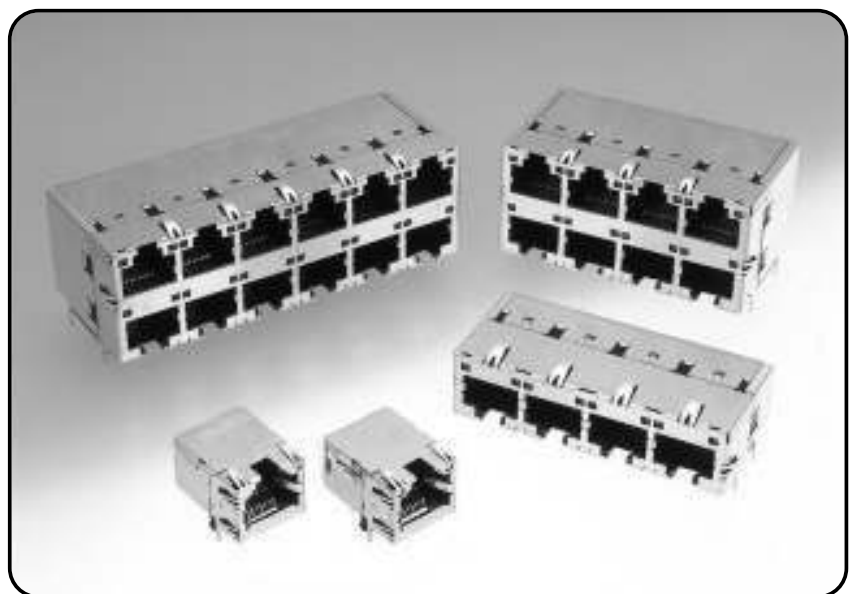
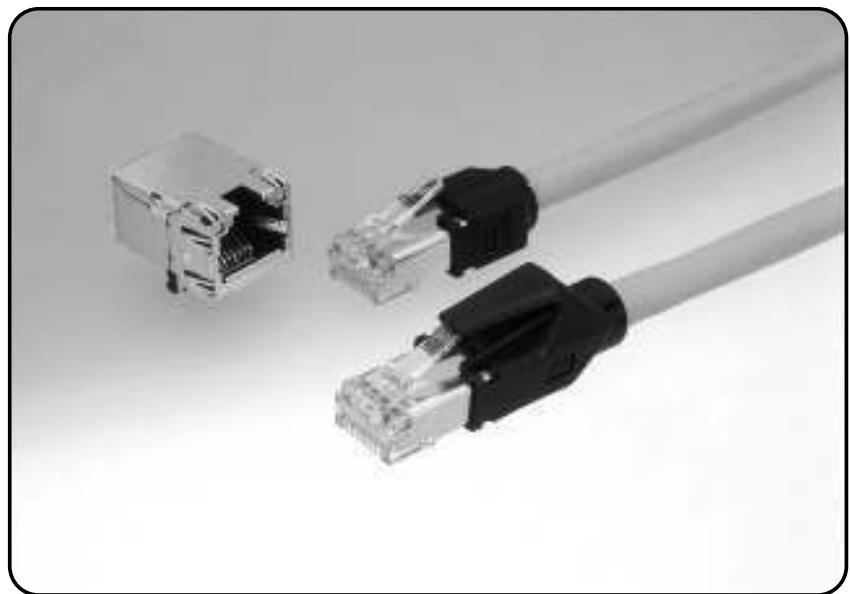


# Modular Connectors



# Modular Connectors



## Modular Plug/Jack Connectors Compliant to Category 6 standard

Connector type	Size	Series Name	Page
CAT6 Date system connector	8,8×2,8×6,8×24,8×48	TM23	85

## Modular Jack Connectors with Pulse Transformers

Connector type	Size	Series Name	Page
Modular Jack connectors with Pulse Transformers	8	TM11RD-5TANA	85

## Modular Plug/Jack Connectors Compliant to Enhanced Category 5 standards

Connector type	Size	Series Name	Page
Modular plug connectors compliant to enhanced category 5 standards	8	TM21P	86
Modular jack connectors for high-speed LAN transmission	8,8×4,8×8,8×12	TM21R	86

