

FCN-234P/235P*-G/E, 231J/237J/237P***-G/***

FCN-230J Series Pin Contact Board Plug and Cable Plug/Socket Connectors

FEATURES

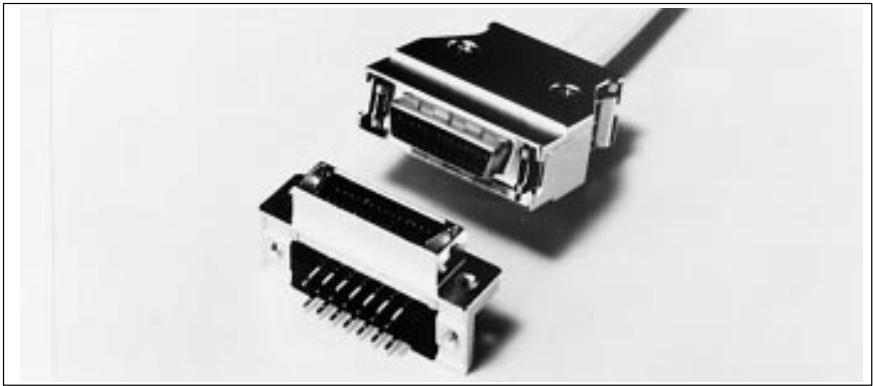
- 1.27 mm (0.05 in.) pitch contact arrangement in two rows enables high density mounting
- Terminals are spaced in a four-row zigzag array (1.27 mm (0.05 in.) x 1.905 mm (0.075 in.)) for easy PC board design
- IDC or solder termination for discrete wiring available
- Metal cover enables EMI protection
- Insulation material recognized by UL (94V-0)

SPECIFICATIONS

Temperature Range	-55 to + 105°C						
Maximum Rated Current	1 A DC (PCB to cable)						
Maximum Rated Voltage	240 VAC						
Contact Resistance	30 mΩ max. (6 V DC, 0.1 A)						
Insulation Resistance	1000 MΩ min. (500 V DC)						
Dielectric Withstand Voltage	750 V AC for 1 minute						
Insertion Force (kg)	PCB to cable						
	No. of contacts	20	28	36	50	68	
	Force	5.5	6.0	6.5	8.0	9.0	
Withdrawal Force (kg)	PCB to cable						
	No. of contacts	20	28	36	50	68	
	Force	0.8	1.12	1.44	2.0	2.3	
Applicable Wire	IDC type AWG #28 or #30 [wire diameter: Ø0.5 to Ø0.88 (Ø0.020 to Ø0.034)] Solder type AWG #26 max.						

MATERIALS

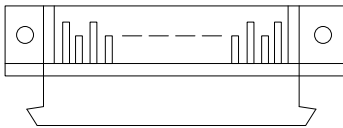
Conductor	Copper alloy
Insulator	Polyester (PPS: Solder), UL94V-0
Contact Plating	Gold over palladium over nickel (PAGOS)



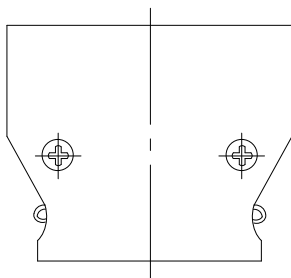
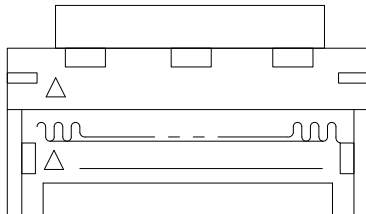
EXAMPLES OF CONNECTOR APPLICATIONS

Discrete Wires IDC Type

FCN-235P0 □□ -G/E



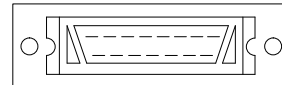
FCN-237J0□□ -G/□



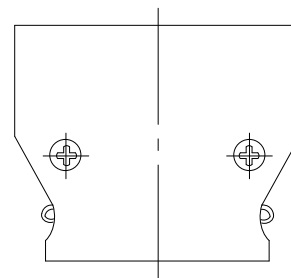
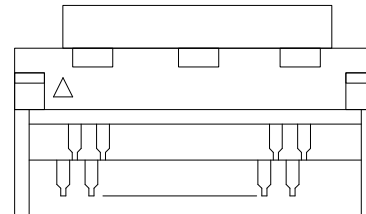
FCN-230C0 □□ -Δ/E

