

## HR10 Series

# High Performance Miniature Circular Connectors



Push On



Compact



Wide Variation



## Features

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### 1. A Simple, Yet Highly Reliable Design for Compact, High Density Applications

Although small in size, the HR10 series are full featured connectors with a well integrated design.

### 2. Extremely Easy Mating/Unmating Operations

Easy to operate, the single-action push-pull lock structure allows for quick and efficient locking and unlocking.

### 3. Compatible Variations

HR10A : Cable clamps are crimped using a special crimping tool, and the shells have a rubber boot which provides a flexible design that helps to prevent cable twisting.

HR10G : It has as an internal contacting structure between the plug shell and receptacle shell.

Note : The standard contacts plating specifications for HR10 and HR10A, HR10G are different.

Please be sure to confirm the plating specification when using HR10 with HR10A or HR10G.

(HR10 : Gold plating, HR10A, HR10G : Silver plating)

## Product Specifications

|               |            |             |                                                          |                              |              |
|---------------|------------|-------------|----------------------------------------------------------|------------------------------|--------------|
| Rated Current | 2A         |             |                                                          | Operating Temperature (Note) | -25 to +85°C |
| Rated Voltage | Shell Size | No. of Pos. | Rated Voltage                                            | Storage Temperature          | -10 to +60°C |
|               | 7          | 4<br>5<br>6 | 150V AC, 200V DC<br>100V AC, 140V DC<br>100V AC, 140V DC |                              |              |
|               | 10         | 10<br>12    | 100V AC, 140V DC                                         |                              |              |
|               | 13         | 20          | 100V AC, 140V DC                                         |                              |              |

| Items                 | Specifications                                                         | Conditions                                                                                                                                  |
|-----------------------|------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Contact Resistance    | 10mΩ Max.                                                              | Measured at 1A DC                                                                                                                           |
| Insulation Resistance | 1,000MΩ Min.                                                           | Measured at 100V DC                                                                                                                         |
| Withstanding Voltage  | No flashover or insulation breakdown                                   | 300V AC for one min. 4pos. : 500V AC for one min.                                                                                           |
| Vibration Resistance  | No electrical discontinuity of 10 μs or more.                          | 10 to 55Hz/cycle, amplitude 0.75mm, 2 hours each in 3 axis directions                                                                       |
| Shock Resistance      | No electrical discontinuity of 10 μs or more.                          | Acceleration 490m/s <sup>2</sup> , duration 11ms, 3 times each in 3 axis directions                                                         |
| Mating Durability     | Contact Resistance : 15mΩ Max.                                         | 1,000 times                                                                                                                                 |
| Temperature Cycles    | Insulation Resistance : 1.000MΩ Min.                                   | Temperature : -55°C → Room temperature → +85°C → Room temperature<br>Time : 30 → 10 to 15 → 30 → 10 to 15minutes.<br>Repeated for 5 cycles. |
| Humidity Resistance   | Insulation Resistance :<br>5MΩ Min. (High Humidity)<br>50MΩ Min. (Dry) | Temperature : 40°C , relative humidity : 90 to 95%, left for 96 hours                                                                       |

Note : Includes temperature rise caused by current flow

## Materials / Finish

| Component | Materials         | Color / Finish                                       |
|-----------|-------------------|------------------------------------------------------|
| Exterior  | Zinc Alloy, Brass | Matte Finished Nickel Plating                        |
| Insulator | Polyamide, PBT    | Blue, Black                                          |
| Contact   | Copper Alloy      | HR10 : Gold Plating<br>HR10A, HR10G : Silver Plating |

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

**HR10A - 10 T P - 12 P C (##)**  
1 2 3 4 5 6 7 8

|                  |                                                |                        |                                                                            |
|------------------|------------------------------------------------|------------------------|----------------------------------------------------------------------------|
| 1 Series Name    | HR10A : Lower Cost Type<br>HR10G : Shield Type | 5 No. of Pos.          | 4, 5, 6, 10, 12, 20                                                        |
| 2 Shell Size     | 7, 10, 13                                      | 6 Contact Gender       | P : Male Contact<br>S : Female Contact                                     |
| 3 Lock Mechanism | None : Push-pull Lock<br>T : Threaded Coupling | 7 Contact Assembly     | None : Solder Termination<br>A, B : Dip Type<br>C : Crimp Termination      |
| 4 Shell Type     | P : Plug<br>R : Receptacle<br>J : Jack         | 8 Other Specifications | A two-digit character is added to indicate other specifications as needed. |

Crimp Contact

**HR10 - P C - 1 1 2**  
1 2 3 4 5 6

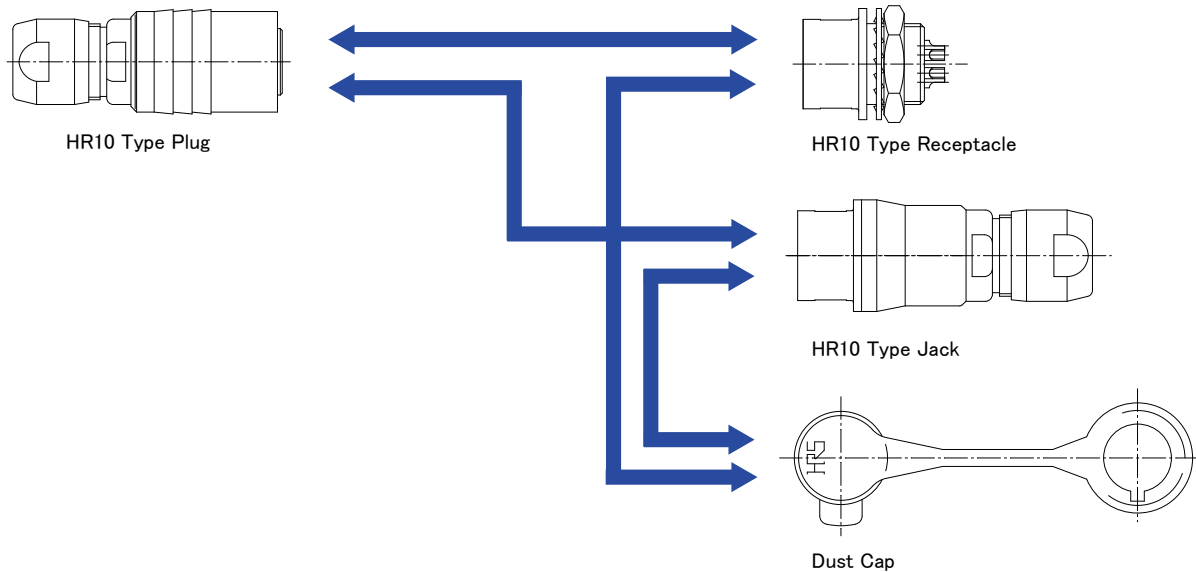
**HR12 - S C - 1 1 2**  
1 2 3 4 5 6

|                    |                                        |                        |                                                                                                    |
|--------------------|----------------------------------------|------------------------|----------------------------------------------------------------------------------------------------|
| 1 Series Name      | HR10<br>HR12                           | 4 Contact Type         | 1 : Loose Contacts<br>2 : Reel Contacts                                                            |
| 2 Contact Gender   | P : Male Contact<br>S : Female Contact | 5 Design               | 1 : If the design of contacts of the same size differs, 1, 2, 3 etc. are added to distinguish them |
| 3 Contact Assembly | C : Crimp Termination                  | 6 Contact Area Plating | 2 : Silver plating                                                                                 |

