PRODUCT CATALOG

HIROSE ELECTRIC CO.,LTD.

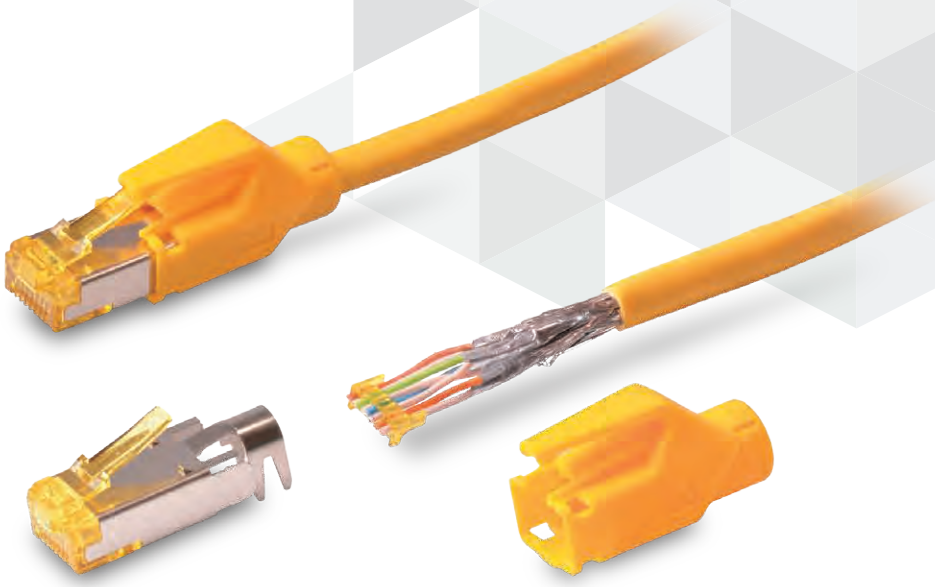
TM31P Series

Modular Plug Supporting Cat.6A Standard

CAT6A

High Speed

EMI Prevention



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Product Page
https://www.hirose.com/en/product/series/TM31P

Jun. 2023

Features

1. Supports High Speed Transmission

Two row contact arrangement conforms to ISO/IEC 11801 Cat.6A requirements. This product is suitable for use in high speed LAN transmission including 10G Ethernet.

2. EMI Prevention

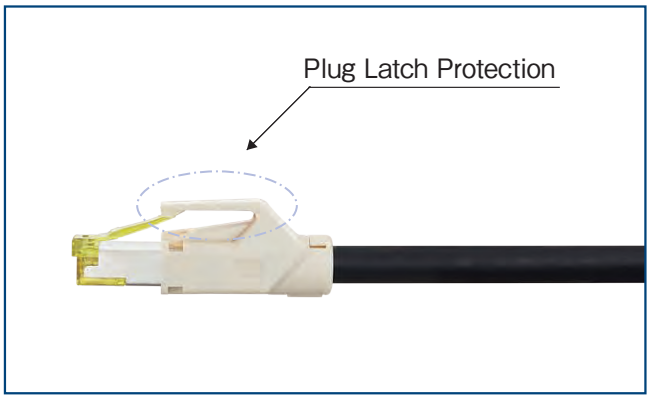
Metal shield covering provides protection against EMI.

3. Cable Assembly

The plug uses an insulation piercing assembly method and can be terminated with 24-27 AWG stranded cables.

4. Plug Latch Protection

The protective cover prevents plug latch breakage from getting caught on cables.
(Refer to photo on the right.)



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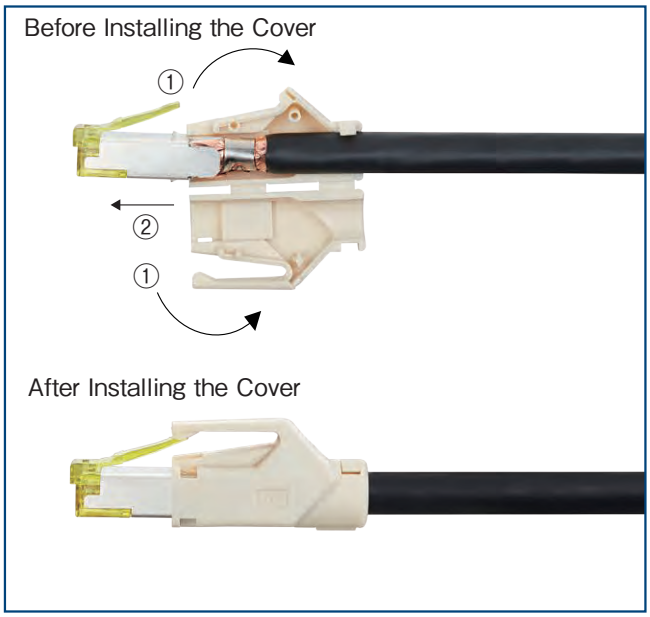
5. Simplified Termination Process (TM21#P-88P)

