

TM31P Series

Modular Plug Supporting Cat.6A Standard



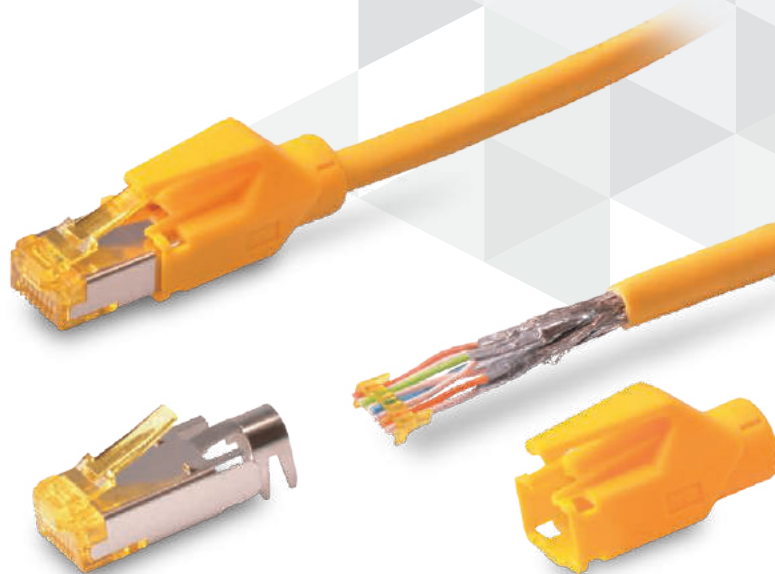
CAT6A



High Speed



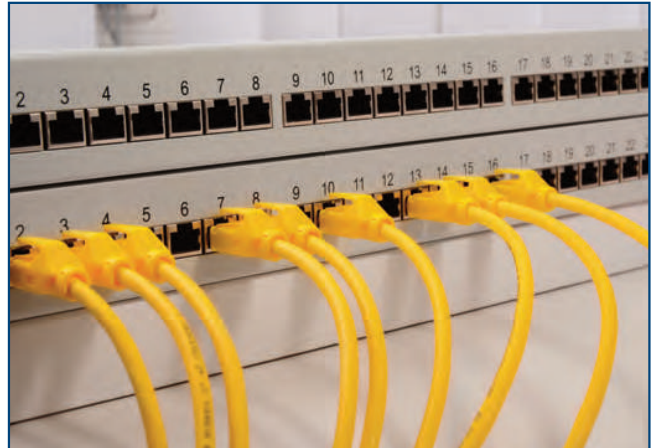
EMI Prevention



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.

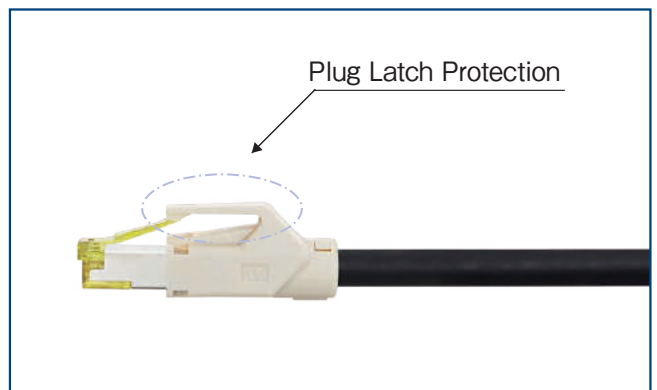
3. Cable Assembly

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.

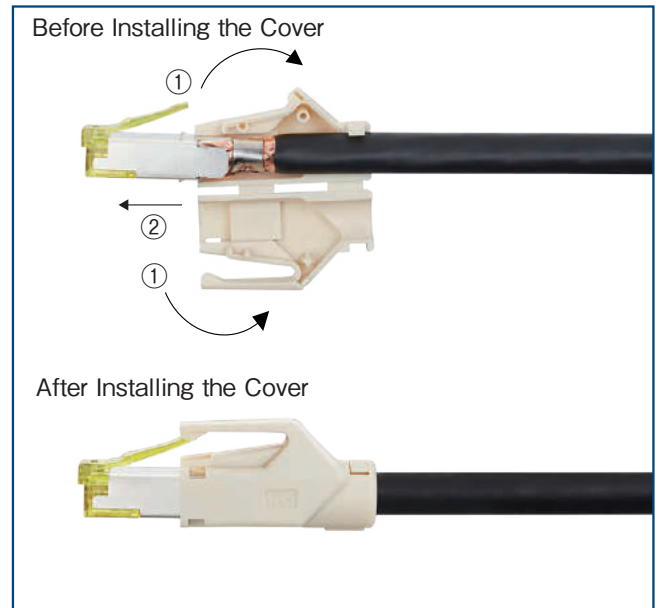
(Refer to photo on the right.)



