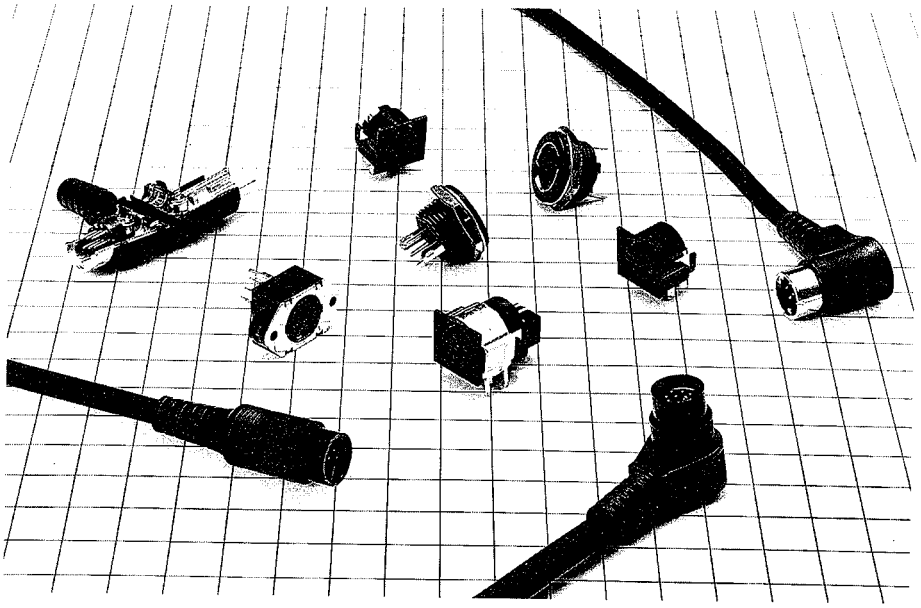
HR12 SERIES MINIATURE CIRCULAR DIN TYPE CONNECTOR

Scope

The HR12 is a high-density plastic type miniature connector with built-in shielding mechanism that is designed for OA equipment such as personal computers, word processors, and cellular telephones.

The standard terminals of the HR12 connector are tin-plated (only 10-contact terminals are gold-plated) and the connectors are finished in black.



Features

1. Matte Finish gives a good appearance and aids in plug/unplug operation.
2. Full Shielding on Plug and Receptacle.
3. PUSH/PULL Locking System.
4. Right Angle Plug/Cord Assembly can be molded for Right or Left orientation.
5. Strain Relief is molded to main body for extra holding.
6. PLUG is available with ... Straight or Right Angle Configuration.
   RECEPTACLE is available with ... Straight, Right Angle and Crimp to Wire.
7. Standard Color is Black. Easily available optional colors are Ivory and Grey. Contact HIROSE for other colors.

Applications

OA equipment, Video equipment, Sound facilities, Radio communications equipment, Mobile telephone equipment and other electronic devices and equipment.

Material and Finish

Part	Material	Finish
Molding and Insulator	Soft vinylchloride (UL94-0) and Polypropylene (UL94V-0) PBT resin (UL94V-0) and Polycarbonate (UL94V-1)	–
	Brass, and Zinc alloy	Tin plating and Nickel plating
Male pin	Copper alloy	Tin plating or selective gold plating and silver plating
Female pin	Phosphor bronze	Tin plating or selective gold plating and silver plating

Remarks: 1. Silver plated treatment for pin, shall be applied 20 pins connector only.
2. Pin connector for 10 pins and 4 pins are applied partly gold plating.

Standard Cable Specifications

No. of pin	4	5	8	
Outer dia.	ϕ5.5	ϕ4.8	ϕ4.8	ϕ4.8
Conductor	4-conductor (shielded)	5-conductor (shielded)	Multiple 8-conductor (shielded)	8-conductor (shielded)
Composition conductor	17/ϕ0.16(AWG#22)	7/ϕ0.127(AWG#28)	7/ϕ0.127(AWG#28) 11/ϕ0.16 (AWG#26)	7/ϕ0.127(AWG#28)
UL STYLE	2990	2990	2990	2990 or 2789

No. of pin	10			20	
Outer dia.	ϕ4.8	ϕ5.6	ϕ5.5	ϕ6	ϕ6
Conductor	10-conductor (shielded)	10-conductor (shielded)	8-conductor + Shielded cables (2)	16-conductor (shielded)	Multiple 20-conductor (shielded)
Composition conductor	7/ϕ0.127(AWG#28)	7/ϕ0.127(AWG#28)	30/ϕ0.08, with Tetron thread	7/ϕ0.127(AWG#28)	7/ϕ0.127(AWG#28) 7/ϕ0.1 (AWG#30)
UL STYLE	2844	2990	–	2990	2990

Ordering Information

Cable Plug

HR12 A – 10 L A A 8 P C A 300 A

(1) Model
(2) Terminal connector provided or not
(3) Shell size
(4) Connector form
(5) Cable removal direction
(6) Types of connector
(7) Indicates the number of contacts
(8) Type of terminal
(9) Shape of cable
(10) Type of cable
(11) Cable length
(12) Shape of cable end

●Plug (Mounting type) and Receptacle

HR12 – 10 R C – 8 SDL

(1) Model
(3) Shell size
(4) Connector form
(6) Types of connector
(7) Indicates the number of contacts
(8) Type of terminal

●Attachment

HR12 – 10 R – SP

(1) Model
(3) Shell size
(4) Connector form
(13) Types of accessories

(1) Model:
Denotes series name.
HR212 is a heavy-duty shield type.

(2) Indication of terminal connector provided or not:
For models with connectors on both sides, different signs are used depending on the type of connector on one side.

(3) Shell size:
Indicates the outside diameter of the plug mating part.

(4) Connector form:
Connector forms are classified as follows:
P: Straight plug
LP or L: Right angle
R: Receptacle

(5) Cable removal directions for a right angle plug are classified as follows:
A: The cable removal direction is on the right with the guide facing upward viewed from the mating part.
B: The cable removal direction is on the left with the guide facing upward viewed from the mating part.

(6) Types of connector
A connector with two or more varieties is classified by A, B, C, ·····.

(7) Indicates number of contacts.

(8) Type of terminal:
Classifies the type of terminals as follows:
The plug has only male terminals, and the receptacle has only female terminals.
P: Male terminal
PC: Crimp male terminal (assembly type plug)
SC: Crimp female terminal
SD: Straight dip female terminal
SDL: Right angle dip female terminal

(9) Shape of cable:
Shapes of cables connected to the plug are classified as follows:
C: Curled cord
S: Straight cord

(10) Type of cable
Cables connected to the plug are identified by A, B, C, ····· when they are different in construction and number of cores.

(11) Cable length
Indicates the length in mm of the cable connected to the plug.
Curled cord length: Length of curled part
Straight cable length: Cable length

(12) Shape of cable end
Plugs with cables of the same shape but different in cable end dimensions and finishing are identified by A, B, C, ·····.

(13) Types of accessories:
Accessories are identified as follows:
SP: Stopper plate
S: Spacer

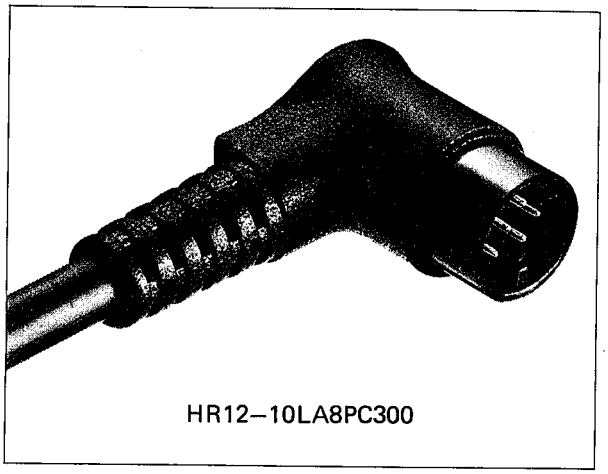
Note 1. Unless otherwise specified, terminals are tin-plated in black. If you desire different plating, please specify in advance. As exceptions, however, 10-contact terminals are selectively gold-plated and 20-contact terminals will be silver-plated.
2. Please indicate specifications such as cable length, terminal dimensions, and terminal processing when you order connectors with specifications different from the standards.

TYPE HR12

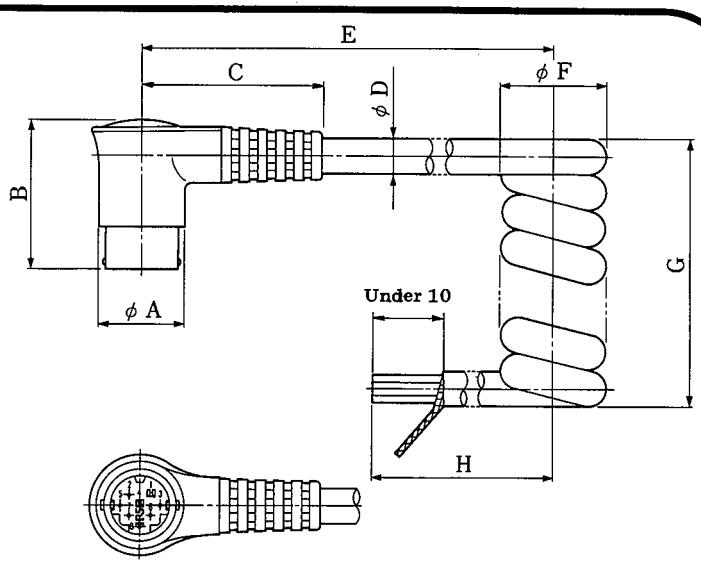
The HR12 is a high-density plastic type miniature connector with built-in shielding mechanism that is designed for OA equipment such as personal computers, word processors, and cellular telephones.

The standard terminals of the HR12 connector are tin-plated (only 10-contact terminals are gold-plated) and the connectors are finished in black.