## Modular Jack Connectors Compliant to Enhanced Category 5 standards

Connector type	Size	Series Name	Page
Subminiature, LAN modular jack connectors	8	TM11R-5M2	87

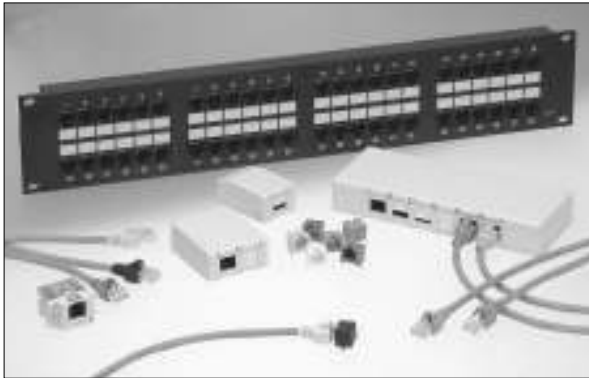
## Modular Plug/Jack Connectors for EMI protection

Connector type	Size	Series Name	Page
EMI-protected modular plugs	6,8	TM11P	87
EMI-protected jacks	8,8×4	TM11R	88

## Modular Plug/Jack Connectors Conform to ISO 8877/RJ-45/RJ-11

Connector type	Size	Series Name	Page
Plugs	4,6,8	TM-P	88
Right angle through hole type	4,6,8, 6+8,6+6+8,6×2,6×3,6×4,8×2,8×3,8×4	TM-DS	89
Straight through hole type	4,6,8,4+6	TM-DSA	89
Wire lead jack type	4,6,8	TM-W	90
Bottom entry type	4,6,4+6	TM13	90
Dust covers for modular connectors	4,6,8	TM-DC	91
D-sub modular conversion connectors	6	TM12	91

## CAT6 Data system connector TM23 Series



### Features

- Conforms to requirements of TIA/EIA-568B.2-1 data wiring standards.
- A Product Lineup with a Focus on System Construction
- Supporting of a wide Variety of Manufacturers' CAT 6 Cable

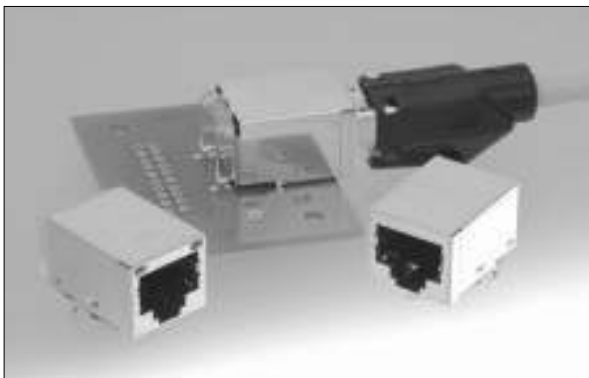
### Applications

LAN equipment, OA equipment, Measurement equipment

### Specifications

Item	Requirements
No. of Positions	8-16-48-192-384
Current rating (A)	1
Generic Name	Category 6 connector
Opening Size	8, 8 * 2 ports, 8 * 6 ports, 8 * 24 ports, 8 * 48 ports
Operating Temperature Range (°C)	-25, 0 to 60, 80
Insulator	Polycarbonate (UL94V-0, Color: Clear)
Applicable Cable (mm)	Cat. 6 cable (Stranded copper conductor: AWG#24, solid copper conductor: dia. 0.5mm)
Industry Standard	RJ-45,ISO8877,TIA/EIA-568-B,2-1CAT6

## Modular Jack C - with Pulse Transformers TM11RD-5TANA Series



### Features

- Voltage proof of 1.5KV isolated transformer and common mode choke coil are installed, which satisfies 100 Base-TX and 10Base-T requirements.
- Keying prevents 6-pos. modular plug to be inserted.
- Built-in optical pipe type enables to reduce PCB mounting space because indicators are unnecessary on panel.
- Metal shield covers the connector for EMI protection.
- Compliant to FCC (Federal Communications Commission) standard (FCC Title47, Parts68, Subpart F).

