

# 7.92mm Contact Pitch High-Current Connectors for Internal Power Supplies (UL, C-UL and TÜV Listed)

## DF22 Series

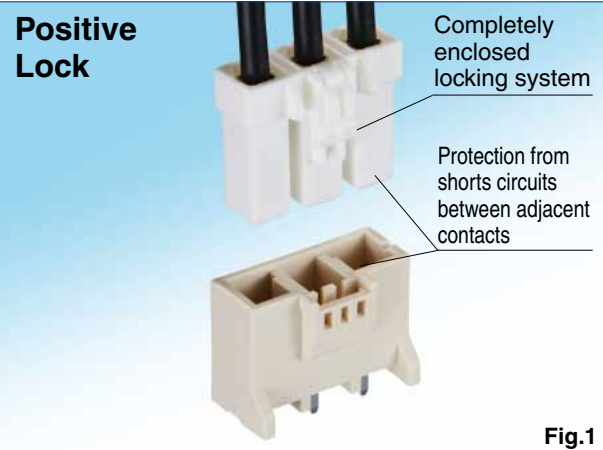
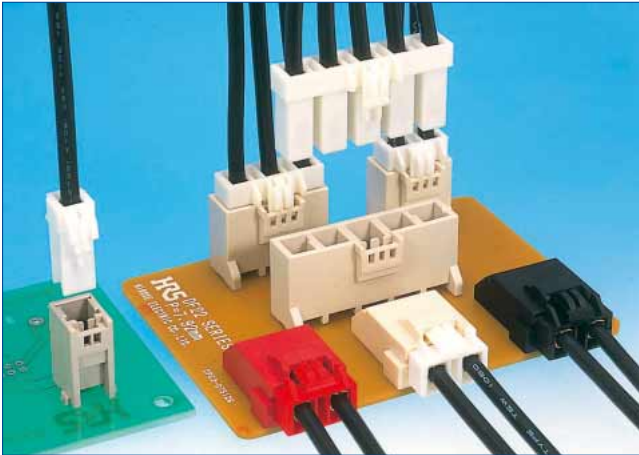


Fig.1

### ■ Features

#### 1. Rated up to 43A

Single position connector can carry current of 43A with 10 AWG conductor. Please refer to Table #1 for current ratings for multi-position connectors using other conductor sizes.

#### 2. Positive Locking Function

Reliable interior lock protects mated connectors from accidental disconnection. (Fig.1)

#### 3. Prevention of Incorrect Connections

To prevent incorrect connection when using multiple connectors having the same Number of contacts, 3 product types having different mating configurations are available. (Fig.2)

#### 4. Molded-in contact retention tabs

Handling of terminated contacts during the crimping is easier and avoids entangling of wires, since there are no protruding metal tabs.

#### 5. Prevention of incorrect board placement

Built-in posts assure correct connector placement and orientation on the board.

#### 6. Supports resin sealing

Allows potting up to 10mm.

#### 7. Prevention of Short Circuits Between Adjacent Contacts

Each Contact is completely surrounded by the housing wall electrically isolating it from adjacent contacts.

#### 8. Increased Retention Force of Crimped Contacts

Improved pull-out force design.

#### 9. Full Line of Crimp Socket Contacts

Hirose has released DF22C-\*S-7.92C which has easy to push/release latch design. and DF22B-\*S-7.92C/DF22C-\*S-7.92C which has improved electrical insulation properties.

#### 10. In-line Connections

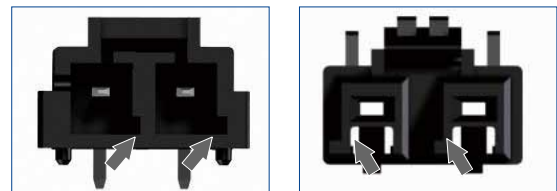
Wire-to-wire connection is also available. Space is saved with 2-row (2x2) layout for 4 pos.

#### 11. UL, C-UL, and TÜV Certified.

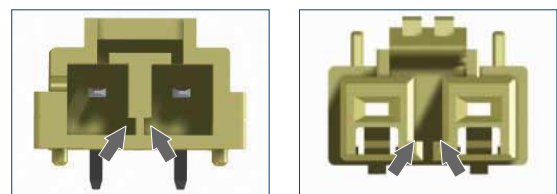
#### 12. Glow Wire compliance (Compliant with IEC 60695-2-11)

### Keying for multiple use

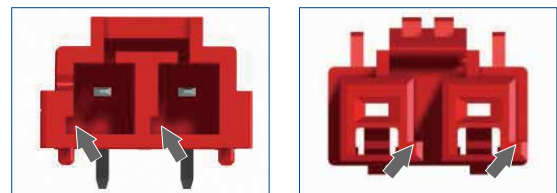
#### ● R Type (Guide key : right side, Color : black)



#### ● Standard Type (Guide key : inside, Color : natural)



#### ● L Type (Guide key : left side, Color : red)



\*The image on the left show header (the board dip side), the image on the right show the socket (cable side).

\*The guide key position is indicated in position facing the mating surface of the header.

Fig.2

## Product Specifications

Ratings	Current rating (Note 1)	No. of contacts	10 AWG	12 AWG	14 AWG	16 AWG	Operating temperature range		-55°C to 85°C (Note 2)
		1	30A	25A	20A	15A	Operating humidity range		20% to 80%
		2	25A	20A	18A	15A	Storage temperature range		-10°C to 60°C (Note 3)
		3	25A	20A	18A	15A	Storage humidity range		40% to 70% (Note 3)
		4	22A	18A	15A	13A			
	5	22A	18A	15A	13A				
	Voltage rating	AC/DC 1000V					UL/C-UL/TÜV File No. and Recognition No.		
							UL	: E52653	
							C-UL	: E52653	
							TÜV	: R9950703	

	Current Rating	Voltage Rating
UL	See table below	AC/DC 600V
C-UL	See table above ( $\Delta t=30^{\circ}\text{C}$ )	AC/DC 600V
TÜV	See table above	AC/DC 600V

Current rating of UL Standards (Ambient temperature : 25°C) (Note 1)	No. of Contacts	10 AWG	12 AWG	14 AWG	16 AWG
	1	43A	38A	26A	21A
	2	38A	32A	23A	21A
	3	38A	32A	23A	21A
	4	33A	26A	22A	19A
	5	33A	26A	22A	19A

Item	Specifications	Conditions
1. Contact Resistance	No more than 5mΩ	Measured at 1mA and no higher than 20mV
2. Insulation Resistance	No less than 1,000MΩ	Measured at DC=1000V
3. Withstand Voltage	No flashover or breakdown	AC 2500 V is applied for one minute.
4. Contact Insertion and Extraction Forces	0.3N min., 5N max	Measured with a steel pin of 1.6 x 0.8 ± 0.002 thickness
5. Durability	Contact resistance : no more than 10mΩ	30 mating cycles
6. Vibration Resistance	No electrical discontinuity of 1μs or greater	Frequency 10-55 Hz, half amplitude 0.75 mm, 10 times in each of the three directions
7. Shock Resistance	No electrical discontinuity of 1μs or greater	Accelerated velocity : 490 m/s <sup>2</sup> for 11 ms, half-sine wave in 3 directions, 3 times for each direction
8. Moisture-Resistance	Contact resistance : no more than 10mΩ	Temperature : 40 ± 2°C ; humidity : 90 to 95%, left as it is for 96 hours
9. Temperature cycles	Contact resistance : no more than 10mΩ	(-55°C : 30 minutes → 5 to 35°C : 5 minutes → 85°C : 30 minutes → 5 to 35°C : 5 minutes) for 5 cycles
10. Solder heat Resistance	The resin parts should withstand the temperature and resist melting.	Flow : 260°C, 10 sec Hand soldering : temperature of soldering iron at 300°C for 3 seconds

Note 1 : This is the maximum current rating while all pins are powered or used as all power lines. If you split the current over multiple lines, please factor in your own safety margin.

