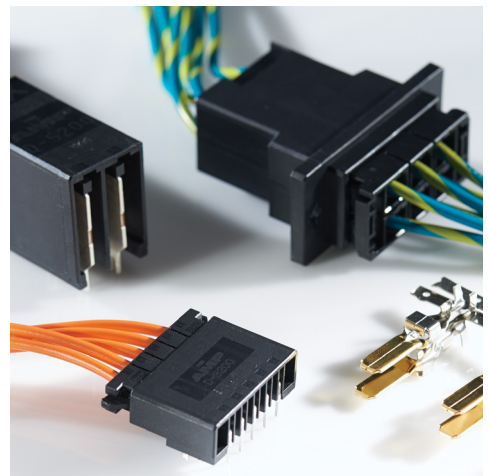


M8/M12 CONNECTOR SYSTEM



TE CONNECTIVITY'S M8 / M12

Connector System for machine industrial automation and control applications provides a solution for the increasing needs of sensor connections that safely and reliably secure the communication in industrial environments. This connector system also finds applications outside of its traditional industries where a compact reliable connection system with environmental protection is required. TE Connectivity (TE) solution includes an extensive connector range of PCB headers, cable assemblies and I/O boxes, and provides users with an interface that supports higher bandwidth needs - meeting the requirements of up to 10Gb/s.

TE also offers shielded and un-shielded Cat5e and Cat6A cable assembly variants. A predefined offering in length of 1, 3, 5 and 10 meters covers a vast range of customer needs on the market. For rewiring on site a wide range of field serviceable connectors are provided, allowing versatile systems to be quickly and easily established. Additional styles are available on request including alternative mounting arrangements for panel mount connectors and double ended cable assemblies.



TE'S INDUSTRIAL COMMUNICATIONS PRODUCTS PLAY A VITAL ROLE IN FACTORY AUTOMATION.

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 and 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 also excellent for vision systems, common in security equipment and mail sortation devices.

TE M8/M12 CONNECTOR SYSTEM - APPLICATIONS

MACHINERY



FACTORY AUTOMATION



TE's M8/M12 Connector System includes a broad range of straight, angled, LED and multi-position field installable and board connectors that are easily intermateable. Next to cable assemblies for serial and bus communication, TE also offers industrial ethernet patch cables with overmolded X-coded M12 connectors that are available for future proof applications with up to 10 Gb/s data transmission. Customized cable assemblies offer a solution for your specific needs in different lengths, temperatures or flexibility. When communication simply needs to work in industrial environments, TE's M8/M12 system and broad industrial communications portfolio offer time-tested reliability that meet industry standards. Whether it is for controllers and sensors or robotics and molding machines, the M8/M12 connector system offers you a solution that is time-saving, error reduced and without the use of tools.

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M8/M12 CONNECTORS

TE's M8/M12 connectors continues 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, B, D, S, T, and X-coded (up to 10 Gb/s) versions to serve various customer needs.

The connectors are also available in shielded and unshielded versions, to support Gigabit Ethernet applications.

M8/M12 - THE CODINGS

- A-coding: Actuator-sensor plug connections for DeviceNet, IO link and Profibus 
- B-coding: Fieldbus connections for Profibus and Interbus 
- D-coding: Industrial Ethernet, Profinet, Ethernet/IP and EtherCat 
- S-coding: Motor, Frequency-convertors, motor operated switches, PSUs for Power, 620 V, 12 A 
- T-coding: Fieldbus comp, passive distribution boxes, motors, PSUs for Power, 63 V, 12 A 
- X-coding: Cat6A, high-speed 10Gbit rugged industrial Ethernet applications IEC 61076-2-109 

Ambient temperature for M8:
-40 °C to 85 °C

Ambient temperature for M12:
-40 °C to 85 °C

Current rating:

4 and 5 pins: 4 A per pin

8 and 12 pins: 2 A per pin

IP rating: IP67/IP68

As specifications vary for different parts, please refer to your TE contact for detailed information.

Application Specifications for M8 M12 Connectors and Cable Assemblies:

114-32127, 114-137008, 114-137144 and 114-137144-1

Product Specifications:

Connectors: 108-3641, 108-19483, 108-106140

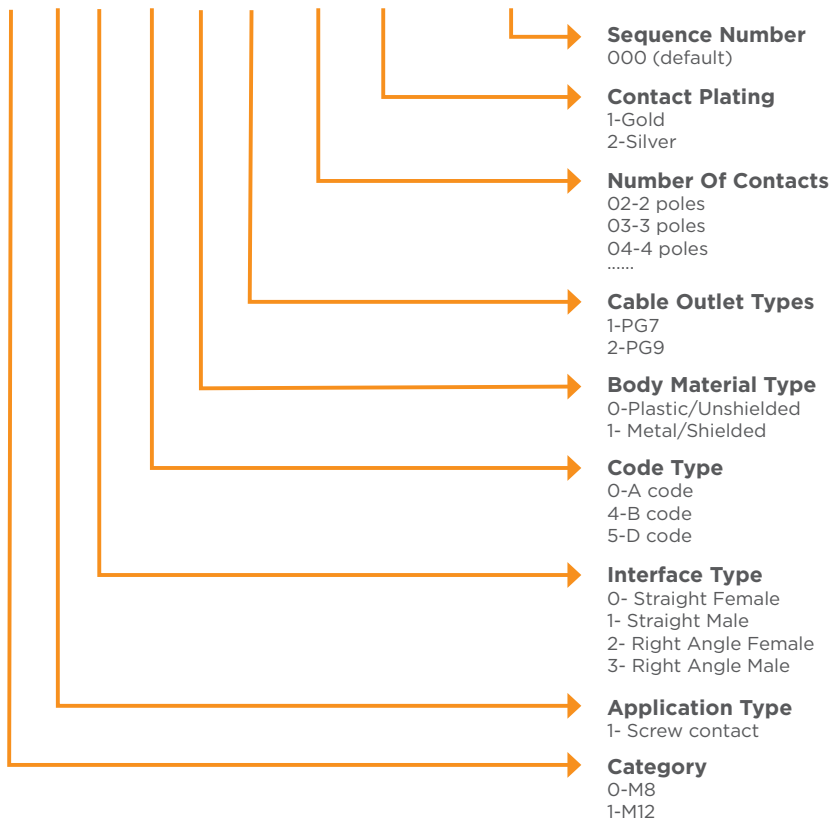
X-coded: 108-137008

| Size | Pins | Rated | Maximum Current per pin | Pollution grade |
|------|------|-------|-------------------------|-----------------|
| M8 | 3 | 60V | 4 A | 3 |
| M8 | 4 | 30V | 4 A | 3 |
| M12 | 3 | 250V | 4 A | 3 |
| M12 | 4 | 250V | 4 A | 3 |
| M12 | 5 | 60V | 4 A | 3 |
| M12 | 8 | 60V | 2 A | 3 |
| M12 | 12 | 30V | 2 A | 3 |

TE Part Number Definition

M8M12 Field Installable Connector PNs: T401/T411

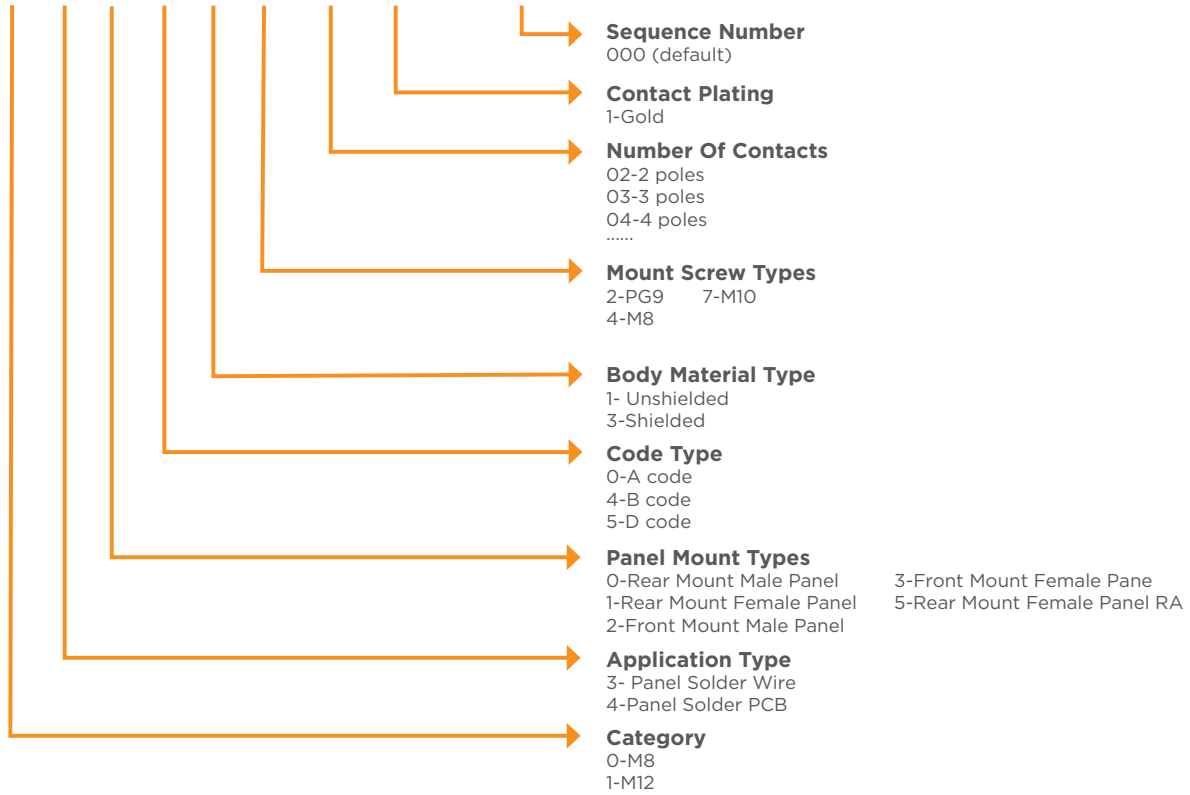
T 4 X 1 X X X X XX X - XXX



TE Part Number Definition

M8M12 Panel Mount Connector PNs: T403/T404/T413/T414/T407

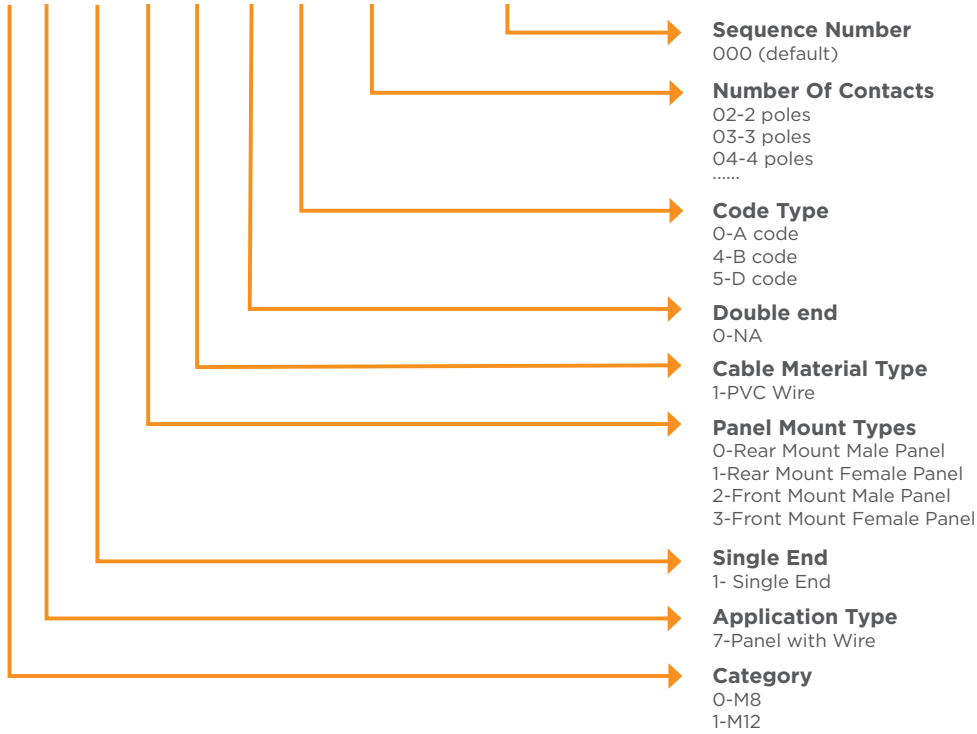
T 4 X X X X X X XX X - XXX



TE Part Number Definition

M8M12 Panel Mount Connector with Wire PNs: T407/T417

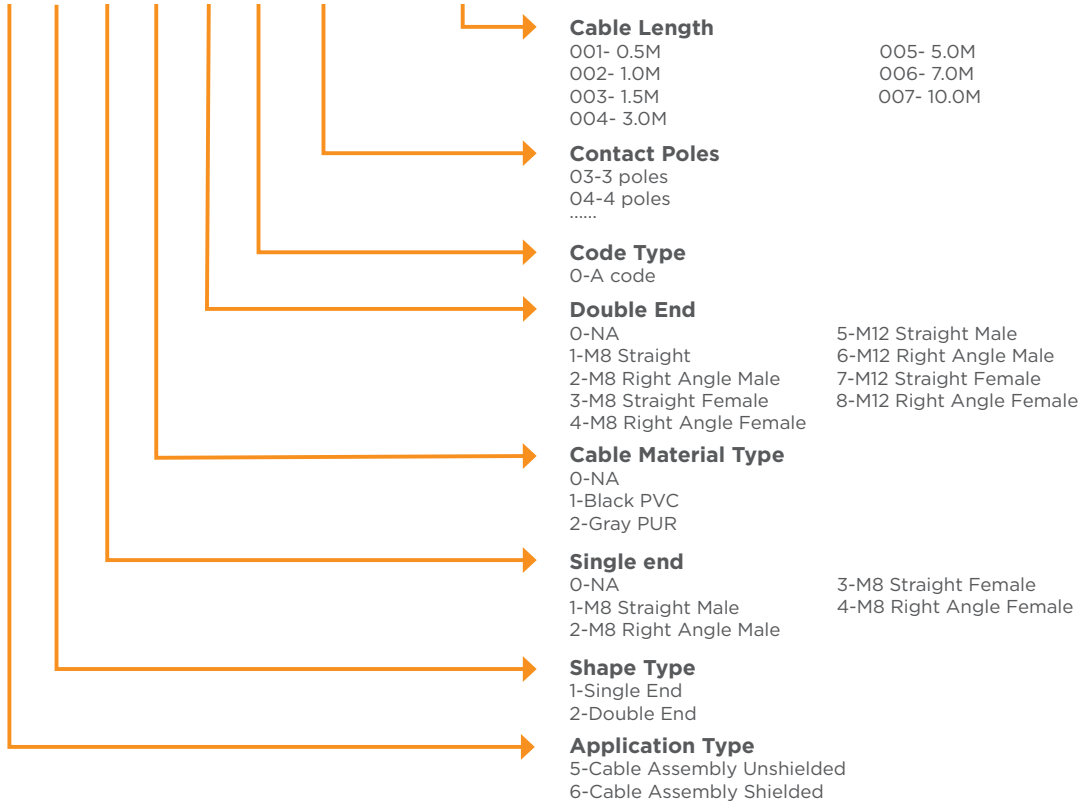
T 4 X 7 X X X X X XX — XXX



TE Part Number Definition

M8 Cable Assembly PNs: T405/T406

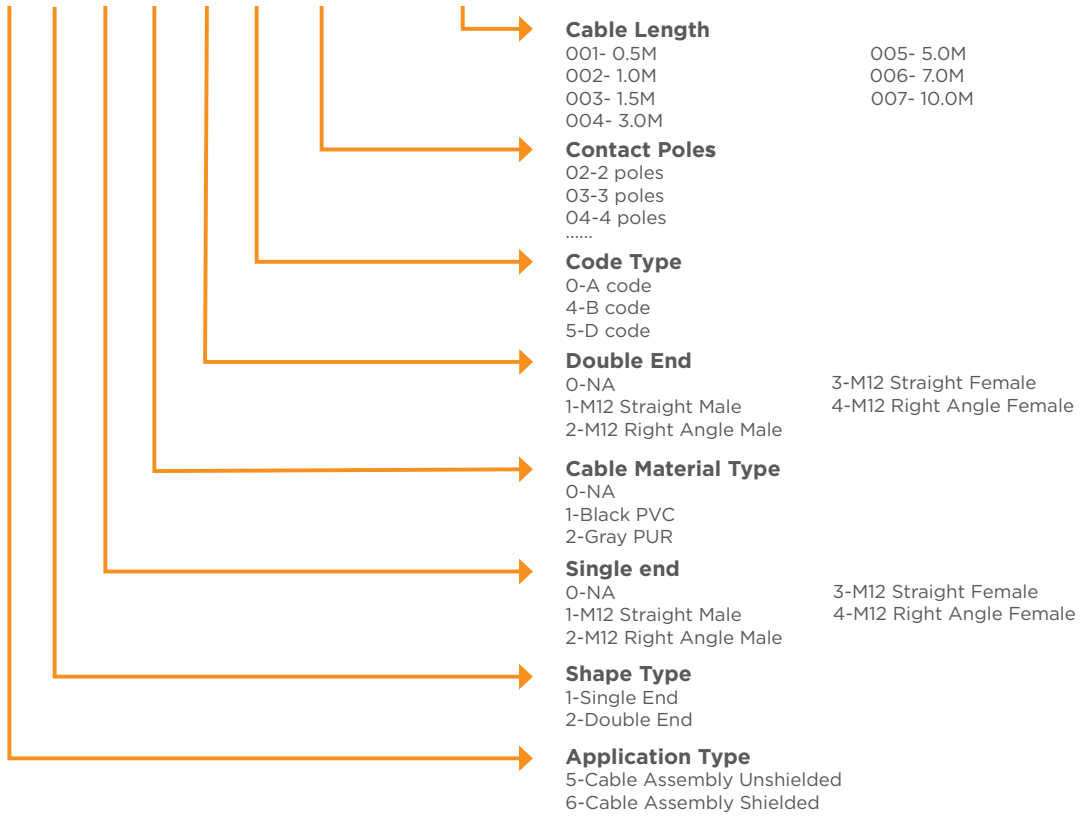
T 4 0 X X X X X X XX — 00X



TE Part Number Definition

M12 Cable Assembly PNs: T415/T416

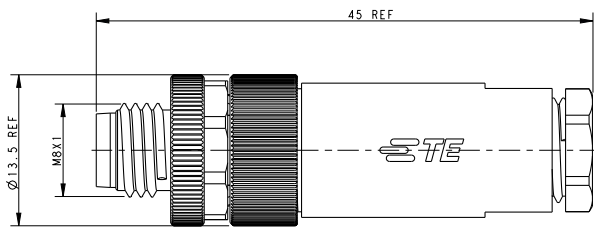
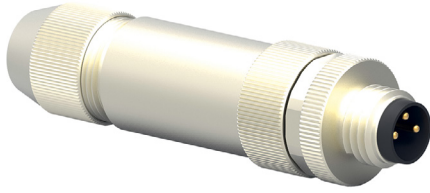
T 4 1 X X X X X X XX — 00X



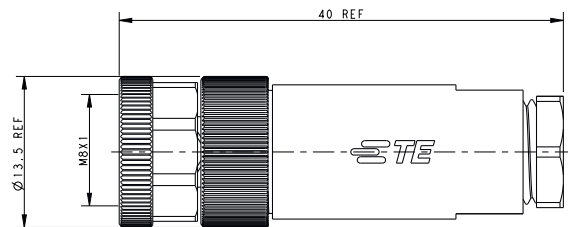
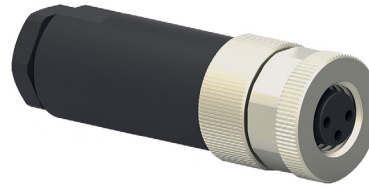
M8/M12 CONNECTOR SYSTEM

