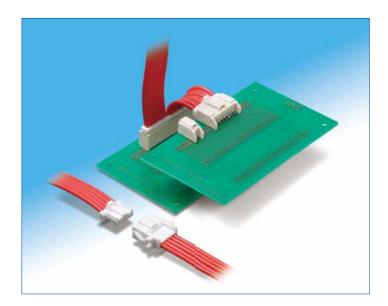
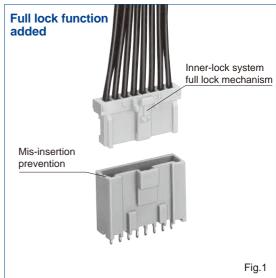


## 2.5mm Pitch Connectors for Full Lock and Discrete Wire Connection

**DF1E Series** 







#### ■Features

#### 1. Full Lock Function Added

The inner lock system adopts a full lock mechanism. This mechanism prevents disengagement to occur due to an unexpected external shock. (Fig.1)

#### 2. Increase in Crimping Contact Fixation Force and **Semi-insertion Prevention**

The double lock is activated for the use method to give a stress to the cable, to increase crimping contact fixation force, and to prevent the semi-insertion of the crimping contact. (Fig.2)

#### 3. Mold Lance Adopted

Since the contact lance may be deformed involving in the contact after the crimping process, the mold lance has been adopted.

#### 4. Mis-insertion Prevention

Equipped with the mechanism to completely prevent reverse insertion and insertion between dissimilar contacts. (Fig.1)

#### 5. Means to Prevent Solder Crack

The glass enforcement resin is adopted for the pin header to prevent a solder crack to occur due to heat compression.

#### 6. Production Facility Cost Reduction

The female crimping contact uses the DF1B series crimping contact, which has been conventionally marketed. Investment for new facilities isn't needed. However, if the retainer is installed in the cable with 22 AWG or more wire, use the DF1E crimping contact. The female crimping contact for in-line is used together with the DF1B applicator. Therefore, no investment is needed for new facilities.

# **Double lock** engaged Double lock engaged Fig.2

#### 7. Various Applications

With the same series, various applications can be used for the board solder dip type and in-line.

#### 8. Listed by UL, C-UL

## **■**Products Specifications

Dating	Current rating (Note 1) 20 to 24 AWG: 3A/pin 26 AWG: 2A/pin 28 AWG: 1A/pin 30 AWG: 0.5A/pin	Operating Temperature : -35 to +85°C (Note 2)	Storage Temperature Range : -10 to +60°C (Note 4)
Rating		Operating Moisture Range : 40 to 80% (Note 3)	Storage Moisture Range : 40 to 70% (Notes 4)
	Voltage rating 250V AC/DC	40 to 80 % (Note 3)	40 to 70% (Notes 4)

UL, C-UL Rating					
		20 to 22 AWG : 3A/pin			
Dating	Current rating	24 to 28 AWG : 1A/pin			
Rating		30 AWG : 0.5A/pin			
	Voltage rating	29.9V AC/DC			

■UL/C-UL File No. and Recognition No.

UL : E52653 C-UL : E52653

Item	Specification	Condition
1. Contact Resistance	30mΩ max.	Measured at 20mV max. and 1mA
2. Insulation Resistance	1000MΩ min.	500V DC
3. Withstanding voltage	No flashover or insulation breakdown.	650V AC/1 minute
4. Durability (Mating/un-mating)	30mΩ max	Tin plated : 30 cycles, Gold plated : 50 cycles
5. Vibration	No electrical discontinuity of $1\mu s$ or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
6. Shock	No electrical discontinuity of $1\mu s$ or more	Acceleration of 490 m/s², 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis
7. Humidity (Steady state)	30mΩ max	96 hours at temperature of 40±2°C and humidity of 90% to 95%
8. Temperature Cycle	30mΩ max.	(-55°C: 30 minutes-> 5 to 35°C: 5 minutes-> 85°C: 30 minutes-> 5 to 35°C: 5 minutes) 5 cicles
9. Resistance to Soldering heat	No deformation of components affecting performance.	Flow: 260°C for 10 seconds  Manual soldering: 300°C for 3 seconds

Note 1: Current rating of header is 3A.

Note 2: Includes temperature rise caused by current flow.