### Applications

LAN equipment, Office equipment, Measurement equipment, HUB, Router, Computer, ISDN terminal

### Specifications

Item	Requirements
No. of Positions	8
Current rating (A)	0.5
Generic Name	RJ-45
Opening Size	8
Operating Temperature Range (°C)	-25 to 80
Insulator	PBT (UL94V-0, Color: Black)
Industry Standard	RJ-45,ISO8877,TIA/EIA

Circular Connectors

Rectangular Connectors

Coaxial Connectors

Memory Card

Modular Connectors

Card Edge Connectors

Board-to-Board Connectors

Board-to-Wire Connectors

FPC/FCC Connectors

Optical Connectors and Devices

Microwave Components

Circular Connectors

Rectangular Connectors

Coaxial Connectors

Memory Card

Modular Connectors

Card Edge Connectors

Board-to-Board Connectors

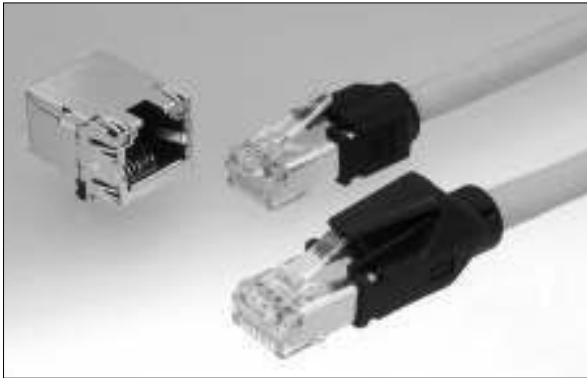
Board-to-Wire Connectors

FPC/FFC Connectors

Optical Connectors and Devices

Microwave Components

## Modular plug connectors compliant to enhanced category 5 standards TM21P Series



### Features

- Conforms to requirements of TIA/EIA-568-B data wiring standards.
- Satisfies the transmission performance of Enhanced Category 5.
- Supporting high-speed LAN transmissions such as Gigabit Ethernet (100BASE-T) and Fast Ethernet (100BASE-TX).
- The metal shield assures protection against EMI.
- Conforming to the ISO 8877 standards (ISDN interface connectors).

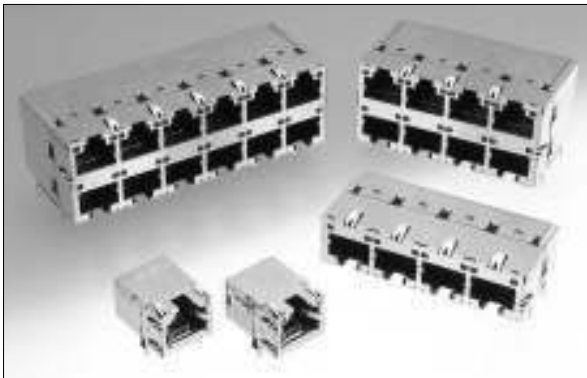
### Applications

LAN equipment, Office equipment, Measurement equipment

### Specifications

Item	Requirements
No. of Positions	8
Current rating (A)	0.5
Generic Name	Enhanced category 5 connector
Opening Size	8
Operating Temperature Range (°C)	-25 to 60-80
Insulator	Polycarbonate (UL94V-0, Color: Clear)
Applicable Cable (mm)	Enhanced Cat. 5 cable (Stranded copper conductor: AWG#24, solid copper conductor: dia. 0.5mm)
Industry Standard	RJ-45,ISO8877,TIA/EIA-568-B CAT5e

## Modular jack connectors for high-speed LAN transmission TM21R Series



### Features

- Conforms to requirements of TIA/EIA-568-B data wiring standards.
- Single port configuration meeting CAT5e and multiple port configuration meeting CAT5 transmission performance.
- Optical indicators are integral part of the connectors saving space on customer's board.
- Built-in multiple shield and ground contacts covering the entire outer surface of the connector assure complete protection against EMI.
- Conforming to FCC (Federal Communications Commission) Title47, Parts68, Subpart F standards.

