

HR12 Series

High Performance Miniature Circular Connectors



Compact



Light Weight



Wide Variation



Features

1. Snap-lock mechanism

Enables easy mating and unmating while preventing disengagement caused by vibration or impact.

2. Compact, lightweight design

Plug diameters range from $\phi 12$ mm to $\phi 16$ mm, meeting the demand for compact, high-density electronic devices.

3. EMI protection

Internal metal parts and a shielding structure (20 pos. and HR212 types) provide enhanced resistance to electromagnetic interference.

Product Specifications

Rated Current	1A	Operating Temperature	-15 to +60°C
Rated Voltage	100V AC, 140V DC	Storage Temperature	-10 to +60°C

Item	Specifications	Conditions
Contact Resistance	30m Ω Max. (Excluding Cable Conductor Resistance)	Measured at 1A DC
Insulation Resistance	200M Ω Min.	Measured at 250V DC
Withstand Voltage	No flashover and insulation breakdown	300V AC for 1 minute
Vibration Resistance	No electrical interruption of 10 μ s or more.	10 to 55Hz/cycle, amplitude: 0.75mm, 3 axis directions, 2 hours each
Shock Resistance	No electrical interruption of 10 μ s or more.	Acceleration: 490m/s ² , Duration: 11ms, test each of the 3 directions 3 times.
Mating Durability	Contact Resistance: 50m Ω Max. (Excluding Cable Conductor Resistance)	1,000 times
Temperature Cycles	Insulation Resistance: 100M Ω Min.	Temperature: -15°C → Room temperature → +60°C → Room temperature Time: 30 → 10 to 15 → 30 → 10 to 15 minute 5 Cycles
Humidity Resistance	Insulation Resistance: 2M Ω Min. (High Humidity) 20M Ω Min. (Dry)	Temperature: 40°C , relative humidity: 90 to 95%, left for 96 hours

Materials / Finish

Part	Materials	Finish	Remarks
Outer Shell / Insulator	Soft PVC	-	UL94V-0
	Polypropylene Resin	-	UL94V-0
	PBT Resin	-	UL94V-0
	Polycarbonate Resin	-	UL94V-1
	Brass and Zinc Alloy	Tin Plating and Nickel Plating	-
Contact	Copper Alloy or Phosphor Bronze	Tin Plating, Partial Gold Plating or 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.

Cable Plug

HR12 A - 10 L A A 8 P C A 300 A (##)

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑭

Plug (Assembly Type) and Receptacle

HR12 - 10 R C - 8 SDL (##)

① ③ ④ ⑥ ⑦ ⑧ ⑭

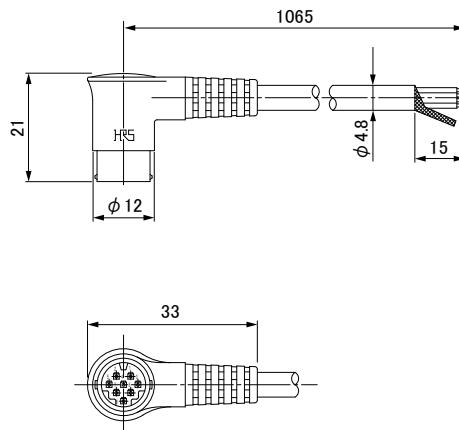
Accessory

HR12 - 10 R - SP (##)

① ③ ④ ⑬ ⑭

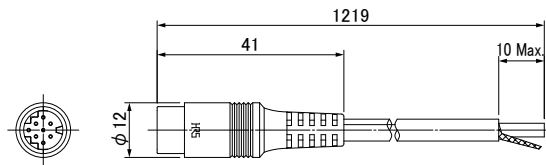
① Series Name	HR12 HR212: Enhanced Shielding Type	⑧ Contact Shape	P: Male Contact PC: Crimp Male Contact (Assembly Type Plug) SC: Crimp Female Contact SD: Straight Dip Female Contact SDL: Right Angle Dip Female Contact Plug with male contact only, and receptacle with female contact only
② Connector on the end of the Cable	If both ends of the cable have connectors, different markings are used depending on the type of connector.	⑨ Cable Shape	C: Coiled Cable S: Straight Cable
③ Shell Size	Indicates the outer diameter of the plug mating part	⑩ Cable Type	Distinguished by A, B, C, etc. when the cable configuration and number of cores differ
④ Connector Type	P: Straight Plug LP or L: Right Angle Plug R: Receptacle	⑪ Cable Length	Indicates the length of the cable (Unit: mm) Coiled Cable: Length of the coiled section Straight Cable: Length of the cable
⑤ Right Angle Plug Cabling Direction	Cabling direction viewing from mating part with the main guide faced up A: Right Side B: Left Side	⑫ Cable End Shape	Distinguished by A, B, C, etc. when plugs with cable have the same shape but different terminal dimensions and terminal processing
⑥ Connector Variation	Distinguish by A, B, C, etc. when there are multiple types of connectors with the same shape	⑬ Accessory Type	SP: Stopper Plate
⑦ No. of Pos.		⑭ Other Specifications	A two-digit character is added to indicate other specifications as needed

