

Modular Jack Connector for High-Speed Transmission

TM24R Series



■ Features

1. Unique contact configuration (Patented) and board-mounting pattern

The adjacent contacts have different angles of engagement thus increasing the distance between them, in effect reducing the cross talk within connector and its footprint. Contact #3 and #6, affecting the cross talk the most; have been isolated from other contacts resulting in maximum NEXT noise suppression.

In addition, the board layout allows easy tracing of the differential signal lines.

2. Full EMI shielding

The entire connector is covered with a metal shell. Multiple panel ground contact springs (2 on each side of the mating opening) and 4 board ground connection solder contacts placed at each corner of the connector guarantee effective suppression of noise radiation.

3. Sequential mating

Separate ground springs (Patent pending) make contact with the mating connector's ground before the signal contacts, allowing equalization of any ground differential.

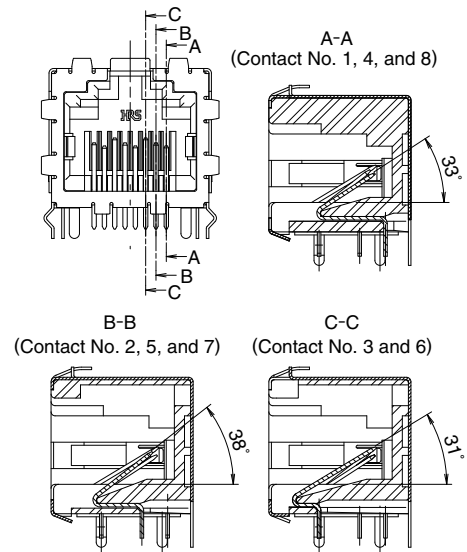
4. Conforms to FCC (Federal Communications Commission) standards

Meets requirements of FCC Title 47, Part 68, Subpart F.

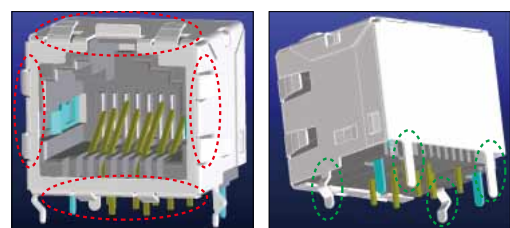
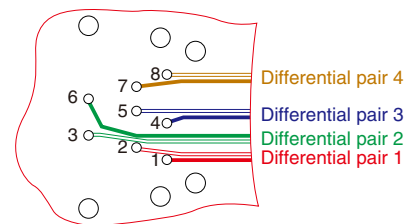
■ Applications

LAN related equipment, measuring instruments, office equipment and other high transmission speed applications requiring use of high performance modular jacks.

Unique Contact Configuration



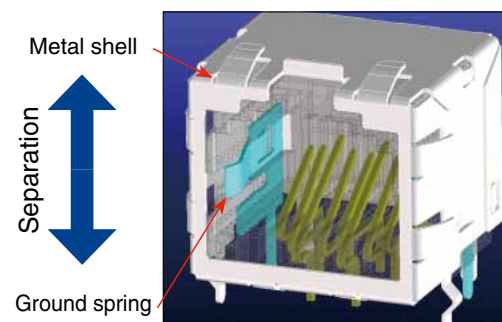
Recommended board layout for differential routing