Installation of the split cover simplifies the termination process and prevents trouble during assembly.
(Refer to photo on the right.)



6. Easy Connection

Contact piercing and cable clamping is performed using the same tool.

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Product Specifications

Rated Current	1A	Operating Temperature	-25 to +60℃ (Note 1)
Rated Voltage	125V AC	Storage Temperature Range	-25 to +60℃

Item	Specification	Conditions
Contact Resistance	50mΩ Min. (Note 2)	Measured at 100mA
Insulation Resistance	100MΩ Min.	Measured at 100V DC
Withstanding Voltage	No flashover or insulation breakdown	500V AC for 1 min.
Vibration Resistance	No electrical discontinuity of 1μs Min. Contact Resistance : 70mΩ Max. (Note 2) No damage, cracks or part dislocation.	Frequency : 10 to 55 Hz, single amplitude of 0.75mm, 2 hours per 3-axis direction
Shock Resistance	No electrical discontinuity of 1μs Min. Contact Resistance : 70mΩ Max. (Note 2) No damage, cracks or part dislocation.	Acceleration of 490m/s^2, 11 ms duration, sine halfwave, 3 cycles in each of the 3 axis
Mating Durability	Contact Resistance : 70mΩ Max. (Note 2)	200 times
Temperature Cycle	Contact Resistance : 70mΩ Max. (Note 2) Insulation Resistance : 100MΩ Min. No damage, cracks or part dislocation.	Temperature : -55 → +15 to +35 → +85 → +15 to +35℃ Time : 30 → 2 to 3 → 30 → 2 to 3 minutes Above conditions repeated for 5 cycles
Steady-state Moisture Resistance	Contact Resistance : 70mΩ Max. (Note 2) Insulation Resistance : 1MΩ Min. (High Humidity) 10MΩ Min. (Drying) No damage, cracks or part dislocation.	Left for 500 hours at +40℃ and humidity of 93±3%
Salt Spray	Contact Resistance : 70mΩ Max. (Note 2) No significant corrosion.	Left in 5% salt water for 48 hours.

Note 1 : Includes temperature rise due to current flow.
Note 2 : This does not include cable conductor resistance.

Material / Finish

Part	Material	Color / Finish	UL Standard
Insulation Case	Polycarbonate Resin	Yellow	UL94V-2
Contact	Copper Alloy	Contact Gold Plating 1.27μm	-
Shield	Stainless Steel	Nickel Plating	-
Guide Plate	Polycarbonate Resin	Yellow	UL94V-2
Cover	Polyamide Resin	Light Beige Medium Gray Black Natural Light Gray Red Green Blue Yellow Orange	UL94V-2

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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.

■ Shielded Type Plug

TM31P-TM - 88P (##)
❶ ❷ ❸

❶ Series Name	TM31P
❷ Total Number of Plug Positions	88P : 8pos.
❸ Specification	None : Shield Type Plug (01) : Without Guide Plate (02) : Guide Plate only

■ Cover

TM21 C P - 88P (##)
❶ ❷ ❶ ❸ ❹

❶ Series Name	TM21P
❷ Type of Cover Shape	None : Cover with Plug Latch Protection C : Short Cover
❸ Total Number of Plug Positions	88P : 8pos.
❹ Cover Color	(11) : Light Beige (12) : Medium Gray (13) : Black (14) : Natural Light Gray (15) : Red (16) : Green (17) : Blue (18) : Yellow (19) : Orange

Note 1 : TM21P and TM31P are used with the same cover. The covers are sold separately from the shielded plug.
Note 2 : The short cover (TM21CP-88P) is available in (13) Black only.