### Applications

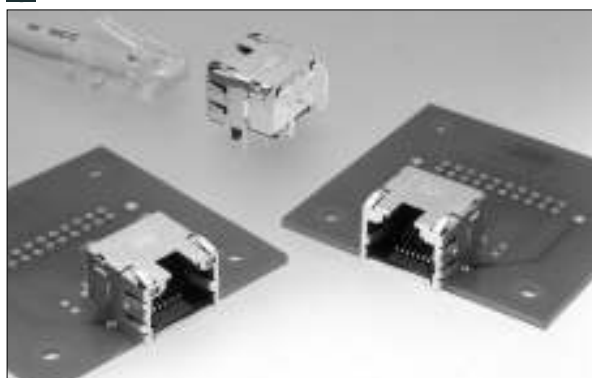
LAN equipment, Office equipment, Measurement equipment

### Specifications

Item	Requirements
No. of Positions	8-32-48
Current rating (A)	0.5-1
Generic Name	Enhanced category 5 connector
Opening Size	8, 8 * 4 ports, 8 * 6 ports
Operating Temperature Range (°C)	-25 to 80
Insulator	PBT (UL94V-0, Color: Black)
Industry Standard	FCC Title47, Part68, Subpart-RJ-45,ISO8877,TIA/EIA CAT5

## Subminiature, LAN modular jack connectors

### TM11R-5M2 Series



#### Features

- Conforms to TIA/EIA-568-A information technology generic cabling standard and FCC Title47, Parts68, Subpart F standards.
- Meets the requirement of CAT5 transmission performance, and supports fast Ethernet (100BASE-TX) transmission.
- A connector having built-in optical indicator as compact as a height of only 11.5mm, a width of 15mm, and a depth of 17.5mm.
- Built-in multiple shield and ground contacts covering the entire outer surface of the connector assure complete protection against EMI.
- Lead-free in consideration of environmental issues.

#### Applications

LAN equipment, Office equipment, Measurement equipment

#### Specifications

Item	Requirements
No. of Positions	8
Current rating (A)	1
Generic Name	RJ-45,ISO8877
Opening Size	8
Operating Temperature Range (°C)	-25 to 80
Insulator	PBT (UL94V-0, Color: Black)
Industry Standard	RJ-45,ISO8877,TIA/EIA CAT3

## EMI-protected modular plugs

### TM11P Series



#### Features

- A plug connector of EMI protection, single-body construction incorporating a shell and cable clamp.
- Conforming to FCC standards. The 6-conductor model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- Designed for electrostatic prevention with the metal shell covered with a plastic hood.
- The harness of the plug connector is wired securely with ease by using a special tool.

#### Applications

LAN equipment, Office equipment, Measurement equipment, Hubs, Routers, Computers, Office equipment, ISDN terminals

#### Specifications

Item	Requirements
No. of Positions	6-8
Current rating (A)	0.5
Generic Name	ISO8877,RJ-45
Opening Size	6-8
Operating Temperature Range (°C)	-25 to 60
Insulator	Polycarbonate (UL94V-0, Color: Clear)
Applicable Cable (mm)	Copper foil or AWG#26 (Dia. 0.9mm to 1.0mm)
Industry Standard	RJ-11-RJ-45,ISO8877,TIA/EIA CAT3

Circular  
ConnectorsRectangular  
ConnectorsCoaxial  
ConnectorsMemory Card  
ConnectorsModular  
ConnectorsCard Edge  
ConnectorsBoard-to-Board  
ConnectorsBoard-to-Wire  
ConnectorsFPC/FCC  
ConnectorsOptical Connectors  
and DevicesMicrowave  
Components

## EMI-protected jacks

### TM11R Series



#### Features

- The conventional TM series jack with EMI protection provided with a shield and ferrite core.
- Conforming to FCC standards. The 6-conductor model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- A space-saving 8-conductor, 4-port type is available.
- A space-saving model with a height of 11.9mm from the PCB surface, a width of 14.6mm, and a depth of 17.6mm is available.
- A jack with the shield connecting first, ahead of contacts at the time of mating is available for the protection of the inner circuits of the equipment.