M8 Straight Field Installable

Male Series



Female Series



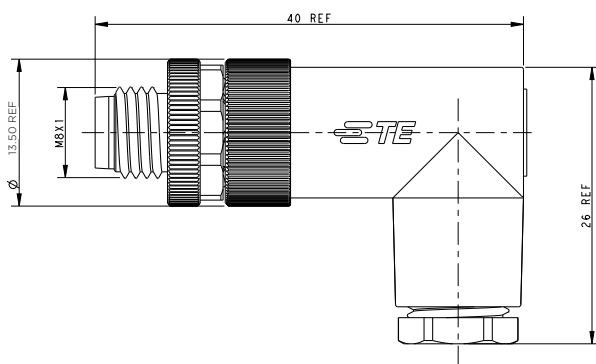
All dimensions in mm. Temperature range: -40 to +85° C. Products can also be obtained with silver-plated contacts upon request.

| TE Part Number | | |
|---|--|-----------------|
| M8 Male Screw Connection, Straight, Unshielded | | |
| 3-Pole | | T4011008031-000 |
| 4-Pole | | T4011008041-000 |
| M8 Male Screw Connection, Straight, Shielded | | |
| 3-Pole | | T4011019031-000 |
| 4-Pole | | T4011019041-000 |

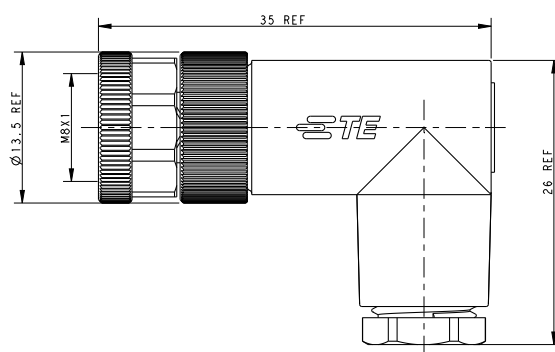
| TE Part Number | | |
|---|--|-----------------|
| M8 Female Screw Connection, Straight, Unshielded | | |
| 3-Pole | | T4010008031-000 |
| 4-Pole | | T4010008041-000 |
| M8 Female Screw Connection, Straight, Shielded | | |
| 3-Pole | | T4010019031-000 |
| 4-Pole | | T4010019041-000 |

M8 Angled Field Installable

Male Series



Female Series



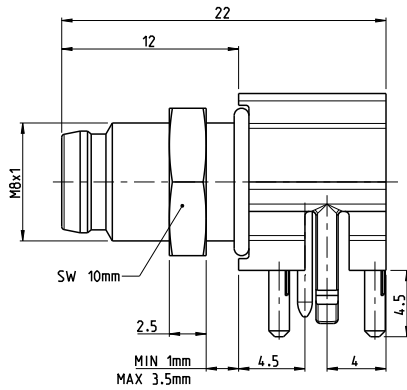
All dimensions in mm. Temperature range: -40 to +85° C. Products can also be obtained with silver-plated contacts upon request.

| TE Part Number | | |
|---|--|-----------------|
| M8 Male Right Angled, Unshielded | | |
| 3-Pole | | T4013008031-000 |
| 4-Pole | | T4013008041-000 |
| M8 Male Right Angled, Shielded | | |
| 3-Pole | | T4013019031-000 |
| 4-Pole | | T4013019041-000 |

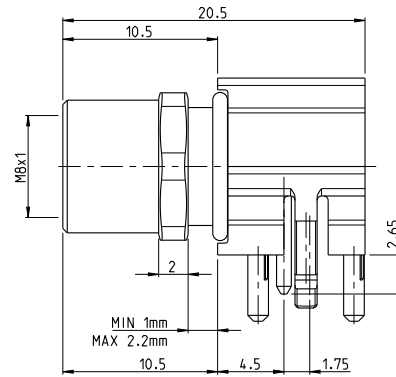
| TE Part Number | | |
|---|--|-----------------|
| M8 Female Right Angled, Unshielded | | |
| 3-Pole | | T4012008031-000 |
| 4-Pole | | T4012008041-000 |
| M8 Female Right Angled, Shielded | | |
| 3-Pole | | T4010019031-000 |
| 4-Pole | | T4010019041-000 |

M8 Panel Mount R/A PCB

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

| M8, Male, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-------------|
| 3-Pole | | 2-2172067-2 |
| 4-Pole | | 3-2172067-2 |

| M8, Male, Rear Mount, PCB, R/A, Shielded | | |
|--|--|-------------|
| 3-Pole | | 2-2172093-2 |
| 4-Pole | | 3-2172093-2 |

TE Part Number

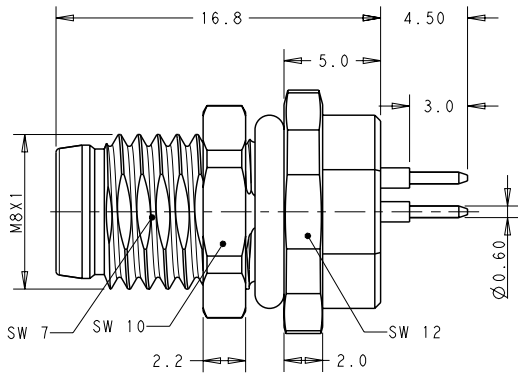
| M8, Female, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-------------|
| 3-Pole | | 2-2172068-2 |
| 4-Pole | | 3-2172068-2 |

| M8, Female, Rear Mount, PCB, R/A, Shielded | | |
|--|--|-------------|
| 3-Pole | | 2-2172091-2 |
| 4-Pole | | 3-2172091-2 |

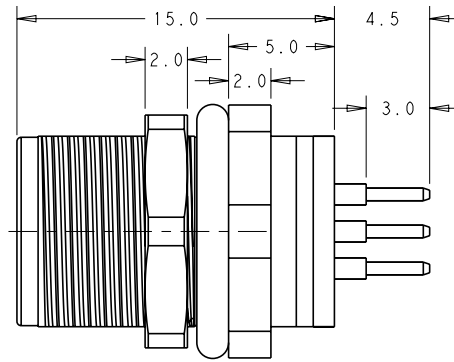
M8/M12 CONNECTOR SYSTEM

M8 Panel Mount Straight PCB

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C. Products can also be obtained with silver-plated contacts upon request.

TE Part Number

| M8, Male, Rear Mount, PCB, Straight, Unshielded | | |
|---|--|-----------------|
| 3-Pole | | T4040014031-000 |
| 4-Pole | | T4040014041-000 |

| M8, Male, Front Mount, PCB, Straight, Unshielded | | |
|--|--|-----------------|
| 3-Pole | | T4042014031-000 |
| 4-Pole | | T4042014041-000 |

| M8, Male, Rear Mount, PCB, Straight, Shielded | | |
|---|--|-----------------|
| 3-Pole | | T4040034031-000 |
| 4-Pole | | T4040034041-000 |

TE Part Number

| M8, Female, Rear Mount, PCB, Straight, Unshielded | | |
|---|--|-----------------|
| 3-Pole | | T4041017031-000 |
| 4-Pole | | T4041017041-000 |

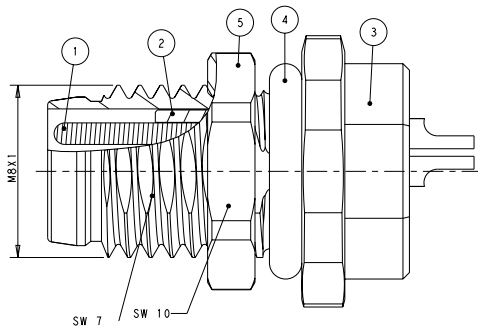
| M8, Female, Front Mount, PCB, Straight, Unshielded | | |
|--|--|-----------------|
| 3-Pole | | T4043014031-000 |
| 4-Pole | | T4043014041-000 |

| M8, Female, Rear Mount, PCB, Straight, Shielded | | |
|---|--|-----------------|
| 3-Pole | | T4041037031-000 |
| 4-Pole | | T4041037041-000 |

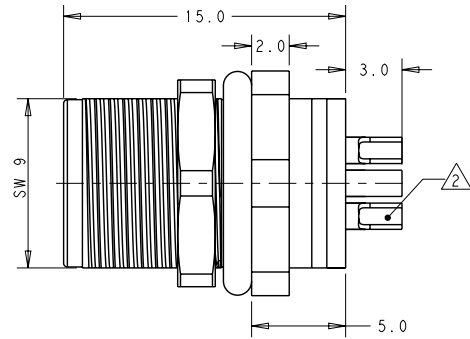
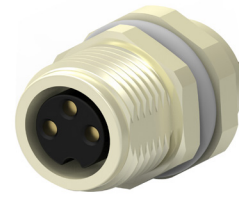
M8/M12 CONNECTOR SYSTEM

M8 Panel Mount Solder Wire

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

M8, Male, Rear Mount, Solder Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4030014031-000 |
| 4-Pole | | T4030014041-000 |

M8, Male, Front Mount, Solder Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4032014031-000 |
| 4-Pole | | T4032014041-000 |

TE Part Number

M8, Female, Rear Mount, Solder Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4031017031-000 |
| 4-Pole | | T4031017041-000 |

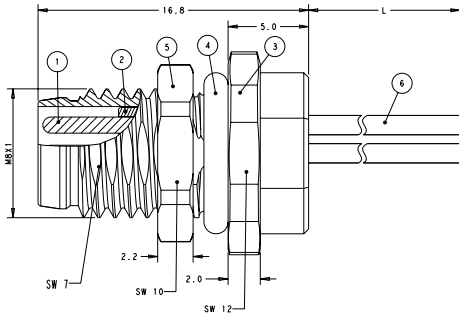
M8, Female, Front Mount, Solder Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4033014031-000 |
| 4-Pole | | T4033014041-000 |

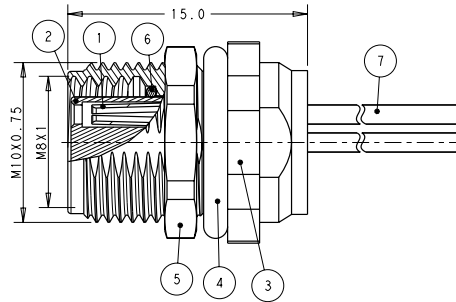
M8/M12 CONNECTOR SYSTEM

M8 Panel Mount 200mm Wire

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85 ° C.

TE Part Number

M8, Male, Rear Mount, 200mm Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4070014031-001 |
| 4-Pole | | T4070014041-001 |

M8, Male, Front Mount, 200mm Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4070014031-001 |
| 4-Pole | | T4070014041-001 |

TE Part Number

M8, Female, Rear Mount, 200mm Wire, Straight

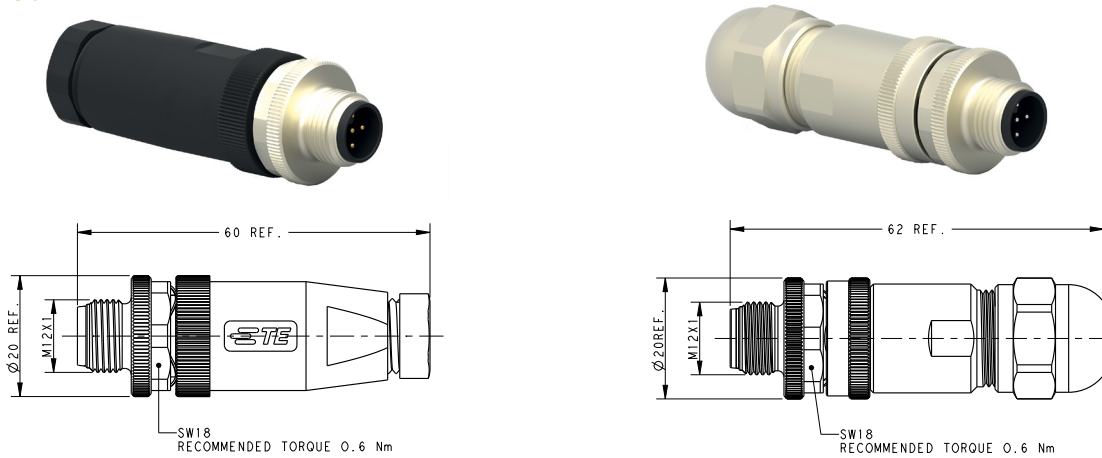
| | | |
|--------|--|-----------------|
| 3-Pole | | T4071017031-001 |
| 4-Pole | | T4071017041-001 |

M8, Female, Front Mount, 200mm Wire, Straight

| | | |
|--------|--|-----------------|
| 3-Pole | | T4073014031-001 |
| 4-Pole | | T4073014041-001 |

M12 Straight Field Installable A, B, D Coded

Male Series



All dimensions in mm. Temperature range: -40 to +85 ° C. Products can also be obtained with silver-plated contacts upon request.

| TE Part Number | | |
|--|-----|-----------------|
| A coding - M12 Male Screw Connection, Straight, Unshielded | | |
| 2-Pole | PG7 | T4111001021-000 |
| | PG9 | T4111002021-000 |
| 3-Pole | PG7 | T4111001031-000 |
| | PG9 | T4111002031-000 |
| 4-Pole | PG7 | T4111001041-000 |
| | PG9 | T4111002041-000 |
| 5-Pole | PG7 | T4111001051-000 |
| | PG9 | T4111002051-000 |
| 8-Pole | PG9 | T4111002081-000 |
| 12-Pole | PG9 | 6-2271110-2 |

| B coding - M12 Male Screw Connection, Straight, Unshielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4111401021-000 |
| | PG9 | T4111402021-000 |
| 3-Pole | PG7 | T4111401031-000 |
| | PG9 | T4111402031-000 |
| 4-Pole | PG7 | T4111401041-000 |
| | PG9 | T4111402041-000 |
| 5-Pole | PG7 | T4111401051-000 |
| | PG9 | T4111402051-000 |

| D coding - M12 Male Screw Connection, Straight, Unshielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4111501021-000 |
| | PG9 | T4111502021-000 |
| 3-Pole | PG7 | T4111501031-000 |
| | PG9 | T4111502031-000 |
| 4-Pole | PG7 | T4111501041-000 |
| | PG9 | T4111502041-000 |
| 5-Pole | PG7 | T4111501051-000 |
| | PG9 | T4111502051-000 |

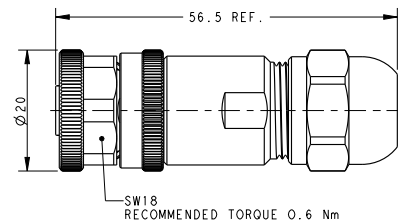
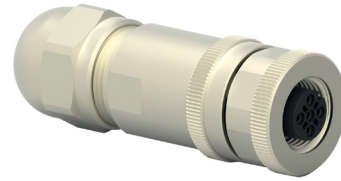
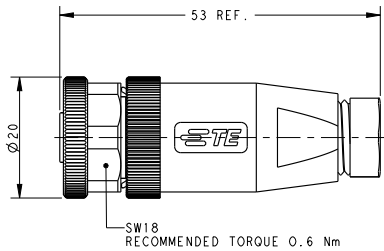
| TE Part Number | | |
|--|-----|-----------------|
| A coding - M12 Male Screw Connection, Straight, Shielded | | |
| 2-Pole | PG7 | T4111011021-000 |
| | PG9 | T4111012021-000 |
| 3-Pole | PG7 | T4111011031-000 |
| | PG9 | T4111012031-000 |
| 4-Pole | PG7 | T4111011041-000 |
| | PG9 | T4111012041-000 |
| 5-Pole | PG7 | T4111011051-000 |
| | PG9 | T4111012051-000 |
| 8-Pole | PG9 | T4111012081-000 |
| 12-Pole | PG9 | 6-2271111-2 |

| B coding - M12 Male Screw Connection, Straight, Shielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4111411021-000 |
| | PG9 | T4111412021-000 |
| 3-Pole | PG7 | T4111411031-000 |
| | PG9 | T4111412031-000 |
| 4-Pole | PG7 | T4111411041-000 |
| | PG9 | T4111412041-000 |
| 5-Pole | PG7 | T4111411051-000 |
| | PG9 | T4111412051-000 |

| D coding - M12 Male Screw Connection, Straight, Shielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4111511021-000 |
| | PG9 | T4111512021-000 |
| 3-Pole | PG7 | T4111511031-000 |
| | PG9 | T4111512031-000 |
| 4-Pole | PG7 | T4111511041-000 |
| | PG9 | T4111512041-000 |
| 5-Pole | PG7 | T4111511051-000 |
| | PG9 | T4111512051-000 |

M12 Straight Field Installable A, B, D Coded

Female Series



All dimensions in mm. Temperature range: -40 to +85 ° C. Products can also be obtained with silver-plated contacts upon request.