Discrete Wires Solder Type

FCN-234P0 □□ -G/E



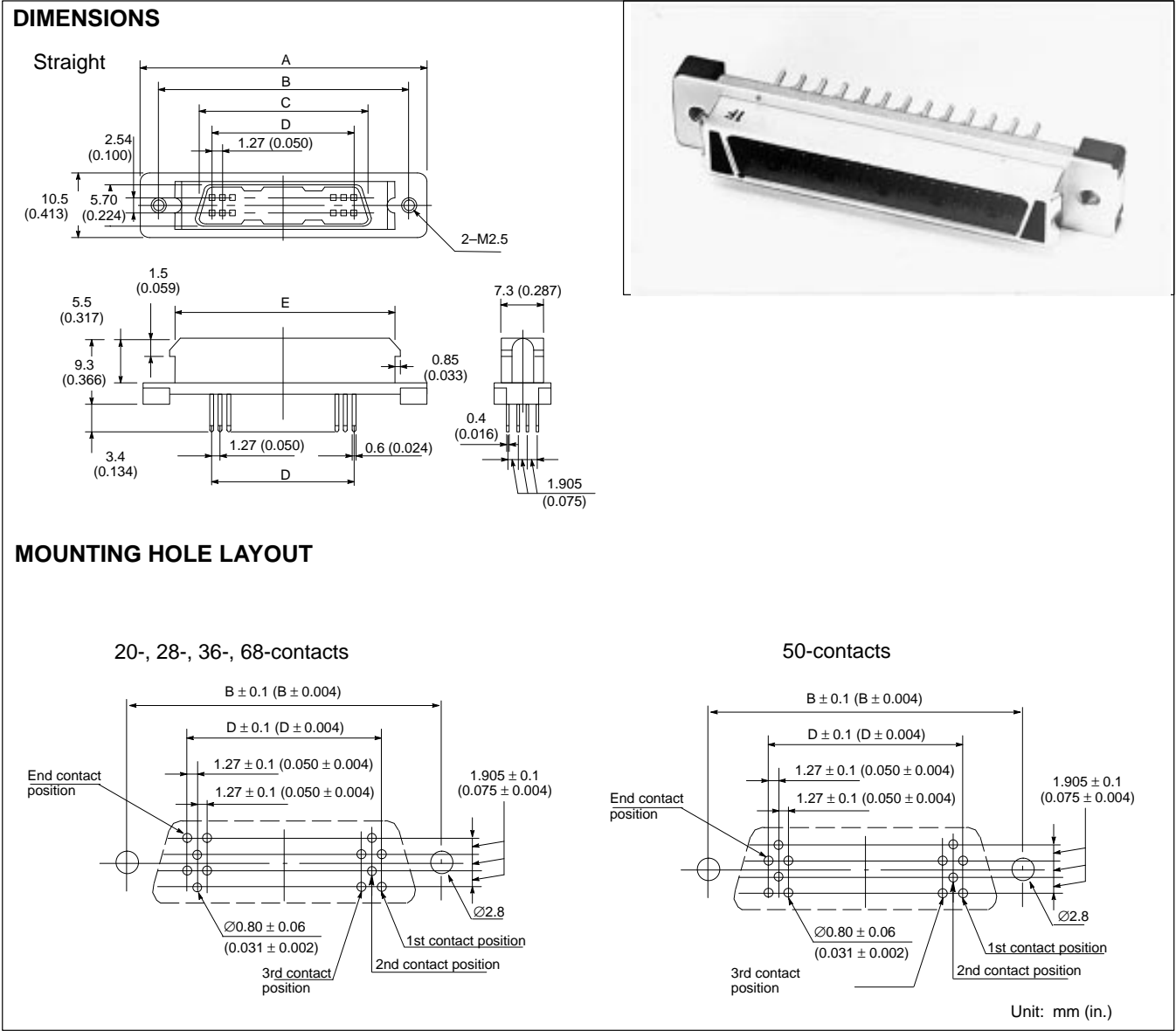
FCN-231J0 □□ -G/E



FCN-230C0 □□ -Δ/E

Unit: mm (in.)

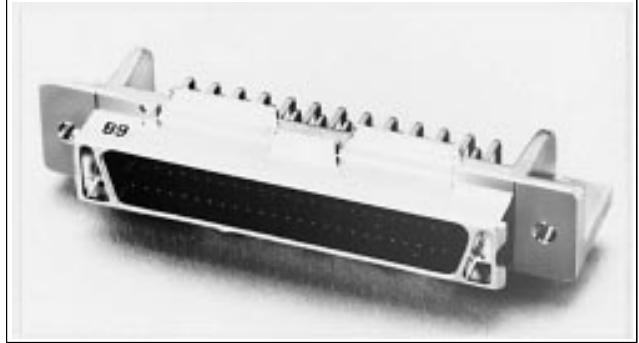
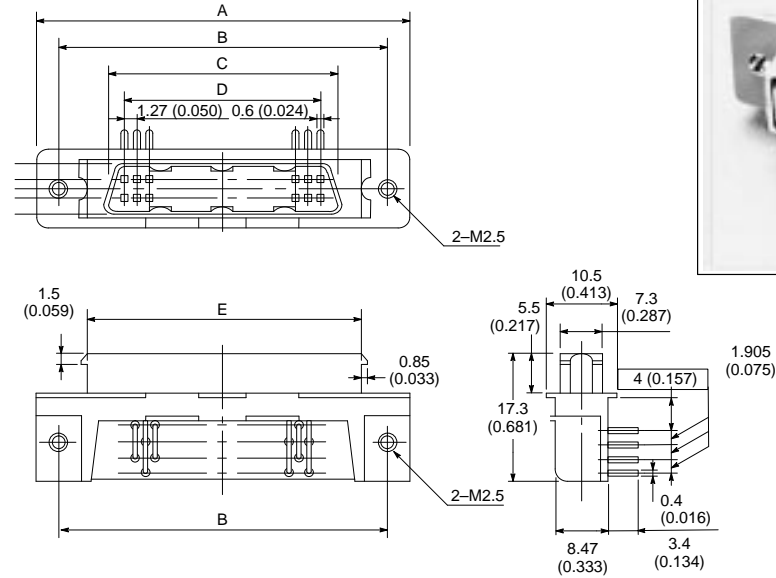
FCN-234P***-G/E STRAIGHT TERMINAL, BOARD PLUG



FCN-235P***-G/E RIGHT ANGLE, BOARD PLUG

DIMENSIONS

Right Angle

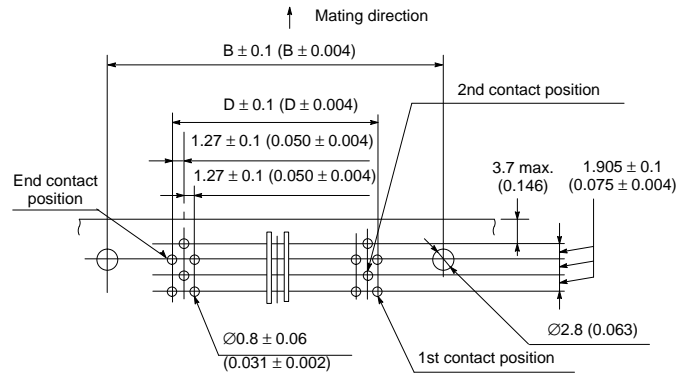
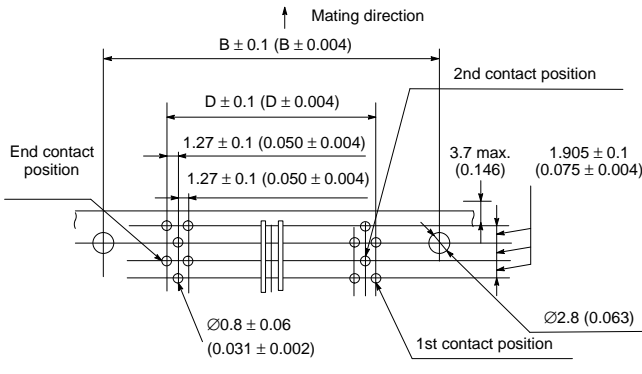


