

# T1 Industrial Single-Pair Ethernet (SPE) Connectors and Cable Assemblies >

Provides the standard T1 industrial interface and single-twisted-pair cabling to make Ethernet connectivity easy and affordable, including the transmission of data from the cloud to devices and sensors, while supporting miniaturization.

## FEATURES AND ADVANTAGES

### Plug, jack and cable assembly with IP65/67

Provides protection from objects up to 12.00mm, and is touchproof

### Preassembled cable assemblies available

Reduces implementation time with plug-and-play connectivity. Eliminates the need to source cable assembly or invest in tooling. Avoids the need for cable testing.

### Plug, jack and cable assembly with IP20

Enables easy-to-implement wire-to-board connectivity. Shielding ensures superior signal integrity performance

### Halogen-free, oil-resistant, flame-retardant off-the-shelf cable assemblies

Withstands harsh industrial environments

### Cable assemblies enable the transmission of data using only two wires and the simultaneous power supply for terminals via PoDL up to 50W

Provides faster data speeds

### End-to-End TCP/IP-Based Communication

Permits a barrier-free connection of equipment, and sensor/actuator technology



**T1 SPE IP20  
1x2x26 AWG/19 PUR**



**T1 SPE M12 IP65/67  
1x2x22 AWG/19 PUR**

### Cable Assemblies use only one twisted-pair with a gauge as small as 26 AWG and 22 AWG

Facilitates miniaturization so that the customers have an easier time routing the small, flexible cable assemblies. They also weigh less and cost less

# T1 Industrial Single-Pair Ethernet (SPE) Connectors and Cable Assemblies >

## MARKETS AND APPLICATIONS

### Industrial Automation

Smart sensors  
Valves  
Actuators  
Drives  
Control panel  
Process automation and control  
Factory automation  
Machine-to-machine communication  
Robotics

### Internet of Things

Building automation  
Intelligent lighting systems / networks  
Lift / escalator control systems  
Security / access control systems  
Fire alarm systems

### Commercial Vehicle

Railway



Robotics



Factory Automation

## SPECIFICATIONS

### Electrical Performance

Rated current: 4.0A@60°C / 1.5A@85°C  
Rated voltage: 60V DC  
Test voltage UDC (voltage proof): 1.0kV DC (pin-to-pin), 2.25kV DC (pin-to-pin)  
Contact resistance:  $\leq 20 \text{ m}\Omega$   
Shielding resistance:  $\leq 100 \text{ m}\Omega$

### Mechanical Performance

Number of contacts:  
2 industrial pin-socket contact design for high reliability and mating security.  
(2 contact points per contact)

Mating cycles:  
Minimum 1.000 mating cycles for the core element and the IP20 version.  
For the M8 and M12 versions >500 mating cycles based on the locking mechanism

### MICE3 Performance

Temperature range: -40 to +85°C  
Degree of protection acc. to IEC 60529:  
IP20 (IP20) & IP65 / IP67 mated condition (M12)  
EMC resistance:  
acc. to E3 for all connector versions  
Shock and vibration resistance:  
acc. to IEC 61373 Category 1B  
(Railway Standards)

[www.molex.com/link/spe.html](http://www.molex.com/link/spe.html)