TE Part Number

| A coding - M12 Female Screw Connection, Straight, Unshielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4110001021-000 |
| | PG9 | T4110002021-000 |
| 3-Pole | PG7 | T4110001031-000 |
| | PG9 | T4110002031-000 |
| 4-Pole | PG7 | T4110001041-000 |
| | PG9 | T4110002041-000 |
| 5-Pole | PG7 | T4110001051-000 |
| | PG9 | T4110002051-000 |
| 8-Pole | PG9 | T4110002081-000 |
| 12-Pole | PG9 | 6-2271116-2 |

B coding - M12 Female Screw Connection, Straight, Unshielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4110401021-000 |
| | PG9 | T4110402021-000 |
| 3-Pole | PG7 | T4110401031-000 |
| | PG9 | T4110402031-000 |
| 4-Pole | PG7 | T4110401041-000 |
| | PG9 | T4110402041-000 |
| 5-Pole | PG7 | T4110401051-000 |
| | PG9 | T4110402051-000 |

D coding - M12 Female Screw Connection, Straight, Unshielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4110501021-000 |
| | PG9 | T4110502021-000 |
| 3-Pole | PG7 | T4110501031-000 |
| | PG9 | T4110502031-000 |
| 4-Pole | PG7 | T4110501041-000 |
| | PG9 | T4110502041-000 |
| 5-Pole | PG7 | T4110501051-000 |
| | PG9 | T4110502051-000 |

TE Part Number

| A coding - M12 Female Screw Connection, Straight, Shielded | | |
|--|-----|-----------------|
| 2-Pole | PG7 | T4110011021-000 |
| | PG9 | T4110012021-000 |
| 3-Pole | PG7 | T4110011031-000 |
| | PG9 | T4110012031-000 |
| 4-Pole | PG7 | T4110011041-000 |
| | PG9 | T4110012041-000 |
| 5-Pole | PG7 | T4110011051-000 |
| | PG9 | T4110012051-000 |
| 8-Pole | PG9 | T4110012081-000 |
| 12-Pole | PG9 | 6-2271117-2 |

B coding - M12 Female Screw Connection, Straight, Shielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4110411021-000 |
| | PG9 | T4110412021-000 |
| 3-Pole | PG7 | T4110411031-000 |
| | PG9 | T4110412031-000 |
| 4-Pole | PG7 | T4110411041-000 |
| | PG9 | T4110412041-000 |
| 5-Pole | PG7 | T4110411051-000 |
| | PG9 | T4110412051-000 |

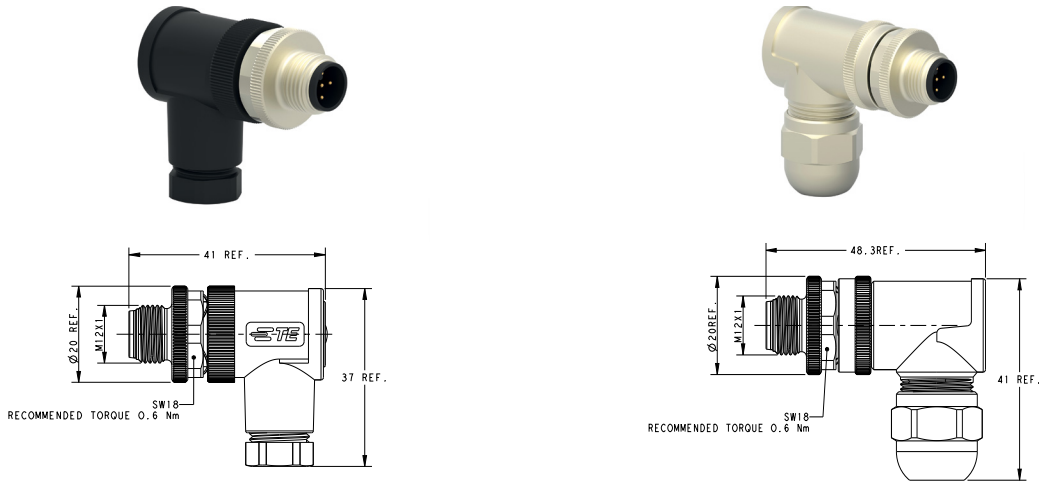
D coding - M12 Female Screw Connection, Straight, Shielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4110511021-000 |
| | PG9 | T4110512021-000 |
| 3-Pole | PG7 | T4110511031-000 |
| | PG9 | T4110512031-000 |
| 4-Pole | PG7 | T4110511041-000 |
| | PG9 | T4110512041-000 |
| 5-Pole | PG7 | T4110511051-000 |
| | PG9 | T4110512051-000 |

M8/M12 CONNECTOR SYSTEM

M12 Angled Field Installable A, B, D Coded

Male Series



All dimensions in mm. Temperature range: -40 to +85° C. Products can also be obtained with silver-plated contacts upon request.

| Temperature range: -25 to +85 | | TE Part Number |
|---|-----|-----------------|
| A coding – M12 Male Screw Connection, Angled, Unshielded | | |
| 2-Pole | PG7 | T4113001021-000 |
| | PG9 | T4113002021-000 |
| 3-Pole | PG7 | T4113001031-000 |
| | PG9 | T4113002031-000 |
| 4-Pole | PG7 | T4113001041-000 |
| | PG9 | T4113002041-000 |
| 5-Pole | PG7 | T4113001051-000 |
| | PG9 | T4113002051-000 |
| 8-Pole | PG9 | T4113002081-000 |
| 12-Pole | PG9 | 6-2271122-2 |

| B coding – M12 Male Screw Connection, Angled, Unshielded | | |
|---|-----|-----------------|
| 2-Pole | PG7 | T4113401021-000 |
| | PG9 | T4113402021-000 |
| 3-Pole | PG7 | T4113401031-000 |
| | PG9 | T4113402031-000 |
| 4-Pole | PG7 | T4113401041-000 |
| | PG9 | T4113402041-000 |
| 5-Pole | PG7 | T4113401051-000 |
| | PG9 | T4113402051-000 |

| D coding – M12 Male Screw Connection, Angled, Unshielded | | |
|---|-----|-----------------|
| 2-Pole | PG7 | T4113501021-000 |
| | PG9 | T4113502021-000 |
| 3-Pole | PG7 | T4113501031-000 |
| | PG9 | T4113502031-000 |
| 4-Pole | PG7 | T4113501041-000 |
| | PG9 | T4113502041-000 |
| 5-Pole | PG7 | T4113501051-000 |
| | PG9 | T4113502051-000 |

| TE Part Number | | |
|---|-----|-----------------|
| A coding – M12 Male Screw Connection, Angled, Shielded | | |
| 2-Pole | PG7 | T4113011021-000 |
| | PG9 | T4113012021-000 |
| 3-Pole | PG7 | T4113011031-000 |
| | PG9 | T4113012031-000 |
| 4-Pole | PG7 | T4113011041-000 |
| | PG9 | T4113012041-000 |
| 5-Pole | PG7 | T4113011051-000 |
| | PG9 | T4113012051-000 |
| 8-Pole | PG9 | T4113012081-000 |
| 12-Pole | PG9 | 6-2271123-2 |

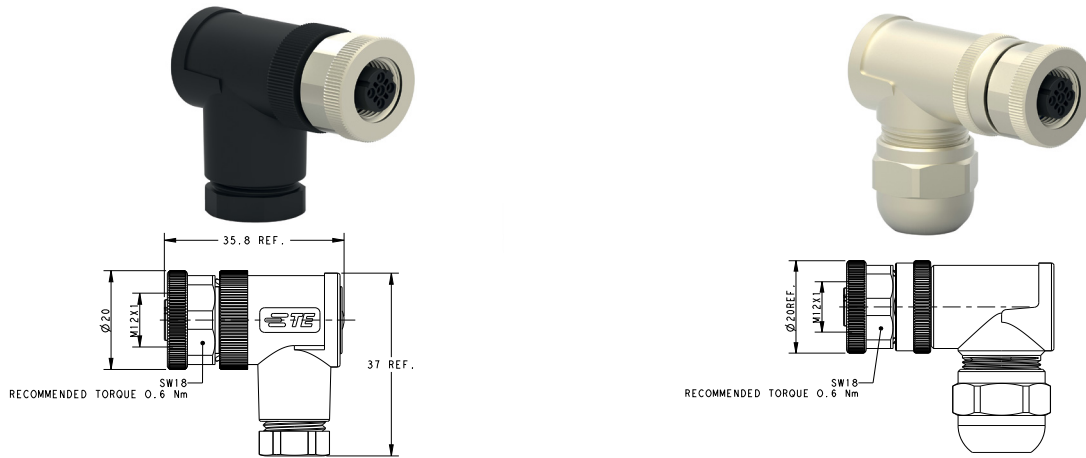
| B coding – M12 Male Screw Connection, Angled, Shielded | | |
|---|-----|-----------------|
| 2-Pole | PG7 | T4113411021-000 |
| | PG9 | T4113412021-000 |
| 3-Pole | PG7 | T4113411031-000 |
| | PG9 | T4113412031-000 |
| 4-Pole | PG7 | T4113411041-000 |
| | PG9 | T4113412041-000 |
| 5-Pole | PG7 | T4113411051-000 |
| | PG9 | T4113412051-000 |

| D coding – M12 Male Screw Connection, Angled, Shielded | | |
|---|-----|-----------------|
| 2-Pole | PG7 | T4113511021-000 |
| | PG9 | T4113512021-000 |
| 3-Pole | PG7 | T4113511031-000 |
| | PG9 | T4113512031-000 |
| 4-Pole | PG7 | T4113511041-000 |
| | PG9 | T4113512041-000 |
| 5-Pole | PG7 | T4113511051-000 |
| | PG9 | T4113512051-000 |

M8/M12 CONNECTOR SYSTEM

M12 Angled Field Installable A, B, D Coded

Female Series



All dimensions in mm. Temperature range: -40 to +85° C. Products can also be obtained with silver-plated contacts upon request.

TE Part Number

TE Part Number

A coding - M12 Female Screw Connection, Angled, Unshielded

| | | |
|---------|-----|-----------------|
| 2-Pole | PG7 | T4112001021-000 |
| | PG9 | T4112002021-000 |
| 3-Pole | PG7 | T4112001031-000 |
| | PG9 | T4112002031-000 |
| 4-Pole | PG7 | T4112001041-000 |
| | PG9 | T4112002041-000 |
| 5-Pole | PG7 | T4112001051-000 |
| | PG9 | T4112002051-000 |
| 8-Pole | PG9 | T4112002081-000 |
| 12-Pole | PG9 | 6-2271128-2 |

A coding - M12 Female Screw Connection, Angled, Shielded

| | | |
|---------|-----|-----------------|
| 2-Pole | PG7 | T4112011021-000 |
| | PG9 | T4112012021-000 |
| 3-Pole | PG7 | T4112011031-000 |
| | PG9 | T4112012031-000 |
| 4-Pole | PG7 | T4112011041-000 |
| | PG9 | T4112012041-000 |
| 5-Pole | PG7 | T4112011051-000 |
| | PG9 | T4112012051-000 |
| 8-Pole | PG9 | T4112012081-000 |
| 12-Pole | PG9 | 6-2271129-2 |

B coding - M12 Female Screw Connection, Angled, Unshielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4112401021-000 |
| | PG9 | T4112402021-000 |
| 3-Pole | PG7 | T4112401031-000 |
| | PG9 | T4112402031-000 |
| 4-Pole | PG7 | T4112401041-000 |
| | PG9 | T4112402041-000 |
| 5-Pole | PG7 | T4112401051-000 |
| | PG9 | T4112402051-000 |

B coding - M12 Female Screw Connection, Angled, Shielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4112411021-000 |
| | PG9 | T4112412021-000 |
| 3-Pole | PG7 | T4112411031-000 |
| | PG9 | T4112412031-000 |
| 4-Pole | PG7 | T4112411041-000 |
| | PG9 | T4112412041-000 |
| 5-Pole | PG7 | T4112411051-000 |
| | PG9 | T4112412051-000 |

D coding - M12 Female Screw Connection, Angled, Unshielded

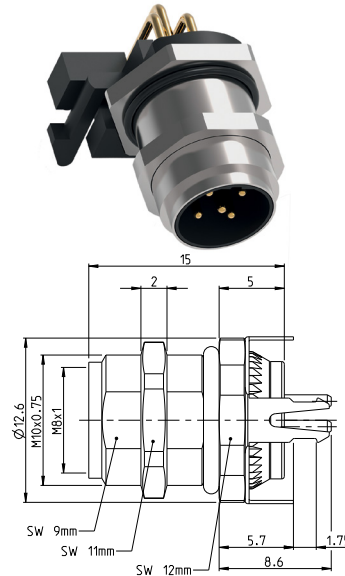
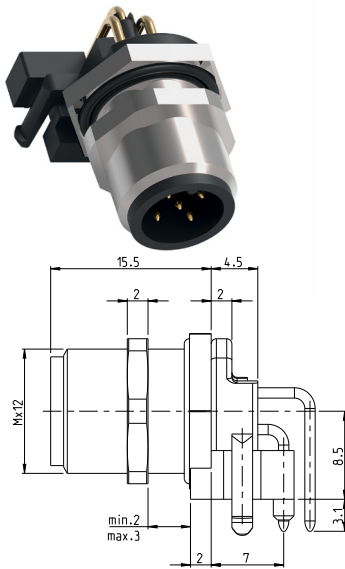
| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4112501021-000 |
| | PG9 | T4112502021-000 |
| 3-Pole | PG7 | T4112501031-000 |
| | PG9 | T4112502031-000 |
| 4-Pole | PG7 | T4112501041-000 |
| | PG9 | T4112502041-000 |
| 5-Pole | PG7 | T4112501051-000 |
| | PG9 | T4112502051-000 |

D coding - M12 Female Screw Connection, Angled, Shielded

| | | |
|--------|-----|-----------------|
| 2-Pole | PG7 | T4112511021-000 |
| | PG9 | T4112512021-000 |
| 3-Pole | PG7 | T4112511031-000 |
| | PG9 | T4112512031-000 |
| 4-Pole | PG7 | T4112511041-000 |
| | PG9 | T4112512041-000 |
| 5-Pole | PG7 | T4112511051-000 |
| | PG9 | T4112512051-000 |

M12 Panel Mount R/A PCB

Male Series



All dimension in mm. Temperatur range: -40 to +85° C.

TE Part Number

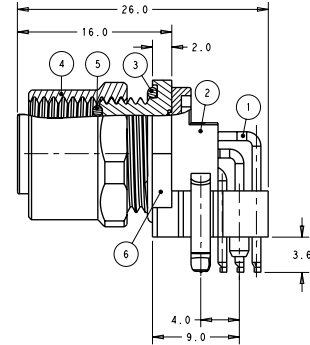
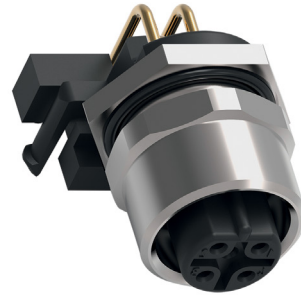
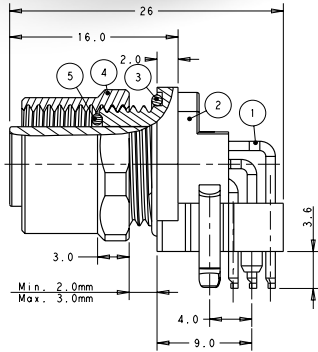
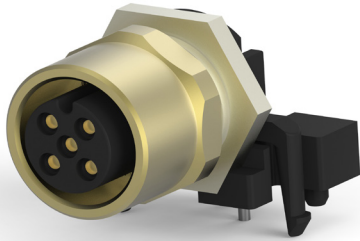
| A coding – M12, Male, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|------------------|
| 4-Pole | | T41440015041-000 |
| 5-Pole | | T41440015051-000 |
| A coding – M12, Male, Rear Mount, PCB, R/A, Shielded | | |
| 4-Pole (45 degrees) | | 3-2172094-2 |
| 4-Pole | | T4144035041-000 |
| 5-Pole | | T4144035051-000 |
| 8-Pole | | T4144035081-000 |

TE Part Number

| B coding – M12, Male, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-----------------|
| 5-Pole | | T4144415051-000 |
| B coding – M12, Male, Rear Mount, PCB, R/A, Shielded | | |
| 5-Pole | | T4144435051-000 |
| D coding – M12, Male, Rear Mount, PCB, R/A, Unshielded | | |
| 4-Pole | | T4144515041-000 |
| D coding – M12, Male, Rear Mount, PCB, R/A, Shielded | | |
| 4-Pole | | T4144535041-000 |

M12 Panel Mount R/A PCB

Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

| A coding - M12, Female, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-----------------|
| 2-Pole | | T4145015021-001 |
| 3-Pole | | T4145015031-001 |
| 4-Pole | | T4145015041-001 |
| 5-Pole | | T4145015051-001 |

| A coding - M12, Female, Rear Mount, PCB, R/A, Shielded | | |
|--|--|-----------------|
| 2-Pole | | T4145035021-001 |
| 3-Pole | | T4145035031-001 |
| 4-Pole | | T4145035041-001 |
| 4-Pole (45 degrees) | | 3-2172095-2 |
| 5-Pole | | T4145035051-001 |
| 8-Pole | | 5-2172079-2 |

TE Part Number

| B coding - M12, Female, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-----------------|
| 2-Pole | | T4145415021-001 |
| 3-Pole | | T4145415031-001 |
| 4-Pole | | T4145415041-001 |
| 5-Pole | | T4145415051-001 |

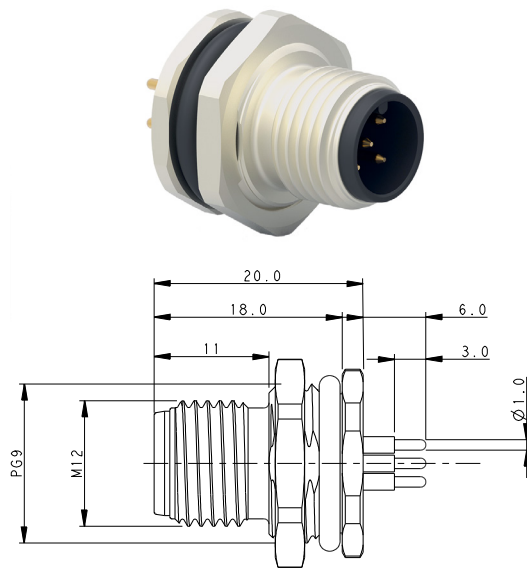
| B coding - M12, Female, Rear Mount, PCB, R/A, Shielded | | |
|--|--|-----------------|
| 2-Pole | | T4145435021-001 |
| 3-Pole | | T4145435031-001 |
| 4-Pole | | T4145435041-001 |
| 5-Pole | | T4145435051-001 |

| D coding - M12, Female, Rear Mount, PCB, R/A, Unshielded | | |
|--|--|-----------------|
| 2-Pole | | T4145515021-001 |
| 3-Pole | | T4145515031-001 |
| 4-Pole | | T4145515041-001 |
| 5-Pole | | T4145515051-001 |

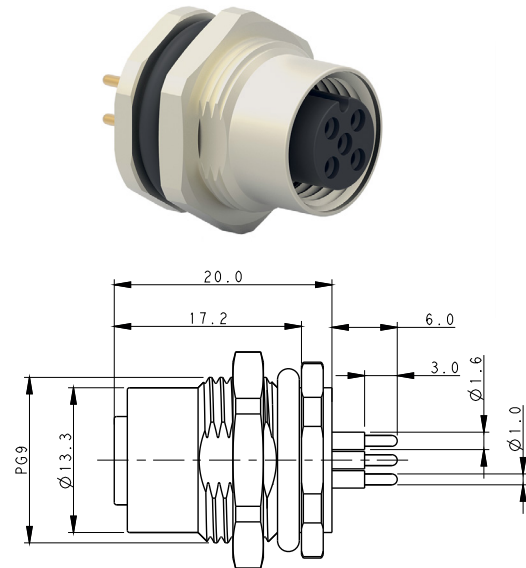
| D coding - M12, Female, Rear Mount, PCB, R/A, Shielded | | |
|--|--|-----------------|
| 2-Pole | | T4145535021-001 |
| 3-Pole | | T4145535031-001 |
| 4-Pole | | T4145535041-001 |
| 5-Pole | | T4145535051-001 |

M12 Panel Mount Straight PCB - Rear Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

A coding - M12 Male, Rear Mounting, Straight

| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4140012021-000 |
| 3-Pole | T4140012031-000 |
| 4-Pole | T4140012041-000 |
| 5-Pole | T4140012051-000 |

B coding - M12 Male, Rear Mounting, Straight

| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4140412021-000 |
| 3-Pole | T4140412031-000 |
| 4-Pole | T4140412041-000 |
| 5-Pole | T4140412051-000 |

D coding - M12 Male, Rear Mounting, Straight

| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4140512021-000 |
| 3-Pole | T4140512031-000 |
| 4-Pole | T4140512041-000 |
| 5-Pole | T4140512051-000 |

A-coding - M12 Male, Rear Mounting, Solder PCB

| Pole Count | TE Part Number |
|------------|-----------------|
| 8-Pole | T4140012081-000 |
| 12-Pole | T4140012121-000 |

TE Part Number

A coding - M12 Female, Rear Mounting, Straight

| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4141012021-000 |
| 3-Pole | T4141012031-000 |
| 4-Pole | T4141012041-000 |
| 5-Pole | T4141012051-000 |

B coding - M12 Female, Rear Mounting, Straight

| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4141412021-000 |
| 3-Pole | T4141412031-000 |
| 4-Pole | T4141412041-000 |
| 5-Pole | T4141412051-000 |

D coding - M12 Female, Rear Mounting, Straight

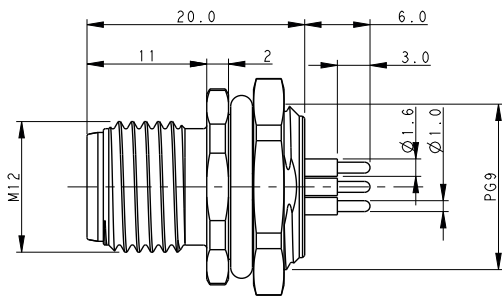
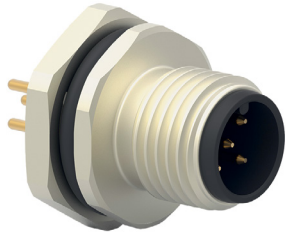
| Pole Count | TE Part Number |
|------------|-----------------|
| 2-Pole | T4141512021-000 |
| 3-Pole | T4141512031-000 |
| 4-Pole | T4141512041-000 |
| 5-Pole | T4141512051-000 |