Note 3: Use without condensation on parts.

Note 4: Applied for the product unused and packaged.

Note 5: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

## **■**Materials / Finish

Product	Part	Material	Finish	Remarks	RoHS2
Socket	Insulator	Polyamide	White	UL94V-0	
Hooder	Insulator	Polyamide	Beige	UL94V-0	
Header	Contact	Brass	Tin plated or Gold plated		Vac
In-line Plug	Insulator	Polyamide	White	UL94V-0	Yes
Retainer	Insulator	Polyamide	Black	UL94V-0	
Crimping contact	Contact	Phosphor copper	Tin plated or Gold plated		

#### ■ 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.

Pin Header

$$\frac{\mathsf{DF1E}}{\bullet} \ \frac{\mathsf{C}}{\bullet} \ - \ \frac{*}{\bullet} \ \frac{\mathsf{P}}{\bullet} \ - \ \frac{2.5}{\bullet} \ \frac{\mathsf{DSA}}{\bullet}$$

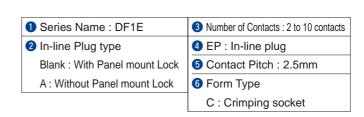
1 Series Name : DF1E	3 Number of Contacts : 2 to 15 contacts
2 Hold Types	4 Connector Type
Blank: Right Angle Pin Header	P : Pin Header
C : Straight Pin Header	5 Contact Pitch : 2.5mm
	6 Form type
	DSA : Straight Type
	DS : Right Angle Type

Socket

$$\frac{\mathsf{DF1E}}{\bullet} - \frac{*}{\bullet} \frac{\mathsf{S}}{\bullet} - \frac{2.5}{\bullet} \frac{\mathsf{C}}{\bullet}$$

1 Series Name : DF1E	3 Connector type
2 Number of Contacts : 2 to 15 contacts	S : Socket
	4 Contact Pitch : 2.5mm
	5 Form Type
	C : Crimping socket

In-line Plug



Crimping Contact

Series Name : 2 Applicable Cable Size Socket side : DF1B (Note 1) 2022 : 20 to 22 AWG DF1E (Note 1) 2428 : 24 to 28 AWG : DF1E Plug side : 30 AWG 3 Packaging Type SCF : Female contact/reel/Tin plated SCFA : Female contact/reel/Gold plated Female contact/pack/Tin plated : Female contact/pack/Gold plated **PCF** : Male contact/reel/Tin plated PCFA PC : Male contact/reel/Gold plated : Male contact/pack/Tin plated : Male contact/pack/Gold plated

Note 1: When the retainer is used, use DF1E-2022SC(F)(A), DF1B-2428SC(F)(A), and DF1B-30SC(F)(A) contacts. When no retainer is used, all DF1B-\*\*SC(F)(A) and DF1E-2022SC(F)(A) contacts can be used.

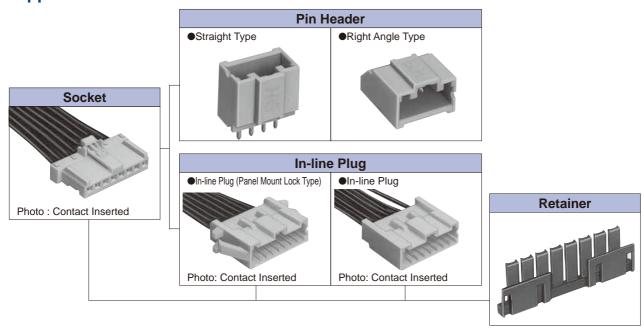
Retainer

$$\frac{\mathsf{DF1E}}{\bullet} - \frac{*}{2} \frac{\mathsf{RS/P}}{\bullet} - \frac{2.5}{\bullet}$$

1 Series Name: DF1E 2 Number of Contacts: 2 to 10 contacts

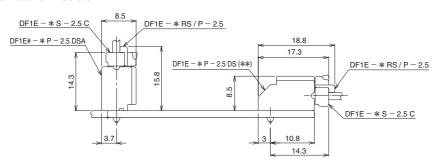
3 Connector Type RS/P: Retainer Commonly used for socket and in-line plug 4 Contacts Pitch: 2.5mm