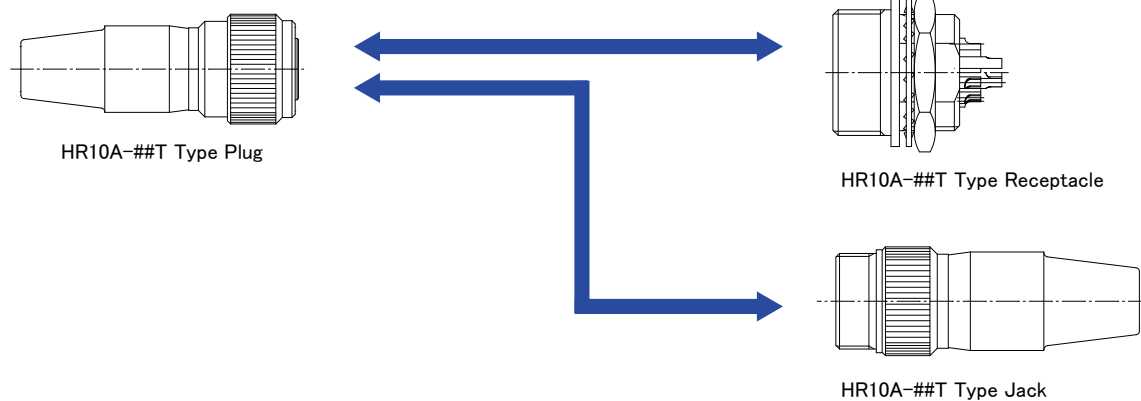
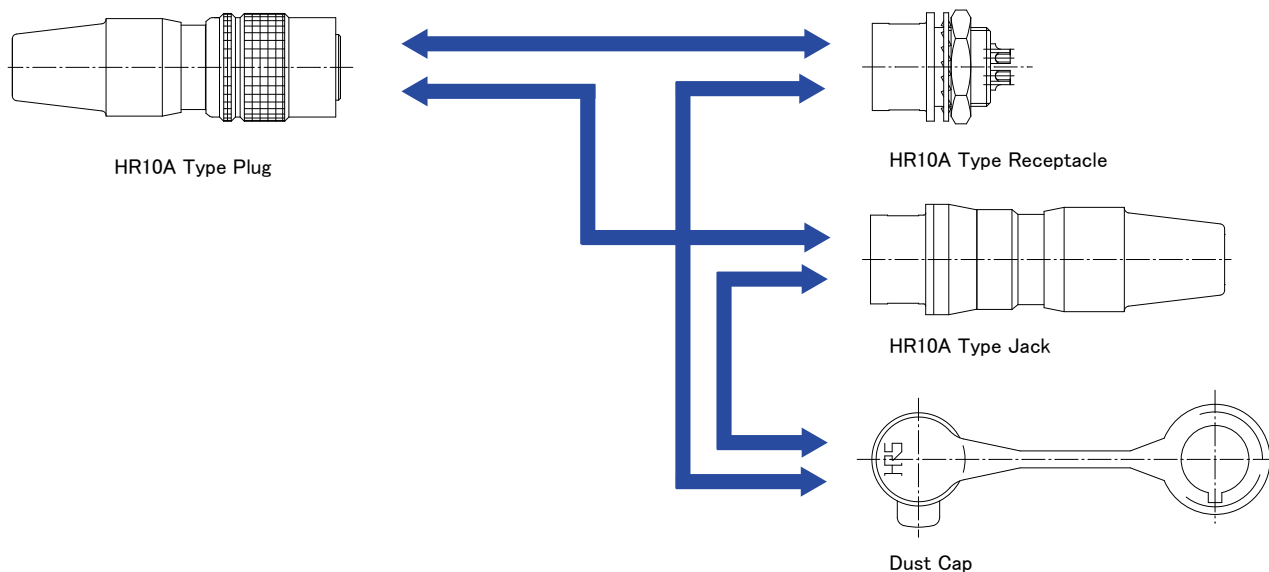
Note : Female Contact is the common contact with HR 12 Series.

## Connector Mating Combinations Diagram

### 【HR10】



### 【HR10A/HR10G】



Note 1 : When using a plug with male terminal, be sure to use a receptacle or jack fitted with female terminal.

Note 2 : Standard finish of the terminal is gold plating for the HR10, and silver plating for the HR10A and HR10G. Be sure to use male and female connectors of the same plating.

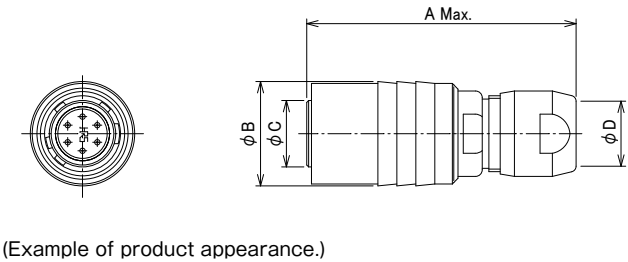
Note 3 : Be sure to use plugs, receptacles and jacks in combination with the same shell size and No. of pos..

# HR10 Type

## Plug (Solder Type)



HR10-7P-6S(73)



Unit : mm

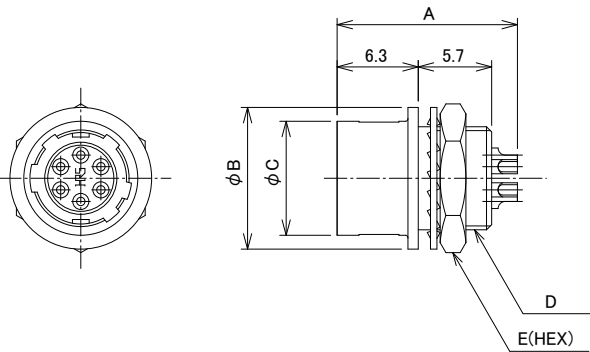
| Part No.         | HRS No.          | No. of Pos. | A    | ϕ B  | ϕ C | ϕ D | Purchase Unit |
|------------------|------------------|-------------|------|------|-----|-----|---------------|
| HR10-7P-4P(73)   | CL0110-0021-6-73 | 4           | 28.5 | 11.0 | 7.0 | 5.2 | 20pcs per bag |
| HR10-7P-4S(73)   | CL0110-0022-9-73 |             |      |      |     |     |               |
| HR10-7P-6P(73)   | CL0110-0023-1-73 | 6           | 28.5 | 11.0 | 7.0 | 5.2 |               |
| HR10-7P-6S(73)   | CL0110-0024-4-73 |             |      |      |     |     |               |
| HR10-10P-12P(73) | CL0110-0025-7-73 | 12          | 32.5 | 14.0 | 9.5 | 7.2 |               |
| HR10-10P-12S(73) | CL0110-0026-0-73 |             |      |      |     |     |               |

Note : Standard finish of the terminal is gold plating.

