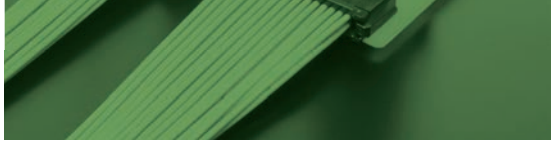


For
SIGNAL



**Wire-to-Board, Wire-to-Wire
Signal Connectors**

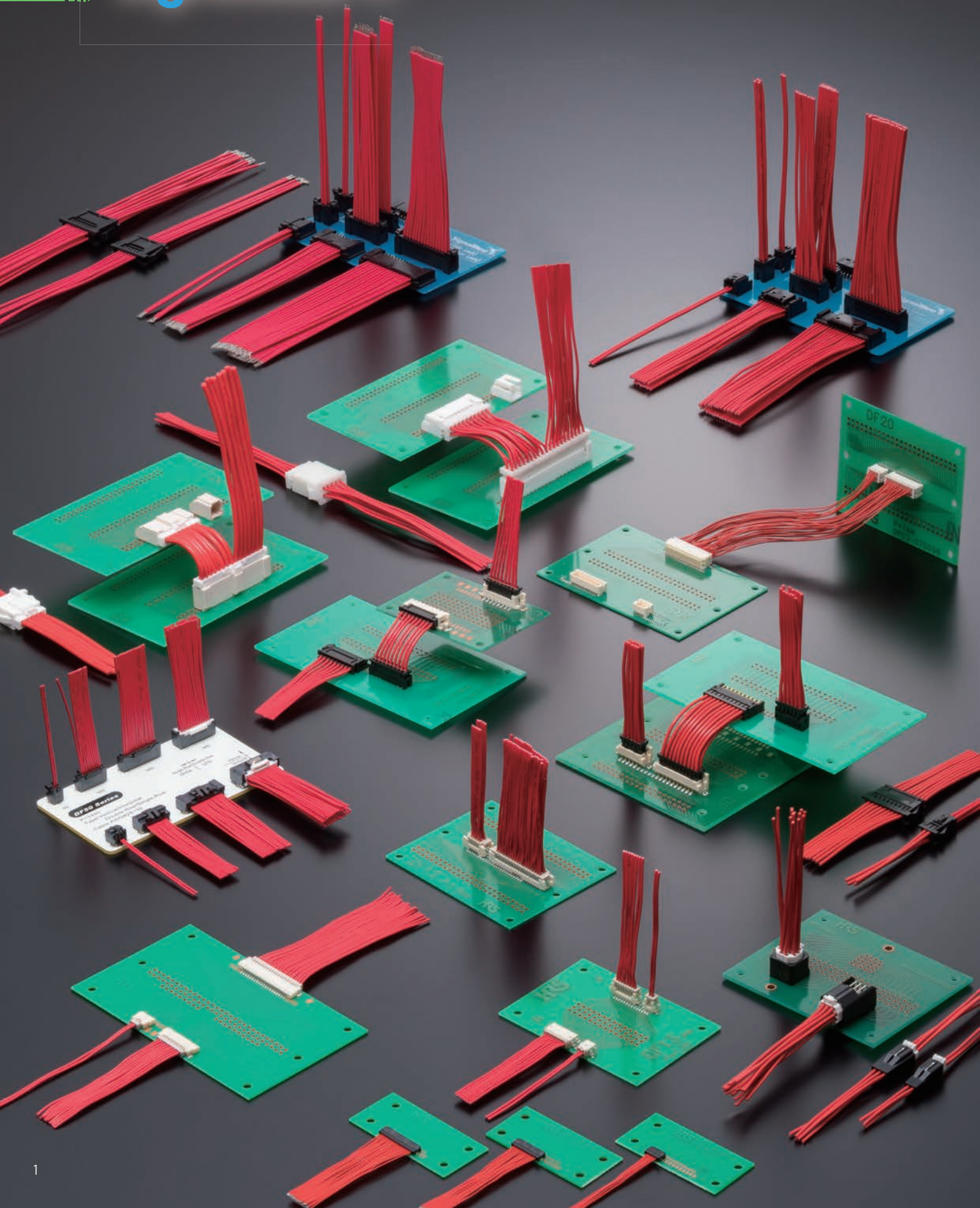


For
S

Satisfies customer needs with accumulated technology and capabilities



SIGNAL



Accumulated technology that leads to solutions.

SignalBee, a sister brand to our power cable brand EnerBee, is your solution for signal cable connectors.

It represents the concept of “compact size with high-end performance”.

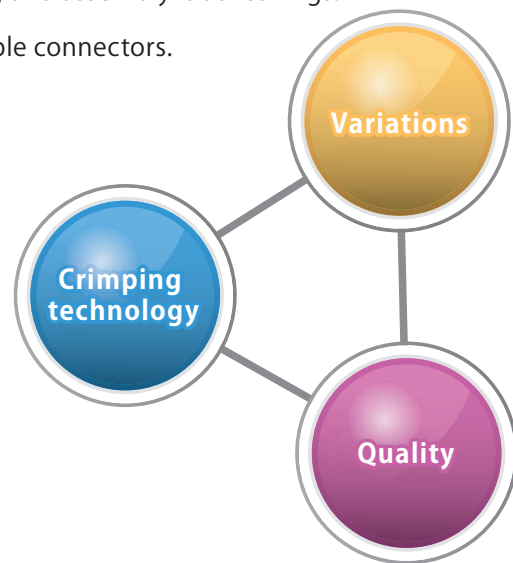
The wide variety of configurations provides the best solutions to meet users’ application requirements.