## **●** Application Pattern



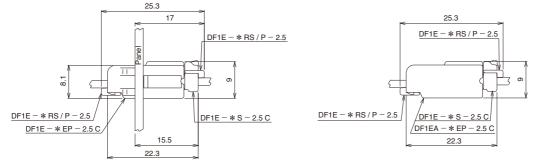
## **●** Mated Dimensions

#### Standard Header

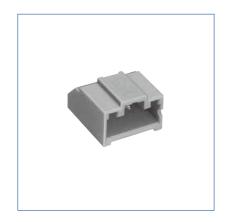


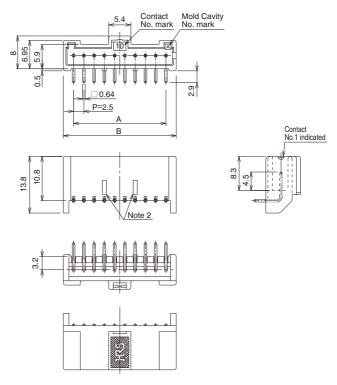
## **●Panel Mounting Lock In-line Plug**

## ●In-line Plug



## **■**Right Angle Pin Header





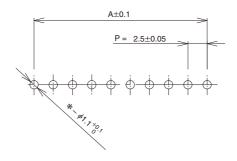
Unit: mm

			U	mit : mm
Part No.	HRS No.	No. of Contacts	А	В
DF1E- 2P-2.5DS(**)	541-0985-0 **	2	2.5	7.5
DF1E- 3P-2.5DS(**)	541-0986-3 **	3	5.0	10.0
DF1E- 4P-2.5DS(**)	541-0987-6 **	4	7.5	12.5
DF1E- 5P-2.5DS(**)	541-0988-9 **	5	10.0	15.0
DF1E- 6P-2.5DS(**)	541-0989-1 **	6	12.5	17.5
DF1E- 7P-2.5DS(**)	541-0990-0 **	7	15.0	20.0
DF1E- 8P-2.5DS(**)	541-0991-3 **	8	17.5	22.5
DF1E- 9P-2.5DS(**)	541-0992-6 **	9	20.0	25.0
DF1E-10P-2.5DS(**)	541-0993-9 **	10	22.5	27.5
DF1E-11P-2.5DS(**)	541-0994-1 **	11	25.0	30.0
DF1E-12P-2.5DS(**)	541-0995-4 **	12	27.5	32.5
DF1E-14P-2.5DS(**)	541-0997-0 **	14	32.5	37.5
DF1E-15P-2.5DS(**)	541-0998-2 **	15	35.0	40.0

[Specific No.] -\* \*, (\* \*) (36) : Gold plated (35) : Tin plated

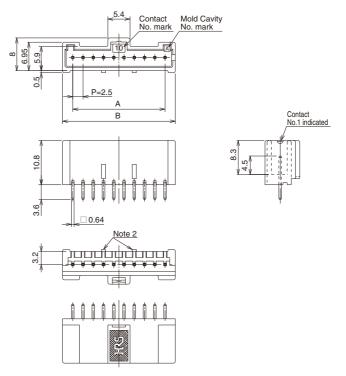
- Note 1 : A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to the Specific No.
- Note 2: The 2 to 4 contacts differ in two convex portions from those in above figures. The 2 and 3 contacts are not contained, but the 4 contact connector is contained in the center at one point.
- Note 3: Styles of 2 to 4 contact connectors partially differ from those in above figures.