Note 2 : Includes temperature rise caused by current flow.

Note 3 : The storage condition refers to long-term storage of the product on the shelf before assembly. Please use the operating temperature for temporary storage such as pre-assembly and during shipping.

## Materials / Finish

Product	Part	Material	Finish	Remarks
Sockets	Insulator	Polyamide	Color : Natural white (Note)	UL94V-0
Crimp contacts	Contacts	High conductivity copper alloy	Tin-lead plated or Gold plated	—
Headers	Insulator	Polyamide (Glass reinforced)	Color : Natural beige (Note)	UL94V-0
	Contacts	High conductivity copper alloy	Tin-copper plated or Gold plated	—

Note : Standard Color, colors of the differing coupling forms are black for DF22R and red for DF22L.

## 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.

### ●Socket, Header

### ●Contacts

**DF22 B L - 2 S - 7.92 C (\*\*)**

**DF22 A - 1416 SCF A**

①

②

③

④

⑤

⑥

⑦

⑧

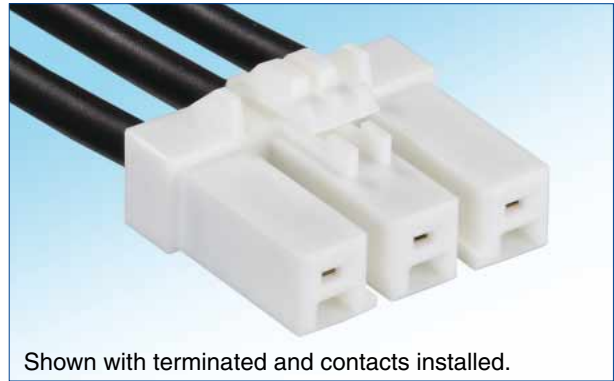
⑨

⑩

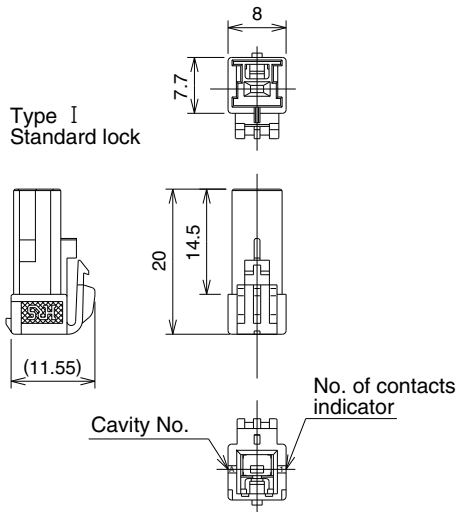
⑪

① Series name : DF22	④ Number of contacts : 1 to 5	⑧ Applicable Cable Blank : UL1430 A : UL1015
② Form Type Sockets Blank : Standard height, standard lock (Type I) B : Long type, standard lock (Type III) C : Long type, ergonomic lock (Type IV) In-line Plugs Blank : With panel stop A : Without panel stop	⑤ Connector type S : Socket DS : Double-row socket P : Header EP : In-line plug DEP : Double-row in-line plug RS/P : Retainer	⑨ Applicable Conductor 1416 : 14 to 16 AWG 1012 : 10 to 12 AWG
③ Guide key type Blank : Inside (Color: natural) R : Right side (Color: black) L : Left side (Color: red)	⑥ Contact pitch : 7.92 mm	⑩ Packaging SCF : Socket contacts / reel SC : Socket contacts / pack PCF : In-line plug contacts / reel PC : In-line plug contacts / pack
	⑦ Type of housing C : Crimp housing DSA : Straight header DS : Right-angle header No letter : Retainer	⑪ Plating specifications Blank : Tin plated A : Gold plated

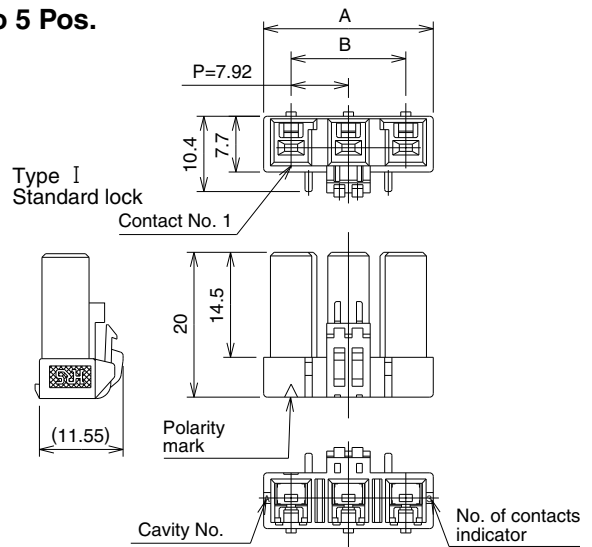
## ■ Crimp Sockets (Standard Height Type)



### 1 Pos.



### 2 to 5 Pos.



### ■ Type I

#### Height : Standard type, Standard lock

Note : The part number and HRS No. have changed to reflect the product form change of the 2 to 5 pos. types.

Standard Type (Guide Key : Inside, Color : White) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22-1S-7.92C(28)	680-1012-2 28	1	8.00	—
DF22-2S-7.92C(28)	680-1004-4 28	2	15.50	7.92
DF22-3S-7.92C(28)	680-1005-7 28	3	23.42	15.84
DF22-4S-7.92C(28)	680-1006-0 28	4	31.34	23.76
DF22-5S-7.92C(28)	680-1007-2 28	5	39.26	31.68

R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22R-1S-7.92C(28)	680-1026-7 28	1	8.00	—
DF22R-2S-7.92C(28)	680-1027-0 28	2	15.50	7.92
DF22R-3S-7.92C(28)	680-1028-2 28	3	23.42	15.84
DF22R-4S-7.92C(28)	680-1029-5 28	4	31.34	23.76
DF22R-5S-7.92C(28)	680-1030-4 28	5	39.26	31.68

L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22L-1S-7.92C(28)	680-1031-7 28	1	8.00	—
DF22L-2S-7.92C(28)	680-1032-0 28	2	15.50	7.92
DF22L-3S-7.92C(28)	680-1033-2 28	3	23.42	15.84
DF22L-4S-7.92C(28)	680-1034-5 28	4	31.34	23.76
DF22L-5S-7.92C(28)	680-1035-8 28	5	39.26	31.68

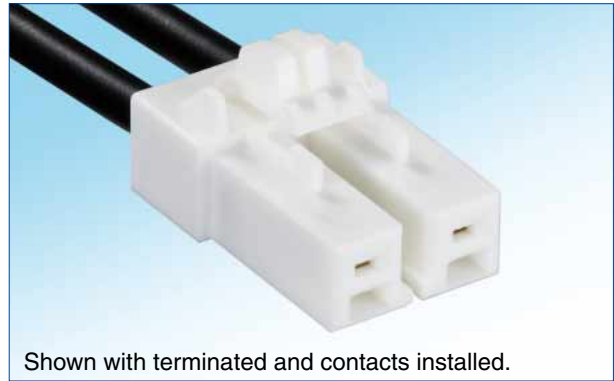
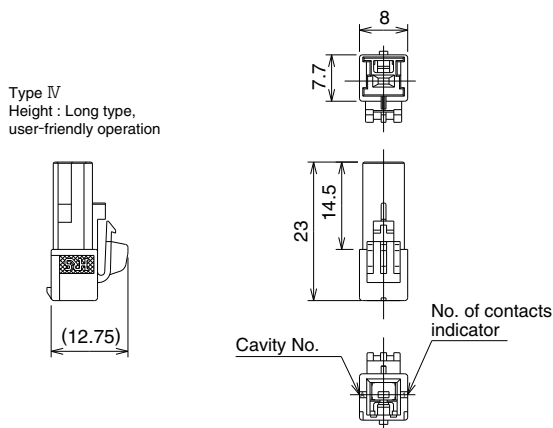
Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

Note 2 : Every even number position has a different locking design.