Right Angle Plug



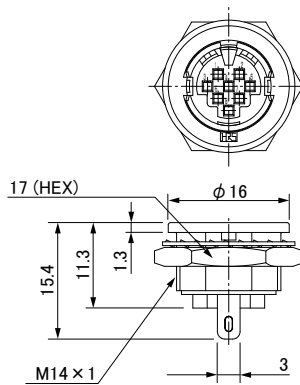
Part No.	HRS No.	No. of Pos.	No. of Cable Cores	Color	Contact Area Plating	Purchase Unit
HR12-10LA8PS1065(71)	CL0112-3040-0-71	8	8-core (Shielded)	Black	Tin	10pcs per bag

Straight Plug



Part No.	HRS No.	No. of Pos.	No. of Cable Cores	Color	Contact Area Plating	Purchase Unit
HR12-10P8PS1219(71)	CL0112-0136-0-71	8	8-core (Shielded)	Black	Tin	10pcs per bag

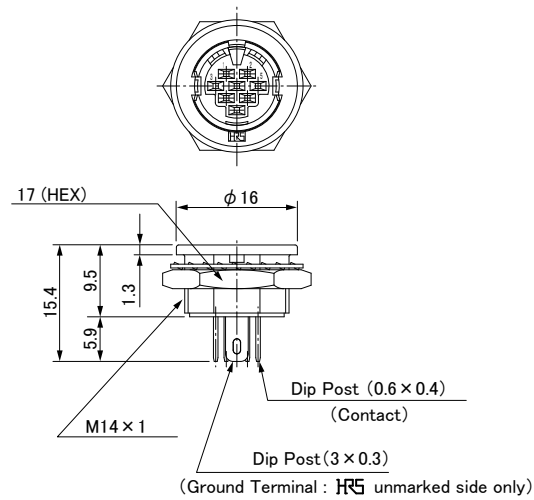
Receptacle (Crimp Type)



(Example of product appearance.)

Part No.	HRS No.	No. of Pos.	Purchase Unit
HR12-10R-5SC(71)	CL0112-0501-4-71	5	50pcs per tray
HR12-10R-8SC(71)	CL0112-0504-2-71	8	50pcs per tray

Receptacle (Straight Dip Type)

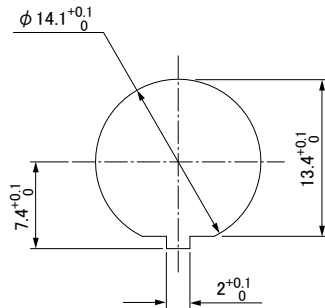


(Example of product appearance.)

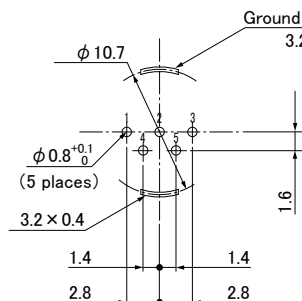
Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR12-10R-5SD(71)	CL0112-0502-7-71	5	Black	Tin	50pcs per tray
HR12-10R-8SD(71)	CL0112-0505-5-71	8	Black	Tin	50pcs per tray
HR12-10R-8SD(73)	CL0112-0505-5-73	8	Black	Gold	50pcs per tray

■ Panel Mounting Dimensions

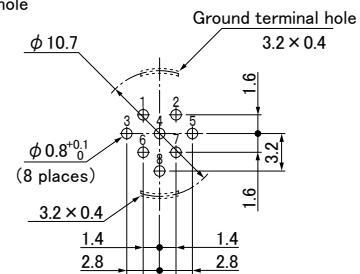
(Panel thickness: 1 to 4.7mm)



■ Receptacle Dip Post Layout



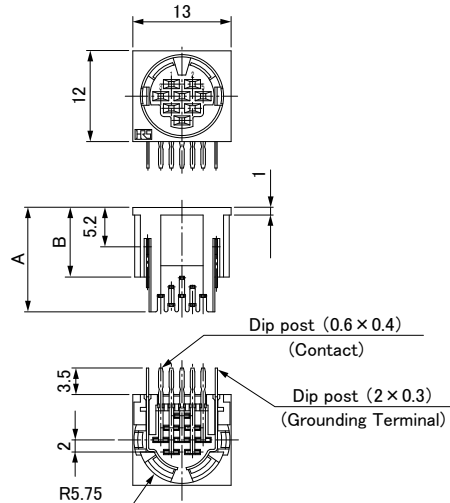
HR12-10R-5SD(71)



HR12-10R-8SD(71)

Remarks: Dimensional tolerance of ± 0.05 mm is recommended for the board arrangement.