SignalBee offers powerful and high performance in many fields including industrial machinery.

Overwhelming product quality and excellent crimping technology is based on accumulated, comprehensive know-how in areas such as assembly tool development.

Various options contribute to space saving and assembly labor savings.

SignalBee - Your best choice for signal cable connectors.



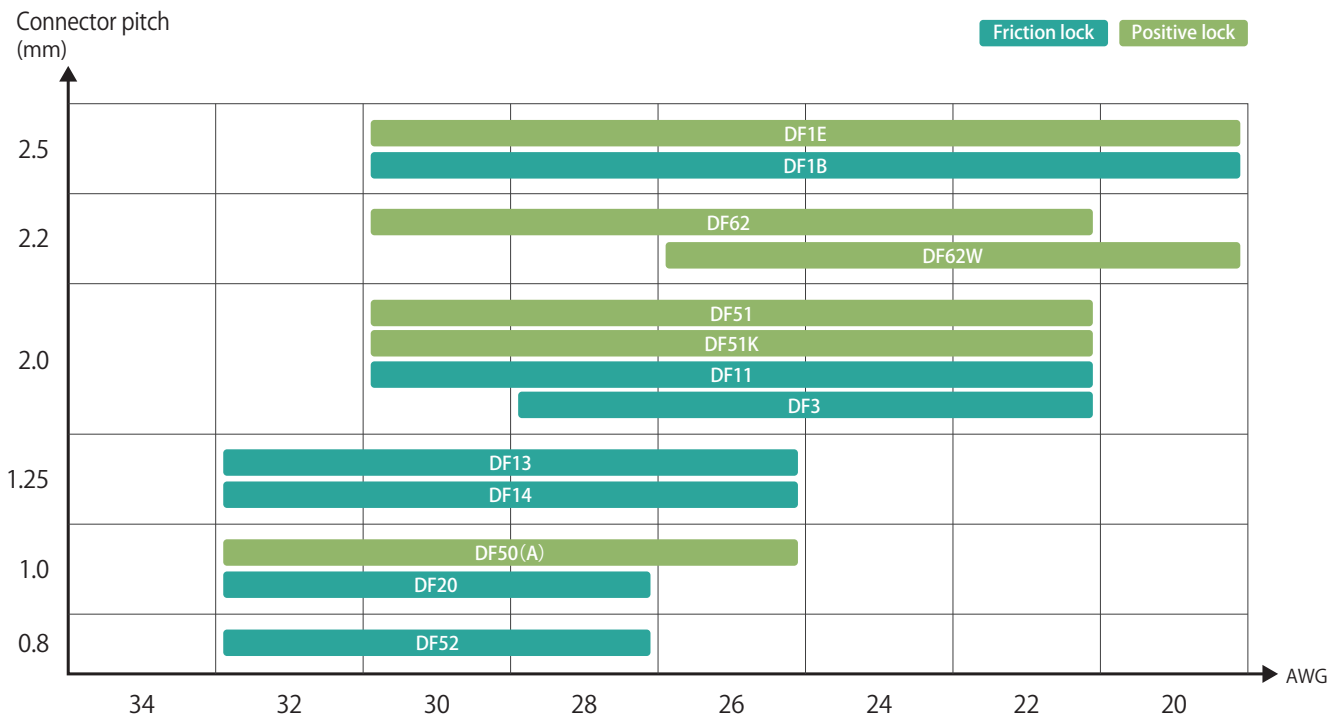
Yokohama Center, the heart of technology and marketing

Hirose established the Yokohama Center as a multi-purpose base in Japan's historic harbor city, often considered Japan's window to the world. The center incorporates a technical network consisting of a Technical Division, a Production Technology Division, a Quality Management Division, and a sales and market network. This highly sophisticated structure ensures that we promptly meet advancing market needs.

