



M8/M12 CONNECTOR SYSTEM



TE Connectivity's industrial Communications products play a vital role in factory automation

TE Connectivity (TE)'s M8/M12 connector system for machine industrial automation and control applications provides a solution that safely and reliably ensures the communication in industrial environments. Designed to the international standards of the IEC (IEC 61076-2-101/-104/-109), this connector system also finds applications outside of its traditional industries where a compact, reliable connection system with environmental protection is required. TE's solution includes an extensive connector range of receptacles, cable assemblies and IO boxes, and provides users with an interface that supports higher bandwidth needs meeting the requirements of up to 10 Gb/s.

TE's broad product portfolio provides customers with shielded and unshielded cable assembly options, Cat5e and Cat6A cable types. For re-wiring on site, a range of field serviceable

connectors are provided that include male and female versions in 2, 3, 4, 5, 8 and 12 positions and Y connectors. Additional styles are available on request including alternative mounting arrangements for panel mount connectors and double ended cable assemblies.

TE's industrial Communications products are widespread throughout today's networked factories, and play a critical role in driving the efficiency of many manufacturing processes. Used extensively in material handling equipment, our industrial communications solutions are also found throughout the automotive, food and beverage industries, as well as in the many manufacturing applications of industrial robots. With the development of smaller industrial Ethernet products, TE's solutions are ideal for vision systems, common in security equipment and mail sortation devices.

M8/M12 Connector System

CONNECTORS

TE's M8/M12 connectors continue to fill the ongoing needs for sensor connection in industrial machinery and factory automation. A connection standard for many years, these products also find applications outside of their traditional industries where a compact reliable connection system with environmental protection is required.

TE's M8/M12 connector portfolio includes a full range of A, B, C, D, S, T and X-coded (up to 10 Gb/s) versions to serve various customer and application needs. The connectors are also available in shielded and unshielded versions, to support Gigabit Ethernet applications.



CABLE ASSEMBLIES

TE's M8/M12 cable assemblies are available as single-ended or double-ended, as straight or angled versions and as shielded and un-shielded variants. A predefined offering in length of 1, 3, 5 and 10 meters covers a vast range of customer needs on the market. Customized cable assemblies provide a solution for your specific needs in different lengths, temperatures or flexibility and can be used in combination with TE's male/female connectors and I/O Modules. Industrial Ethernet patch cables with overmolded X-coded M12 connectors are available for futureproof applications with up to 10 Gigabit/s data transmission.



I/O MODULES

Complementary to the M8/M12 cable assemblies and connectors, TE offers compact I/O modules for industrial applications. The I/O modules are well accepted in the industrial automation industry and provide reduced cabling and increased ease of installation and maintenance.



Features

- X-coded connectors support higher bandwidth needs of up to 10Gb/s
- Easily installable connector system
- Environment protection IP67 and IP68
- Connector ranges include male and female connectors in 2, 3, 4, 5, 8 and 12 positions and Y connectors
- Alternative mount arrangements for solder cup or PCB
- Panel Mount and distribution version available
- Shield reliable
- Quick and secure connection
- Backwards compatible
- Cable assemblies based on PUR and PVC cable types with pre-defined length of 1, 3, 5 and 10 meter
- Customization of cable assemblies enabling a fit to special needs

Benefits

- Reduce downtime in harsh environments with reliable industry standard solution that includes quick turn, prototype cable assemblies
- Decrease installation and tooling costs with error-free field installable connectors
- Extend the life of your equipment with M8/M12 connectors that are reliable in a wide variety of applications and harsh environments
- Supports higher bandwidth needs - meeting the requirements of up to 10 Gb/s
- Full solution offering including customized and general market cable assemblies enables 1-stop-shopping and reduced TCO

Applications

- Industrial automation
- Automobile manufacturing
- Machine tools
- Semiconductor manufacturing
- Factory automation machines
- Manufacturing of solenoid and sensor valves
- Vision systems