A-coding - M12 Female, Rear Mounting, Solder PCB

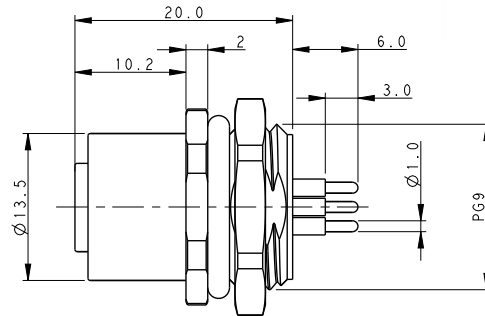
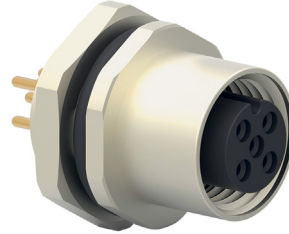
| Pole Count | TE Part Number |
|------------|-----------------|
| 8-Pole | T4141012081-000 |
| 12-Pole | T4141012121-000 |

M12 Panel Mount Straight PCB - Front Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

A coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4142012021-000 |
| 3-Pole | | T4142012031-000 |
| 4-Pole | | T4142012041-000 |
| 5-Pole | | T4142012051-000 |

B coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4142412021-000 |
| 3-Pole | | T4142412031-000 |
| 4-Pole | | T4142412041-000 |
| 5-Pole | | T4142412051-000 |

D coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4142512021-000 |
| 3-Pole | | T4142512031-000 |
| 4-Pole | | T4142512041-000 |
| 5-Pole | | T4142512051-000 |

A-coding - M12 Male, Front Mounting, Solder PCB

| | | |
|---------|--|-----------------|
| 8-Pole | | T4142012081-000 |
| 12-Pole | | T4142012121-000 |

TE Part Number

A coding - M12 Female, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4143012021-000 |
| 3-Pole | | T4143012031-000 |
| 4-Pole | | T4143012041-000 |
| 5-Pole | | T4143012051-000 |

B coding - M12 Female, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4143412021-000 |
| 3-Pole | | T4143412031-000 |
| 4-Pole | | T4143412041-000 |
| 5-Pole | | T4143412051-000 |

D coding - M12 Female, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4143512021-000 |
| 3-Pole | | T4143512031-000 |
| 4-Pole | | T4143512041-000 |
| 5-Pole | | T4143512051-000 |

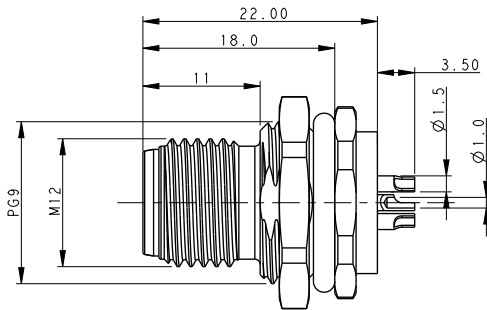
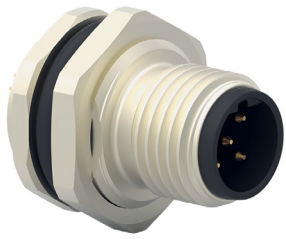
A-coding - M12 Female, Front Mounting, Solder PCB

| | | |
|---------|--|-----------------|
| 8-Pole | | T4143012081-000 |
| 12-Pole | | T4143012121-000 |

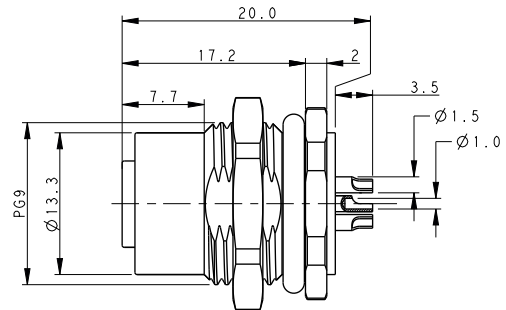
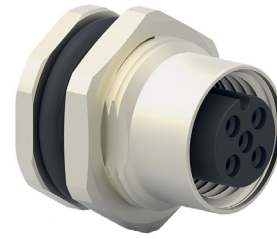
M8/M12 CONNECTOR SYSTEM

M12 Panel Mount Solder Wire - Rear Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

A coding - M12 Male, Rear Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4130012021-000 |
| 3-Pole | | T4130012031-000 |
| 4-Pole | | T4130012041-000 |
| 5-Pole | | T4130012051-000 |

B coding - M12 Male, Rear Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4130412021-000 |
| 3-Pole | | T4130412031-000 |
| 4-Pole | | T4130412041-000 |
| 5-Pole | | T4130412051-000 |

D coding - M12 Male, Rear Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4130512021-000 |
| 3-Pole | | T4130512031-000 |
| 4-Pole | | T4130512041-000 |
| 5-Pole | | T4130512051-000 |

A-coding - M12 Male, Rear Mounting, Solder Wire

| | | |
|---------|--|-----------------|
| 8-Pole | | T4130012081-000 |
| 12-Pole | | T4130012121-000 |

TE Part Number

A coding - M12 Female, Rear Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4131012021-000 |
| 3-Pole | | T4131012031-000 |
| 4-Pole | | T4131012041-000 |
| 5-Pole | | T4131012051-000 |

B coding - M12 Female, Rear Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4131412021-000 |
| 3-Pole | | T4131412031-000 |
| 4-Pole | | T4131412041-000 |
| 5-Pole | | T4131412051-000 |

D coding - M12 Female, Rear Mounting, Straight

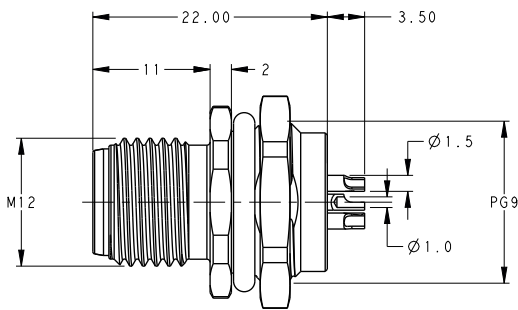
| | | |
|--------|--|-----------------|
| 2-Pole | | T4131512021-000 |
| 3-Pole | | T4131512031-000 |
| 4-Pole | | T4131512041-000 |
| 5-Pole | | T4131512051-000 |

A-coding - M12 Female, Rear Mounting, Solder Wire

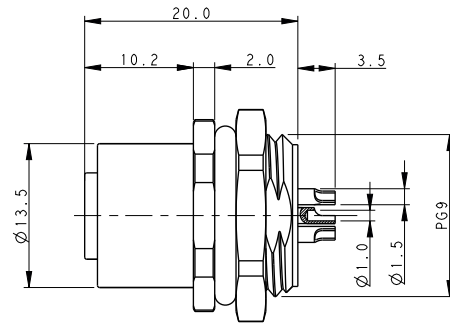
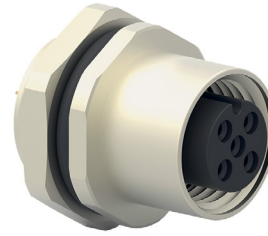
| | | |
|---------|--|-----------------|
| 8-Pole | | T4131012081-000 |
| 12-Pole | | T4131012121-000 |

M12 Panel Mount Solder Wire - Front Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

A coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4132012021-000 |
| 3-Pole | | T4132012031-000 |
| 4-Pole | | T4132012041-000 |
| 5-Pole | | T4132012051-000 |

B coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4132412021-000 |
| 3-Pole | | T4132412031-000 |
| 4-Pole | | T4132412041-000 |
| 5-Pole | | T4132412051-000 |

D coding - M12 Male, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4132512021-000 |
| 3-Pole | | T4132512031-000 |
| 4-Pole | | T4132512041-000 |
| 5-Pole | | T4132512051-000 |

A-coding - M12 Male, Front Mounting, Solder Wire

| | | |
|---------|--|-----------------|
| 8-Pole | | T4132012081-000 |
| 12-Pole | | T4132012121-000 |

TE Part Number

A coding - M12 Female, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4133012021-000 |
| 3-Pole | | T4133012031-000 |
| 4-Pole | | T4133012041-000 |
| 5-Pole | | T4133012051-000 |

B coding - M12 Female, Front Mounting, Straight

| | | |
|--------|--|-----------------|
| 2-Pole | | T4133412021-000 |
| 3-Pole | | T4133412031-000 |
| 4-Pole | | T4133412041-000 |
| 5-Pole | | T4133412051-000 |

D coding - M12 Female, Front Mounting, Straight

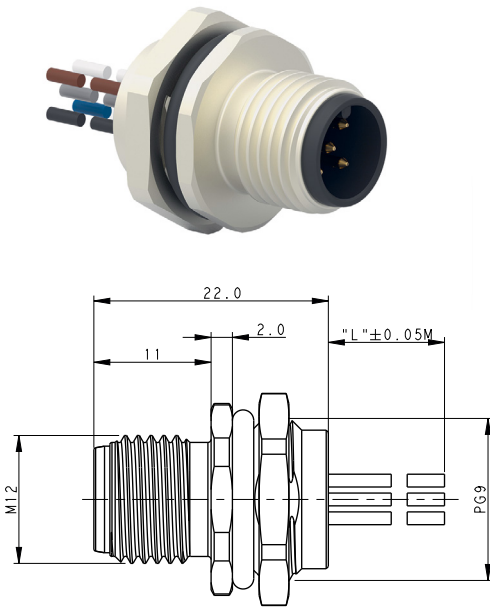
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|--------|--|-----------------|
| 2-Pole | | T4133512021-000 |
| 3-Pole | | T4133512031-000 |
| 4-Pole | | T4133512041-000 |
| 5-Pole | | T4133512051-000 |

A-coding - M12 Female, Front Mounting, Solder Wire

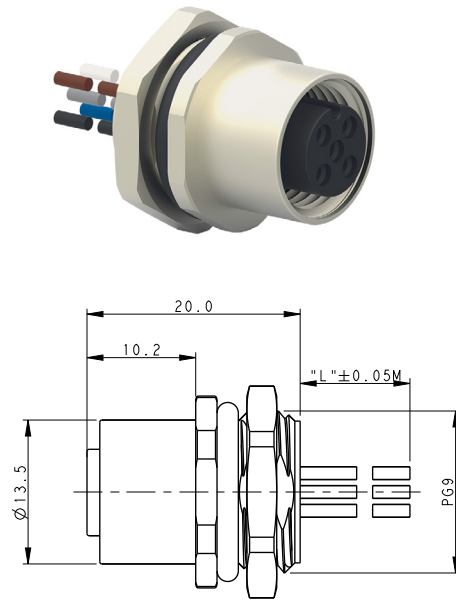
| | | |
|---------|--|-----------------|
| 8-Pole | | T4133012081-000 |
| 12-Pole | | T4133012121-000 |

M12 Panel Mount 200mm Wire - Front Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

A coding - M12 Male, Front Mounting, 200mm wire

| | | |
|--------|--|-----------------|
| 2-Pole | | T4171210002-001 |
| 3-Pole | | T4171210003-001 |
| 4-Pole | | T4171210004-001 |
| 5-Pole | | T4171210005-001 |

B coding - M12 Male, Front Mounting, 200mm wire

| | | |
|--------|--|-----------------|
| 2-Pole | | T4171210402-001 |
| 3-Pole | | T4171210403-001 |
| 4-Pole | | T4171210404-001 |
| 5-Pole | | T4171210405-001 |

D coding - M12 Male, Front Mounting, 200mm wire

| | | |
|--------|--|-----------------|
| 2-Pole | | T4171210502-001 |
| 3-Pole | | T4171210503-001 |
| 4-Pole | | T4171210504-001 |
| 5-Pole | | T4171210505-001 |

A-coding - M12 Male, Front Mounting, 200mm wire

| | | |
|---------|--|-----------------|
| 8-Pole | | T4171220008-001 |
| 12-Pole | | T4171230012-001 |

A coding - M12 Female, Front Mounting, 200mm wire

| | | |
|--------|--|-----------------|
| 2-Pole | | T4171310002-001 |
| 3-Pole | | T4171310003-001 |
| 4-Pole | | T4171310004-001 |
| 5-Pole | | T4171310005-001 |

B coding - M12 Female, Front Mounting, 200mm wire

| | | |
|--------|--|-----------------|
| 2-Pole | | T4171310402-001 |
| 3-Pole | | T4171310403-001 |
| 4-Pole | | T4171310404-001 |
| 5-Pole | | T4171310405-001 |

D coding - M12 Female, Front Mounting, 200mm wire

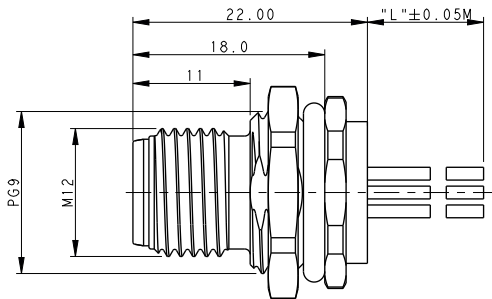
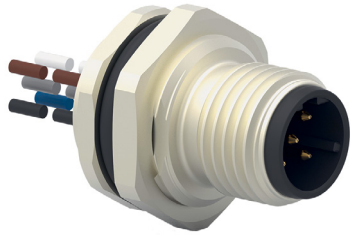
| | | |
|--------|--|-----------------|
| 2-Pole | | T4171310502-001 |
| 3-Pole | | T4171310503-001 |
| 4-Pole | | T4171310504-001 |
| 5-Pole | | T4171310505-001 |

A-coding - M12 Female, Front Mounting, 200mm wire

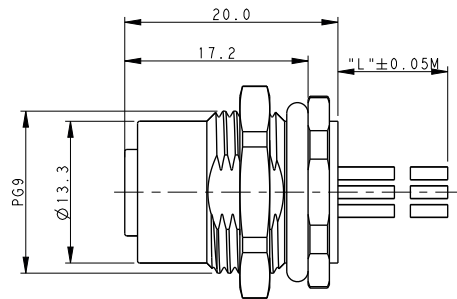
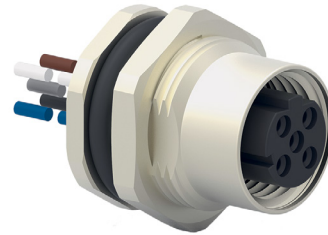
| | | |
|---------|--|-----------------|
| 8-Pole | | T4171320008-001 |
| 12-Pole | | T4171330012-001 |

M12 Panel Mount 200mm Wire - Rear Mounting

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

| A coding - M12 Male, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171010002-001 |
| 3-Pole | | T4171010003-001 |
| 4-Pole | | T4171010004-001 |
| 5-Pole | | T4171010005-001 |

| B coding - M12 Male, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171010402-001 |
| 3-Pole | | T4171010403-001 |
| 4-Pole | | T4171010404-001 |
| 5-Pole | | T4171010405-001 |

| D coding - M12 Male, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171010502-001 |
| 3-Pole | | T4171010503-001 |
| 4-Pole | | T4171010504-001 |
| 5-Pole | | T4171010505-001 |

| A-coding - M12 Male, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 8-Pole | | T4171020008-001 |
| 12-Pole | | T4171030012-001 |

TE Part Number

| A coding - M12 Female, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171110002-001 |
| 3-Pole | | T4171110003-001 |
| 4-Pole | | T4171110004-001 |
| 5-Pole | | T4171110005-001 |

| B coding - M12 Female, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171110402-001 |
| 3-Pole | | T4171110403-001 |
| 4-Pole | | T4171110404-001 |
| 5-Pole | | T4171110405-001 |

| D coding - M12 Female, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 2-Pole | | T4171110502-001 |
| 3-Pole | | T4171110503-001 |
| 4-Pole | | T4171110504-001 |
| 5-Pole | | T4171110505-001 |

| A-coding - M12 Female, Rear Mounting, 200mm wire | | |
|--|--|-----------------|
| 8-Pole | | T4171120008-001 |
| 12-Pole | | T4171130012-001 |

M8/M12 CONNECTOR SYSTEM

M12 Power Solutions

M12 L-coding Straight solder pcb

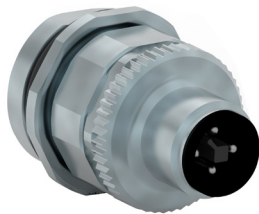


| | | | |
|------|---|------|-----------------|
| Male | 2 | Rear | T4140L12031-000 |
| Male | 3 | Rear | T4140L12041-000 |
| Male | 4 | Rear | T4140L12051-000 |

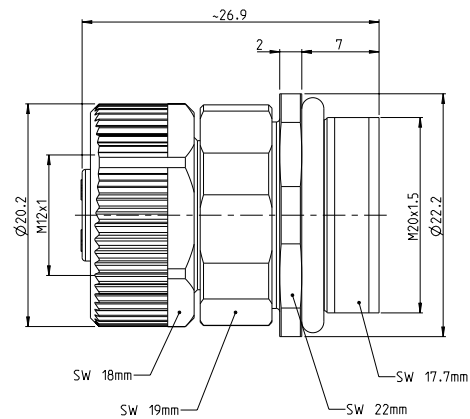
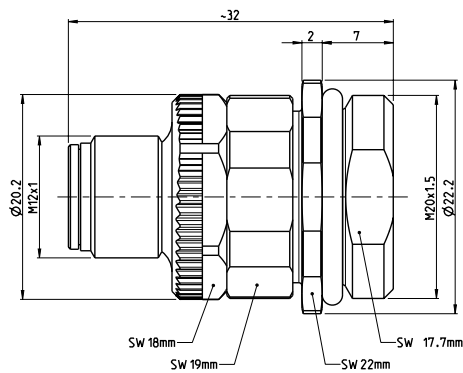
| | | | |
|--------|---|------|-----------------|
| Female | 2 | Rear | T4141L12031-000 |
| Female | 3 | Rear | T4141L12041-000 |
| Female | 4 | Rear | T4141L12051-000 |

M12 S, T coded

Male Series



Female Series



All dimensions in mm. Temperature range: -40 to +85° C.