Panel ground contact springs

Board ground connection solder contacts

Separate ground springs



■ Product Specifications

Ratings	Current rating 1A Voltage rating 125V AC	Operating temperature range : -25°C to +80°C (Note)
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Item	Specification	Conditions
1. Insulation resistance	100MΩ min.	100V DC
2. Withstanding voltage (Basic terminal between 123-456-78)	No flashover or insulation breakdown.	500V AC / 1 minute
3. Withstanding voltage (Terminal to shield)	No flashover or insulation breakdown.	1500V AC / 1 minute
4. Contact resistance	50mΩ max.	100mA
5. Vibration	No electrical discontinuity of 5μs or more. No damage, cracks, or parts dislocation.	Frequency : 10 to 55Hz, single amplitude of 0.75mm, 3 axis, 10 cycles
6. Shock	No electrical discontinuity of 5μs or more. Contact resistance : 60m ohms max.	Acceleration of 490 m/s ² , 11ms duration, sine half-wave waveform, 3 cycles / each of 6 axis
7. Durability (insertion/withdrawal)	Contact resistance : 60mΩ max.	700 cycles
8. Temperature cycle	Insulation resistance : 100MΩ min. Contact resistance : 60mΩ max.	(Temperature : -55°C → +15°C → +35°C → +85 → +15°C to +35°C Duration : 30 → 2 to 3 → 30 → 2 to 3 (Minutes) 5 cycles
9. Humidity	Insulation resistance : 1MΩ min. (High humidity) Insulation resistance : 10MΩ min. (Dry state)	500 hours at 40°C, HR 90% to 95%
10. Salt spray	Contact resistance : 60mΩ max.	5% water solution for 48 hours

Note : Includes temperature rise caused by current flow.
Temperature range for mechanical operation : -25°C to +60°C

■ Materials / Finish

Part	Material	Finish	Remarks
Insulator	PBT	Color: Black	UL94V-0
Contact	Phosphor bronze	Contact area : Gold plated 1.27 μm Termination area : Gold plated 0.03 μm Under plate : Nickel plated 1 μm	-
Shield	Brass	Tin reflow plated 1 μm	-
Ground spring	Phosphor bronze	Tin reflow plated 1 μm	-

■ Product Number Structure

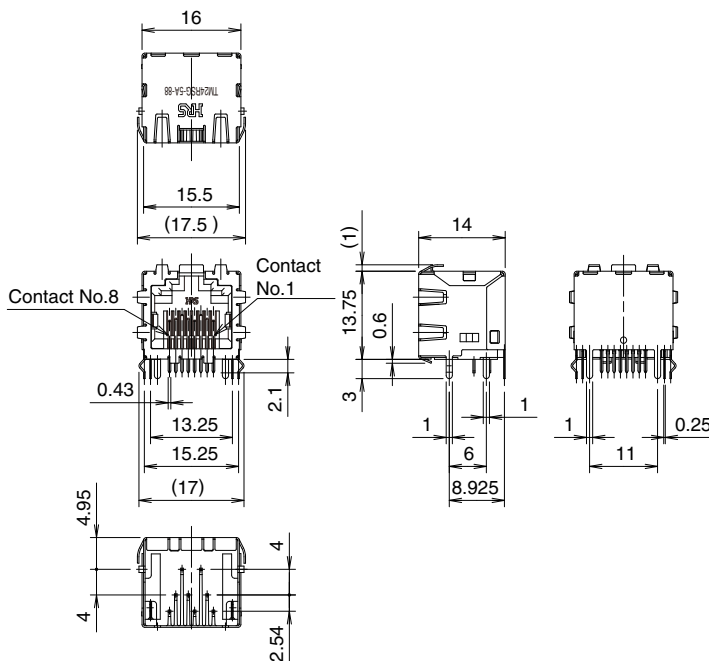
Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

TM24 R SG - 5A 8 8

① ② ③ ④ ⑤ ⑥

① Series name	: TM24
② Connector type	: R...Jack
③ Shell type	: SG...Separate ground spring -outer shell
④ Jack type	: 5A...Right-angle dip
⑤ Jack opening code	: 8...8 contacts
⑥ Number of inserted contact	: 8...8 contacts