## Receptacle (Solder Type)



HR10-7R-6S(73)

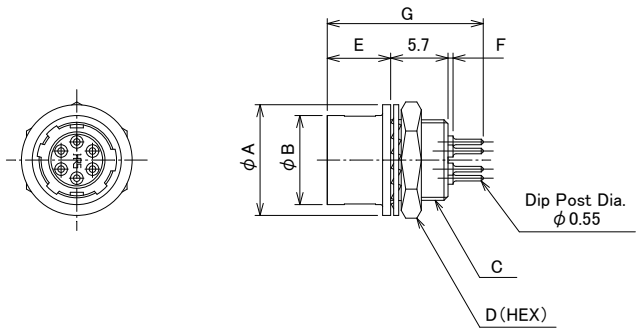


Unit : mm

| Part No.         | HRS No.          | No. of Pos. | A    | φ B  | φ C  | D          | E    | Purchase Unit |
|------------------|------------------|-------------|------|------|------|------------|------|---------------|
| HR10-7R-4P(73)   | CL0110-0031-0-73 | 4           | 14.0 | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 20pcs per bag |
| HR10-7R-4S(73)   | CL0110-0032-2-73 |             |      |      |      |            |      |               |
| HR10-7R-6P(73)   | CL0110-0033-5-73 | 6           | 14.0 | 11.0 | 8.85 | M8 × 0.5   | 10.0 |               |
| HR10-7R-6S(73)   | CL0110-0034-8-73 |             |      |      |      |            |      |               |
| HR10-10R-12P(73) | CL0110-0035-0-73 | 12          | 16.0 | 14.0 | 11.9 | M11 × 0.75 | 13.0 |               |
| HR10-10R-12S(73) | CL0110-0036-3-73 |             |      |      |      |            |      |               |

Note : Standard finish of the terminal is gold plating.

Receptacle (Dip Type)



(Example of product appearance.)

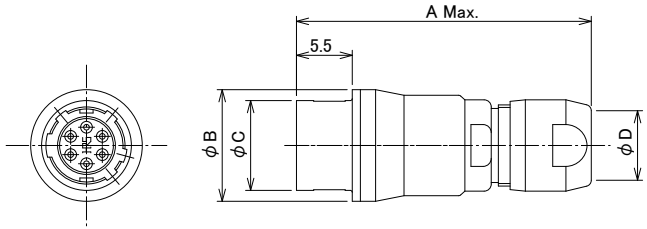
HR10-7R-6SA(73)

Unit : mm

| Part No.          | HRS No.          | No. of Pos. | A    | φ B  | C          | D    | E   | F   | G    | Purchase Unit  |
|-------------------|------------------|-------------|------|------|------------|------|-----|-----|------|----------------|
| HR10-7R-4SA(73)   | CL0110-0059-9-73 | 4           | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 0.5 | 15.5 | 50pcs per tray |
| HR10-7R-6SA(73)   | CL0110-0050-4-73 | 6           |      |      |            |      |     |     |      |                |
| HR10-7R-6PA(73)   | CL0110-0061-0-73 | 6           |      |      |            |      |     |     |      |                |
| HR10-10R-12SA(73) | CL0110-0049-5-73 | 12          | 14.0 | 11.9 | M11 × 0.75 | 13.0 |     |     |      |                |
| HR10-10R-12PA(73) | CL0110-0055-8-73 |             |      |      |            |      |     |     |      |                |

Note : Standard finish of the terminal is gold plating.

Jack (Solder Type)



(Example of product appearance.)

HR10-7J-6S(73)

Unit : mm

| Part No.         | HRS No.          | No. of Pos. | A    | ϕ B  | ϕ C  | D   | Purchase Unit |
|------------------|------------------|-------------|------|------|------|-----|---------------|
| HR10-7J-4S(73)   | CL0110-0027-2-73 | 4           | 28.5 | 11.0 | 8.85 | 5.2 | 20pcs per bag |
| HR10-7J-4P(73)   | CL0110-0028-5-73 |             |      |      |      |     |               |
| HR10-7J-6S(73)   | CL0110-0029-8-73 | 6           |      |      |      |     |               |
| HR10-7J-6P(73)   | CL0110-0030-7-73 |             |      |      |      |     |               |
| HR10-10J-12S(73) | CL0110-0037-6-73 | 12          | 32.5 | 14.0 | 11.9 | 7.2 |               |
| HR10-10J-12P(73) | CL0110-0038-9-73 |             |      |      |      |     |               |

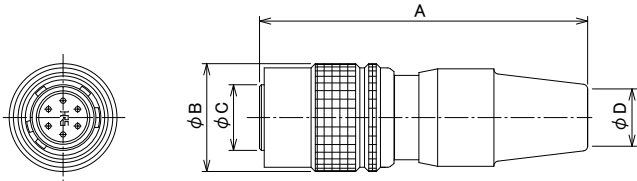
Note : Standard finish of the terminal is gold plating.

HR10A/10G Type

Plug (Solder Type)



HR10A-7P-6P(73)



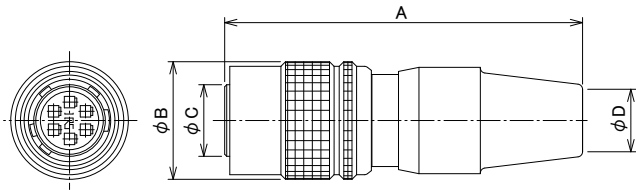
(Example of product appearance.)

Unit : mm

| Part No.          | HRS No.          | No. of Pos. | A    | ϕ B  | ϕ C  | ϕ D | Purchase Unit |  |  |  |  |  |  |
|-------------------|------------------|-------------|------|------|------|-----|---------------|--|--|--|--|--|--|
| HR10A-7P-4P(73)   | CL0110-0301-2-73 | 4           | 35.0 | 11.5 | 7.0  | 5.0 | 20pcs per bag |  |  |  |  |  |  |
| HR10A-7P-4S(73)   | CL0110-0302-5-73 |             |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-7P-5P(73)   | CL0110-0318-5-73 | 5           |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-7P-5S(73)   | CL0110-0319-8-73 |             |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-7P-6P(73)   | CL0110-0303-8-73 | 6           |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-7P-6S(73)   | CL0110-0304-0-73 |             |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-10P-10P(73) | CL0110-0407-3-73 | 10          | 43.0 | 14.7 | 9.5  | 7.0 |               |  |  |  |  |  |  |
| HR10A-10P-10S(73) | CL0110-0408-6-73 |             |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-10P-12P(73) | CL0110-0401-7-73 | 12          |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-10P-12S(73) | CL0110-0402-0-73 |             |      |      |      |     |               |  |  |  |  |  |  |
| HR10A-13P-20P(73) | CL0110-0713-0-73 | 20          | 59.0 | 19.0 | 13.0 |     |               |  |  |  |  |  |  |
| HR10A-13P-20S(73) | CL0110-0716-8-73 |             |      |      |      |     |               |  |  |  |  |  |  |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Plug (Crimp Type)



(Example of product appearance.)