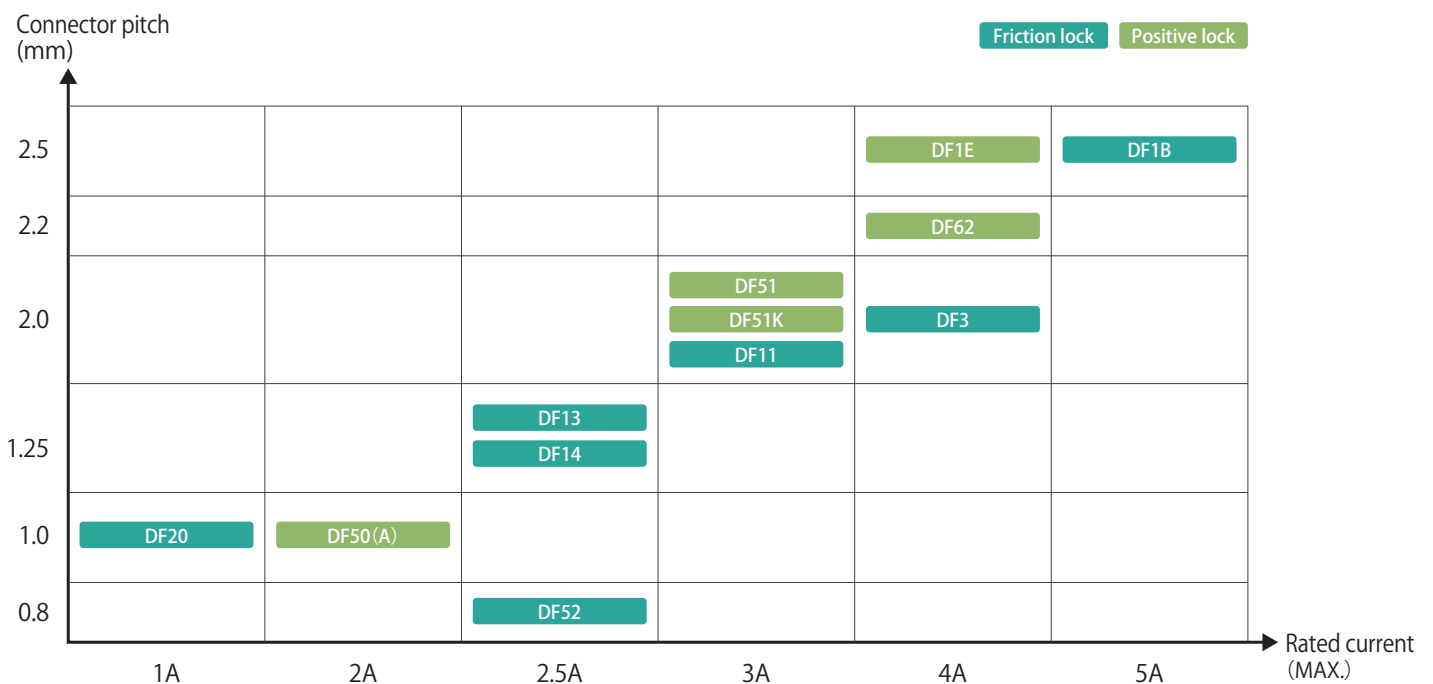


Optimum connector solution from 12 series with wide variations

■ Connector pitch and applicable cable size



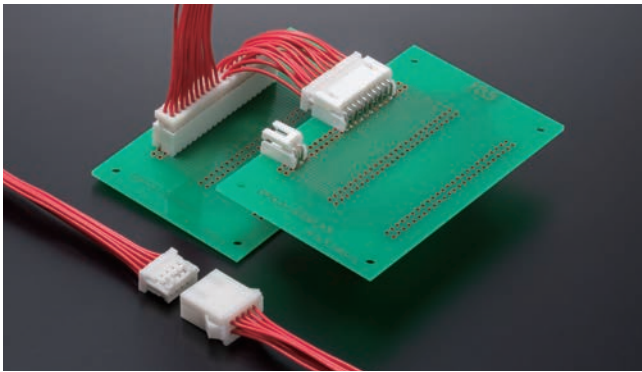
■ Connector pitch and rated current



DF1B Series

2.5mm Pitch, Maximum rated current 5A

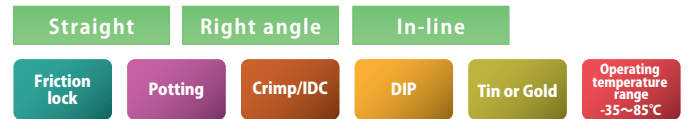
● UL/CSA certified



By putting an IDC contact and a crimp contact together in the same housing, different current capacity cables can be used at the same time.

Once connected, the contact can be replaced with excellent maintainability.

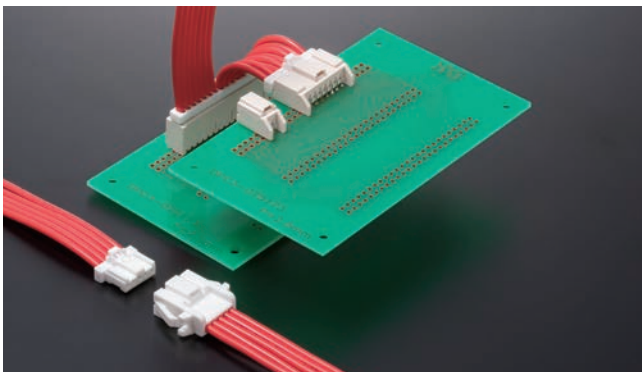
The insulation displacement area is protected by the housing, which creates a high reliability connection.



DF1E Series

2.5mm Pitch, Maximum rated current 4A

● UL/C-UL certified



When the double lock is used, it prevents stress to the cable, increases the crimp contact retention force, and prevents the incomplete insertion of the crimp contact.

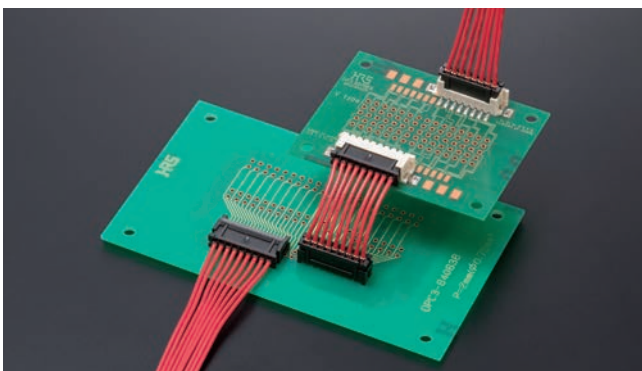
The pin header housing is molded in glass enforced resin to prevent solder cracks which can occur due to heat compression.