Right Angle Plug



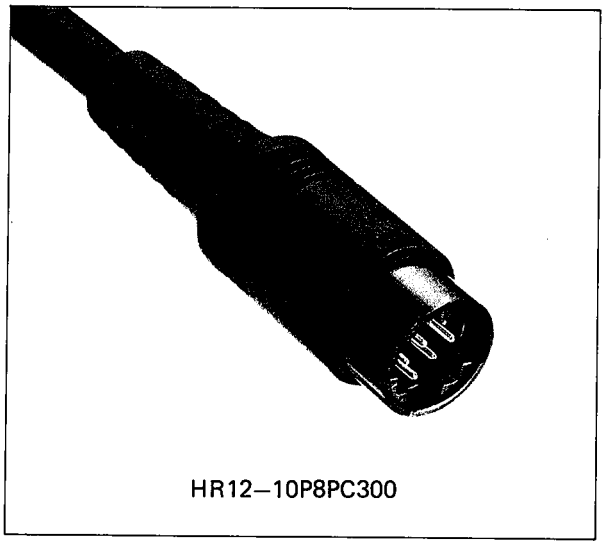
HR12–10LA8PC300



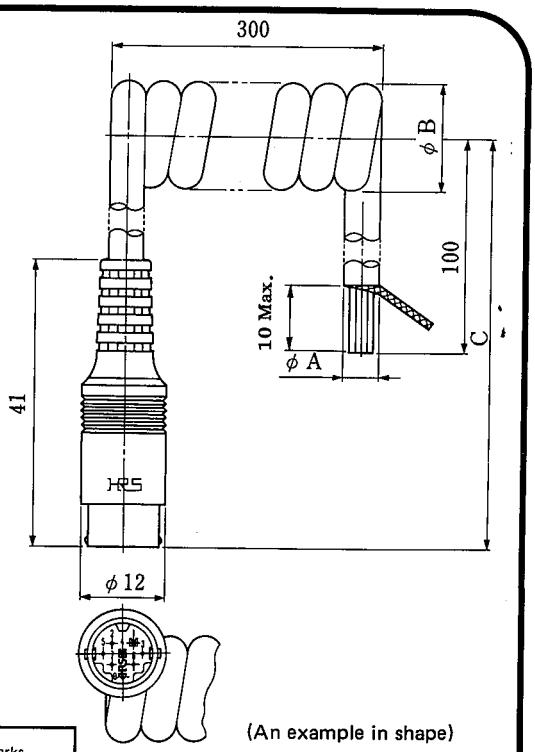
(An example in shape)

HRS No.	Part No.	No. of pin	φA	B	C	φD	E	φF	G	H	Weight	No. of conductors of cable	Remarks
112–0001–1	HR12–10LA5PCD300	5	12	21	26	4.8	700	15	300	100	About 94g	5-conductor (shielded)	Curled cord
112–0003–7	HR12–10LA8PC300	8	12	21	26	4.8	700	15	300	100	About 94g	8-conductor (shielded)	Curled cord
112–0084–9	HR12–10LB10PCAE300	10	12	21.5	26	5.5	45	17.5	300	120	About 80g	10-conductor (shielded)	Curled cord Terminal gold plated
112–0064–1	HR12–10LB10PSL1200	10	12	21.5	26	5.5	–	–	–	–	About 80g	8-conductor + Shielded Cables	Straight cord Terminal gold plated
112–0031–2	HR12–10LB10PSV1190	10	12	21.5	26	5.5	–	–	–	–	About 80g	10-conductor (shielded)	Straight cord Terminal gold plated

Straight Plug



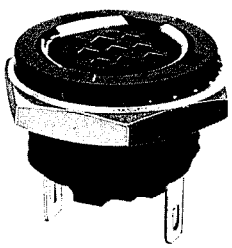
HR12–10P8PC300



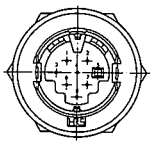
(An example in shape)

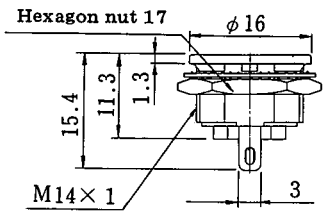
HRS No.	Part No.	No. of pins	φA	φB	C	Weight	No. of conductors of cable	Remarks
112–0101–6	HR12–10P5PCD300	5	4.8	15	720	About 96g	5-conductor (shielded)	Curled cord
112–0102–9	HR12–10P8PC300	8	4.8	15	720	About 96g	8-conductor (shielded)	Curled cord
112–0133–2	HR12–10P10PCAE300	10	5.5	17.5	700	About 96g	10-conductor (shielded)	Curled cord Terminal gold plated

Receptacle (Crimp Type)



HR12–10R–8SC





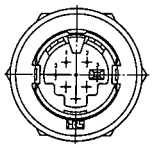
(An example in shape)

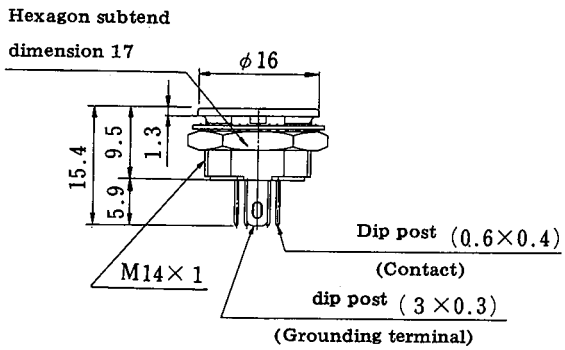
HRS No.	Part No.	No. of pins	Weight
112–0501–4	HR12–10R–5SC	5	About 4g
112–0504–2	HR12–10R–8SC	8	About 4g

Remark: For the mounting holes, see page 96.

Receptacle(Straight Dip Type)

HR12–10R–8SD





(An example in shape)

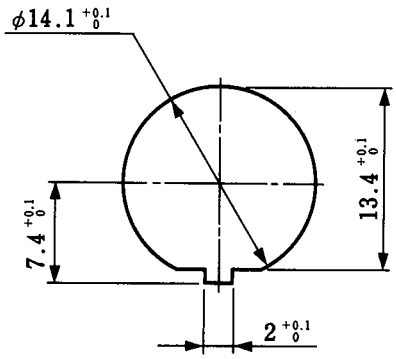
HRS No.	Part No.	No. of pins	Weight
112–0502–7	HR12–10R–5SD	5	About 4g
112–0505–5	HR12–10R–8SD	8	About 4g

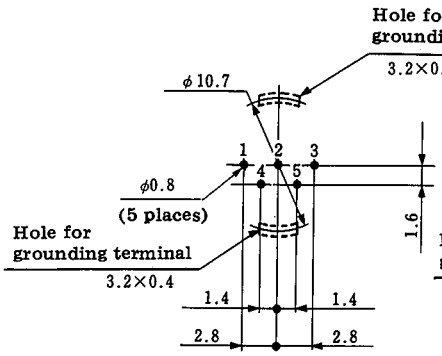
Remark: Refer to following diagram for panel mounting dimensions and dip post arrangement dimensions.

Panel mounting dimensions

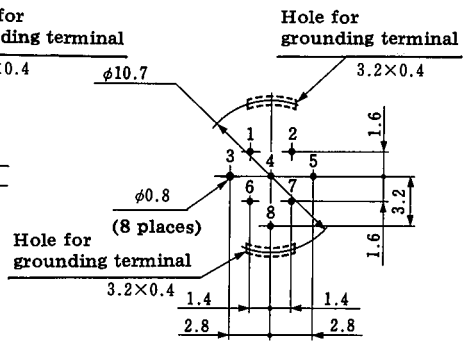
Receptacle Dip Post

(Panel thickness 1 ~ 4.7)





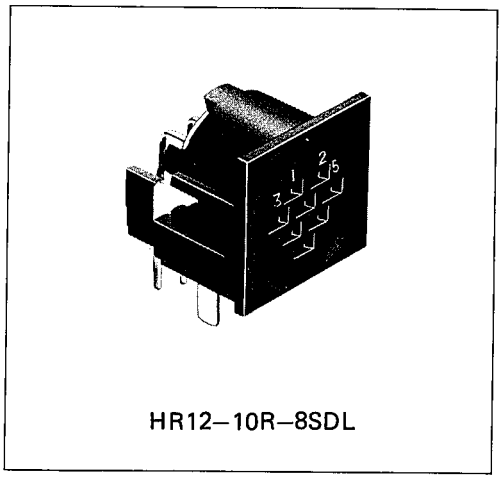
HR12–10R–5SD



HR12–10R–8SD

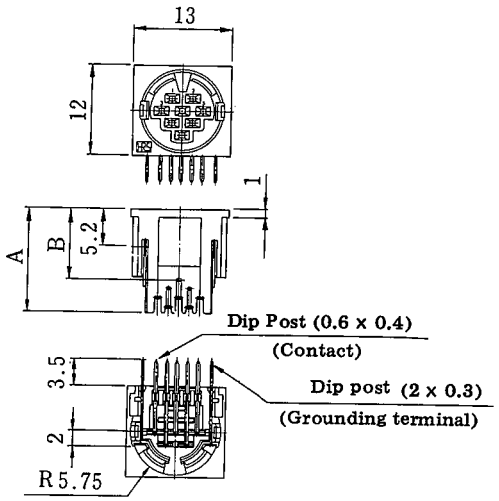
Remark: Dimensional tolerance of ±0.05mm is recommended for the board arrangement.

Receptacle (Right Angle Dip)



HR12–10R–8SDL

Note: Use this receptacle by pressing the connector outside as shown in the panel mounting hole dimension drawing below. If the conditions such as panel shape do not allow you to, use the accompanying stopper plate HR12-10R-SP (CL112-0507-0) to press the receptacle.

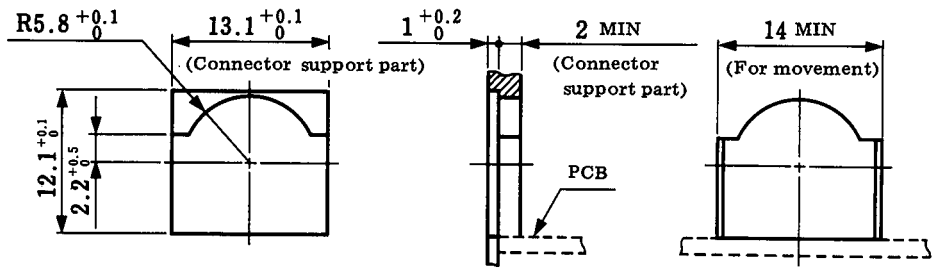


(An example in shape)

HRS No.	Part No.	No. of pin	A	B	Weight	Remarks
112–0503–0	HR12–10R–5SDL	5	13	10.5	About 2g	–
112–0506–8	HR12–10R–8SDL	8	13.8	9.3	About 2g	–
112–0514–6	HR12–10RC–8SDL	8	13.8	9.3	About 3g	Equipped with stopper plate

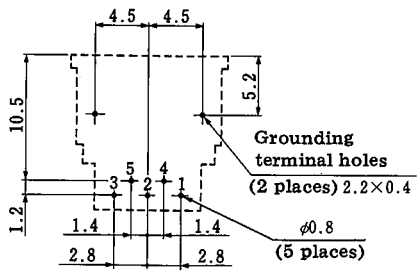
Remark : For dip post arrangement see below figure

Panel mounting dimensions

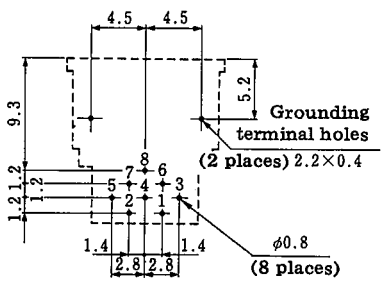


Note: Pay attention that this dimension is not available for 10 pins.

