

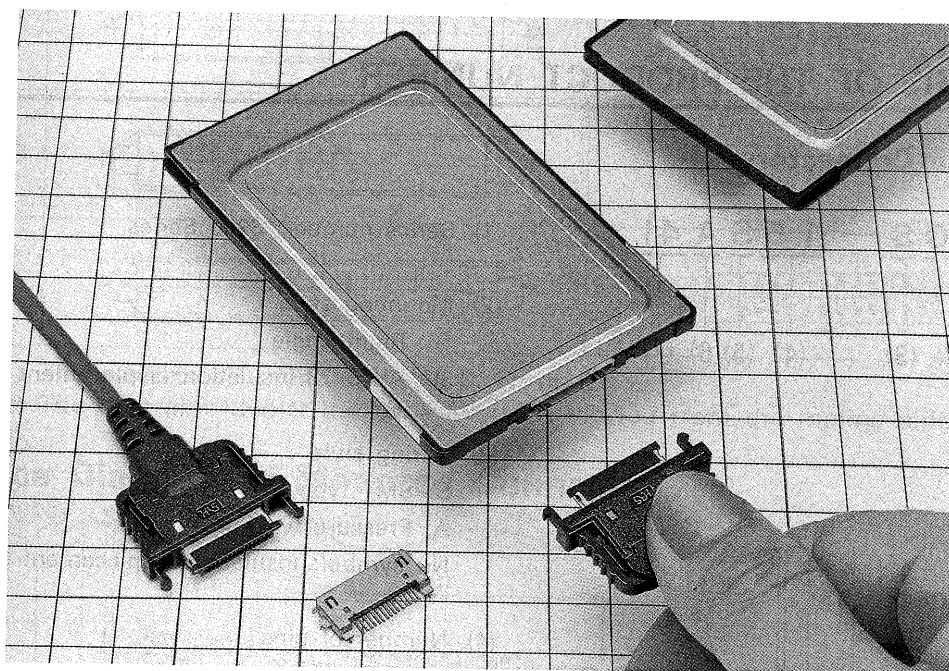
# HRS 3200 SERIES

## 15-Pin Connectors for I/O Card Interfaces

### ■ GENERAL

The 3200 Series of connectors was developed for use at the interface side of I/O cards and can be used with type I and type II cards.

A frame kit has also been developed as an associated product.



### ■ FEATURES

1. The receptacle connector features a super low profile with a height of 2.9 mm and uses a metal shell; it is both durable and offers complete shielding characteristics. This connector can be mounted on type I and type II cards.
2. The five types of incorrect insertion prevention keys prevent misaligned fits.
3. The connector has a simple lock which prevents it from becoming disconnected even with some prying. The connector also locks onto the frame so that when there is force exerted on the connector, the load is not applied directly to the internal board.
4. The board mounting system uses a 0.8 mm pitch SMT system that makes mounting easy.
5. The wiring of the plug side can be terminated by insulation displacement or solder.
6. The contacts are shaped like half of a tuning fork and provide complete contact even when subjected to twists.

### ■ APPLICATIONS

These connectors can be used in applications such as a wide variety of I/O cards (e.g., modem and LAN), portable personal computers, and hand held terminals.

## ■ MATERIALS AND FINISH

| Main materials used  |           |                 |                      |
|----------------------|-----------|-----------------|----------------------|
| Receptacle connector | Insulator | Synthetic resin | Black*               |
|                      | Pins      | Copper alloy    | Partial gold plating |
|                      | Shell     | Stainless steel | Solder plating       |
| Plug connectors      | Insulator | Synthetic resin | Black*               |
|                      | Pins      | Copper alloy    | Partial gold plating |
|                      | Shell     | Copper alloy    | Solder plating       |
|                      | Cover     | Synthetic resin | Black*               |

\*UL94V-0

## ■ ELECTRICAL PERFORMANCE

| Major Specifications  |                               |
|-----------------------|-------------------------------|
| Current capacity      | 500 mA                        |
| Rated voltage         | 125 V AC                      |
| Insulation resistance | 250 MΩ or greater at 100 V DC |
| Withstand voltage     | 300 V AC rms for 1 minute     |

## ■ STRUCTURE OF THE PRODUCT NUMBER

### ● Receptacle Connectors

3 2 1 0 S — 1 5 S A 4 1  
 |    |    |    |    |    |    |  
 (1) (2) (3)    (4) (5) (6) (7)