DF3 Series

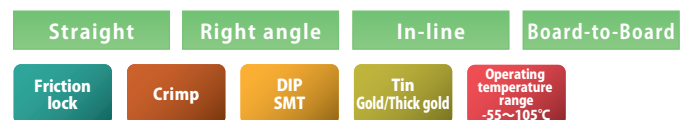
2.0mm Pitch, Single-Row, Maximum rated current 4A

● UL/CSA certified



Wide varieties are available such as the in-line adapter which attaches IDC sockets from both sides of the connector.

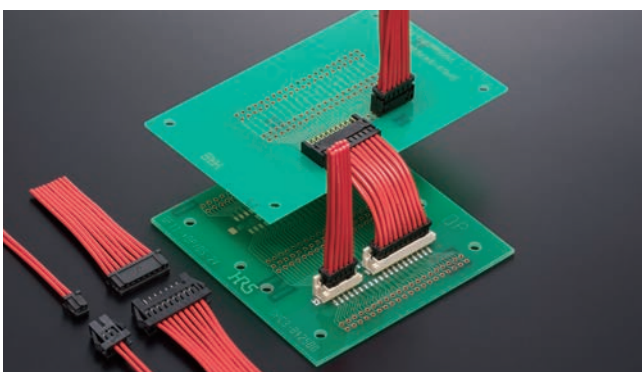
Additionally board-to-board connections contribute to PCB design flexibility.



DF11 Series

2.0mm Pitch, Double-Row, Maximum rated current 3A

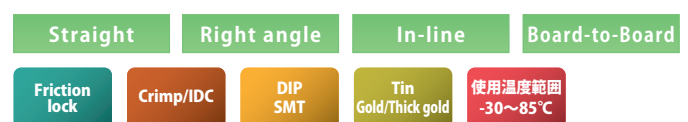
● UL/CSA certified



Insulation displacement and crimp methods are available for termination.

Also, wire-to-board, in-line, and board-to-board options provide design flexibility.

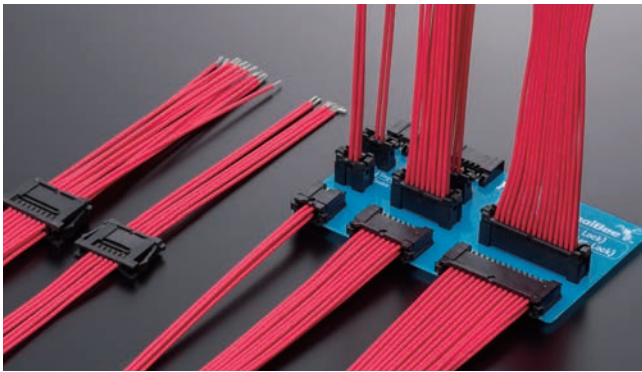
In addition, "Gold" or "Tin" plating is available depending on the application including SMT products.



DF51 Series

2.0mm Pitch, Maximum rated current 3A

● UL/C-UL certified



Secure dual side-lock design provides a reliable connection which prevents socket lift due to vibration or cable wrenching.

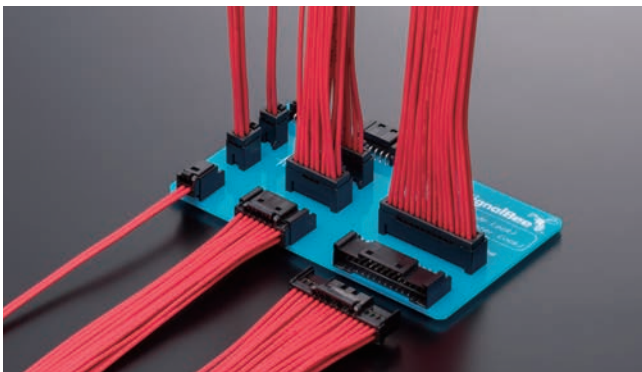
Wide varieties allow design flexibility to meet various needs.

Straight	Right angle	In-line
Positive lock	Potting	Crimp
DIP	Tin or Gold	Operating temperature range -55~105°C

DF51K Series

2.0mm Pitch, Maximum rated current 3A

● UL/C-UL certified



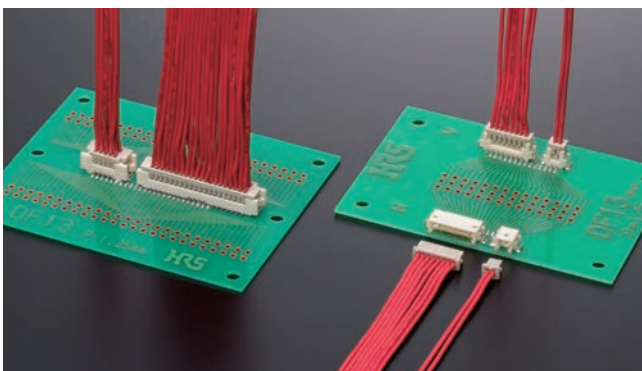
Offers center lock in comparison to DF51 series. Center lock type is effective for pitch directional high-density mounting on PCB layout.

