

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.

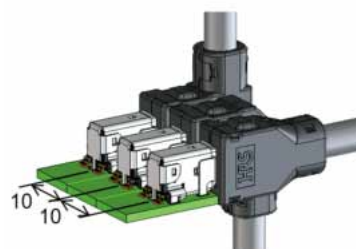
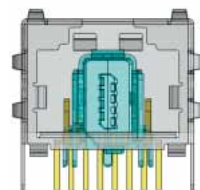
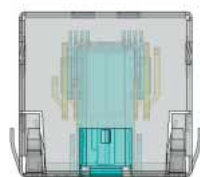
5. High-speed transmission : 3Gbps × 4 pairs

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.

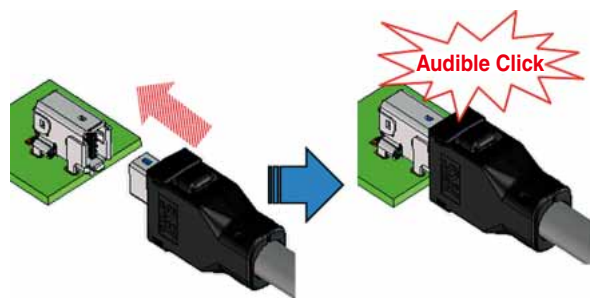
Contribution to size reduction



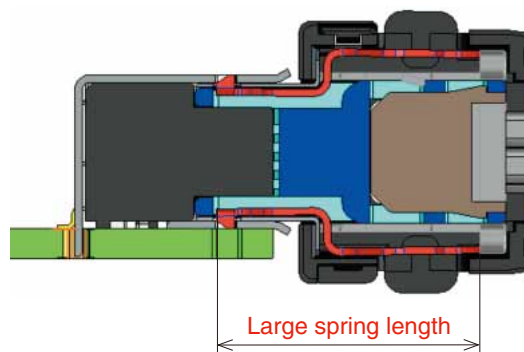
Parallel mounting on a narrow pitch (P=10mm)

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	①No electrical discontinuity of 10μs or more	10 to 500Hz, half amplitude 0.75mm
6. Shock resistance	②No damage, crack or loosened parts	490m/s ² , 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

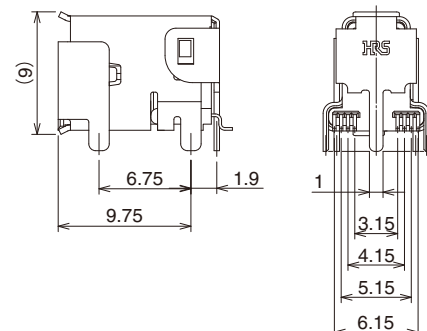
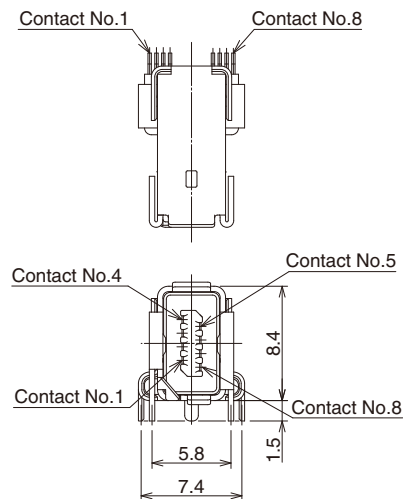
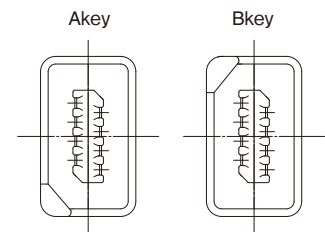
IX 40 - A - 8 S - CV ()**
 ① ② ③ ④ ⑤ ⑥ ⑦

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)	
③ Mating key : A Akey B Bkey	⑦ Applicable cable diameter : (6.4), maximum outer diameter : $\phi 6.4$ (7.4), maximum outer diameter : $\phi 7.4$
④ Number of Contacts	
⑤ Contact polarity : P Male contact S Female contact	

Receptacle (board type)