- (1) Series number: 3200 Series
- (2) Mounting style  
10: Right angle  
30: AWG 28 insulation displacement type
- (3) Wiring style  
S: SMT type  
A: Pressure welding type  
No symbol: Insulation displacement type

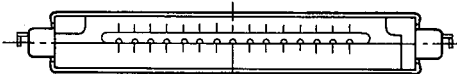
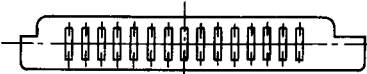
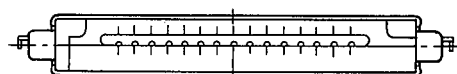
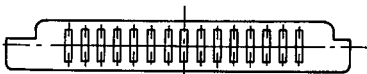
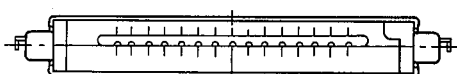
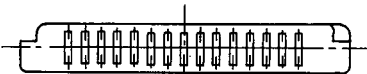

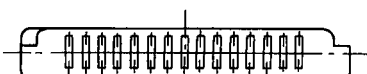
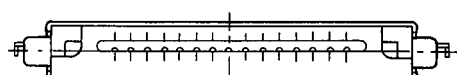
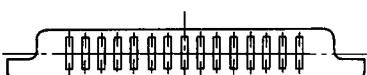
### ● Plug connectors

3 2 3 0 A — 1 5 P A — C 2  
 |    |    |    |    |    |    |    |    |  
 (1) (2) (3)    (4) (5) (6)    (8)

- (4) Number of pins
- (5) Type of opening  
P: Plug  
S: Receptacle
- (6) Type of incorrect insertion prevention keys  
A through E
- (7) Height of connector lead at the receptacle side  
41: 0.3 mm eccentric from center
- (8) Type of cover case at the plug side  
C1: Eccentric form type  
C2: Center distributed type

## **Incorrect Insertion Prevention Keys**

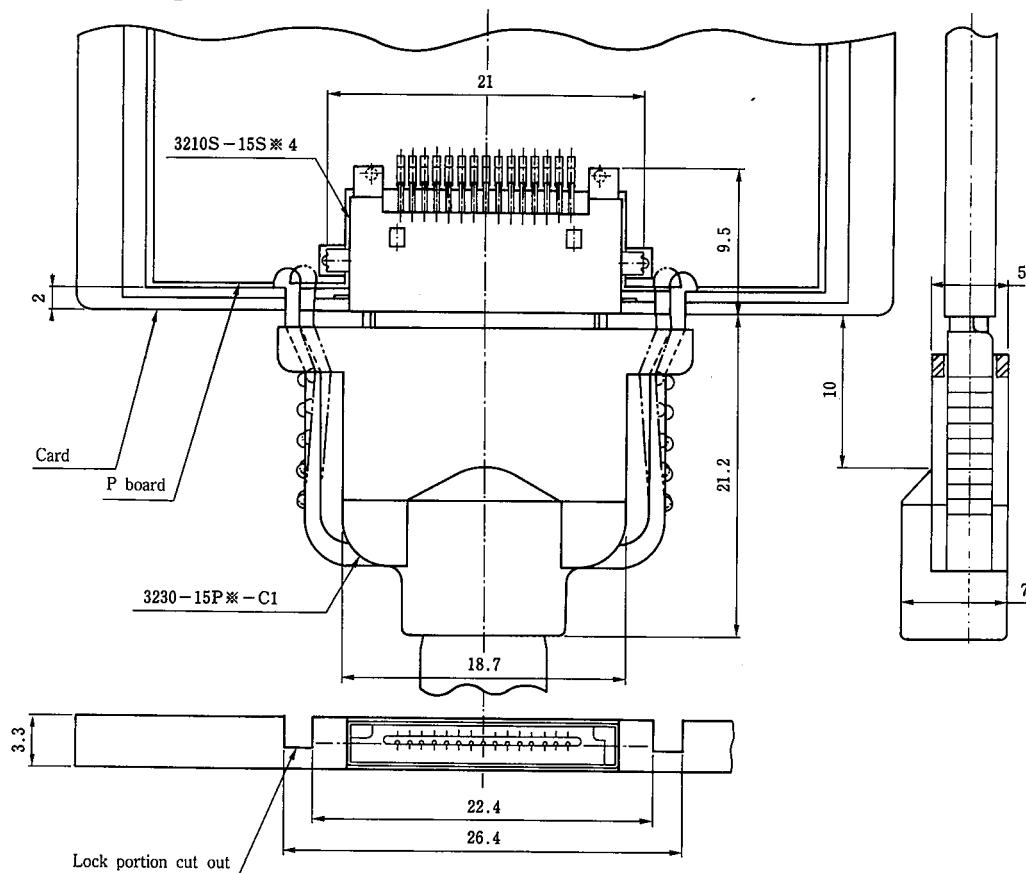
Combination of incorrect insertion prevention keys