## PCB mounting pattern (Board Thickness t = 1.6 ± 0.1)



## **■**Straight Pin Header





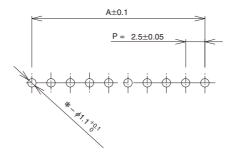
Unit: mm

			_	
Part No.	HRS No.	No. of Contacts	А	В
DF1EC- 2P-2.5DSA(**)	541-0867-4 **	2	2.5	7.5
DF1EC- 3P-2.5DSA(**)	541-0868-7 **	3	5.0	10.0
DF1EC- 4P-2.5DSA(**)	541-0869-0 **	4	7.5	12.5
DF1EC- 5P-2.5DSA(**)	541-0870-9 **	5	10.0	15.0
DF1EC- 6P-2.5DSA(**)	541-0871-1 **	6	12.5	17.5
DF1EC- 7P-2.5DSA(**)	541-0872-4 **	7	15.0	20.0
DF1EC- 8P-2.5DSA(**)	541-0873-7 **	8	17.5	22.5
DF1EC- 9P-2.5DSA(**)	541-0874-0 **	9	20.0	25.0
DF1EC-10P-2.5DSA(**)	541-0875-2 **	10	22.5	27.5
DF1EC-11P-2.5DSA(**)	541-0876-5 **	11	25.0	30.0
DF1EC-12P-2.5DSA(**)	541-0877-8 **	12	27.5	32.5
DF1EC-14P-2.5DSA(**)	541-0879-3 **	14	32.5	37.5
DF1EC-15P-2.5DSA(**)	541-0880-2 **	15	35.0	40.0

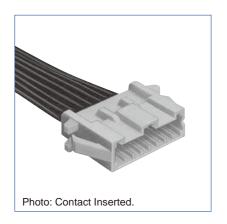
[Specific No.] -\* \*, (\* \*) (36): Gold plated (35): Tin plated

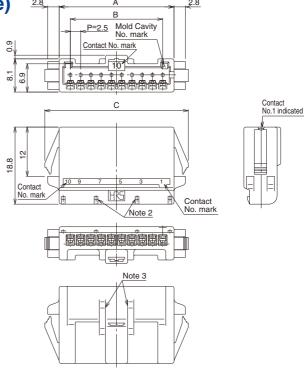
- Note 1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to the Specific No.
- Note 2: The 2 to 4 contacts differ in two convex portions from those in above figures. The 2 and 3 contacts are not contained, but the 2 and 3 contacts are not contained, and 4 contact is in the center at one point.
- Note 3: Styles of 2 to 4 contacts partially differ from those in above figures.

## PCB mounting pattern (Board Thickness t = 1.6 $\pm$ 0.1)



## ■In-line Plug (Panel Mount Lock Type)





Unit: mm

							•
Part No.	HRS No.	No. of Contacts	А	В	С	D	Е
DF1E- 2EP-2.5C	541-0943-0	2	8.0	2.5	15.0	8.4	11.9
DF1E- 3EP-2.5C	541-0944-3	3	10.5	5.0	17.5	10.9	14.4
DF1E- 4EP-2.5C	541-0945-6	4	13.0	7.5	20.0	13.4	16.9
DF1E- 5EP-2.5C	541-0946-9	5	15.5	10.0	22.5	15.9	19.4
DF1E- 6EP-2.5C	541-0947-1	6	18.0	12.5	25.0	18.4	21.9
DF1E- 8EP-2.5C	541-0949-7	8	23.0	17.5	30.0	23.4	26.9
DF1E-10EP-2.5C	541-0951-9	10	28.0	22.5	35.0	28.4	31.9

Note 1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to the Specific No.

Note 2: In regard to 2 to 5 contacts, the retainer fixed convex portions are located at both ends.

Note 3: In regard to 2 to 7 contacts, 2 convex portions are different from those in the above figures.

Note 4: Use the no radius side at the panel edge in the looking area.

Note 5: Panel fixation is loosened. (May be enlarged according to the panel board thickness.)

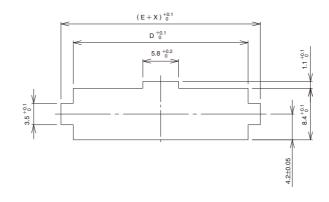
Note 6: Styles of 2 to 4 contact partially differ from those in the above figures.

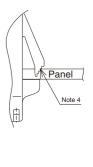
\* Refer to page 11 for the retainer.