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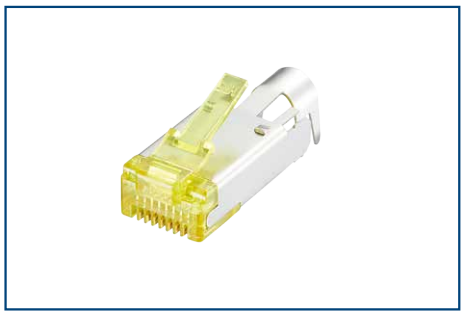
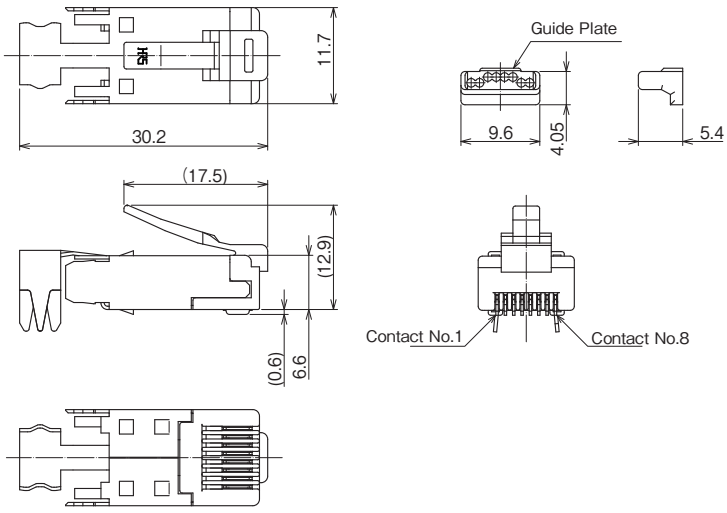
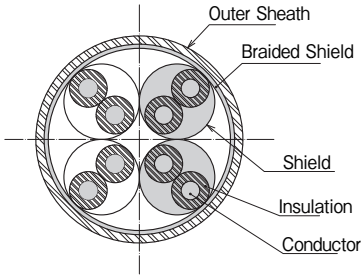
Plug Connector





Part No.	HRS No.	Purchase Unit
TM31P-TM-88P	CL0222-4626-7-00	100pcs per tray
TM31P-TM-88P(01)	CL0222-4626-7-01	
TM31P-TM-88P(02)	CL0222-4626-7-02	1,000pcs per bag

Applicable Cable



Applicable Cable Specifications	
Conductor	24 to 27 AWG, Stranded Cable
Insulation Outer Diameter	ϕ 0.9 to 1.0
Sheath Outer Diameter	ϕ 5.8 to 6.0

Note : Refer to the "TM31P-TM-88P Cabling Manual" (ETAD-E2847) for cable assembly procedures. If assembly is not performed correctly, the electrical characteristics may not be satisfied. For questions on cable compatibility, contact a Hirose technical representative.

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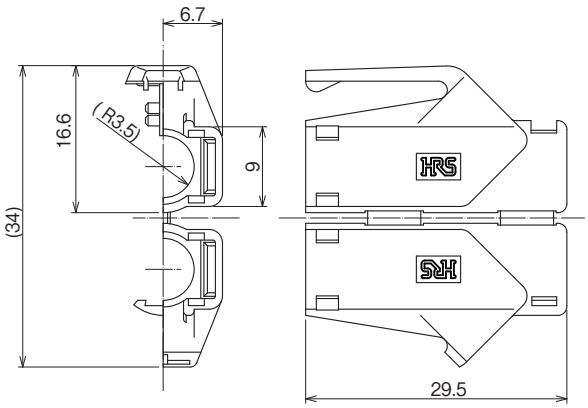
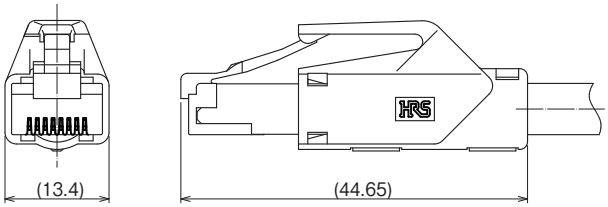
Latch Cover