Receptacle (Right Angle Dip Type)



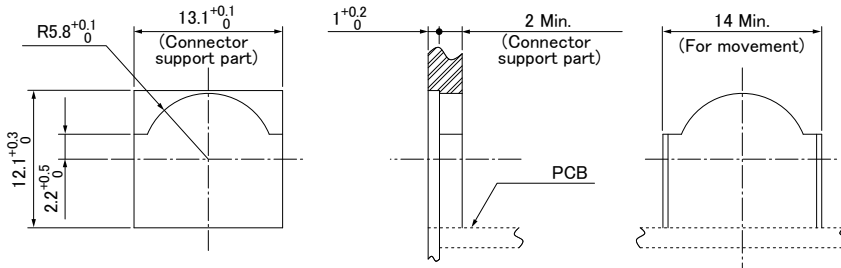
(Example of product appearance.)

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	Color	Contact Area Plating	Remarks	Purchase Unit
HR12-10R-8SDL(71)	CL0112-0506-8-71	8	13.8	9.3	Black	Tin	-	50pcs per tray
HR12-10RC-8SDL(71)	CL0112-0514-6-71	8	13.8	9.3	Black	Tin	with Stopper Plate	50pcs per tray

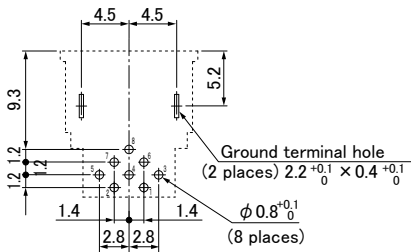
Note: When using this product, please hold the connector's outer as shown in the panel mounting dimensions below.
However, if it is difficult to hold the connector in place on a panel, etc., please use the included stopper plate HR12-10R-SP(71).

■ Panel Mounting Dimensions

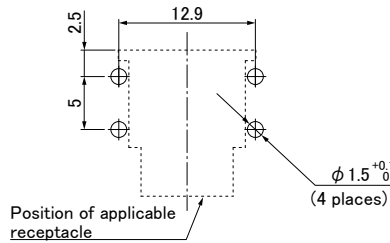


Note: Pay attention that this dimension is not available for 10 contacts.

■ Receptacle Dip Post Layout



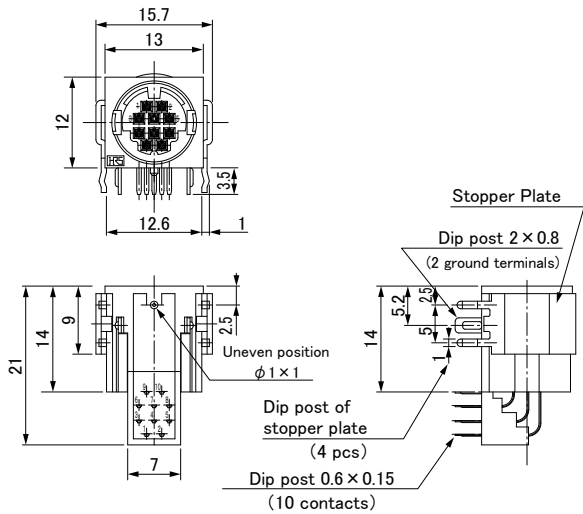
HR12-10R-8SDL(71)



HR12-10R-SP(71) (Stopper Plate)
(Applicable PCB thickness: 1 to 2mm)

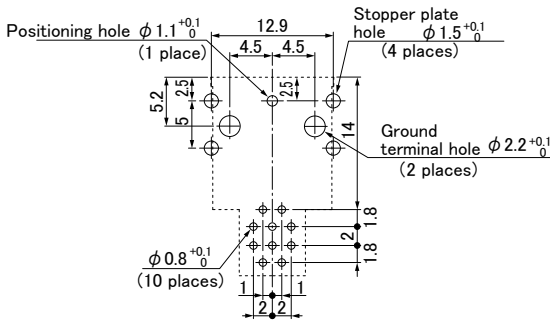
Remarks: Dimensional tolerance of $\pm 0.05\text{mm}$ is recommended for the board arrangement.