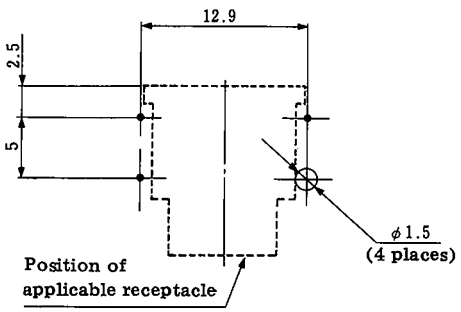
Receptacle dip post arrangement



HR12–10R–5SDL



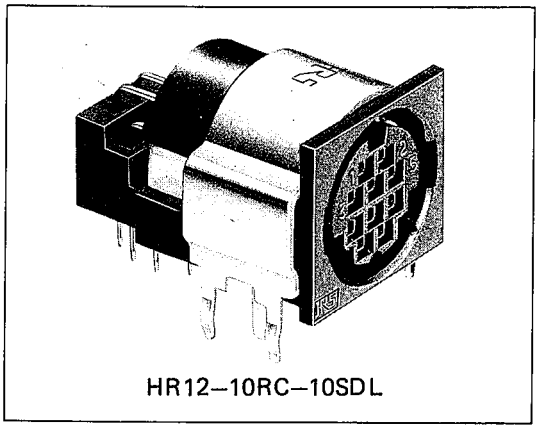
HR12–10R–8SDL



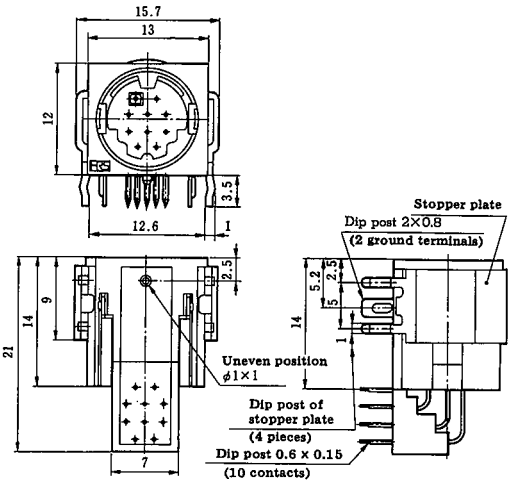
HR12–10R–SP (Stopper plate)
(Applicable PCB thickness range 1~2)

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

Receptacle (Right Angle Dip)

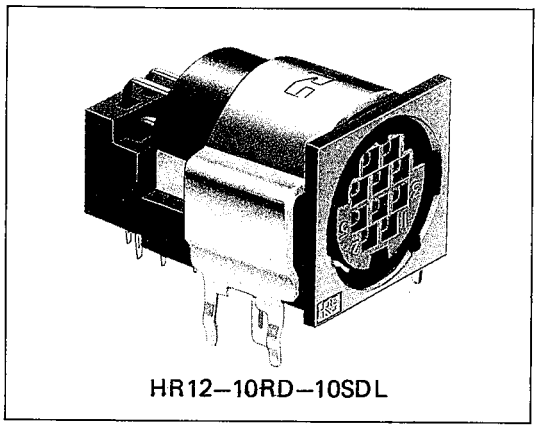


HR12–10RC–10SDL

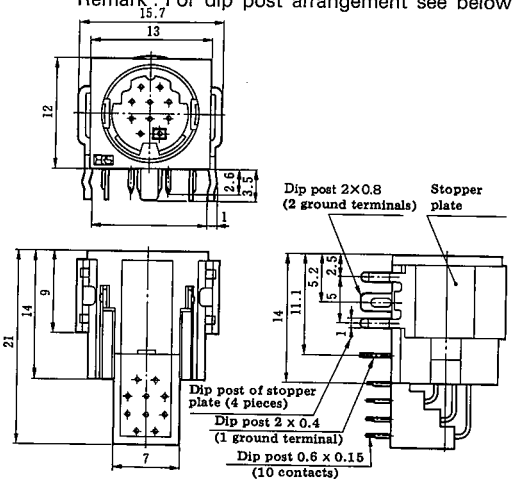


HRS No.	Part No.	No. of pin	Weight	Remarks
112–0511–8	HR12–10RC–10SDL	10	About 6g	Colour: Black Stopper plate Terminal gold plated

Remark : For dip post arrangement see below figure



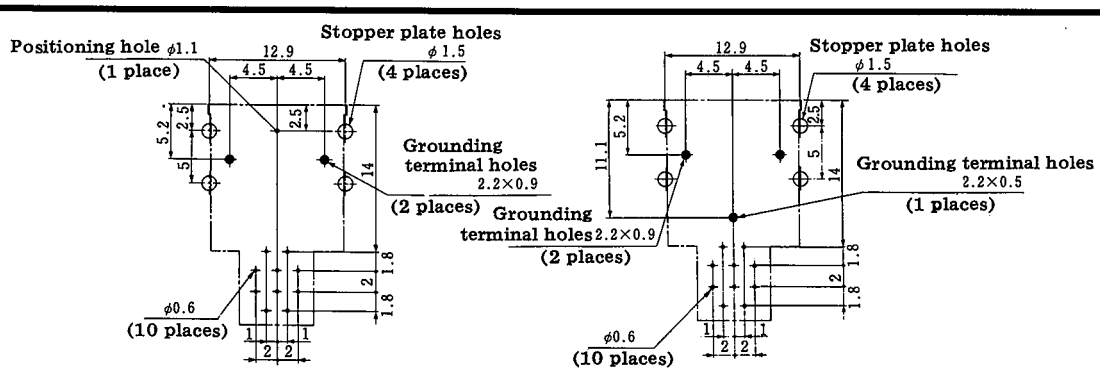
HR12–10RD–10SDL



HRS No.	Part No.	No. of pin	Weight	Remarks
112–0512–0	HR12–10RD–10SDL	10	About 6g	Colour: Black Stopper plate Terminal gold plated

Remark : For dip post arrangement see below figure

Receptacle dip post arrangement

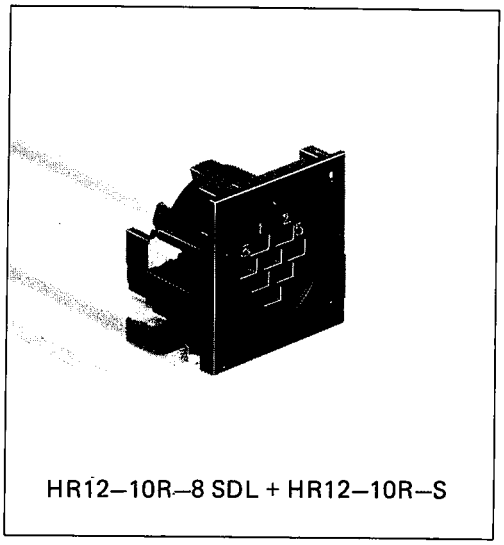


HR12-10RC-10SDL

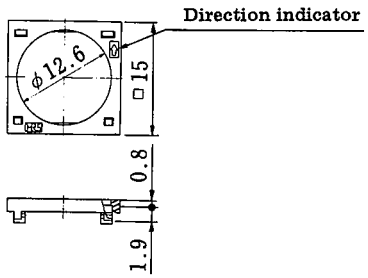
HR12-10RD-10SDL

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

Spacer



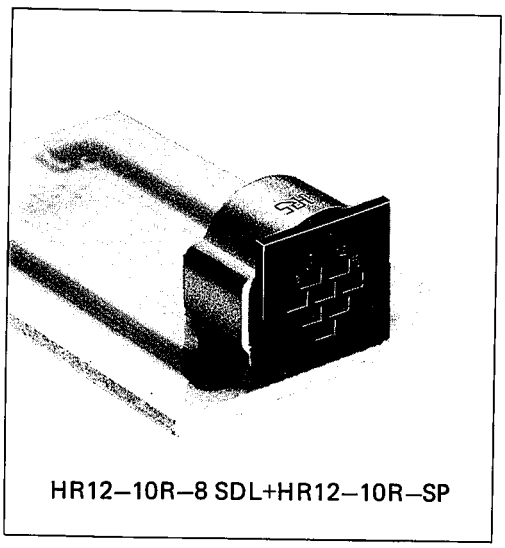
HR12–10R–8 SDL + HR12–10R–S



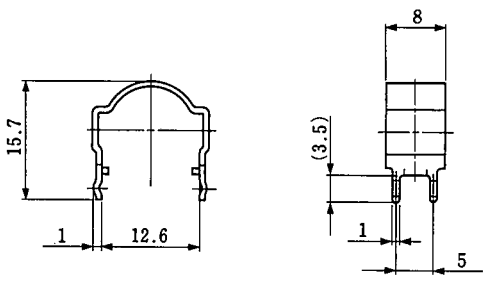
HRS No.	Part No.	Applicable connector	Weight
112–0508–3	HR12–10R–S	HR12–10R–*SDL	About 1g

Remark: The * mark shows the number of pins.

Stopper Plate



HR12–10R–8 SDL+HR12–10R–SP



HRS No.	Part No.	Applicable connector	Applicable PCB thickness	Weight
112–0507–0	HR12–10R–SP	HR12–10R–*SDL	t: 1~2	About 1g

Remarks: 1. The * mark shows the number of pins.
2. For dip post arrangement, see page 105.

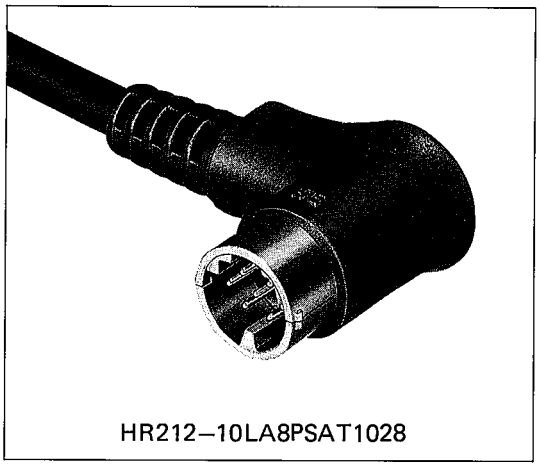
MODEL HR12 (20 CONTACTS), MODEL HR212

Scope

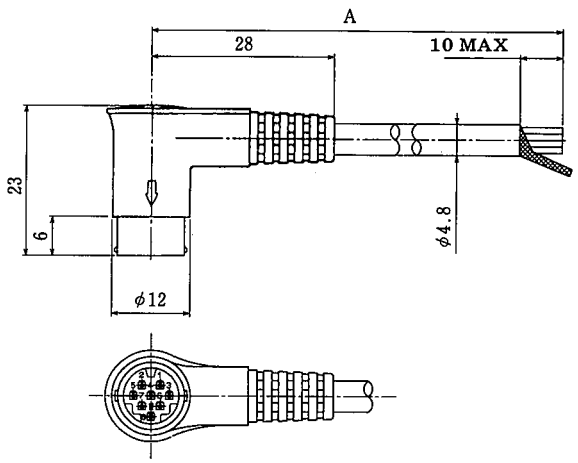
Models HR12 (20 contacts) and HR212 connectors are enclosed with a metal shell for stronger shielding than the model HR12 connectors, which were for greater protection developed against jamming by electromagnetic waves.