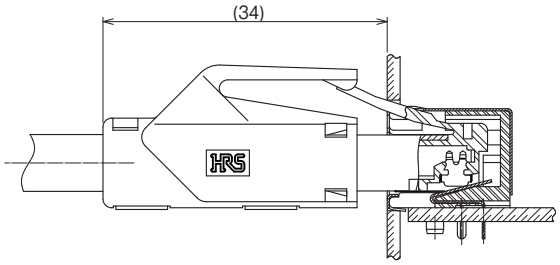
Part No.	HRS No.	Cover Color	Purchase Unit
TM21P-88P(11)	CL0222-2862-9-11	Light Beige	50pcs per bag
TM21P-88P(12)	CL0222-2862-9-12	Medium Gray	
TM21P-88P(13)	CL0222-2862-9-13	Black	
TM21P-88P(14)	CL0222-2862-9-14	Natural Light Gray	
TM21P-88P(15)	CL0222-2862-9-15	Red	
TM21P-88P(16)	CL0222-2862-9-16	Green	
TM21P-88P(17)	CL0222-2862-9-17	Blue	
TM21P-88P(18)	CL0222-2862-9-18	Yellow	
TM21P-88P(19)	CL0222-2862-9-19	Orange	

Note : The cover is sold separately.

Cover Installation Diagram



Mated Plug Diagram



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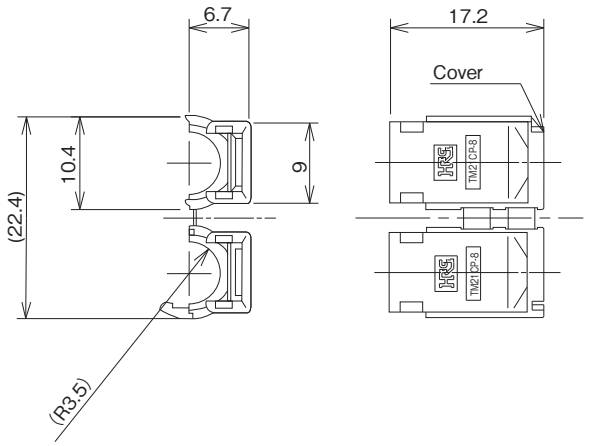
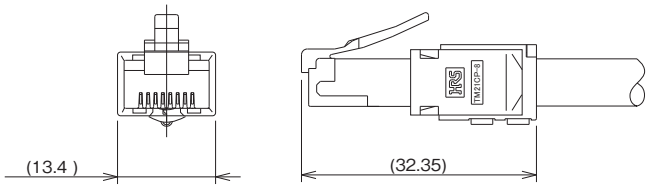
Short Cover



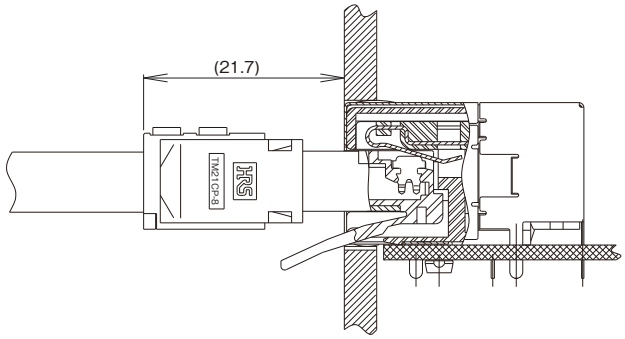
Part No.	HRS No.	Cover Color	Purchase Unit
TM21CP-88P(13)	CL0222-2884-1-13	Black	50pcs per bag

Note : The cover is sold separately.

Cover Installation Diagram



Mated Plug Diagram



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Plug Connector Cable Assembly Tool

Hand Tool for Shielded Type Cable Assembly (Also for Cable Crimping Process)

Part No.	HRS No.	Applicable Connector
HT603/TM21P-88P	CL0902-2532-0-00	TM31P-TM-88P(##)

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While Taking into Consideration

Specifications mentioned in this catalog are reference values.
When considering to order or use this product, please review the Drawing and Product Specifications sheets.
Use an appropriate cable when using the connector in combination with cables.
If considering usage of a non-specified cable, please contact your sales representative.
If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.
If considering usage for below mentioned applications, please contact your sales representative.
In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/defense etc. Hirose must review before assurance of reliability can be given.

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