HR10A-7P-6PC(73)

Unit : mm

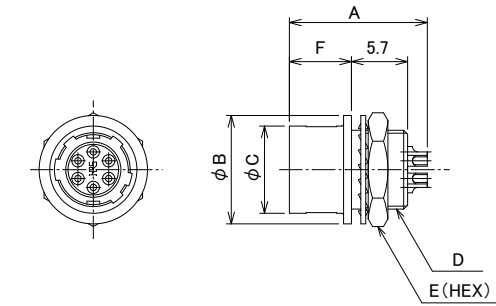
| Part No.           | HRS No.          | No. of Pos. | A    | φ B  | φ C  | φ D | Purchase Unit |
|--------------------|------------------|-------------|------|------|------|-----|---------------|
| HR10A-7P-4PC(73)   | CL0110-0501-1-73 | 4           | 35.0 | 11.5 | 7.0  | 5.0 | 20pcs per bag |
| HR10A-7P-4SC(73)   | CL0110-0502-4-73 |             |      |      |      |     |               |
| HR10A-7P-6PC(73)   | CL0110-0503-7-73 | 6           |      |      |      |     |               |
| HR10A-7P-6SC(73)   | CL0110-0504-0-73 |             |      |      |      |     |               |
| HR10A-10P-10PC(73) | CL0110-0601-6-73 | 10          | 43.0 | 14.7 | 9.5  | 7.0 |               |
| HR10A-10P-10SC(73) | CL0110-0602-9-73 |             |      |      |      |     |               |
| HR10A-10P-12PC(73) | CL0110-0603-1-73 | 12          |      |      |      |     |               |
| HR10A-10P-12SC(73) | CL0110-0604-4-73 |             |      |      |      |     |               |
| HR10A-13P-20PC(73) | CL0110-0701-0-73 | 20          | 59.0 | 19.0 | 13.0 |     |               |
| HR10A-13P-20SC(73) | CL0110-0702-3-73 |             |      |      |      |     |               |

Note : Use with the crimp contact (HR10-PC-#12, HR12-SC-#12), sold separately.

Receptacle (Solder Type)



HR10A-7R-6S(73)



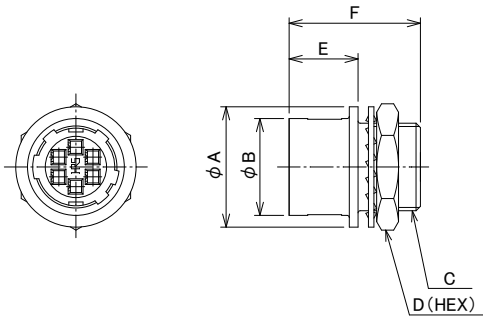
(Example of product appearance.)

Unit : mm

| Part No.          | HRS No.          | No. of Pos. | A    | φ B  | φ C  | D          | E    | F   | Purchase Unit |      |      |      |            |      |
|-------------------|------------------|-------------|------|------|------|------------|------|-----|---------------|------|------|------|------------|------|
| HR10A-7R-4S(73)   | CL0110-0305-3-73 | 4           | 14.0 | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 20pcs per bag |      |      |      |            |      |
| HR10A-7R-4P(73)   | CL0110-0306-6-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-7R-5S(73)   | CL0110-0320-7-73 | 5           |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-7R-5P(73)   | CL0110-0321-0-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-7R-6S(73)   | CL0110-0307-9-73 | 6           |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-7R-6P(73)   | CL0110-0308-1-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-10R-10S(71) | CL0110-0409-9-71 | 10          | 16.0 | 14.0 | 11.9 | M11 × 0.75 | 13.0 |     |               |      |      |      |            |      |
| HR10A-10R-10P(73) | CL0110-0410-8-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-10R-12S(71) | CL0110-0403-2-71 | 12          |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-10R-12P(73) | CL0110-0404-5-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10A-13R-20S(73) | CL0110-0714-2-73 | 20          | 19.2 | 18.0 | 15.4 | M14 × 0.75 | 17.0 | 9.3 |               |      |      |      |            |      |
| HR10A-13R-20P(73) | CL0110-0715-5-73 |             | 20.2 |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-7R-4S(73)   | CL0110-1601-1-73 | 4           | 14.0 | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 |               |      |      |      |            |      |
| HR10G-7R-4P(73)   | CL0110-1602-4-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-7R-6S(73)   | CL0110-1605-2-73 | 6           |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-7R-6P(73)   | CL0110-1606-5-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-10R-10S(71) | CL0110-1607-8-71 | 10          |      |      |      |            |      |     |               | 16.0 | 14.0 | 11.9 | M11 × 0.75 | 13.0 |
| HR10G-10R-10P(73) | CL0110-1608-0-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-10R-12S(71) | CL0110-1609-3-71 | 12          |      |      |      |            |      |     |               |      |      |      |            |      |
| HR10G-10R-12P(73) | CL0110-1610-2-73 |             |      |      |      |            |      |     |               |      |      |      |            |      |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Receptacle (Crimp Type)



(Example of product appearance.)

HR10G-10R-12SC(71)

Unit : mm

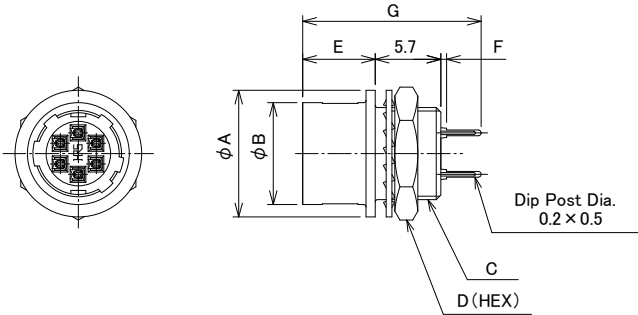
| Part No.           | HRS No.          | No. of Pos. | A    | ϕ B  | C          | D    | E   | F    | Purchase Unit |
|--------------------|------------------|-------------|------|------|------------|------|-----|------|---------------|
| HR10A-7R-4SC(73)   | CL0110-0506-5-73 | 4           | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 12.0 | 20pcs per bag |
| HR10A-7R-4PC(73)   | CL0110-0505-2-73 |             |      |      |            |      |     | 12.2 |               |
| HR10A-7R-6SC(73)   | CL0110-0508-0-73 | 6           |      |      |            |      |     | 12.0 |               |
| HR10A-7R-6PC(73)   | CL0110-0507-8-73 |             |      |      |            |      |     | 12.2 |               |
| HR10A-10R-10SC(71) | CL0110-0606-0-71 | 10          | 14.0 | 11.9 | M11 × 0.75 | 13.0 |     | 12.0 |               |
| HR10A-10R-10PC(71) | CL0110-0605-7-71 |             |      |      |            |      |     | 12.2 |               |
| HR10A-10R-12SC(71) | CL0110-0608-5-71 | 12          |      |      |            |      |     | 12.0 |               |
| HR10A-10R-12PC(71) | CL0110-0607-2-71 |             |      |      |            |      |     | 12.2 |               |
| HR10A-13R-20SC(73) | CL0110-0703-6-73 | 20          | 18.0 | 15.4 | M14 × 0.75 | 17.0 | 9.3 | 15.0 |               |
| HR10A-13R-20PC(73) | CL0110-0704-9-73 |             |      |      |            |      |     |      |               |
| HR10G-7R-4SC(73)   | CL0110-1701-6-73 | 4           | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 12.0 |               |
| HR10G-7R-4PC(73)   | CL0110-1702-9-73 |             |      |      |            |      |     | 12.2 |               |
| HR10G-7R-6SC(73)   | CL0110-1705-7-73 | 6           |      |      |            |      |     | 12.0 |               |
| HR10G-7R-6PC(73)   | CL0110-1706-0-73 |             |      |      |            |      |     | 12.2 |               |
| HR10G-10R-10SC(71) | CL0110-1707-2-71 | 10          | 14.0 | 11.9 | M11 × 0.75 | 13.0 |     | 12.0 |               |
| HR10G-10R-10PC(71) | CL0110-1708-5-71 |             |      |      |            |      |     | 12.2 |               |
| HR10G-10R-12SC(71) | CL0110-1709-8-71 | 12          |      |      |            |      |     | 12.0 |               |
| HR10G-10R-12PC(71) | CL0110-1710-7-71 |             |      |      |            |      |     | 12.2 |               |
| HR10G-13R-20SC(73) | CL0110-1711-0-73 | 20          | 18.0 | 15.4 | M14 × 0.75 | 17.0 | 9.3 | 15.0 |               |
| HR10G-13R-20PC(73) | CL0110-1712-2-73 |             |      |      |            |      |     |      |               |

