

FOR BOARD-TO-CABLE CONNECTION

230 SERIES (GENERAL-PURPOSE TYPE)

■ FEATURES

- 1.27 mm (0.050 in.) pitch contact arrangement in two rows enables high-density mounting.
- Connectors with 20 to 80 contacts are available for various purposes.
- Various types of board-to-cable connection can be performed.
- Discrete-wire (AWG #28, #30) I/O cables can be assembled by IDC or soldering. Metal covers completely protect sockets from EMI.
- Tails are spaced in a four-row staggered arrangement (2.54 mm (0.100 in.) × 1.905 mm (0.075 in.)) for easy PC board design.
- Insulation is UL-approved (94V-0) and is washable.

■ SPECIFICATIONS

Item	Specifications					
Operating temperature range	-55°C to +105°C					
Current rating	DC 1 A					
Voltage rating	AC 240 V					
Contact resistance	30 mΩ max. (DC 6 V, 0.1 A)					
Insulation resistance	1000 MΩ min. (DC 500 V)					
Dielectric withstand voltage	AC 750 V for 1 minute					
Insertion force [kg max.]	Number of contacts	20	28	36	50	68
	Force	5.5	6.0	6.5	8.0	9.0
Withdrawal force [kg min.]	Number of contacts	20	28	36	50	68
	Force	0.8	1.12	1.44	2.0	2.3
Applicable PC board (standard)	1.6 mm (0.063 in.) thick					
Applicable wire (standard)	IDC: AWG #28 and #30 with $\phi 0.5$ to 0.88 mm (0.019 to 0.035 in.) insulation diameter. The applicable wires depend on the number of contacts. See the descriptions of IDC sockets and metal covers. Soldering: AWG #26 max. (reference)					