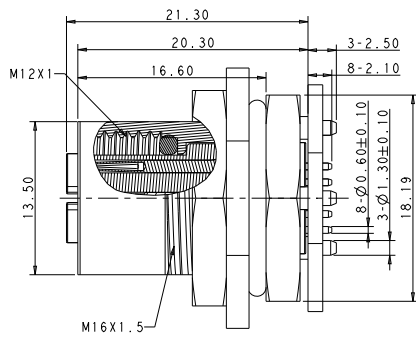
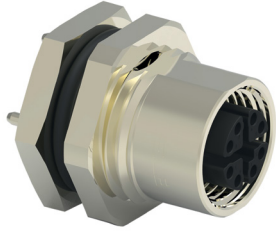
| TE Part Number | | |
|---|---------|-------------|
| S coding - M12 Male Screw Connection, Straight, Shielded | | |
| 3-Pole | plus PE | 2120951-1 |
| T coding - M12 Male Screw Connection, Straight, Shielded | | |
| 4-Pole | | 3-2172096-2 |
| T coding - M12 Male, Front Mounting M20 x 1.5 | | |
| 4-Pole | | 2120947-1 |

| TE Part Number | | |
|---|---------|-------------|
| S coding - M12 Female Screw Connection, Straight, Shielded | | |
| 3-Pole | plus PE | 2120950-1 |
| T coding - M12 Female Screw Connection, Straight, Shielded | | |
| 4-Pole | | 3-2172097-2 |
| T coding - M12 Female, Front Mounting M20 x 1.5 | | |
| 4-Pole | | 2120946-1 |

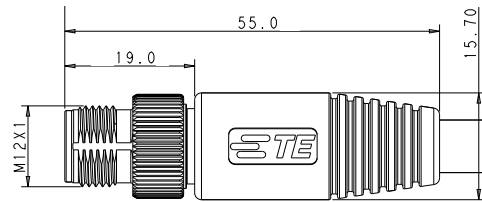
M8/M12 CONNECTOR SYSTEM

M12 X-Coded

M12 X-Coded PCB Connector



M12 Pin Connector Cable Assembly



All dimensions in mm. Temperature range: -40 to +85° C.

| Description | TE Part Number |
|---|----------------|
| M12 X-Coded PCB Connector | |
| Female Panel Mount Solder PCB Connector | 2232331-1 |
| Female Panel Mount Solder Wire | 2271195-1 |
| M12 X-Coded Field Installable Connector | |
| Male Connector installable (IDC): 5.5-9 mm cable diameter | 2327989-1 |

| Length | TE Part Number |
|---|----------------|
| M12 Pin Connector Cable Assembly | |
| 1m | 2241021-1 |
| 2m | 2241021-2 |
| 3m | 2241021-3 |
| 4m | 2241021-4 |
| 5m | 2241021-5 |
| 10m | 2241021-6 |

Accessories

Dust Caps



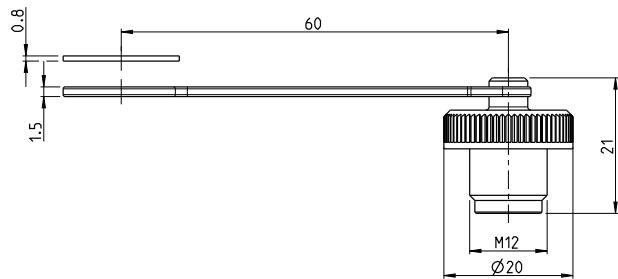
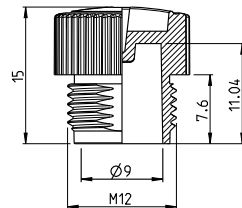
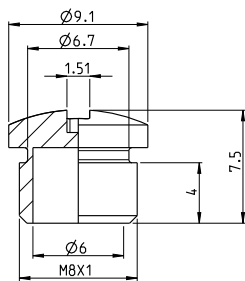
2823563-1



2823064-1



2823065-1



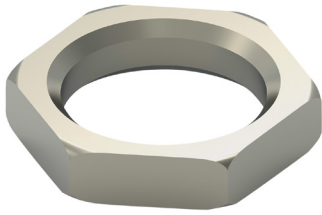
All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number

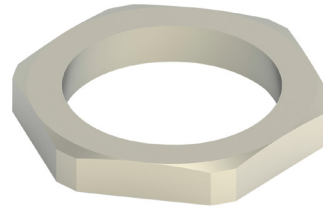
| Dust Caps | |
|---|-----------|
| M8, Dust Cap, Female, IP67, without sleeve | 2823563-1 |
| M12, Dust Cap, Female, IP67, without sleeve | 2823064-1 |
| M12, Dust Cap, Female, IP67, with sleeve | 2823065-1 |

M8/M12 CONNECTOR SYSTEM

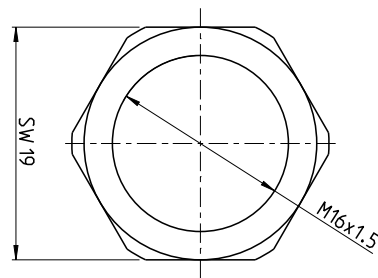
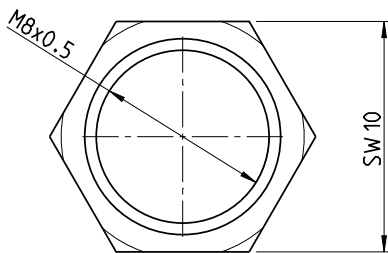
Nuts for Panel Mount connectors



2823423-1



2823066-1



All dimensions in mm.

TE Part Number


| Nuts for Panel Mount connectors | |
|-----------------------------------|-----------|
| Nut for M8 Panel Mount connector | 2823423-1 |
| Nut for M12 Panel Mount connector | 2823066-1 |

Explore more from te.com:

M8/M12 Connectors

Connectors > Circular Connectors
TE CONNECTIVITY (TE)
M8/M12 Connector System

OVERVIEW RELATED MATERIALS



Field installable connector system for reliable communication

Safe and reliable communication - our M8/M12 connector system provides a full solution that includes connectors, IO modules, and cable assemblies. Decrease installation and tooling costs with TE's field installable connectors.

[Browse Products](#) [Download Catalog](#)

Product Features
M8/M12 connectors


- X-coded connectors support higher bandwidth needs of up to 10 Gb/s
- A,B,D,X,S,T coding available
- Easily installable connector system
- Environment protection IP67 and IP68
- Connector ranges include male and female
- All connectors also available with silver plated contacts for higher conductivity
- Alternative mount arrangements for solder cup or PCB
- Panel Mount and distribution version available
- Shield reliable

te.com/m8m12

M8M12 Cable Assemblies

Cable Assemblies > Copper Cable Assemblies
TE CONNECTIVITY (TE)
M8/M12 Sensor Cable Assemblies

OVERVIEW PRODUCTS



Sensor Cable Assemblies with high flexibility & reliability

M8/M12 Cable Assemblies are M8/M12 circular connectors overmolded to a cord set that safely and reliably ensure communication in industrial applications. Compared to installing separate cables and connectors for sensors and actuators, they provide a ready-to-plug solution for versatile systems to be quickly and easily established. Along with the connector configurations, the range of the M8/M12 overmolded cable assemblies are further enhanced with a wide selection of jacketed cable materials based on the application needs.

[VIEW PRODUCTS](#) [Download Datasheet](#)

Features
M8/M12 cable assemblies

- IP67 rated: dust and waterproof
- Overmolded PVC or PUR cable assemblies/shielded and non-shielded versions
- Key options: A, X coded
- M12 Positions: 2, 3, 4, 5 & 8 poles
- M8 Positions: 3 & 4 poles
- M8 & M12 single ended cable assemblies
- M8 & M12 double ended cable assemblies
- M8 to M12 cable assemblies
- Cable length options: 0.5 m, 1 m, 1.5 m, 3 m, 5 m, 7 m, and 10 m; additional lengths for X-code: 2 m, 4 m, 15 m, 20 m

te.com/m8m12cableassemblies

FIND THE PART NUMBERS AND INFORMATION YOU ARE LOOKING FOR

Additional Information

Read more about the connector and cable assembly portfolio on the M8/M12 website - in many different languages.

Download the product flyer

Find all information you need at one glance in the M8/M12 connector system product flyer.

View the video

See our M8/M12 connector system video and learn about the product features, benefits and applications.

Find the products

If you are looking for a specific product or part number, the M8/M12 website is the place to look. Find the images, drawings, technical specifications and much more.

SENSOR/ACTUATOR M8/M12 A-CODE

M8/M12 A-coded cable assemblies are designed for applications such as sensors, robotics & production machinery & equipment, where extreme temperatures and harsh environments are likely to be encountered. These cable assemblies are also ideal for non-industrial applications where compact, robust and reliable connections are required to withstand rigorous environmental elements.

TE provides a full solution with shielded and non-shielded cable assembly options that help customers easily connect to advanced industrial networks. The new product line meets the IP67 rating for protection against dust and water ingress; they also provide protection against electromagnetic radiation, chemicals and mechanical stress commonly found in industrial environments.

Designed as industry standard solutions, these quick-turn cable assemblies help to reduce unnecessary downtime and help maintain continuous operations in critical conditions.

TE's cross-industry expertise allows it to offer customized solutions through a broad cable assembly portfolio that includes connectivity to many industry standards serving various customer needs.

TE's M8/M12 cable assemblies are available as single-ended or double-ended, in straight and angled versions, with shielded and un-shielded variants. Various cable types are offered depending on the application requirements. Cable sheathing is in PVC or PUR. The predefined offering in length of 0.5, 1, 1.5, 3, 5, 7 and 10 meters covers a vast range of customer needs on the market. Customized cable assemblies in different lengths provide a solution for specific needs. All can be used in combination with TE's male/female connectors and I/O Modules.



KEY FEATURES

- IP67 rated: dust and waterproof
- Overmolded PVC or PUR cable assemblies/Shielded & non shielded versions
- Key options: A coded
- M12 Positions: 2, 3, 4, 5 & 8 poles
- M8 Positions: 3 & 4 poles
- M8 & M12 single ended cable assemblies
- M8 & M12 double ended cable assemblies
- M8 to M12 cable assemblies
- Cable length options: 0.5 m, 1 m, 1.5 m, 3 m, 5 m, 7 m, and 10 m

BENEFITS

- M12 Cable Assemblies are IP67 sealed and tested in TE's factory to eliminate the possibility of false wiring & to ensure robust connection
- Reduce downtime in harsh environments with reliable industry standard solution that includes quick turn, prototype cable assemblies.
- Full solution offering including customized and general market cable assemblies enables 1-stopshopping and reduced TCO

APPLICATIONS

- Industrial Communications
- Industrial Machinery
- Industrial automation
- Robotics
- Machine tools
- Semiconductor manufacturing
- Manufacturing of solenoid and sensor valves
- Process control systems
- Vision systems
- Electronics manufacturing

MECHANICAL

- Durability: 100 cycles
- Degree of protection: IP67
- Temperature Ratings:
 - PVC:
 - Fixed: -40°C to +80°C
 - Flexible: -25°C to +80°C
 - PUR:
 - Fixed: -10°C to +80°C
 - Flexible: -5°C to +80°C

ELECTRICAL

- Voltage rating
 - M12:
 - 250V (≤ 4 way)
 - 60V (5 way)
 - 30V (> 5 way)
 - M8:
 - 60V (3 way)
 - 30V (4 & 5 pos)
- Current rating
 - M12 A Coding
 - 2 - 5 ways = 4A
 - 6 - 8 ways = 2 A
 - M8: 3A
- Insulation Resistance: 100M Ω Min.

MATERIALS

- Contact: Brass, Gold Flash Plating
- Nut: Brass, Nickel plating
- O-ring: Silicon rubber
- Spring: Stainless steel
- Over-molding: TPU
- Housing: PA
- M12 Cable: 22 AWG, 2/3/4/5 core, with or without Foil, Drain, Braid Shield RoHS; Cable Jacket material: PVC or PUR
- M12 Cable: 24 AWG, 8 core, with or without Foil, Drain, Braid Shield RoHS; Cable Jacket material: PVC or PUR
- M8 Cable: 24 AWG, 3/4 core, with or without Foil, Drain, Braid Shield RoHS; Cable Jacket material: PVC or PUR

STANDARDS & APPLICATIONS

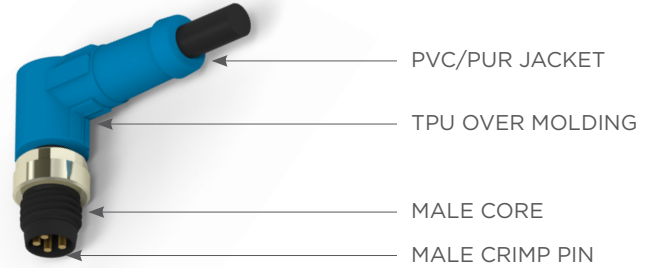
- Product Specification: 108-106140
- Application Specification: 114-137144 (M12)
114-137144-1(M8)
- UL Standard: UL2238
- IEC 61076-2-101: Detail specification for M12 connectors with screw-locking
- IEC 61076-2-104: Detail specification with M8 screw-locking or snap-locking
- IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods
- IEC-60529: Degree of protection provided by enclosures (IP Code)

M8/M12 CONNECTOR SYSTEM

M8 Single Ended Cable Assembly

M8 cable assemblies T405/T406 series

STANDARD: IEC61076-2-104



T40 S A X W Y O MN -00L

| S | Application Type - Shield/Unshielded |
|---|--------------------------------------|
| 5 | Unshielded |
| 6 | Shield |

| A | Single/Double |
|---|---------------|
| 1 | Single end |
| 2 | Double end |

| X | Connector Type for Single End |
|---|-------------------------------|
| 1 | M8 Straight, Male |
| 2 | M8 Right angle, Male |
| 3 | M8 Straight, Female |
| 4 | M8 Right angle, Female |

| W | Cable Material Type |
|---|---------------------|
| 1 | Black PVC |
| 2 | Gray PUR |

| MN | Position |
|----|----------|
| 03 | 3P |
| 04 | 4P |

| Y | Connector Type for Double End |
|---|-------------------------------|
| 0 | N/A |
| 1 | M8 Straight, Male |
| 2 | M8 Right angle, Male |
| 3 | M8 Straight, Female |
| 4 | M8 Right angle, Female |
| 5 | M12 Straight, Male |
| 6 | M12 Right angle, Male |
| 7 | M12 Straight, Female |
| 8 | M12 Right angle, Female |

| -00L | Cable Length |
|------|-------------------------|
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -XXX | Customized Cable Length |
| -XX0 | XX M |
| -XX5 | XX.5 M |

Wiring Diagram-M8 cable assembly Unshielded*

| From Pin | Poles | | To Pin |
|----------|-------|-------|--------|
| | 3 | 4 | |
| 1 | Brown | Brown | 1 |
| 2 | - | White | 2 |
| 3 | Blue | Blue | 3 |
| 4 | Black | Black | 4 |

Wiring Diagram-M8 cable assembly Shielded*

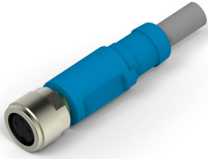
| From Pin | Poles | | To Pin |
|----------|-----------|-----------|----------|
| | 3 | 4 | |
| 1 | Brown | Brown | 1 |
| 2 | - | White | 2 |
| 3 | Blue | Blue | 3 |
| 4 | Black | Black | 4 |
| Shielded | Metal Nut | Metal Nut | Shielded |

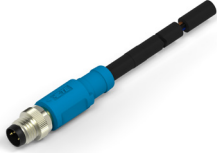
* This wire diagram is applicable to all M8 cable assemblies listed in this flyer.

M8/M12 CONNECTOR SYSTEM

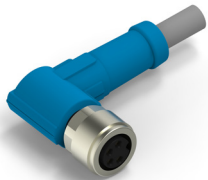
PRODUCT OFFERINGS - M8 Single Ended Cable Assembly

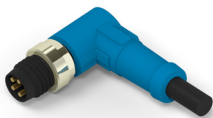
M8 STR SINGLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Material | Shielded/Unshielded |
|---------------------------------|----------------------------|-----|--|----------------|---------------------|
| T4051320003-001 | M8 FS 3P PUR CABLE 0.5M | 3 | Female Straight | PUR | Unshielded |
| T4061320003-001 | M8 FS 3P PUR CABLE 0.5M SH | | | | Shielded |
| T4051310003-001 | M8 FS 3P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061310003-001 | M8 FS 3P PVC CABLE 0.5M SH | | | | Shielded |
| T4051320004-001 | M8 FS 4P PUR CABLE 0.5M | 4 |  | PUR | Unshielded |
| T4061320004-001 | M8 FS 4P PUR CABLE 0.5M SH | | | | Shielded |
| T4051310004-001 | M8 FS 4P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061310004-001 | M8 FS 4P PVC CABLE 0.5M SH | | | | Shielded |

| PN | Part Description | Pos | Type | Cable Material | Shielded/Unshielded |
|---------------------------------|------------------------------|-----|--|----------------|---------------------|
| T4051120003-001 | M8 MS 3P PUR CABLE 0.5M | 3 | Male Straight | PUR | Unshielded |
| T4061120003-001 | M8 MS 3P PUR CABLE 0.5M SH | | | | Shielded |
| T4051110003-001 | M8 MS 3P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061110003-001 | M8 MS 3P PVC CABLE 0.5M SH | | | | Shielded |
| T4051120004-001 | M8 MS 4P PUR CABLE 0.5M | 4 |  | PUR | Unshielded |
| T4061120004-001 | M8 MS 4P PUR CABLE 0.5M SH | | | | Shielded |
| T4051110004-001 | M8 MS 0.5M 4P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061110004-001 | M8 MS 4P PVC CABLE 0.5M SH | | | | Shielded |

M8 R/A SINGLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Material | Shielded/Unshielded |
|---------------------------------|----------------------------|-----|--|----------------|---------------------|
| T4051420003-001 | M8 FR 3P PUR CABLE 0.5M | 3 | Female Right Angle | PUR | Unshielded |
| T4061420003-001 | M8 FR 3P PUR CABLE 0.5M SH | | | | Shielded |
| T4051410003-001 | M8 FR 3P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061410003-001 | M8 FR 3P PVC CABLE 0.5M SH | | | | Shielded |
| T4051420004-001 | M8 FR 4P PUR CABLE 0.5M | 4 |  | PUR | Unshielded |
| T4061420004-001 | M8 FR 4P PUR CABLE 0.5M SH | | | | Shielded |
| T4051410004-001 | M8 FR 4P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061410004-001 | M8 FR 4P PVC CABLE 0.5M SH | | | | Shielded |

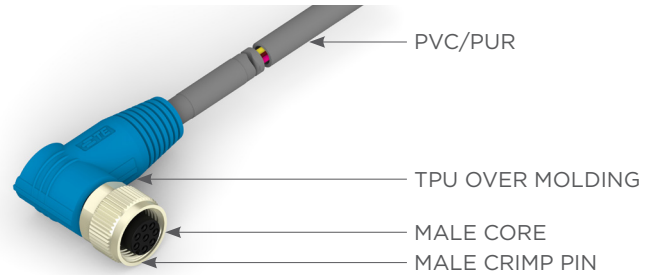
| PN | Part Description | Pos | Type | Cable Material | Shielded/Unshielded |
|---------------------------------|----------------------------|-----|--|----------------|---------------------|
| T4051220003-001 | M8 MR 3P PUR CABLE 0.5M | 3 | Male Right Angle | PUR | Unshielded |
| T4061220003-001 | M8 MR 3P PUR CABLE 0.5M SH | | | | Shielded |
| T4051210003-001 | M8 MR 3P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061210003-001 | M8 MR 3P PVC CABLE 0.5M SH | | | | Shielded |
| T4051220004-001 | M8 MR 4P PUR CABLE 0.5M | 4 |  | PUR | Unshielded |
| T4061220004-001 | M8 MR 4P PUR CABLE 0.5M SH | | | | Shielded |
| T4051210004-001 | M8 MR 4P PVC CABLE 0.5M | | | PVC | Unshielded |
| T4061210004-001 | M8 MR 4P PVC CABLE 0.5M SH | | | | Shielded |

M8/M12 CONNECTOR SYSTEM

M12 Single Ended Cable Assembly

M12 cable assemblies T415/T416 series

STANDARD: IEC61076-2-101



T41 S A X W Y C MN -00L

| S | Shield/Unshielded |
|----------|--------------------------------------|
| 5 | Unshielded |
| 6 | Shield |
| A | Single/Double End |
| 1 | Single end |
| 2 | Double end |
| X | Connector Type for Single End |
| 1 | M12 Straight, Male |
| 2 | M12 Right angle, Male |
| 3 | M12 Straight, Female |
| 4 | M12 Right angle, Female |
| W | Cable Material Type |
| 1 | Black PVC |
| 2 | Gray PUR |

| MN | Position |
|-----------|--------------------------------------|
| 03 | 3P |
| 04 | 4P |
| 05 | 5P |
| 08 | 8P |
| Y | Connector Type for Double End |
| 0 | N/A |
| 1 | M12 Straight, Male |
| 2 | M12 Right angle, Male |
| 3 | M12 Straight, Female |
| 4 | M12 Right angle, Female |
| C | Code |
| 0 | A Code |

| -00L | Cable Length |
|-------------|--------------------------------|
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -XXX | Customized Cable Length |
| -XX0 | XX M |
| -XX5 | XX.5 M |

Wiring Diagram-M12 cable assembly Unshielded*

| From Pin | Poles | | | | | To Pin |
|----------|-------|-------|-------|-------|--------|--------|
| | 2 | 3 | 4 | 5 | 8 | |
| 1 | Brown | Brown | Brown | Brown | White | 1 |
| 2 | - | - | White | White | Brown | 2 |
| 3 | Blue | Blue | Blue | Blue | Green | 3 |
| 4 | - | Black | Black | Black | Yellow | 4 |
| 5 | - | - | - | Gray | Gray | 5 |
| 6 | - | - | - | - | Pink | 6 |
| 7 | - | - | - | - | Blue | 7 |
| 8 | - | - | - | - | Red | 8 |

Wiring Diagram-M12 cable assembly Shielded*

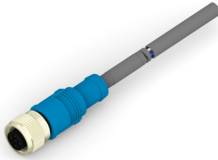
| From Pin | Poles | | | | | To Pin |
|----------|-----------|-----------|-----------|-----------|-----------|----------|
| | 2 | 3 | 4 | 5 | 8 | |
| 1 | Brown | Brown | Brown | Brown | White | 1 |
| 2 | - | - | White | White | Brown | 2 |
| 3 | Blue | Blue | Blue | Blue | Green | 3 |
| 4 | - | Black | Black | Black | Yellow | 4 |
| 5 | - | - | - | Gray | Gray | 5 |
| 6 | - | - | - | - | Pink | 6 |
| 7 | - | - | - | - | Blue | 7 |
| 8 | - | - | - | - | Red | 8 |
| Shielded | Metal Nut | Metal Nut | Metal Nut | Metal Nut | Metal Nut | Shielded |

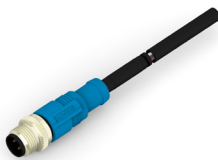
* This wire diagram is applicable to all M12 cable assemblies listed in this flyer.

