

## FCN-234D/235DXXX-G/E/-G/H, 237RXXX-G/E/-G/F

### FCN-230 SERIES BOARD TO CABLE SCSI II CONNECTORS

#### 1.27 mm PITCH, PIN CONTACT SCSI II CONNECTORS FOR BOARD-SOCKET TO ROUND-CABLE-PLUG

#### FEATURES

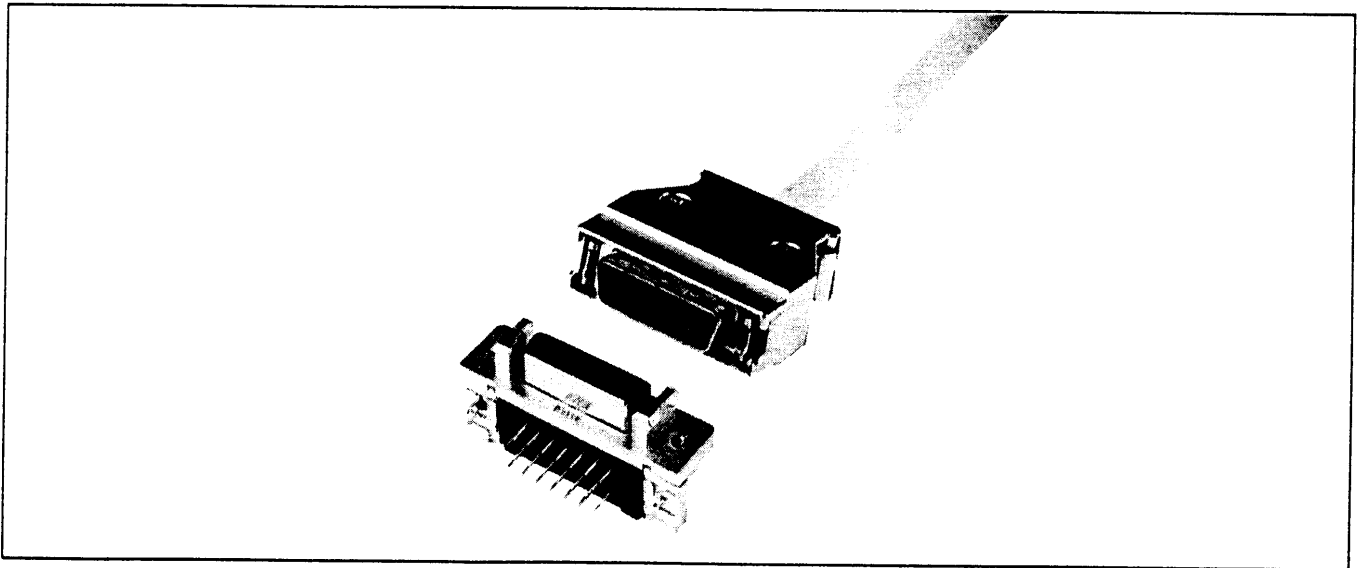
- Mating contacts have 1.27 mm (0.050 in.) pitch configuration, enabling high density mounting and interface.
- Conforming to the SCSI-II specification approved by ANSI. (50 and 68 positions)
- Discrete wire (AWG#28, #30) I/O cable can be assembled by IDC.
- Terminals are arranged in staggered configuration. (1.27 mm x 1.905 mm (0.050 in. x 0.075 in.))

#### SPECIFICATIONS

Operating temperature	-55°C to +105°C
Maximum allowable current	1A DC
Maximum allowable voltage	240 V AC
Contact resistance	30 mΩ max. at 6 V DC, 0.1 A
Insulation resistance	1000 MΩ min. at 500 V DC
Dielectric strength	750 V AC for 1 minute
Applicable wire	AWG #28 or #30 (wire diameter: $\phi 0.5$ to $\phi 0.65$ mm (0.020 to 0.026) or $\phi 0.8$ to $\phi 0.88$ (0.031 to 0.035 in.))

#### MATERIALS

Insulator	Polyester (UL94V-0)
Conductor	Copper alloy
Contact plating	Gold



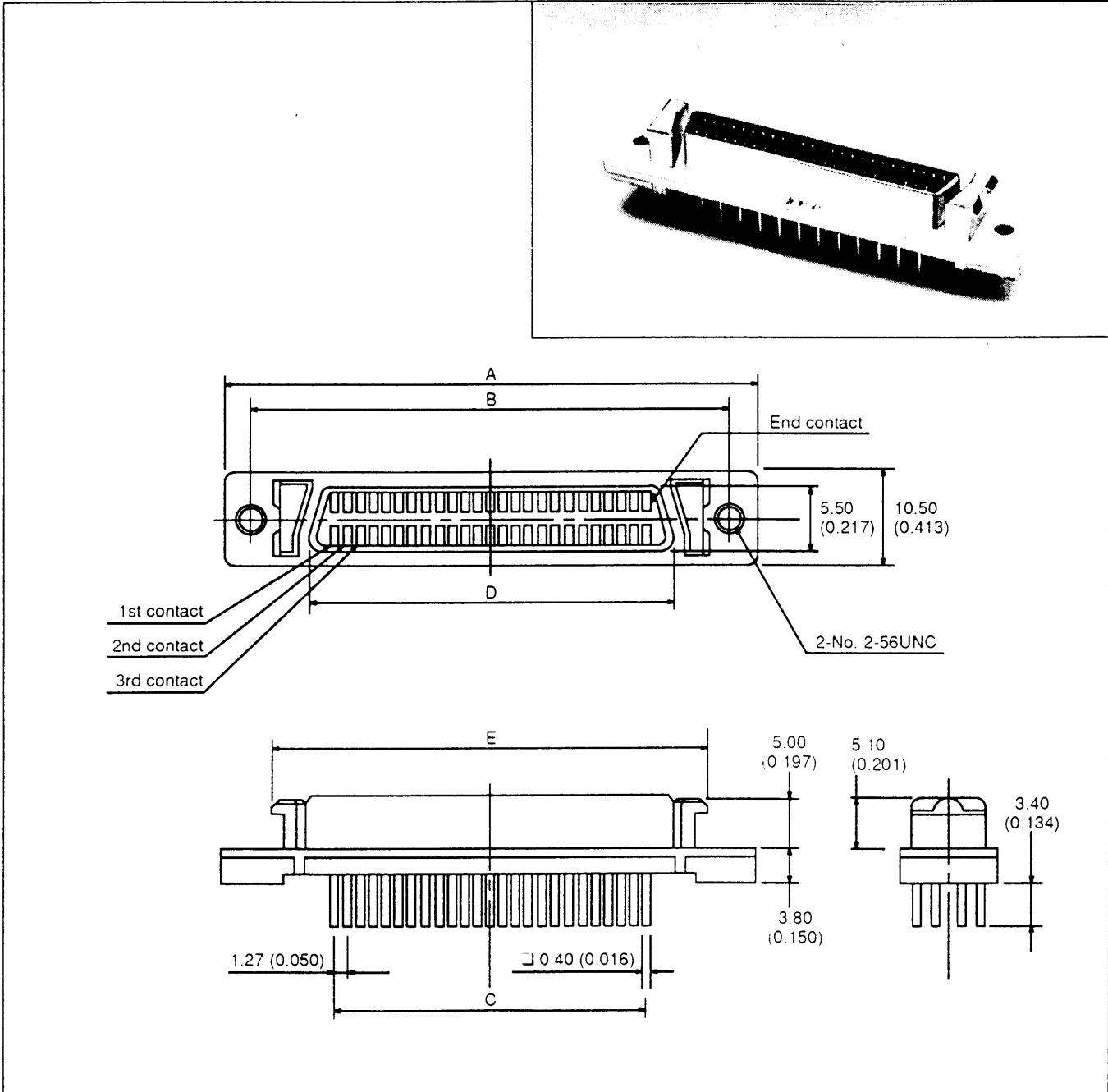
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FCN-234DXXX-G/E/-G/H  
FCN-235DXXX-G/E/-G/H  
FCN-237RXXX-G/E/-G/F

# FCN-234DXXX-G/E STRAIGHT TYPE, BOARD-SOCKET

## Dimensions

Unit: mm (in.)



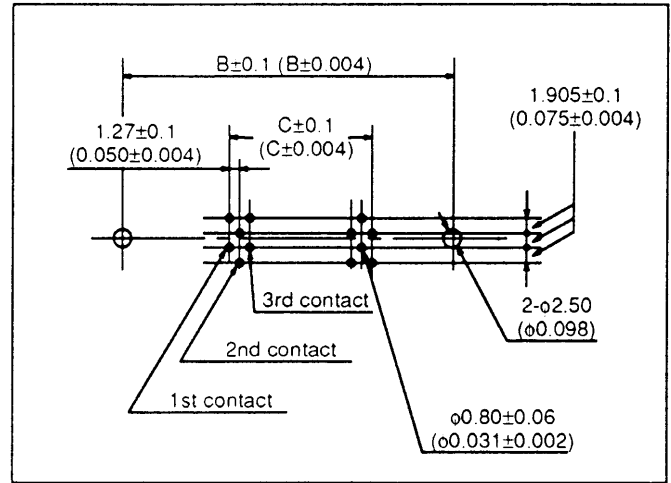
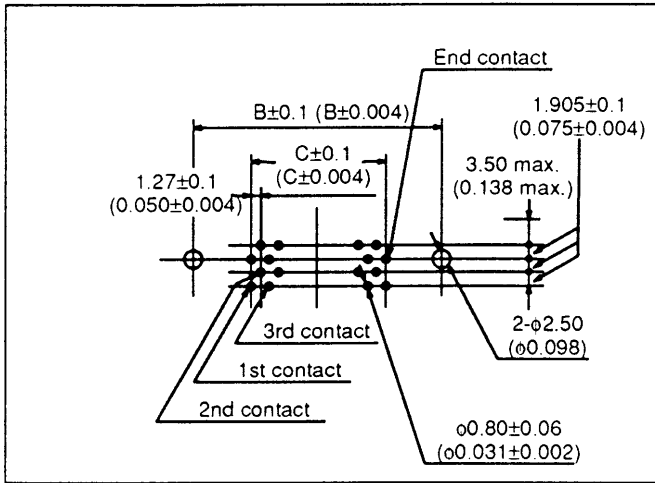
**Mounting hole layout**

26, 50-contacts

Unit: mm (in.)

