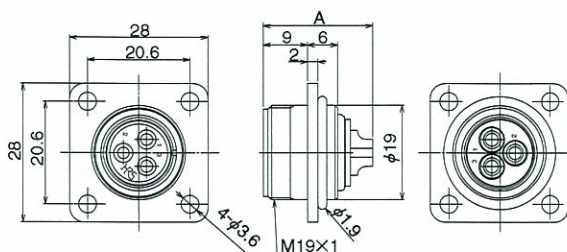
The product information in this catalog is for reference only. Please request the Engineering Drawing for the most current and accurate design information.

All non-RoHS products have been discontinued, or will be discontinued soon. Please check the products status on the Hirose website RoHS search at [www.hirose-connectors.com](http://www.hirose-connectors.com), or contact your Hirose sales representative.

## ■ Receptacles (Square flange)

### ● Waterproof (When mated with corresponding plug)

RM15WTRZB-10S(71)



(shown one example)

[Specification number] (\*\*), -\*\*  
(71) : Silver plated contacts  
(72) : Gold plated contacts

| Part Number       | CL No.         | Number of Contacts | A     | Weight | RoHS |
|-------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZB-2P(**)  | 109-1671-7-**- | 2                  | 21    | 19g    | YES  |
| RM15WTRZB-3P(**)  | 109-1672-0-**- | 3                  | 22.1  | 21g    |      |
| RM15WTRZB-4P(**)  | 109-1673-2-**- | 4                  | 21    | 20g    |      |
| RM15WTRZB-8P(**)  | 109-1674-5-**- | 8                  | 20.65 | 19g    |      |
| RM15WTRZB-10P(**) | 109-1675-8-**- | 10                 | 20.65 | 20g    |      |
| RM15WTRZB-12P(**) | 109-1676-0-**- | 12                 | 20.65 | 20g    |      |

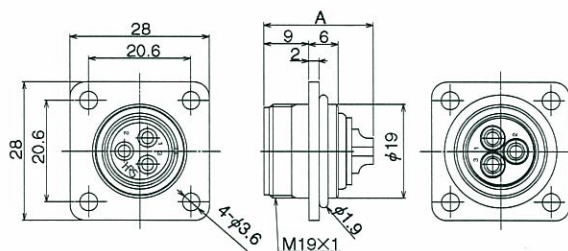
Notes : 1. Screw size: M3

2. Recommended nut tightening torque : 0.3 to 0.35N·m

| Part Number       | CL No.         | Number of Contacts | A     | Weight | RoHS |
|-------------------|----------------|--------------------|-------|--------|------|
| RM15WTRZB-2S(**)  | 109-1677-3-**- | 2                  | 21.75 | 21g    | YES  |
| RM15WTRZB-3S(**)  | 109-1678-6-**- | 3                  | 22.1  | 23g    |      |
| RM15WTRZB-4S(**)  | 109-1679-9-**- | 4                  | 21.75 | 21g    |      |
| RM15WTRZB-8S(**)  | 109-1680-8-**- | 8                  | 21.6  | 21g    |      |
| RM15WTRZB-10S(**) | 109-1681-0-**- | 10                 | 21.6  | 21g    |      |
| RM15WTRZB-12S(**) | 109-1682-3-**- | 12                 | 21.6  | 21g    |      |

### ● Waterproof (single body)

JR15WTRZB-10PA(71)



(shown one example)

[Specification number] (\*\*), -\*\*  
(71) : Silver plated contacts  
(72) : Gold plated contacts

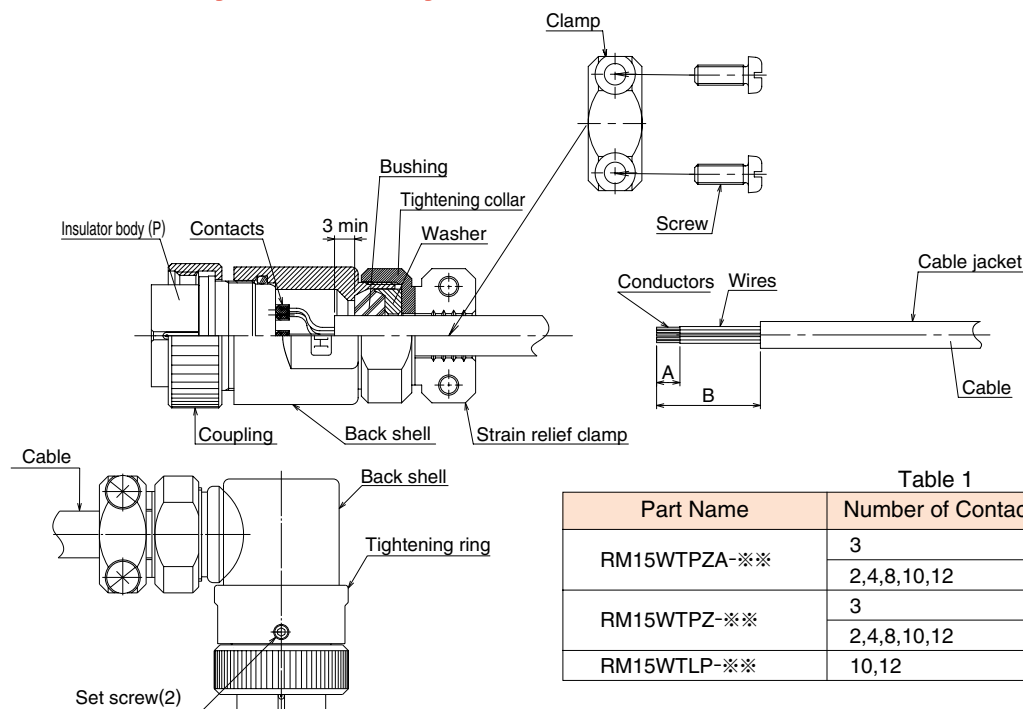
| Part Number       | CL No.     | Number of Contacts | A    | Weight | RoHS |
|-------------------|------------|--------------------|------|--------|------|
| RM15WTRZB-3PA(**) | 109-1692-7 | 3                  | 22.1 | 20g    | YES  |
| RM15WTRZB-4PA(**) | 109-1693-0 | 4                  | 21   | 21g    |      |