M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M12 A-Code Single Ended Cable Assembly

M12 A-CODE STR SINGLE ENDED CABLE ASSEMBLY

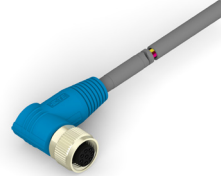
| PN | Part Description | Code | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-----------------------------|------|----------|---|-----------------|-------------------|
| T4151320002-001 | M12 FS 2P PUR CABLE 0.5M | A | 2 | Female Straight  | PUR | Unshielded |
| T4161320002-001 | M12 FS 2P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151310002-001 | M12 FS 2P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161310002-001 | M12 FS 2P PVC CABLE 0.5M SH | | | | Shielded | |
| T4151320003-001 | M12 FS 3P PUR CABLE 0.5M | | 3 | | PUR | Unshielded |
| T4161320003-001 | M12 FS 3P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151310003-001 | M12 FS 3P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161310003-001 | M12 FS 3P PVC CABLE 0.5M SH | | Shielded | | | |
| T4151320004-001 | M12 FS 4P PUR CABLE 0.5M | | 4 | | PUR | Unshielded |
| T4161320004-001 | M12 FS 4P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151310004-001 | M12 FS 4P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161310004-001 | M12 FS 4P PVC CABLE 0.5M SH | | | | | Shielded |
| T4151320005-001 | M12 FS 5P PUR CABLE 0.5M | | 5 | | PUR | Unshielded |
| T4161320005-001 | M12 FS 5P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151310005-001 | M12 FS 5P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161310005-001 | M12 FS 5P PVC CABLE 0.5M SH | | | | | Shielded |
| T4151320008-001 | M12 FS 8P PUR CABLE 0.5M | 8 | PUR | Unshielded | | |
| T4161320008-001 | M12 FS 8P PUR CABLE 0.5M SH | | | Shielded | | |
| T4151310008-001 | M12 FS 8P PVC CABLE 0.5M | | PVC | Unshielded | | |
| T4161310008-001 | M12 FS 8P PVC CABLE 0.5M SH | | | Shielded | | |

| PN | Part Description | Code | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-----------------------------|------|----------|---|-----------------|-------------------|
| T4151120002-001 | M12 MS 2P PUR CABLE 0.5M | A | 2 | Male Straight  | PUR | Unshielded |
| T4161120002-001 | M12 MS 2P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151110002-001 | M12 MS 2P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161110002-001 | M12 MS 2P PVC CABLE 0.5M SH | | | | Shielded | |
| T4151120003-001 | M12 MS 3P PUR CABLE 0.5M | | 3 | | PUR | Unshielded |
| T4161120003-001 | M12 MS 3P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151110003-001 | M12 MS 3P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161110003-001 | M12 MS 3P PVC CABLE 0.5M SH | | Shielded | | | |
| T4151120004-001 | M12 MS 4P PUR CABLE 0.5M | | 4 | | PUR | Unshielded |
| T4161120004-001 | M12 MS 4P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151110004-001 | M12 MS 4P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161110004-001 | M12 MS 4P PVC CABLE 0.5M SH | | | | | Shielded |
| T4151120005-001 | M12 MS 5P PUR CABLE 0.5M | | 5 | | PUR | Unshielded |
| T4161120005-001 | M12 MS 5P PUR CABLE 0.5M SH | | | | | Shielded |
| T4151110005-001 | M12 MS 5P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4161110005-001 | M12 MS 5P PVC CABLE 0.5M SH | | | | | Shielded |
| T4151120008-001 | M12 MS 8P PUR CABLE 0.5M | 8 | PUR | Unshielded | | |
| T4161120008-001 | M12 MS 8P PUR CABLE 0.5M SH | | | Shielded | | |
| T4151110008-001 | M12 MS 8P PVC CABLE 0.5M | | PVC | Unshielded | | |
| T4161110008-001 | M12 MS 8P PVC CABLE 0.5M SH | | | Shield | | |

M8/M12 CONNECTOR SYSTEM

M12 A-CODE R/A SINGLE ENDED CABLE ASSEMBLY

| PN | Part Description | Code | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-----------------------------|------|-----|--------|-----------------|-------------------|
| T4151420002-001 | M12 FR 2P PUR CABLE 0.5M | A | 2 | Female | PUR | Unshielded |
| T4161420002-001 | M12 FR 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4151410002-001 | M12 FR 2P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161410002-001 | M12 FR 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4151420003-001 | M12 FR 3P PUR CABLE 0.5M | | 3 | | PUR | Unshielded |
| T4161420003-001 | M12 FR 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4151410003-001 | M12 FR 3P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161410003-001 | M12 FR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4151420004-001 | M12 FR 4P PUR CABLE 0.5M | | 4 | | PUR | Unshielded |
| T4161420004-001 | M12 FR 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4151410004-001 | M12 FR 4P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161410004-001 | M12 FR 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4151420005-001 | M12 FR 5P PUR CABLE 0.5M | | 5 | | PUR | Unshielded |
| T4161420005-001 | M12 FR 5P PUR CABLE 0.5M SH | | | | | Shield |
| T4151410005-001 | M12 FR 5P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161410005-001 | M12 FR 5P PVC CABLE 0.5M SH | | | | Shield | |
| T4151420008-001 | M12 FR 8P PUR CABLE 0.5M | | 8 | | PUR | Unshielded |
| T4161420008-001 | M12 FR 8P PUR CABLE 0.5M SH | | | | | Shield |
| T4151410008-001 | M12 FR 8P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161410008-001 | M12 FR 8P PVC CABLE 0.5M SH | | | | Shield | |





| PN | Part Description | Code | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-----------------------------|------|-----|------|-----------------|-------------------|
| T4151220002-001 | M12 MR 2P PUR CABLE 0.5M | A | 2 | Male | PUR | Unshielded |
| T4161220002-001 | M12 MR 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4151210002-001 | M12 MR 2P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161210002-001 | M12 MR 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4151220003-001 | M12 MR 3P PUR CABLE 0.5M | | 3 | | PUR | Unshielded |
| T4161220003-001 | M12 MR 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4151210003-001 | M12 MR 3P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161210003-001 | M12 MR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4151220004-001 | M12 MR 4P PUR CABLE 0.5M | | 4 | | PUR | Unshielded |
| T4161220004-001 | M12 MR 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4151210004-001 | M12 MR 4P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161210004-001 | M12 MR 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4151220005-001 | M12 MR 5P PUR CABLE 0.5M | | 5 | | PUR | Unshielded |
| T4161220005-001 | M12 MR 5P PUR CABLE 0.5M SH | | | | | Shield |
| T4151210005-001 | M12 MR 5P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161210005-001 | M12 MR 5P PVC CABLE 0.5M SH | | | | Shield | |
| T4151220008-001 | M12 MR 8P PUR CABLE 0.5M | | 8 | | PUR | Unshielded |
| T4161220008-001 | M12 MR 8P PUR CABLE 0.5M SH | | | | | Shield |
| T4151210008-001 | M12 MR 8P PVC CABLE 0.5M | | PVC | | Unshielded | |
| T4161210008-001 | M12 MR 8P PVC CABLE 0.5M SH | | | | Shield | |



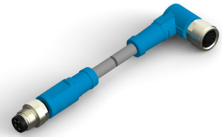
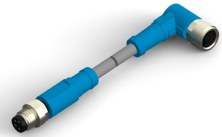
M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M8 to M8 Double Ended Cable Assembly

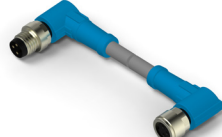
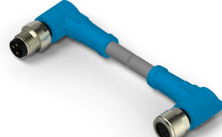
M8 MALE STR - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded | |
|---------------------------------|---------------------------------------|-----|---|---|-------------------|------------|
| T4052123003-001 | M8 MS 3P - M8 FS 3P PUR CABLE 0.5M | 3 |  MS-FS | PUR | Unshielded | |
| T4062123003-001 | M8 MS 3P - M8 FS 3P PUR CABLE 0.5M SH | | | | Shield | |
| T4052113003-001 | M8 MS 3P - M8 FS 3P PVC CABLE 0.5M | | | PVC | Unshielded | |
| T4062113003-001 | M8 MS 3P - M8 FS 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4052123004-001 | M8 MS 4P - M8 FS 4P PUR CABLE 0.5M | 4 | |  MS-FS | PUR | Unshielded |
| T4062123004-001 | M8 MS 4P - M8 FS 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4052113004-001 | M8 MS 4P - M8 FS 4P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4062113004-001 | M8 MS 4P - M8 FS 4P PVC CABLE 0.5M SH | | | | | Shield |



M8 MALE STR - FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded | |
|---------------------------------|---------------------------------------|-----|---|---|-------------------|------------|
| T4052124003-001 | M8 MS 3P - M8 FR 3P PUR CABLE 0.5M | 3 |  MS-FR | PUR | Unshielded | |
| T4062124003-001 | M8 MS 3P - M8 FR 3P PUR CABLE 0.5M SH | | | | Shield | |
| T4052114003-001 | M8 MS 3P - M8 FR 3P PVC CABLE 0.5M | | | PVC | Unshielded | |
| T4062114003-001 | M8 MS 3P - M8 FR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4052124004-001 | M8 MS 4P - M8 FR 4P PUR CABLE 0.5M | 4 | |  MS-FR | PUR | Unshielded |
| T4062124004-001 | M8 MS 4P - M8 FR 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4052114004-001 | M8 MS 4P - M8 FR 4P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4062114004-001 | M8 MS 4P - M8 FR 4P PVC CABLE 0.5M SH | | | | | Shield |

M8 MALE R/A - FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded | |
|---------------------------------|---------------------------------------|-----|---|---|-------------------|------------|
| T4052224003-001 | M8 MR 3P - M8 FR 3P PUR CABLE 0.5M | 3 |  MR-FR | PUR | Unshielded | |
| T4062224003-001 | M8 MR 3P - M8 FR 3P PUR CABLE 0.5M SH | | | | Shield | |
| T4052214003-001 | M8 MR 3P - M8 FR 3P PVC CABLE 0.5M | | | PVC | Unshielded | |
| T4062214003-001 | M8 MR 3P - M8 FR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4062224004-001 | M8 MR 4P - M8 FR 3P PUR CABLE 0.5M | 4 | |  MR-FR | PUR | Unshielded |
| T4052224004-001 | M8 MR 4P - M8 FR 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4062214004-001 | M8 MR 4P - M8 FR 3P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4052214004-001 | M8 MR 4P - M8 FR 3P PVC CABLE 0.5M SH | | | | | Shield |


M8 MALE R/A - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded | |
|---------------------------------|---------------------------------------|-----|---|---|-------------------|------------|
| T4062223003-001 | M8 MR 3P - M8 FS 3P PUR CABLE 0.5M | 3 |  MR-FS | PUR | Unshield | |
| T4052223003-001 | M8 MR 3P - M8 FS 3P PUR CABLE 0.5M SH | | | | Shielded | |
| T4062213003-001 | M8 MR 3P - M8 FS 3P PVC CABLE 0.5M | | | PVC | Unshield | |
| T4052213003-001 | M8 MR 3P - M8 FS 3P PVC CABLE 0.5M SH | | | | Shielded | |
| T4052223004-001 | M8 MR 4P - M8 FS 3P PUR CABLE 0.5M | 4 | |  MR-FS | PUR | Unshielded |
| T4062223004-001 | M8 MR 4P - M8 FS 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4052213004-001 | M8 MR 4P - M8 FS 3P PVC CABLE 0.5M | | | | PVC | Unshielded |
| T4062213004-001 | M8 MR 4P - M8 FS 3P PVC CABLE 0.5M SH | | | | | Shield |

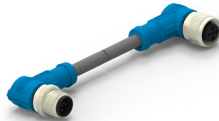
M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M12 to M12 A-Code Double Ended Cable Assembly

M12 A-CODE MALE STR - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Code | Cable Materials | Shield/Unshielded |
|---------------------------------|---|-----|--|------------|-----------------|-------------------|
| T4152123002-001 | M12 MS 2P - M12 FS 2P PUR CABLE 0.5M | 2 |  MS-FS | A | PUR | Unshielded |
| T4162123002-001 | M12 MS 2P - M12 FS 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4152113002-001 | M12 MS 2P - M12 FS 2P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162113002-001 | M12 MS 2P - M12 FS 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4152123003-001 | M12 MS 3P - M12 FS 3P PUR CABLE 0.5M | 3 | | | PUR | Unshielded |
| T4162123003-001 | M12 MS 3P - M12 FS 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4152113003-001 | M12 MS 3P - M12 FS 3P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162113003-001 | M12 MS 3P - M12 FS 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4152123004-001 | M12 MS 4P - M12 FS 4P PUR CABLE 0.5M | 4 | | | PUR | Unshielded |
| T4162123004-001 | M12 MS 4P - M12 FS 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4152113004-001 | M12 MS 4P - M12 FS 4P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162113004-001 | M12 MS 4P - M12 FS 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4152123005-001 | M12 MS 5P - M12 FS 5P PUR CABLE 0.5M | 5 | PUR | Unshielded | | |
| T4162123005-001 | M12 MS 5P - M12 FS 5P PUR CABLE 0.5M SH | | | Shield | | |
| T4152113005-001 | M12 MS 5P - M12 FS 5P PVC CABLE 0.5M | PVC | Unshielded | | | |
| T4162113005-001 | M12 MS 5P - M12 FS 5P PVC CABLE 0.5M SH | | Shield | | | |


M12 A-CODE MALE R/A - FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Code | Cable Materials | Shield/Unshielded |
|---------------------------------|---|-----|--|------------|-----------------|-------------------|
| T4152224002-001 | M12 MR 2P - M12 FR 2P PUR CABLE 0.5M | 2 |  MS-FS | A | PUR | Unshielded |
| T4162224002-001 | M12 MR 2P - M12 FR 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4152214002-001 | M12 MR 2P - M12 FR 2P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162214002-001 | M12 MR 2P - M12 FR 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4152224003-001 | M12 MR 3P - M12 FR 3P PUR CABLE 0.5M | 3 | | | PUR | Unshielded |
| T4162224003-001 | M12 MR 3P - M12 FR 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4152214003-001 | M12 MR 3P - M12 FR 3P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162214003-001 | M12 MR 3P - M12 FR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4152224004-001 | M12 MR 4P - M12 FR 4P PUR CABLE 0.5M | 4 | | | PUR | Unshielded |
| T4162224004-001 | M12 MR 4P - M12 FR 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4152214004-001 | M12 MR 4P - M12 FR 4P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162214004-001 | M12 MR 4P - M12 FR 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4152224005-001 | M12 MR 5P - M12 FR 5P PUR CABLE 0.5M | 5 | PUR | Unshielded | | |
| T4162224005-001 | M12 MR 5P - M12 FR 5P PUR CABLE 0.5M SH | | | Shield | | |
| T4152214005-001 | M12 MR 5P - M12 FR 5P PVC CABLE 0.5M | PVC | Unshielded | | | |
| T4162214005-001 | M12 MR 5P - M12 FR 5P PVC CABLE 0.5M SH | | Shield | | | |


M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M12 to M12 A-Code Double Ended Cable Assembly

M12 A-CODE MALE STR - FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Code | Cable Materials | Shield/Unshielded |
|---------------------------------|---|-----|--|------------|-----------------|-------------------|
| T4152124002-001 | M12 MS 2P - M12 FR 2P PUR CABLE 0.5M | 2 |  MS-FR | A | PUR | Unshielded |
| T4162124002-001 | M12 MS 2P - M12 FR 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4152114002-001 | M12 MS 2P - M12 FR 2P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162114002-001 | M12 MS 2P - M12 FR 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4152124003-001 | M12 MS 3P - M12 FR 3P PUR CABLE 0.5M | 3 | | | PUR | Unshielded |
| T4162124003-001 | M12 MS 3P - M12 FR 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4152114003-001 | M12 MS 3P - M12 FR 3P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162114003-001 | M12 MS 3P - M12 FR 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4152124004-001 | M12 MS 4P - M12 FR 4P PUR CABLE 0.5M | 4 | | | PUR | Unshielded |
| T4162124004-001 | M12 MS 4P - M12 FR 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4152114004-001 | M12 MS 4P - M12 FR 4P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162114004-001 | M12 MS 4P - M12 FR 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4152124005-001 | M12 MS 5P - M12 FR 5P PUR CABLE 0.5M | 5 | PUR | Unshielded | | |
| T4162124005-001 | M12 MS 5P - M12 FR 5P PUR CABLE 0.5M SH | | | Shield | | |
| T4152114005-001 | M12 MS 5P - M12 FR 5P PVC CABLE 0.5M | PVC | Unshielded | | | |
| T4162114005-001 | M12 MS 5P - M12 FR 5P PVC CABLE 0.5M SH | | Shield | | | |


M12 A-CODE MALE R/A - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Code | Cable Materials | Shield/Unshielded |
|---------------------------------|---|-----|--|------------|-----------------|-------------------|
| T4152223002-001 | M12 MR 2P - M12 FS 2P PUR CABLE 0.5M | 2 |  MR-FS | A | PUR | Unshielded |
| T4162223002-001 | M12 MR 2P - M12 FS 2P PUR CABLE 0.5M SH | | | | | Shield |
| T4152213002-001 | M12 MR 2P - M12 FS 2P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162213002-001 | M12 MR 2P - M12 FS 2P PVC CABLE 0.5M SH | | | | Shield | |
| T4152223003-001 | M12 MR 3P - M12 FS 3P PUR CABLE 0.5M | 3 | | | PUR | Unshielded |
| T4162223003-001 | M12 MR 3P - M12 FS 3P PUR CABLE 0.5M SH | | | | | Shield |
| T4152213003-001 | M12 MR 3P - M12 FS 3P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162213003-001 | M12 MR 3P - M12 FS 3P PVC CABLE 0.5M SH | | | | Shield | |
| T4152223004-001 | M12 MR 4P - M12 FS 4P PUR CABLE 0.5M | 4 | | | PUR | Unshielded |
| T4162223004-001 | M12 MR 4P - M12 FS 4P PUR CABLE 0.5M SH | | | | | Shield |
| T4152213004-001 | M12 MR 4P - M12 FS 4P PVC CABLE 0.5M | PVC | | | Unshielded | |
| T4162213004-001 | M12 MR 4P - M12 FS 4P PVC CABLE 0.5M SH | | | | Shield | |
| T4152223005-001 | M12 MR 5P - M12 FS 5P PUR CABLE 0.5M | 5 | PUR | Unshielded | | |
| T4162223005-001 | M12 MR 5P - M12 FS 5P PUR CABLE 0.5M SH | | | Shield | | |
| T4152213005-001 | M12 MR 5P - M12 FS 5P PVC CABLE 0.5M | PVC | Unshielded | | | |
| T4162213005-001 | M12 MR 5P - M12 FS 5P PVC CABLE 0.5M SH | | Shield | | | |