## Panel Cutout

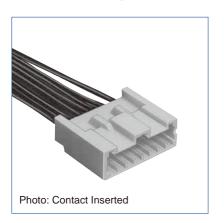
Unit: mm

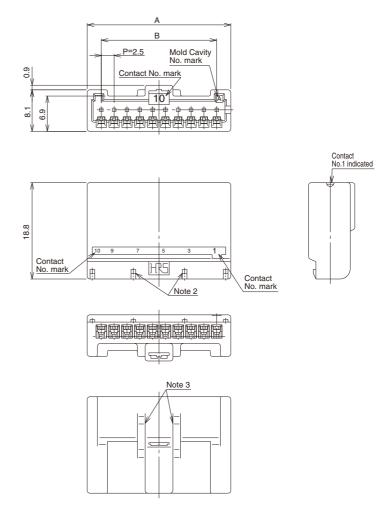
Panel Thickness	X
1.7 to 2.0	1.5
1.3 to 1.6	1.0
0.9 to 1.2	0.5
0.7 to 0.8	0.0





## **■In-line Plug**





Unit: mm

Part No.	HRS No.	No. of Contacts	А	В
DF1EA- 2EP-2.5C	541-0957-5	2	8.0	2.5
DF1EA- 3EP-2.5C	541-0958-8	3	10.5	5.0
DF1EA- 4EP-2.5C	541-0959-0	4	13.0	7.5
DF1EA- 5EP-2.5C	541-0960-0	5	15.5	10.0
DF1EA- 6EP-2.5C	541-0961-2	6	18.0	12.5
DF1EA- 9EP-2.5C	541-0964-0	9	25.5	20.0
DF1EA-10EP-2.5C	541-0965-3	10	28.0	22.5

Note 1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to the Specific No.

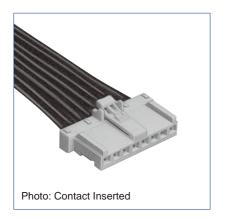
Note 2: In regard to 2 to 5 contacts, the retainer fixed convex portions are located at both ends.

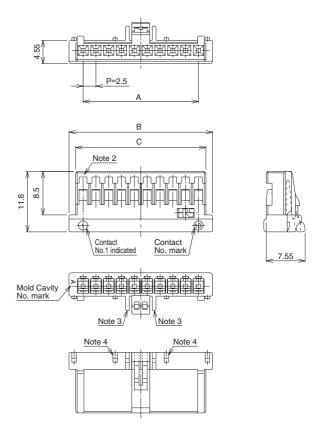
Note 3:2 to 7 contacts do not contain two convex portions, which is different from the above figure.

Note 4: Styles of 2 to 4 contacts partially differ from the above figures.

\* Refer to page 11 for retainer.

## **■**Socket





Unit: mm

Part No.	HRS No.	No. of Contacts	А	В	С
DF1E- 2S-2.5C	541-0811-0	2	2.5	8.0	5.4
DF1E- 3S-2.5C	541-0812-2	3	5.0	10.5	7.9
DF1E- 4S-2.5C	541-0813-5	4	7.5	13.0	10.4
DF1E- 5S-2.5C	541-0814-8	5	10.0	15.5	12.9
DF1E- 6S-2.5C	541-0815-0	6	12.5	18.0	15.4
DF1E- 7S-2.5C	541-0816-3	7	15.0	20.5	17.9
DF1E- 8S-2.5C	541-0817-6	8	17.5	23.0	20.4
DF1E- 9S-2.5C	541-0818-9	9	20.0	25.5	22.9
DF1E-10S-2.5C	541-0819-1	10	22.5	28.0	25.4
DF1E-11S-2.5C	541-0820-0	11	25.0	30.5	27.9
DF1E-12S-2.5C	541-0821-3	12	27.5	33.0	30.4
DF1E-14S-2.5C	541-0823-9	14	32.5	38.0	35.4
DF1E-15S-2.5C	541-0824-1	15	35.0	40.5	37.9

Note 1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to spec number.

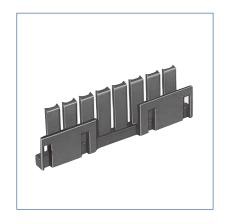
Note 2: The 2 contact connector is equipped with the convex portion to prevent false-insertion.

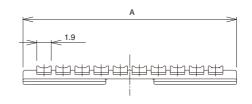
Note 3: The 2 consult Has no wall on the locking side

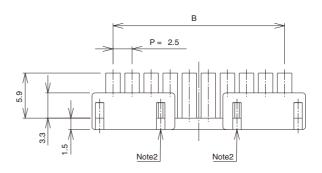
Note 4: The 2 to 5 contacts contain the retainer fixed convex portions at both ends.

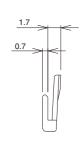
\* Refer to page 11 for the retainer.