Receptacle (Right Angle Dip Type)

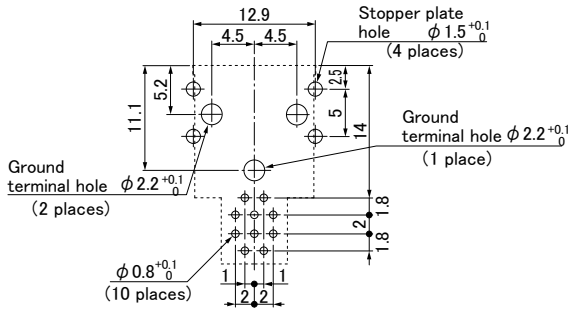


Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Remarks	Purchase Unit
HR12-10RC-10SDL(73)	CL0112-0511-8-73	10	Black	Partially Gold	with Stopper Plate	50pcs per tray

■ Receptacle Dip Post Layout

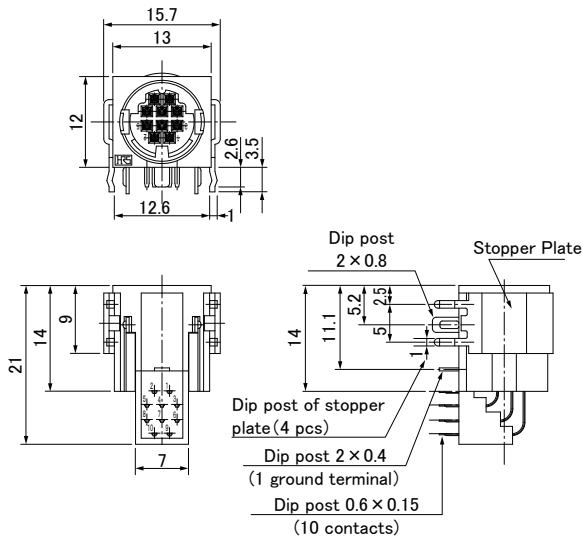


HR12-10RC-10SDL(73)



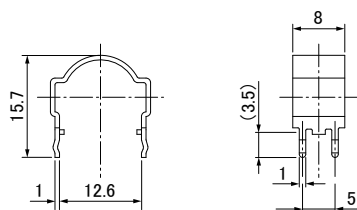
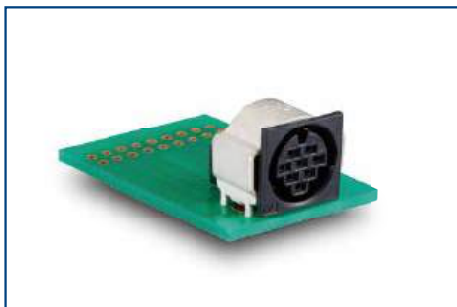
HR12-10RD-10SDL(71)

Remarks: Dimensional tolerance of $\pm 0.05\text{mm}$ is recommended for the board arrangement.



Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Remarks	Purchase Unit
HR12-10RD-10SDL(71)	CL0112-0512-0-71	10	Black	Partially Gold	with Stopper Plate	50pcs per tray

Stopper Plate



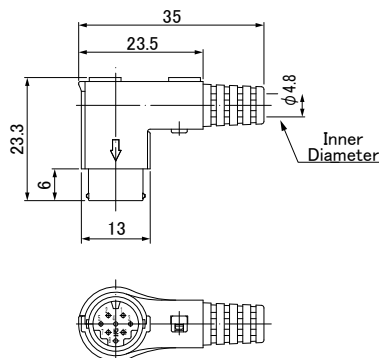
HR12-10R-8SDL(71) + HR12-10R-SP(71)

Part No.	HRS No.	Applicable Products	Applicable Substrate Thickness	Purchase Unit
HR12-10R-SP(71)	CL0112-0507-0-71	HR12-10R-#SDL	t: 1 to 2mm	200pcs per bag

Note: # indicates the No. of Pos.

Right Angle Plug (Assembly Type)

Solder Type

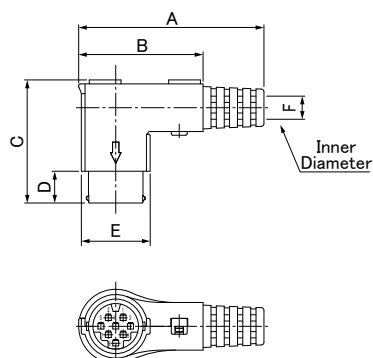


Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10LP-8P(41)	CL0112-4002-6-41	8	Black	Tin	20pcs per bag
HR212-10LP-8P(43)	CL0112-4002-6-43	8	Black	Partially Gold	20pcs per bag

Note 1: The cabling direction for this product is only in direction A.