20, 28, 68-contacts

Unit: mm (in.)



**Part numbers**

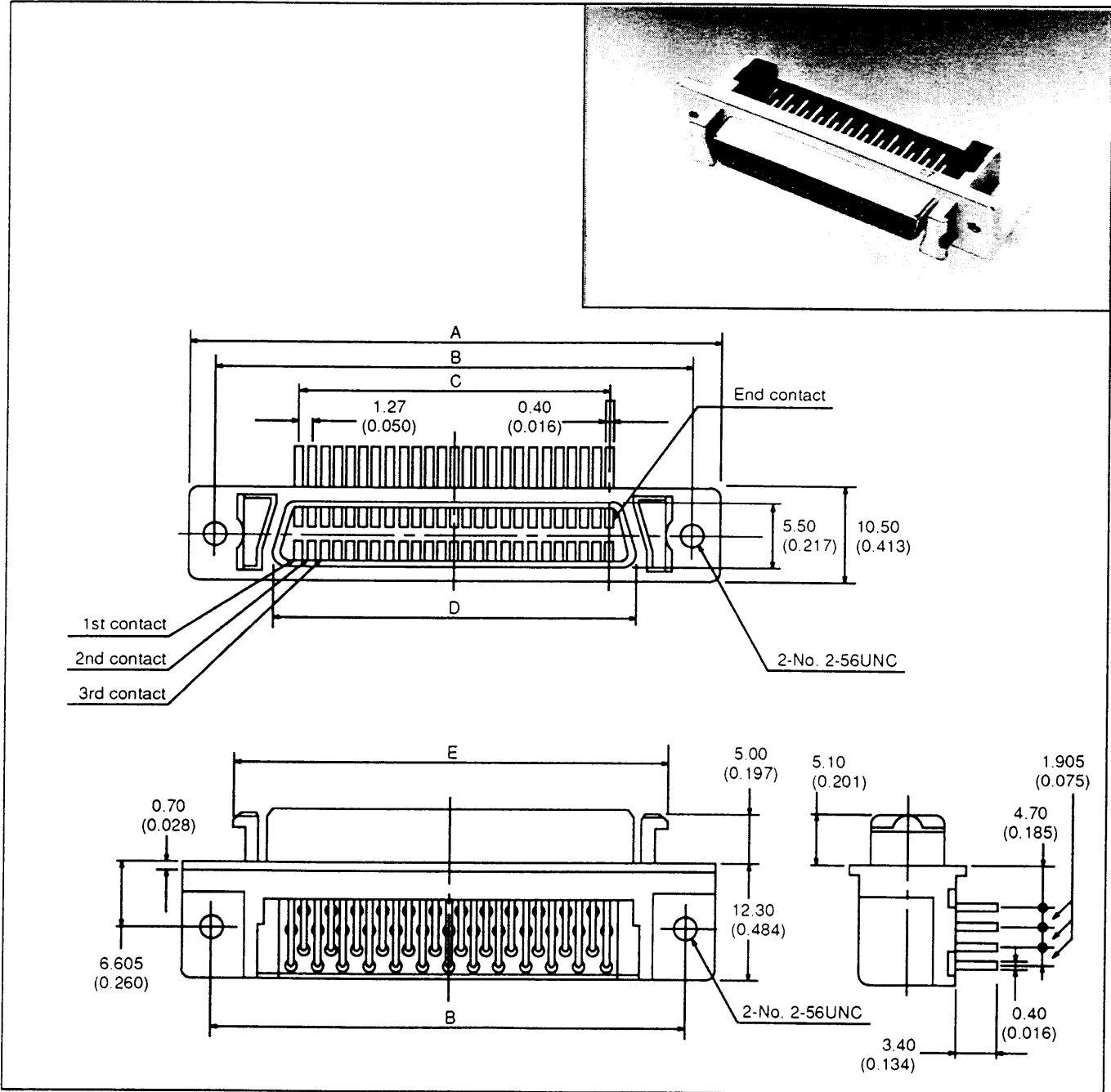
No. of contacts	Part number	Dimensions				
	Straight	A	B	C	D	E
20	FCN-234D020-G/E	33.40 (1.315)	27.43 (1.080)	11.43 (0.450)	15.60 (0.614)	23.24 (0.915)
26	FCN-234D026-G/E	37.21 (1.465)	31.24 (1.230)	15.24 (0.600)	19.41 (0.764)	27.05 (1.065)
28	FCN-234D028-G/E	38.48 (1.515)	32.51 (1.280)	16.51 (0.650)	20.68 (0.814)	28.32 (1.115)
50	FCN-234D050-G/E	52.45 (5.065)	46.48 (1.830)	30.48 (1.200)	34.65 (1.364)	42.29 (1.665)
68	FCN-234D068-G/E	63.88 (2.515)	57.91 (2.280)	41.91 (1.650)	46.08 (1.814)	53.72 (2.115)

FCN-234DXXX-G/E/-G/H  
FCN-235DXXX-G/E/-G/H  
FCN-237RXXX-G/E/-G/F

# FCN-235DXXX-G/E RIGHT ANGLE TYPE, BOARD-SOCKET

## Dimensions

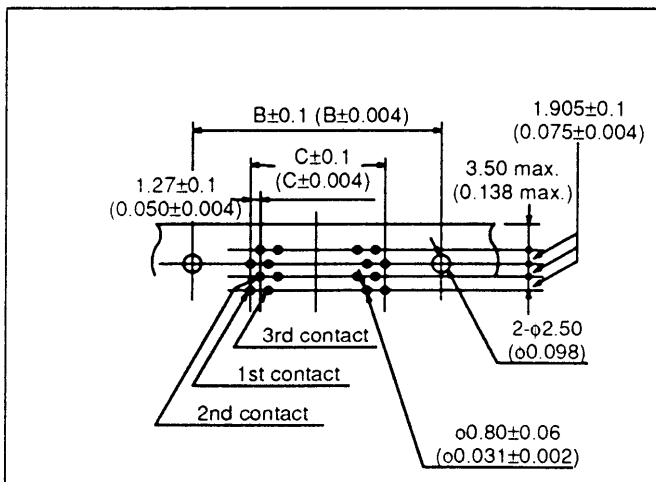
Unit: mm (in.)



Mounting hole layout

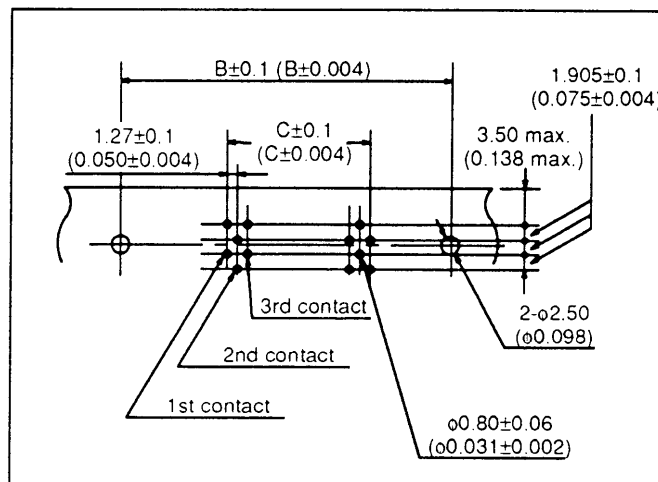
26, 50-contacts

Unit: mm (in.)



20, 28, 68-contacts

Unit: mm (in.)



Part numbers

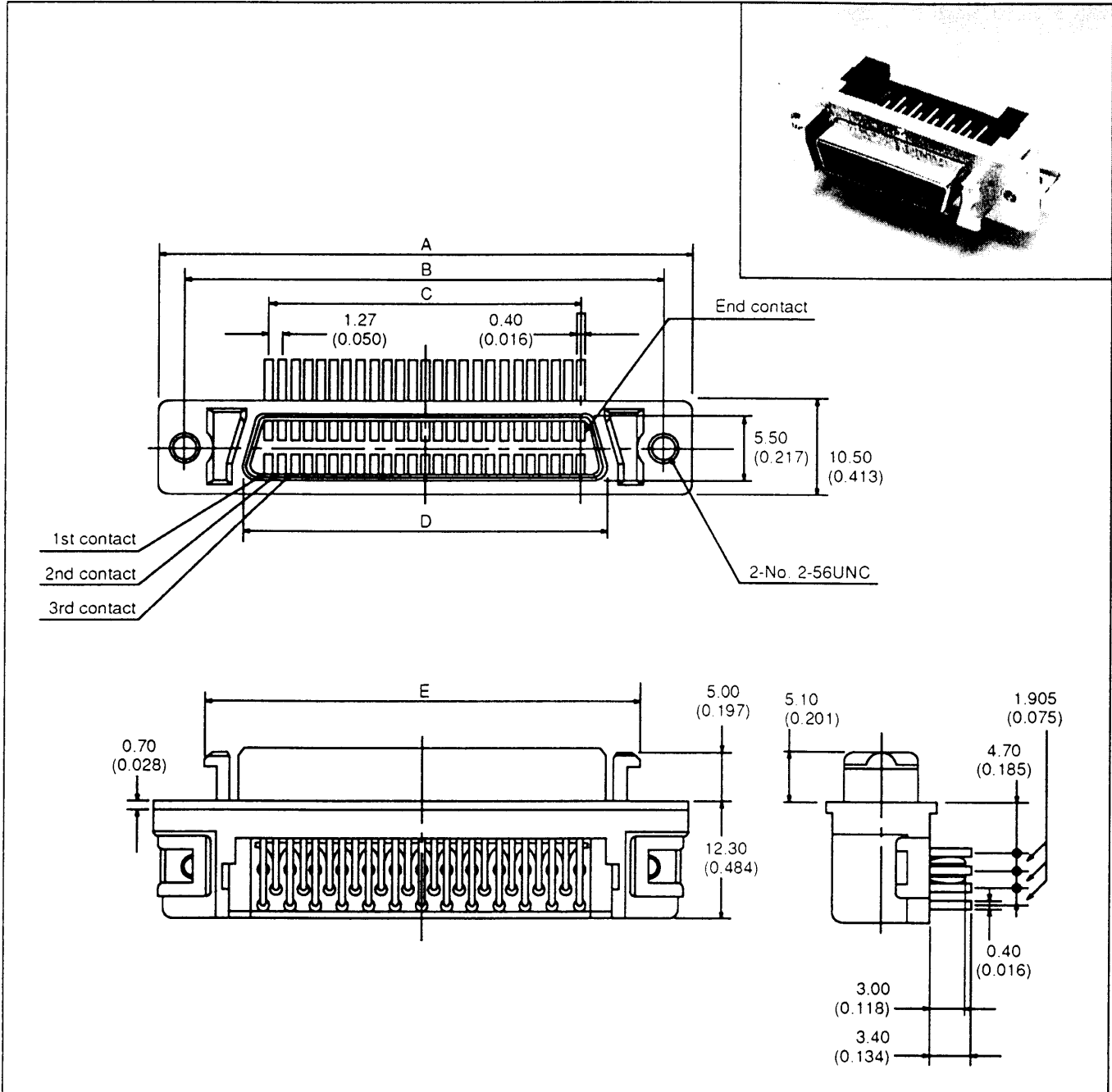
No. of contacts	Part number	Dimensions				
	Right-angle	A	B	C	D	E
20	FCN-235D020-G/E	33.40 (1.315)	27.43 (1.080)	11.43 (0.450)	15.60 (0.614)	23.24 (0.915)
26	FCN-235D026-G/E	37.21 (1.465)	31.24 (1.230)	15.24 (0.600)	19.41 (0.764)	27.05 (1.065)
28	FCN-235D028-G/E	38.48 (1.515)	32.51 (1.280)	16.51 (0.650)	20.68 (0.814)	28.32 (1.115)
50	FCN-235D050-G/E	52.45 (5.065)	46.48 (1.830)	30.48 (1.200)	34.65 (1.364)	42.29 (1.665)
68	FCN-235D068-G/E	63.88 (2.515)	57.91 (2.280)	41.91 (1.650)	46.08 (1.814)	53.72 (2.115)