Straight	Right angle
Positive lock	Potting
Crimp	DIP
Tin or Gold	Operating temperature range -55~105°C

DF13 Series

1.25mm Pitch, Maximum rated current 2.5A

● UL certified

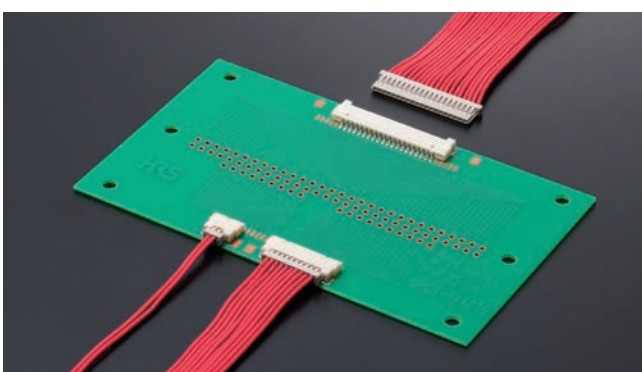


The header is designed in a wrenching-proof box structure, and completely prevents mis-insertion. The surface mounting (SMT) header is equipped with the metal solder tabs to prevent solder peeling.

Straight	Right angle
Friction lock	Crimp
DIP SMT	Tin Gold/Thick gold
Operating temperature range -35~85°C	

DF14 Series

1.25mm Pitch, Maximum rated current 2.5A



Right angle connector that comes in 2.5mm height. Offset type is also available.

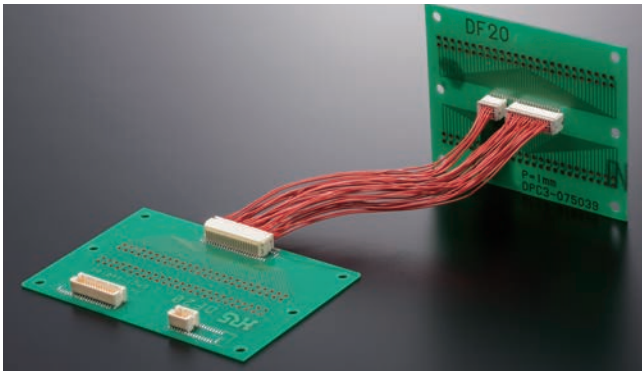
The header has a four wall design which prevents physical damage on the board side.

The metal solder tabs prevent solder peel.

Right angle
Friction lock
Crimp
SMT
Tin Gold/Thick gold
Operating temperature range -35~85°C

DF20 Series

1.0mm Pitch, Maximum rated current 1A



Narrow pitch and low profile design. Effective electrical connection is assured with a 1mm contact wipe. In addition, thin metal solder tabs produce a small-sized outer dimension and high mounting density.

Straight

Right angle

Friction lock

Crimp

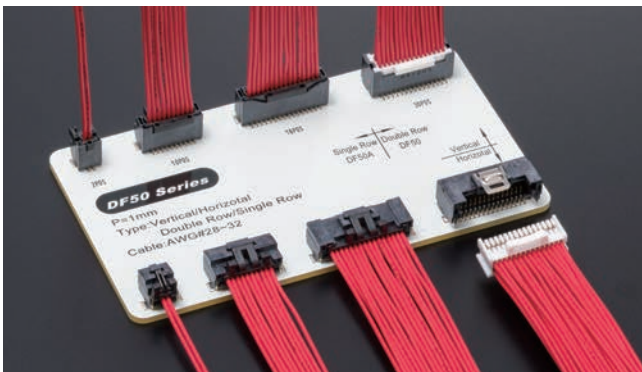
SMT

Gold/Thick gold

Operating temperature range
-35~85°C

DF50(A) Series

1.0mm Pitch, Maximum rated current 2A



High reliability gold plated, two-point contact design with an effective mating length of 1mm. Thick housing wall and insertion depth protects against wrenching.

The connector provides a clear tactile click and secure mating.

Supports 26 AWG wire and has a proven track record of delivering results.

Straight

Right angle

Positive lock

Crimp

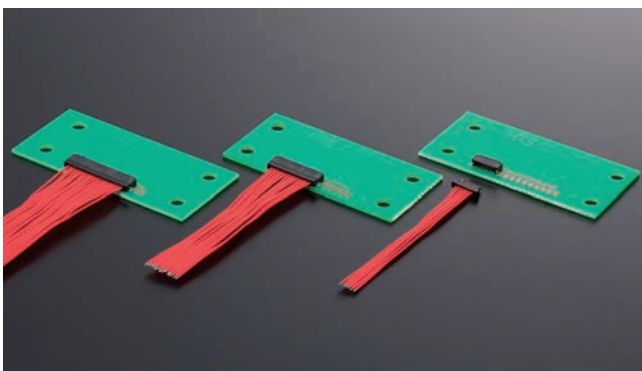
SMT

Gold/Thick gold

Operating temperature range
-35~85°C

DF52 Series

0.8mm Pitch, Maximum rated current 2.5A



Thick housing wall, yet compact design, produces a strong, robust connector that resists damage. The BOX shaped crimp contact prevents deformation during assembly and contributes to the overall stability and strength.