## **■**Retainer

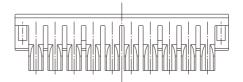












Unit: mm

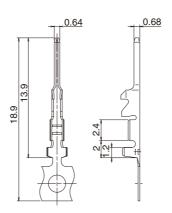
Part No.	HRS No.	No. of Contacts	А	В
DF1E- 2RS/P-2.5	541-0971-6	2	8.0	2.5
DF1E- 3RS/P-2.5	541-0972-9	3	10.5	5.0
DF1E- 4RS/P-2.5	541-0973-1	4	13.0	7.5
DF1E- 5RS/P-2.5	541-0974-4	5	15.5	10.0
DF1E- 6RS/P-2.5	541-0975-7	6	18.0	12.5
DF1E- 8RS/P-2.5	541-0977-2	8	23.0	17.5
DF1E-10RS/P-2.5	541-0979-8	10	28.0	22.5

Note 1: A packaging quantity is delivered by the bag unit (100 pcs.). If needed, please order the products per bag. However, the quantity for delivery will be changed according to spec number.

Note 2: The 2 to 4 contacts contain socket and plug fixed holes at both ends.

\* This retainer can be used together with the socket and In-line plug.

## **■Plug Crimping Contact**



#### ■Reel Contact Applicable Tool : Applicator

		Applicable (	Applicable Cable (Tin Plated Annealing Copper Wire)							
Part No. HRS No.	HRS No.	UL Style	Jacket Diameter	AWG	Wire Construction	Purchase Unit	Finish			
DF1E-2022PCF	541-0937-8	1.2 to 1.9mm		20 AWG	21/0.18		Tip ploted			
DFTE-2022FGF	541-0937-6		22 AWG	17/0.16		Tin plated				
DF1E-2022PCFA	541-1003-0					1.2 to 1.911111	20 AWG	21/0.18		Gold plated
DFIE-2022FGFA	JFA   541-1003-0			22 AWG	17/0.16		Gold plated			
	541-0939-3		UL1007		24 AWG	11/0.16	10000			
DF1E-2428PCF		UL1061		26 AWG	7/0.16	Tir	Tin plated			
		-1005-6	0.0 to 1.5mm	28 AWG	7/0.127					
			0.9 to 1.511111	24 AWG	11/0.16					
DF1E-2428PCFA	CFA 541-1005-6		26 AWG	26 AWG	7/0.16		Gold plated			
				28 AWG	7/0.127					

Note: When using cables other than those specified, contact a Hirose sales representative.

#### **●**Loose Contact Applicable Tool : Manual Crimping Tool

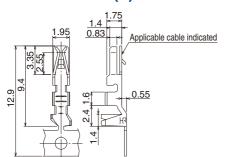
		Applicable Cable (Tin Plated Annealing Copper Wire)				Purchase			
Part No.	HRS No.	UL Style	Jacket Diameter	AWG	Wire Construction	Unit	Finish		
DF1E-2022PCA	541-1004-3 UL1007	1.8mm	20 AWG	21/0.18		Gold plated			
DF1E-2022PCA 541		541-1004-3	1.6mm	22 AWG	17/0.16		Gold plated		
					UL1007	1.5mm	24 AWG	11/0.16	100
DF1E-2428PC 541-0940-2	541-0940-2	10-2	1.3mm	26 AWG	7/0.16		Tin plated		
			1.2mm	28 AWG	7/0.127				

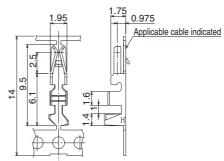
Note: Only the above cables are suitable when using the manual crimping tool.