FCN-234Dxxx-G/E/-G/H  
FCN-235Dxxx-G/E/-G/H  
FCN-237Rxxx-G/E/-G/F

# FCN-235Dxxx-G/H RIGHT ANGLE TYPE, BOARD-SOCKET WITH MOUNTING HOOK

## Dimensions

Unit: mm (in.)



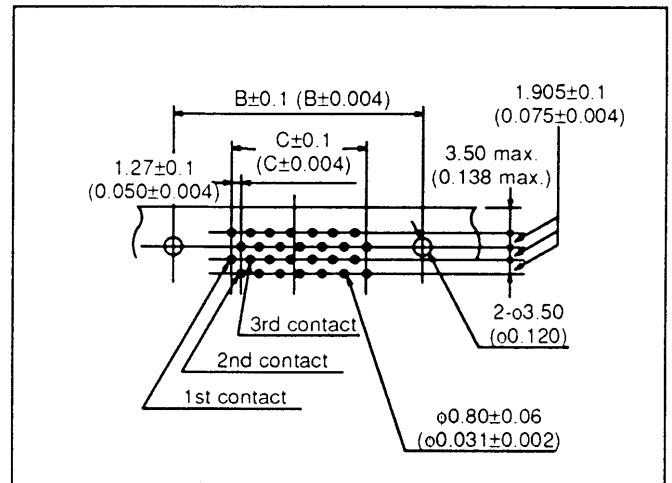
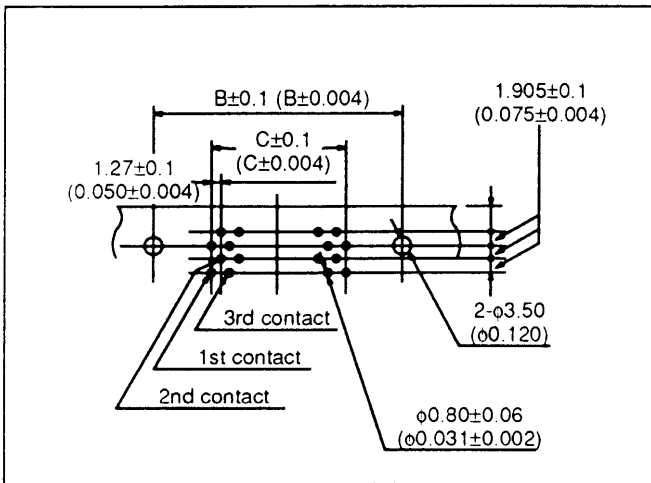
Mounting hole layout

26, 50-contacts

Unit: mm (in.)

20, 28, 68-contacts

Unit: mm (in.)



Part numbers

No. of contacts	Part number	Dimensions				
	Right-angle	A	B	C	D	E
20	FCN-235D020-G/H	33.40 (1.315)	27.43 (1.080)	11.43 (0.450)	15.60 (0.614)	23.24 (0.915)
26	FCN-235D026-G/H	37.21 (1.465)	31.24 (1.230)	15.24 (0.600)	19.41 (0.764)	27.05 (1.065)
28	FCN-235D028-G/H	38.48 (1.515)	32.51 (1.280)	16.51 (0.650)	20.68 (0.814)	28.32 (1.115)
50	FCN-235D050-G/H	52.45 (5.065)	46.48 (1.830)	30.48 (1.200)	34.65 (1.364)	42.29 (1.665)
68	FCN-235D068-G/H	63.88 (2.515)	57.91 (2.280)	41.91 (1.650)	46.08 (1.814)	53.72 (2.115)

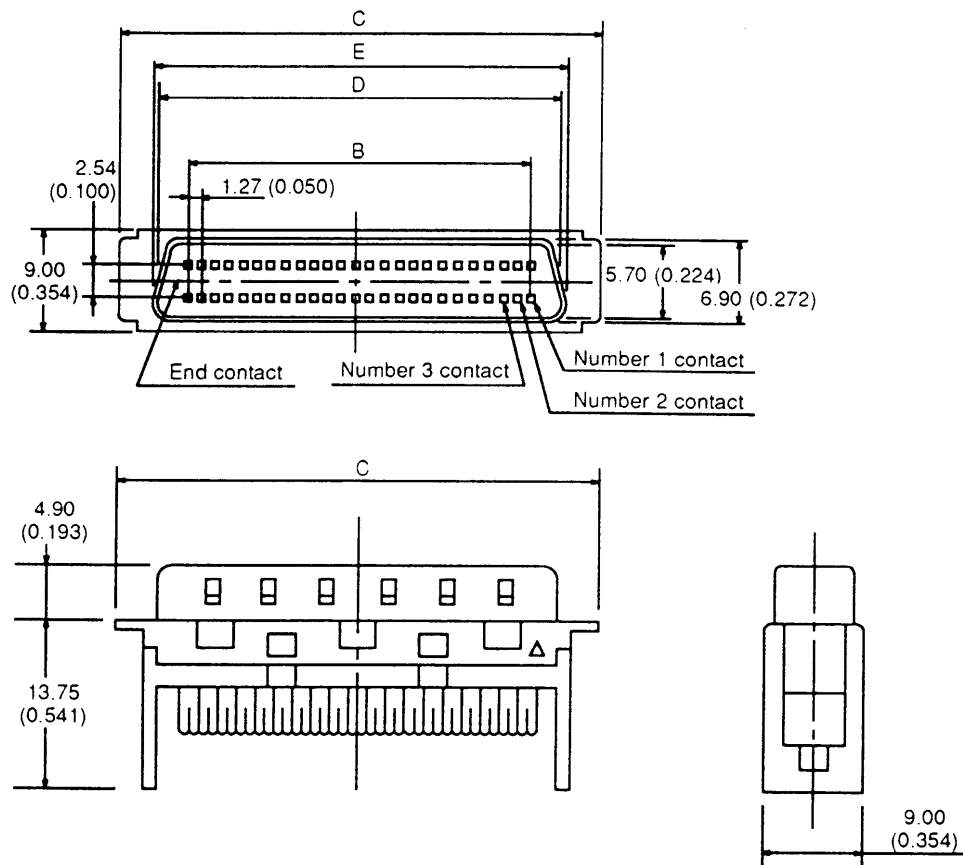
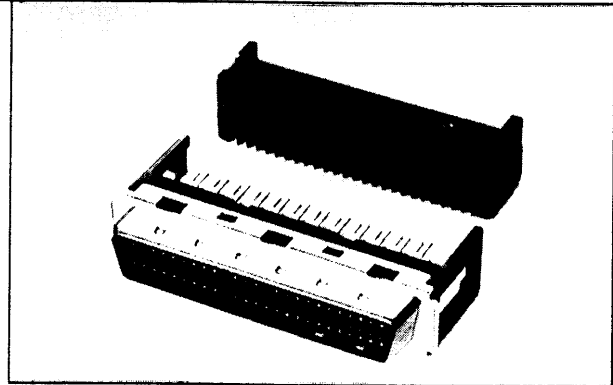
FCN-234DXXX-G/E/-G/H  
FCN-235DXXX-G/E/-G/H  
FCN-237RXXX-G/E/-G/F

# FCN-237RXXX-G/E/-G/F IDC TYPE, CABLOE-PLUG

Dimensions

Unit: mm (in.)