Right angle

Friction lock

Crimp

SMT

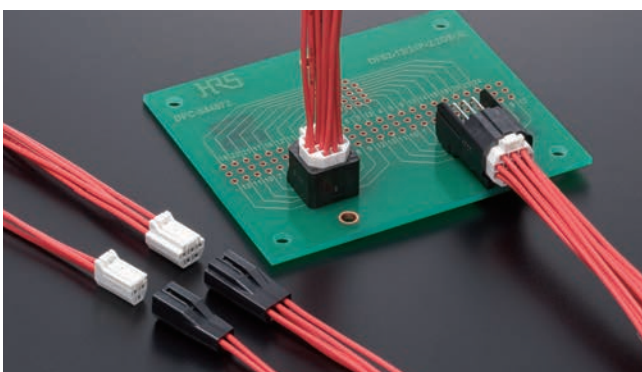
Tin

Operating temperature range
-40~85°C

DF62(W) Series

DF62 : 2.0 x 2.2mm Pitch, Maximum rated current 4.0A
DF62W: 2.0 x 2.2mm Pitch, Maximum rated current 5.0A

●UL/C-UL certified



Slim and small connector contributes to wiring in narrow space. Contacts are arranged in a grid, reducing the diagonal size. Connector outline is rounded for smooth wiring.

This design helps to save precious space and makes these connectors virtually tangle free.

No metal component is exposed, eliminating the possibility of electrical arcing between the connector and the inside of a metal conduit.

Straight

Right angle

In-line

Positive lock

waterproof

Crimp

DIP

Tin
Gold/Thick gold

Operating temperature range
-35~105°C

SignalBee  Features

Series	Pitch	Lock	Current *with the smallest pin count	Applicable cable	Row	Assembly type	Mounting type	Connection type					
								Straight	Right angle	In-line	Adopter	Board-to-Board	
DF1B		2.5mm	Friction lock	3-5A* 3A 2A 1A 0.5A	20 22-24 26 28 30	1	Crimp/IDC	DIP	●	●			
								—			●		
DF1E		2.5mm	Positive lock	3-4A* 3A 2A 1A 0.5A	20 22-24 26 28 30	1	Crimp	DIP	●	●			
								—			●		
DF3		2.0mm	Friction lock	3-4A* 3A 2A 1A	22 24 26 28	1	Crimp	DIP/SMT	●	●			
								—			●	●	
DF11		2.0mm	Friction lock	2-3A* 2A 1A 0.5A 1A	22 24-26 28 30 26	2	Crimp	DIP/SMT	●	●			
								—			●	●	
						2	IDC	DIP/SMT		●			
DF51		2.0mm	Positive lock	2-3A* 2A 1A 0.5A	22 24-26 28 30	1	Crimp	DIP	●	●	●		
									2	●	●	●	
DF51K		2.0mm	Positive lock	2-3A* 2A 1A 0.5A	22 24-26 28 30	1	Crimp	DIP	●	●			
									2	●	●		
DF13		1.25mm	Friction lock	1-2.5A* 1-2A 1A	26 28 30-32	1	Crimp	DIP/SMT	●	●			
								2	SMT	●			
DF14		1.25mm	Friction lock	1-2.5A* 1-2A 1A	26 28 30-32	1	Crimp	SMT		●			
DF20		1.0mm	Friction lock	1A 0.9A 0.7A	28 30 32	2	Crimp	SMT	●		●		
DF50(A)		1.0mm	Positive lock	1-2A* 1A 0.9A 0.7A	26 26-28 30 32	1	Crimp	SMT	●				
									2	●	●		
DF52		0.8mm	Friction lock	2.5A 2A 1A	28 30 32	1	Crimp	SMT		●			
DF62		2.0×2.2mm	Positive lock	4A 2A 1A	22 24 26-30	—	Crimp	DIP			●		
DF62W		2.2×2.2mm	Positive lock	5A 4A 3.5A 3A	20 22 24 26	—	Crimp	DIP			●		