Notes : 1. Screw size: M3

2. Recommended nut tightening torque : 0.3 to 0.35N·m

| Part Number        | CL No.     | Number of Contacts | A     | Weight | RoHS |
|--------------------|------------|--------------------|-------|--------|------|
| RM15WTRZB-8PA(**)  | 109-1694-2 | 8                  | 20.65 | 22g    | YES  |
| RM15WTRZB-10PA(71) | 109-1695-5 | 10                 | 20.6  | 24g    |      |

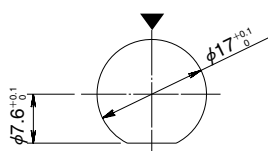
## ◆ Plug – Disassembly / Assembly



|    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <b>Disassembly</b> <ol style="list-style-type: none"> <li>Fix the plug in the assembly fixture (RM15TP-T01 (CL150-0098-0)), then remove the insulator body (P) and the back shell. Right-angle plugs have set screws in the tightening ring at 2 locations. Loosen the set screws before removing the back shell.</li> <li>Remove the 2 screws of the strain relief clamp, and then remove the clamp from the tightening collar.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 2. | <b>Wiring</b> <ol style="list-style-type: none"> <li>Assure that the cable outer diameter will fit the strain relief clamp, and is prepared as recommended in Table 1. It is recommended that the exposed conductors be pre-soldered, to assure easier insertion in the soldering cup.</li> <li>Pass the parts over the cable in the order of: tightening collar, washer, bushing, back shell, and coupling. Refer to the drawings (above) for assembly orientation of all components.</li> <li>Solder the wires to the contacts of the insulator body (P).<br/>Use of heat-shrink tubing or another insulating media between the soldered contacts is suggested.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                          |
| 3. | <b>Connector Assembly</b><br><b>Straight Plugs</b> <ol style="list-style-type: none"> <li>Place the completely wired insulator body (P) in the assembly fixture secured in a vise. Insert in the coupling, then back shell. The back shell should be tightened to a torque of 3 N·m.</li> </ol> <b>Right-angle Plugs</b> <ol style="list-style-type: none"> <li>Place the completely wired insulator body (P) in an assembly fixture secured by a vise. Insert in the coupling, then back shell (with tightening ring). When attaching the back shell, orient the cable in the desired direction and fasten the tightening ring to the insulator body (P) with a torque of 3 N·m. After this, tighten and fix the 2 sets crews with a torque of 0.2 to 0.3 N·m.</li> </ol> <b>Additional assembly recommendations:</b><br>In applications where continuous extremely high vibrations may be encountered it is recommended that a thread locking compound be applied to male threads prior to assembly (Loctite 271 , manufactured by Henkel Japan K.K. or equivalent) |
| 4. | <b>Waterproof verification - plug assembly</b> <ol style="list-style-type: none"> <li>Apply air pressure of 17.6 kPa for 30 seconds from the mating side of the plug assembly. There shall not be any air leakage from inside the connector when submerged in the water tank.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5. | <b>Precautions</b> <ol style="list-style-type: none"> <li>Follow the correct assembly sequence, cable preparation and tightening torques.</li> <li>Assure that the applicable cable outer surfaces are free of scratches, oil, grease or any other contamination.</li> <li>Do not use excessive forces or improper tools when assembling or mounting the connectors.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

## ◆ Receptacle - recommended panel cut-outs

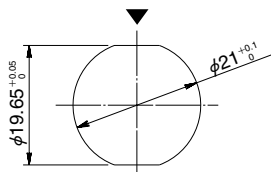
Front mounting, rear nut



Panel thickness: 0.5 to 2 mm

For RM15WTRZ receptacles

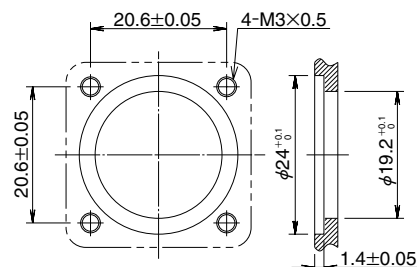
Rear mounting, front nut



Panel thickness: 0.5 to 2.5 mm

For RM15WTRZA receptacles

Square flange, screw mounting



Panel thickness: 2.5 to 4 mm

For RM15WTRZB receptacles

- Notes :
1. When attaching the receptacle to the panel, be certain to check that the gasket is in place in the groove. Do not pinch the gasket.
  2. The view of the above diagrams is from the receptacle mating side.
  3. The ▼ symbol in the above diagrams indicates the coupling guide position of the receptacles.