Note 2: Due to the structure of the cable, the cable clamping force and cable rotation force may vary.
Please check in advance before use.

Crimp Type



Unit : mm

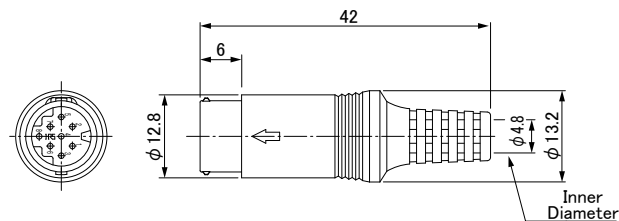
Part No.	HRS No.	No. of Pos.	A	B	C	D	E	F	Color	Purchase Unit
HR212-10LP-5PC(41)	CL0112-4100-5-41	5	35	23.5	23.3	6	13	φ 4.8	Black	100pcs per bag
HR212-10LP-8PC(71)	CL0112-4101-8-71	8	35	23.5	23.3	6	13	φ 4.8	Black	500pcs per bag
HR212-14LP-20PC	CL0112-1011-0-00	20	49	30.5	29	9	15.7	φ 6	Black	100pcs per tray

Note 1: The cabling direction for this product is only in direction A.

Note 2: Due to the structure of the cable, the cable clamping force and cable rotation force may vary.
Please check in advance before use.

Straight Plug (Assembly Type)

Solder Type

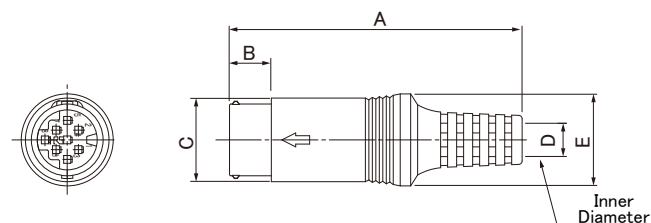


(Example of product appearance.)

Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10P-8P(41)	CL0112-4001-3-41	8	Black	Tin	20pcs per bag
HR212-10P-8P(43)	CL0112-4001-3-43	8	Black	Partially Gold	20pcs per bag

Note: Due to the structure of the cable, the cable clamping force and cable rotation force may vary.
Please check in advance before use.

Crimp Type



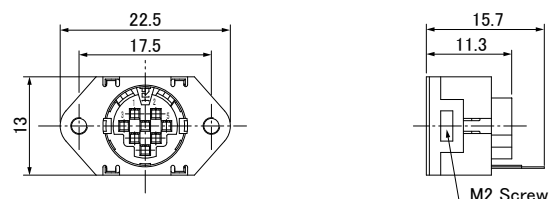
(Example of product appearance.)

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	D	E	Color	購入単位
HR212-10P-5PC(41)	CL0112-4050-9-41	5	42	6	φ 12.8	φ 4.8	φ 13.2	Black	1pc per bag
HR212-10P-8PC(71)	CL0112-4051-1-71	8	42	6	φ 12.8	φ 4.8	φ 13.2	Black	100pcs per bag
HR212-10P-10PC(71)	CL0112-4052-4-71	10	42	6	φ 12.8	φ 4.8	φ 13.2	Black	500pcs per bag
HR212-14P-20PC	CL0112-1112-0-00	20	55	9	φ 16	φ 6	φ 18	Black	500pcs per bag

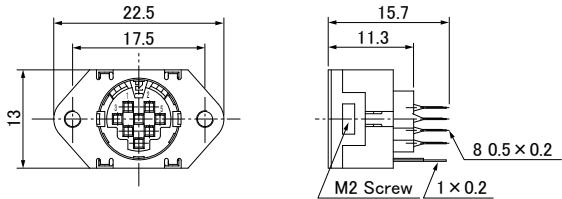
Note: Due to the structure of the cable, the cable clamping force and cable rotation force may vary.
Please check in advance before use.