SignalBee  Applicable Cable Assembly Tools

Series	Assembly type	Type	Jig and Part No.	Applicable terminal		Applicable cable		
				Terminal No.	Plating	AWG No.	UL	
DF1B	IDC	Applicator	AP105-DF1B-R	DF1B-R24F / FA(06)	Tin / Gold	24	AWG24 : UL 1061 AWG26-28 : UL 1061, UL 1007	
				DF1B-R26F / FA(06)	Tin / Gold	26		
				DF1B-R28F / FA(06)	Tin / Gold	28		
			AP105-DF1B-PR	DF1B-24PRF	Tin	24		
				DF1B-26PRF	Tin	26		
				DF1B-28PRF	Tin	28		
		DF1B-R26F / FA(06)	Tin / Gold	26				
		DF1B-R28F / FA(06)	Tin / Gold	28				
		DF1B-T2428PHR	DF1B-24PRF	Tin	24			
			DF1B-26PRF	Tin	26			
			DF1B-28PRF	Tin	28			
		Crimp	Applicator	AP105-DF1B-2022S	DF1B-2022SCF / SCFA	Tin / Gold	20-22	UL 1061, UL 1007
	AP105-DF1B-2428S				DF1B-2428SCF / SCFA	Tin / Gold	24-28	
	AP105-DF1B-30S				DF1B-30SCF / SCFA	Tin / Gold	30	
	AP105-DF1B-2022P				DF1B-2022PCF / PCFB	Tin / Gold	20-22	
					AP105-DF1B-2428P	DF1B-2428PCF	Tin	
	DF1-PD2428SCF / SCFB				Tin / Gold	24-28		
	AP105-DF1B-30P		DF1B-30PCF / PCFB	Tin / Gold	30			
	Hand tool		DF1B-TA2022SHC	DF1B-2022SC / SCA	Tin / Gold	20-22	UL 1061, UL 1007	
				DF1B-TA2428SHC	DF1B-2428SC / SCA	Tin / Gold		24-28
				DF1B-TA30SHC	DF1B-30SC / SCA	Tin / Gold		30
				DF1B-TA2022PHC	DF1B-2022PC / PCB	Tin / Gold		20-22
					DF1B-TA2428PHC	DF1B-2428PC		Tin
		DF1-PD2428SCB		Gold	24-28			
DF1B-TA30PHC	DF1B-30PC / PCB	Tin / Gold	30					
DF1E	Crimp	Applicator	AP105-DF1E-2022S	DF1E-2022SCF / SCFA	Tin / Gold	20-22	UL 1061, UL 1007	
			AP105-DF1B-2022S	DF1B-2022SCF / SCFA	Tin / Gold	20-22		
			AP105-DF1B-2428S	DF1B-2428SCF / SCFA	Tin / Gold	24-28		
			AP105-DF1B-30S	DF1B-30SCF / SCFA	Tin / Gold	30		
			AP105-DF1B-2022P	DF1E-2022PCF / PCFA	Tin / Gold	20-22		
			AP105-DF1B-2428P	DF1E-2428PCF / PCFA	Tin / Gold	24-28		
	Hand tool	HT102/DF1E-2022S	DF1E-2022SC / SCA	Tin / Gold	20-22	UL 1007		
			DF1B-TA2022SHC	DF1B-2022SC / SCA	Tin / Gold		20-22	
			DF1B-TA2428SHC	DF1B-2428SC / SCA	Tin / Gold		24-28	
			DF1B-TA30SHC	DF1B-30SC / SCA	Tin / Gold		30	
			HT102 / DF1BE-2022P	DF1E-2022PC	Tin		20-22	
			HT102 / DF1BE-2428P	DF1E-2428PC	Tin		24-28	
DF3	Crimp	Applicator	AP105-DF3-2428S	DF3-2428SCF / SCFC	Tin / Gold	24-28	UL 1007, UL 1061	
			AP105-DF3-22S	DF3-22SCF / SCFC	Tin / Gold	22	UL 1061	
			AP105-DF3-EP2428P	DF3-EP2428PCF / PCFA	Tin / Gold	24-28	UL 1007, UL 1061	
		Hand tool	DF3-TA22HC	DF3-22SC / SCC	Tin / Gold	22	UL 1061	
			DF3-TA2428HC	DF3-2428SC / SCC	Tin / Gold	24-28	UL 1007	
			DF3EP-TA2428HC	DF3-EP2428PC / PCA	Tin / Gold	24-28	UL 1007	
DF11	Crimp	Applicator	AP105-DF11-22S	DF11 -22SCF / SCFA(04)	Tin / Gold	22	UL 1061	
			AP105-DF11-2428S	DF11 -2428SCF / SFA(04)	Tin / Gold	24-28	UL 1007, UL 1061	
				DF11A-2428SCF	Tin	24-28		
			AP105-DF11-30S	DF11 -30SCF / SCFA(04)	Tin / Gold	30	UL 1007, UL 1061	
	AP105-DF11-EP2428P	DF11 -EP2428PCF / PCFA	Tin / Gold	24-28	UL 1007, UL 1061			
	Hand tool	DF11-TA22HC	DF11 -22SC / SCA	Tin / Gold	22	UL 1061		
			DF11-TA2428HC	DF11-2428SC / SCA	Tin / Gold	24-28	UL 1007, UL 1061	
				DF11A-2428SC	Tin	24-28		
DF11-TA30HC			DF11 -30SC / SCA	Tin / Gold	30	UL 1007, UL 1061		
DF11EP-TA2428H	DF11 -EP2428PC / PCA	Tin / Gold	24-28	UL 1007, UL 1061				