|        | 3210S - 15S※41 RECEPTACLE   | 3230 - 15P※ - C1 PLUG   |
|--------|---|---|
| Type A |  |  |
| Type B |  |  |
| Type C |  |  |
| Type D |  |  |
| Type E |  |  |

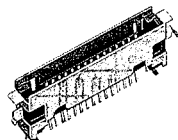
NOTE 1: The asterisk (※) denotes A, B, C, D, or E.

NOTE 2: The diagrams depict the connectors as viewed from the mating side.

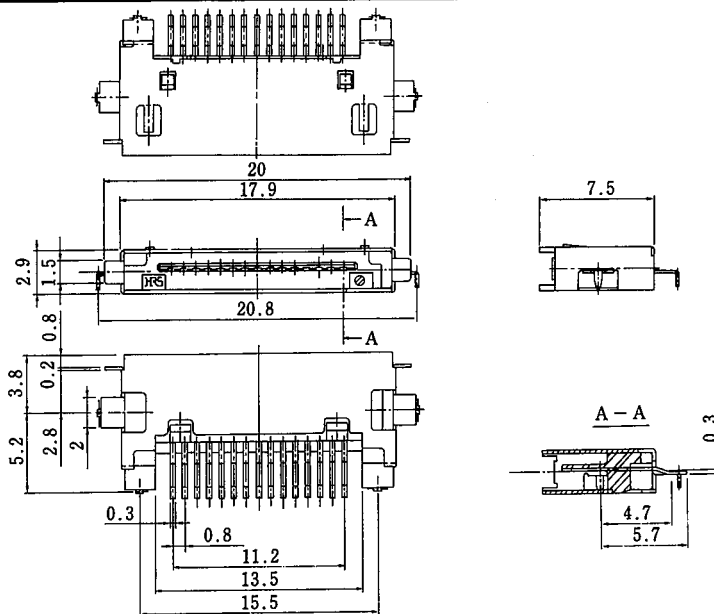
## **Reference Diagram of Mounted Connector**



## RECEPTACLE CONNECTORS

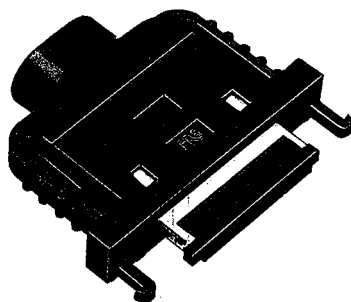


CL232-0056-6  
3210S-15SA41

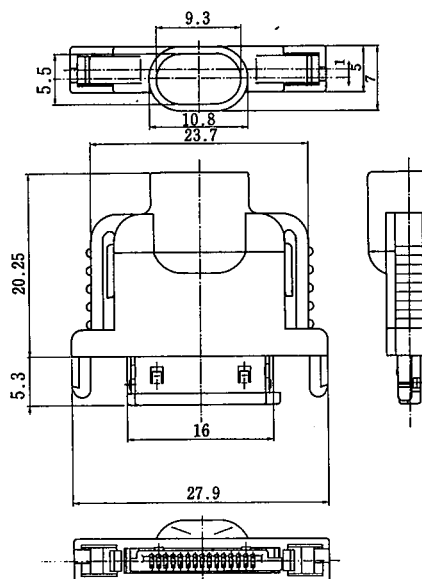


| HRS No.      | Number of pins | Product No.  | Key type |
|--------------|----------------|--------------|----------|
| CL232-0056-6 | 15             | 3210S-15SA41 | A        |
| CL232-0057-9 | 15             | 3210S-15SB41 | B        |
| CL232-0058-1 | 15             | 3210S-15SC41 | C        |
| CL232-0059-4 | 15             | 3210S-15SD41 | D        |
| CL232-0060-3 | 15             | 3210S-15SE41 | E        |