Receptacle (Crimp Type)



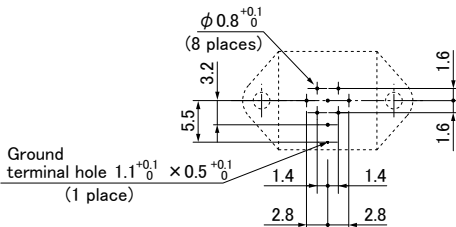
Part No.	HRS No.	No. of Pos.	Color	Purchase Unit
HR212-10R-8SC(71)	CL0112-2001-2-71	8	Black	50pcs per tray

Receptacle (Straight Dip Type)



Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10R-8SD(73)	CL0112-2002-5-73	8	Black	Tin	50pcs per tray

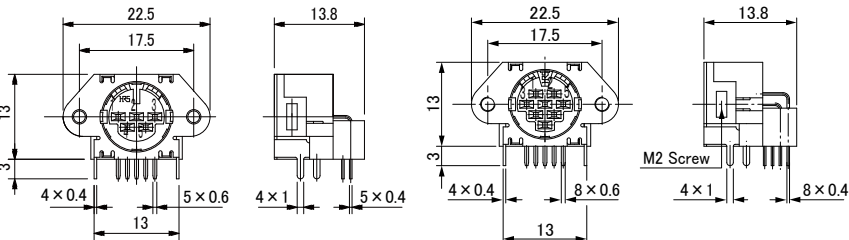
Receptacle Dip Post Layout



HR212-10R-8SD

Remarks: Dimensional tolerance of $\pm 0.05\text{mm}$ is recommended for the board arrangement.

Receptacle (Right Angle Dip Type)

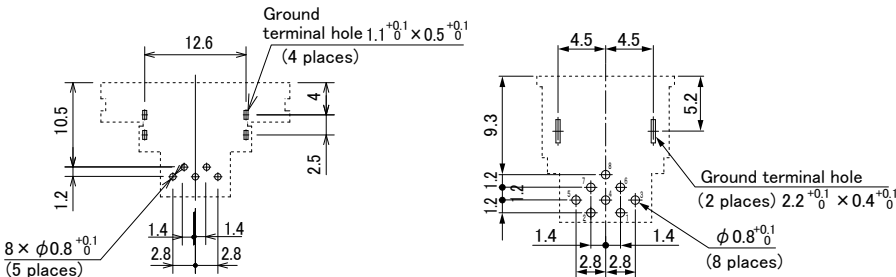


HR212-10R-5SDL(41)

HR212-10R-8SDL(71)

Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10R-5SDL(41)	CL0112-2008-1-41	5	Black	Tin	50pcs per tray
HR212-10R-8SDL(71)	CL0112-2003-8-71	8	Black	Silver	50pcs per tray

Receptacle Dip Post Layout

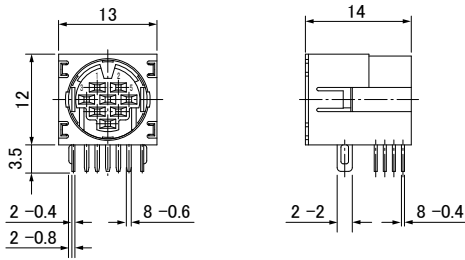


HR212-10R-5SDL(41)

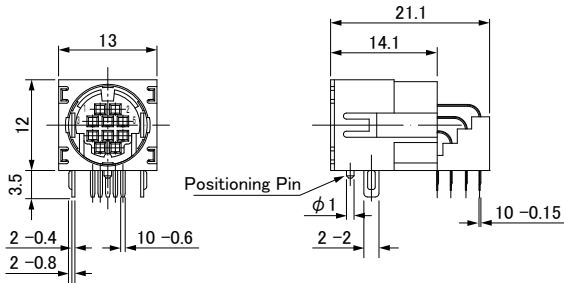
HR212-10R-8SDL(71)

Remarks: Dimensional tolerance of $\pm 0.05\text{mm}$ is recommended for the board arrangement.

Receptacle (Right Angle Dip Type)

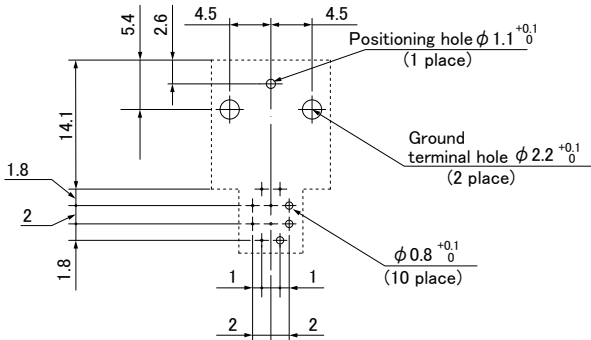


Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10RA-8SDL(73)	CL0112-2004-0-73	8	Black	Partially Gold	50pcs per tray
HR212-10RA-8SDL(74)	CL0112-2004-0-74	8	Black	Tin	50pcs per tray



Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR212-10RC-10SDL(71)	CL0112-2009-4-71	10	Black	Silver	50pcs per tray
HR212-10RC-10SDL(74)	CL0112-2009-4-74	10	Black	Partially Gold	50pcs per tray

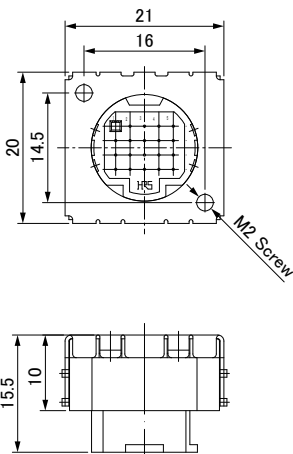
Receptacle Dip Post Layout



HR212-10RC-10SDL

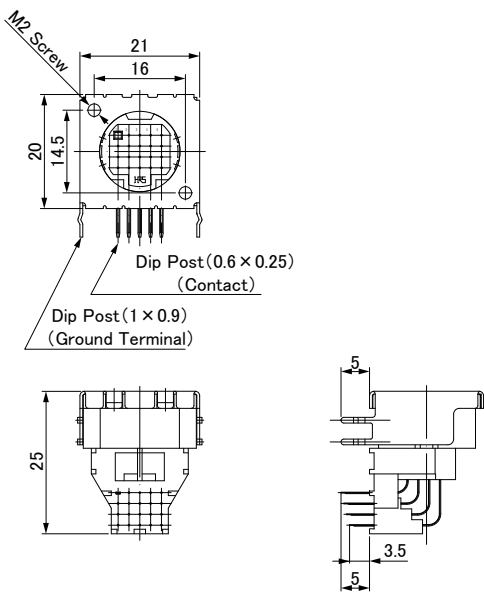
Remarks: Dimensional tolerance of $\pm 0.05\text{mm}$ is recommended for the board arrangement.

Receptacle (Crimp Type)



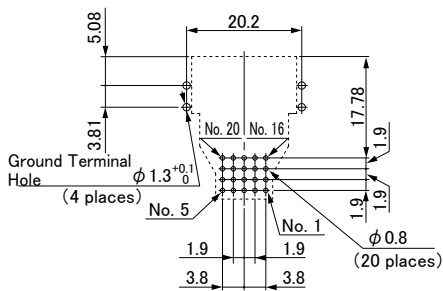
Part No.	HRS No.	No. of Pos.	Color	Purchase Unit
HR12-14RA-20SC	CL0112-1504-8-00	20	Black	70pcs per tray

Receptacle (Right Angle Dip Type)



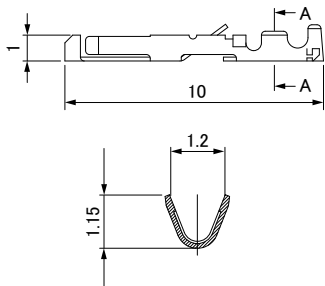
Part No.	HRS No.	No. of Pos.	Color	Contact Area Plating	Purchase Unit
HR12-14RA-20SDL	CL0112-1502-2-00	20	Black	Silver	70pcs per tray

Dip Post Layout



Contact

Female Contact

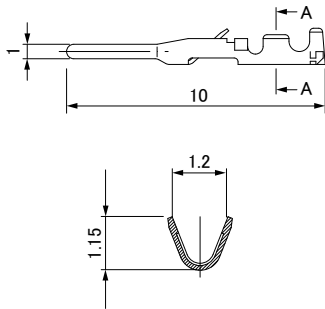


Section A-A

Type	Part No.	HRS No.	Contact Area Plating	Applicable Cable	Purchase Unit
Loose Contact	HR12-SC-111	CL0112-0410-0-00	Partially Gold	26-30 AWG	100pcs per bag
	HR12-SC-112	CL0112-0411-3-00	Silver		100pcs per bag
	HR12-SC-113	CL0112-0412-6-00	Tin		100pcs per bag
Reel Contact	HR12-SC-211	CL0112-0407-6-00	Partially Gold		10,000pcs per reel
	HR12-SC-212	CL0112-0408-9-00	Silver		10,000pcs per reel
	HR12-SC-213	CL0112-0409-1-00	Tin		10,000pcs per reel

Note: Please use cables with an outer insulation diameter of 1mm or less.