Standard plating: Silver plating for the HR12 (20 contacts) and copper plating for the HR212 (gold plating for 10-contact models only). Standard finish: black.

Right Angle Plug (with straight cable)



HR212–10LA8PSAT1028

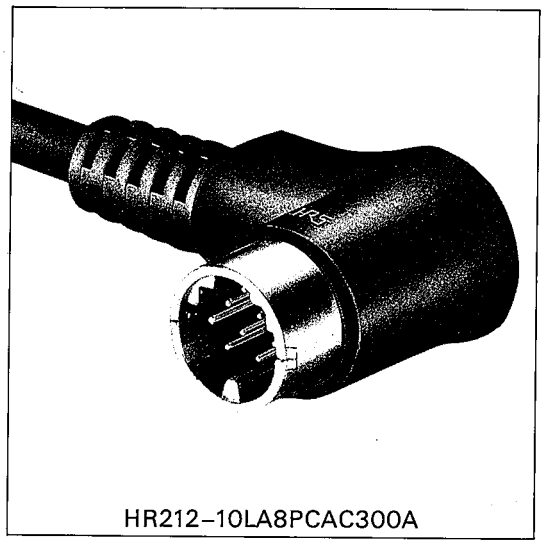


(An example in shape)

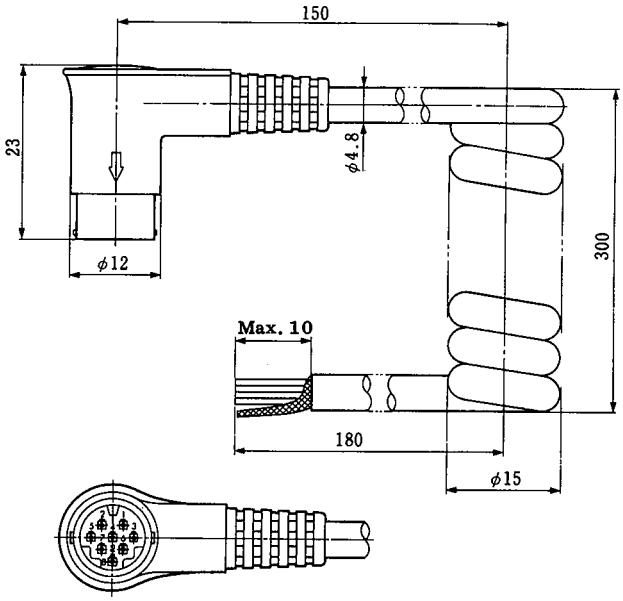
HRS No.	Part No.	No. of pins	A	No. of cable cores	Remarks
112–2120–1	HR212–10LA8PSAT1028	8	1028	8-cores (shielded)	
112–2120–1–01	HR212–10LA8PSAT1028(01)	8	1028	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2120–1–02	HR212–10LA8PSAT1028(02)	8	1028	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2120–1–03	HR212–10LA8PSAT1028(03)	8	1028	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated
112–2121–4	HR212–10LA8PSAT3028	8	3028	8-cores (shielded)	
112–2121–4–01	HR212–10LA8PSAT3028(01)	8	3028	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2121–4–02	HR212–10LA8PSAT3028(02)	8	3028	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2121–4–03	HR212–10LA8PSAT3028(03)	8	3028	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated
112–2122–7	HR212–10LA8PSAT5028	8	5028	8-cores (shielded)	
112–2122–7–01	HR212–10LA8PSAT5028(01)	8	5028	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2122–7–02	HR212–10LA8PSAT5028(02)	8	5028	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2122–7–03	HR212–10LA8PSAT5028(03)	8	5028	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated
112–2104–5	HR212–10LA8PSH2000	8	2000	8-cores (shielded)	Terminal: Selective gold plated

Remark: Cable can be taken-out only in direction A.

Right Angle Plug(with curled cord)



HR212-10LA8PCAC300A



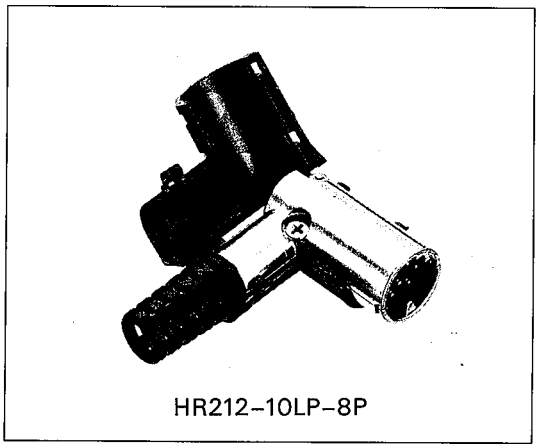
(An example in shape)

HRS No.	Part No.	No. of pins	No. of cable cores
112-2107-3	HR212-10LA8PCAC300A	8	8-cores (shielded)

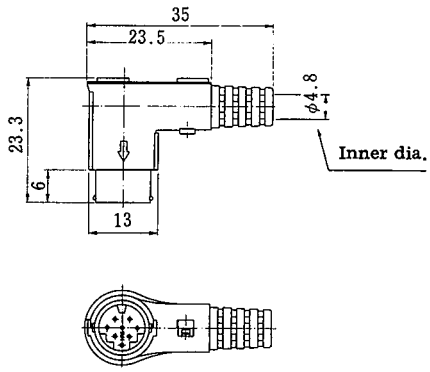
Remark: Cable can be taken-out only in direction A.

Right Angle plug(Assembly Type)

(Solder Type)



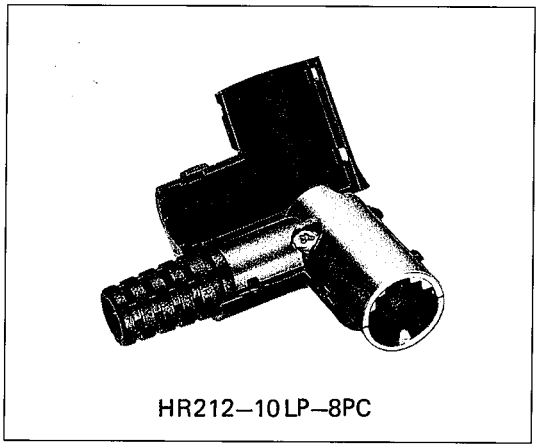
HR212-10LP-8P



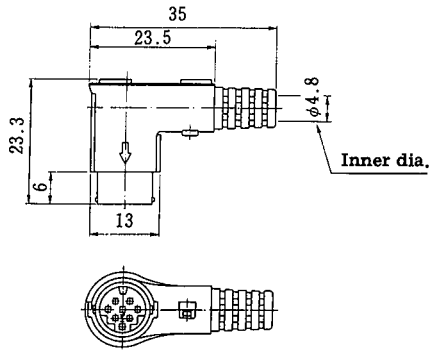
HRS No.	Part No.	No. of pins	Remarks
112-4002-6	HR212-10LP-8P	8	
112-4002-6-01	HR212-10LP-8P(01)	8	Color: Sand beige Terminal: Solder-placed
112-4002-6-02	HR212-10LP-8P(02)	8	Color: Black Terminal: Selective gold plated
112-4002-6-03	HR212-10LP-8P(03)	8	Color: Sand beige Terminal: Selective gold plated

Remark: Cable can be taken-out only in direction A.

(Crimp Type)



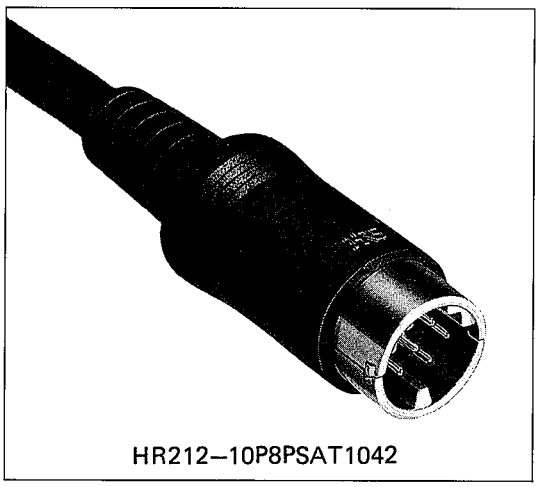
HR212–10LP–8PC



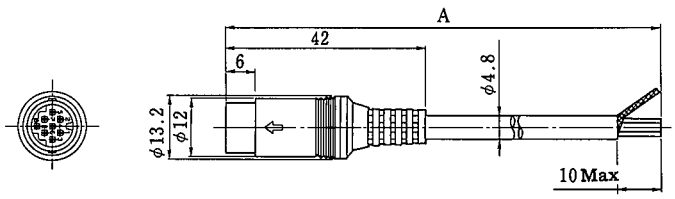
HRS No.	Part No.	No.of pins	Remarks
112–4100–5	HR212–10LP–5PC	5	
112–4101–8	HR212–10LP–8PC	8	

Remark: Cable can be taken-out only in direction A.