## **■**Socket Crimping Contact

#### ●DF1E-2022SCF (A)

#### ●DF1B - \* \* \* \* SCF (A)





## Reel Contact Applicable Tool : Applicator

		Applicable (	Cable (Tin Plate	ed Annealing C	opper Wire)	Purchase		
Part No.	HRS No.	UL Style	Jacket Diameter	AWG	Wire Construction	Unit	Finish	
DF1E-2022SCF	541-0999-5	1	1.2 to 1.9mm	20 AWG	21/0.18		Tin plated	
DF1E-202230F	541-0999-5		1.2 to 1.911111	22 AWG	17/0.16		Till plated	
DF1E-2022SCFA	541-1001-5		1.2 to 1.9mm	20 AWG	21/0.18		Gold plated	
DF1E-202230FA	341-1001-5		1.2 to 1.911111	22 AWG	17/0.16		Gold plated	
DF1B-2022SCF	541-0223-1		4.0 4. 4.0	20 AWG	21/0.18		Tip plated	
DF1B-202250F	541-0225-1	1.2 to 1.9mm	22 AWG	17/0.16		Tin plated		
DF1B-2022SCFA	541-0662-1	1.2 to 1.9mm	1.2 to 1.9mm ⊢	20 AWG	21/0.18		Cold ploted	
DF16-202230FA	341-0002-1			22 AWG	17/0.16	10000	Gold plated	
		UL1061		24 AWG	11/0.16	10000		
DF1B-2428SCF	541-0678-1		0.9 to 1.5mm	26 AWG	7/0.16		Tin plated	
				28 AWG	7/0.127			
				24 AWG	11/0.16			
DF1B-2428SCFA	SCFA 541-0680-3		-3 0.9 to 1.5mm	0.9 to 1.5mm	26 AWG	7/0.16		Gold plated
				28 AWG	7/0.127			
DF1B-30SCF	541-0682-9		0.6 to 1.2mm	30 AWG	7/0.1		Tin plated	
DF1B-30SCFA	541-0684-4		0.6 to 1.2mm	30 AWG	7/0.1		Gold plated	

Note: When using cables other than those specified, contact a Hirose sales representative.

#### **●**Loose Contact Applicable Tool : Manual Crimping Tool

		Applicable (	Cable (Tin Plate	ed Annealing C	opper Wire)	Purchase		
Part No.	HRS No.	UL Style	Jacket Diameter	AWG	Wire Construction	Unit	Finish	
DF1E-2022SC	541-1000-2		1.8mm	20 AWG	21/0.18		Tin plated	
DF1E-20223C	541-1000-2		1.6mm	22 AWG	17/0.16		Tili piateu	
DF1E-2022SCA	541-1002-8		1.8mm	20 AWG	21/0.18		Cold plated	
DF1E-20225CA	541-1002-6		1.6mm	22 AWG	17/0.16		Gold plated	
DF1B-2022SC	541-0224-4		1.8mm	20 AWG	21/0.18		Tip ploted	
DF16-20225C	541-0224-4	541-0224-4		1.6mm	22 AWG	17/0.16		Tin plated
DF1B-2022SCA	541-0663-4		1.8mm	20 AWG	21/0.18		Cold ploted	
DF16-20225CA		341-0003-4	1111007	1.6mm	22 AWG	17/0.16	100	Gold plated
		UL1007	1.5mm	24 AWG	11/0.16	100		
DF1B-2428SC	541-0679-4		1.3mm	26 AWG	7/0.16		Tin plated	
			1.2mm	28 AWG	7/0.127			
			1.5mm	24 AWG	11/0.16			
DF1B-2428SCA	2428SCA 541-0681-6		1.3mm	26 AWG	7/0.16		Gold plated	
					1.2mm	28 AWG	7/0.127	
DF1B-30SC	541-0683-1		1.1mm	30 AWG	7/0.1		Tin plated	
DF1B-30SCA	541-0685-7		1.1mm	30 AWG	7/0.1		Gold plated	

Note: Only the above cables are suitable when using the manual crimping tool.