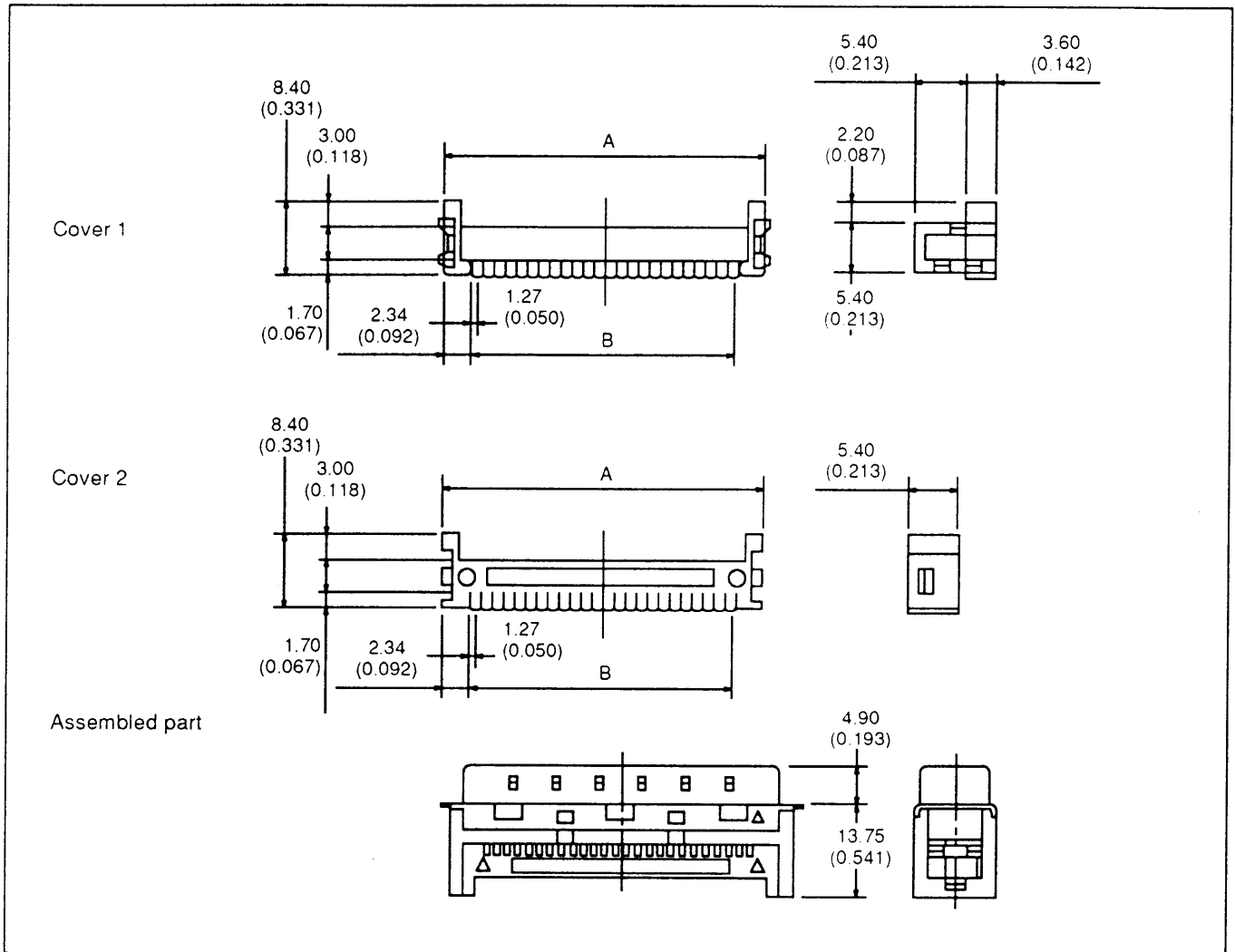
Main body





Dimensions

Unit: mm (in.)



FCN-234Dxxx-G/E/-G/H  
 FCN-235Dxxx-G/E/-G/H  
 FCN-237Rxxx-G/E/-G/F

Part numbers

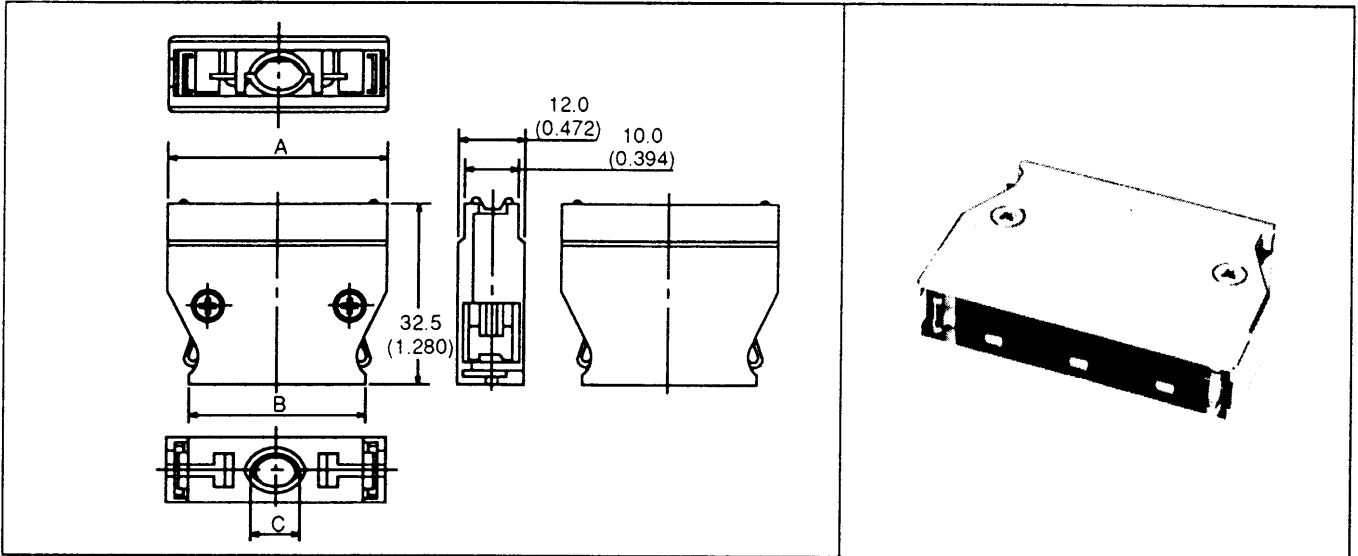
No of contacts	External diameter of applied	Part number	Dimensions				
			A	B	C	D	E
20	ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237R020-G/F	16.75 (0.659)	11.43 (0.450)	21.25 (0.837)	15.80 (0.622)	17.00 (0.669)
	ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237R020-G/E					
26	ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237R026-G/F	20.56 (0.809)	15.24 (0.600)	25.06 (0.987)	19.61 (0.772)	20.81 (0.819)
	ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237R026-G/E					
28	ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237R028-G/F	21.83 (0.859)	16.51 (0.650)	26.33 (1.037)	20.88 (0.822)	22.08 (0.869)
	ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237R028-G/E					
50	ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237R050-G/F	35.80 (1.409)	30.48 (1.200)	40.30 (1.587)	34.85 (1.372)	36.05 (1.419)
	ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237R050-G/E					
68	ø0.8 to 0.88 mm (0.031 to 0.035)	FCN-237R068-G/F	47.23 (1.859)	41.91 (1.650)	51.73 (2.037)	46.28 (1.822)	47.48 (1.869)
	ø0.5 to 0.65 mm (0.020 to 0.026)	FCN-237R068-G/E					

# FCN-230CXXX-A/E/-C/E

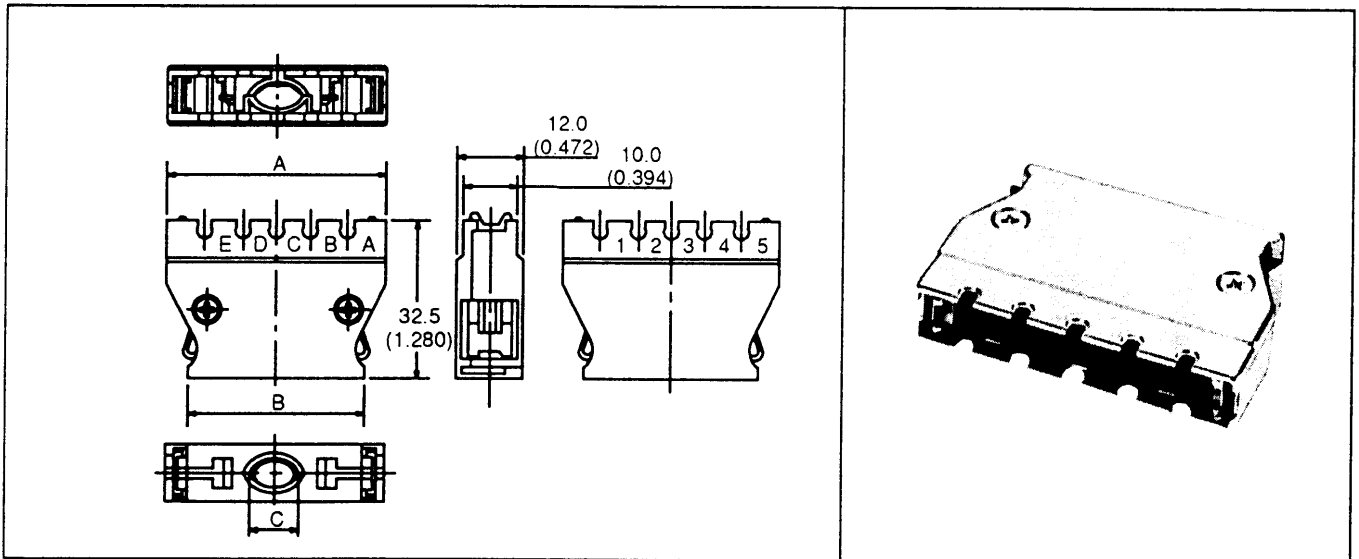
## Dimensions

[A/E•C/E type]

Unit: mm (in.)