2

MOUNTING HOLE LAYOUT

20-, 28-, 36-, 68, and 80-contacts

50-contacts

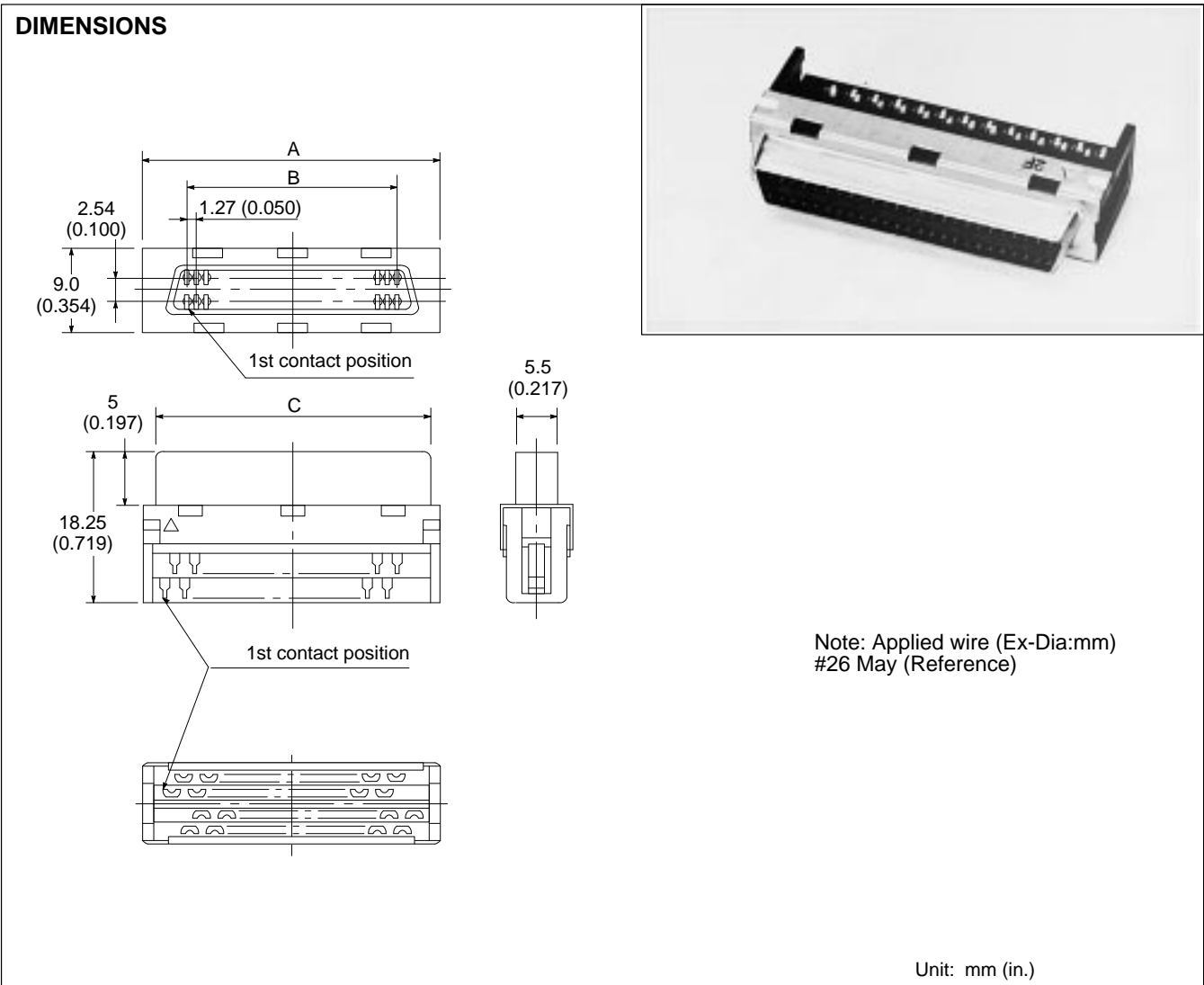


Unit: mm (in.)

PART NUMBERS

No. of Con- tacts	Part Number Right Angle	Dimensios				
		A	B	C	D	E
20	FCN-235P020-G/E	33.40 (1.315)	27.40 (1.079)	15.80 (0.622)	11.43 (0.450)	21.60 (0.850)
28	FCN-235P028-G/E	38.48 (1.515)	32.48 (1.279)	20.88 (0.822)	16.51 (0.650)	26.68 (1.050)
36	FCN-235P036-G/E	43.56 (1.715)	37.56 (1.479)	25.96 (1.022)	21.59 (0.350)	31.76 (1.250)
50	FCN-235P050-G/E	52.45 (2.065)	46.45 (1.829)	34.85 (1.372)	30.48 (1.200)	40.65 (1.600)
68	FCN-235P068-G/E	63.88 (2.515)	57.88 (2.279)	46.28 (1.822)	41.91 (1.650)	52.08 (2.050)
80	FCN-235P080-G/E	71.50 (2.815)	65.50 (2.579)	53.90 (2.122)	49.53 (1.950)	59.70 (2.350)