## Crimping Tools

Item	Part No.	HRS No.	Applicable Contact
	AP105-DF1E-2022S	901-4561-0	DF1E-2022SCF DF1E-2022SCFA
	AP105-DF1B-2022S ©	901-4510-9	DF1B-2022SCF DF1B-2022SCFA
Applicator	AP105-DF1B-2428S ©	901-4518-0	DF1B-2428SCF DF1B-2428SCFA
Applicator	AP105-DF1B-30S	901-4517-8	DF1B-30SCF DF1B-30SCFA
	AP105-DF1B-2022P ©	901-4509-0	DF1E-2022PCF DF1E-2022PCFA
	AP105-DF1B-2428P ©	901-4521-5	DF1E-2428PCF DF1E-2428PCFA
Main Press Unit	CM-105C	901-0001-0	
	HT102/DF1E-2022S	550-0277-1	DF1E-2022SC DF1E-2022SCA
	DF1B-TA2022SHC	550-0182-7	DF1B-2022SC DF1B-2022SCA
Manual Crimmina Taal	DF1B-TA2428SHC	550-0209-1	DF1B-2428SC DF1B-2428SCA
Manual Crimping Tool	DF1B-TA30SHC	550-0211-3	DF1B-30SC DF1B-30SCA
	HT102/DF1BE-2022P	550-0278-4	DF1E-2022PC DF1E-2022PCA
	HT102/DF1BE-2428P	550-0279-7	DF1E-2428PC DF1E-2428PCA
Contact Extraction Tool	DF-C-PO (B)	550-0179-2	DF1E-2022SC(F)(A) DF1B- *** * SC(F)(A) DF1E- *** PC(F)(A)

- Note 1 : Add " 🔘 " to the last number of the product, in order to use DF1B series tools, which have been conventionally merchandized.
- Note 2: If any trouble has occurred due to other tools, which are not designated by Hirose, Hirose won't guarantee any products.
- Note 3: Please perform crimping work in accordance with the "Crimp Quality Standard" (ETAD-H0947-00, ETAD-H0949-00) and the "Crimp Condition Table"
- Note.4: Please contact a Hirose sales representative to request the tooth profile drawings when using other than tools specified by our company.

## Crimping Precautions

#### Items Required Prior to Crimping

The work-related documents shown below are required before starting the harness assembly.

(The mark represents required documents.)

Please contact your Hirose sales representative if you do not have these documents.

Document Title	Description	Automatic Crimping Machine	Hand Crimping Tool	Remarks
(1) Crimping Machine Main Unit Instruction Manual	Explanation of main press unit	•	_	Bundled with purchase of main press machine unit.
(2) Applicator Instruction Manual	Crimp Method	•	_	
(3) Applicator Spare Parts List	Applicator Installation Instruction		_	
(4) Crimp Conditions	Crimp height, tensile strength standard value	•	_	Bundled with purchase of applicator.
(5) Crimp Quality Standards	Various standards for crimping conditions	•	_	
(6) Hand Tool Operating Instructions	Crimp method, crimp height and tensile height standard value	_	•	Bundled with purchase of hand tool.

#### Tools

- Use tools designated by Hirose when crimping.
- · Crimping performed using tools other than those specified is outside the scope of warranty.
- The operating instructions are available for the crimping machine and the applicator. Be sure to carefully read the operating instructions manual before beginning work.

#### Applicable Cables

Check that the cables to be used are within the applicable range.

If you intend to use a cable other than those recommended, contact a sales representative.

- · Cables applicable to crimping connectors are tin-plated stranded soft-copper wire.
- · Avoid crimping solid wire, wires with polyester threads or tin coated wires.
- Avoid crimping two cables together.
- · The crimp height setting values (Note 1) may vary between tin-plated and gold-plated terminals even if the same electric wires are used.
- · The crimp height setting values (Note 1) may vary depending on the difference in the core wire configuration even if the computed cross-sectional area is the same.

Note 1: The crimp height is an important item that determines crimping quality. We execute crimping tests for each electric wire to ensure the optimal value for the crimp height with high precision, thereby ensuring optimal setup values.

## **●** Precautions

1. Cleaning Condition	Refer to Wire-to-Board Connector Use Hand book.
2. Connection Condition	Refer to Wire-to-Board Connector Use Hand book.
3. Cautions	■ To remove the connector, if the connector is forcedly removed, it will cause
	connector damage. If the connector is hardly removed, slightly push the
	connector once, and then remove it using the lock.
	■ In some method for laying the cable within equipment, a tension may be
	applied to the cable so as to remove the contact. In this case, it is
	recommended to use the retainer.
	■ 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.
	■ The color phase of this product may be slightly different from that of the forming
	product according to the manufacturing lot and future storage conditions,
	however the difference doesn't affect the performance.
	■Black spots may appear on the mold resin but this does not affect the product
	quality.
4. Precautions	Please refer to the following documents when handling the product.
	■Crimp Quality Standard (ETAD-H0947-00, ETAD-H0949-00)
	■Wire-to-Board Connector Use Handbook
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