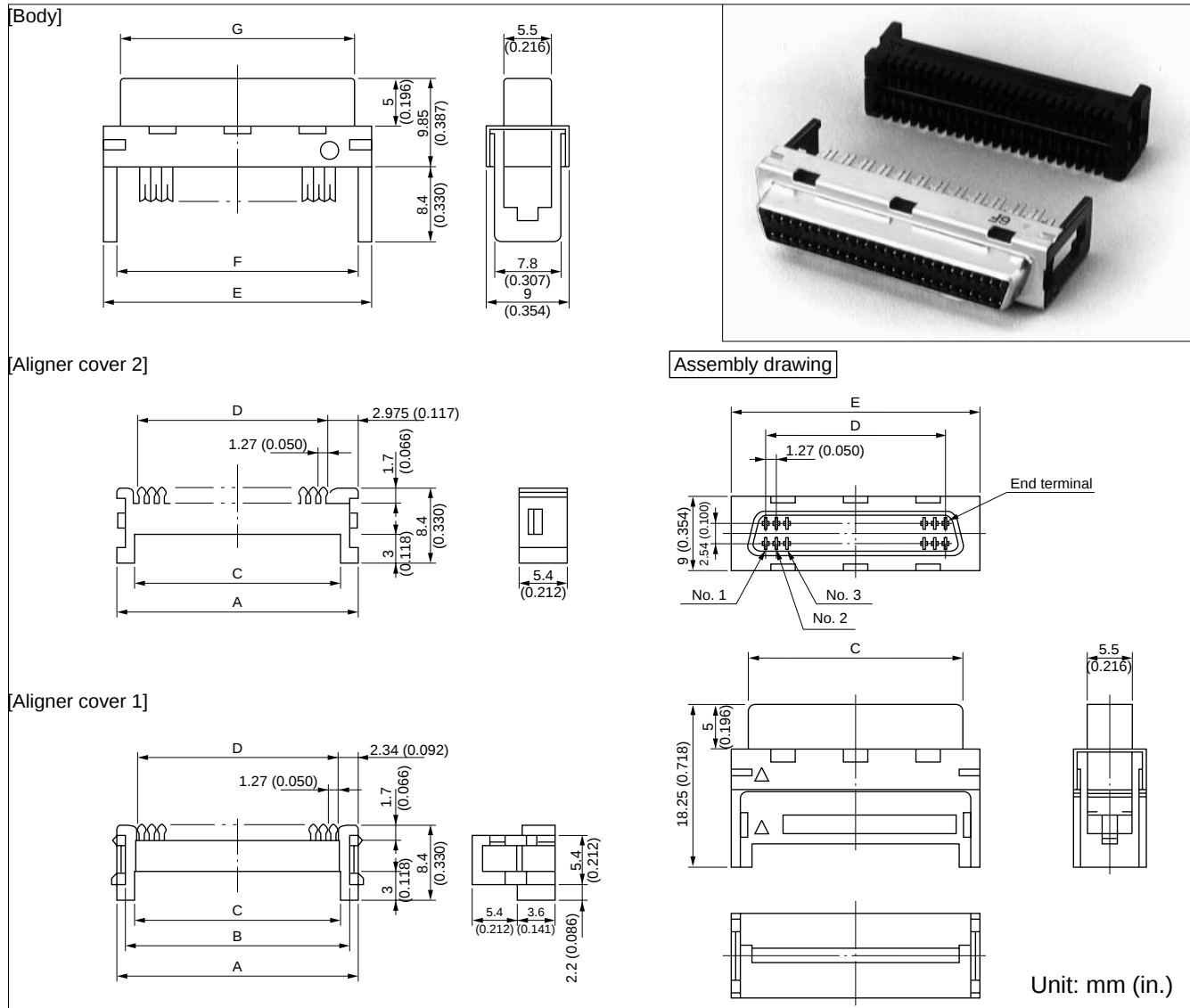
■ MATERIALS

Item	Materials	
Insulator	Polyester (Soldering PPS), UL94V-0	
Conductor	Copper alloy	
Plating	Contact	Gold plating
	Terminal	Palladium plating

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INSULATION DISPLACEMENT CONNECTION (IDC) SOCKET

■ DIMENSIONS



■ PART NUMBERS AND DIMENSIONS

Number of contacts	Insulation diameter of applicable wire	Part number	Dimensions (mm (in.))						
			A	B	C	D	E	F	G
20	φ0.5 to 0.65 mm	FCN-237J020-G/E	16.75 (0.659)	14.95 (0.588)	13.55 (0.533)	11.43 (0.450)	19.25 (0.757)	16.85 (0.663)	15.60 (0.614)
	φ0.65 to 0.8 mm	FCN-237J020-G/G							
	φ0.8 to 0.88 mm	FCN-237J020-G/F							
26	φ0.5 to 0.65 mm	FCN-237J028-G/E	21.83 (0.859)	20.03 (0.788)	18.63 (0.733)	16.51 (0.650)	24.33 (0.957)	21.93 (0.863)	20.68 (0.814)
	φ0.8 to 0.88 mm	FCN-237J028-G/F							
28	φ0.5 to 0.65 mm	FCN-237J026-G/E	26.91 (1.059)	25.11 (0.988)	23.71 (0.933)	21.59 (0.850)	29.41 (1.157)	27.01 (1.063)	25.76 (1.014)
	φ0.8 to 0.88 mm	FCN-237J026-G/F							
40	φ0.5 to 0.65 mm	FCN-237J050-G/E	35.80 (1.409)	34.00 (1.338)	32.60 (1.283)	30.48 (1.200)	38.30 (1.507)	35.90 (1.413)	34.65 (1.364)
	φ0.65 to 0.8 mm	FCN-237J050-G/G							
	φ0.8 to 0.88 mm	FCN-237J050-G/F							
50	φ0.5 to 0.65 mm	FCN-237J068-G/E	47.23 (1.859)	45.43 (1.709)	44.03 (1.733)	41.91 (1.650)	49.73 (1.957)	47.33 (1.863)	46.08 (1.814)
	φ0.65 to 0.8 mm	FCN-237J068-G/G							
	φ0.8 to 0.88 mm	FCN-237J068-G/F							
68	φ0.5 to 0.65 mm	FCN-237J080-G/E	54.85(2.159)	53.05(2.088)	51.65(2.033)	49.53(1.950)	57.35(2.257)	54.95(2.163)	53.70(2.114)

■ CONNECTOR COVER

FCN-230C□□□-A/E FCN-230C□□□-B/E FCN-230C□□□-C/E FCN-230C□□□-D/E □□□: Number of contacts

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CABLE ASSEMBLY TOOLS

The following tools are needed to assemble connectors.

- Cable aligner (semiautomatic cable aligner or hand tool)
- IDC tool

The tools shown below can also be used for the 230R/240/240R series.

1. Cable Aligner

Part number	Semiautomatic cable aligner			Hand tool
	Body/Controller	Bed	Adaptor	
FCN-237J	FCN-M562-A/C	FCN-P560-2/A	FCN-K560-A-xxx	FCN-237T-T062/H
FCN-237R			FCN-K560-R-xxx	
FCN-237R			FCN-K560-K-xxx	
FCN-247J		FCN-P560-2/J	FCN-K560-J-xxx	FCN-247T-T061/H
FCN-247R				

