

**NEW**

# Supports 3Gbps for industrial machinery, locking, small-sized robust I/O connector

## IX Series



### ■ Overview

Multi-purpose small-sized I/O connector for industrial machinery. Compact size, robust and higher speeds 5000 insertion/withdrawal guaranteed, suitable for long term installations.

### ■ Features

#### 1. Size Reduction

Compared with the multi-purpose RJ45 jack, volume of the 8-pos. receptacle is reduced by 70%. Upright (flag style) receptacle suitable for parallel-mounting on a narrow pitch, contributes to device size reduction. (Parallel-mounting at P=10mm is possible)

#### 2. One-touch lock design

The connector locks by simply inserting the plug into the receptacle. An audible click insures locking. The lock can be released by pushing a button on the plug leading to smooth removal. The plug-lock spring is designed to withstand 5000 insertion/withdrawal cycles.

#### 3. Robust design resistant to wrenching forces

The PCB-mounted receptacle shell is designed to minimize the influence of wrenching force from the plug on the mated surface. Additionally, the PCB-mounted shape is designed to protect the contacts. The plug shell is designed to unify the cable clamp, the connector unit retaining section and the mating lock section, and to protect the connection from a cable wrenching force. Stainless steel material is used for metal parts to enhance the mechanical strength.

#### 4. Shield highly resistant to EMI/ESD

The entire area from the plug cable shield to the receptacle shell is protected with a metal shell.

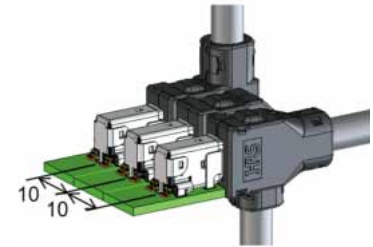
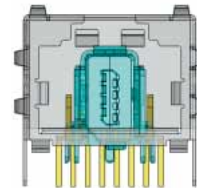
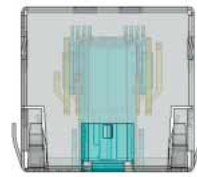
#### 5. High-speed transmission : 3Gbps × 4 pairs

STP cables are used to transmit high-speed differential signals. Complies with long-distance transmission cables that contain signal fade. Receptacle lead is made smaller with a narrow pitch, and the connector plug is designed with a switchable signal pitch allowing 28AWG cables to be naturally aligned. The switchable signal pitch section has an ideal shape not impairing the differential pair coupling.

#### 6. THR (Through hole reflow) mounting possible

The receptacle shell is mounted at the through hole section of the PCB to enhance the mounting strength of the PCB. Both signal contact SMT and THR mounting allows for reflow-mounting and reduction of man-hours required for board processing.

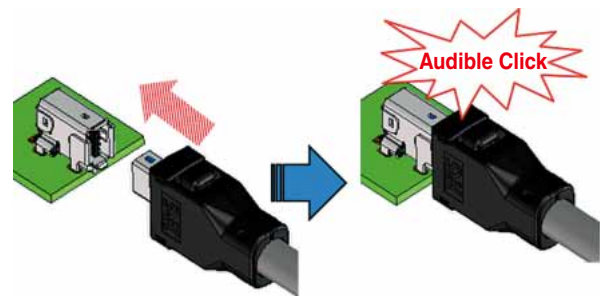
### Contribution to size reduction



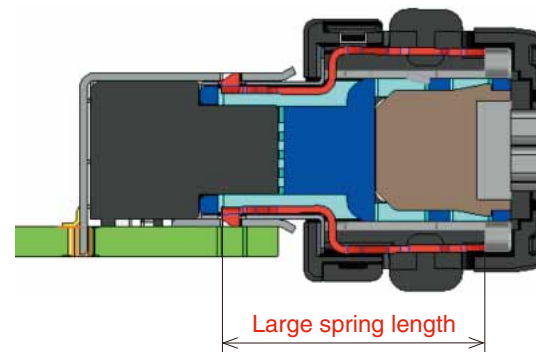
Parallel mounting on a narrow pitch (P=10mm)

65% reduction in volume  
(Compared to our company's products)

### Metal lock spring resistant to 5000 operating cycles.



One-touch lock allows for easy operation  
Clear tactile click prevents insufficient mating



Reliable metal lock design equipped with springs producing long life cycle in spite of the small size

## ■ Product Specifications

Ratings	Voltage	AC 30V		Operating temperature range	-40°C to +80°C (Note 1)
	Electric current	0.5A	All-pin signal	Storage temperature range	-30°C to +60°C
		1.0A	Optional 2 pins		
	2.0A	2 pins of contacts No.1 and 8			