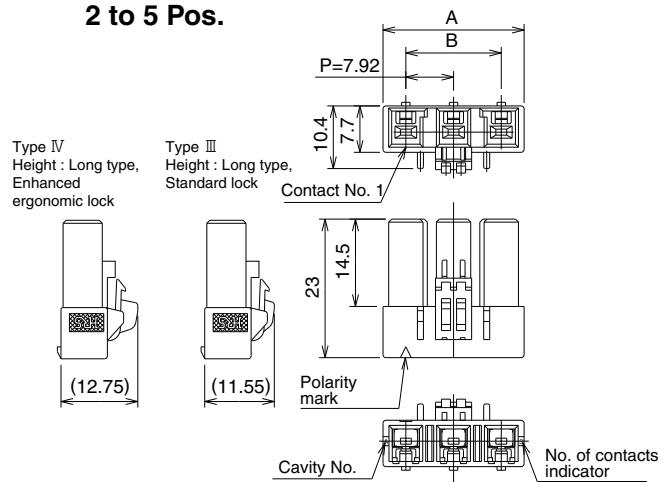
## ■ Crimp Sockets (Height, Long Type)



### 1 Pos.



### 2 to 5 Pos.



### ■ Type III

Height : Long type, Standard lock

Standard Type (Guide Key : Inside, Color : White) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22B-2S-7.92C	680-1097-5	2	15.50	7.92
DF22B-3S-7.92C	680-1098-8	3	23.42	15.84
DF22B-4S-7.92C	680-1099-0	4	31.34	23.76
DF22B-5S-7.92C	680-1100-8	5	39.26	31.68

Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.  
Note 2 : Every even number position has a different locking design.

### ■ Type IV

Height : Long type, Enhanced ergonomic lock

Standard Type (Guide Key : Inside, Color : White) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22C-1S-7.92C	680-1101-0	1	8.00	—
DF22C-2S-7.92C	680-1102-3	2	15.50	7.92
DF22C-3S-7.92C	680-1103-6	3	23.42	15.84
DF22C-4S-7.92C	680-1104-9	4	31.34	23.76

R Type (Guide Key : Right Side, Color : Black) Unit : mm

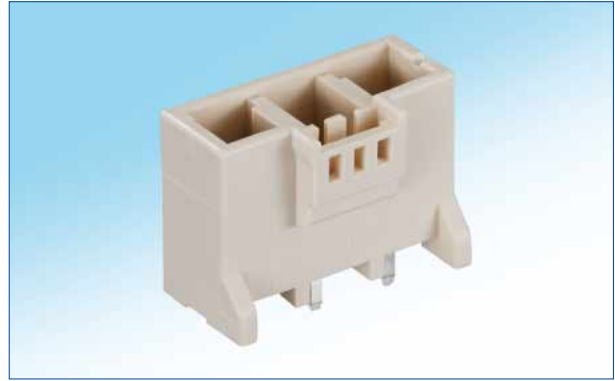
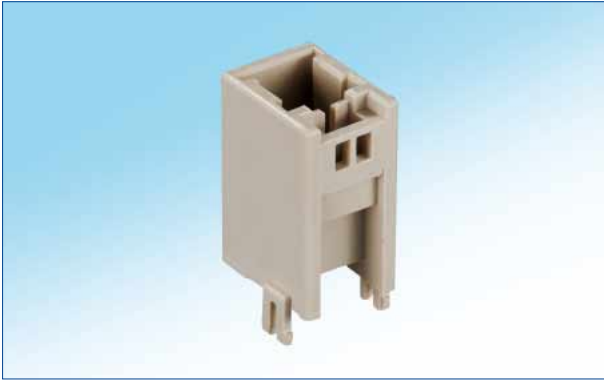
Part No.	HRS No.	No. of Contacts	A	B
DF22CR-3S-7.92C	680-1130-9	3	23.42	15.84

L Type (Guide Key : Left Side, Color : Red) Unit : mm

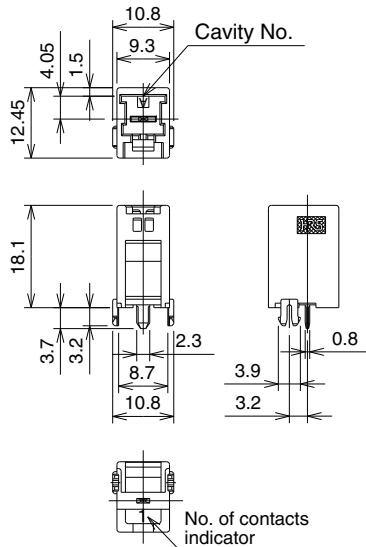
Part No.	HRS No.	No. of Contacts	A	B
DF22CL-1S-7.92C	680-1133-7	1	8.00	—
DF22CL-3S-7.92C	680-1135-2	3	23.42	15.84

Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.  
Note 2 : Every even number position has a different locking design.

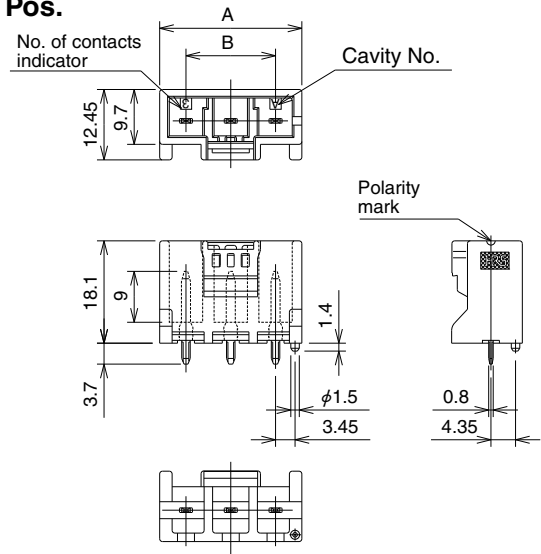
## Straight Header



### 1 Pos.



### 2 to 5 Pos.



[Specification number]

(05) : Tin-copper plated bag packaging

(25) : Tin-copper plated tray packaging (only 1 pos)

(06) : Gold plated, bag packaging

### Standard Type (Guide Key : Inside, Color : Natural Beige) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	Bag Packaging	Tray Packaging	Tin-copper plated	Gold plated
DF22-1P-7.92DSA(**)	680-1013-5 **	1	—	—	—	✓	✓	—
DF22-2P-7.92DSA(**)	680-1014-8 **	2	17.22	7.92	✓	—	✓	✓
DF22-3P-7.92DSA(**)	680-1015-0 **	3	25.14	15.84	✓	—	✓	✓
DF22-4P-7.92DSA(**)	680-1016-3 **	4	33.06	23.76	✓	—	✓	—
DF22-5P-7.92DSA(**)	680-1017-6 **	5	40.98	31.68	✓	—	✓	—

### R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	Bag Packaging	Tray Packaging	Tin-copper plated	Gold plated
DF22R-1P-7.92DSA(**)	680-1036-0 **	1	—	—	—	✓	✓	—
DF22R-2P-7.92DSA(**)	680-1037-3 **	2	17.22	7.92	✓	—	✓	—
DF22R-3P-7.92DSA(**)	680-1038-6 **	3	25.14	15.84	✓	—	✓	—
DF22R-4P-7.92DSA(**)	680-1039-9 **	4	33.06	23.76	✓	—	✓	—
DF22R-5P-7.92DSA(**)	680-1040-8 **	5	40.98	31.68	✓	—	✓	—

### L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	Bag Packaging	Tray Packaging	Tin-copper plated	Gold plated
DF22L-1P-7.92DSA(**)	680-1041-0 **	1	—	—	—	✓	✓	—
DF22L-2P-7.92DSA(**)	680-1042-3 **	2	17.22	7.92	✓	—	✓	—
DF22L-3P-7.92DSA(**)	680-1043-6 **	3	25.14	15.84	✓	—	✓	—
DF22L-4P-7.92DSA(**)	680-1044-9 **	4	33.06	23.76	✓	—	✓	—
DF22L-5P-7.92DSA(**)	680-1045-1 **	5	40.98	31.68	✓	—	✓	—

Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

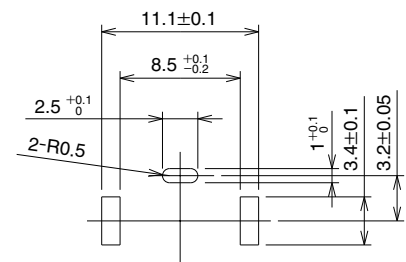
Note 2 : Tray packaging (150 pcs/tray). Order by number of 150.