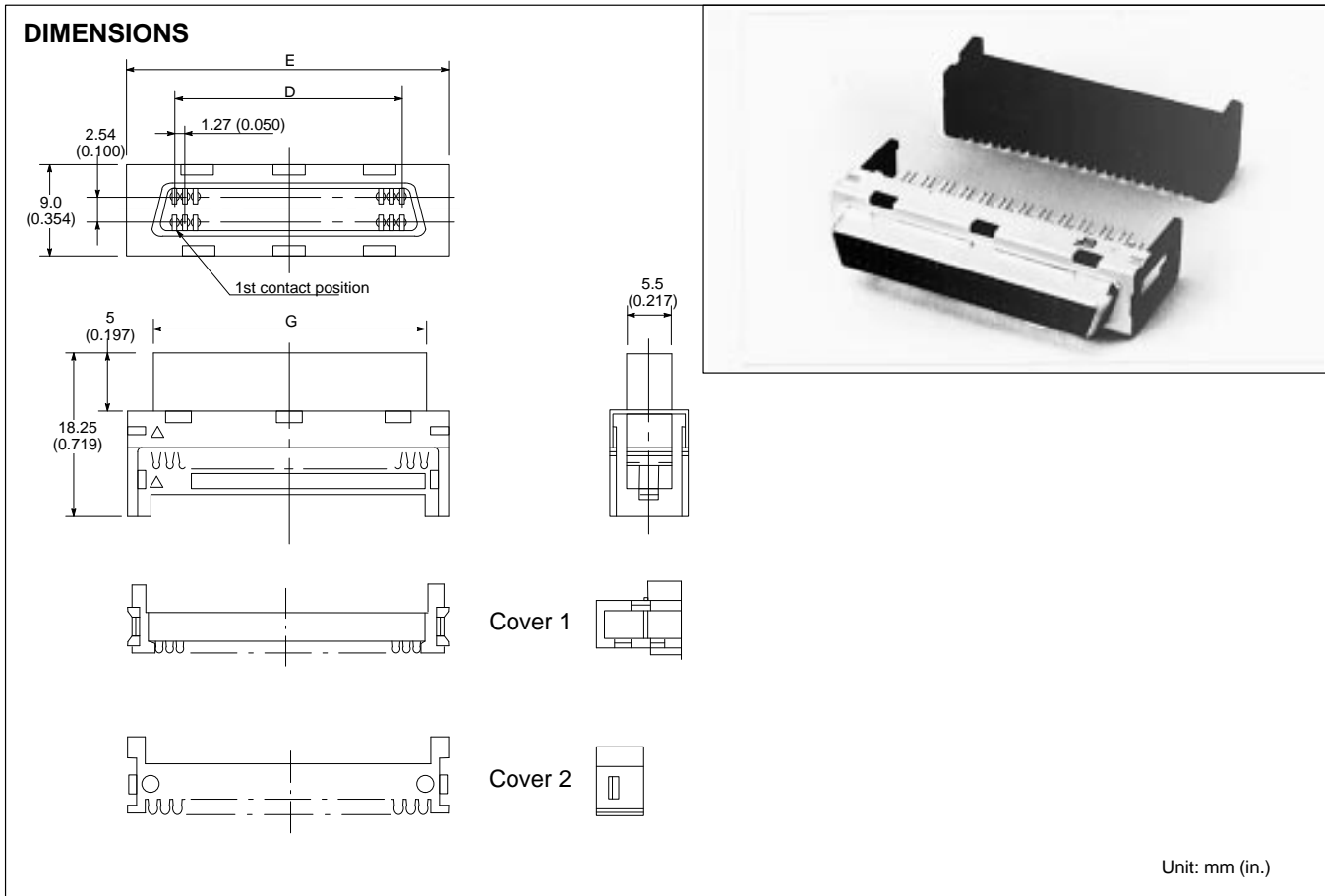
FCN-231J***-G/E SOLDER-CABLE-SOCKET



PART NUMBERS

No. of Contacts	Part Number	Dimensions		
		A	B	C
20	FCN-231J020-G/E	19.25 (0.758)	11.43 (1.450)	15.60 (0.614)
28	FCN-231J028-G/E	24.33 (0.958)	16.51 (0.650)	20.68 (0.814)
36	FCN-231J036-G/E	29.41 (1.158)	21.59 (0.850)	25.76 (1.014))
50	FCN-231J050-G/E	38.30 (1.508)	30.48 (1.200)	34.65 (1.364)
68	FCN-231J068-G/E	49.73 (1.958)	41.91 (1.650)	46.08 (1.814)