Note : Use with the crimp contact (HR10-PC-#12, HR12-SC-#12), sold separately.

### Receptacle (Dip Type)



HR10A-7R-6SB(73)



(Example of product appearance.)

Unit : mm

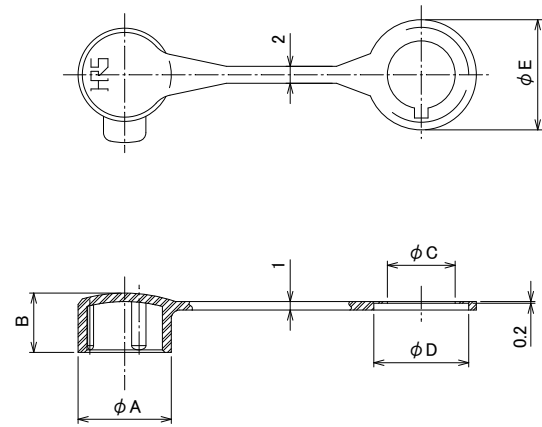
| Part No.           | HRS No.          | No. of Pos. | ϕ A  | ϕ B  | C          | D    | E   | F   | G    | Purchase Unit  |
|--------------------|------------------|-------------|------|------|------------|------|-----|-----|------|----------------|
| HR10A-7R-4SB(73)   | CL0110-0314-4-73 | 4           | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 0.5 | 15.6 | 60pcs per tray |
| HR10A-7R-4PB(73)   | CL0110-0315-7-73 |             |      |      |            |      |     |     |      |                |
| HR10A-7R-5SB(73)   | CL0110-0322-2-73 | 5           |      |      |            |      |     |     |      |                |
| HR10A-7R-6SB(73)   | CL0110-0316-0-73 | 6           |      |      |            |      |     |     |      |                |
| HR10A-7R-6PB(73)   | CL0110-0317-2-73 |             |      |      |            |      |     |     |      |                |
| HR10A-10R-10SB(71) | CL0110-0413-6-71 | 10          | 14.0 | 11.9 | M11 × 0.75 | 13.0 | 6.3 | 0.5 | 15.6 | 60pcs per tray |
| HR10A-10R-10PB(71) | CL0110-0414-9-71 |             |      |      |            |      |     |     |      |                |
| HR10A-10R-12SB(71) | CL0110-0415-1-71 | 12          |      |      |            |      |     |     |      |                |
| HR10A-10R-12PB(71) | CL0110-0416-4-71 |             |      |      |            |      |     |     |      |                |
| HR10A-13R-20SB(73) | CL0110-0707-7-73 | 20          | 18.0 | 15.4 | M14 × 0.75 | 17.0 | 9.3 | 0   | 17.8 | 50pcs per tray |
| HR10A-13R-20PB(73) | CL0110-0708-0-73 |             |      |      |            |      |     |     |      |                |
| HR10G-7R-4SB(73)   | CL0110-1801-0-73 | 4           | 11.0 | 8.85 | M8 × 0.5   | 10.0 | 6.3 | 0.5 | 15.6 | 60pcs per tray |
| HR10G-7R-4PB(73)   | CL0110-1802-3-73 |             |      |      |            |      |     |     |      |                |
| HR10G-7R-6SB(73)   | CL0110-1805-1-73 | 6           |      |      |            |      |     |     |      |                |
| HR10G-7R-6PB(73)   | CL0110-1806-4-73 |             |      |      |            |      |     |     |      |                |
| HR10G-10R-10SB(71) | CL0110-1807-7-71 | 10          | 14.0 | 11.9 | M11 × 0.75 | 13.0 | 6.3 | 0.5 | 15.6 | 60pcs per tray |
| HR10G-10R-10PB(71) | CL0110-1808-0-71 |             |      |      |            |      |     |     |      |                |
| HR10G-10R-12SB(71) | CL0110-1809-2-71 | 12          |      |      |            |      |     |     |      |                |
| HR10G-10R-12PB(71) | CL0110-1810-1-71 |             |      |      |            |      |     |     |      |                |
| HR10G-13R-20SB(73) | CL0110-1811-4-73 | 20          | 18.0 | 15.4 | M14 × 0.75 | 17.0 | 9.3 | 0   | 17.8 | 50pcs per tray |
| HR10G-13R-20PB(73) | CL0110-1812-7-73 |             |      |      |            |      |     |     |      |                |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Dust Cap (For Receptacle)



HR10-7R-C

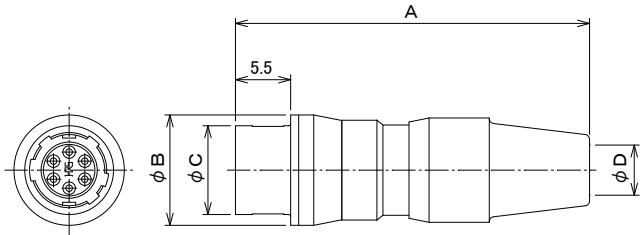


(Example of product appearance.)

Unit : mm

| Part No.    | HRS No.          | $\phi A$ | B    | $\phi C$ | $\phi D$ | $\phi E$ | Purchase Unit  |
|-------------|------------------|----------|------|----------|----------|----------|----------------|
| HR10-7R-C   | CL0110-0058-6-00 | 11.0     | 7.0  | 8.0      | 11.2     | 13.0     | 200pcs per bag |
| HR10-10R-C  | CL0110-0052-0-00 | 14.0     | 8.5  | 10.8     | 14.1     | 15.0     |                |
| HR10A-13R-C | CL0110-0452-8-00 | 17.5     | 11.5 | 14.0     | 18.1     | 19.0     |                |

Jack (Solder Type)



(Example of product appearance.)