Note 3 : Every even number position has a different locking design.

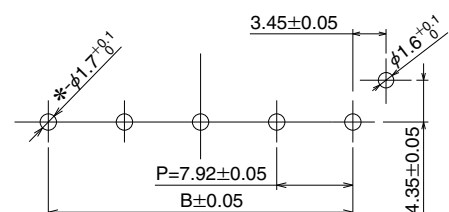
Note 4 : Please contact Hirose representative if you have request for non-standard Au plating.

### Recommended PCB Layout (Board thickness : 1.6±0.1)

#### 1 Pos.

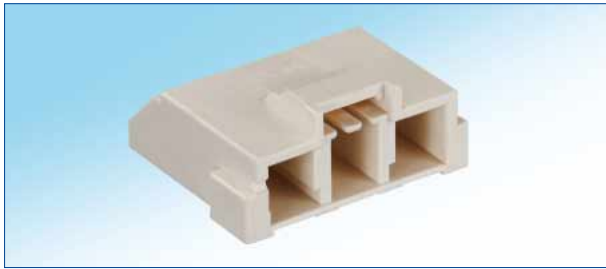


#### 2 to 5 Pos.



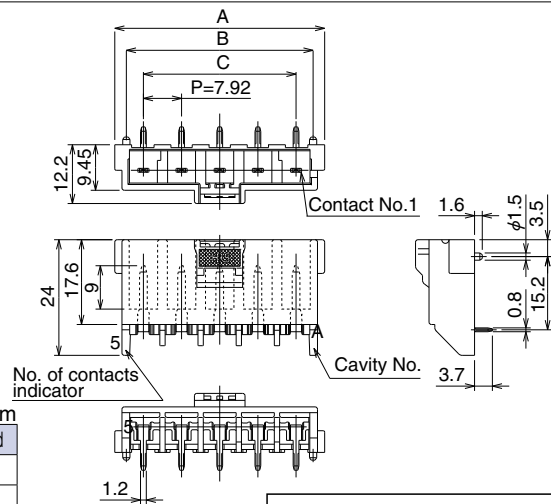


## Right Angle Header



Standard Type (Guide Key : Inside, Color : Natural Beige) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	Tin-copper plated	Gold plated
DF22-2P-7.92DS(**)	680-1008-5 **	2	19.80	15.00	7.92	(35)	(36)
DF22-3P-7.92DS(**)	680-1009-8 **	3	27.72	22.92	15.84	(05)	(06)
DF22-4P-7.92DS(**)	680-1010-7 **	4	35.64	30.84	23.76	(05)	—
DF22-5P-7.92DS(**)	680-1011-0 **	5	43.56	38.76	31.68	(05)	(06)

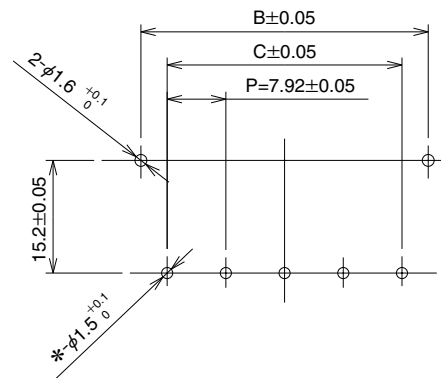


[specification number]  
(05), (35) : Tin-copper plated  
(06), (36) : Gold plated

R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	Tin-copper plated	Gold plated
DF22R-2P-7.92DS(**)	680-1018-9 **	2	19.80	15.00	7.92	(05)	—
DF22R-3P-7.92DS(**)	680-1019-1 **	3	27.72	22.92	15.84	(05)	(06)
DF22R-4P-7.92DS(**)	680-1020-0 **	4	35.64	30.84	23.76	(05)	—
DF22R-5P-7.92DS(**)	680-1021-3 **	5	43.56	38.76	31.68	(05)	—

## Recommended PCB Layout (Board thickness : 1.6±0.1)



L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C	Tin-copper plated	Gold plated
DF22L-2P-7.92DS(**)	680-1022-6 **	2	19.80	15.00	7.92	(05)	(06)
DF22L-3P-7.92DS(**)	680-1023-9 **	3	27.72	22.92	15.84	(05)	(06)
DF22L-4P-7.92DS(**)	680-1024-1 **	4	35.64	30.84	23.76	(05)	—
DF22L-5P-7.92DS(**)	680-1025-4 **	5	43.56	38.76	31.68	(05)	(06)

Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

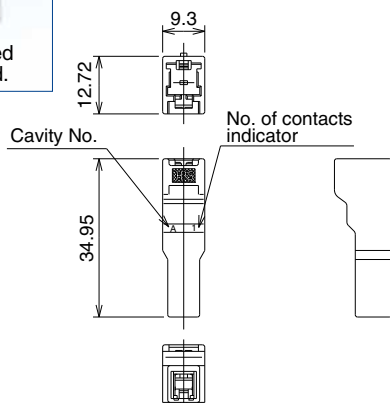
Note 2 : Every even number position has a different locking design.

Note 3 : Please contact Hirose representative if you have request for non-standard Au plating.

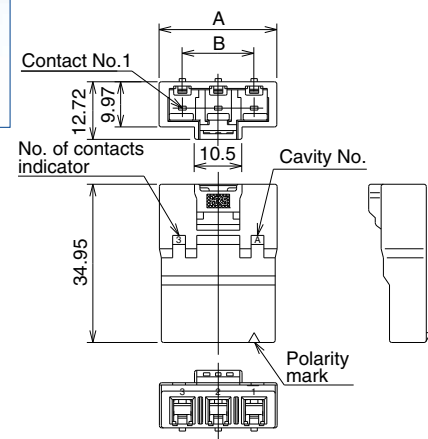
## In-line Plug



1 Pos.



2, 3 Pos.



Standard Type (Guide Key : Inside, Color : Natural Beige) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22A-1EP-7.92C	680-1053-0	1	9.30	—
DF22A-2EP-7.92C	680-1054-2	2	18.00	7.92
DF22A-3EP-7.92C	680-1055-5	3	26.00	15.84

R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22AR-2EP-7.92C	680-1069-0	2	18.00	7.92
DF22AR-3EP-7.92C	680-1070-9	3	26.00	15.84

L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22AL-2EP-7.92C	680-1074-0	2	18.00	7.92

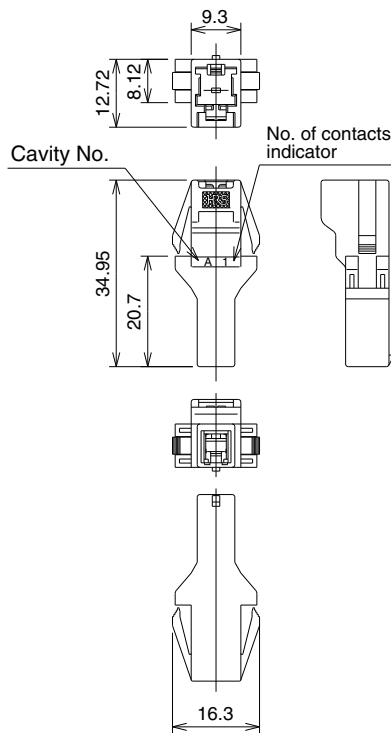
Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

Note 2 : Every even number position has a different locking design.