[D/E type]



FCN-234Dxxx-G/E/-G/H

FCN-235Dxxx-G/E/-G/H

FCN-237Rxxx-G/E/-G/F

Part numbers

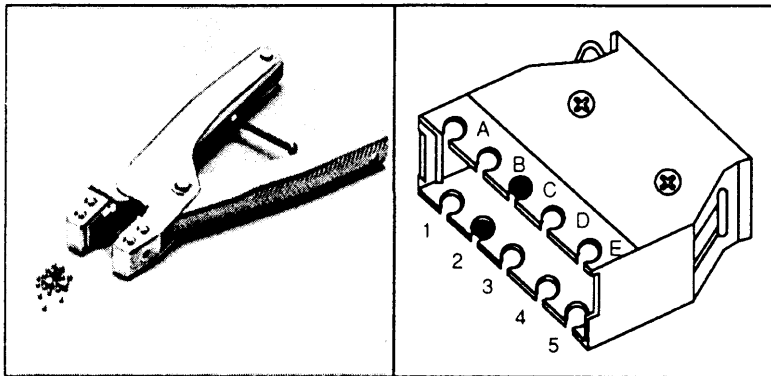
No. of contacts	Part number	A	B	C
20	FCN-230C020-A/E	28.95 (1.140)	21.15 (0.833)	6.5 x 4.5 (0.256 x 0.177)
	FCN-230C020-C/E			8.5 x 8.2 (0.335 x 0.323)
26	FCN-230C026-C/E	32.76 (1.290)	24.96 (0.983)	7.2 x 8.5 (0.283 x 0.335)
28	FCN-230C028-A/E	34.03 (1.340)	26.23 (1.033)	6.5 x 6.0 (0.256 x 0.236)
	FCN-230C028-C/E			7.0 x 8.5 (0.276 x 0.335)
50	FCN-230C050-A/E	48.00 (1.890)	40.20 (1.583)	8.5 x 7.0 (0.335 x 0.276)
	FCN-230C050-C/E			10.0 x 9.0 (0.394 x 0.354)
	FCN-230C050-D/E			14.7 x 10.4 (0.579 x 0.409)
68	FCN-230C068-A/E	59.43 (2.340)	51.63 (2.033)	9.0 x 8.0 (0.354 x 0.315)
	FCN-230C068-C/E			10.0 x 9.0 (0.394 x 0.354)
	FCN-230C068-D/E			14.7 x 10.4 (0.579 x 0.409)

## PART NUMBERING FOR POLARIZATION COVER VARIATIONS (WITH RIVET)

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

- (1)  $\Delta$  : 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.



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

Ex.) FCN-230C0XX-B/E#2C  
 -D/E

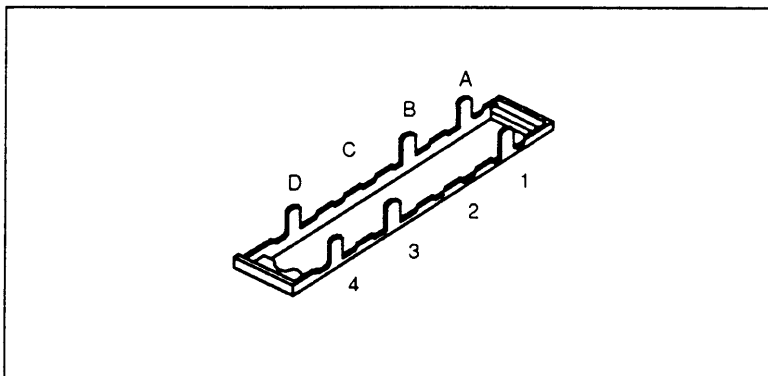
Designation of standard hollow position with rivet.

No. of contacts	Designation			
	1B	1C	2A	3A
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

## PART NUMBERING FOR POLARIZATION GUIDE VARIATIONS

FCN-230K0XX #  $\Delta$   $\bigcirc$   
 (1) (2)

- (1)  $\Delta$  : 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.



Ex.) FCN-230K0XX#2C

Designation of standard hollow position with rivet.

No. of contacts	Designation			
	1B	1C	2A	3A
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

FCN-234DXXX-G/E/-G/H  
 FCN-235DXXX-G/E/-G/H  
 FCN-237RXXX-G/E/-G/F

## IDC TOOL

Tool name	Part number	Remarks
Semi-Automatic Cable Aligning Machine (Main body)	FCN-M551-120 (for 120 V) FCN-M551-220 (for 220 V)	Common
Semi-Automatic Cable Aligning Machine (Head)	FCN-H550-1/A	Common
Semi-Automatic Cable Aligning Machine (Applicator)	FCN-A550-1/A-020 FCN-A550-1/A-028 FCN-A550-1/A-036 FCN-A550-1/A-050 FCN-A550-1/A-068	20 contacts 28 contacts 36 contacts 50 contacts 68 contacts
Semi-Automatic Cable Aligning Machine (Stand)	FCN-D550	Common
Hand Cable Aligner	FCN-237T-T043/H	Main Body, Press-cutter
Hand Cable Aligner	FCN-237T-T044/H	Main Body, Pusher, Cutter
Locator Plate	FCN-237T-T040/H	for Socket
Locator Plate	FCN-237T-T041/H	for Plug
Hand Press	FCN-707T-T101/H	Common
Semi-Automatic Cable Aligning Machine Set (for 120 V)	FCN-M550-1/A-120	Main Body, Head, Applicator, Stand
Semi-Automatic Cable Aligning Machine Set (for 220 V)	FCN-M550-1/A-220	Main Body, Head, Applicator, Stand

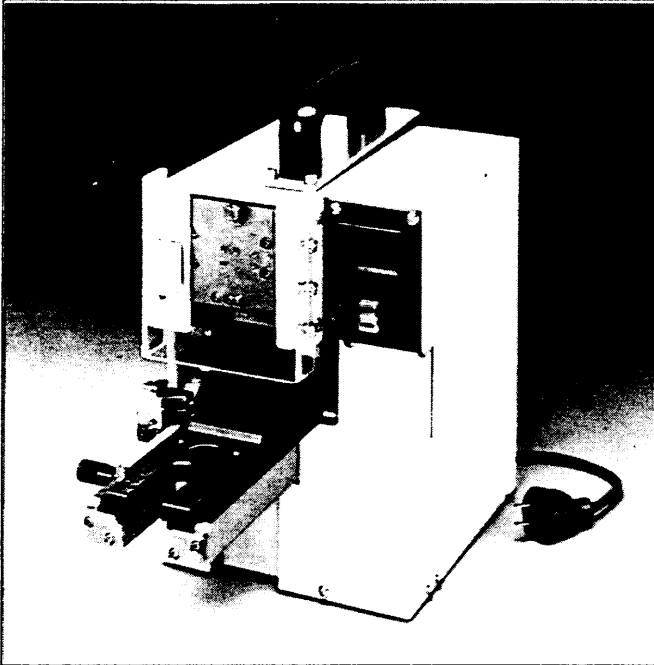
Operation manual of Semi-automatic cable aligning machine is available.

## CABLE ASSEMBLY SPECIFICATIONS

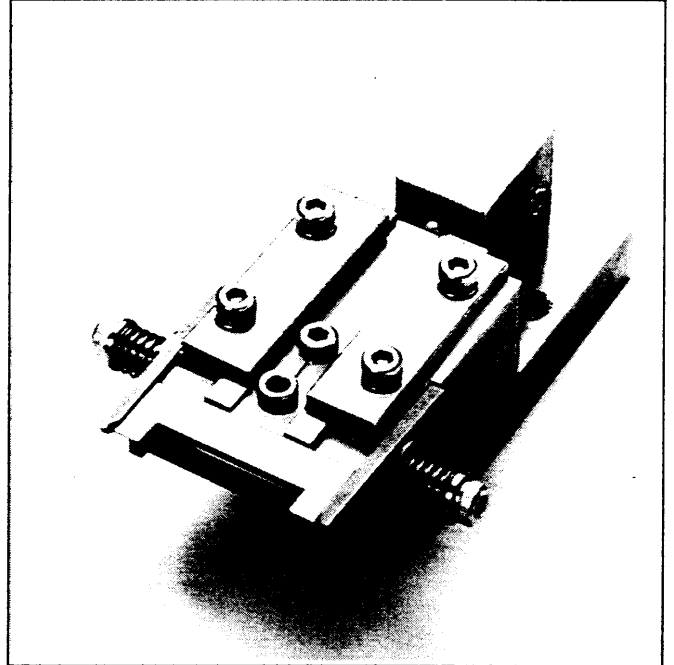
- Specify cable and length (L)
- Minimum length: 10 cm (3.9 in.) (round cable)
- Tolerance
  - Discrete wire (round cable)  $L > 1800$  cm (708.7 in.):  $\pm 20$  cm (7.9 in.),  $100$  cm (39.4 in.)  $< L \leq 1800$  cm (708.7 in.):  $\pm (L/100 + 2)$  cm [(L/100 + 0.8) in.],  $L \leq 100$  cm (39.4 in.):  $\pm 3$  cm (1.2 in.)

## SEMI-AUTOMATIC CABLE ALIGNING MACHINE

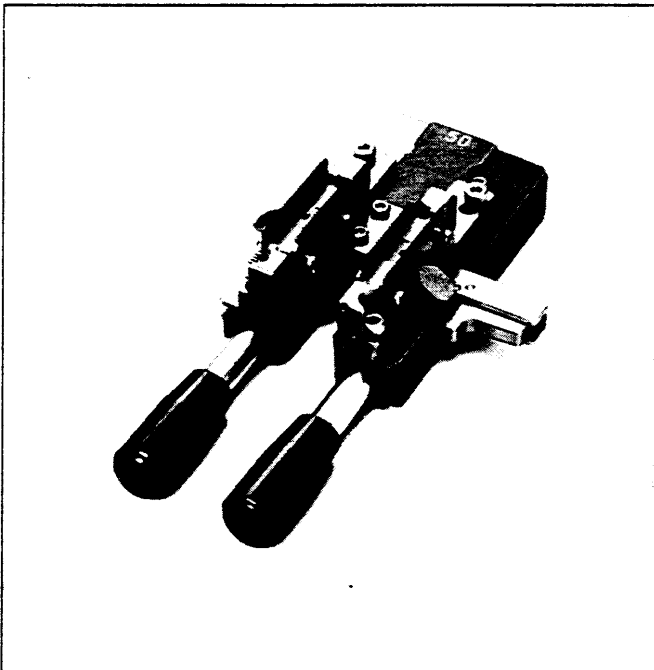
Main body (FCN-M551-120, FCN-M551-220)



Head (FCN-H550-1/A)