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CONNECTORS, M8

| Description | Type | Polarization | Code | Part Number |
|--|--------|--------------|------|-----------------------------|
| Connector, straight, field installable, unshielded, screw, 3,5-5 mm cable diameter | male | 3 | | 2120954-1 |
| Connector, 90° angled field installable, unshielded, screw, 3,5-5 mm cable diameter | male | 3 | | 2120955-1 |
| Receptacle, straight, field installable, unshielded, screw, 3,5-5 mm cable diameter | female | 3 | | 2120956-1 |
| Receptacle, 90° angled field installable, unshielded, screw, 3,5-5 mm cable diameter | female | 3 | | 2120957-1 |
| Panel mount connector, Li 200 mm | male | 3 | | 2120958-1 |
| Panel mount receptacle, Li 200 mm | female | 3 | | 2120959-1 |
| Connector, straight, field installable, unshielded, screw, 3,5-5 mm cable diameter | male | 4 | | 1-2120954-1 |
| Connector, 90° angled field installable, unshielded, screw, 3,5-5 mm cable diameter | male | 4 | | 1-2120955-1 |
| Receptacle, straight, field installable, unshielded, screw, 3,5-5 mm cable diameter | female | 4 | | 1-2120956-1 |
| Receptacle, 90° angled field installable, unshielded, screw, 3,5-5 mm cable diameter | female | 4 | | 1-2120957-1 |
| Panel mount connector, Li 200 mm | male | 4 | | 1-2120958-1 |
| Panel mount receptacle, Li 200 mm | female | 4 | | 1-2120959-1 |

CONNECTORS, M12

| Description | Type | Polarization | Code | Part Number |
|---|------|--------------|------|---------------------------------|
| Connector, straight, field installable, shielded, S-Code | male | 3+PE | S | 2120951-1 |
| PCB mounted connector straight | male | 4 | A | 3-2271140-2 |
| Panel mounted connector with wires | male | 4 | A | 3-2271134-2 |
| Connector, straight, field installable, unshielded, 6-8 mm | male | 4 | A | T4411002041-000 |
| Connector, straight, field installable, unshielded, 4-6 mm | male | 4 | A | T4411001041-000 |
| Connector, straight, field installable, shielded, 6-8 mm | male | 4 | A | T4411012041-000 |
| Connector, 90° angled field installable, unshielded, 4-6 mm | male | 4 | A | T4113001041-000 |
| Connector, 90° angled field installable, unshielded, 6-8 mm | male | 4 | A | T4113002041-000 |
| Connector, 90° angled field installable, shielded, 6-8 mm | male | 4 | A | T4113011041-000 |
| PCB mounted connector straight | male | 4 | D | 3-2271142-2 |
| Panel mounted connector with wires | male | 4 | D | 3-2271136-2 |
| Connector, straight, field installable, shielded, 6-8 mm | male | 4 | D | T4111501041-000 |
| Connector, 90° angled field installable, shielded, 6-8 mm | male | 4 | D | T4111502041-000 |
| Panel mount connector, POWER, T-code, M20 x 1,5 | male | 4 | T | 2120947-1 |
| Connector, straight, field installable, shielded, T-code | male | 4 | T | 2120949-1 |
| PCB mounted connector straight | male | 5 | A | 4-2271140-2 |
| Panel mounted connector with wires | male | 5 | A | 4-2271134-2 |
| Connector, straight, field installable, unshielded, 4-6 mm | male | 5 | A | T4111001051-000 |
| Connector, straight, field installable, unshielded 6-8 mm | male | 5 | A | T4111002051-000 |
| Connector, straight, field installable, shielded, 6-8 mm | male | 5 | A | T4111012051-000 |
| Connector, 90° angled field installable, unshielded, 4-6 mm | male | 5 | A | T4113001051-000 |
| Connector, 90° angled field installable, unshielded, 6-8 mm | male | 5 | A | T4113001051-000 |
| Connector, 90° angled field installable, shielded, 6-8 mm | male | 5 | A | T4113001051-000 |