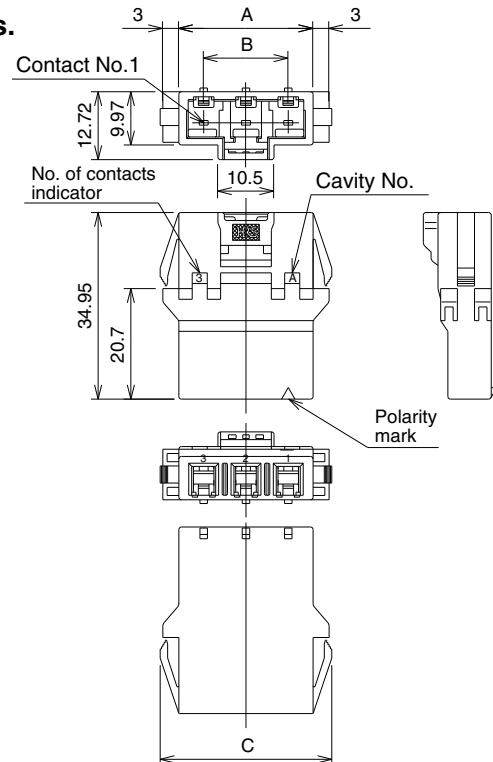
## In-line Plug (Panel Lock Type)



1 Pos.



2, 3 Pos.



Standard Type (Guide Key : Inside, Color : White)

Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C
DF22-1EP-7.92C	680-1048-0	1	9.30	—	16.30
DF22-2EP-7.92C	680-1049-2	2	17.22	7.92	24.22
DF22-3EP-7.92C	680-1050-1	3	25.14	15.84	32.14

R Type (Guide Key : Right Side, Color : Black)

Unit : mm

Part No.	HRS No.	No. of Contacts	A	B	C
DF22R-2EP-7.92C	680-1059-6	2	17.22	7.92	24.22
DF22R-3EP-7.92C	680-1060-5	3	25.14	15.84	32.14

L Type (Guide Key : Left Side, Color : Red)

Unit : mm

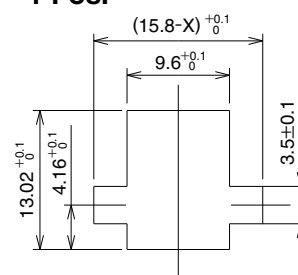
Part No.	HRS No.	No. of Contacts	A	B	C
DF22L-1EP-7.92C	680-1063-3	1	9.30	—	16.30
DF22L-2EP-7.92C	680-1064-6	2	17.22	7.92	24.22

Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

Note 2 : Every even number position has a different locking design.

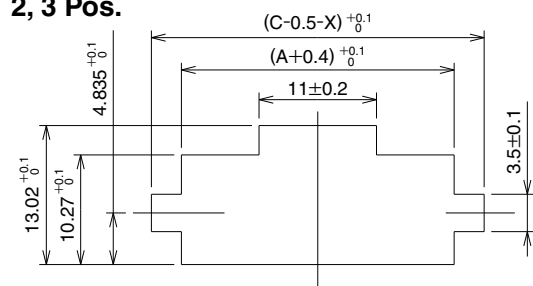
## Panel Cutout

1 Pos.



Panel thickness	X
2.0	0.48
1.6	0.96
1.2	1.44
0.8	1.92

2, 3 Pos.



Note 1 : Please ensure when mating this connector that the tapered portions of the panel are facing outward towards the receptacle connector's mating interface.

## In-line Double-row Socket



Standard Type (Guide Key : Inside, Color : White) Unit : mm

Part No.	HRS No.	No. of Contacts	Lock type
DF22B-4DS-7.92C	680-1142-8	4	Standard lock

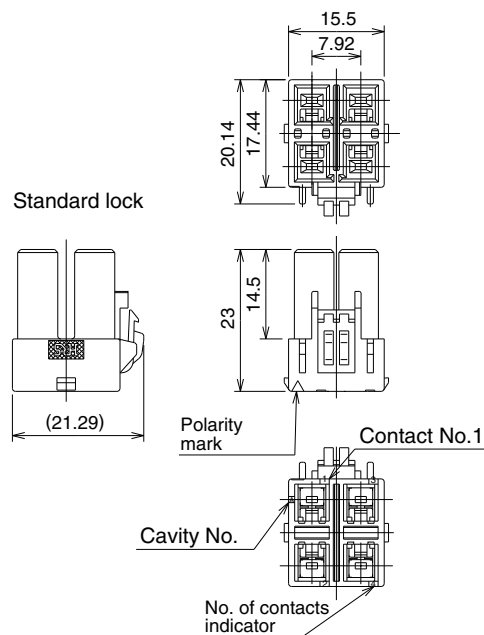
R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	Lock type
DF22BR-4DS-7.92C	680-1156-2	4	Standard lock

L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	Lock type
DF22BL-4DS-7.92C	680-1161-2	4	Standard lock

Note : Bag packaging (100 pcs/pack). Order by number of packs.



## In-line Double-row Plug



Standard Type (Guide Key : Inside, Color : White) Unit : mm

Part No.	HRS No.	No. of Contacts	Connector type
DF22-4DEP-7.92C	680-1051-4	4	Panel lock type
DF22A-4DEP-7.92C	680-1056-8	4	Without panel lock function

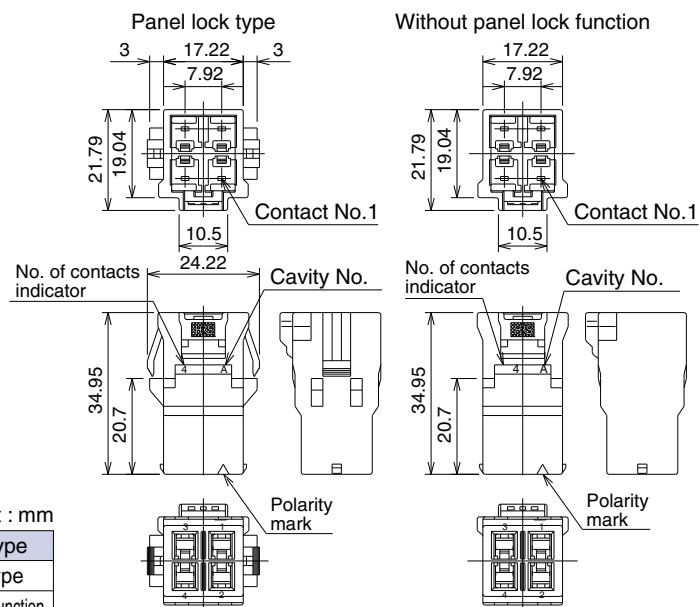
R Type (Guide Key : Right Side, Color : Black) Unit : mm

Part No.	HRS No.	No. of Contacts	Connector type
DF22R-4DEP-7.92C	680-1170-3	4	Panel lock type

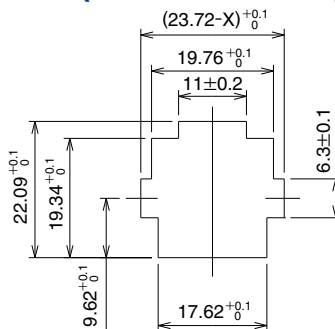
L Type (Guide Key : Left Side, Color : Red) Unit : mm

Part No.	HRS No.	No. of Contacts	Connector type
DF22L-4DEP-7.92C	680-1175-7	4	Panel lock type
DF22AL-4DEP-7.92C	680-1189-1	4	Without panel lock function

Note : Bag packaging (100 pcs/pack). Order by number of packs.