## PLUG CONNECTORS (TYPE C1 RECEPTACLE COVER CASE)

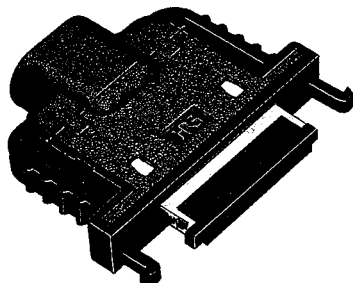


CL232-0003-0-09  
3230-15PA-C1(09)

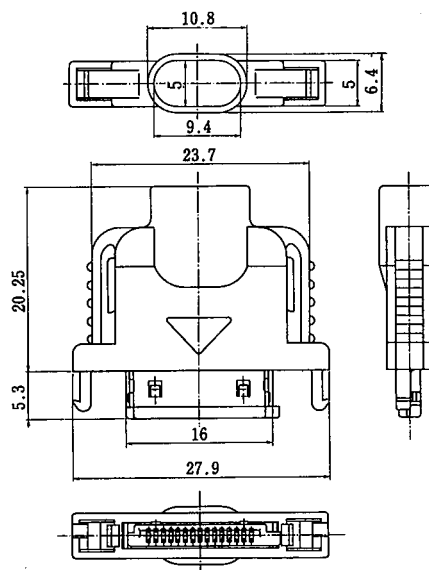


| HRS No.         | Number of pins | Product No.      | Key type |
|-----------------|----------------|------------------|----------|
| CL232-0003-0-09 | 15             | 3230-15PA-C1(09) | A        |
| CL232-0011-8-09 | 15             | 3230-15PB-C1(09) | B        |
| CL232-0012-0-09 | 15             | 3230-15PC-C1(09) | C        |
| CL232-0013-3-09 | 15             | 3230-15PD-C1(09) | D        |
| CL232-0035-6-09 | 15             | 3230-15PE-C1(09) | E        |

## ■ PLUG CONNECTORS (TYPE C2 SYMMETRICAL COVER CASE)

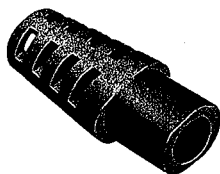


CL232-0030-2-08  
3230A-15PA-C2(08)

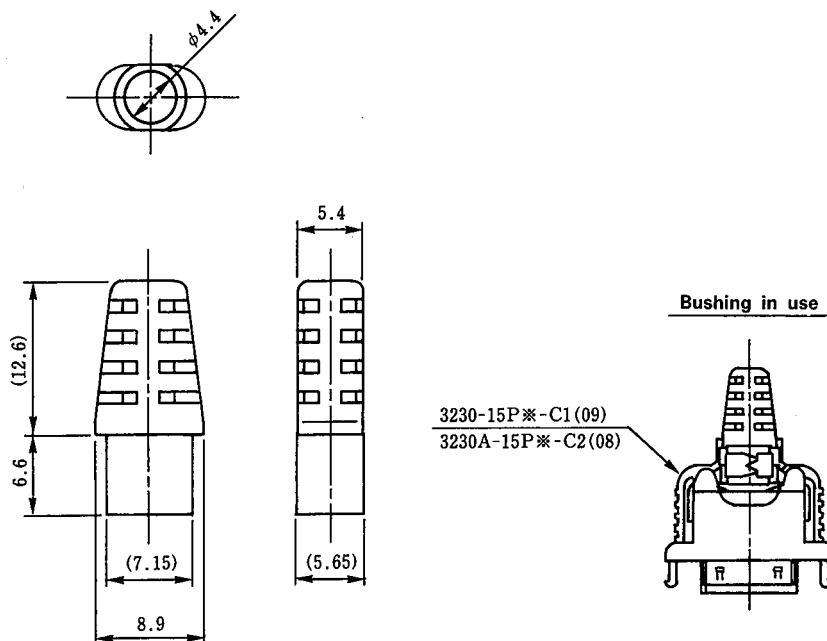


| HRS No.         | Number of pins | Product No.       | Key type |
|-----------------|----------------|-------------------|----------|
| CL232-0030-2-08 | 15             | 3230A-15PA-C2(08) | A        |
| CL232-0031-5-08 | 15             | 3230A-15PB-C2(08) | B        |
| CL232-0032-8-08 | 15             | 3230A-15PC-C2(08) | C        |
| CL232-0033-0-08 | 15             | 3230A-15PD-C2(08) | D        |
| CL232-0049-0-08 | 15             | 3230A-15PE-C2(08) | E        |

## ■ BUSHING FOR SMALL DIAMETER CABLE



CL232-0050-0  
3200-15-BS(4.0)