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



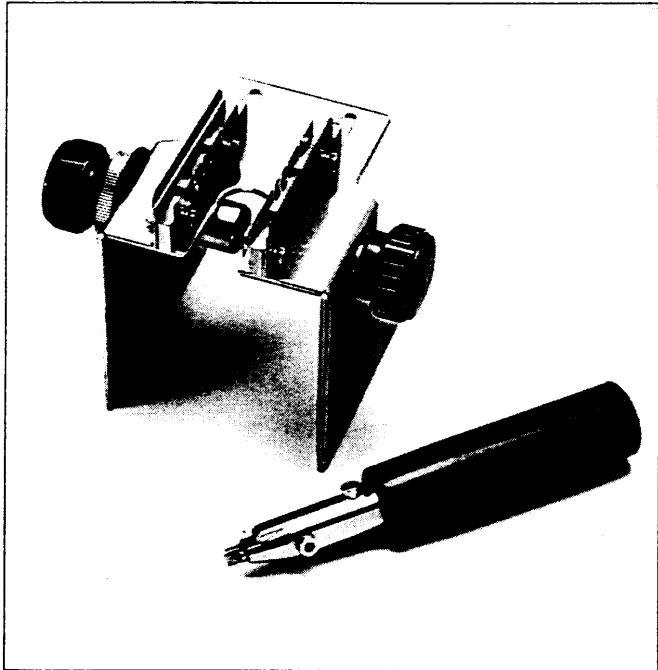
Stand (FCN-D550)



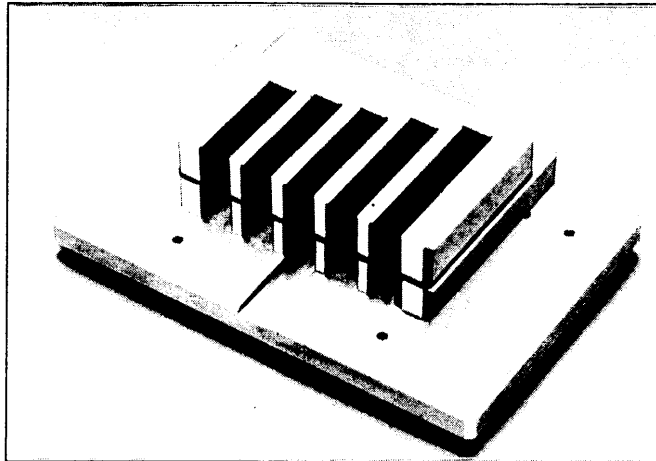
FCN-234Dxxx-G/E/-G/H  
FCN-235Dxxx-G/E/-G/H  
FCN-237Rxxx-G/E/-G/F

## HAND CABLE ALIGNER

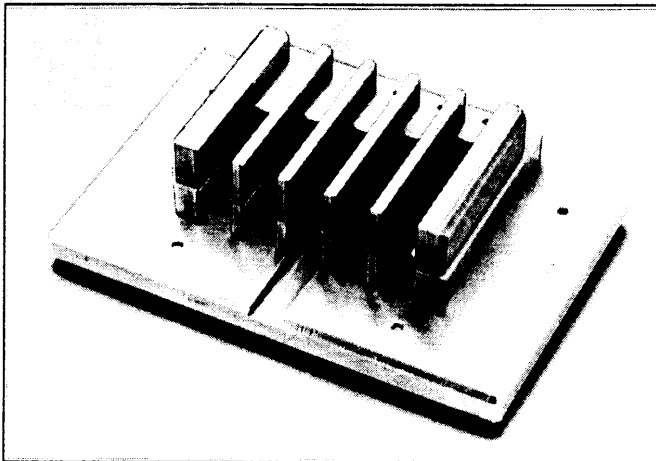
FCN-237T-T043/H



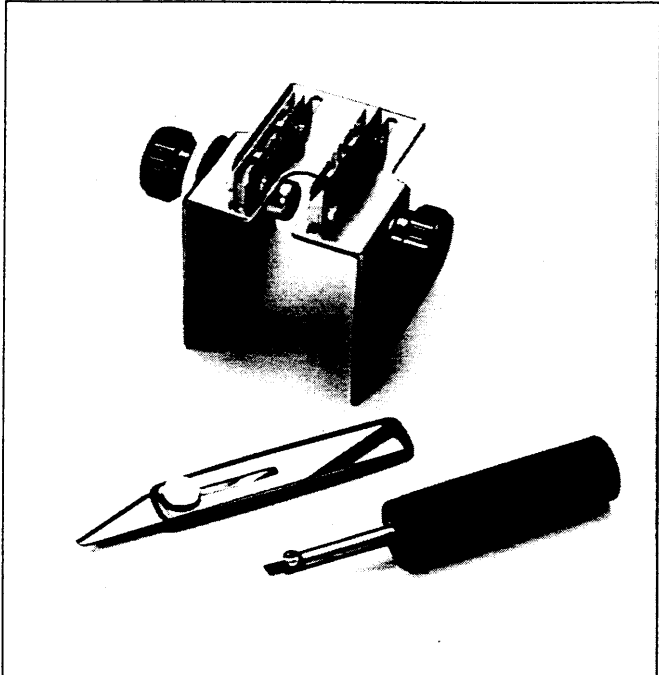
Locator plate (for socket)  
(FCN-237T-T040/H)



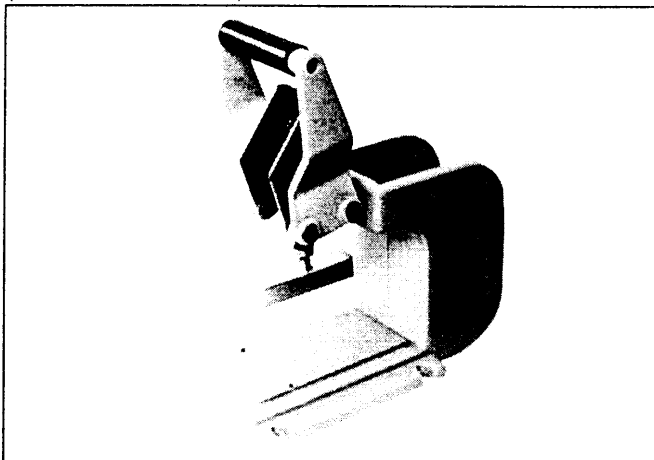
Locator plate (for plug)  
(FCN-237T-T041/H)



FCN-237T-T044/H



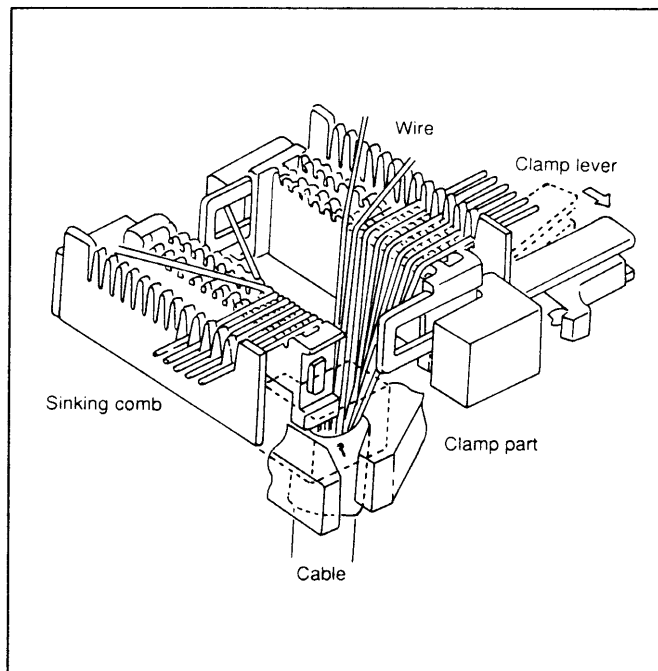
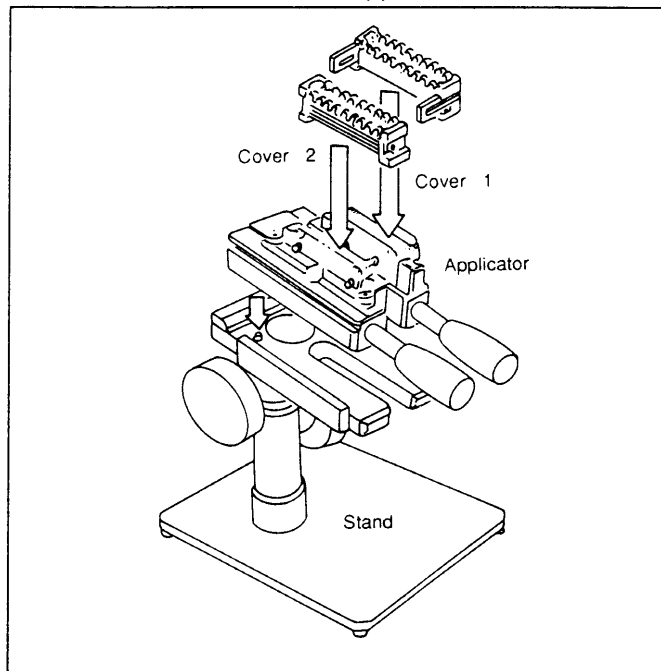
Hand press  
(FCN-707T-T101/H)