## Recommended Panel Cutout (Panel mount type)



Panel thickness	X
2.0	0.48
1.6	0.96
1.2	1.44
0.8	1.92

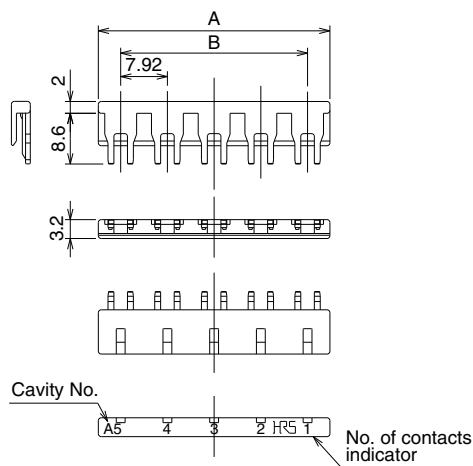
Note 1 : Please ensure when mating this connector that the tapered portions of the panel are facing outward towards the receptacle connector's mating interface.



## Retainer



For Standard height, standard lock (Type I)



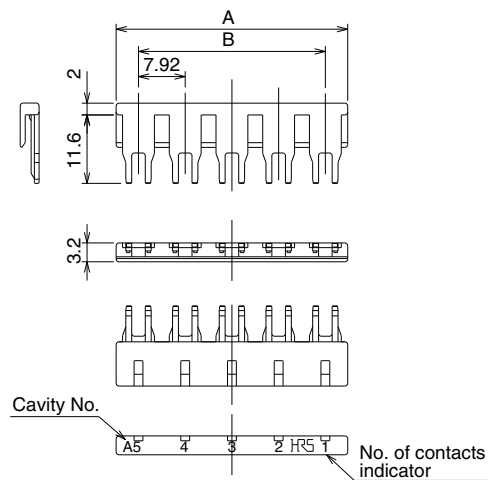
Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22-2RS/P-7.92	680-1209-7	2	15.50	7.92
DF22-3RS/P-7.92	680-1210-6	3	23.42	15.84
DF22-4RS/P-7.92	680-1211-9	4	31.34	23.76
DF22-5RS/P-7.92	680-1212-1	5	39.26	31.68
Applicable Socket	DF22-*S-7.92C For Standard height, standard lock (Type I) * indicates number of contacts.			

Note : Bag packaging (100 pcs/pack). Order by number of packs.

For Long type, standard lock (Type III)

Long type, enhanced ergonomic lock (Type IV)



Unit : mm

Part No.	HRS No.	No. of Contacts	A	B
DF22B/C-2RS/P-7.92	680-1200-2	2	15.50	7.92
DF22B/C-3RS/P-7.92	680-1201-5	3	23.42	15.84
DF22B/C-4RS/P-7.92	680-1202-8	4	31.34	23.76
DF22B/C-5RS/P-7.92	680-1203-0	5	39.26	31.68
Applicable Socket	DF22B-*S-7.92C For Long type, standard lock (Type III) DF22C-*S-7.92C Long type, enhanced ergonomic lock (Type IV) DF22-*EP-7.92C DF22A-*EP-7.92C * indicates number of contacts.			

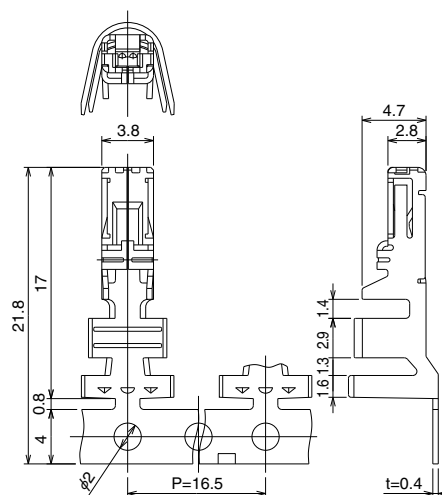
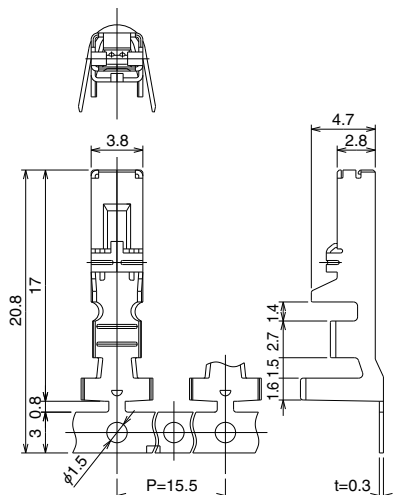
Note 1 : Bag packaging (100 pcs/pack). Order by number of packs.

Note 2 : When connecting retainer into the plug housing, please note the cavity numbers will line up numerieally, but the retainer cavity numbers will be upside down compared to the plug cavity numbers.

## ■Crimp Contact for Socket

For 14 to 16 AWG

For 10 to 12 AWG



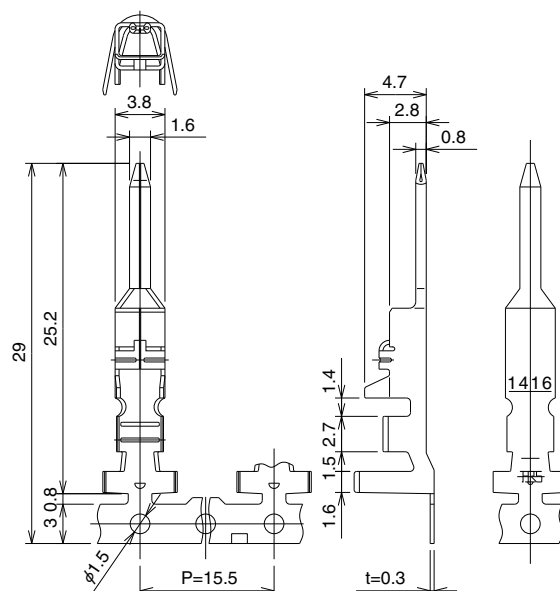
Part No.	HRS No.	Applicable cable				Packaging	Finish	
		UL style	Jacket diameter	Wire size	Stranded wire conductor			
DF22-1416SCF	680-1000-3	1430	φ2.4 to 3.0mm	16 AWG, 14 AWG	26/0.254mm,41/0.26mm	2500/reel	Tin plated	
DF22-1416SC	680-1001-6		φ2.6mm	16 AWG	26/0.254mm	100/pack		
DF22A-1416SCF	680-1002-9	1015	φ3.0 to 3.8mm	16 AWG	26/0.254mm	2000/reel		
DF22A-1416SC	680-1003-1		φ3.2mm,φ3.7mm	14 AWG	41/0.26mm	100/pack		
DF22A-1012SCF	680-1089-7		φ3.6 to 4.9mm	12 AWG	65/0.26mm	2000/reel		
DF22A-1012SC	680-1090-6		φ4.04mm,φ4.69mm	10 AWG	104/0.26mm	100/pack		
DF22-1416SCFA	680-1085-6	1430	φ2.4 to 3.0mm	16 AWG	26/0.254mm	2500/reel	Gold plated	
DF22A-1416SCFA	680-1087-1	1015	φ3.0 to 3.8mm	14 AWG	41/0.26mm	2000/reel		
DF22A-1012SCFA	680-1106-4		φ3.6 to 4.9mm	12 AWG	65/0.26mm	2000/reel		
				10 AWG	104/0.26mm			

Note 1 : The conductor of applicable wire is tin plated annealed copper.

Note 2 : When using other than the applicable wire, contact your nearest Hirose representative.