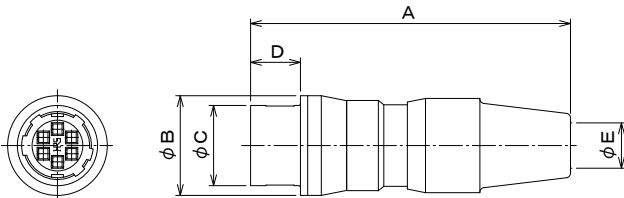
HR10A-7J-6S(73)

Unit : mm

| Part No.          | HRS No.          | No. of Pos. | A    | ϕ B  | ϕ C  | ϕ D | Purchase Unit |
|-------------------|------------------|-------------|------|------|------|-----|---------------|
| HR10A-7J-4S(73)   | CL0110-0309-4-73 | 4           | 35.3 | 11.0 | 8.85 | 5.0 | 20pcs per bag |
| HR10A-7J-4P(73)   | CL0110-0310-3-73 |             |      |      |      |     |               |
| HR10A-7J-6S(73)   | CL0110-0311-6-73 | 6           |      |      |      |     |               |
| HR10A-7J-6P(73)   | CL0110-0312-9-73 |             |      |      |      |     |               |
| HR10A-10J-10S(73) | CL0110-0411-0-73 | 10          | 43.5 | 14.0 | 11.9 | 7.0 |               |
| HR10A-10J-10P(73) | CL0110-0412-3-73 |             |      |      |      |     |               |
| HR10A-10J-12S(73) | CL0110-0405-8-73 | 12          |      |      |      |     |               |
| HR10A-10J-12P(73) | CL0110-0406-0-73 |             |      |      |      |     |               |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Jack (Crimp Type)



(Example of product appearance.)

HR10A-7J-6SC(73)

Unit : mm

| Part No.           | HRS No.          | No. of Pos. | A    | ϕ B  | ϕ C  | D   | ϕ E | Purchase Unit |
|--------------------|------------------|-------------|------|------|------|-----|-----|---------------|
| HR10A-7J-4SC(73)   | CL0110-0510-2-73 | 4           | 35.3 | 11.0 | 8.85 | 5.5 | 5.0 | 20pcs per bag |
| HR10A-7J-6SC(73)   | CL0110-0512-8-73 | 6           |      |      |      |     | 7.0 |               |
| HR10A-10J-10SC(73) | CL0110-0610-7-73 | 10          | 43.5 | 14.0 | 11.9 |     |     |               |
| HR10A-10J-12SC(73) | CL0110-0612-2-73 | 12          |      |      |      |     |     |               |
| HR10A-13J-20SC(73) | CL0110-0705-1-73 | 20          | 58.5 | 18.0 | 15.4 | 8.5 |     |               |
| HR10A-13J-20PC(73) | CL0110-0706-4-73 |             |      |      |      |     |     |               |

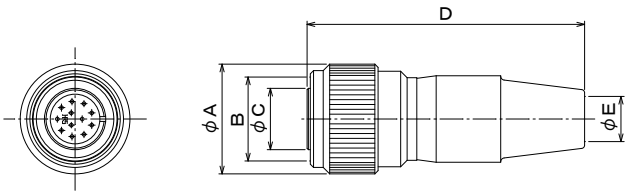
Note : Use with the crimp contact (HR10-PC-#12, HR12-SC-#12), sold separately.

HR10A-〔##〕T Type (Threaded Coupling Type)

Plug (Solder Type)



HR10A-10TP-12P(73)



(Example of product appearance.)

Unit : mm

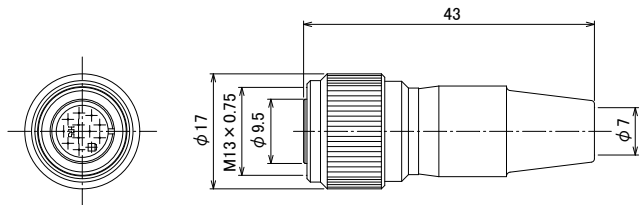
| Part No.            | HRS No.          | No. of Pos. | ϕ A  | B          | ϕ C  | D    | ϕ E | Purchase Unit |
|---------------------|------------------|-------------|------|------------|------|------|-----|---------------|
| HR10A-7TP-6P(73)    | CL0110-0331-3-73 | 6           | 12   | M10 × 0.75 | 7.0  | 35.0 | 5.0 | 20pcs per bag |
| HR10A-10TP-12P(73)  | CL0110-0432-0-73 | 12          | 17.0 | M13 × 0.75 | 9.5  | 43.0 | 7.0 |               |
| HR10A-10TPA-12S(73) | CL0110-0446-5-73 |             |      |            |      |      |     |               |
| HR10A-13TPD-20P(73) | CL0110-1015-9-73 | 20          | 20.0 | M17 × 1    | 13.0 | 56.5 | 7.0 |               |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Plug (Crimp Type)



HR10A-10TP-12PC(73)



(Example of product appearance.)

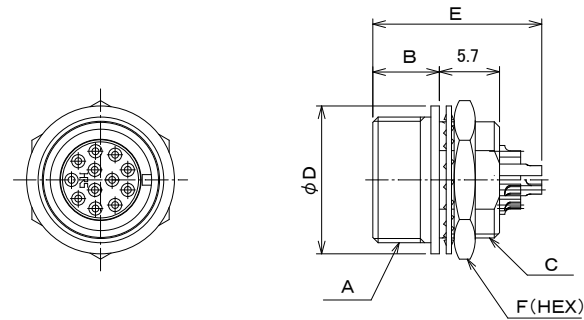
| Part No.            | HRS No.          | No. of Pos. | Purchase Unit |
|---------------------|------------------|-------------|---------------|
| HR10A-10TP-12PC(73) | CL0110-0455-6-73 | 12          | 20pcs per bag |

Note : Use with the crimp contact (HR10-PC-#12), sold separately.

Receptacle (Solder Type)



HR10A-10TR-12S(73)



(Example of product appearance.)

Unit : mm

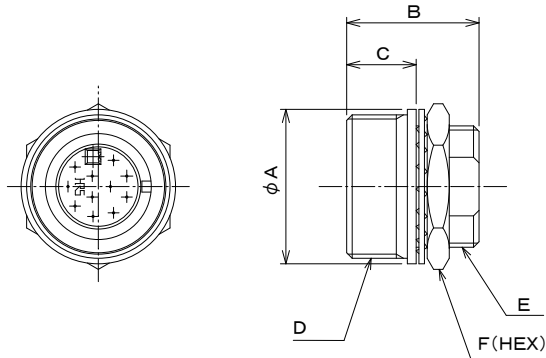
| Part No.           | HRS No.          | No. of Pos. | A          | B   | C          | φ D  | E    | F    | Purchase Unit |
|--------------------|------------------|-------------|------------|-----|------------|------|------|------|---------------|
| HR10A-10TR-12S(73) | CL0110-0453-0-73 | 12          | M13 × 0.75 | 6.3 | M11 × 0.75 | 14.0 | 16.0 | 13.0 | 20pcs per bag |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Receptacle (Crimp Type)



HR10A-10TR-12SC(73)



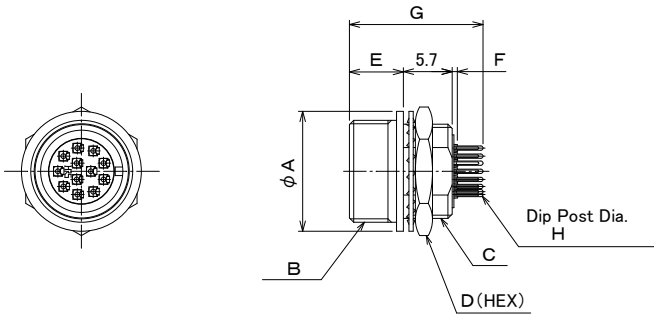
(Example of product appearance.)

