

# FOR BOARD-TO-CABLE CONNECTION

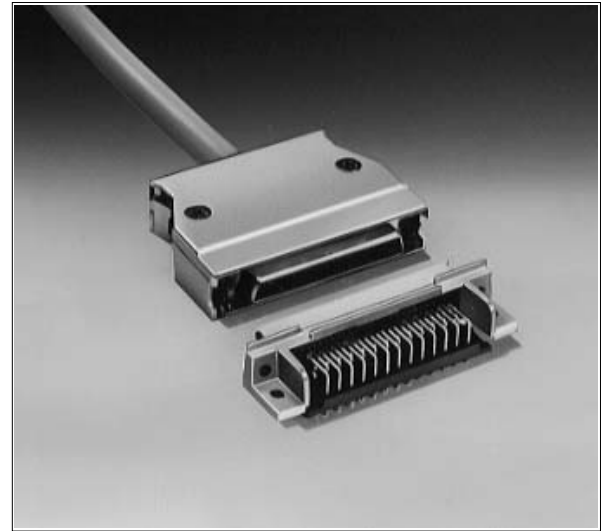
## 230 SERIES (GENERAL-PURPOSE TYPE)

### ■ 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

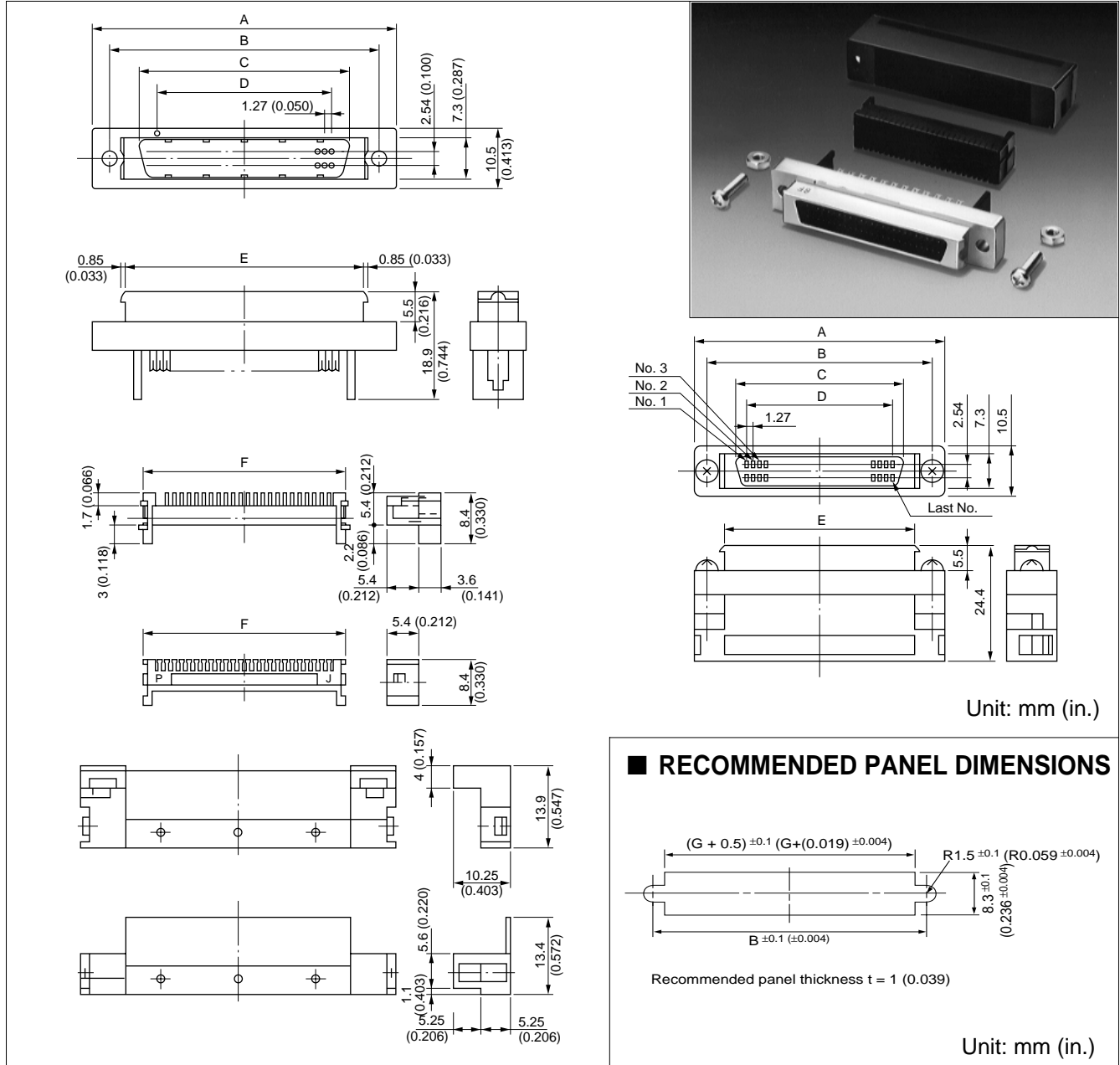
Item	Materials	
Insulator	Polyester (Soldering PPS), UL94V-0	
Conductor	Copper alloy	
Plating	Contact	Gold plating
	Terminal	Palladium plating