Note 3 : Strip length : 3.5 to 4.5mm

## ■Crimp Contact for In-line Plug



Part No.	HRS No.	Applicable cable				Packaging	Finish
		UL style	Jacket diameter	Wire size	Stranded wire conductor		
DF22-1416PCF	680-1078-0	1430	φ2.4 to 3.0mm	16 AWG, 14 AWG	26/0.254mm, 41/0.26mm	2500/reel	Tin plated
DF22-1416PC	680-1080-2		φ2.6mm	16 AWG	26/0.254mm	100/pack	
DF22A-1416PCF	680-1079-3	1015	φ3.0 to 3.8mm	16 AWG	26/0.254mm	2000/reel	
DF22A-1416PC	680-1081-5		φ3.2mm, φ3.7mm	14 AWG	41/0.26mm	100/pack	
DF22-1416PCFA	680-2002-4	1430	φ2.4 to 3.0mm			2500/reel	Gold plated

Note 1 : The conductor of applicable wire is tin plated annealed copper.

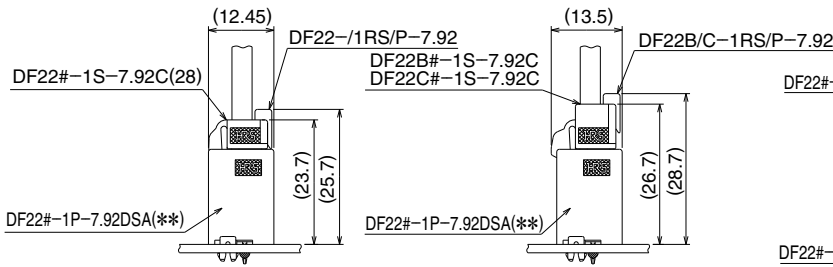
Note 2 : When using other than the applicable wire, contact your nearest Hirose representative.

Note 3 : Strip length : 3.5 to 4.5mm

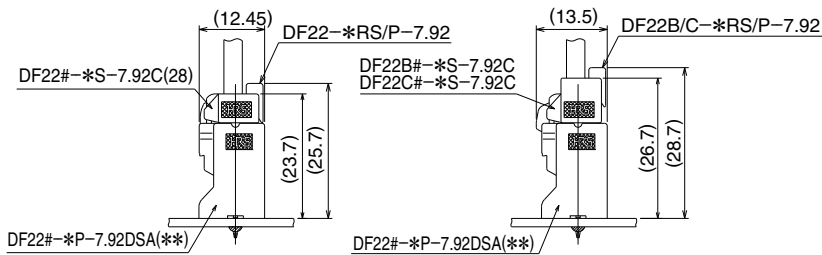
## ◆ Mated Dimensions

### ● Socket to Straight Header Connection

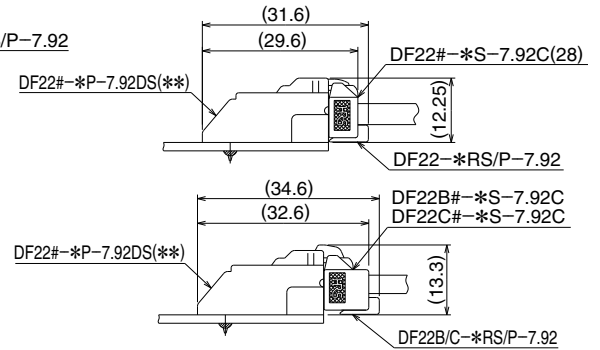
1 Pos.



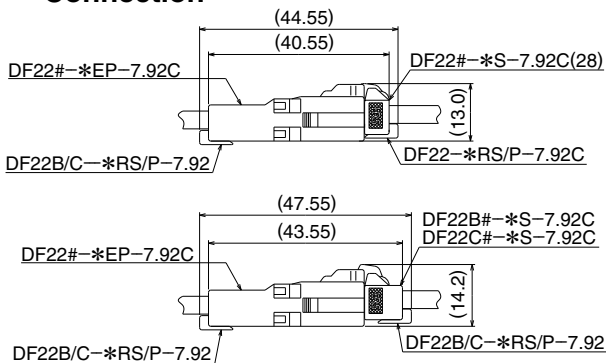
2 to 5 Pos.



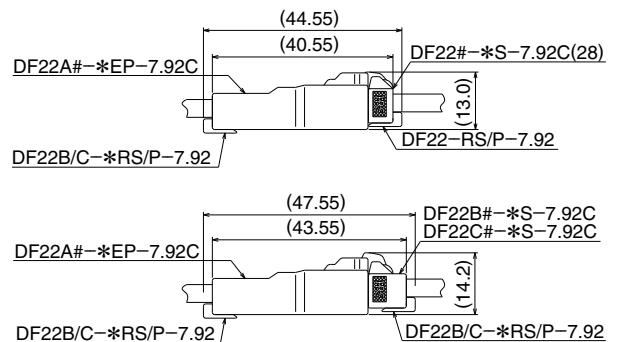
### ● Socket to Right Angle Header Connection



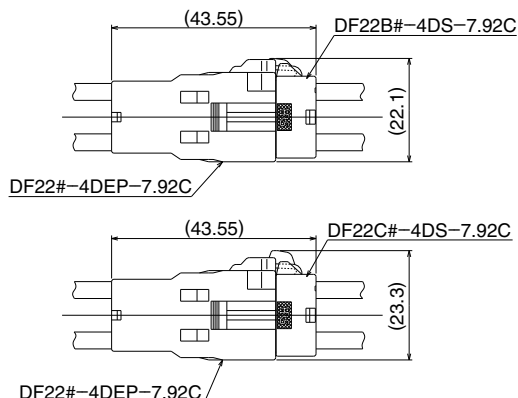
### ● Socket to In-line Plug (Panel lock type) Connection



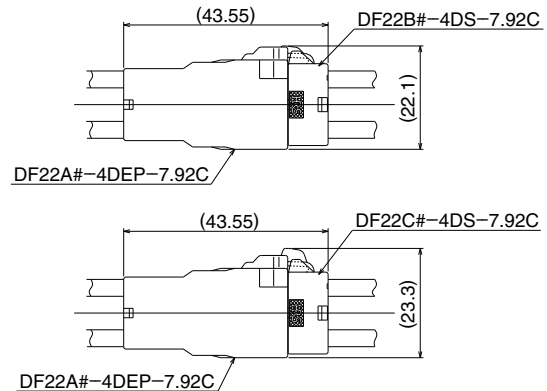
### ● Socket to In-line Plug Connection



### ● In-line Double-row socket to In-line Double-row Plug (Panel lock type) Connection



### ● In-line Double-row socket to In-line Double-row Plug Connection



## Tools

Type	Item	Part No.	HRS No.	Applicable Contacts
Automatic	Press unit	CM-105C	901-0001-0	DF22/DF22A-1416SCF/PCF/SCFA
	Applicators are used in automatic crimping machines manufactured by Hirose Electric	AP105-DF22-1416	901-4576-7	DF22-1416SCF/PCF/SCFA/PCFA
		AP105-DF22A-1416	901-4578-2	DF22A-1416SCF/PCF/SCFA
		AP109A-DF22-1416	901-4579-5	DF22-1416SCF/PCF/SCFA/PCFA
	Applicators are used in automatic crimping machines manufactured by other companies	AP109A-DF22A-1416	901-4580-4	DF22A-1416SCF/PCF/SCFA/PCFA
		AP109A-DF22A-1012	901-4582-0	DF22A-1012SCF/SCFA
		CHS893800H-UP	—	DF22-1416SCF/DF22-1416PCF
Manual	Crimp tools	CHS893900H-UP	—	DF22A-1416SCF/DF22A-1416PCF
		QHS895800H-UP	—	DF22A-1012SCF
		HT104/DF22-1416	550-0285-0	DF22-1416SC/PC
		HT104/DF22A-1416	550-0286-2	DF22A-1416SC/PC
		HT103/DF22A-1012	550-0288-8	DF22A-1012SC

Note 1 : When crimping contact DF22A-1012SCF use a press with 3.5 ton min.

Note 2 : AP109A type applicators cannot be used with the CM-105C press.