Items	Specifications	Conditions
1. Contact resistance	30mΩ or less (Note 2)	Measured at 100mA
2. Insulation resistance	500MΩ or more	Measured at DC 100V
3. Withstanding voltage	No flashover or breakdown	Apply a voltage of AC 250V for 1 minute.
4. Mechanical operation	Contact resistance : A rise from the initial value by 15mΩ or less	5000 times
5. Vibration resistance	① No electrical discontinuity of 10μs or more	10 to 500Hz, half amplitude 0.75mm
6. Shock resistance	② No damage, crack or loosened parts	490m/s <sup>2</sup> , 30 times/min, 1000 times

Note 1 : Includes temperature rise due to current flow.

Note 2 : Conductor resistance of the cable isn't included.

## ■ Materials / Finish

### ● Receptacle

Component	Materials	Color/Finish	Remarks
Insulator	Liquid crystal polymer	Black	UL94V-0
Contact	Copper alloy	Partially gold-plated	——
Shell	Stainless steel	Tin plated	——

### ● Plug

Component	Materials	Color/Finish	Remarks
Plug case	Polyamide resin	Black	UL94V-0
Pressor plate	Liquid crystal polymer	Black	UL94V-0
Contact	Copper alloy	Partially gold-plated	——
S-Shell	Stainless steel	Nickel plated	——
Shield case A	Stainless steel	Nickel plated	——
Shield case B	Stainless steel	Nickel plated	——
Button	PBT resin	Black	UL94V-0
Cover case	Polycarbonate resin	Black	UL94V-0

## Product Number Structure

Refer to the chart below when determining the product specifications from the product number.  
Please select from the product numbers listed in this catalog when placing orders.

### Receptacle

**IX 61 - A - 8 P**  
 ① ② ③ ④ ⑤

### Plug

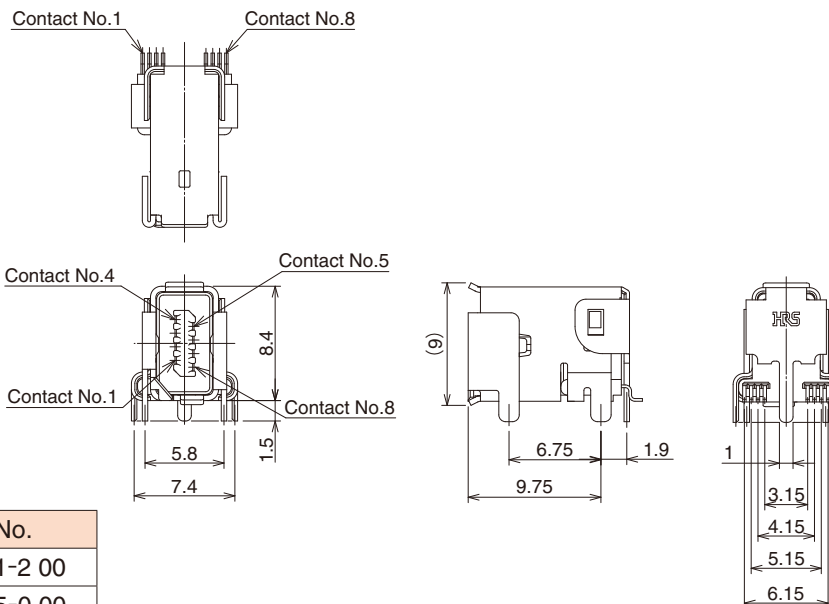
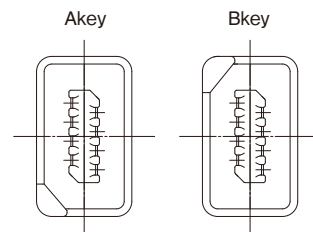
**IX 40 - A - 8 S - CV (\*\*)**  
 ① ② ③ ④ ⑤ ⑥ ⑦

① Series name : IX IX Series	⑥ Plug cover CV Cover case (cable outlet direction : straight) CVL1 Cover case (cable outlet direction : lower side of PCB) CVL2 Cover case (cable outlet direction : upper side of PCB)
② Mounting/connection method : 40 Hand connection 61 Right angle SMT (vertical type)	⑦ Applicable cable diameter : (6.4), maximum outer diameter : $\phi 6.4$ (7.4), maximum outer diameter : $\phi 7.4$
③ Mating key : A Akey B Bkey	
④ Number of Contacts	
⑤ Contact polarity : P Male contact S Female contact	