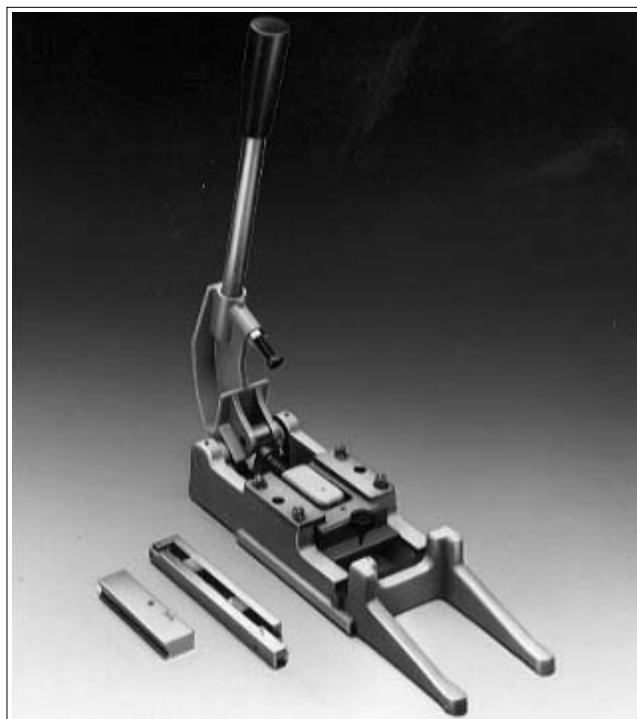
xxx indicates the number of contacts.

2. Insulation Displacement Connection (IDC) tool

Part number	Hand press	Head/Table
FCN-237J	FCN-237T-T109/H	FCN-237T-T064/H
FCN-237R		FCN-237T-T067/H
FCN-237D		FCN-237T-T075/H
FCN-247J		FCN-247T-T066/H
FCN-247R		FCN-247T-T068/H
FCN-247D		FCN-247T-T077/H



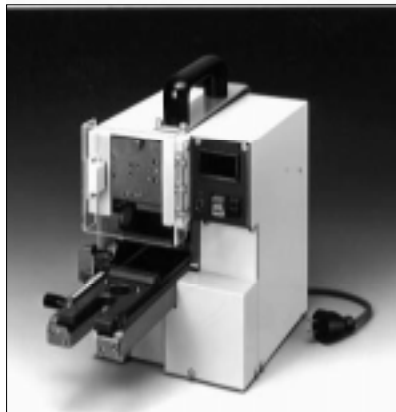
• Cable aligner



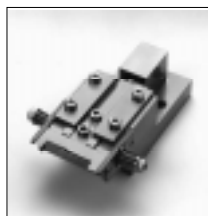
• Insulation displacement contact (IDC) tool

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Semi-Automatic Tools Cable Aligning Machine Main Body (FCN-M551-120, FCN-M551-220)



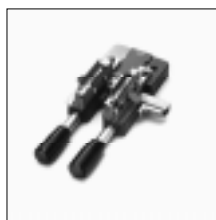
Head (FCN-H550-1/A)



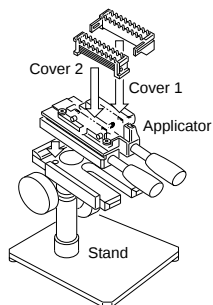
Stand (FCN-D550)



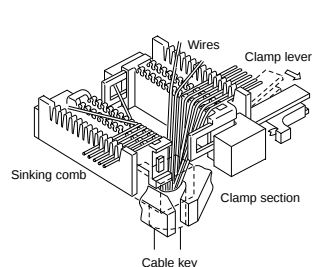
Applicator (FCN-A550-1/A-xxx)



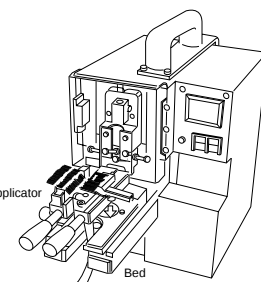
IDC Tool (FCN-237T-T109/H,
FCN-237T-T067/H locator)



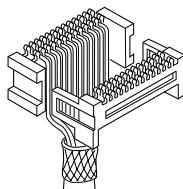
1. Set the applicator on the stand.
Set covers 1 and 2 in the applicator.



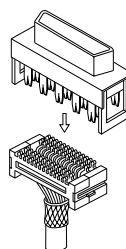
2. Push the wire into the sinking
combs.



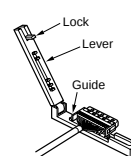
3. Set the applicator onto the
installation table and begin
cable alignment



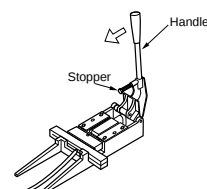
4. Take the covers off the
applicator.



5. Put covers together and
pre-assemble them to
the connector body.



6. Conduct final assembly as shown.



Pos No.	Applied Wire (wire Dia.: mm)	Connector Part number	Cable Aligner		IDC Tool
			Hand Tool	Semi-Auto	
20 68	#28 or #30 (0.8 to 0.88)	FCN-237R020-G/F FCN-237R068-G/F	FCN-237T-T062/H FCN-237t-t043/H	(See below*)	HAND PRESS: FCN-237T-T109/H HEAD & Locator: FCN-237T-T067/H
	#28 or #30 (0.5 to 0.65)	FCN-237R020-G/E FCN-237R068-G/E			

Semi-automatic-Medium Level
Body: :FCN-M551-120
Head Assembly: :FCN-H550
Applicator: :FCN-A550-1/A-***(***: 020, 028, 036, 050, 068, 080)
Stand: :FCN-D550