M8/M12 Connector System

CONNECTORS, M12 (continued)

| Description | Type | Polarization | Code | Part Number |
|--|--------|--------------|------|---------------------------------|
| PCB mounted connector straight | male | 5 | B | 4-2271141-2 |
| Panel mounted connector with wires | male | 5 | B | 4-2271135-2 |
| Connector, straight, field installable, unshielded, 4-6 mm | male | 5 | B | T4111401051-000 |
| Connector, straight, field installable, unshielded, 6-8 mm | male | 5 | B | T4111402051-000 |
| Connector, straight, field installable, shielded, 6-8 mm | male | 5 | B | T4111412051-000 |
| Connector, 90° angled field installable, unshielded, 4-6 mm | male | 5 | B | T4113401051-000 |
| Connector, 90° angled field installable, unshielded, 6-8 mm | male | 5 | B | T4113401051-000 |
| Connector, 90° angled field installable, shielded, 6-8 mm | male | 5 | B | T4113401051-000 |
| Connector field installable | male | 8 | X | 2120952-1 |
| Receptacle, straight, field installable, shielded, S-Code | female | 3+PE | S | 2120950-1 |
| Receptacle, straight, field installable, shielded, 6-8 mm | female | 4 | A | T4110012041-000 |
| Receptacle, straight, field installable, unshielded, 4-6 mm | female | 4 | A | T4110001041-000 |
| Receptacle, straight, field installable, unshielded, 6-8 mm | female | 4 | A | T4110002041-000 |
| Receptacle, 90° angled field installable, unshielded, 4-6 mm | female | 4 | A | T4112001041-000 |
| Receptacle, 90° angled field installable, unshielded, 6-8 mm | female | 4 | A | T4112002041-000 |
| Receptacle, 90° angled field installable, shielded, 6-8 mm | female | 4 | A | T4112012041-000 |
| PCB mounted receptacle straight | female | 4 | A | 3-2271143-2 |
| Panel mounted receptacle with wires | female | 4 | A | 3-2271137-2 |
| Receptacle, straight, field installable, shielded, 6-8 mm | female | 4 | D | T4112512041-000 |
| Receptacle, 90° angled field installable, shielded, 6-8 mm | female | 4 | D | T4110512041-000 |
| PCB mounted receptacle straight | female | 4 | D | 3-2271145-2 |
| Panel mounted receptacle with wires | female | 4 | D | 3-2271139-2 |
| Receptacle, straight, field installable, shielded, T-code | female | 4 | T | 2120948-1 |
| Panel mounted receptacle, POWER, T-Code, M20 x 1,5 | female | 4 | T | 2120946-1 |
| Receptacle, straight, field installable, shielded, 6-8 mm | female | 5 | A | T4110012051-000 |
| Receptacle, straight, field installable, unshielded, 4-6 mm | female | 5 | A | T4110001051-000 |
| Receptacle, straight, field installable, unshielded, 6-8 mm | female | 5 | A | T4110002051-000 |
| Receptacle, 90° angled field installable, unshielded, 4-6 mm | female | 5 | A | T4112001051-000 |
| Receptacle, 90° angled field installable, unshielded, 6-8 mm | female | 5 | A | T4112002051-000 |
| Receptacle, 90° angled field installable, shielded, 6-8 mm | female | 5 | A | T4112012051-000 |
| PCB mounted receptacle straight | female | 5 | A | 4-2271143-2 |
| Panel mounted receptacle with wires | female | 5 | A | 4-2271137-2 |
| Receptacle, straight, field installable, unshielded, 4-6 mm | female | 5 | B | T4110401051-000 |
| Receptacle, straight, field installable, unshielded, 6-8 mm | female | 5 | B | T4110402051-000 |
| Receptacle, straight, field installable, shielded, 6-8 mm | female | 5 | B | T4110412051-000 |
| Receptacle, 90° angled field installable, unshielded, 4-6 mm | female | 5 | B | T4112401051-000 |
| Receptacle, 90° angled field installable, unshielded, 6-8 mm | female | 5 | B | T4112402051-000 |
| Receptacle, 90° angled field installable, shielded, 6-8 mm | female | 5 | B | T4112412051-000 |
| PCB mounted receptacle straight | female | 5 | B | 4-2271144-2 |
| Panel mounted receptacle with wires | female | 5 | B | 4-2271138-2 |
| Rear panel mount wire connector M12 X-code | female | 8 | X | 2271195-1 |
| Rear panel mount PCB connector M12 X-code | female | 8 | X | 2232331-1 |