# 230 Series (General-Purpose Type)

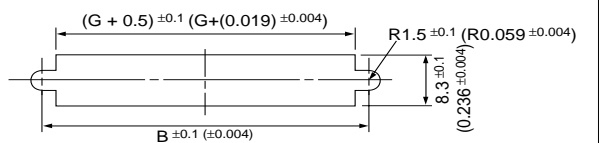
## INSULATION DISPLACEMENT CONNECTION (IDC) PLUG

Used for relay connection.

### ■ DIMENSIONS



### ■ RECOMMENDED PANEL DIMENSIONS

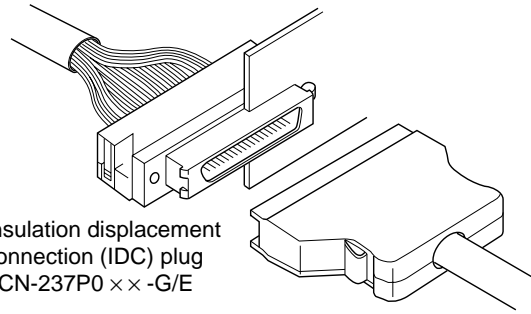


### ■ PART NUMBERS AND DIMENSIONS

Number of contacts	Part number	Dimensions (mm (in.))						
		A	B	C	D	E	F	G
20	FCN-237P020-G/E	33.40 (1.196)	27.40 (1.078)	15.80 (0.622)	11.43 (0.450)	21.60 (0.850)	16.75 (0.659)	23.30 (0.917)
28	FCN-237P028-G/E	38.48 (1.514)	32.48 (1.278)	20.88 (0.822)	16.51 (0.650)	26.68 (1.050)	21.83 (0.859)	28.38 (1.117)
36	FCN-237P036-G/E	43.56 (1.714)	37.56 (1.478)	25.96 (1.022)	21.59 (0.850)	31.76 (1.250)	26.91 (1.059)	33.46 (1.317)
50	FCN-237P050-G/E	52.45 (2.064)	46.45 (1.828)	34.85 (1.372)	30.48 (1.200)	40.65 (1.600)	35.80 (1.409)	42.35 (1.607)
68	FCN-237P068-G/E	63.88 (2.514)	57.88 (2.278)	46.28 (1.820)	41.91 (1.650)	52.08 (2.050)	47.23 (1.859)	53.78 (2.117)

# 230 Series (General-Purpose Type)

## ■ APPLICATIONS



Insulation displacement  
connection (IDC) plug  
FCN-237P0 × × -G/E

FCN-237J0 × × -G/E (Socket)  
FCN-230C0 × × -A/E (Cover)

# 230 Series (General-Purpose Type)

## 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				

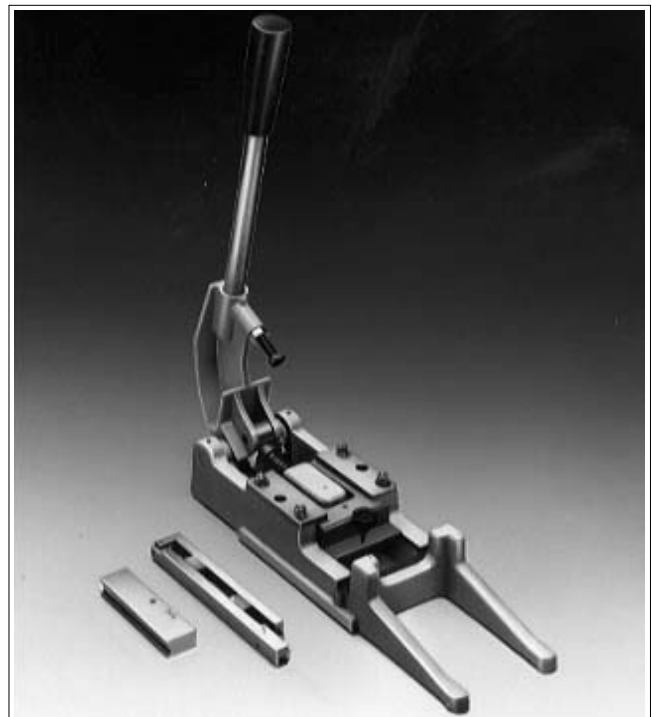
xxx indicates the number of contacts.

### 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