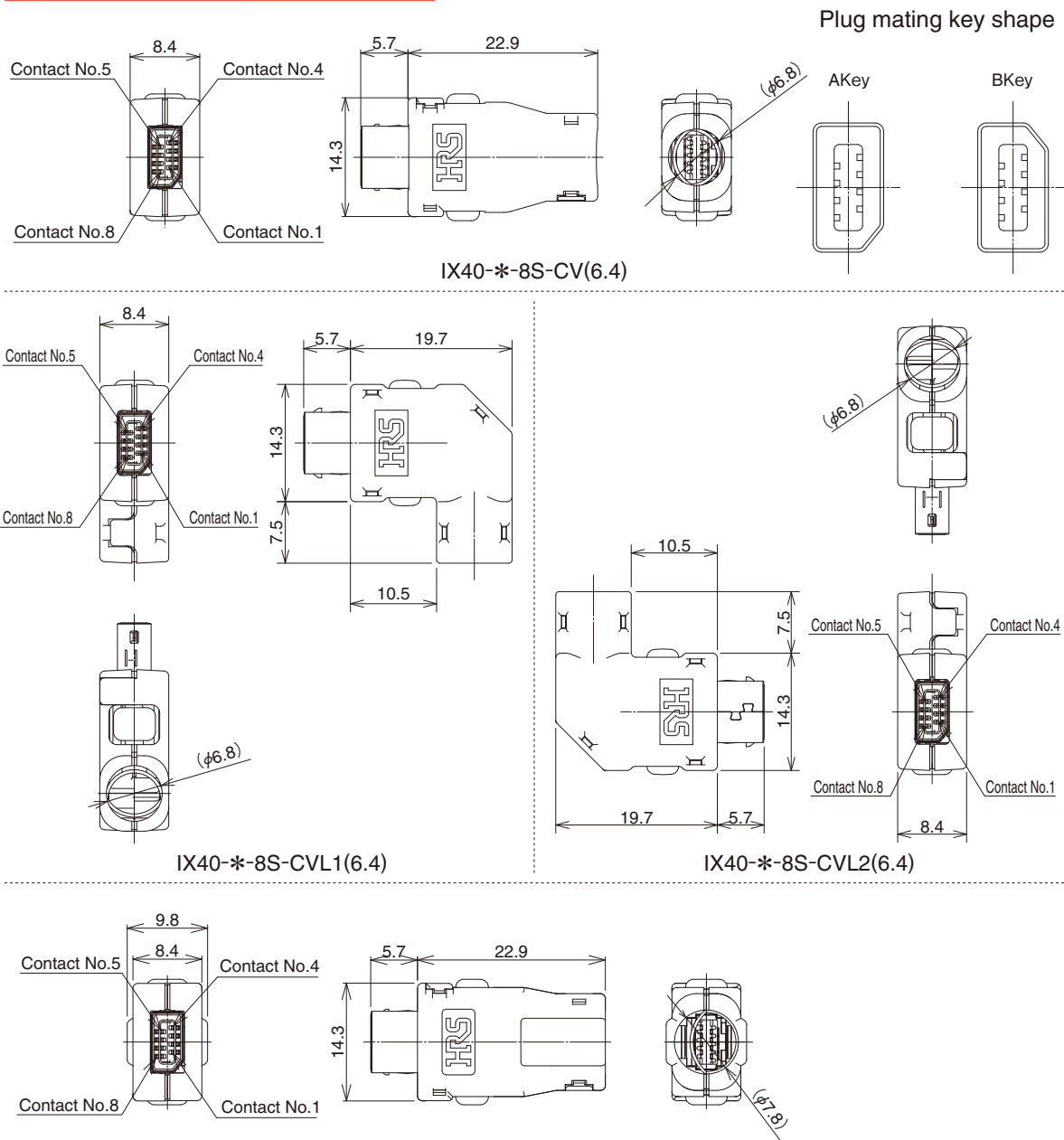


Receptacle mating key shape



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

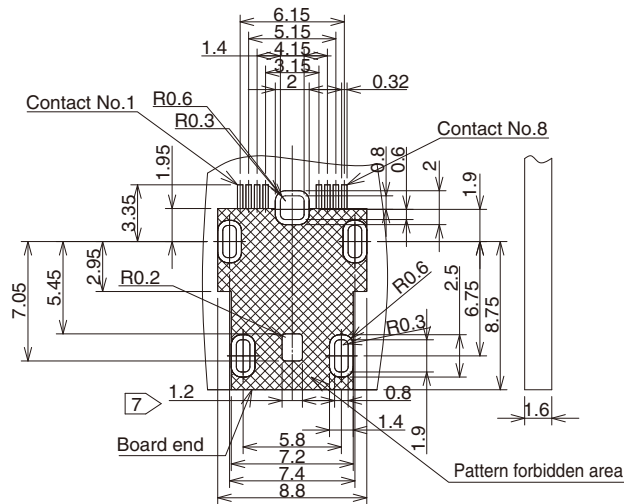
◆Cable clamp jig tools

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)