Male Contact



Section A-A

Type	Part No.	HRS No.	Contact Area Plating	Applicable Cable	Purchase Unit
Loose Contact	HR10-PC-111	CL0110-0515-6-00	Partially Gold	26-30 AWG	100pcs per bag
	HR10-PC-112	CL0110-0513-0-00	Silver		100pcs per bag
	HR10-PC-113(71)	CL0110-0519-7-71	Tin		100pcs per bag
Reel Contact	HR10-PC-211	CL0110-0516-9-00	Partially Gold		10,000pcs per reel
	HR10-PC-212	CL0110-0514-3-00	Silver		10,000pcs per reel
	HR10-PC-213(71)	CL0110-0520-6-71	Tin		10,000pcs per reel

Note: Please use cables with an outer insulation diameter of 1mm or less.

Crimp Contact Tool



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



(HR12-SC-TP) (RP6-SC-TP)
Contact Extraction Tool



Automatic Crimp Press CM-105C

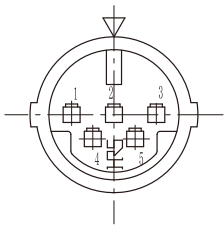
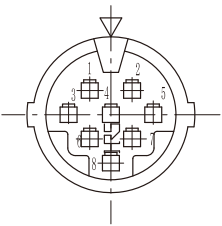
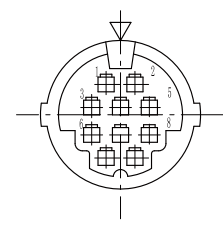
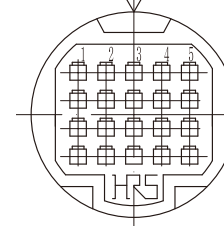
Item	Type	Part No.	HRS No.	Applicable Contact	Applicable Cable
Manual	Manual Crimp Tool	HT-802/HR12-SC-1	CL0150-0400-3-00	HR10-PC-111 HR10-PC-112 HR10-PC-113(71)	26-30 AWG
				HR12-SC-111 HR12-SC-112 HR12-SC-113	
Automatic	Automatic Crimp Press	CM-105C	CL0901-0001-0-00	-	-
	Applicator	AP105-HR12-1	CL0901-2015-9-00	HR10-PC-211 HR10-PC-212 HR10-PC-213(71) HR12-SC-211 HR12-SC-212 HR12-SC-213	26-30 AWG
Contact Extraction Tool		HR12-SC-TP	CL0150-0050-3-00	HR12-SC-111 HR12-SC-112 HR12-SC-113 HR12-SC-211 HR12-SC-212 HR12-SC-213	-
		RP6-SC-TP	CL0150-0039-0-00	HR10-PC-111 HR10-PC-112 HR10-PC-113(71) HR10-PC-211 HR10-PC-212 HR10-PC-213(71)	

Note: Please refer to the Crimp Conditions for applicable cable core wire configuration. The Crimp Conditions are available from Part No. link.
(If you are using a cable that is not listed in Crimp Condition, please contact a Hirose sales representative.)

Assembly Procedure

Please refer to the "Cable Assembly Instruction" on our website for detailed wiring instructions.

Contact Arrangement and Main Specifications

Shell Size	10			14
Contact Arrangement				
No. of Pos.	5	8	10	20
Withstand Voltage	300V AC for 1 min.			
Rated Current	1A			
Insulation Resistance	200M Ω or more at 250V DC			
Contact Resistance	30m Ω Max. (Excluding Cable Conductor Resistance)			

Note 1: The contact arrangements are from the view of the receptacle connector mating face.

Note 2: The withstanding voltage values in the above tables are tested values.

Note 3: Contact resistance is as measured at 1A DC.

Precautions

This product series uses silver-plated contacts. Silver can react with sulfur-containing gases, which may cause surface tarnishing in the following environments:

- Dusty environments

Areas with high concentrations of sulfur dioxide, hydrogen sulfide, nitrogen dioxide, etc. such as: near factory exhaust or vehicle emissions, locations with large temperature fluctuations or high humidity (e.g., near heaters), close proximity to rubber products, including rubber-based adhesives.

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

[Storage Guidelines]

Packaging: Store in the original package or equivalent sealed container.

Temperature: -10°C to +60°C

Humidity: 85% Max.

Conditions: Avoid extreme fluctuations; store in normal room temperature and humidity.

Shelf Life: Use products within 6 months of delivery. After 6 months, check solderability before use.

Note: "Storage" refers to long-term storage of unused products in sealed packaging before PCB assembly.

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.

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HIROSE ELECTRIC CO.,LTD.

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