#### Applications

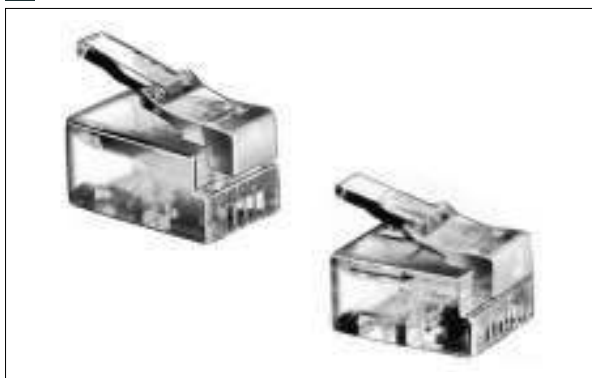
LAN equipment, Office equipment, Measurement equipment, Hubs, Routers, Computers, Office equipment, ISDN terminals

#### Specifications

Item	Requirements
No. of Positions	6-8-32
Current rating (A)	0.5
Generic Name	RJ-11,RJ-45
Contact Plating	Gold
Opening Size	6, 8, 8 * 4 ports
Operating Temperature Range (°C)	-25 to 60
Insulator	PBT (UL94V-0)
Industry Standard	RJ-11·RJ-45,ISO8877,TIA/EIA CAT3

## Plugs

### TM-P Series



#### Features

- Conforming to FCC standards. The 6-conductor model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- Cables in a wide variety are available, including flat and round copper foil stranded wires, non-shielded solid wires, and thin stranded wires.
- Cable termination to pre-inserted contacts using a special manual tool.
- The gold-plated terminals are environment resistive with a fire retardant insulator (UL94V-0) used.
- The one touch lock offers excellent operability.

#### Applications

Telephones, Fax machines, Radio equipment, Modems, Intercoms, Computers, Communications equipment, Measurement equipment, Office equipment, Control equipment, LAN equipment, Transmission equipment, Medical equipment

#### Specifications

Item	Requirements
No. of Positions	2-4-6-8
Current rating (A)	0.5
Generic Name	ISO8877,RJ-11,RJ-45
Contact Plating	Gold
Opening Size	4, 6, 8
Operating Temperature Range (°C)	-25 to 60
Insulator	Polycarbonate (UL94V-0, Color: Clear)
Applicable Cable (mm)	Solid wire (Dia. 0.4mm, 0.5mm, 0.65mm)Thin wire (AWG#28)
Industry Standard	RJ-11·RJ-45,ISO8877,TIA/EIA CAT3



## Right angle through hole type TM-DS Series



### Features

- Conforming to FCC standards. The 6-conductor opening model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- Dip soldering horizontally to the PCB.
- The gold-plated terminals are environment resistive with a fire retardant insulator (UL94V-0) used.
- Multiple port types have a 6-conductor, or 8-conductor opening in a wide variety including space saving types.
- A space-saving model with a height of 11.7mm from the PCB surface, a width of 14mm, and a depth of 17mm is available.

### Applications

Telephones, Fax machines, Radio equipment, Modems, Intercom, Computers, Communications equipment, Measurement equipment, Office equipment, Control equipment, LAN equipment, Transmission equipment, Medical equipment, Hubs, ISDN terminals

### Specifications

Item	Requirements
No. of Positions	2-4-6-8-12-14-16-18-20-24-32
Current rating (A)	0.5
Generic Name	ISO8877,RJ-11,RJ-45
Opening Size	4, 6, 6 * 2 ports, 6 * 3 ports, 6 * 4 ports, 6 + 6 + 8, 6 + 8, 8, 8 * 2 ports, 8 * 3 ports, 8 * 4 ports
Operating Temperature Range (°C)	-25 to 60
Insulator	PBT (UL94V-0)
Industry Standard	RJ-11,RJ-45,ISO8877,TIA/EIA CAT3

## Straight through hole type TM-DSA Series



### Features

- Conforming to FCC standards. The 6-conductor opening model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- Dip soldering vertically to the PCB.
- The gold-plated terminals are environment resistive with a fire retardant insulator (UL94V-0) used.
- Multiple port types have a 6-conductor opening in a wide variety with one to four ports.
- Lightweight, compact design with PCB mounting space reduced.