Unit : mm

| Part No.            | HRS No.          | No. of Pos. | φ A  | B    | C   | D          | E          | F    | Purchase Unit |
|---------------------|------------------|-------------|------|------|-----|------------|------------|------|---------------|
| HR10A-10TR-12SC(73) | CL0110-0456-9-73 | 12          | 14.0 | 12.0 | 6.3 | M13 × 0.75 | M11 × 0.75 | 13.0 | 20pcs per bag |
| HR10A-13TR-20SC(73) | CL0110-1002-7-73 | 20          | 18.0 | 15.0 | 9.3 | M17 × 1    | M14 × 0.75 | 17.0 |               |

Note : Use with the crimp contact (HR12-SC-#12), sold separately.

Receptacle (Dip Type)



(Example of product appearance.)

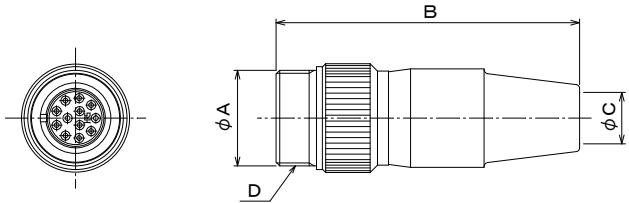
HR10A-10TR-12PB(73)

Unit : mm

| Part No.            | HRS No.          | No. of Pos. | ϕ A  | B        | C        | D    | E   | F   | G    | H       | Purchase Unit  |
|---------------------|------------------|-------------|------|----------|----------|------|-----|-----|------|---------|----------------|
| HR10A-7TR-6SA(73)   | CL0110-0330-0-73 | 6           | 11.0 | M10×0.75 | M8×0.5   | 10.0 | 6.3 | 0.5 | 15.5 | ϕ 0.55  | 50pcs per tray |
| HR10A-10TR-12SB(73) | CL0110-0433-3-73 | 12          | 14.0 | M13×0.75 | M11×0.75 | 13.0 |     |     | 15.6 | 0.2×0.5 | 60pcs per tray |
| HR10A-10TR-12PB(73) | CL0110-0457-1-73 |             |      |          |          |      |     |     | 15.5 |         |                |
| HR10A-13TR-20SB(73) | CL0110-1014-6-73 | 20          | 18.0 | M17×1    | M14×0.75 | 17.0 |     |     | 9.3  |         |                |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

Jack (Solder Type)



(Example of product appearance.)

HR10A-10TJ-12S(73)

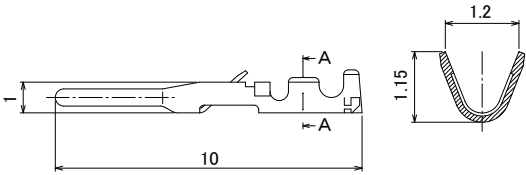
Unit : mm

| Part No.           | HRS No.          | No. of Pos. | $\phi A$ | B    | $\phi C$ | D        | Purchase Unit |
|--------------------|------------------|-------------|----------|------|----------|----------|---------------|
| HR10A-10TJ-12S(73) | CL0110-0436-1-73 | 12          | 14.7     | 41.3 | 7.0      | M13×0.75 | 20pcs per bag |
| HR10A-10TJ-12P(73) | CL0110-0459-7-73 |             |          |      |          |          |               |

Note : Standard finish of the terminal is silver plating. Please contact Hirose for gold plating.

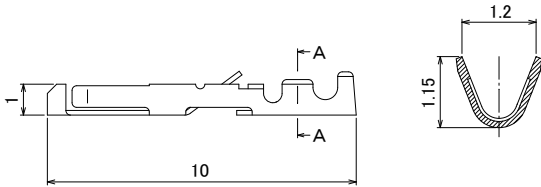
Crimp Contact

Male Contact



| Type          | Part No.    | HRS No.          | Finish         | Applicable Wire                          | Purchase Unit      |
|---------------|-------------|------------------|----------------|------------------------------------------|--------------------|
| Loose Contact | HR10-PC-112 | CL0112-0513-0-00 | Silver Plating | 26 to 30 AWG<br>Outer Dia. $\phi$ 1 Max. | 100pcs per bag     |
| Reel Contact  | HR10-PC-212 | CL0112-0514-3-00 |                |                                          | 10,000pcs per reel |

Female Contact

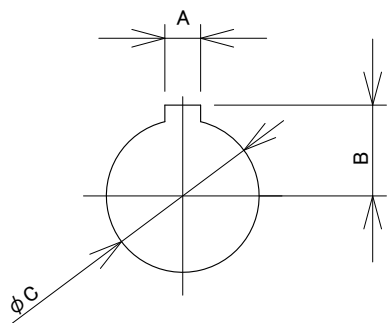


| Type          | Part No.    | HRS No.          | Finish         | Applicable Wire                          | Purchase Unit      |
|---------------|-------------|------------------|----------------|------------------------------------------|--------------------|
| Loose Contact | HR12-SC-112 | CL0112-0411-3-00 | Silver Plating | 26 to 30 AWG<br>Outer Dia. $\phi$ 1 Max. | 100pcs per bag     |
| Reel Contact  | HR12-SC-212 | CL0112-0408-9-00 |                |                                          | 10,000pcs per reel |

Panel Mount Dimensions

●Push-Pull Type

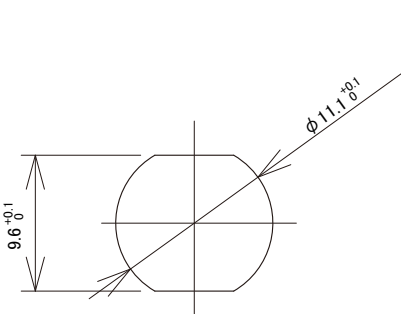
The mounting hole dimension shown below is tight by hexagon nut from back side.