Straight Plug(with straight cable)



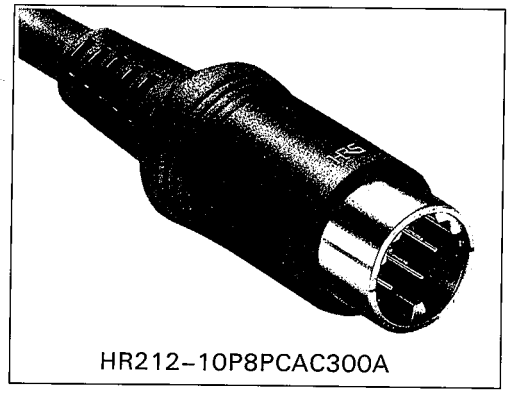
HR212–10P8PSAT1042



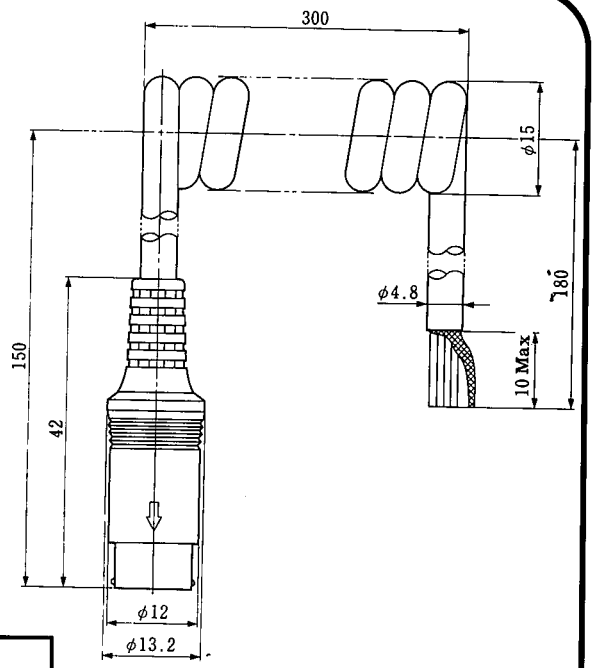
(An example in shape)

HRS No.	Part No.	No. of pins	A	No. of cable cores	Remarks
112–2220–6	HR212–10P8PSAT1042	8	1042	8-cores (shielded)	
112–2220–6–01	HR212–10P8PSAT1042(01)	8	1042	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2220–6–02	HR212–10P8PSAT1042(02)	8	1042	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2220–6–03	HR212–10P8PSAT1042(03)	8	1042	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated
112–2221–9	HR212–10P8PSAT3042	8	3042	8-cores (shielded)	
112–2221–9–01	HR212–10P8PSAT3042(01)	8	3042	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2221–9–02	HR212–10P8PSAT3042(02)	8	3042	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2221–9–03	HR212–10P8PSAT3042(03)	8	3042	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated
112–2222–1	HR212–10P8PSAT5042	8	5042	8-cores (shielded)	
112–2222–1–01	HR212–10P8PSAT5042(01)	8	5042	8-cores (shielded)	Color: Black Terminal: Selective gold plated
112–2222–1–02	HR212–10P8PSAT5042(02)	8	5042	8-cores (shielded)	Color: Sand beige Terminal: Tin plated
112–2222–1–03	HR212–10P8PSAT5042(03)	8	5042	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated

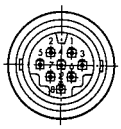
Straight Plug(with curled cord)



HR212-10P8PCAC300A



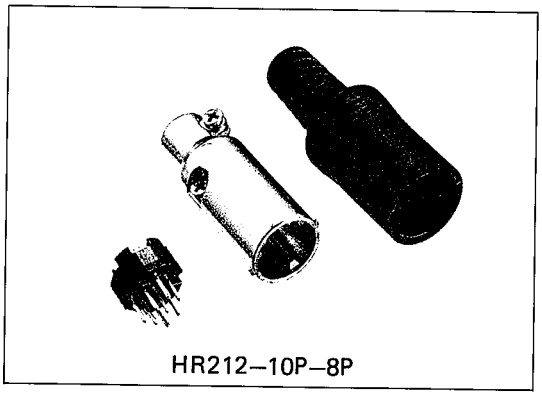
HRS No.	Part No.	No. of pins	No. of cable cores	Remarks
112-2205-2	HR212-10P8PCAC300A	8	8-cores (shielded)	
112-2211-5	HR212-10P10PCBH300	10	10-cores (shielded)	Terminal: Selective gold plated



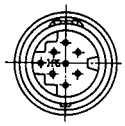
(An example in shape)

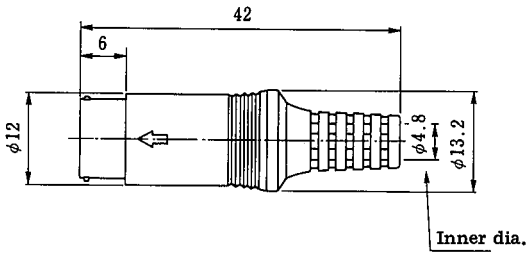
Straight Plug(Assembly Type)

(Solder Type)



HR212-10P-8P

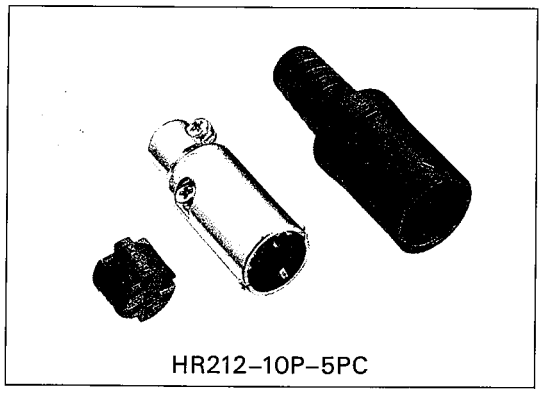




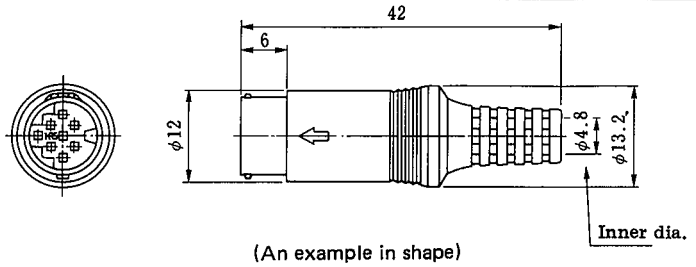
(An example in shape)

HRS No.	Part No.	No. of pins	Remarks
112-4001-3	HR212-10P-8P	8	
112-4001-3-01	HR212-10P-8P(01)	8	Color: Sand beige Terminal: Solder plated
112-4001-3-02	HR212-10P-8P(02)	8	Color: Black Terminal: Selective gold plated
112-4001-3-03	HR212-10P-8P(03)	8	Color: Sand beige Terminal: Selective gold plated

(Crimp Type)



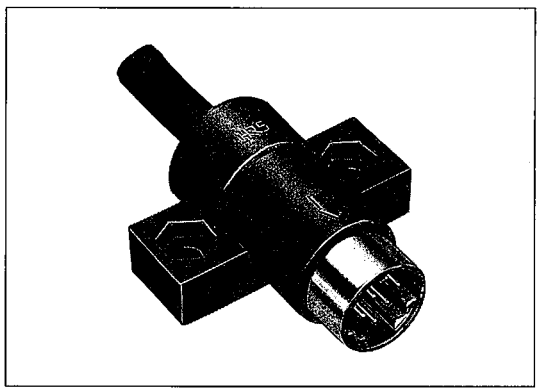
HR212-10P-5PC

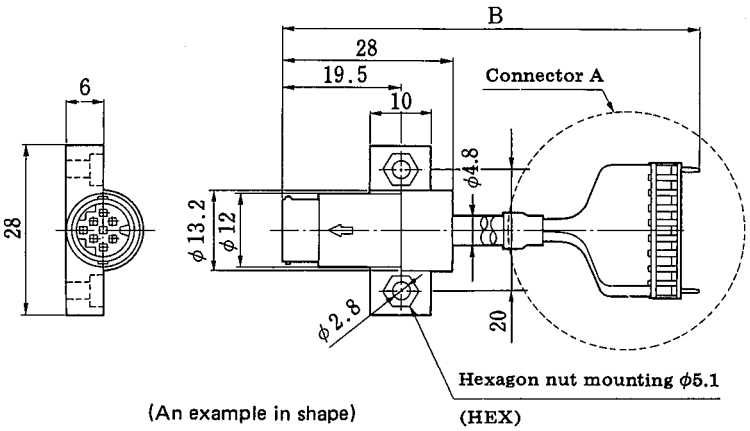


(An example in shape)

HRS No.	Part No.	No. of pins	Remarks
112-4050-9	HR212-10P-5PC	5	
112-4051-1	HR212-10P-8PC	8	
112-4051-1-01	HR212-10P-8PC(01)	8	Color: Sand beige
112-4052-4	HR212-10P-10PC	10	
112-4052-4-01	HR212-10P-10PC(01)	10	Color: Sand beige

Plug Receptacle(with straight cable)

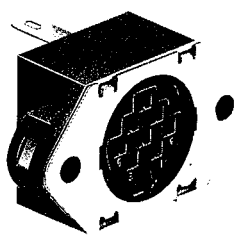




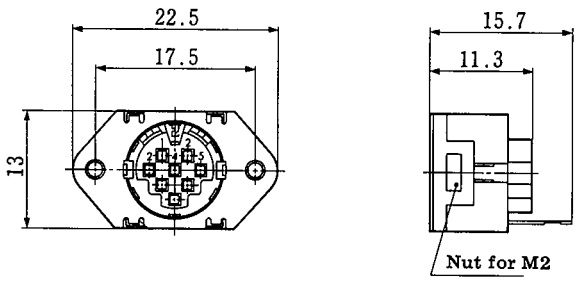
(An example in shape)

HRS No.	Part No.	No. of pins	Connector A	B	No. of cable cores	Remarks
112-2425-9	HR212G-10PB8PSAT82	8	DF2	90.2	8-cores (shielded)	Color: Sand beige Terminal: Selective gold plated

Receptacle (Crimp Type)



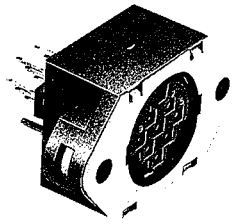
HR212-10R-8SC



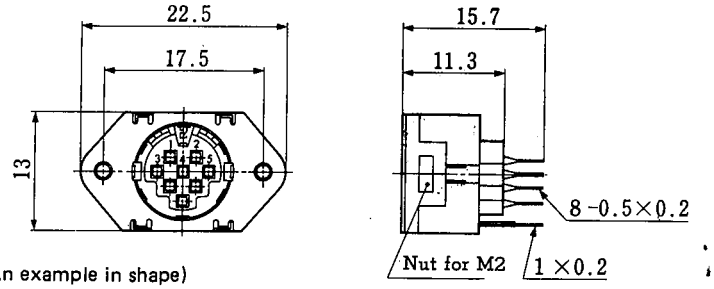
(An example in shape)

HRS No.	Part No.	No. of pins	Remarks
112-2001-2	HR212-10R-8SC	8	
112-2001-2-01	HR212-10R-8SC(01)	8	Color: Sand beige

Receptacle (Straight Dip Type)



HR212-10R-8SD(02)

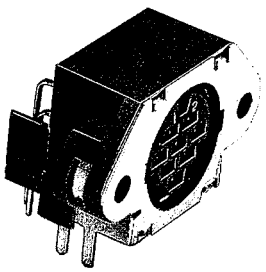


(An example in shape)

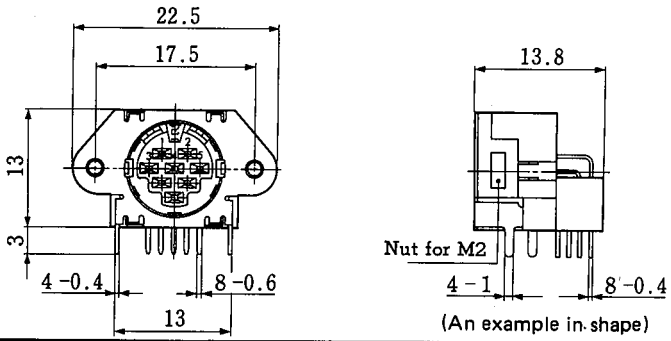
HRS No.	Part No.	No. of pins	Remarks
112-2002-5-02	HR212-10R-8SD(02)	8	Color: Black Terminal: Tin plated
112-2002-5-01	HR212-10R-8SD(01)	8	Color: Sand beige Terminal: Selective gold plated

Remark: For dip post arrangement, see below figure.