## ◆ Contact Position Arrangement and Specifications

| Contact configuration     | Shell size : 15     |                     |                     |                     |                     |                     |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           |                     |                     |                     |                     |                     |                     |
| Number of contacts        | 2                   | 3                   | 4                   | 8                   | 10                  | 12                  |
| Withstanding voltage      | 1800V AC / 1 minute | 2000V AC / 1 minute | 1500V AC / 1 minute | 1500V AC / 1 minute | 1000V AC / 1 minute | 1000V AC / 1 minute |
| Current rating            | 10A                 | 10A                 | 10A                 | 5A                  | 5A                  | 5A                  |
| Insulation resistance     | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         |
| Contact resistance        | 2mΩ max.            | 2mΩ max.            | 2mΩ max.            | 4mΩ max.            | 4mΩ max.            | 4mΩ max.            |
| Solder pot inner diameter | 1.7mm               | 2.8mm               | 1.7mm               | 1.1mm               | 1.1mm               | 1.1mm               |

- Notes :
1. The contact configuration as viewed from the wiring side.
  2. The ▼ symbol in the above diagrams indicates the coupling guide position of the receptacles.
  3. Withstanding voltages indicate test voltage values.

## ◆ Precautions

1. Switch off the power of the circuit before disconnecting or plugging- in the connectors.
2. Use a connectors with socket contacts at the power side of the circuit.
3. Make sure that the coupling is in completely cocked position.
4. Use correct plug / receptacle to assure dust and water protection.

## ■Product Specifications (RM21WT to RM31WT size products)

|        |                                      |                                                                                                |
|--------|--------------------------------------|------------------------------------------------------------------------------------------------|
| Rating | Voltage rating                       | 600V AC, 840V DC (40 pos.)<br>500V AC, 700V DC (15, 31, 55 pos.)<br>350V AC, 490V DC (20 pos.) |
|        | Current rating                       | 5A                                                                                             |
|        | Operating temperature range (Note 1) | -25°C to +85°C                                                                                 |
|        | Storage temperature range (Note 2)   | -25°C to +85°C                                                                                 |

| Characteristic                       | Specification                                   | Conditions                                                                                                                      |
|--------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 1. Contact resistance                | 4 m Ω max.                                      | 1A DC                                                                                                                           |
| 2. Insulation resistance             | 1000 M Ω min                                    | 500V DC                                                                                                                         |
| 3. Withstanding voltage              | No flashover or insulation breakdown.           | 1800V AC/one minute (4 pos.)<br>1500V AC/one minute (15, 31, 55 pos.)<br>1000V AC/one minute (20 pos.)                          |
| 4. Vibration                         | No electrical discontinuity for 10μs max.       | Frequency: 10 to 55Hz, single amplitude of 0.75mm, for 3 hours in 3 axis.                                                       |
| 5. Shock                             | No electrical discontinuity for 10μs max.       | Acceleration of 490m/s <sup>2</sup> , 11ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.                   |
| 6. Durability (insertion/withdrawal) | 8 m Ω max.                                      | 2000 cycles                                                                                                                     |
| 7. Temperature cycle                 | Insulation resistance: 100 M Ω min.             | Temperature : -55°C → Room temperature → +85°C → Room temperature<br>Time : 30 → 10 to 15 → 30 → 10 to 15 (Minutes)<br>5 cycles |
| 8. Humidity                          | Insulation resistance: 100 M Ω min. (Dry state) | 96 hours at temperature of 40°C and humidity of 90% to 95%.                                                                     |
| 9. Water / dust protection           | 0When mated with corresponding connector.       | Complete dust protection. No water penetration when submerged for 48 hours at the depth of 1.8 meter.                           |

Note 1: Includes temperature rise caused by the current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating temperature range and humidity range covers non-conducting condition of installed connectors in storage, shipment or during transportation.

## ■Materials

| Item      | Material                  | Finish                         | Remarks |
|-----------|---------------------------|--------------------------------|---------|
| Body      | Brass                     | Chrome plated or nickel plated | —————   |
| Insulator | Diallyl phthalate         | Color: Black                   | UL94V-0 |
| Contacts  | Brass, copper alloy       | Silver plated or gold plated   | —————   |
| Gasket    | Chloroprene rubber or SIR | Color: black                   | —————   |

Note: Do not mix different contact plating.