Note 3 : Any problems that occur from using tools other than those specified by Hirose, are not covered by warranty.

Note 4 : Applicator manufactured by JAPAN AUTOMATIC MACHINE (J.A.M.). Please access to HP of J.A.M., if you make inquiries about the applicator or crimp defect. (URL : <http://www.jam-net.co.jp>)

Note 5 : Please follow the "Crimping quality standards" and "Table of crimping conditions" when crimping contacts.

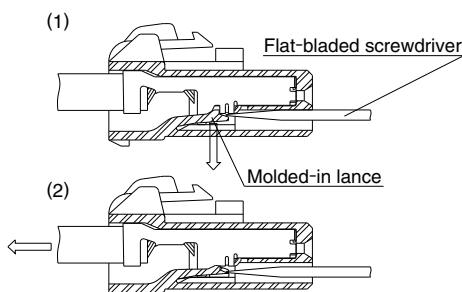
## Contact Extraction

■ Contact extraction tool : Flat-bladed screwdriver, 1.4mm blade width

■ Intended crimp Contacts : DF22-1416SC(F), DF22-1416SCFA, DF22A-1416SC(F), DF22A-1416SCFA, DF22A-1012SC(F), DF22A-1012SCFA, DF22-1416PC(F), DF22-1416PCFA, and DF22A-1416PC(F)

■ Work Method

(Housing Cross-Sectional Diagram)



1. Refer to the drawing No. 1. Insert correct size screwdriver in the housing against the molded-in lance. Push down the lance as shown.

2. Assure that the lance is deflected to release the contact and pull out wire with the crimped contact.

Note : Please do not reuse the repaired housing. Replace it to new one.



## Caution

There are parts on the crimp contact that can cause injuries, please use caution when unmating the contacts.

## Precautions

- The connector could be damaged if it is pulled out forcibly. When it is hard to pull out, push it in slightly first and then depress the lock and un-mate.
- When thick, short sections of wire are used, the connector could be deformed due to the force of the wires' position. Route cables not to twist when being installed.
- Incomplete insertion of the contact can be prevented by mounting a retainer; however, mounting of a retainer might not be possible when the contact protrudes beyond the socket. Insert the contact securely and then mount the retainer.
- Please refer to the documents "Cable assembly Procedure", "Crimp condition" and "Crimp quality standards" for the cable assembly procedures.
- Please refer to the "Nylon Connector Guide" for handling instructions.

## Current Ratings

The current rating listed in the catalog indicates the allowable current per contact. However, in applications requiring current transmission through all the contacts, about one-third of the listed rating should be applied.

When the current rating for the connector is 3A, and the allowable current of the conductor being used is 1A, then rating of 1A will be used for the entire assembly.

The connectors should not be mating / unmating when the electrical current is being applied.

Hot swap should not be performed.

## Usage Environment

Please contact us about use in equipment that is subjected to repetitive high temperature and low temperature environmental conditions.



# HIROSE ELECTRIC CO.,LTD.

2-6-3,Nakagawa Chuoh,Tsuzuki-Ku,Yokohama-Shi 224-8540,JAPAN

TEL: +81-45-620-3526 Fax: +81-45-591-3726

<http://www.hirose.com>

<http://www.hirose-connectors.com>

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Hirose Electric:

[HT103/DF22A-1012](#) [HT104/DF22-1416](#) [HT104/DF22A-1416](#) [DF22-5S-7.92C\(28\)](#) [DF22L-3P-7.92DS\(05\)](#) [DF22L-3P-7.92DSA\(05\)](#) [DF22-3S-7.92C\(28\)](#) [DF22R-3P-7.92DS\(05\)](#) [DF22A-1416SCF](#) [DF22L-2S-7.92C\(28\)](#) [DF22L-2P-7.92DS\(05\)](#) [DF22L-4P-7.92DS\(05\)](#) [DF22L-4S-7.92C\(28\)](#) [DF22-4P-7.92DS\(05\)](#) [DF22R-5P-7.92DS\(05\)](#) [DF22-4S-7.92C\(28\)](#) [DF22R-5P-7.92DSA\(05\)](#) [DF22R-3P-7.92DSA\(05\)](#) [DF22R-2S-7.92C\(28\)](#) [DF22R-2P-7.92DSA\(05\)](#) [DF22L-5P-7.92DS\(05\)](#) [DF22-4P-7.92DSA\(05\)](#) [DF22-3P-7.92DSA\(05\)](#) [DF22R-4P-7.92DS\(05\)](#) [DF22R-2P-7.92DS\(05\)](#) [DF22-1416SCF](#) [DF22R-5S-7.92C\(28\)](#) [DF22-3P-7.92DS\(05\)](#) [DF22-2P-7.92DSA\(05\)](#) [DF22A-1012SCF](#) [DF22-2S-7.92C\(28\)](#) [DF22-5P-7.92DSA\(05\)](#) [DF22L-2P-7.92DSA\(05\)](#) [DF22R-4P-7.92DSA\(05\)](#) [DF22L-5S-7.92C\(28\)](#) [DF22L-5P-7.92DSA\(05\)](#) [DF22R-4S-7.92C\(28\)](#) [DF22R-3S-7.92C\(28\)](#) [DF22-5P-7.92DS\(05\)](#) [DF22L-3S-7.92C\(28\)](#) [DF22L-4P-7.92DSA\(05\)](#) [DF22-1P-7.92DSA\(25\)](#) [DF22A-1416SCFA](#) [DF22L-1P-7.92DSA\(25\)](#) [DF22-1416PCF](#) [DF22-1416SCFA](#) [DF22-1EP-7.92C](#) [DF22-1P-7.92DSA\(05\)](#) [DF22-1S-7.92C\(28\)](#) [DF22-2EP-7.92C](#) [DF22-2P-7.92DSA\(06\)](#) [DF22-2RS/P-7.92](#) [DF22-3EP-7.92C](#) [DF22-3RS/P-7.92](#) [DF22-4DEP-7.92C](#) [DF22-4RS/P-7.92](#) [DF22-5RS/P-7.92](#) [DF22A-1012SCA](#) [DF22A-1012SCFA](#) [DF22A-1416PC](#) [DF22A-1416PCF](#) [DF22A-1EP-7.92C](#) [DF22A-2EP-7.92C](#) [DF22A-3EP-7.92C](#) [DF22A-4DEP-7.92C](#) [DF22AL-2EP-7.92C](#) [DF22AL-4DEP-7.92C](#) [DF22AR-2EP-7.92C](#) [DF22AR-3EP-7.92C](#) [DF22AR-4DEP-7.92C](#) [DF22B/C-2RS/P-7.92](#) [DF22B/C-3RS/P-7.92](#) [DF22B/C-4RS/P-7.92](#) [DF22B/C-5RS/P-7.92](#) [DF22B-2S-7.92C](#) [DF22B-3S-7.92C](#) [DF22B-4DS-7.92C](#) [DF22B-4S-7.92C](#) [DF22BL-4DS-7.92C](#) [DF22BR-4DS-7.92C](#) [DF22C-1S-7.92C](#) [DF22C-2S-7.92C](#) [DF22C-3S-7.92C](#) [DF22C-4S-7.92C](#) [DF22CL-1S-7.92C](#) [DF22CL-3S-7.92C](#) [DF22CR-3S-7.92C](#) [DF22L-1EP-7.92C](#) [DF22L-1P-7.92DSA\(05\)](#) [DF22L-1S-7.92C\(28\)](#) [DF22L-2EP-7.92C](#) [DF22L-2P-7.92DS\(86\)](#) [DF22L-4DEP-7.92C](#) [DF22R-1P-7.92DSA\(05\)](#) [DF22R-1S-7.92C\(28\)](#) [DF22R-2EP-7.92C](#) [DF22R-3EP-7.92C](#) [DF22R-4DEP-7.92C](#) [DF22-1416PC](#) [DF22-1416SC](#)