M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly

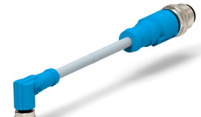
M8 FEMALE STR - M12 MALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|---|-----------------|-------------------|
| T4052325003-001 | M8 3P FS - M12 3P MS PUR CABLE 0.5M | 3 |  M8 FS - M12 MS | PUR | Unshielded |
| T4052315003-001 | M8 3P FS - M12 3P MS PVC CABLE 0.5M | | | PVC | |
| T4052325004-001 | M8 4P FS - M12 4P MS PUR CABLE 0.5M | 4 | | PUR | |
| T4052315004-001 | M8 4P FS - M12 4P MS PVC CABLE 0.5M | | | PVC | |


M8 FEMALE STR - M12 MALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052326003-001 | M8 3P FS - M12 3P MR PUR CABLE 0.5M | 3 |  M8 FS -M12 MR | PUR | Unshielded |
| T4052316003-001 | M8 3P FS - M12 3P MR PVC CABLE 0.5M | | | PVC | |
| T4052326004-001 | M8 4P FS - M12 4P MR PUR CABLE 0.5M | 4 | | PUR | |
| T4052316004-001 | M8 4P FS - M12 4P MR PVC CABLE 0.5M | | | PVC | |

M8 FEMALE R/A - M12 MALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052425003-001 | M8 3P FR - M12 3P MS PUR CABLE 0.5M | 3 |  M8 FR -M12 MS | PUR | Unshielded |
| T4052415003-001 | M8 3P FR - M12 3P MS PVC CABLE 0.5M | | | PVC | |
| T4052425004-001 | M8 4P FR - M12 4P MS PUR CABLE 0.5M | 4 | | PUR | |
| T4052415004-001 | M8 4P FR - M12 4P MS PVC CABLE 0.5M | | | PVC | |


M8 FEMALE R/A - M12 MALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052426003-001 | M8 3P FR - M12 3P MR PUR CABLE 0.5M | 3 |  M8 FR -M12 MR | PUR | Unshielded |
| T4052416003-001 | M8 3P FR - M12 3P MR PVC CABLE 0.5M | | | PVC | |
| T4052426004-001 | M8 4P FR - M12 4P MR PUR CABLE 0.5M | 4 | | PUR | |
| T4052416004-001 | M8 4P FR - M12 4P MR PVC CABLE 0.5M | | | PVC | |


M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly


M8 MALE STR - M12 FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052127003-001 | M8 3P MS - M12 3P FS PUR CABLE 0.5M | 3 |  M8 MS -M12 FS | PUR | Unshielded |
| T4052117003-001 | M8 3P MS - M12 3P FS PVC CABLE 0.5M | | | PVC | |
| T4052127004-001 | M8 4P MS - M12 4P FS PUR CABLE 0.5M | 4 | | PUR | |
| T4052117004-001 | M8 4P MS - M12 4P FS PVC CABLE 0.5M | | | PVC | |


M8 MALE STR - M12 FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052128003-001 | M8 3P MS - M12 3P FR PUR CABLE 0.5M | 3 |  M8 MS -M12 FR | PUR | Unshielded |
| T4052118003-001 | M8 3P MS - M12 3P FR PVC CABLE 0.5M | | | PVC | |
| T4052128004-001 | M8 4P MS - M12 4P FR PUR CABLE 0.5M | 4 | | PUR | |
| T4052118004-001 | M8 4P MS - M12 4P FR PVC CABLE 0.5M | | | PVC | |

M8 MALE R/A - M12 FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|--|-----------------|-------------------|
| T4052227003-001 | M8 3P MR - M12 3P FS PUR CABLE 0.5M | 3 |  M8 MR -M12 FS | PUR | Unshielded |
| T4052217003-001 | M8 3P MR - M12 3P FS PVC CABLE 0.5M | | | PVC | |
| T4052227004-001 | M8 4P MR - M12 4P FS PUR CABLE 0.5M | 4 | | PUR | |
| T4052217004-001 | M8 4P MR - M12 4P FS PVC CABLE 0.5M | | | PVC | |

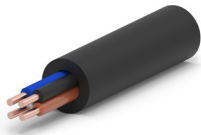
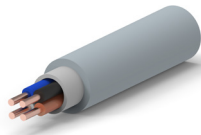
M8 MALE R/A - M12 FEMALE R/A DOUBLE ENDED CABLE ASSEMBLY

| PN | Part Description | Pos | Type | Cable Materials | Shield/Unshielded |
|---------------------------------|-------------------------------------|-----|---|-----------------|-------------------|
| T4052228003-001 | M8 3P MR - M12 3P FR PUR CABLE 0.5M | 3 |  M8 MR - M12 FR | PUR | Unshielded |
| T4052218003-001 | M8 3P MR - M12 3P FR PVC CABLE 0.5M | | | PVC | |
| T4052228004-001 | M8 4P MR - M12 4P FR PUR CABLE 0.5M | 4 | | PUR | |
| T4052218004-001 | M8 4P MR - M12 4P FR PVC CABLE 0.5M | | | PVC | |


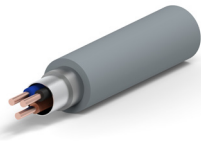
M8/M12 CONNECTOR SYSTEM

Cable Specifications

M8 UNSHIELDED CABLE ASSEMBLIES

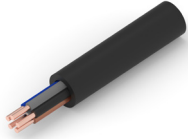
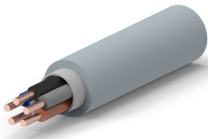
| | M8 cable assembly unshielded PVC series | | M8 cable assembly unshielded PUR series | |
|---------------------|---|---|---|---|
| | PVC | | PUR | |
| Image |  | |  | |
| No. of conductors | 3 | 4 | 3 | 4 |
| Jacket material | PVC | | PUR | |
| Jacket color | Black | | Gray | |
| Cross section | 24AWG | | 24AWG | |
| Construction | 32/0.10mm | | 32/0.10mm | |
| Temp range-Fixed | -10°C-80°C | | -40°C-80°C | |
| Temp range-Flexible | -5°C-80°C | | -25°C-80°C | |
| Features | Flame Retardant, Rohs | | Flame Retardant, oil resistant, Rohs | |
| Standards | UL758, UL1581, UL2464 | | UL758, UL1581, UL20549 | |

M8 SHIELDED CABLE ASSEMBLIES


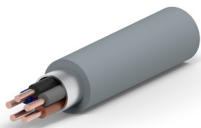
| | M8 cable assembly shielded PVC series | | M8 cable assembly shielded PUR series | |
|---------------------|---|---|---|---|
| | PVC | | PUR | |
| Image |  | |  | |
| No. of conductors | 3 | 4 | 3 | 4 |
| Jacket material | PVC | | PUR | |
| Jacket color | Black | | Gray | |
| Cross section | 24AWG | | 24AWG | |
| Construction | Construction: 32/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | | Construction: 32/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | |
| Temp range-Fixed | -10°C-80°C | | -40°C-80°C | |
| Temp range-Flexible | -5°C-80°C | | -25°C-80°C | |
| Features | Flame Retardant, Rohs | | Flame Retardant, oil resistant, Rohs | |
| Standards | UL758, UL1581, UL2464 | | UL758, UL1581, UL20549 | |

M8/M12 CONNECTOR SYSTEM

M12 UNSHIELDED CABLE ASSEMBLIES

| | M12 PVC cable assembly unshielded series | | | | | M12 PUR cable assembly unshielded series | | | | |
|---------------------|--|-----------|-----------|-----------|-----------|--|-----------|-----------|-----------|-----------|
| Image | PVC  | | | | | PUR  | | | | |
| No. of conductors | 2 | 3 | 4 | 5 | 8 | 2 | 3 | 4 | 5 | 8 |
| Jacket material | PVC | | | | | PUR | | | | |
| Jacket color | Black | | | | | Gray | | | | |
| Cross section | 22AWG | | | | | 22AWG | 22AWG | 22AWG | 22AWG | 24AWG |
| Construction | 43/0.10mm | 43/0.10mm | 43/0.10mm | 43/0.10mm | 32/0.10mm | 43/0.10mm | 43/0.10mm | 43/0.10mm | 43/0.10mm | 32/0.10mm |
| Temp range-Fixed | -10°C-80°C | | | | | -40°C-80°C | | | | |
| Temp range-Flexible | -5°C-80°C | | | | | -25°C-80°C | | | | |
| Features | Flame Retardant, Rohs | | | | | Flame Retardant, oil resistant, Rohs | | | | |
| Standards | UL758, UL1581, UL2464 | | | | | UL758, UL1581, UL20549 | | | | |

M12 SHIELDED CABLE ASSEMBLIES

| | M12 cable assembly shielded series | | | | | M12 cable assembly shielded series | | | | |
|---------------------|--|-------|-------|--|-------|--|-------|-------|---|-------|
| Image | PVC  | | | | | PUR  | | | | |
| No. of conductors | 2 | 3 | 4 | 5 | 8 | 2 | 3 | 4 | 5 | 8 |
| Jacket material | PVC | | | | | PUR | | | | |
| Jacket color | Black | | | | | Gray | | | | |
| Cross section | 22AWG | 22AWG | 22AWG | 22AWG | 24AWG | 22AWG | 22AWG | 22AWG | 22AWG | 24AWG |
| Construction | Construction: 43/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | | | Construction: 32/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | | Construction: 43/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | | | Construction: 2/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid | |
| Temp range-Fixed | -10°C-80°C | | | | | -40°C-80°C | | | | |
| Temp range-Flexible | -5°C-80°C | | | | | -25°C-80°C | | | | |
| Features | Flame Retardant, Rohs | | | | | Flame Retardant, oil resistant, Rohs | | | | |
| Standards | UL758, UL1581, UL2464 | | | | | UL758, UL1581, UL20549 | | | | |

M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS

TE now complements its' Sensor/Actuator cable assemblies with Data Communication solutions by introducing the Fieldbus cable assemblies. First developed more than two decades ago, many different field networks still continue to dominate Industrial automation and process control. Fieldbus networks seems to be very practical at the lowest level of the automation pyramid and are critical element of Industry 4.0, IIoT and beyond for end devices that do not require the bandwidth but do need the ability to have power and signal in the same cable.

The new A and B-coded M12 cable assemblies comply with Profibus, DeviceNet and CC-link protocols, offering multiple options for a variety of needs that makes TE an one-stop shop. They have 360-degree shielding against EMI for complete protection for signal and data transmission, and are rated IP67 for resistance to dust and water. The assemblies are overmolded in either PVC or halogen-free polyurethane (PUR) cables, suitable for drag chain applications or torsional stress, depending on customer performance requirements.

Assemblies are produced in many customer-specific plug-and-play configurations to enable design flexibility and quick installation in most industrial environments. Applications for the new assemblies lie in numerous areas of industry, including process control systems, robotics and automation, production equipment, machine tools and material handling.

TE's Fieldbus M12 cable assemblies are available as single-ended or double-ended, in straight and angled versions, all shielded variants. Various cable types are offered depending on the application requirements. The predefined offering in length of 0.5, to 15 meters covers a vast range of customer needs on the market, while customized cable assemblies in different lengths provide a solution for specific needs. All can be used in combination with TE's male/female connectors.



KEY FEATURES

- IP67 rated: dust and waterproof
- Overmolded PVC or PUR cable assemblies/Shielded
- Key options: A, B coded
- M12 Positions: 2, 4, 5 pos
- M12 B-coded 5-pole for Profibus applications
- M12 A-code 5pos for DeviceNet applications
- M12 A-code 4pos for CC-link applications
- Cable length options: 0.5 m, 1 m, 2m, 4m, 6m, 8m, 10m and 15m.

BENEFITS

- Maximum signal transmission
- Reduced noise and interference
- Maximum installation versatility
- Cable types variations for drag chain and torsion

M8/M12 CONNECTOR SYSTEM

APPLICATIONS

- Industrial communications
- Industrial machinery
- Industrial automation
- Machine tools
- Robotics
- Material handling
- Process control systems

ELECTRICAL

- Voltage and current rating:
- M12 A code 4 poles: 250V/4A
- M12 A code 5 poles: 60V/4A
- M12 B code 2 poles: 250V/4A

MECHANICAL

- Durability: 100 cycles
- Degree of protection: IP67
- Temperature ratings:
 - Profibus PUR:
 - Fixed: -40°C to +80°C
 - Flexible: -40°C to +75°C
- Profibus PUR torsion:
 - Operating temperature -25°C to +75°C
- DeviceNet PVC:
 - Operating temperature -20°C to +75°C
- DeviceNet PUR:
 - Operating temperature -40°C to +80°C
- CC-Link PVC:
 - Operating temperature -30°C to +60°C

MATERIALS



- Contact: Brass, Gold plating
- Nut & Shells: Brass, Nickel plating
- O-ring: Silicon rubber
- Over-molding: TPU/PVC
- Housing: PA
- PROFIBUS® M12 Cable Assy B-code 2-pole 1x2x22AWG PUR Drag Chain
- PROFIBUS®M12 Cable Assy B-code 2-pole 1x2x24AWG PUR Torsion
- DeviceNet™ M12 Cable Assy A-code 5-pole 2x24AWG+2x22AWG Thin Violet PUR
- DeviceNet™ M12 Cable Assy A-code 5-pole 2x24AWG+2x22AWG Thin Gray PVC
- CC-Link® M12 Cable Assy A-code 4pos 3 conductor 20AWG Red PVC

SPECIFICATIONS


- Product specification: 108-106140
- Application specification: 114-137144
- UL standard: UL2238
- IEC 61076-2-101: Detail specification for M12 connectors with screw-locking
- IEC 60512: Electromechanical components for electronic equipment; basic testing procedure and measuring methods
- IEC-60529: Degree of protection provided by enclosures (IP Code)

M8/M12 CONNECTOR SYSTEM



PRODUCT OFFERINGS - CC-LINK M12 A-CODE 4POS CABLE ASSEMBLIES SINGLE ENDED

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-------------------|---------------------|------|-----|--|----------------|----------|
| <u>TAA541B1411-001</u> | M12A4-MS-PVC-0.5M | CC-Link (10Mbps) | A | 4 | Male / Female Straight | PVC Red 20AWG | Yes |
| <u>TAA543B1411-001</u> | M12A4-FS-PVC-0.5M | | | |  | | |
| <u>TAA544B1411-001</u> | M12A4-FR-PVC-0.5M | | | | Male / Female R/A | | |
| <u>TAA542B1411-001</u> | M12A4-MR-PVC-0.5M | | | |  | | |

PRODUCT OFFERINGS - CC-LINK M12 A-CODE 4POS CABLE ASSEMBLIES DOUBLE ENDED

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|----------------------|---------------------|------|-----|--|------------------|----------|
| <u>TAA545B1411-001</u> | M12A4-MS-FS-PVC-0.5M | CC-Link (10Mbps) | A | 4 | MS-FS | PVC Red 20AWG | Yes |
| <u>TAA54AB1411-001</u> | M12A4-MR-FS-PVC-0.5M | | | | MR-FS / MS-FR | | |
| <u>TAA546B1411-001</u> | M12A4-MS-FR-PVC-0.5M | | | |  | | |

PRODUCT OFFERINGS - DEVICENET M12 A-CODE 5POS CABLE ASSEMBLIES SINGLE ENDED PUR

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-------------------|-----------------------|------|-----|--|--------------------------------|----------|
| <u>TAA751A5501-001</u> | M12A5-MS-PUR-0.5M | DeviceNet (500Kbs) | A | 5 | Male / Female Straight | PUR Violet 2x24AWG+2x22 AWG | Yes |
| <u>TAA753A5501-001</u> | M12A5-FS-PUR-0.5M | | | |  | | |
| <u>TAA754A5501-001</u> | M12A5-FR-PUR-0.5M | | | | Male / Female R/A | | |
| <u>TAA752A5501-001</u> | M12A5-MR-PUR-0.5M | | | |  | | |

M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - DEVICENET M12 A-CODE 5POS CABLE ASSEMBLIES DOUBLE ENDED PUR

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|----------------------|-----------------------|------|-----|---------------|--------------------------------|----------|
| <u>TAA755A5501-001</u> | M12A5-MS-FS-PUR-0.5M | DeviceNet (500Kbs) | A | 5 | MS-FS | PUR Violet 2x24AWG+2x 22AWG | Yes |
| <u>TAA75AA5501-001</u> | M12A5-MR-FS-PUR-0.5M | | | | MR-FS / MS-FR | | |
| <u>TAA756A5501-001</u> | M12A5-MS-FR-PUR-0.5M | | | | | | |

PRODUCT OFFERINGS - DEVICENET M12 A-CODE 5POS CABLE ASSEMBLIES SINGLE ENDED PVC



| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-------------------|-----------------------|------|-----|---------------------------|-----------------------------|----------|
| <u>TAA751A1611-001</u> | M12A5-MS-PVC-0.5M | DeviceNet (500Kbs) | A | 5 | Male / Female Straight | PVC Gray 2x24AWG+2x22AWG | Yes |
| <u>TAA753A1611-001</u> | M12A5-FS-PVC-0.5M | | | | | | |
| <u>TAA754A1611-001</u> | M12A5-FR-PVC-0.5M | | | | Male / Female R/A | | |
| <u>TAA752A1611-001</u> | M12A5-MR-PVC-0.5M | | | | | | |

PRODUCT OFFERINGS - DEVICENET M12 A-CODE 5POS CABLE ASSEMBLIES DOUBLE ENDED PVC


| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|----------------------|-----------------------|------|-----|---------------|---------------------------------|----------|
| <u>TAA755A1611-001</u> | M12A5-MS-FS-PVC-0.5M | DeviceNet (500Kbs) | A | 5 | MS-FS | PVC Gray 2x24AWG+2x22 AWG | Yes |
| <u>TAA75AA1611-001</u> | M12A5-MR-FS-PVC-0.5M | | | | MR-FS / MS-FR | | |
| <u>TAA756A1611-001</u> | M12A5-MS-FR-PVC-0.5M | | | | | | |

M8/M12 CONNECTOR SYSTEM



PRODUCT OFFERINGS - PROFIBUS M12 B-CODE 2-POS CABLE ASSEMBLIES SINGLE ENDED PUR TORSION

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|------------------------|---------------------|------|-----|---|--------------------------|----------|
| <u>TAB62146501-001</u> | M12B2-MS-PUR TORS-0.5M | Profibus DP (12Mbs) | B | 2 | Male / Female Straight | PUR Torsion 22AWG Violet | Yes |
| <u>TAB62346501-001</u> | M12B2-FS-PUR TORS-0.5M | | | |  | | |
| <u>TAB62446501-001</u> | M12B2-FR-PUR TORS-0.5M | | | | Male / Female R/A | | |
| <u>TAB62246501-001</u> | M12B2-MR-PUR TORS-0.5M | | | |  | | |

PRODUCT OFFERINGS - PROFIBUS M12 B-CODE 2-POS CABLE ASSEMBLIES DOUBLE ENDED PUR TORSION





| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|------------------------|---------------------|------|-----|--|--------------------------|----------|
| <u>TAB62546501-001</u> | M12B2-MS-FS-PUR/T-0.5M | Profibus DP (12Mbs) | B | 2 | MS-FS | PUR Torsion 22AWG Violet | Yes |
| <u>TAB62A46501-001</u> | M12B2-MR-FS-PUR/T-0.5M | | | | MR-FS / MS-FR | | |
| <u>TAB62646501-001</u> | M12B2-MS-FR-PUR/T-0.5M | | | |  | | |

PRODUCT OFFERINGS - PROFIBUS M12 B-CODE 2-POS CABLE ASSEMBLIES SINGLE ENDED PUR FLEX/ DRAG CHAIN

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|------------------------|---------------------|------|-----|--|----------------------------------|----------|
| <u>TAB62135501-001</u> | M12B2-MS-PUR Flex-0.5M | Profibus DP (12Mbs) | B | 2 | Male / Female Straight | PUR Flex/Drag Chain 24AWG Violet | Yes |
| <u>TAB62335501-001</u> | M12B2-FS-PUR Flex-0.5M | | | |  | | |
| <u>TAB62435501-001</u> | M12B2-FR-PUR Flex-0.5M | | | | Male / Female R/A | | |
| <u>TAB62235501-001</u> | M12B2-MR-PUR Flex-0.5M | | | |  | | |

M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - PROFIBUS M12 B-CODE 2-POS CABLE ASSEMBLIES DOUBLE ENDED PUR FLEX/Drag CHAIN

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|--------------------------|------------------------|------|-----|---|---|----------|
| <u>TAB62535501-001</u> | M12B2-MS-FS-PURFlex-0.5M | Profibus DP (12Mbs) | B | 2 | MS-FS  | PUR Flex/Drag Chain 24AWG Violet   | Yes |
| <u>TAB62A35501-001</u> | M12B2-MR-FS-PURFlex0.5M | | | | MR-FS / MS-FR  | | |
| <u>TAB62635501-001</u> | M12B2-MS-FR-PURFlex-0.5M | | | | | | |

| OOL | Cable Length |
|------|-------------------------|
| -001 | 0.5M |
| -002 | 1.0M |
| -020 | 2.0M |
| -040 | 4.0M |
| -060 | 6.0M |
| -080 | 8.0M |
| -007 | 10.0M |
| -150 | 15.0M |
| -XXX | Customized Cable Length |
| -XX0 | XXM |
| -XX5 | XX.5M |

M12 INDUSTRIAL ETHERNET D-CODE CABLE ASSEMBLIES

TE Connectivity offers M12 data cable assemblies with D-code interfaces that support Ethernet protocols as part of its package of Industrial Ethernet and Fieldbus solutions. The Cat5e cable jackets vary between PVC, PUR and TPE offer a unique solution toward satisfying the stringent needs of motion systems supporting both flexing and stationary industrial Ethernet requirements.