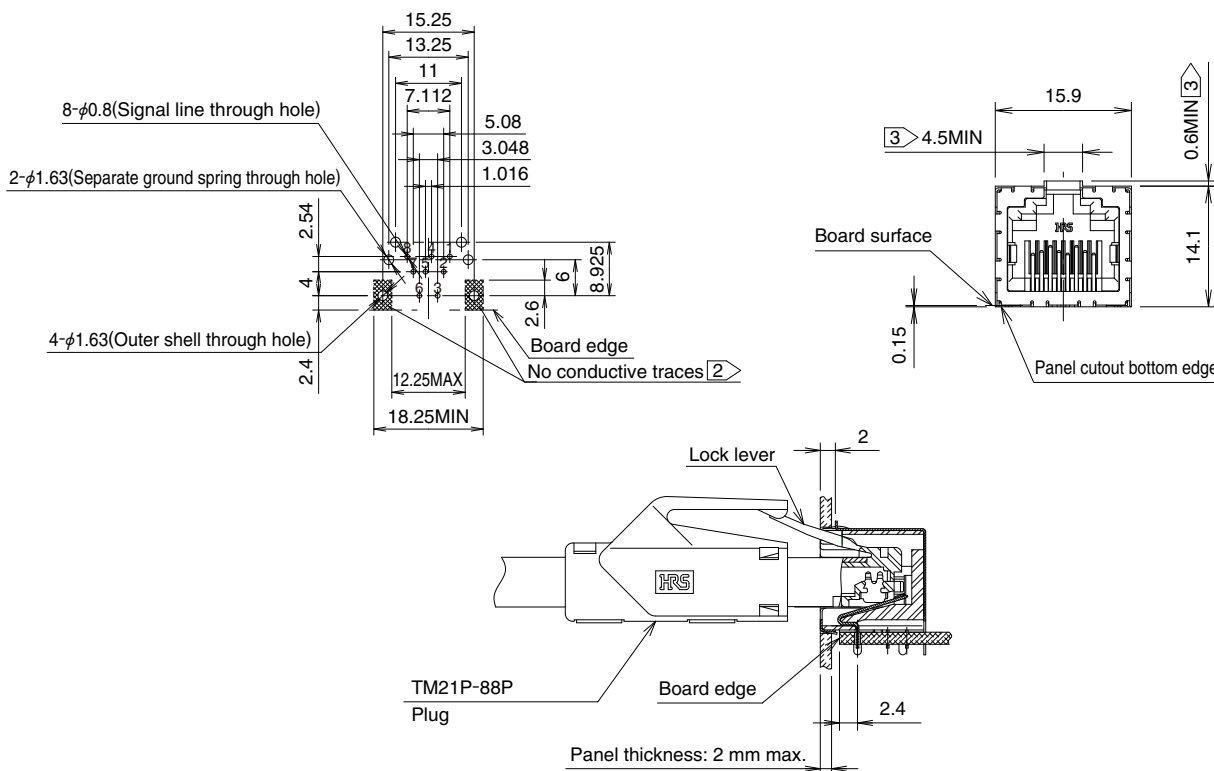
■ Modular Jack Connectors



Part No.	HRS No.	RoHS
TM24RSG-5A-88	222-2946-7 00	YES

◆ Recommended PCB mounting pattern

◆ Recommended panel cutout



* Precautions and recommendations for board and panel design

- 1 . Recommended board thickness : 1.6mm.
- ② No conductive traces in the crosshatched areas.
- ③ Make sure that the panel cutout has enough clearance to assure free operation of the lock lever of the mating plug.
- 4 . Make sure that the panel cutout bottom edge is 0.15mm below the board-mounting surface.
- 5 . Connector can be cleaned with isopropyl alcohol (IPA) at room temperature.

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/>

USA:

HIROSE ELECTRIC (U.S.A.), INC. BOSTON OFFICE
300 Brickstone Square Suite 201,
Andover, MA 01810
Phone : +1-978-662-5255

THE NETHERLANDS:

HIROSE ELECTRIC EUROPE B.V.
Hogehillweg #8 1101 CC Amsterdam Z-0
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.
18, Enterprise Center Tower 2, 209# Gong He
Road, Jing'an District, Shanghai, CHINA 200070
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>