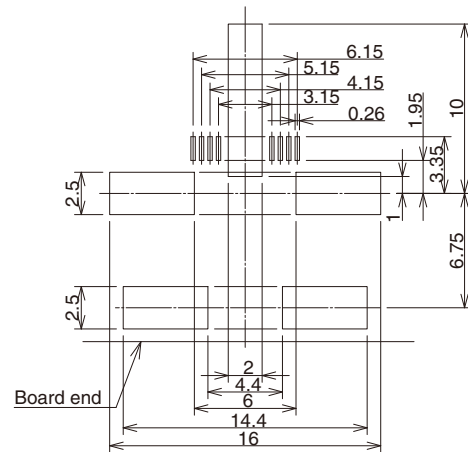
●IX61-※-8P

Recommended land pattern



General tolerance unless specified ± 0.05 .

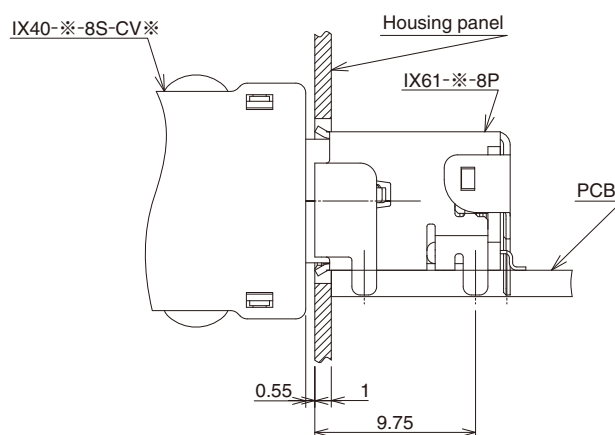
Recommended metal mask pattern (t=0.1mm)



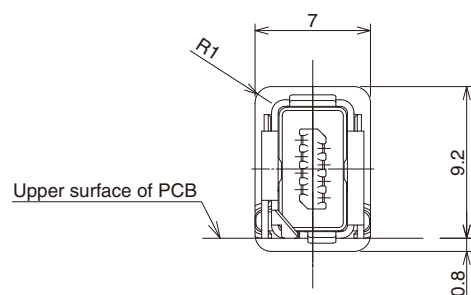
General tolerance unless specified ± 0.02 .

◆Recommended panel thickness

Mated condition diagram (FREE)



Reference housing panel cut-out dimension (FREE)



USA:

HIROSE ELECTRIC (U.S.A.), INC. HEADQUARTERS CHICAGO OFFICE
2300 Warrenville Road, Suite 150,
Downers Grove, IL 60515
Phone : +1-630-282-6700
<http://www.hirose.com/us/>

USA:

HIROSE ELECTRIC (U.S.A.), INC. SAN JOSE OFFICE
2841 Junction Ave, Suite 200
San Jose, CA. 95134
Phone : +1-408-253-9640
Fax : +1-408-253-9641
<http://www.hirose.com/us/>

USA:

HIROSE ELECTRIC (U.S.A.), INC. DETROIT OFFICE (AUTOMOTIVE)
17197 N. Laurel Park Drive, Suite 253,
Livonia, MI 48152
Phone : +1-734-542-9963
Fax : +1-734-542-9964
<http://www.hirose.com/us/>

THE NETHERLANDS:

HIROSE ELECTRIC EUROPE B.V.
Hogehillweg #8 1101 CC Amsterdam Z-O
Phone : +31-20-6557460
Fax : +31-20-6557469
<http://www.hirose.com/eu/>

GERMANY:

HIROSE ELECTRIC EUROPE B.V. GERMAN BRANCH
Schoenbergstr. 20, 73760 ostfildern
Phone : +49-711-456002-1
Fax : +49-711-456002-299
<http://www.hirose.com/eu/>

GERMANY:

HIROSE ELECTRIC EUROPE B.V. NUREMBERG OFFICE
Neumeyerstrasse 22-26, 90411 Nurnberg
Phone : +49-911 32 68 89 63
Fax : +49-911 32 68 89 69
<http://www.hirose.com/eu/>

GERMANY:

HIROSE ELECTRIC EUROPE B.V. HANOVER OFFICE
Bayernstr. 3, Haus C 30855 Langenhagen, Germany
Phone : +49-511 97 82 61 30
Fax : +49-511 97 82 61 35
<http://www.hirose.com/eu/>

FRANCE:

HIROSE ELECTRIC EUROPE B.V. PARIS OFFICE
Regus La Garenne Colombes, Place de La Belgique,
71 Boulevard National La Garenne Colombes, 92250, France
Phone : +33 (0) 1 7082 3170
Fax : +33 (1) 7082 3101
<http://www.hirose.com/eu/>

UNITED KINGDOM:

HIROSE ELECTRIC EUROPE BV (UK BRANCH)
4 Newton Court, Kelvin Drive, Knowlhill,
Milton Keynes, MK5 8NH
Phone : +44-1908 202050
Fax : +44-1908 202058
<http://www.hirose.com/eu/>

CHINA:

HIROSE ELECTRIC (SHANGHAI) CO., LTD.
1601, Henderson Metropolitan, NO.300, East Nanjing
Road, Huangpu District, Shanghai, China 200001
Phone : +86-21-6391-3355
Fax : +86-21-6391-3335
<http://www.hirose.com/cn/>

CHINA:

HIROSE ELECTRIC (SHANGHAI) CO., LTD. BEIJING BRANCH
A1001, Ocean International Center, Building 56# East 4th
Ring Middle Road, ChaoYang District, Beijing, 100025
Phone : +86-10-5165-9332
Fax : +86-10-5908-1381
<http://www.hirose.com/cn/>

CHINA:

HIROSE ELECTRIC TECHNOLOGIES (SHENZHEN) CO., LTD.
Room 09-13, 19/F, Office Tower Shun Hing Square, Di Wang Commercial Centre,
5002 Shen Nan Dong Road, Shenzhen City, Guangdong Province, 518008
Phone : +86-755-8207-0851
Fax : +86-755-8207-0873
<http://www.hirose.com/cn/>

HONG KONG:

HIROSE ELECTRIC HONGKONG TRADING CO., LTD.
Room 1001, West Wing, Tsim Sha Tsui Centre, 66
Mody Road, Tsim Sha Tsui East, Kowloon, Hong Kong
Phone : +852-2803-5338
Fax : +852-2591-6560
<http://www.hirose.com/hk/>

TAIWAN:

HIROSE ELECTRIC TAIWAN CO., LTD.
103 8F, No.87, Zhengzhou Rd., Taipei
Phone : +886-2-2555-7377
Fax : +886-2-2555-7350
<http://www.hirose.com/tw/>

KOREA:

HIROSE KOREA CO., LTD.
250, Huimanggongwon-ro, Siheung-si,
Gyeonggi-do, Korea, 15083
Phone : +82-31-496-7000 or 7124
Fax : +82-31-496-7100
<http://www.hirose.co.kr/>

SINGAPORE:

HIROSE ELECTRIC SINGAPORE PTE. LTD.
10 Anson Road #26-16, International Plaza
079903, Singapore
Phone : +65-6324-6113
Fax : +65-6324-6123
<http://www.hirose.com/sg/>

INDIA:

HIROSE ELECTRIC SINGAPORE PTE. LTD. DELHI LIAISON OFFICE
Office NO.552, Regus-Green Boulevard, Level5, Tower C,
Sec62, Plot B-9A, Block B, Noida, 201301, Uttar Pradesh, India
Phone : +91-12-660-8018
Fax : +91-120-4804949
<http://www.hirose.com/sg/>

INDIA:

HIROSE ELECTRIC SINGAPORE PTE. LTD. BANGALORE LIAISON OFFICE
Unit No-403, 4th Floor, No-84, Barton Centre, Mahatma
Gandhi (MG) Road, Bangalore 560 001, Karnataka, India
Phone : +91-80-4120 1907
Fax : +91-80-4120 9908
<http://www.hirose.com/sg/>

MALAYSIA:

PENANG REPRESENTATIVE OFFICE
1-21-01, Suntech @ Penang Cybercity (1164), Lintang
Mayang Pasir 3, 11950, Bayan Baru, Penang, Malaysia.
Phone : +604-619-2564
Fax : +604-619-2574
<http://www.hirose.com/sg/>

THAILAND:

BANGKOK OFFICE (REPRESENTATIVE OFFICE)
Unit 4703, 47th FL., 1 Empire Tower, South Sathorn
Road, Yannawa, Sathorn, Bangkok 10120 Thailand
Phone : +66-2-686-1255
Fax : +66-2-686-3433
<http://www.hirose.com/sg/>

**HIROSE ELECTRIC CO., LTD.**

2-6-3, Nakagawa Chuoh, Tsuzuki-Ku, Yokohama-Shi 224-8540, JAPAN
TEL: +81-45-620-3526 Fax: +81-45-591-3726
<http://www.hirose.com>
<http://www.hirose-connectors.com>