## Receptacle (board type)

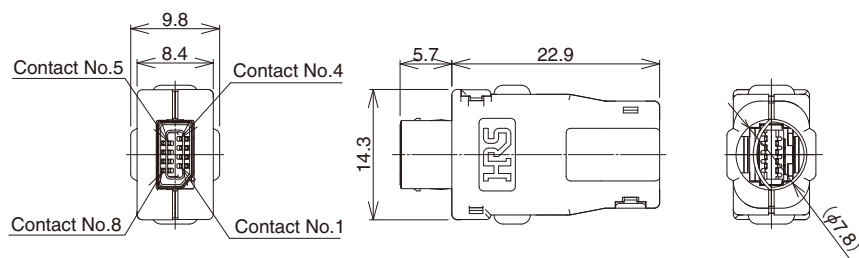
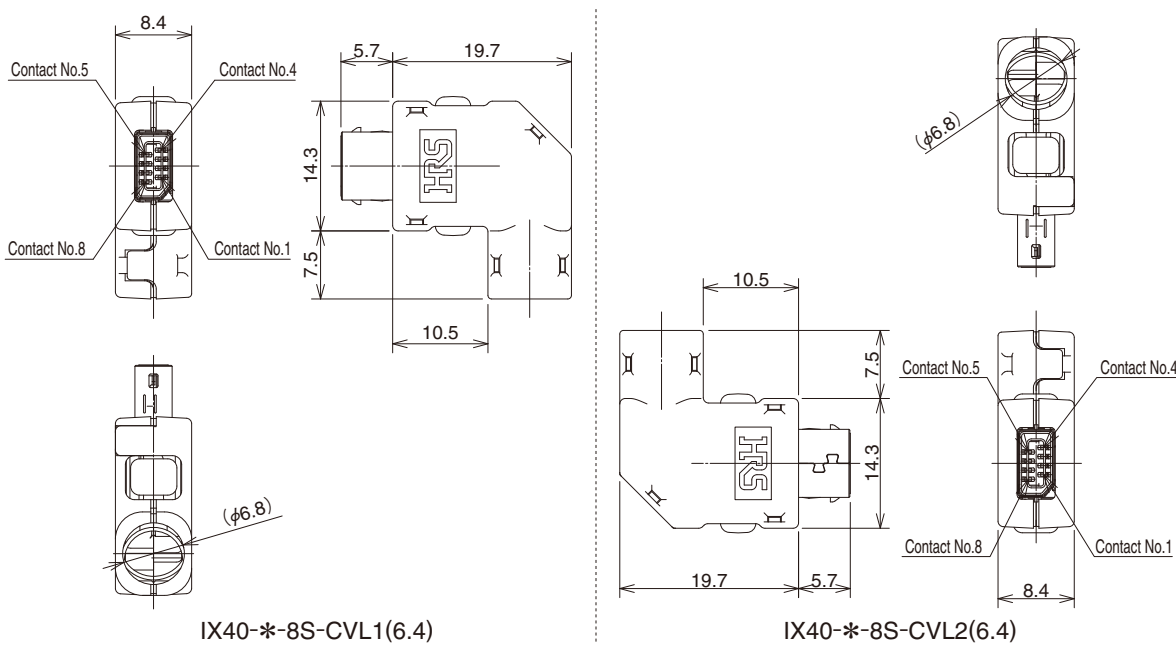
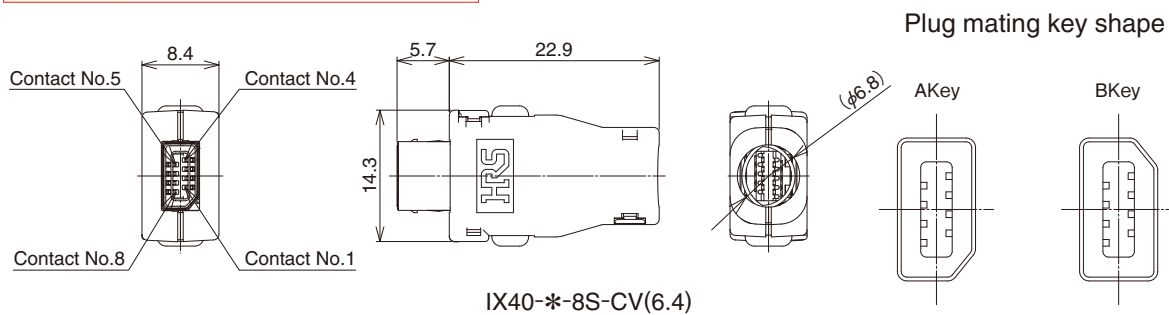