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.

Product Specifications

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

| Item | Specification | Conditions |
|----------------------------------|---|---|
| Contact Resistance | 50m Ω Min. (Note 2) | Measured at 100mA |
| Insulation Resistance | 100M Ω Min. | Measured at 100V DC |
| Withstanding Voltage | No flashover or insulation breakdown | 500V AC for 1 min. |
| Vibration Resistance | No electrical discontinuity of 1 μ s Min. Contact Resistance : 70m Ω 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 1 μ s Min. Contact Resistance : 70m Ω 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 : 70m Ω Max. (Note 2) | 200 times |
| Temperature Cycle | Contact Resistance : 70m Ω Max. (Note 2) Insulation Resistance : 100M Ω Min. No damage, cracks or part dislocation. | Temperature : -55 → +15 to +35 → +85 → +15 to +35°C Time : 30 → 2 to 3 → 30 → 2 to 3 minutes Above conditions repeated for 5 cycles |
| Steady-state Moisture Resistance | Contact Resistance : 70m Ω Max. (Note 2) Insulation Resistance : 1M Ω Min. (High Humidity) 10M Ω Min. (Drying) No damage, cracks or part dislocation. | Left for 500 hours at 40°C and humidity of 93 ± 3% |
| Salt Spray | Contact Resistance : 70m Ω 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 1.27 μ m | - |
| 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 |

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 (##)

① ② ③

| | |
|----------------------------------|--|
| ① Series Name | TM31P |
| ② Total Number of Plug Positions | 88P : 8pos. |
| ③ Specification | None : Shield Type Plug (01) : Without Guide Plate (02) : Guide Plate only |

Cover

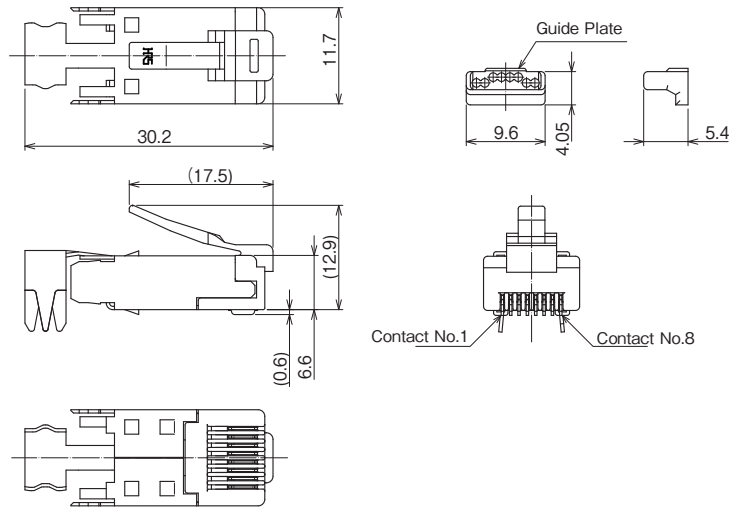
TM21 C P - 88P (##)

① ② ① ③ ④

| | |
|----------------------------------|--|
| ① Series Name | TM21P |
| ② Type of Cover Shape | None : Cover with Plug Latch Protection C : Short Cover |
| ③ Total Number of Plug Positions | 88P : 8pos. |
| ④ Cover Color | (11) : Light Beige (12) : Medium Gray (13) : Black (14) : Natural Light Gray (15) : Red (16) : Green (17) : Blue (18) : Yellow (19) : Orange |

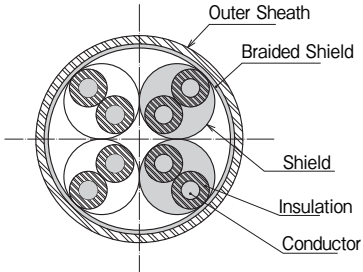
Note 1 : TM21P and TM31P are used with the same cover. The covers are sold separately from the shielded plug.
Note 2 : The short cover (TM21CP-88P) is available in (13) Black only.