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CABLE ASSEMBLIES

| Description | Type | Polarization | Code | Part Number |
|--|--------|--------------|------|-----------------------------|
| M8 x 1.0 straight socket Pigtail, Length is 10 mtr. PVC Jacket | female | 3 | A | 1-2273001-4 |
| M8 x 1.0 straight socket Pigtail, Length is 5 mtr. PUR Jacket | female | 3 | A | 2273001-3 |
| M12 x 1.0 straight socket Pigtail, Length is 5 mtr. PVC Jacket | female | 4 | A | 1-2273029-3 |
| M12 x 1.0 angled socket Pigtail, Length is 5 mtr. PVC Jacket | female | 4 | A | 1-2273083-3 |
| M12 x 1.0 angled socket Pigtail, Length is 10 mtr. PVC Jacket | female | 4 | A | 1-2273083-4 |
| M8 x 1.0 straight socket Pigtail, Length is 5 mtr. PVC Jacket | female | 3 | A | 1-2273001-3 |
| M12 x 1.0 straight socket Pigtail, Length is 10 mtr. PVC Jacket | female | 4 | A | 1-2273029-4 |
| M8 x 1.0 straight socket Pigtail, Length is 5 mtr. PVC Jacket | female | 4 | A | 1-2273003-3 |
| M8 x 1.0 straight socket Pigtail, Length is 10 mtr. PUR Jacket | female | 3 | A | 2273001-4 |
| M8 x 1.0 straight socket Pigtail, Length is 5 mtr. PUR Jacket | female | 4 | A | 2273003-3 |
| M8 x 1.0 straight socket Pigtail, Length is 10 mtr. PVC Jacket | female | 4 | A | 1-2273003-4 |
| M8 x 1.0 straight socket Pigtail, Length is 3 mtr. PUR Jacket | female | 3 | A | 2273001-2 |
| M8 x 1.0 angled socket Pigtail, Length is 5 mtr. PUR Jacket | female | 3 | A | 2273009-3 |
| M8 x 1.0 straight socket Pigtail, Length is 3 mtr. PVC Jacket | female | 3 | A | 1-2273001-2 |
| M12 x 1.0 straight socket Pigtail, Length is 3 mtr. PVC Jacket | female | 4 | A | 1-2273029-2 |
| Double ended, shielded CAT6A, Pin connector cable assembly, 10Gb, M12 X-coded; 1 m | male | 8 | X | 2241021-1 |
| Double ended, shielded CAT6A, Pin connector cable assembly, 10Gb, M12 X-coded; 3 m | male | 8 | X | 2241021-3 |
| Double ended, shielded CAT6A, Pin connector cable assembly, 10Gb, M12 X-coded; 5 m | male | 8 | X | 2241021-5 |
| Double ended, shielded CAT6A, Pin connector cable assembly, 10Gb, M12 X-coded; 10 m | male | 8 | X | 2241021-6 |

I/O MODULES

| Description | Type | Polarization | Code | Part Number |
|---|------|--------------|------|---------------------------|
| Distribution box M12, 5 positions, 8way, PNP, screw | | | | 2273167-1 |
| Distribution box M12, 5 positions, 8way, PNP | | | | 2273162-1 |
| Distribution box M12, 4 positions, 8way, PNP, PUR/PVC | | | | 2273157-2 |
| Distribution box M12, 5 positions, 8way, PNP, PUR/PVC | | | | 2273163-3 |
| Distribution box M8, 3 positions, 8way, M12/12p conn | | | | 2273146-1 |

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