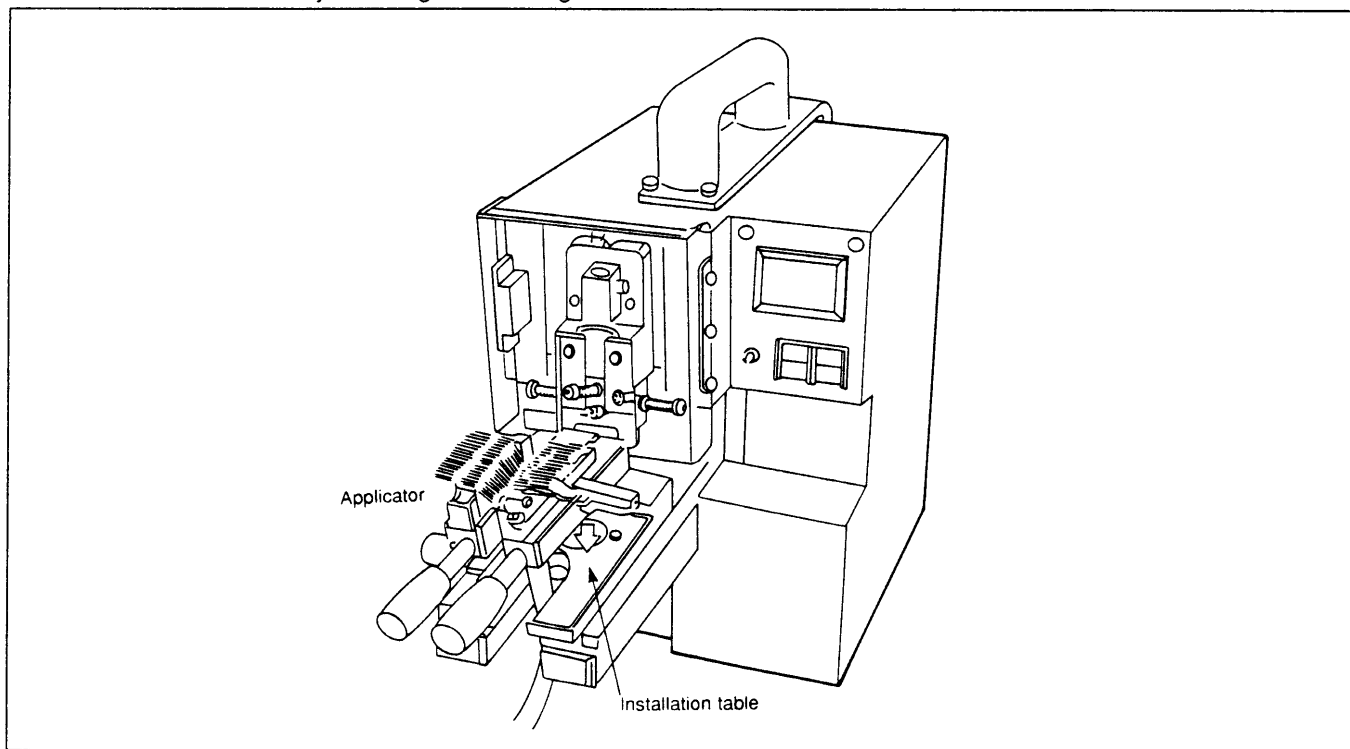


## CABLE ALIGNING AND IDC OPERATION (SEMI-AUTOMATIC)

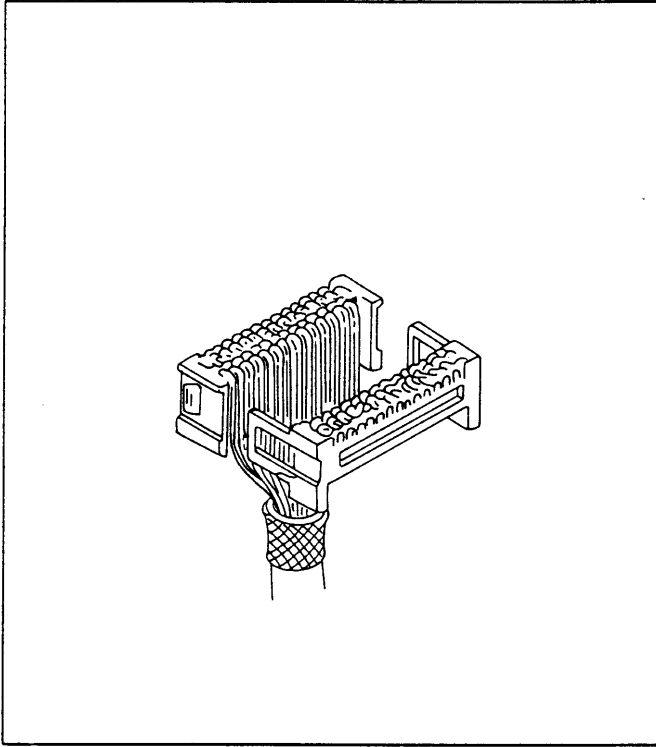
1. Set the applicator to the stand.  
Set the cover 1, 2 to the applicator.
2. Push the wires in turn into the sinking combs.



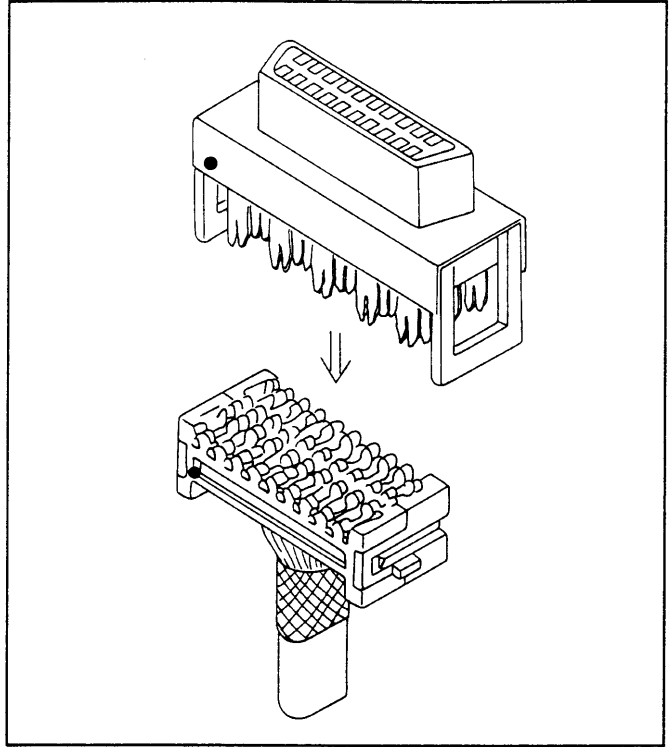
3. Set the applicator with the cable pushed into the installation table on the main body and begin cable alignment.



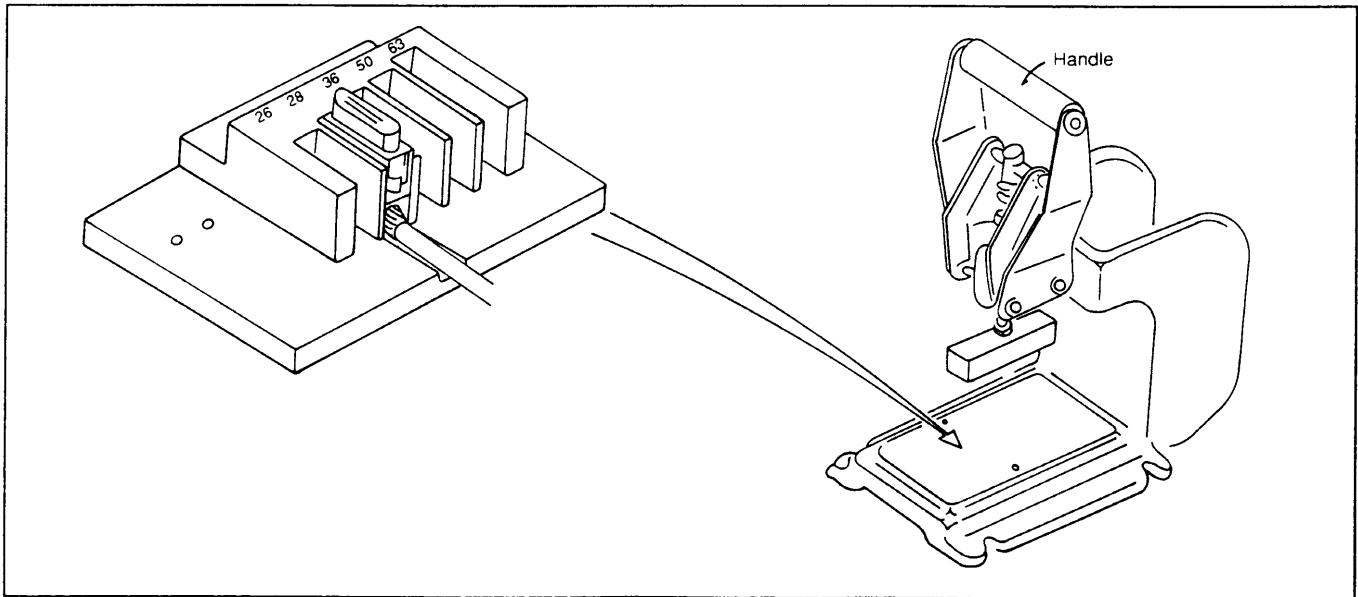
4. Take the covers off the applicator after cable alignment.