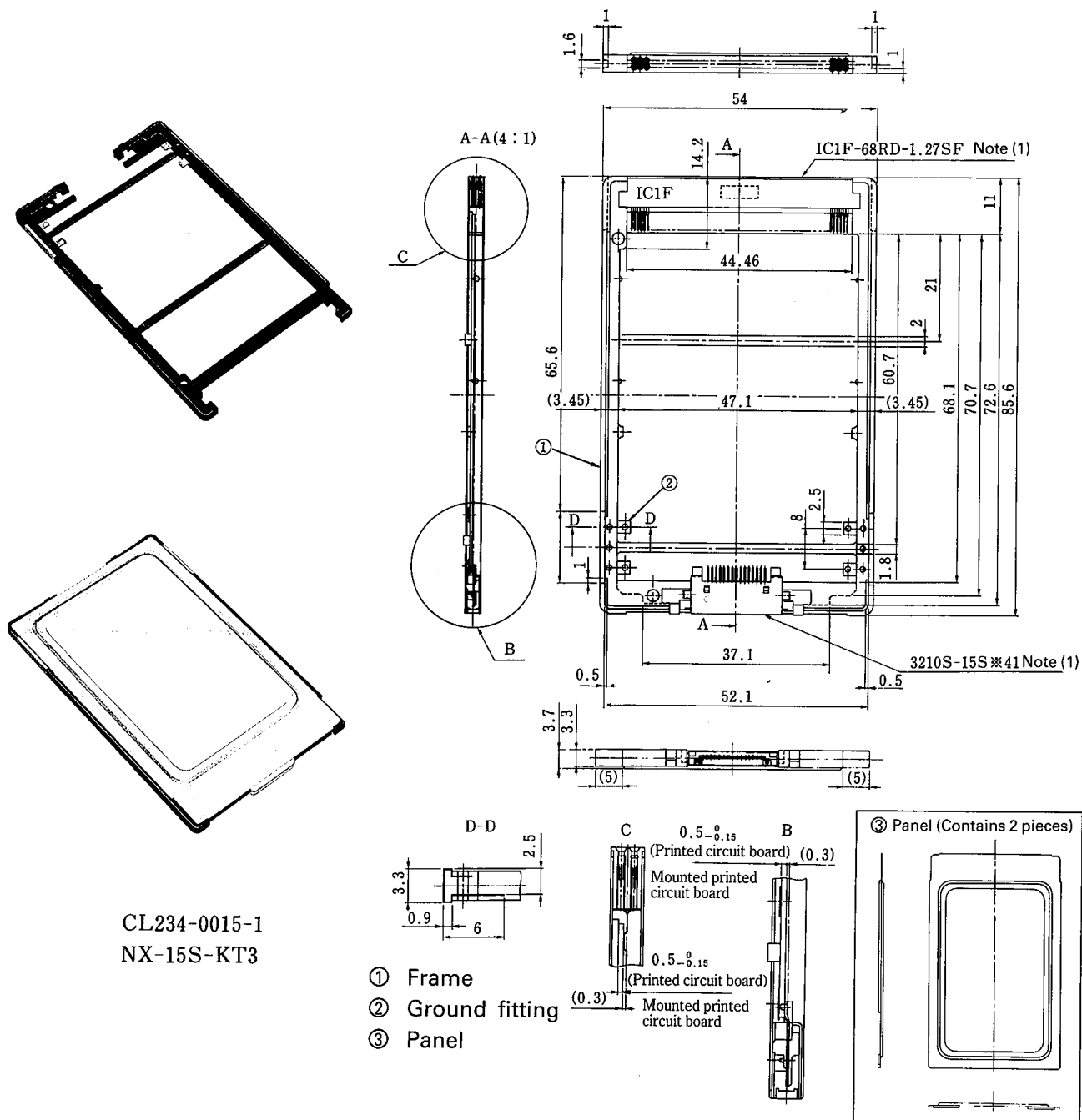


NOTE: Cable sheath diameters of approximately 3.7 mm to 4.2 mm should be taken as a guideline for use of the bushing.

## ■ FRAME KIT FOR I/O CARDS

This frame kit has been developed for use with I/O cards and is equivalent to type II in accordance with JEIDA Ver. 4.1 and PCMCIA 2.01.

A back connector (3210S-15S\*4) can be mounted to the rear portion of the card and an FG connector is also provided.