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 |

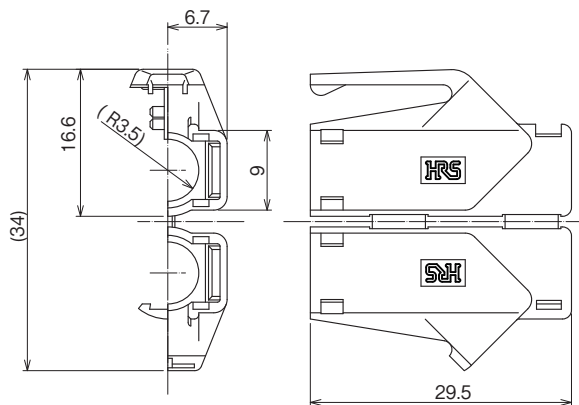
Applicable Cable



| 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.

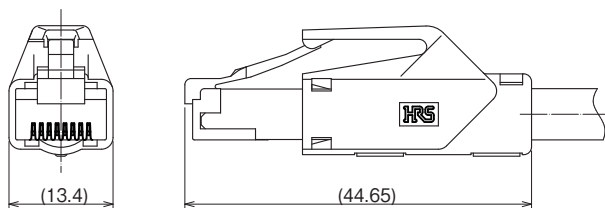
Latch Cover



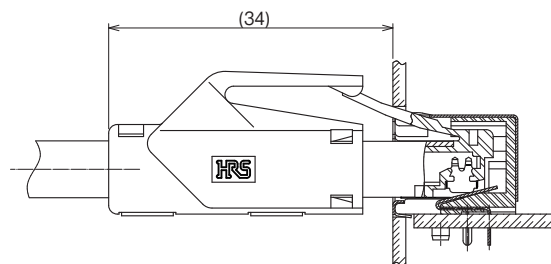
| Part No. | HRS No. | Cover Color | Purchase Unit |
|---------------|------------------|--------------------|---------------|
| TM21P-88P(11) | CL0222-2862-9-11 | Light Beige | 50pcs per bag |
| TM21P-88P(12) | CL0222-2862-9-12 | Medium Gray | |
| TM21P-88P(13) | CL0222-2862-9-13 | Black | |
| TM21P-88P(14) | 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.

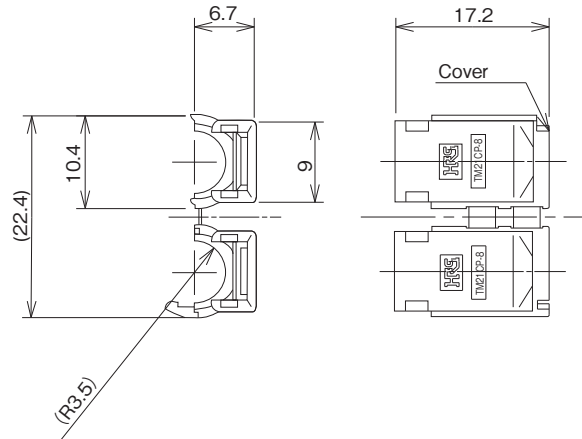
Cover Installation Diagram



Mated Plug Diagram



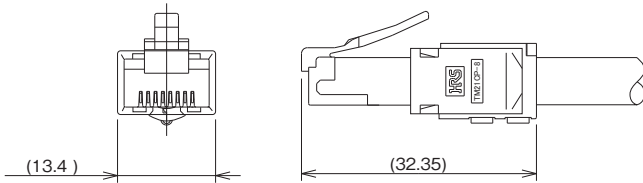
Short Cover



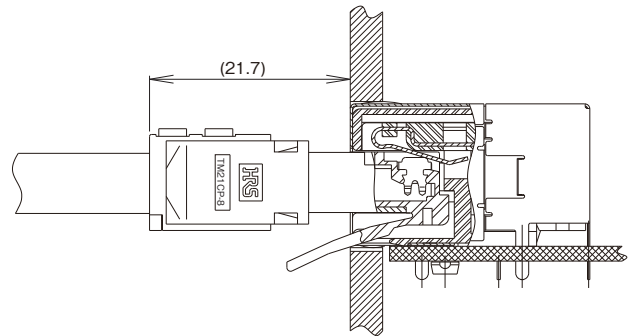
| Part No. | HRS No. | Cover Color | Purchase Unit |
|----------------|------------------|-------------|---------------|
| TM21CP-88P(13) | CL0222-2884-1-13 | Black | 50pcs per bag |

Note : The cover is sold separately.

Cover Installation Diagram



Mated Plug Diagram



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(##) |

While Taking into Consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please confirm 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, assurance will not be given.

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.