5. Push together covers and pre-assemble it to the mainbody.

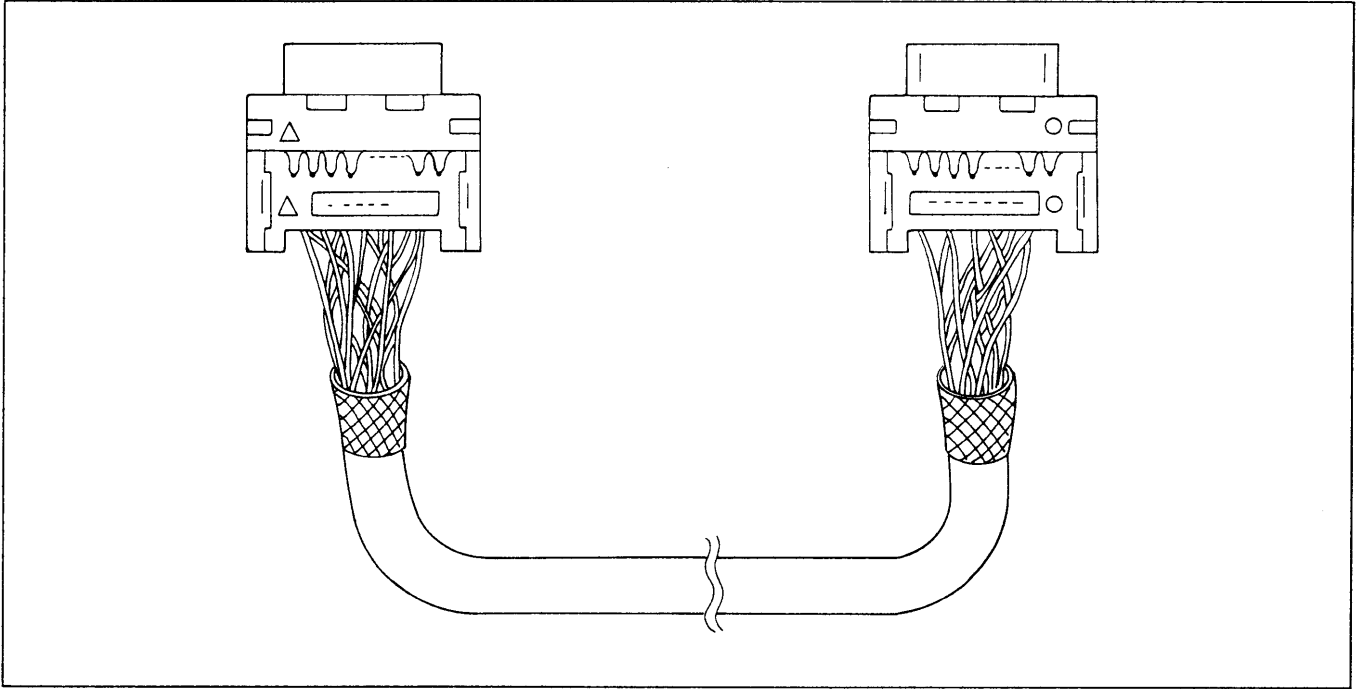


6. Assemble the pre-parts as follows.



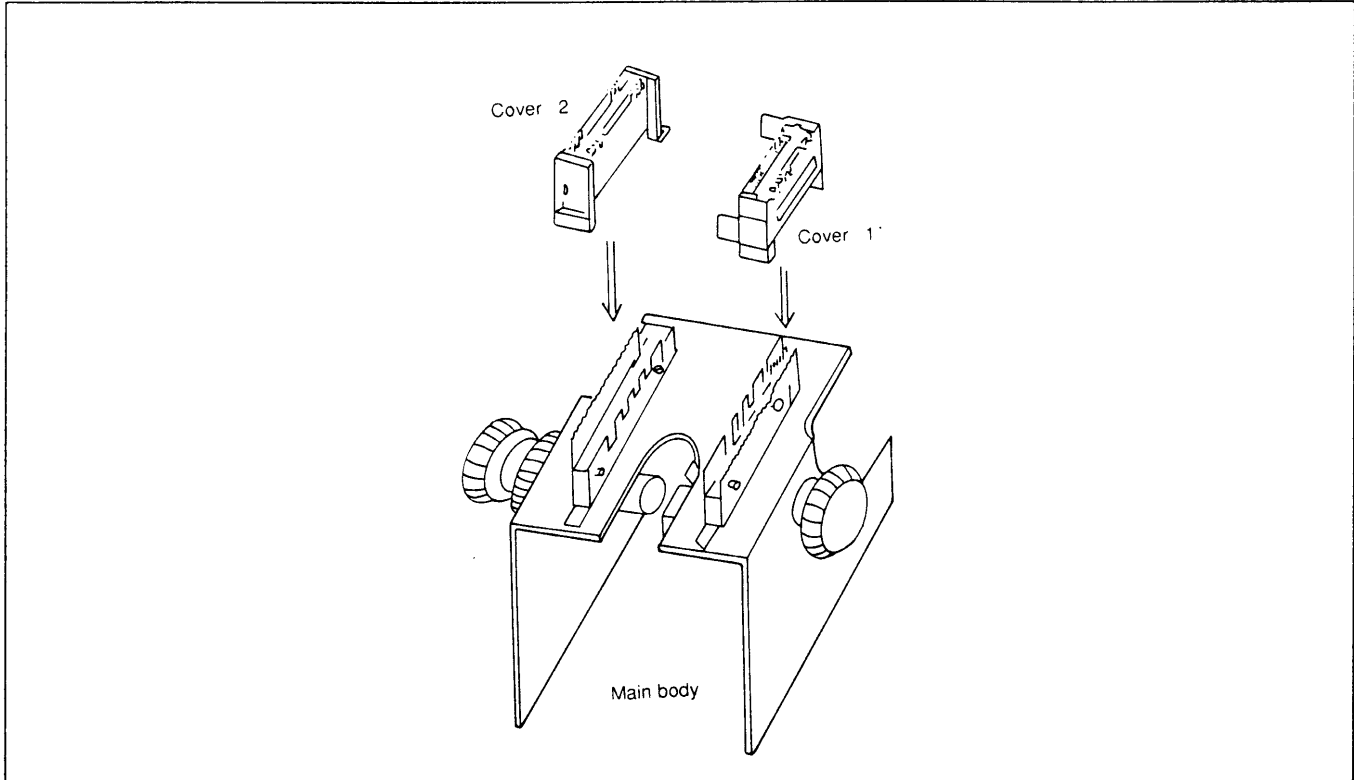
# CABLE ALIGNING AND IDC OPERATION (SEMI-AUTOMATIC)

7. Finished assembly.

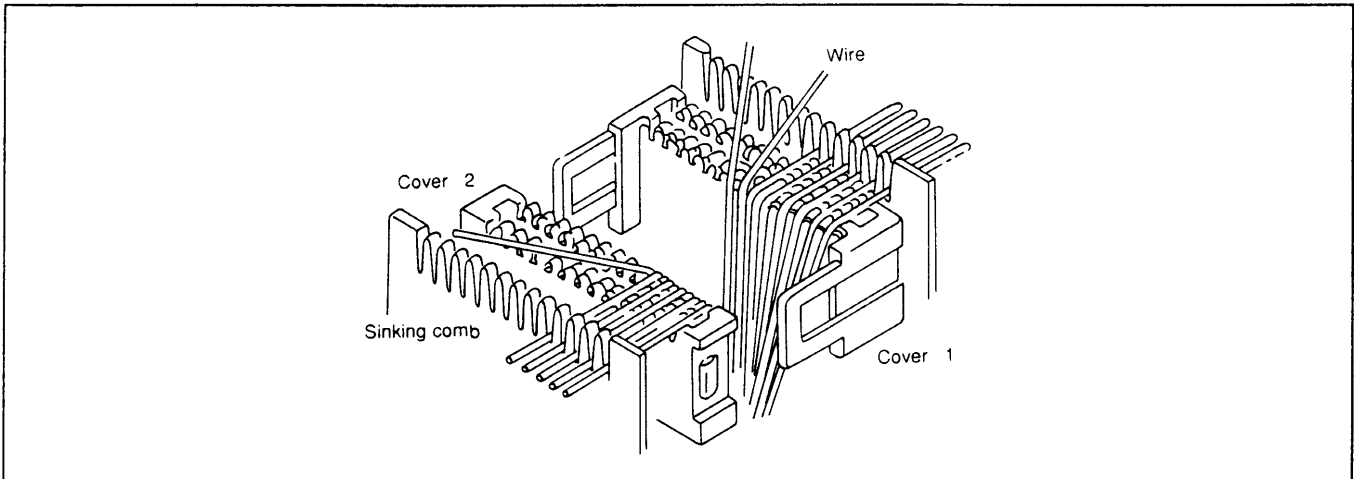


## CABLE ALIGNMENT AND IDC OPERATION (HAND TOOL)

1. Set the cover 1, 2 to the main body.

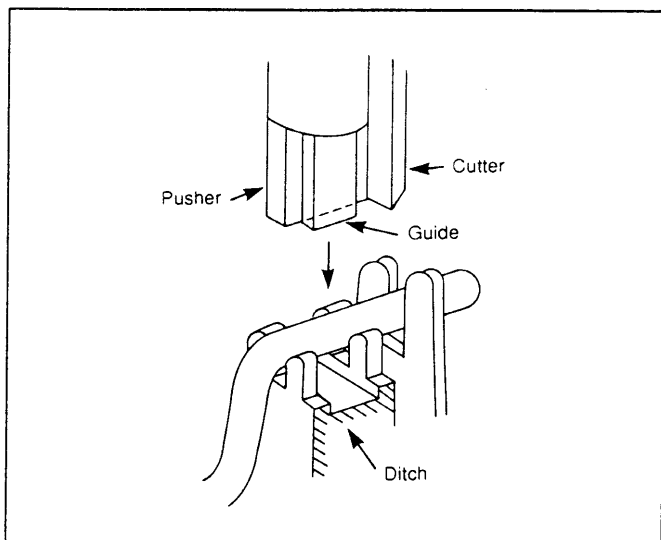


2. Push the wires in turn into the sinking combs.



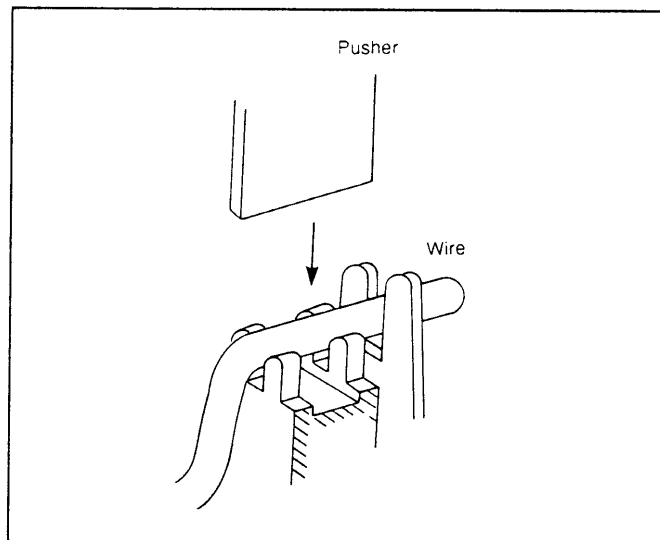
## CABLE ALIGNMENT AND IDC OPERATION (HAND TOOL)

3-1. When T043/H is used.



3-2. When T044/H is used.

Align the wires to the cover with the pusher, and remove the excess by cutter.



4. Take the covers off the applicator after cable alignment.
5. Put together covers and pre-assemble it to the main body.
6. Assemble the pre-parts.
7. Finished assembly.

**FCN-234Dxxx-G/E/-G/H**  
**FCN-235Dxxx-G/E/-G/H**  
**FCN-237Rxxx-G/E/-G/F**

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