## ■Ordering Information

**RM 21 W T P\*\* - 2 P (\*\*)**  
 ① ② ③ ④ ⑤ ⑥ ⑦

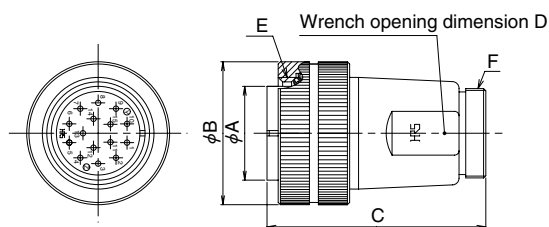
|                                                |                                                          |
|------------------------------------------------|----------------------------------------------------------|
| ① Series name : RM-W                           | ⑤ Number of Contacts                                     |
| ② Shell size                                   | ⑥ Contact type<br>P : Male contact<br>S : Female contact |
| ③ Lock type<br>T : Screw Lock                  |                                                          |
| ④ Connector type<br>P : Plug<br>R : Receptacle | ⑦ Plating<br>(71) : Silver plated<br>(72) : Gold plated  |

**RM 21 W T P - CP (10) (\*\*)**  
 ⑧ ⑨

|                     |                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------|
| ⑧ CP: Strain relief | ⑨ ( ) with : External cable clamp<br>( ) without : Internal cable clamp<br>4~18 : Cable size |
|---------------------|----------------------------------------------------------------------------------------------|

## ■Plugs - straight, long back shell

RM21WTPS-15S(71)



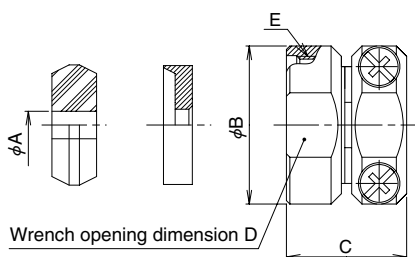
(shown one example)

| Part Number      | CL No.        | Number of Contacts | $\phi A$ | $\phi B$ | C  | D  | E      | F        | Weight | Remarks            | RoHS |
|------------------|---------------|--------------------|----------|----------|----|----|--------|----------|--------|--------------------|------|
| RM21WTPS-15S(71) | 109-1860-0-71 | 15                 | 21       | 32       | 49 | 23 | TM25×2 | M20×0.75 | 104.5  | Silver plated only | YES  |
| RM24WTPB-31S(71) | 109-1852-1-71 | 31                 | 24.3     | 36       | 54 | 26 | TM29×2 | M24×0.75 | 144.6  |                    |      |
| RM24WTPB-31P(71) | 109-1855-0-71 | 31                 | 24.3     | 36       | 54 | 26 | TM29×2 | M24×0.75 | 140.0  |                    |      |

## ■Applicable Strain reliefs

### ● External cable clamp + internal, self-tightening

RM24WTP-CP14(71)



(shown one example)

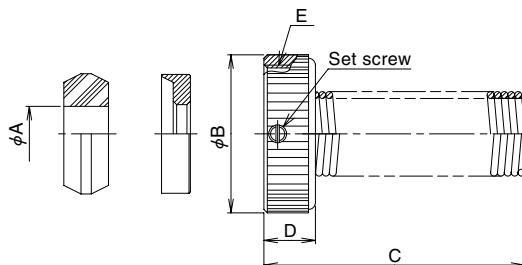
| Part Number      | CL No.        | $\phi A$ | $\phi B$ | C    | D  | E        | Weight | Remarks    | RoHS |
|------------------|---------------|----------|----------|------|----|----------|--------|------------|------|
| JR16WCC-4(72)    | 114-2052-6-72 | 4        | 23       | 17.5 | 21 | M20×0.75 | 17.5g  | For RM21WT | YES  |
| JR16WCC-6(72)    | 114-2053-9-72 | 6        | 23       | 17.5 | 21 | M20×0.75 | 17.5g  |            |      |
| JR16WCC-8(72)    | 114-2054-1-72 | 8        | 23       | 17.5 | 21 | M20×0.75 | 17.5g  |            |      |
| JR16WCC-10(72)   | 114-2055-4-72 | 10       | 23       | 17.5 | 21 | M20×0.75 | 17.5g  |            |      |
| JR16WCC-11(72)   | 114-2154-6-72 | 11       | 23       | 17.5 | 21 | M20×0.75 | 17.5g  |            |      |
| JR16WCC-12(72)   | 114-2056-7-72 | 12       | 23       | 17.5 | 21 | M20×0.75 | 17.5g  |            |      |
| RM24WTP-CP14(71) | 109-1851-9-71 | 14       | 29       | 17.5 | 26 | M24×0.75 | 17.5g  | For RM24WT |      |

Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$ . Notes : 2. Recommended set screw tightening torque : 0.3 to 0.4 N·m.