Receptacle (Right Angle Dip Type)



HR212-10R-8SDL(02)

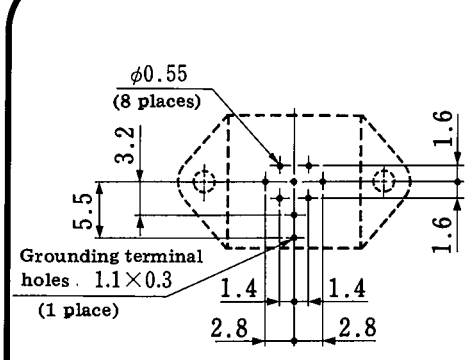


(An example in shape)

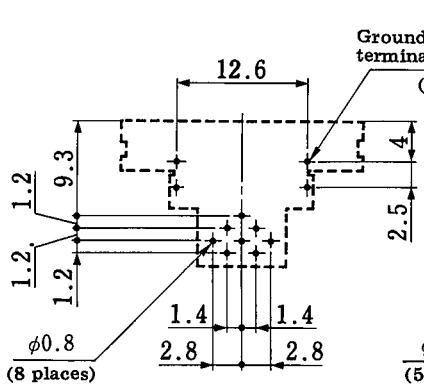
HRS No.	Part No.	No. of pins	Remakrs
112-2008-1-02	HR212-10R-5SDL(02)	5	Color: Black Terminal: Tin plated
112-2003-8-02	HR212-10R-8SDL(02)	8	Color: Black Terminal: Tin plated
112-2003-8-04	HR212-10R-8SDL(04)	8	Color: Black Terminal: Selective gold plated
112-2003-8-01	HR212-10R-8SDL(01)	8	Color: Sand beige Terminal: Selective gold plated

Remark: For dip post arrangement, see below figure.

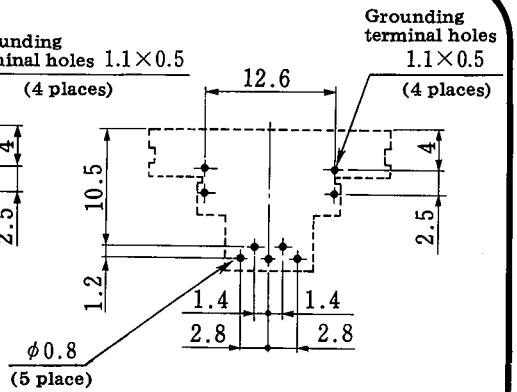
Receptacle Dip Post Layout



HR212-10R-8SD



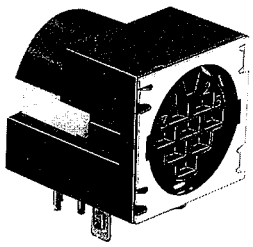
HR212-10R-8SDL



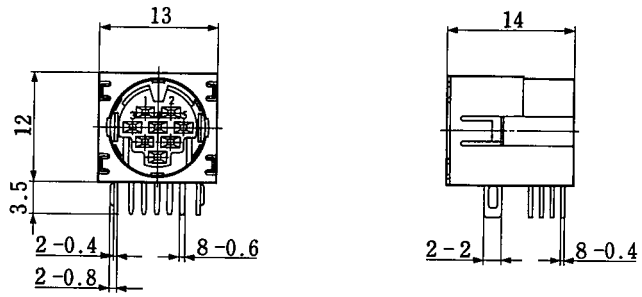
HR212-10R-5SDL

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

Receptacle(Right Angle Dip Type)

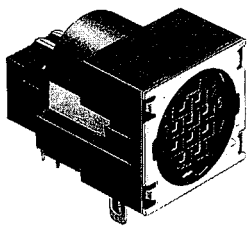


HR212-10RA-8SDL(03)

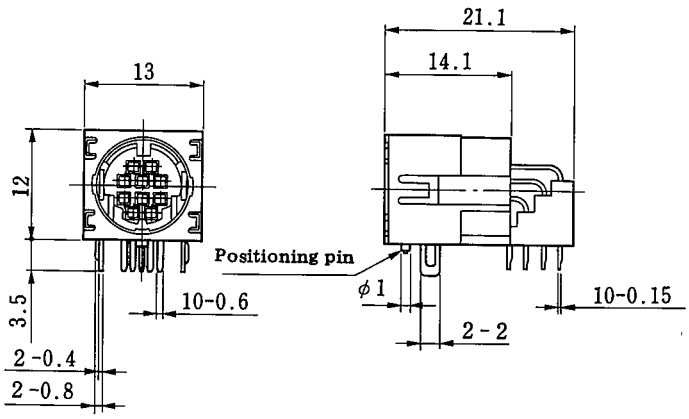


HRS No.	Part No.	No. of pins	Remarks
112-2004-0-03	HR212-10RA-8SDL(03)	8	Color: Black Terminal: Tin plated
112-2004-0-01	HR212-10RA-8SDL(01)	8	Color: Sand beige Terminal: Selective gold plated
112-2004-0-02	HR212-10RA-8SDL(02)	8	Color: Black Terminal: Selective gold plated

Remark: For dip post arrangement, see below figure.



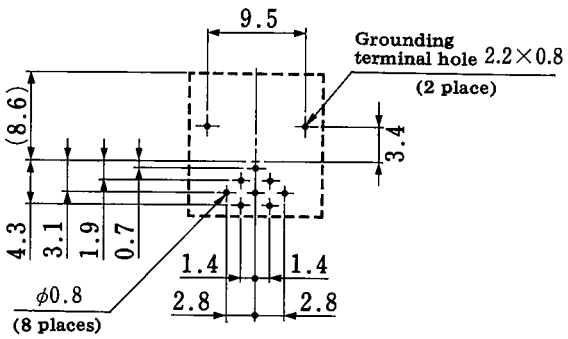
HR212-10RC-10SDL(02)



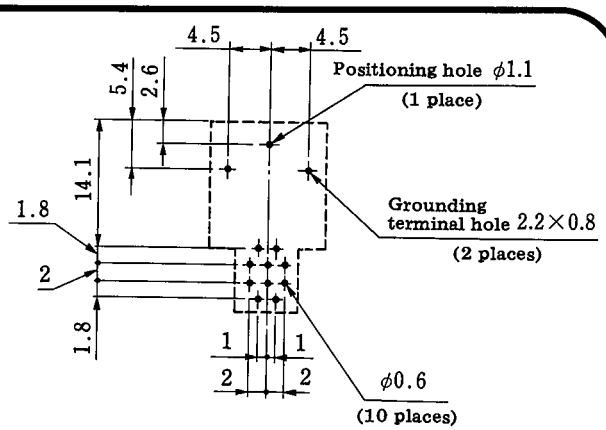
HRS No.	Part No.	No. of pins	Remarks
112-2009-4-02	HR212-10RC-10SDL(02)	10	Color: Black Terminal: Selective gold plated

Remark: For dip post arrangement, see below figure.

Receptacle Dip Post Layout



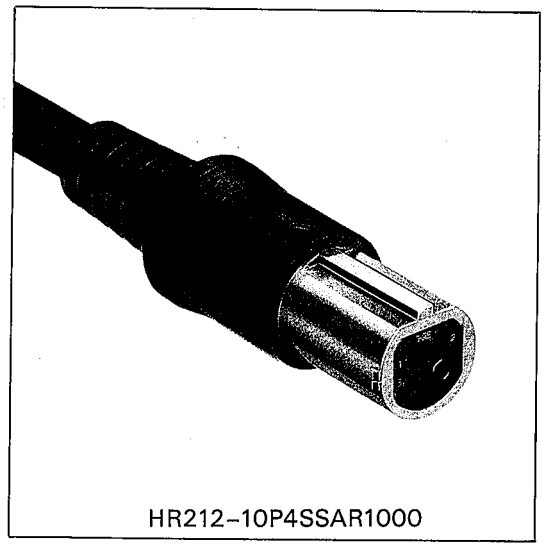
HR212-10RA-8SDL



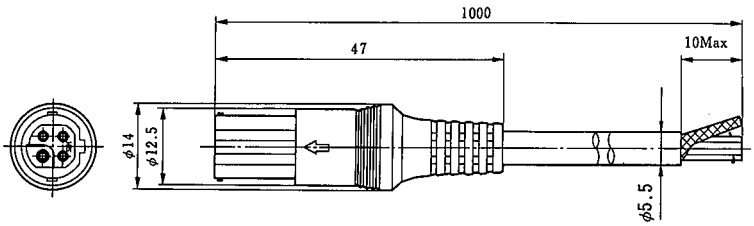
HR212-10RC-10SDL

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

Straight Plug

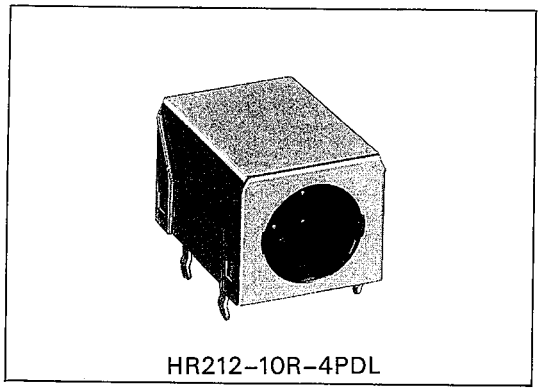


HR212-10P4SSAR1000

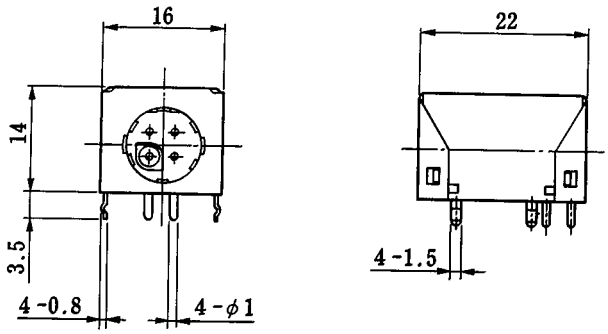


HRS No.	Part No.	No. of pins	No. of cable cores	Remarks
112-5000-6	HR212-10P4SSAR1000	4	4-cores (shielded)	Color: Black With sequence Terminal: Gold plated