Series	Assembly type	Type	Jig and Part No.	Applicable terminal		Applicable cable	
				Terminal No.	Plating	AWG No.	UL
DF13	Crimp	Applicator	AP105-DF13-2630S	DF13-2630SCF / SCFA	Tin / Gold	26-30	UL 1061, UL 1571
				DF13G-2630SCF / SCFA	Tin / Gold		
			AP105-DF13-2630S-S	DF13-2630SCF / SCFA	Tin / Gold		
		AP105-DF13-3032S	DF13-3032SCF / SCFA	Tin / Gold	30-32		
		Hand tool	DF13-TB2630HC	DF13-2630SCF	Tin	26-30	
DF14	Crimp	Applicator	AP105-DF14-2628S	DF14-2628SCF / SCFA	Tin / Gold	26-28	UL 1571
			AP105-DF14-3032S	DF14-3032SCF / SCFA	Tin / Gold	30-32	
		Hand tool	DF14-2628 / CR-HT	DF14-2628SCF / SCFA	Tin / Gold	26-28	
			DF14-3032 / CR-HT	DF14-3032SCF / SCFA	Tin / Gold	30-32	
DF20	Crimp	Applicator	AP105-DF20-2830S	DF20F-2830SCFA	Gold	28-30	UL 1571
				DF20F-3032SCFA	Gold	30-32	
DF50(A)	Crimp	Applicator	AP105-DF50-2630S	DF50-26SCFA	Gold	26	UL 3302
			AP105-DF50-2830S	DF50-2830SCFA	Gold	28-30	UL 1061
			AP105-DF50-3032S	DF50-3032SCFA	Gold	30-32	UL 1571
		Hand tool	HT305 / DF50-2830HC	DF50-2830SCFA	Gold	28-30	UL 1061
DF51	Crimp	Applicator	AP105-DF11-22S	DF11-22SCF / SCFA(04)	Tin / Gold	22	UL 1061
			AP105-DF11-2428S	DF11-2428SCF / SCFA(04)	Tin / Gold	24-28	UL 1007, UL 1061
				DF11A-2428SCF	Tin		
			AP105-DF11-30S	DF11-30SCF / SCFA(04)	Tin / Gold	30	UL 1061
		AP105-DF11-EP2428P	DF11-EP2428PCF / PCFA	Tin / Gold	24-28	UL 1007, UL 1061	
		Hand tool	DF11-TA22HC	DFDF11-22SC / SCA	Tin / Gold	22	UL 1061
			DF11-TA2428HC	DF11-2428SC / SCA	Tin / Gold	24-28	UL 1007, UL 1061
				DF11A-2428SC	Tin		
DF11-TA30HC	DF11-30SC / SCA		Tin / Gold	30	UL 1061		
DF11EP-TA2428HC	DF11-EP2428PC / PCA	Tin / Gold	24-28	UL 1007, UL 1061			
DF51K	Crimp	Applicator	AP105-DF11-22S	DF51K-22SCF / SCFA	Tin / Gold	22	UL 1061
			AP105-DF11-2428S	DF51K-2428SCF / SCFA	Tin / Gold	24-28	UL 1007
			AP105-DF11-30S	DF51K-30SCF / SCFA	Tin / Gold	30	UL 1061
		Hand tool	HT801 / DF51K-22S(A)	DF51K-22SC / SCA	Tin / Gold	22	UL 1061
			HT801 / DF51K-2428S(A)	DF51K-2428SC / SCA	Tin / Gold	24-28	UL 1007
			HT801 / DF51K-30S(A)	DF51K-30SC / SCA	Tin / Gold	30	UL 1061
DF52	Crimp	Applicator	AP105-DF52-2832P	DF52-2832PCF	Tin	28-32	UL 1571
		DHS877900H-UP*					
DF62	Crimp	Applicator	AP105-DF62-22	DF62-22SCF / SCFA	Tin / Gold	22	UL 1061
				DF62-EP22PCF / PCFA	Tin / Gold		
			AP105-DF62-2428	DF62-2428SCF / SCFA	Tin / Gold	24-28	UL 1007
				DF62-EP2428PCF / PCFA	Tin / Gold		
			AP105-DF62-30	DF62-30SCF / SCFA	Tin / Gold	30	UL 1061
				DF62-EP30PCF / PCFA	Tin / Gold		
		Hand tool	HT801 / DF62-22(10)	DF62-22SC / SCA	Tin / Gold	22	UL 1061
				DF62-EP22PC / PCA	Tin / Gold		
			HT801 / DF62-2428(10)	DF62-2428SC / SCA	Tin / Gold	24-28	UL 1007
				DF62-EP2428PC / PCA	Tin / Gold		
HT801 / DF62-30(10)	DF62-30SC / SCA	Tin / Gold	30	UL 1061			
	DF62-EP30PC / PCA	Tin / Gold					
DF62W	Crimp	Applicator	AP105-DF62W-22	DF62W-2022SCF / SCFA	Tin / Gold	20-22	AWG20 : UL3443
			EHS899800H-UP*	DF62W-EP2022PCF / PCFA	Tin / Gold		
			AP105-DF62W-2226	DF62W-2226SCF / SCFA	Tin / Gold	22-26	AWG24 : UL1007, UL1430
			EHS888400H-UP*	DF62W-EP2226PCF / PCFA	Tin / Gold		
		Hand tool	HT802 / DF62W-2022	DF62W-2022SC / SCA	Tin / Gold	20-22	AWG20 : UL3443
				DF62W-EP2022PC / PCA	Tin / Gold		
			HT802 / DF62W-2226	DF62W-2226SC / SCA	Tin / Gold	22-26	AWG24 : UL1007, UL1430
				DF62W-EP2226PC / PCA	Tin / Gold		
All series	Press unit		CM-105C				

*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>

Creative Links to World Electronics



Hirose's connector distribution network locations expand across the globe, from Japan and Asia to the US and Europe.

[JAPAN]

- HIROSE ELECTRIC CO., LTD. Headquarters
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<https://www.hirose.com>
- HIROSE ELECTRIC CO., LTD. YOKOHAMA CENTER
Phone : +81-45-620-3491
<https://www.hirose.com>

[USA]

- U. S. Headquarters/CHICAGO Office
HIROSE ELECTRIC (U. S. A.), INC.
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