FCN-237J***-G/* IDC-CABLE-SOCKET

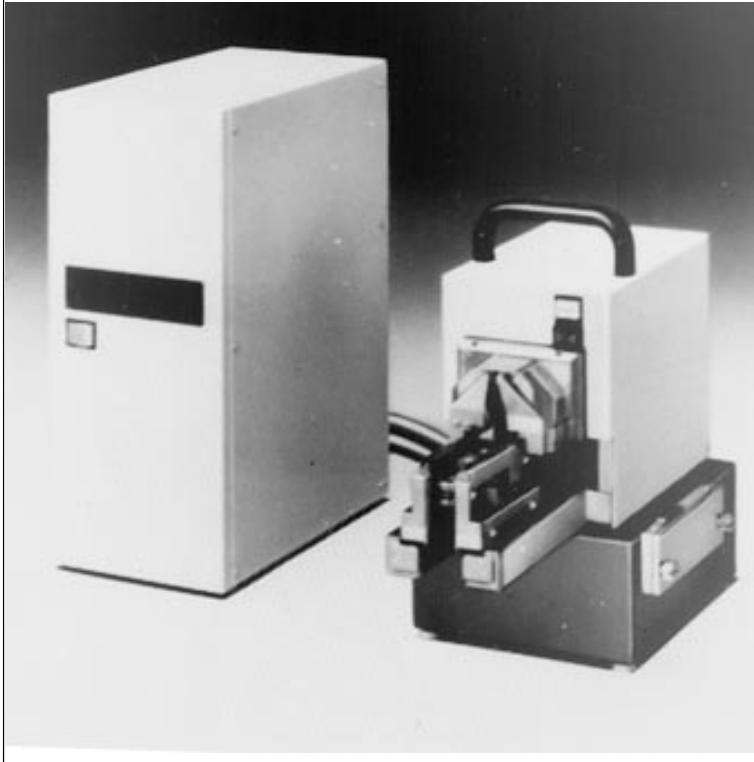


2

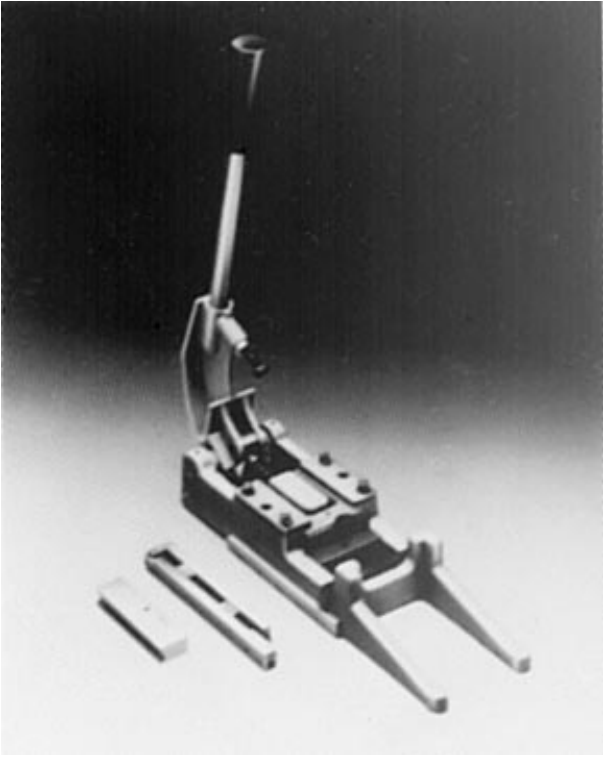
PART NUMBERS

No. of Contacts	External Diameter of Applied	Part Number	Dimensions						
			A	B	C	D	E	F	G
20	Ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237J020-G/F	16.75 (0.659)	14.95 (0.589)	13.55 (0.533)	11.43 (0.450)	19.25 (0.758)	16.85 (0.663)	15.60 (0.614)
	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J020-G/E							
28	Ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237J028-G/F	21.83 (0.859)	21.03 (0.789)	18.63 (0.733)	16.51 (0.650)	24.33 (0.958)	21.93 (0.863)	20.68 (0.814)
	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J028-G/E							
36	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J036-G/E	26.91 (1.059)	25.11 (0.989)	23.71 (0.933)	21.59 (0.850)	29.41 (1.158)	27.01 (1.063)	25.76 (1.014)
50	Ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237J050-G/F	35.80 (1.409)	34.00 (1.339)	32.60 (1.283)	30.48 (1.200)	38.30 (1.508)	35.90 (1.143)	34.65 (1.364)
	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J050-G/E							
68	Ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237J068-G/F	47.23 (1.859)	45.43 (1.789)	44.03 (1.733)	41.91 (1.650)	49.73 (1.958)	47.33 (1.863)	46.08 (1.817)
	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J068-G/E							
80	Ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237J080-G/E	54.85 (2.159)	53.05 (2.088)	51.65 (2.033)	49.53 (1.950)	57.35 (2.258)	54.95 (2.163)	53.70 (2.114)

Semi-automatic cable aligner
Cable Aligning Machine
Main Body (FCN-M561-A)



IDC TOOL

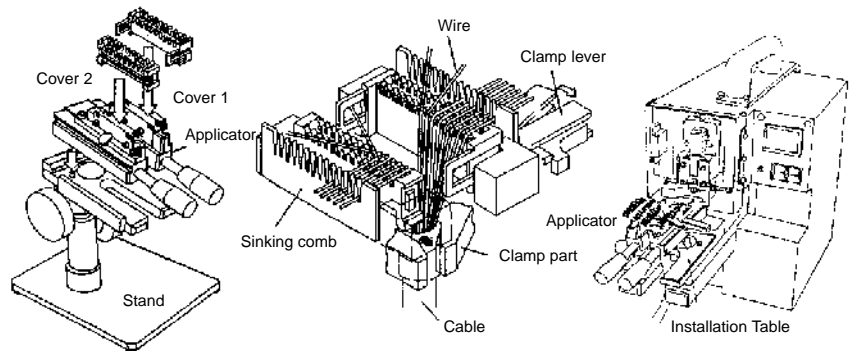


SOCKET: FCN-237J***-G/E (***: 020, 028, 036, 050, 068, 080)

Pos No.	Applied Wire (wire Dia.: mm)	Connector Part Number	Cable Aligner		IDC Tool
			Hand Tool	Semi-Auto	
20 80	#28 OR #30 (0.5 - 0.65)	FCN-237J020-G/F FCN-237J080-G/E	FCN-237T-T062/H or FCN-237T-T043/H	(See below*)	HAND PRESS: FCN-237T-T109/H HEAD & TABLE: FCN-237T-T064/H

*Semi-automatic cable aligner
Body :FCN-M561-A
Controler :FCN-B561-120 (FOR 120V), FCN-B561-220 (FOR 220V)
Bed :FCN-P560-2/A
Adapter :FCN-K560-A-*** (***:020, 028, 036, 050, 068, 080)

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



1. Set the applicator on the stand.
Set covers 1 and 2 in the applicator
2. Push the wires into the sinking combs.
3. Set the applicator onto the installation table and begin cable alignment.

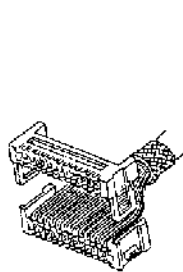
Head (FCN-H550-1/A)

Stand (FCN-D550)

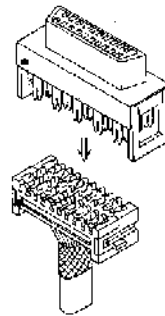


Applicator (FCN-A550-1/A-xxx)

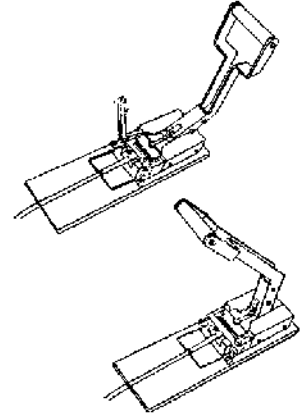
IDC Tool (FCN-237T-T109/H,
FCN-237T-T067/H locator)



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.