### Applications

Telephones, Fax machines, Radio equipment, Modems, Intercom, Computers, Communications equipment, Measurement equipment, Office equipment, Control equipment, LAN equipment, Transmission equipment, Medical equipment, Hubs, ISDN terminals

### Specifications

Item	Requirements
No. of Positions	2-4-6-8-10
Current rating (A)	0.5
Generic Name	ISO8877,RJ-11,RJ-45
Opening Size	4, 4 + 6, 6, 8
Operating Temperature Range (°C)	-25 to 60
Insulator	PBT (UL94V-0)
Industry Standard	RJ-11-RJ-45,ISO8877

Circular Connectors

Rectangular Connectors

Coaxial Connectors

Memory Card

Modular Connectors

Card Edge Connectors

Board-to-Board Connectors

Board-to-Wire Connectors

FPC/FFC Connectors

Optical Connectors and Devices

Microwave Components

## Wire lead jack type TM-W Series



### Features

- Conforming to FCC standards. The 6-conductor opening model conforming to RJ-11 standards, the 8-conductor model conforming to RJ-45 and ISO8877 standards.
- Jack with tin-coated lead wire connected.
- The gold-plated terminals are environment resistive with a fire retardant insulator (UL94V-0) used.
- A variety of connectors can be connected to the opposite side of the lead wires.
- Products are shipped with the lead wires connected.

### Applications

Telephones, Fax machines, Radio equipment, Modems, Intercoms, Computers, Communications equipment, Measurement equipment, Office equipment, Control equipment, LAN equipment, Transmission equipment, Medical equipment

### Specifications

Item	Requirements
No. of Positions	2-4-6-8
Current rating (A)	0.5
Generic Name	ISO8877,RJ-11,RJ-45
Opening Size	4, 6, 8
Operating Temperature Range (°C)	-25 to 60
Insulator	ABS (UL94V-0)
Industry Standard	RJ-11-RJ-45,ISO8877

## Bottom entry type TM13 Series



### Features

- A jack of bottom entry type connecting the plug from the reverse side of the PCB.
- Conforming to FCC standards. The 6-conductor opening model conforming to RJ-11 standards.
- The gold-plated terminals are environment resistive with a fire retardant insulator (UL94V-0) used.
- Straight connector.

### Applications

Telephones, fax machines, radio equipment, modems, intercoms, computers, communications equipment, measurement equipment, office equipment, and control equipment

### Specifications

Item	Requirements
No. of Positions	2-4-6-10
Current rating (A)	0.5
Generic Name	RJ-11
Contact Plating	Gold
Opening Size	4, 4 + 6, 8
Operating Temperature Range (°C)	-25 to 60
Insulator	PBT (UL94V-0)
Industry Standard	RJ-11-RJ-11,RJ-45,ISO8877



## Dust covers for modular connectors

### TM-DC Series



#### Features

- Protects the opening section of modular jacks when the plug is not mated with it.
- Opening with 4, 6, and 8 contacts.
- Polyethylene made.
- Dark gray and natural color.

#### Applications

Telephones, Radio equipment, Modems, Intercoms, Computers, Communications equipment, Measurement equipment, Office equipment, Control equipment

#### Specifications

Item	Requirements
No. of Positions	4-6-8
Generic Name	ISO8877,RJ-11,RJ-45
Operating Temperature Range (°C)	-25 to 60

## D-sub modular conversion connectors

### TM12 Series



#### Features

- Conversion connector for the PC communications RS-232C interface (D-sub 25 contacts) and modular.
- Compact design with a screw lock on the D-sub mating side.
- The D-sub and modular connectors used have time-proven reliability in the market.
- The modular connector has a 6-conductor opening with four contacts and a 6-conductor opening with 6 contacts.
- 25-conductor male type with D-sub connector.

#### Applications

Computers, Communication equipment

#### Specifications

Item	Requirements
No. of Positions	4-6
Current rating (A)	0.5
Generic Name	D-sub, RJ-11
Contact Plating	Gold
Opening Size	6
Operating Temperature Range (°C)	-25 to 60
Insulator	ABS (UL94V-0), PBT (UL94V-0)
Industry Standard	RJ-11,MIL

Circular Connectors

Rectangular Connectors

Coaxial Connectors

Memory Card

Modular Connectors

Card Edge Connectors

Board-to-Board Connectors

Board-to-Wire Connectors

FPC/FCC Connectors

Optical Connectors and Devices

Microwave Components