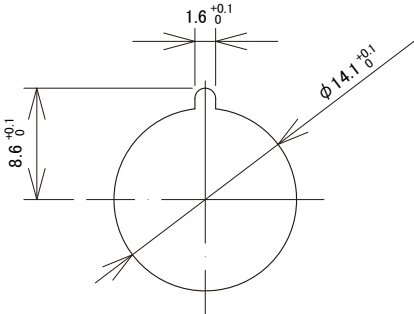
| Map Mark        | Shell Size | 7 size                           | 10 size                           | 13 size                           |
|-----------------|------------|----------------------------------|-----------------------------------|-----------------------------------|
| A               |            | 1.6 <sup>+0.1</sup> <sub>0</sub> | 2.6 <sup>+0.1</sup> <sub>0</sub>  |                                   |
| B               |            | 5.1 <sup>+0.1</sup> <sub>0</sub> | 6.6 <sup>+0.1</sup> <sub>0</sub>  | 8.6 <sup>+0.1</sup> <sub>0</sub>  |
| φ C             |            | 8.1 <sup>+0.1</sup> <sub>0</sub> | 11.1 <sup>+0.1</sup> <sub>0</sub> | 14.1 <sup>+0.1</sup> <sub>0</sub> |
| Panel Thickness |            | 0.7 to 2                         |                                   | 0.8 to 1.5                        |

●Screw Coupling Type

The mounting hole dimension shown below is tight by hexagon nut from back side.  
The dimensions below apply only to the HR10A-(##)T and not the 7TR.



HR10A-10TR Type  
(Panel thickness 1 to 2mm)



HR10A-13TR Type  
(Panel thickness 1 to 1.5mm)

# Contact Arrangement

| Shell Size<br>(Note 1) | No. of Pos. | Male Contact<br>(Note 2) | Female Contact<br>(Note 2) |
|------------------------|-------------|--------------------------|----------------------------|
| 7                      | 4           |                          |                            |
|                        | 5           |                          |                            |
| 10                     | 6           |                          |                            |
|                        | 10          |                          |                            |
|                        | 12          |                          |                            |
| 13                     | 20          |                          |                            |

Note 1 : Please refer to "Product Number Structure" shell size.  
 Note 2 : Please refer to "Product Number Structure" contact gender.  
 Note 3 : The figure above shows the view from the cable connection or PCB mounting side.  
 Note 4 : The solder pot inside dia is  $\phi 0.8$ .  
 Note 5 : In the figure above, the mark ▼ indicates the position of the main mating guide.

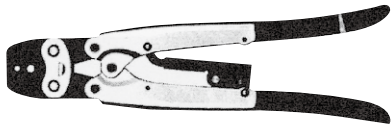
Applicable Tools



(HT802/HR12-SC-1)  
Manual Crimping Tool



(HR12-SC-TP)



(HR10A-TC-02)  
Hand Cable Crimp Tool  
(The handle shape is an example.)



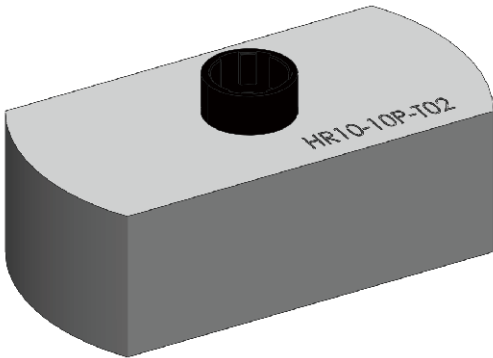
(RP6-SC-TP)  
Extraction Tool



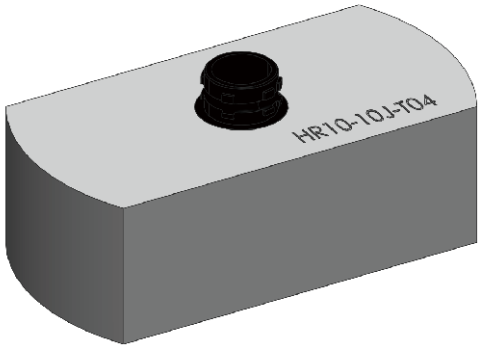
(CM-105C)  
Automatic Crimping Machine

| Type                            | Part No.        | HRS No.          | Applicable Contact         | Applicable Cable                         |
|---------------------------------|-----------------|------------------|----------------------------|------------------------------------------|
| Manual Crimping Tool            | HT802/HR12-SC-1 | CL0150-0400-3-00 | HR10-PC-112<br>HR12-SC-112 | 26 to 30 AWG<br>Outer Dia. $\phi$ 1 Max. |
| Automatic Crimping Machine Body | CM-105C         | CL0901-0001-0-00 | -                          | -                                        |
| Applicator                      | AP105-HR12-1    | CL0901-2015-9-00 | HR10-PC-212<br>HR12-SC-212 | 26 to 30 AWG<br>Outer Dia. $\phi$ 1 Max. |
| Hand Cable Crimp Tool           | HR10A-TC-02     | CL0150-0041-2-00 | -                          | $\phi$ 5, $\phi$ 7                       |
| Extraction Tool                 | HR12-SC-TP      | CL0150-0050-3-00 | HR12-SC-112<br>HR12-SC-212 | -                                        |
|                                 | RP6-SC-TP       | CL0150-0039-0-00 | HR10-PC-112<br>HR10-PC-212 |                                          |

# Connecting Tools



HR10-10P-T02



HR10-10J-T04

| Part No.     | HRS No.          | Applicable Connector |
|--------------|------------------|----------------------|
| HR10-7P-T01  | CL0150-0009-0-00 | HR10-7P              |
| HR10-10P-T02 | CL0150-0010-9-00 | HR10-10P             |
| HR10-7J-T03  | CL0150-0011-1-00 | HR10-7J              |
| HR10-10J-T04 | CL0150-0012-4-00 | HR10-10J             |
| HR10-13P-T05 | CL0150-0059-8-00 | HR10-13P             |
| HR10-13J-T06 | CL0150-0060-7-00 | HR10-13J             |

# Precautions

- Switch off the power of the circuit before disconnecting or plugging-in the connector.
- Use a connector with socket contacts at the power side of the circuit.
- Make sure that the coupling is in completely locked position.
- Cable clamping, cable rotation, and other forces may vary with the cable construction. Please make sure that your cable is suitable for use with these connectors before usage and production.
- This product series uses silver plated contacts. Silver reacts easily to exposure to sulfur gas so the below conditions may cause tarnishing.
  - Dusty environments
  - Area with a high concentration area of gases such as sulfur dioxide gas, hydrogen sulfide gas, nitrogen dioxide gas and so on. (Example; In close proximity to factory exhaust, automotive emissions, etc.)
  - Close to heaters, or in other areas marked by extreme temperature differences or high humidity.
  - Close to rubber products includes rubber adhesives.

The Electrical connection is not affected by tarnishing on a silver surface due to the wiping effect of the contact pins.

## Storage

Packing state; Packed in original packing or equivalent container

Temperature -10 to +60℃

Humidity 85% Max

(It is recommended that the product be stored in an area of normal level of temperature and humidity, and free of any temperature fluctuation)

Please use this products within 6 months of delivery.

(After 6 month, please check the solderbility before use)

“Storage” means long-term storage of the unused products in sealed packaging, prior to assembly to PCB.

## While Taking into Consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please review the Drawing and Product Specifications sheets.

Use an appropriate cable when using the connector in combination with cables.

If considering usage of a non-specified cable, please contact your sales representative.

If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.

If considering usage for below mentioned applications, please contact your sales representative.

In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/defense etc. Hirose must review before assurance of reliability can be given.

**HIROSE****HIROSE ELECTRIC CO.,LTD.**2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN  
<https://www.hirose.com>

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