HRS recommended tool : PB205/1.27(CL 150-0066-3)

### ● Internal, self tightening

RM21WTP-CP(8)(71)



(shown one example)

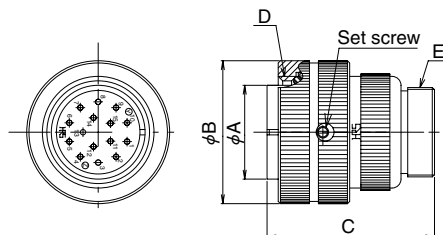
| Part Number        | CL No.        | φA | φB | C    | D   | E        | Weight | Remarks    | RoHS |
|--------------------|---------------|----|----|------|-----|----------|--------|------------|------|
| RM21WTP-CP(8)(71)  | 109-1405-3-71 | 8  | 23 | 38   | 7.5 | M20×0.75 | 22.5   | For RM21WT | YES  |
| RM21WTP-CP(10)(71) | 109-1406-6-71 | 10 | 23 | 38   | 7.5 | M20×0.75 | 22.0   |            |      |
| RM21WTP-CP(12)(71) | 109-1407-9-71 | 12 | 23 | 38   | 7.5 | M20×0.75 | 21.5   |            |      |
| RM24WTP-CP(10)(71) | 109-1493-0-71 | 10 | 27 | 38.5 | 8   | M24×0.75 | 28.5   | For RM24WT |      |
| RM24WTP-CP(12)(71) | 109-1494-3-71 | 12 | 27 | 38.5 | 8   | M24×0.75 | 28.5   |            |      |
| RM24WTP-CP(14)(71) | 109-1495-6-71 | 14 | 27 | 38.5 | 8   | M24×0.75 | 28.0   |            |      |
| RM24WTP-CP(16)(71) | 109-1496-9-71 | 16 | 27 | 38.5 | 8   | M24×0.75 | 26.5   |            |      |

Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$ . Notes : 2. Recommended set screw tightening torque : 0.2 to 0.3 N·m.

Notes : 3. When using the self-tightening strain relief verify the cable pull force requirements.

## ■Plugs - Straight, short back shell

RM21WTP-15S(71)



(shown one example)

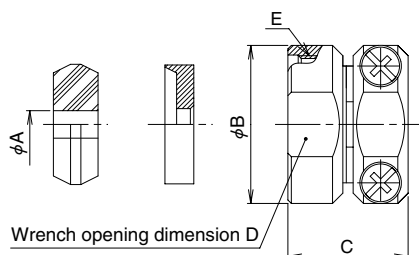
| Part Number     | CL No.        | Number of Contacts | $\phi A$ | $\phi B$ | C    | E      | F        | Weight | Remarks            | RoHS |
|-----------------|---------------|--------------------|----------|----------|------|--------|----------|--------|--------------------|------|
| RM21WTP-15S(71) | 109-1401-2-71 | 15                 | 21       | 32       | 37.5 | TM25×2 | M20×0.75 | 88.5   | Silver plated only | YES  |
| RM21WTP-20S(71) | 109-1402-5-71 | 20                 | 21       | 32       | 37.5 | TM25×2 | M20×0.75 | 88.5   |                    |      |
| RM21WTP-15P(71) | 109-1403-8-71 | 15                 | 21       | 32       | 37.5 | TM25×2 | M20×0.75 | 85     |                    |      |
| RM21WTP-20P(71) | 109-1404-0-71 | 20                 | 21       | 32       | 37.5 | TM25×2 | M20×0.75 | 85     |                    |      |
| RM24WTP-31S(71) | 109-1491-5-71 | 31                 | 24.3     | 36       | 44   | TM29×2 | M24×0.75 | 128    |                    |      |
| RM24WTP-31P(71) | 109-1492-8-71 | 31                 | 24.3     | 36       | 44   | TM29×2 | M24×0.75 | 123    |                    |      |
| RM31WTP-40S(71) | 109-1571-2-71 | 40                 | 30.8     | 42       | 52   | TM35×2 | M28×0.75 | 152    |                    |      |
| RM31WTP-55S(71) | 109-1572-5-71 | 55                 | 30.8     | 42       | 52   | TM35×2 | M28×0.75 | 157    |                    |      |
| RM31WTP-40P(71) | 109-1573-8-71 | 40                 | 30.8     | 42       | 52   | TM35×2 | M28×0.75 | 152    |                    |      |
| RM31WTP-55P(71) | 109-1574-0-71 | 55                 | 30.8     | 42       | 52   | TM35×2 | M28×0.75 | 150    |                    |      |

Notes : Recommended set screw tightening torque : 0.2 to 0.3 N·m.

## ■Applicable Strain reliefs

### ● External cable clamp + internal, self-tightening

RM24WTP-CP14(71)



(shown one example)

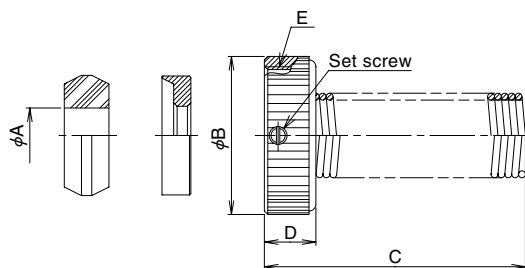
| Part Number      | CL No.        | $\phi A$ | $\phi B$ | C    | D  | E        | RoHS |
|------------------|---------------|----------|----------|------|----|----------|------|
| RM21WTP-CP10(71) | 109-1478-7-71 | 10       | 25       | 17   | 21 | M20×0.75 | YES  |
| RM21WTP-CP12(71) | 109-1477-4-71 | 12       | 25       | 17   | 21 | M20×0.75 |      |
| RM24WTP-CP14(71) | 109-1851-9-71 | 14       | 29       | 17.5 | 26 | M24×0.75 |      |

Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$ . Notes : 2. Recommended set screw tightening torque : 0.3 to 0.4 N·m.