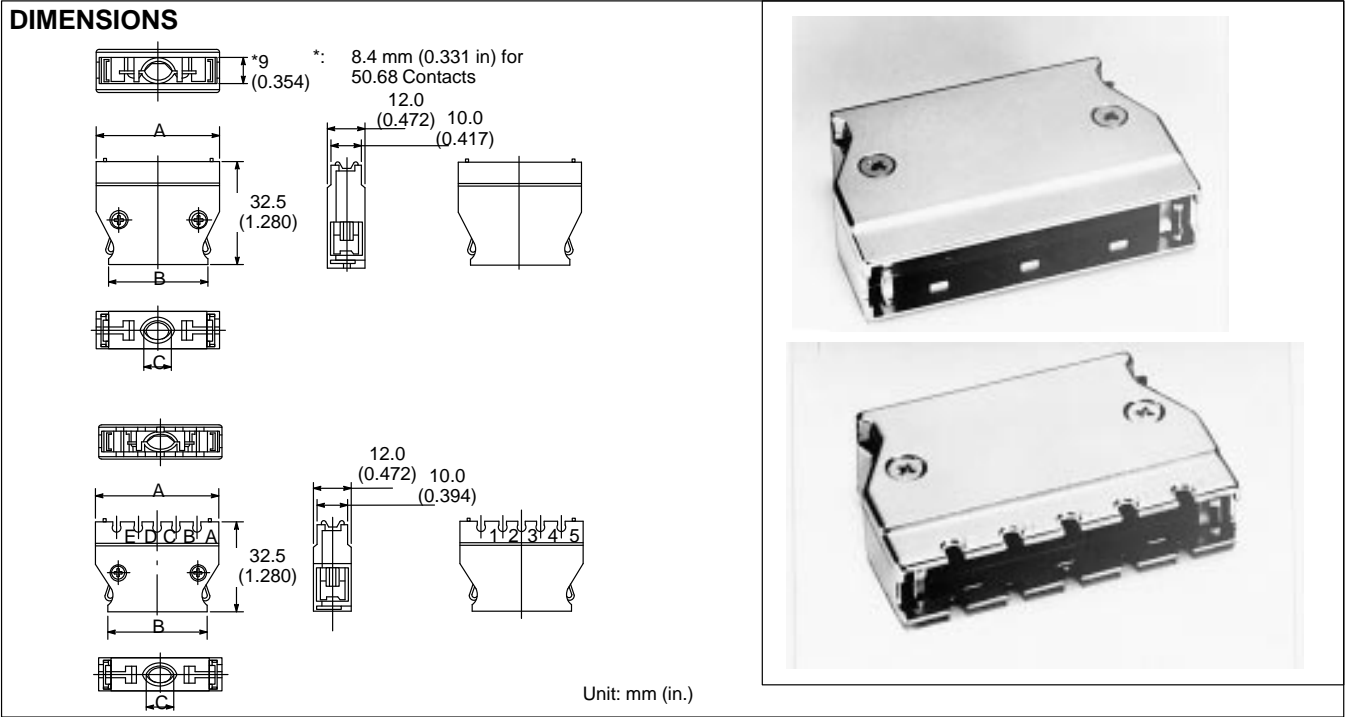
2

SOCKET: FCN-237J*-G/E (***: 020, 028, 036, 050, 068, 080)**

Pos No.	Applied Wire (wire Dia.: mm)	Connector Part Number	Cable Aligner		IDC Tool
			Hand Tool	Semi-Auto	
20 80	#28 or #30 (0.5 - 0.65)	FCN-237J020-G/F FCN-237J080-G/F	FCN-237T-T062/H or FCN-237T-T043/H	(See below*)	HAND PRESS: FCN-237T-T109/H HEAD & TABLE: FCN-237T-T064/H

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

FCN-230C***-*/E METAL COVER



PART NUMBERS

No. of Contacts	Part Number	Dimensions		
		A	B	C
20	FCN-230C020-A/E	28.95(1.140)	11.43 (0.450)	6.5 4.5 (0.256 0.177)
	FCN-230C020-C/E			8.5 8.2 (0.335 0.323)
	FCN-230C020-B/E			6.5 4.5 (0.256 0.177)
26	FCN-230C026-C/E	32.76(1.1290)	24.96(0.983)	7.2 8.5 (0.283 0.335)
28	FCN-230C028-A/E	34.03(1.340)	26/23 (1.033)	6.50 6.0 (0.256 0.236)
	FCN-230C028-C/E			8.5 7.2 (0.335 0.283)
	FCN-230C028-B/E			6.50 6.0 (0.256 0.236)
36	FCN-230C036-A/E	39.11 (1.540)	31.31 (1.233)	9.5 8.0 (0.374 0.315)
	FCN-230C036-B/E	39.11 (1.540)	31.31 (1.233)	9.5 8.0 (0.374 0.315)
	FCN-230C036-C/E	39.11 (1.540)	31.31 (1.233)	9.0 10.0 (0.354 0.394)
40	FCN-230C040-C/E	41.15 (1.639)	33.85 (1.334)	8.0 10.6 (0.315 0.417)
50	FCN-230C050-A/E	48.00 (1.890)	40.20 (1.583)	8.5 7.0 (0.334 0.276)
	FCN-230C050-C/E			9.7 10.0 (0.382 0.394)
	FCN-230C050-D/E			14.7 10.4 (0.579 0.409)
	FCN-230C050-B/E			8.5 7.0 (.0335 0.276)
68	FCN-230C068-A/E	59.43 (2.340)	51.63 (2.033)	9.0 8.0 (0.354 0.315)
	FCN-230C068-C/E			10.0 9.7 (0.394 0.354)
	FCN-230C068-D/E			14.7 10.4 (0.579 0.409)
	FCN-230C068-B/E			9.0 8.0)0.354 0.315)
80	FCN-230C080-D/E	67.05 (2.640)	59.25 (2.333)	9.0 10.0)0.354 0.394)
96	FCN-230C096-C/E	77.21 93.040)	69.41 (2.733)	9.0 11.5 (0.354 0.453)
	FCN-230C096-D/E			

FCN-230KXXX POLARIZATION GUIDE

PART NUMBERING FOR POLARIZATION GUIDE VARIATIONS

FCN-230K0XX # \triangle \bigcirc
(1) (2)

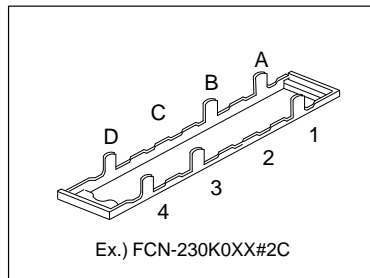
- (1) \triangle : Enter the number (1, 2, 3, 4, 5) corresponding to the desired snapped nail position on the lower edge.
- (2) \bigcirc : Enter the letter (A, B, C, D, E) corresponding to the desired snapped nail position on the upper edge.