Receptacle (Right Angle Dip Type)

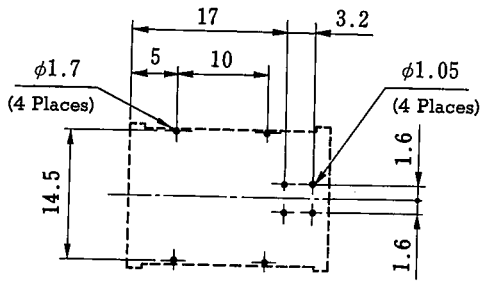


HR212-10R-4PDL



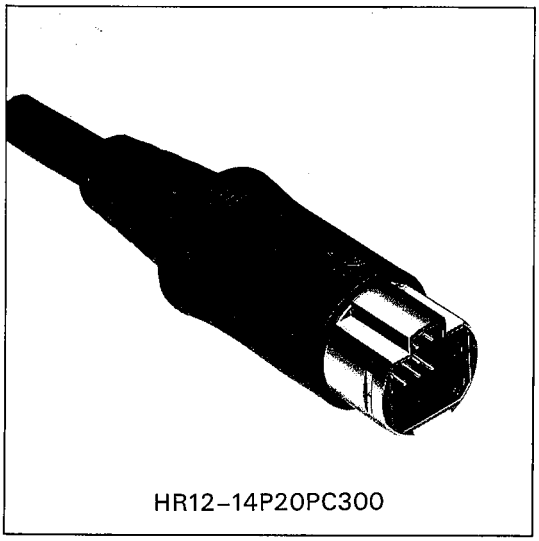
HRS No.	Part No.	No. of pins	Remarks
112-5100-0	HR212-10R-4PDL	4	Terminal: Gold plated

(Dip Post Layout)

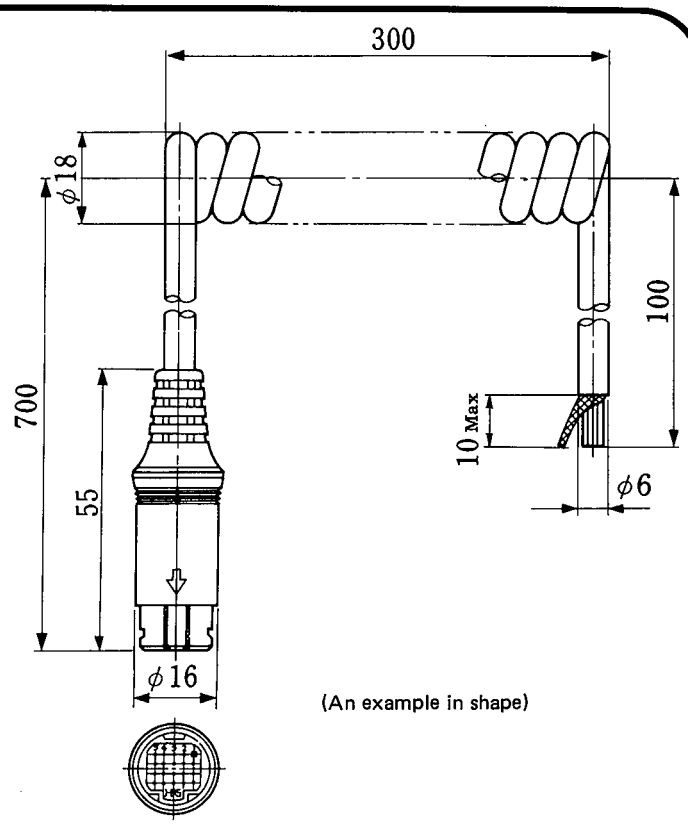


Remark: Dimensional tolerance of ±0.05mm is recommended for the board arrangement.

Straight Plug



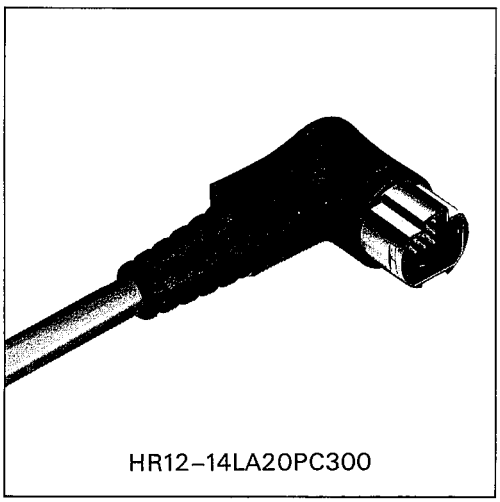
HR12-14P20PC300



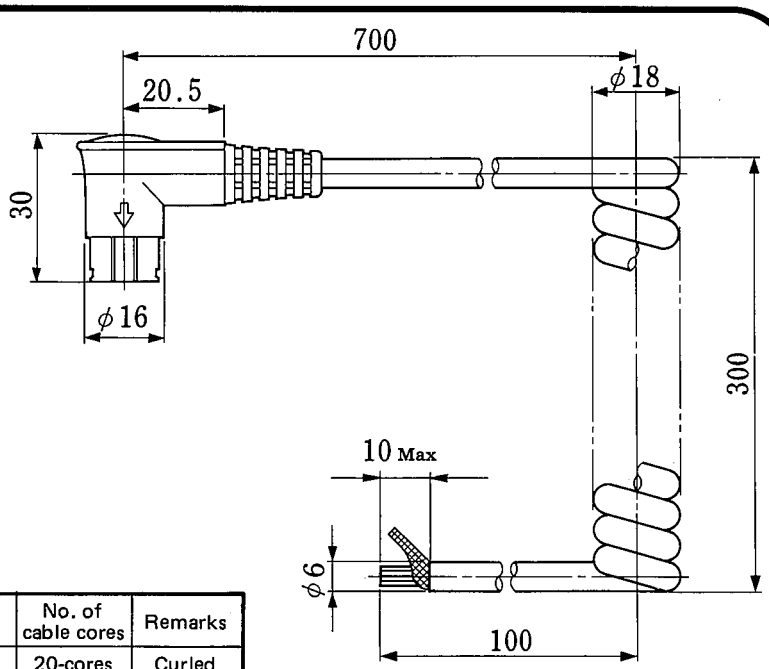
(An example in shape)

HRS No.	Part No.	No. of pins	Weight	No. of cable cores	Remarks
112-1101-1	HR12-14P20PC300	20	About 166g	20-cores (shielded)	Curled cord
112-1106-5-01	HR12-14P20PSB1100(01)	20	About 79g	16-cores (shielded)	Straight cord

Right Angle Plug

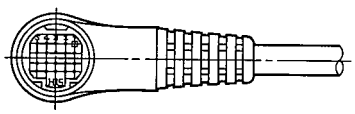


HR12-14LA20PC300

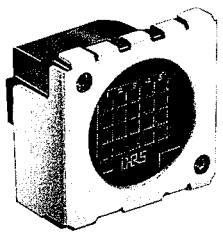


HRS No.	Part No.	No. of pins	Weight	No. of cable cores	Remarks
112-1001-7	HR12-14LA20PC300	20	About 166g	20-cores (shielded)	Curled cord

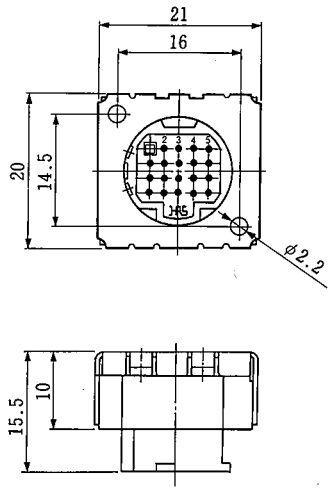
Remark: The cable should be taken out in the direction of "a" only.



Receptacle (Crimp Type)

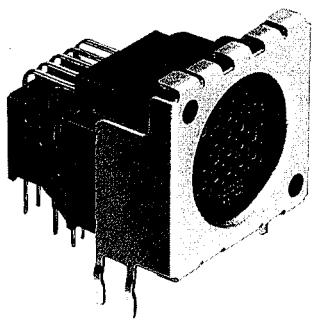


HR12–14RA–20SC

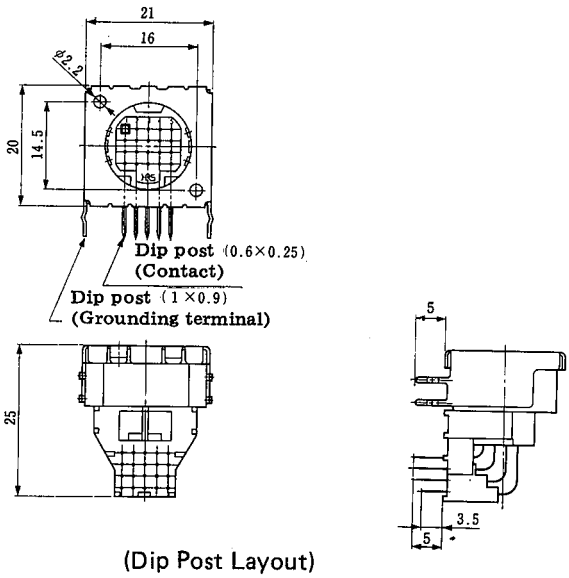


HRS No.	Part No.	No. of pins	Weight	Remarks
112–1504–8	HR12–14RA–20SC	20	About 6g	With hexagon nut

Receptacle (Right Angle Dip Type)



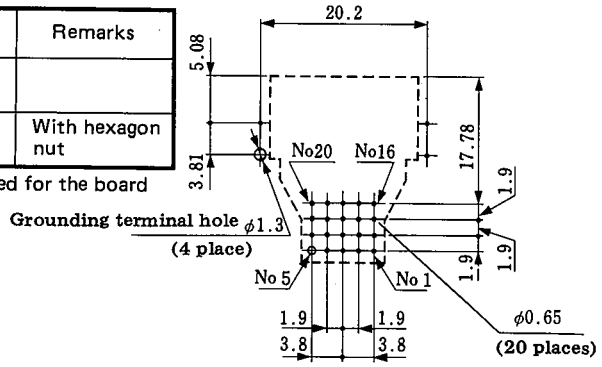
HR12–14R–20SDL



(Dip Post Layout)

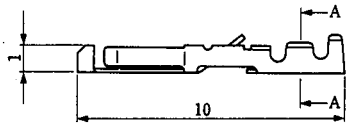
HRS No.	Part No.	No. of pins	Weight	Remarks
112–1501–0	HR12–14R–20SDL	20	About 9g	
112–1502–2	HR12–14RA–20SDL	20	About 9g	With hexagon nut

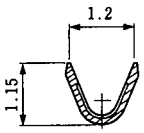
Remark: Dimensional tolerance of ±0.05mm is recommended for the board arrangement.