HRS recommended tool : PB205/1.27(CL 150-0066-3)

### ● Internal, self tightening

RM21WTP-CP(8)(71)



(shown one example)

| Part Number        | CL No.        | $\phi A$ | $\phi B$ | C    | D   | E        | Weight | RoHS |
|--------------------|---------------|----------|----------|------|-----|----------|--------|------|
| RM21WTP-CP(8)(71)  | 109-1405-3-71 | 8        | 23       | 38   | 7.5 | M20×0.75 | 22.5   | YES  |
| RM21WTP-CP(10)(71) | 109-1406-6-71 | 10       | 23       | 38   | 7.5 | M20×0.75 | 22     |      |
| RM21WTP-CP(12)(71) | 109-1407-9-71 | 12       | 23       | 38   | 7.5 | M20×0.75 | 21.5   |      |
| RM24WTP-CP(10)(71) | 109-1493-0-71 | 10       | 27       | 38.5 | 8   | M24×0.75 | 28.5   |      |
| RM24WTP-CP(12)(71) | 109-1494-3-71 | 12       | 27       | 38.5 | 8   | M24×0.75 | 28.5   |      |
| RM24WTP-CP(14)(71) | 109-1495-6-71 | 14       | 27       | 38.5 | 8   | M24×0.75 | 28.5   |      |
| RM24WTP-CP(16)(71) | 109-1496-9-71 | 16       | 27       | 38.5 | 8   | M24×0.75 | 28.5   |      |
| RM31WTP-CP(10)(71) | 109-1575-3-71 | 10       | 31       | 42   | 12  | M28×0.75 | 46     |      |
| RM31WTP-CP(12)(71) | 109-1576-6-71 | 12       | 31       | 42   | 12  | M28×0.75 | 46     |      |
| RM31WTP-CP(14)(71) | 109-1579-4-71 | 14       | 31       | 42   | 12  | M28×0.75 | 45     |      |
| RM31WTP-CP(16)(71) | 109-1577-9-71 | 16       | 31       | 42   | 12  | M28×0.75 | 43.5   |      |
| RM31WTP-CP(18)(71) | 109-1578-1-71 | 18       | 31       | 42   | 12  | M28×0.75 | 42     |      |

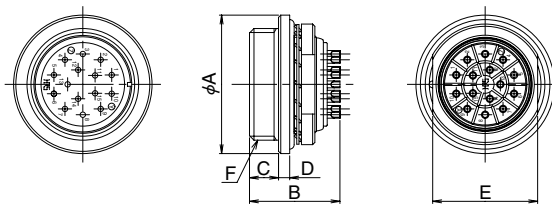
Notes : 1. Cable jacket diameter: Use  $A \pm 0.2\text{mm}$ . Notes : 2. Recommended set screw tightening torque : 0.2 to 0.3 N·m.

Notes : 3. When using the self-tightening strain relief verify the cable pull force requirements.

## ■ Receptacles

### ● Front panel mount

#### RM21WTR-15P(71)



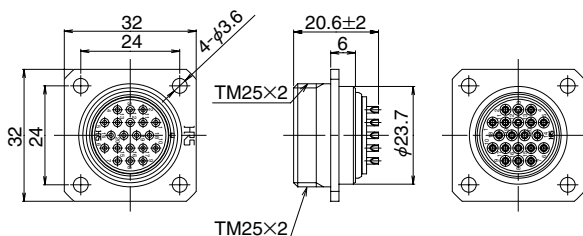
(shown one example)

| Part Number     | CL No.        | Number of Contacts | $\phi A$ | B  | C   | D   | E    | E      | Weight | Remarks            | RoHS |
|-----------------|---------------|--------------------|----------|----|-----|-----|------|--------|--------|--------------------|------|
| RM21WTR-15P(71) | 109-1445-8-71 | 15                 | 31       | 21 | 6.5 | 2   | 23.5 | TM25×2 | 28     | Silver plated only | YES  |
| RM21WTR-15S(71) | 109-1447-3-71 | 15                 | 31       | 21 | 6.5 | 2   | 23.5 | TM25×2 | 31.5   |                    |      |
| RM21WTR-20P(71) | 109-1446-0-71 | 20                 | 31       | 21 | 6.5 | 2   | 23.5 | TM25×2 | 31.5   |                    |      |
| RM21WTR-20S(71) | 109-1448-6-71 | 20                 | 31       | 21 | 6.5 | 2   | 23.5 | TM25×2 | 31.5   |                    |      |
| RM24WTR-31P(71) | 109-1483-7-71 | 31                 | 35       | 21 | 6.5 | 2.5 | 28   | TM29×2 | 41.5   |                    |      |
| RM24WTR-31S(71) | 109-1484-0-71 | 31                 | 35       | 21 | 6.5 | 2.5 | 28   | TM29×2 | 42     |                    |      |
| RM31WTR-40P(71) | 109-1525-5-71 | 40                 | 41       | 21 | 6.5 | 2.5 | 34   | TM35×2 | 50     |                    |      |
| RM31WTR-40S(71) | 109-1527-0-71 | 40                 | 41       | 21 | 6.5 | 2.5 | 34   | TM35×2 | 52     |                    |      |
| RM31WTR-55P(71) | 109-1526-8-71 | 55                 | 41       | 21 | 6.5 | 2.5 | 34   | TM35×2 | 53.5   |                    |      |
| RM31WTR-55S(71) | 109-1528-3-71 | 55                 | 41       | 21 | 6.5 | 2.5 | 34   | TM35×2 | 54     |                    |      |