PART NUMBERING FOR POLARIZATION COVER VARIATIONS (WITH RIVET)

FCN-230C0XX -B/E# \triangle \bigcirc
-D/E (1) (2)

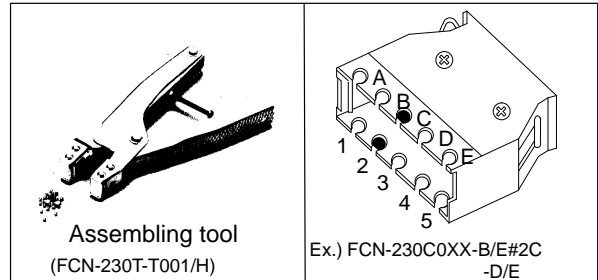
- (1) \triangle : Enter the number (1, 2, 3, 4, 5) corresponding to the desired rivet position on the lower plate.
- (2) \bigcirc : Enter the letter (A, B, C, D, E) corresponding to the desired rivet position on the upper plate.

When you buy rivet separately, please assemble it by using the following tool.



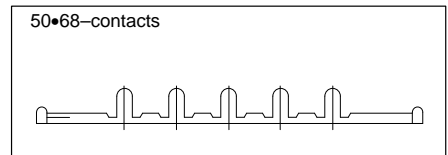
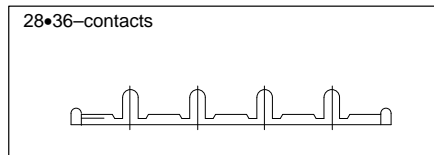
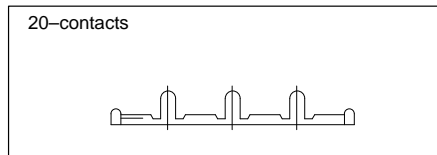
Designation of standard hollow position with rivet.

No. of contacts	Designation			
20-contacts	1B	1C	2A	3A
28-contacts	1D	2C	3B	4A
36-contacts	1D	2C	3B	4A
50-contacts	1E	2D	4B	5A
68-contacts	1E	2D	4B	5A



Assembling tool
(FCN-230T-T001/H)

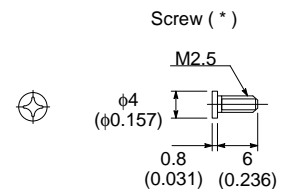
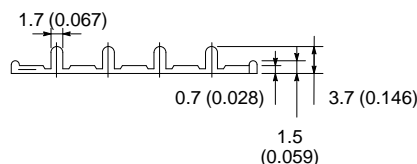
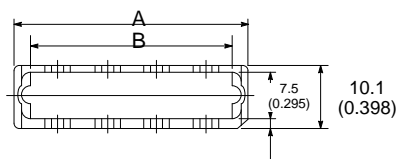
Polarization key arrangement



PART NUMBERS

No. of Contacts	Part Number	Dimensions	
		A	C
20	FCN-230K020	32.60 (1.283)	27.40 (1.079)
28	FCN-230K020	37.70 (1.484)	32.48 (1.279)
36	FCN-230K020	42.80 (1.685)	37.60 (1.480)
50	FCN-230K020	51.70 (2.035)	46.45 (1.829)
68	FCN-230K020	63.10 (2.484)	57.88 (2.279)

DIMENSIONS

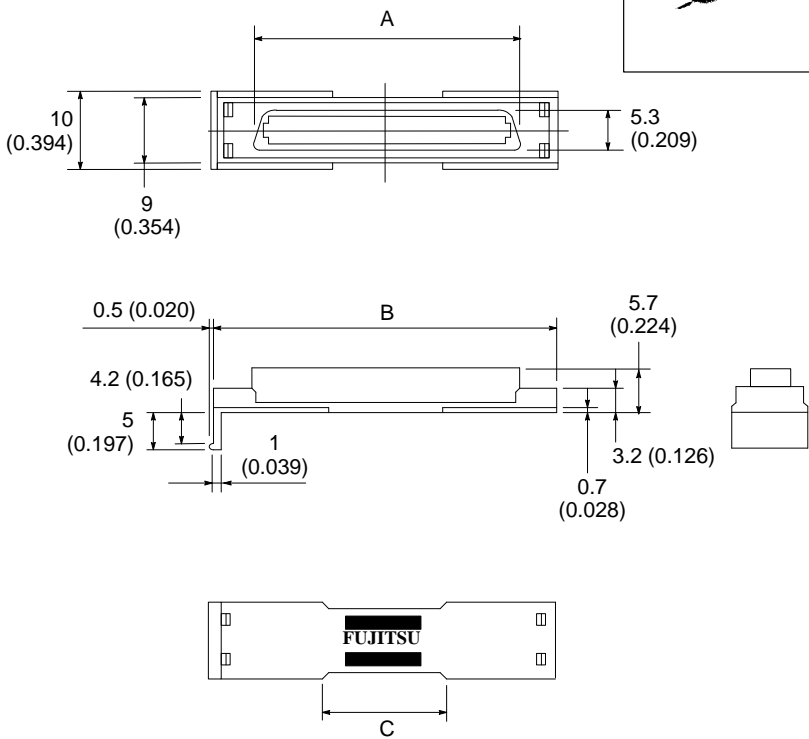


Unit: mm (in.)