Receptacle mating key shape



Part No.	HRS No.
IX61-A-8P	251-0001-2 00
IX61-B-8P	251-0005-0 00

**Plug**



Part No.	HRS No.
IX40-A-8S-CV (6.4)	251-0004-0 00
IX40-A-8S-CVL1 (6.4)	251-0002-5 00
IX40-A-8S-CVL2 (6.4)	251-0003-8 00
IX40-B-8S-CV (6.4)	251-0006-0 00
IX40-B-8S-CVL1 (6.4)	251-0009-0 00
IX40-B-8S-CVL2 (6.4)	251-0010-0 00
IX40-A-8S-CV (7.4)	251-0007-0 00
IX40-B-8S-CV (7.4)	251-0008-0 00

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◆ Cable clamp jig tools

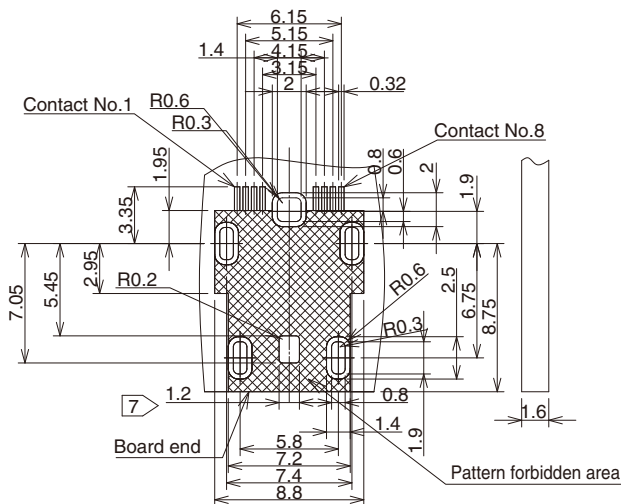
Part No.	HRS No.	Remarks
IX40-8S-CV/CK-MP(01)	902-2513-0 01	IX40-※-8S-CV(6.4)
IX40-8S-CVL/CK-MP(01)	902-2514-0 01	IX40-※-8S-CVL※(6.4)
IX40-8S-CV(7.4)/CK-MP(01)	902-2515-0 01	IX40-※-8S-CV(7.4)

◆ Recommended land pattern dimensions (board thickness : t=1.6mm)

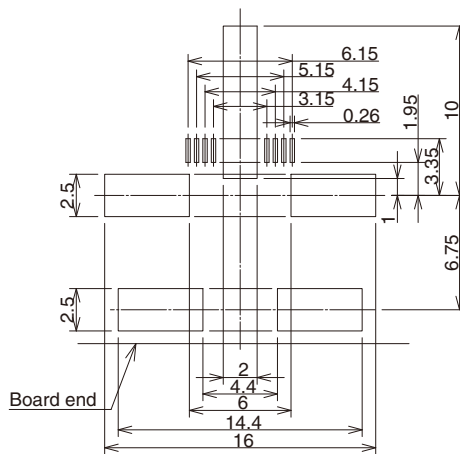
● IX61-※-8P

Recommended land pattern

Recommended metal mask pattern (t=0.1mm)



General tolerance unless specified ±0.05.

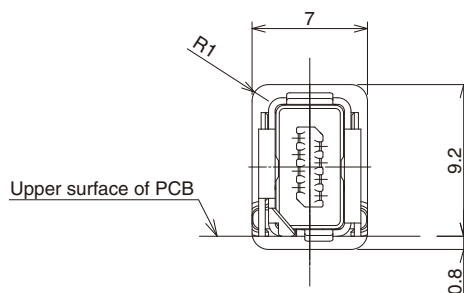
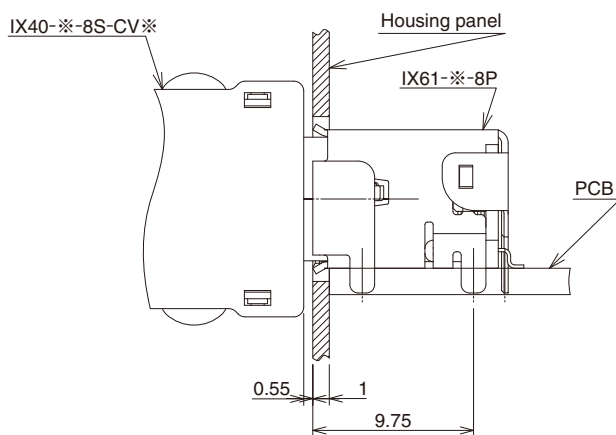


General tolerance unless specified ±0.02.

◆ Recommended panel thickness

Mated condition diagram (FREE)

Reference housing panel cut-out dimension (FREE)



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