Notes : Recommended nut tightening torque : 3 N·m

### ● Waterproof (single body)

#### RM21WTRK-20P(71)



(shown one example)

| Part Number      | CL No.        | Number of Contacts | Remarks          | RoHS |
|------------------|---------------|--------------------|------------------|------|
| RM21WTRK-20P(71) | 109-1466-8-71 | 20                 | Gold plated only | YES  |

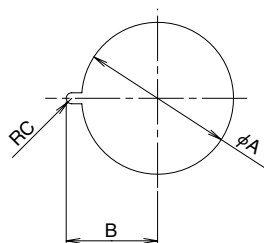
Notes : 1. Screw size : M3

2. Recommended nut tightening torque : 0.3 to 0.35 N·m

3. Use a 1.9 to 2.0 mm dia.thick O-ring for the waterproof gasket that is used in the connector mounting portion.

## ◆Receptacle - recommended panel cut-out

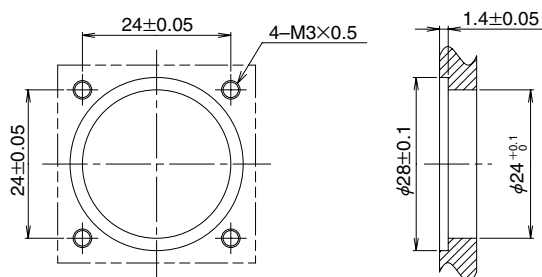
Front mounting, rear nut



Panel thickness: 0.5 to 2 mm

For RM\*\*WTR receptacles

Square flange, screw mounting



Panel thickness: 2.5 to 4 mm

For RM21WTRK receptacles

| Part Number | φA   | B    | RC   |
|-------------|------|------|------|
| For RM21WTR | 22.1 | 13.3 | 0.8  |
| For RM24WTR | 26.1 | 15.1 | 0.8  |
| For RM31WTR | 32.1 | 18.3 | 0.85 |

Notes : Tolerance is +0.1/0.

- Notes : 1. When attaching the receptacle to the panel, be certain to check that the gasket is in place in the groove. Do not pinch the gasket.  
2. The view of the above diagrams is from the receptacle mating side.  
3. The ▼ symbol in the above diagrams indicates the coupling guide position of the receptacles.

## ◆Contact Position Arrangement and Specifications

| Contact configuration     | Shell size : 21     |                     | Shell size : 24     | Shell size : 31     |                     |
|---------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                           |                     |                     |                     |                     |                     |
| Number of contacts        | 15                  | 20                  | 31                  | 40                  | 55                  |
| Withstanding voltage      | 1500V AC / 1 minute | 1000V AC / 1 minute | 1500V AC / 1 minute | 1800V AC / 1 minute | 1500V AC / 1 minute |
| Current rating            | 5A                  | 5A                  | 5A                  | 5A                  | 5A                  |
| Insulation resistance     | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         | 1000MΩ min.         |
| Contact resistance        | 4mΩ max.            | 4mΩ max.            | 4mΩ max.            | 4mΩ max.            | 4mΩ max.            |
| Solder pot inner diameter | 1.1mm               | 1.1mm               | 1.1mm               | 1.1mm               | 1.1mm               |

- Notes : 1. The contact configuration as viewed from the wiring side.  
2. The ▼ symbol in the above diagrams indicates the coupling guide position of the receptacles.  
3. Withstanding voltages indicate test voltage values.

## ◆Precautions

1. Switch off the power of the circuit before disconnecting or plugging- in the connectors.
2. Use a connectors with socket contacts at the power side of the circuit.
3. Make sure that the coupling is in completely cocked position.
4. Use correct plug / receptacle to assure dust and water protection.

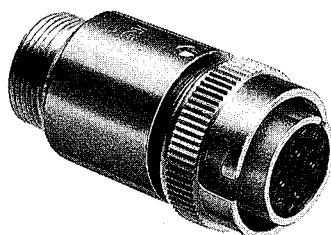
## Waterproof RM Series

The Waterproof RM Series has been developed by redesigning the standard RM Series, but maintaining the same electrical specifications as the standard RM Series.

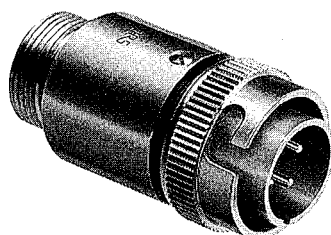
### Model RM12WB Connectors

The RM12B is designed to be watertight for 48 hours at 0.5 M under water, and the RM15T or above is designed to be watertight for 48 hours at 1.0 M under water.