(*) 2 screw attached

FCN-230Cxxx-21 DUST CAP FOR BOARD-PLUG

DIMENSIONS

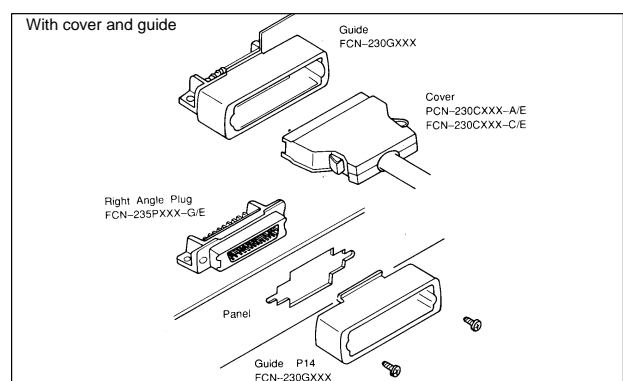
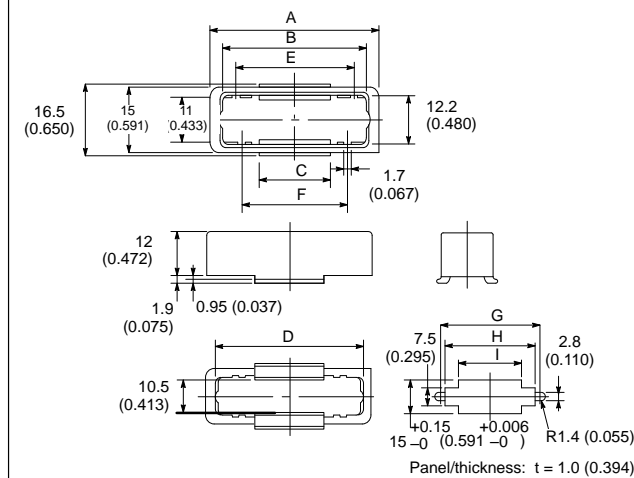
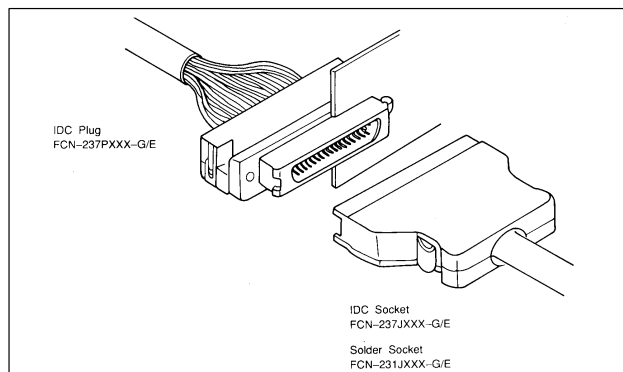
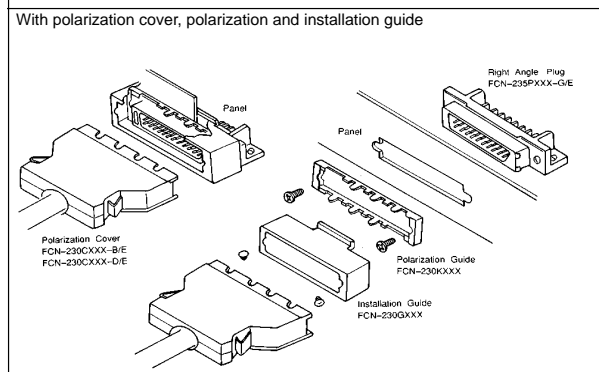
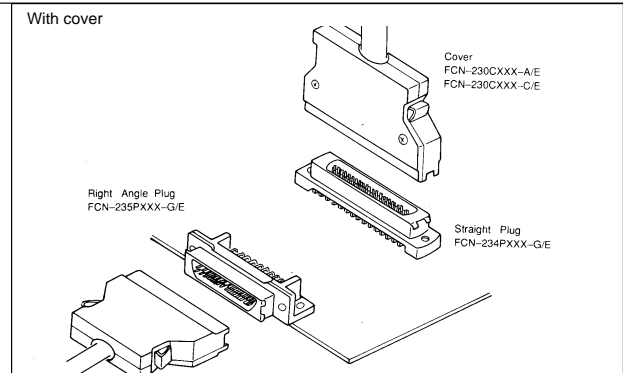
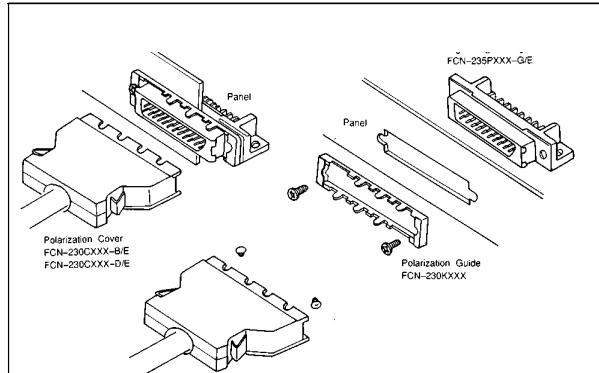


Unit: mm (in.)

PART NUMBERS

No. of Contacts	Part Number	Dimensions		
		A	B	C
20	FCN-230C020-21	15.60(0.614)	25.50(1.004)	10.00(0.394)
28	FCN-230C028-21	20.68(0.814)	30.58(1.004)	10.00(0.394)
36	FCN-230C036-21	25.76(1.014)	35.66(1.404)	10.00(0.394)
50	FCN-230C050-21	34.65(1.364)	44.55(1.754)	15.00(0.591)
68	FCN-230C068-21	46.08(1.814)	55.98(2.204)	20.00(0.787)

EXAMPLES OF CONNECTOR APPLICATIONS (PCB TO CABLE)



PART NUMBERS

No. of Contacts	Part Number	Dimensions								
		A	B	C	D	E	F	G	H	I
20	FCN-230G020	37.4 (1.472)	30.7 (1.209)	11 (0.433)	33 (1.297)	25 (0.984)	8 (0.315)	27.4 (1.079)	23.7 (0.933)	11.3 (0.445)
28	FCN-230G028	42.5 (1.673)	35.8 (1.409)	16 (0.630)	38.1 (1.500)	30 (1.181)	16 (0.630)	32.5 (1.280)	28.8 (1.134)	16.3 (0.642)
36	FCN-230G036	47.6 (1.874)	40.9 (1.610)	20 (0.787)	43.2 (1.701)	34 (1.339)	31 (1.220)	37.6 (1.480)	33.9 (1.335)	20.3 (0.799)
50	FCN-230G050	56.3 (2.217)	49.6 (1.953)	30 (1.181)	52.1 (2.051)	42 (1.654)	39 (1.535)	46.5 (1.831)	42.8 (1.685)	30.3 (1.193)
68	FCN-230G068	67.7 (2.665)	61 (2.462)	40 (1.575)	63.5 (2.500)	52 (2.047)	49 (1.929)	57.9 (2.280)	54.1 (2.130)	40.3 (1.587)