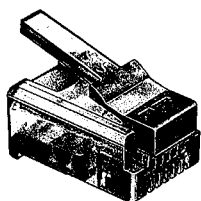
| HRS No.      | Product No. | Notes   |
|--------------|-------------|---|
| CL234-0013-6 | NX-15-F3    | Frame only  |
| CL234-0015-1 | NX-15-KT3   | With coil spring for frame, panel, and ground connections |

NOTE 1: This diagram depicts the kit with the connector mounted. The connectors are sold as separate items.

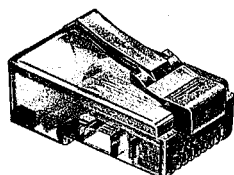
NOTE 2: The rear side of the panel comes with thermo-compression bond.

## Applications for Connections of I/O Card Connectors

### ■ MODULAR PLUGS FOR ROUND CABLE (SUIT AWG #28)



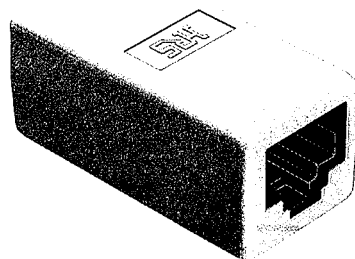
6 Pins



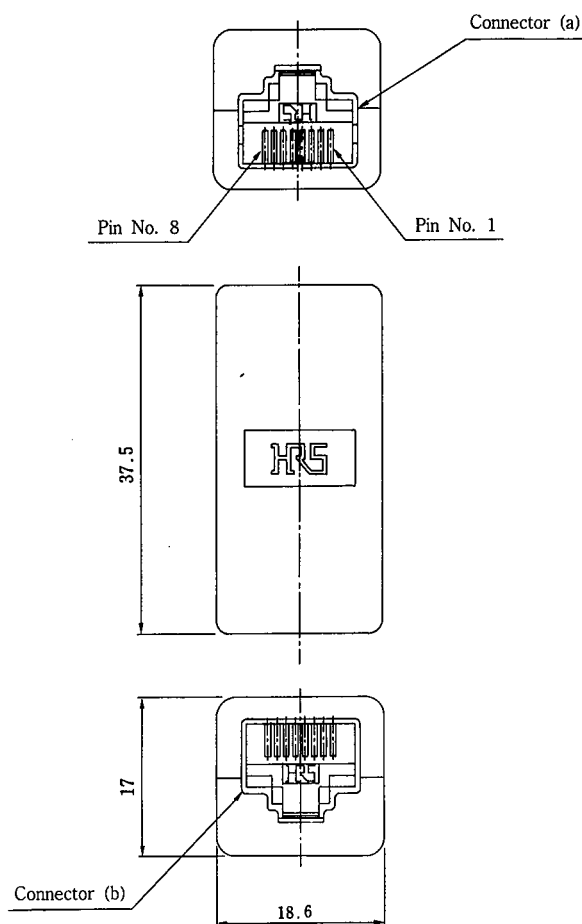
8 Pins

| HRS No.      | Number of pins | Product No. |
|--------------|----------------|-------------|
| CL222-2684-2 | 6              | TM30P-66P   |
| CL222-2685-5 | 8              | TM30P-88P   |

### ■ 8-PIN ADAPTER



CL222-3798-7  
TM5RL-88-JJ



Lead Number Reference Table

|                                      |   |   |   |   |   |   |   |   |
|--------------------------------------|---|---|---|---|---|---|---|---|
| Connector (a) pin number<br>TM5RL-88 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Connector (b) pin number<br>TM5RL-88 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

## ◆ Suitable Cable

The connector at the plug side is of insulation displacement construction and the following types of cable are provided as a guideline.

| Connector name | Conductors  | Sheath               |
|----------------|---|----------------------|
| 3230-15P※-C1   | Outside diameter of insulation: 0.58 to 0.68 mm<br>AWG 28 | 5.5 × 9.3 or smaller |
| 3230A-15P※-C2  | Outside diameter of insulation: 0.58 to 0.68 mm<br>AWG 28 | 5 × 9.4 or smaller   |

## ◆ Harness Tool

| Connector name                        | Process                        | Tool name  |                               |
|---------------------------------------|--------------------------------|--|-------------------------------|
| 3230-15P※-C1(09)<br>3230A-15P※-C2(08) | Manual wire arranging          | 3230-15SP (Wire arranging pallet)<br>3230-15CAT (Wire arranging jig) |                               |
|                                       | Pressure welding disconnection | 3230-15GP1   |                               |
|                                       | Clamp                          | 3230-15CCT   | Hi-Flex wiring press. HHP-502 |