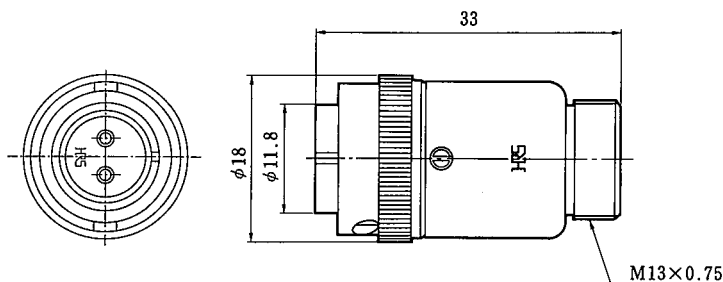
#### Plug



RM12WBP-4S



RM12WBP-4P



(An example in shape)

| HRS No.    | Part No.   | No. of pins | HRS No.    | Part No.   | No. of pins |
|------------|------------|-------------|------------|------------|-------------|
| 109-1141-3 | RM12WBP-2S | 2           | 109-1146-7 | RM12WBP-2P | 2           |
| 109-1142-6 | RM12WBP-3S | 3           | 109-1147-0 | RM12WBP-3P | 3           |
| 109-1143-9 | RM12WBP-4S | 4           | 109-1148-2 | RM12WBP-4P | 4           |
| 109-1144-1 | RM12WBP-5S | 5           | 109-1149-5 | RM12WBP-5P | 5           |
| 109-1145-4 | RM12WBP-6S | 6           | 109-1150-4 | RM12WBP-6P | 6           |

Note 1: Be sure to use plugs in combination with code clamps.

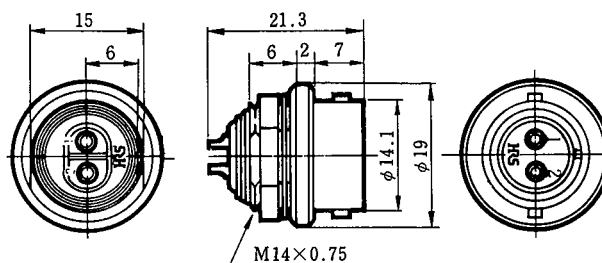
#### Receptacle



RM12WBR-4P



RM12WBR-4S

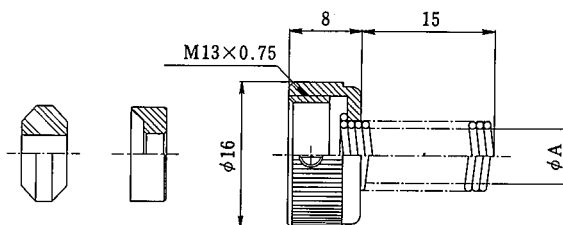
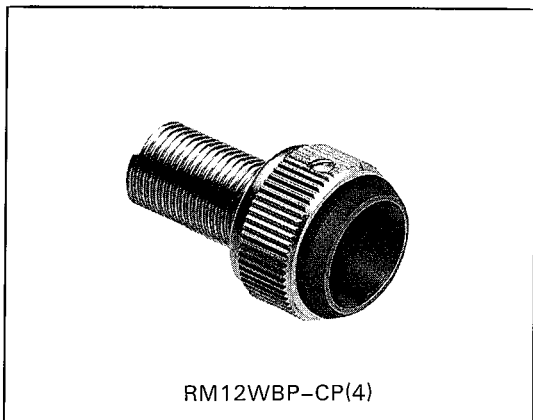


(An example in shape)

| HRS No.    | Part No.   | No. of pins | HRS No.    | Part No.   | No. of pins |
|------------|------------|-------------|------------|------------|-------------|
| 109-1021-1 | RM12WBR-2P | 2           | 109-1026-5 | RM12WBR-2S | 2           |
| 109-1022-4 | RM12WBR-3P | 3           | 109-1027-8 | RM12WBR-3S | 3           |
| 109-1023-7 | RM12WBR-4P | 4           | 109-1028-0 | RM12WBR-4S | 4           |
| 109-1024-0 | RM12WBR-5P | 5           | 109-1029-3 | RM12WBR-5S | 5           |
| 109-1025-2 | RM12WBR-6P | 6           | 109-1030-2 | RM12WBR-6S | 6           |

Remark: For mounting holes, see page 60.

## Cord Clamp



(An example in shape)

| HRS No.    | Part No.      | φA  | Cable dia. |
|------------|---------------|-----|------------|
| 109-1151-7 | RM12WBP-CP(4) | 5.5 | φ4         |
| 109-1152-0 | RM12WBP-CP(5) | 5.5 | φ5         |
| 109-1153-2 | RM12WBP-CP(6) | 7.5 | φ6         |
| 109-1154-5 | RM12WBP-CP(7) | 7.5 | φ7         |

Note: Carefully choose the applicable cable because clamping force and waterproofness differ according to the type.