Contact

Female Contact

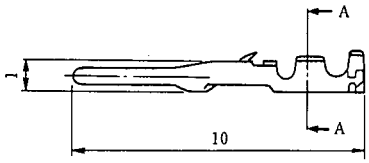


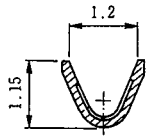


Section A–A

Type	HRS No.	Part No.	Plating	Applicable wire
Loose contact	112–0410–0	HR12–SC–111	Partial gold plating	AWG#26～#30
	112–0411–3	HR12–SC–112	Silver plating	AWG#26～#30
	112–0412–6	HR12–SC–113	Tin plating	AWG#26～#30
Chain contact	112–0407–6	HR12–SC–211	Partial gold plating	AWG#26～#30
	112–0408–9	HR12–SC–212	Silver plating	AWG#26～#30
	112–0409–1	HR12–SC–213	Tin plating	AWG#26～#30

Male Contact





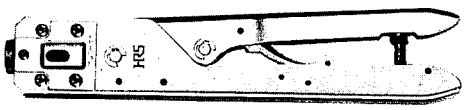
Section A–A

Type	HRS No.	Part No.	Plating	Applicable wire
Loose contact	110–0515–6	HR10–PC–111	Partial gold plating	AWG#26～#30
	110–0519–7	HR10–PC–113	Solder plating	AWG#26～#30
Chain contact	110–0516–9	HR10–PC–211	Partial gold plating	AWG#26～#30
	110–0520–6	HR10–PC–213	Solder plating	AWG#26～#30

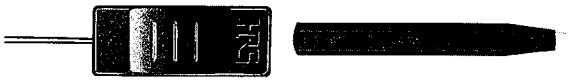
Note 1. Use cables with cable covering outer dia. ϕ1mm or less.
2. Loose terminals are offered in a package containing 100 pieces.
Strip terminals are offered by reel containing 10,000 pieces.

Applicable tools

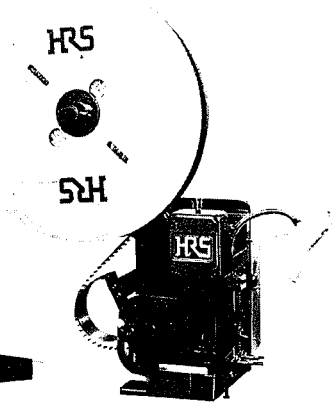
Type	Item	HRS No.	Part No.	Applicable terminal	Applicable wire
Manual	Manual crimping tool	150-0052-9	HR12-SC-TC	HR10-PC-111 113	AWG#26～#30
				111 HR12-SC-112 113	
Automatic	Automatic crimping machine body	901-0005-4	CM-105	—	—
	Applicator	901-2015-9	AP105-HR12-1	HR10-PC-111 113	AWG#26～#30
				111 HR12-SC-112 113	
Extraction tool		150-0050-3	HR12-SC-TP	111 112 HR12-SC-113 211 212 213	—
		150-0039-0	RP6-SC-TP	111 HR12-PC-113 211 213	—



(HR12–SC–TC)
Hand Crimp Tool



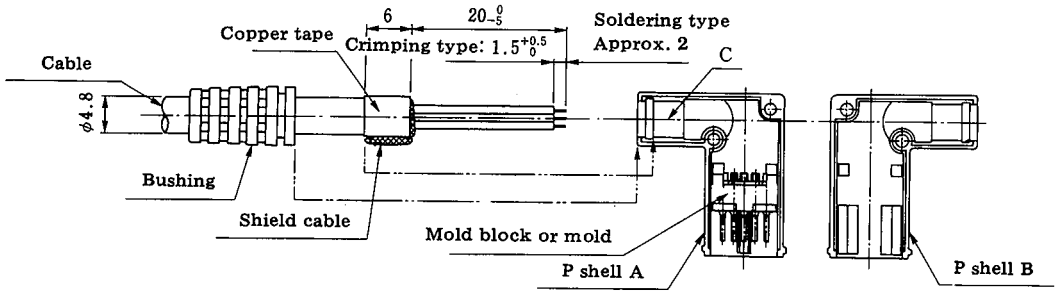
(HR12–SC–TP) (RP6–SC–TP)
Extraction Tool



Auto Crimp Tool CM–105

Cable Connecting Procedures

- **Works Process**

	Right-angle Plug	Straight Plug
1	Use cables of finished dia. 4.8mm and nominal conductor cross section of 0.129mm^2 (AWG#26) and under. (Inner dia. of solder pot of soldering terminal is ϕ0.7mm.)	
2	Insert bushing over cable as shown in Fig. 1.	Install hood over cable. Figure of straight type is omitted.
3	 Fig. 1 Make cable end treatment to the dimensions shown in Fig. 1. For shield cable, an example of cable end treatment is given below. (1) Firmly wrap the cable sheath end with copper tape 6mm wide, 16mm long and 85μm thick (overall thickness including adhesive). (2) Bundle up the shield cables, and tight twist. (Twist at least three turns over 6mm in length from the cable sheath tip) (3) Cut the shield cables at 6^{0}_{-1}mm from the cable sheath tip, and fold back as shown in Fig. 1.	
4	(Soldering Type) Solder cables to mold block into which terminals are assembled. (Crimping Type) Use applicable tool (HR12–SC–TC or CM–105) to crimp connect cables to applicable crimping terminals, then insert crimped terminals into mold and fix them to complete the mold block.	
5	Assemble mold block having cables connected to location P shell A as shown in Fig. 1. Carefully note that mold block and P shell A have directional polarization.	
6	Assemble bundled shield cables so that they are positioned at the center (C section) of cable outlet of P shell A as shown in Fig. 1.	

	Right-angle Plug	Straight Plug
7	Install P shell B over P shell A as shown in Fig. 2 and avoid catching of internal cables. Use the M2 self-tapping screws supplied (shape of screw head is phillip #0 for precision machinery) to secure from the direction of P shell B (2 places).	
8	Move bushing to the end face of P shell, and put P shell and bushing into the casing as shown in Fig. 2.	With groove of hood and protruding portion of P shell aligned, install hood over P shell as shown in Fig. 4.
9	Install casing over P shell as shown in Fig. 4.	
10	Now assembling is completed.	

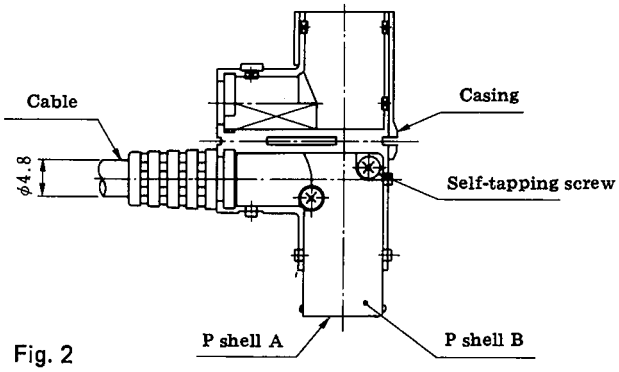
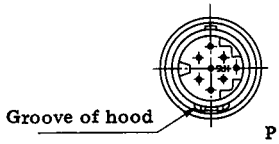


Fig. 2



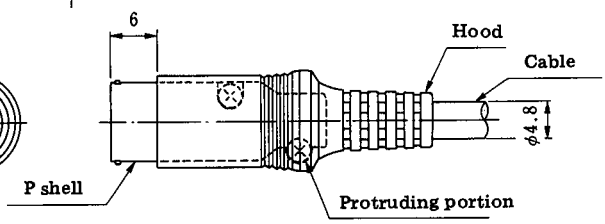


Fig. 4

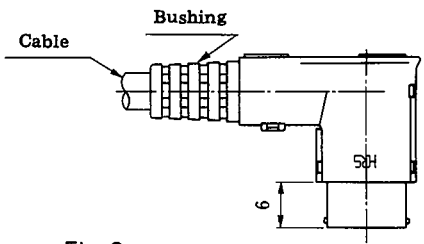
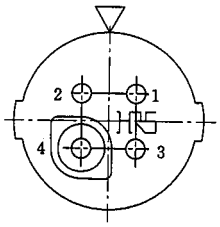
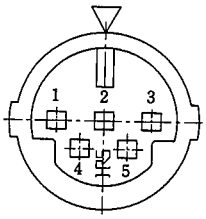
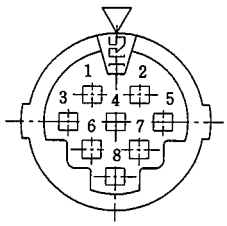
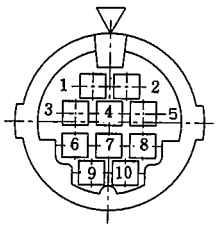
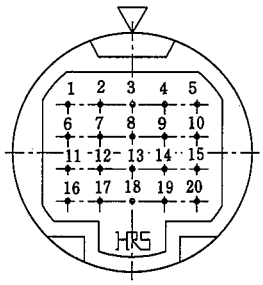


Fig. 3

Terminal Arrangement and Performance

Shell size	10 sizes			
Terminal arrangement				
No. of contacts	4	5	8	10
Withstand voltage	300VAC for 1 minute	300VAC for 1 minute		
Rated current	5A	1A		
Insulation resistance	200MΩ or less at 250VDC	200MΩ or more at 250VDC		
Contact resistance	30mΩ or less (excluding cable conductor resistance)			

Shell size	14 size
Terminal arrangement	
No. of contacts	20
Withstand voltage	300VAC for 1 minute
Rated current	1A
Insulation resistance	200mΩ or more at 250VDC
Contact resistance	30mΩ or less (excluding cable conductor resistance)

Remarks: 1. The above figures show the receptacle pin inserts as viewed from the mating side.
2. Withstand voltage shows the testing voltage.
3. Contact resistance is as measured at 1ADC.