TE's portfolio is further complemented with overmolded M12 D-code to RJ45 configurations which are key components to an overall Industrial Ethernet application and designed for connection within control cabinets, machinery and in-the-field operations.

This makes it the one-stop shop for M8/M12 cable assemblies for Industrial Network communications.

TE has enriched its already large offering in Fieldbus connectivity solutions (based on Profibus, DeviceNet, CanOpen and CC-link) with Industrial Ethernet protocols such as Profinet, EtherCAT, Ethernet/IP and SERCOS-III.



FEATURES

- Jacketing is in halogen-free flame-retardant thermoplastic polyurethane (PUR) high flex TPE, PVC or FRNC (flame retardant, non-corrosive) materials and TPE high-flex cables
- PVC provides a competitive and economic solution for occasional movement or vibration, but PUR is more suited to more demanding applications in for example, drag chains and harsh environments where operational reliability is crucial
- Category 5e cables can realize transmission rates of 100Mbps to meet network requirements in the field and at supervisory management levels
- The new assemblies are available with several standard cable length options from 0.5m through to 30m
- Enclosure rating of IP67 rating for dust-tight and waterproof applications ensure efficient, high-quality and reliable connectivity and high integrity signal transmission
- 360 degrees shielding
- Depending on the material, the assemblies withstand up to 3 million flexes, machine oils, abrasion and UV
- Our TPE cables can withstand 5M cycles for C-track applications

FEATURES

- Category 5e cables can realize transmission rates of 100Mbps to meet network requirements in the field and at supervisory management levels
- The new assemblies are available with several standard cable length options from 0.5m through to 30m

BENEFITS

- Unit remains protected and fully operational in most industrial applications
- Secured signal connections and data transmission
- Ensure the application of cable assembly in flexible installation environment
- Ensure the application of cable assembly in torsion application environment
- Oil-resistant for in oil industrial applications
- Application of UV-resistant environment

M8/M12 CONNECTOR SYSTEM

APPLICATIONS

- Industrial communications
- Process control systems
- Industrial machinery
- Industrial automation
- Machine tools
- Robotics
- Material handling

MATERIALS

- Contact: Brass, Gold Plating 30um
- Nut & Shells: Brass, Nickel plating
- O-ring: Silicon rubber
- Over-molding: PUR/PVC
- Housing: PA
- PA66 for M12 connector housing
- TPU or PVC material for cable assembly over-molding depending cable jacket type
- PP for inner over-molding
- Cable Jacket materials: PUR, PVC, FRNC and TPE

ELECTRICAL

- M12 D code 4 poles: 30V/1.5A
- Voltage proof: 1400V
- Insulation resistance: 100M Ω min
- 30° C max under loaded rating current
- 2pair is for D-Code CAT5E performance, which is based on channel level

MECHANICAL

Waterproof:

- IP67 rating for D code M12 cable side: IP20 for RJ45 male side
- Mating / Un-mating force: 15N/15N max.
- Sinusoidal vibration meet IEC60512, test 6d
- Mechanical shock meet EIA364-27

Durability:

- 1M for PUR drag chain cable
- 3M for TPE torsion cable
- 5M for TPE C-track

Temperature Ratings:

- Industrial Ethernet Profinet/SERCOS III Type B PVC: Cat5e 22AWG
 - Operating temperature -40°C to +80°C (fixed)
-20°C to +60°C (flexible)
- Industrial Ethernet Profinet Type C PUR: PUR Cat5e 22AWG
 - Operating temperature -30°C to +70°C (fixed)
-20°C to +60°C (flexible)
- Industrial Ethernet/IP Hi-Flex Cat5e TPE SF/UTP 24AWG
- Industrial Ethernet/IP Hi-Flex Cat5e TPE U/UTP 24AWG
 - Operating temperature: -20°C to +80°C (fixed)
-40°C to +80°C (flexible)

SPECIFICATIONS






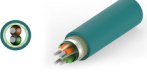


- UL1863
- IEC 61076-2-101: Detail specification for M12 connectors with screw-locking (but True Position 0.1mm requirement for male side is not required)
- IEC 60512: Electromechanical Components For Electronic Equipment; Basic testing procedure and measuring methods
- IEC-60529: Degree of protection provided by enclosures (IP Code)
- ISO/IEC 11801 category 5e











M8/M12 CONNECTOR SYSTEM

PART NUMBER LIST

M12 ETHERNET D-CODE 4POS CABLE ASSEMBLIES DOUBLE ENDED TYPE C PUR & TPE

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|----------------------------------|---|------|-----|---|--|----------|
| <u>TAD14545101-001</u> | M12D4-MS-FS-PUR-22SH-TYPE C-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbps) | D | 4 | M12 MS-FS  | CAT5E TYPE C, PUR, 22AWG, GREEN  | Yes |
| <u>TAD14541111-001</u> | M12D4-MS-FS-PVC-22SH-TYPE B-0.5M | | | | M12 MS-FS  | CAT5E TYPE B, PVC, 22AWG, GREEN  | |
| <u>TAD1453A201-001</u> | M12D4-MS-FS-TPE-24SH-0.5M | | | | M12 MS-FS  | CAT5E TPE, SF/UTP 24AWG TEAL  | |
| <u>TAD2453A201-001</u> | M12D4-MS-FS-TPE-24UNSH-0.5M | | | | M12 MS-FS  | CAT5E TPE, U/UTP 24AWG, TEAL  | |


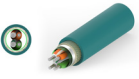


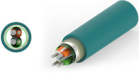

M12 ETHERNET D-CODE 4POS CABLE ASSEMBLIES DOUBLE ENDED TO RJ45 TYPE C PUR & TPE

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|------------------------------------|---|------|-----|--|--|----------|
| <u>TCD14745101-001</u> | M12D4-MS-RJ45-PUR-22SH-TYPE C-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbps) | D | 4 | M12 MS - RJ45  | CAT5E TYPE C, PUR, 22AWG, GREEN  | Yes |
| <u>TCD14741111-001</u> | M12D4-MS-RJ45-PVC-22SH-TYPE B-0.5M | | | | M12 MS - RJ45  | CAT5E TYPE B, PVC, 22AWG, GREEN  | |
| <u>TCD1473A201-001</u> | M12D4-MS-RJ45-TPE-24SH-0.5M | | | | M12 MS - RJ45  | CAT5E TPE, SF/UTP 24AWG TEAL  | |
| <u>TAD2473A201-001</u> | M12D4-MS-RJ45-TPE-24UNSH-0.5M | | | | M12 MS - RJ45  | CAT5E TPE, U/UTP 24AWG, TEAL  | |

M8/M12 CONNECTOR SYSTEM


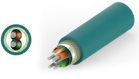




M12 ETHERNET D-CODE 4POS CABLE ASSEMBLIES SINGLE ENDED TPE

(Extended to TPE jacketed cables; for PUR and PVC refer to original M8M12 Cordset catalog)

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|---------------------------------|--------------------------|--|------|-----|--|---|----------|
| TAD2413A201-001 | M12D4-MS-TPE USH-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbs) | D | 4 | Male Straight (MS)  | CAT5E TPE SF/UTP 24AWG, TEAL  | Yes |
| TAD2423A201-001 | M12D4-MR-TPE USH-0.5M | | | | Male Right Angle (MR)  | | |
| TAD1413A201-001 | M12D4-MS-TPE SH-0.5M | | | | Male Straight (MS)  | CAT5E TPE U/UTP 24AWG, TEAL  | No |
| TAD1423A201-001 | M12D4-MR-TPE SH-0.5M | | | | Male Right Angle (MR)  | | |




M12 ETHERNET D-CODE 4POS CABLE ASSEMBLIES DOUBLE ENDED TPE

(Extended to TPE jacketed cables; for PUR and PVC refer to original M8M12 Cordset catalog)




| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|---------------------------------|------------------------------|--|------|-----|--|---|----------|
| TAD1473A201-001 | M12D4-MS-MS- TPE SH-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbs) | D | 4 | MS-MS  | CAT5E TPE SF/UTP 24AWG, TEAL  | Yes |
| TAD1483A201-001 | M12D4-MS-MR- TPE SH-0.5M | | | | MS-MR  | | |
| TAD2473A201-001 | M12D4-MS-MS- TPE USH-0.5M | | | | MS-MS  | CAT5E TPE U/UTP 24AWG, TEAL  | No |
| TAD2483A201-001 | M12D4-MS-MR- TPE USH-0.5M | | | | MS-MR  | | |

M8/M12 CONNECTOR SYSTEM




PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES SINGLE ENDED TYPE C PUR

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|--------------------------------|--|------|-----|---|--|----------|
| <u>TAD14145101-001</u> | M12D4-MS-PUR TYPE C GREEN-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbps) | D | 4 | Male Straight  | CAT5E TYPE C, PUR, 22AWG, GREEN  | Yes |
| <u>TAD14245101-001</u> | M12D4-MR-PUR TYPE C GREEN-0.5M | | | | Male R/A  | | |

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES DOUBLE ENDED TYPE C PUR




| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-----------------------------------|--|------|-----|--|--|----------|
| <u>TAD14745101-001</u> | M12D4-MS-MS-PUR TYPE C GREEN-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbps) | D | 4 | MS-MS  | CAT5E TYPE C, PUR, 22AWG, GREEN  | Yes |
| <u>TAD14845101-001</u> | M12D4-MS-MR-PUR TYPE C GREEN-0.5M | | | | MS-MR  | | |

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES SINGLE ENDED TYPE B FRNC




| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|---------------------------------|--|------|-----|---|---|----------|
| <u>TAD14147101-001</u> | M12D4-MS-FRNC TYPE B GREEN-0.5M | Profinet, EtherCAT, Ethernet/IP (up to 100Mbps) | D | 4 | Male Straight  | CAT5E TYPE B, FRNC, 22AWG, GREEN  | Yes |
| <u>TAD14247101-001</u> | M12D4-MR-FRNC TYPE B GREEN-0.5M | | | | Male R/A  | | |

M8/M12 CONNECTOR SYSTEM




PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES DOUBLE ENDED TYPE B FRNC

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|---------------------------------------|--|------|-----|---|---|----------|
| <u>TAD14747101-001</u> | M12D4-MS-MS-FRNC TYPE B GREEN-0.5M | Profinet, EtherCAT , Ethernet/IP (up to 100Mbps) | D | 4 | MS-MS  | CAT5E TYPE B, FRNC, 22AWG, GREEN  | Yes |
| <u>TAD14847101-001</u> | M12D4-MS-MR-FRNC TYPE B GREEN-0.5M | | | | MS-MR  | | |

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES SINGLE ENDED TYPE B PVC



| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-----------------------------|--|------|-----|---|--|----------|
| <u>TAD14141111-001</u> | M12D4-MS-PVC TYPE B-0.5M | Profinet, EtherCAT , Ethernet/IP (up to 100Mbps) | D | 4 | Male Straight  | CAT5E TYPE B, PVC, 22AWG, GREEN  | Yes |
| <u>TAD14241111-001</u> | M12D4-MR-PVC TYPE B-0.5M | | | | Male R/A  | | |

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES DOUBLE ENDED TYPE B PVC

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|--------------------------------|--|------|-----|---|--|----------|
| <u>TAD14741111-001</u> | M12D4-MS-MS-PVC TYPE B-0.5M | Profinet, EtherCAT , Ethernet/IP (up to 100Mbps) | D | 4 | MS-MS  | CAT5E TYPE B, PVC, 22AWG, GREEN  | Yes |
| <u>TAD14841111-001</u> | M12D4-MS-MR-PVC TYPE B-0.5M | | | | MS-MR  | | |

M8/M12 CONNECTOR SYSTEM

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES SINGLE ENDED TYPE B PVC RED

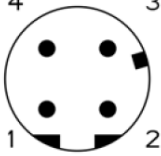
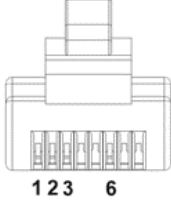
| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|---------------------------------|---------------------------------|------|-----|---|---|----------|
| <u>TAD14141311-001</u> | M12D4-MS-PVC TYPE B RED-0.5M | SERCOS-III (up to 100Mbs) | D | 4 | Male Straight  | CAT5E TYPE B, PVC, 22AWG, RED  | Yes |
| <u>TAD14241311-001</u> | M12D4-MR-PVC TYPE B RED-0.5M | | | | Male R/A  | | |

PRODUCT OFFERINGS - M12 ETHERNET D-CODE 4-POS CABLE ASSEMBLIES DOUBLE ENDED TYPE B PVC RED

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|------------------------------------|---------------------------------|------|-----|--|---|----------|
| <u>TAD14741311-001</u> | M12D4-MS-MS-PVC TYPE B RED-0.5M | SERCOS-III (up to 100Mbs) | D | 4 | MS-MS  | CAT5E TYPE B, PVC, 22AWG, RED  | Yes |
| <u>TAD14841311-001</u> | M12D4-MS-MR-PVC TYPE B RED-0.5M | | | | MS-MR  | | |

| OOL | Cable Length | -XXX | Customized Cable Length |
|------|--------------|------|-------------------------|
| -001 | 0.5M | -XX0 | XXM |
| -002 | 1.0M | -XX5 | XX.5M |
| -020 | 2.0M | | |
| -040 | 4.0M | | |
| -060 | 6.0M | | |
| -080 | 8.0M | | |
| -007 | 10.0M | | |
| -150 | 15.0M | | |
| -200 | 20.0M | | |
| -250 | 25.0M | | |
| -300 | 30.0M | | |

M8/M12 CONNECTOR SYSTEM

| Application | Code | Pin Assignment | M12 D Code Male | RJ45 Plug | Shielding |
|-------------|--------|---|--|---|---------------------|
| Ethernet | D code | (For Profinet/EtherCAT PUR, PVC jacketed cables) M12 D code TO RJ45 |  |  | Option on metal nut |
| | | Pin1 TD+ Yellow Pin1 | | | |
| | | Pin3 TD- Orange Pin2 | | | |
| | | Pin2 RD+ White Pin3 | | | |
| | | Pin4 RD- Blue Pin6 | | | |
| | | (For EtherNET/IP TPE jacketed cable) M12 D code TO RJ45 | | | |
| | | Pin1 TD+ White-Orange Pin1 | | | |
| | | Pin3 TD- Orange Pin2 | | | |
| | | Pin2 RD+ White-Green Pin3 | | | |
| | | Pin4 RD- Green Pin6 | | | |

M8/M12 CONNECTOR SYSTEM

PART NUMBER GUIDE FOR M12 D-CODE CORDSETS



| T | TE Brand | W | Wire Gauge | N | Other |
|---|---|---|---|------|---------------------------------------|
| A | M12 series | 3 | 24 AWG (*for TPE) | 1 | Standard screw nut with nickel plated |
| D | D code | 4 | 22 AWG (*for PUR, PVC) | | Stamping contact 30u" AU plated |
| S | Application Type | Y | Cable Jacket | -00L | Cable Length |
| 1 | Shielding industrial ethernet Cate5e | 1 | PVC Moderate flexible | -001 | 0.5M |
| 2 | Unshielding industrial ethernet Cate5e *only with TPE | 5 | PUR high flex | -002 | 1.0M |
| | | A | TPE Extreme high flex | -003 | 1.5M |
| B | Poles No. | O | Cable Color | -020 | 2.0M |
| 4 | 4 Poles | 1 | Green | -004 | 3.0M |
| | | 2 | Teal | -005 | 5.0M |
| X | Interface Type | 3 | Red | -006 | 7.0M |
| 1 | Male straight | M | Over-Molding | -007 | 10.0M |
| 2 | Male angled | 0 | Black TPU Over-molding (*for PUR and TPE) | -XXX | Customized Cable Length |
| 5 | Male straight to female straight | 1 | Black PVC Over-molding for PVC | -XX0 | XX.0M |
| 7 | Male straight to male straight | | | -XX5 | XX.5M |
| 8 | Male straight to male angled | | | -99X | (<1M) 0.XM |
| | | | | -993 | 0.3M |
| | | | | -155 | 15.5M |

FOR ETHERNET/IP (TPE CABLE)

Wiring Diagram-M12 Cable Cordset Shielded

| From Pin | 4 Poles | To Pin |
|----------|--------------|----------|
| 1 | White-Orange | 1 |
| 2 | White-Green | 2 |
| 3 | Orange | 3 |
| 4 | Green | 4 |
| Shielded | Metal Nut | Shielded |

Wiring Diagram-M12 Cable Cordset Unshielded

| From Pin | 4 Poles | To Pin |
|----------|--------------|--------|
| 1 | White-Orange | 1 |
| 2 | White-Green | 2 |
| 3 | Orange | 3 |
| 4 | Green | 4 |

FOR PROFINET/ETHERCAT (PUR, PVC CABLE)

Wiring Diagram-M12 Cable Cordset Shielded

| From Pin | 4 Poles | To Pin |
|----------|-----------|----------|
| 1 | Yellow | 1 |
| 2 | White | 2 |
| 3 | Orange | 3 |
| 4 | Blue | 4 |
| Shielded | Metal Nut | Shielded |

M8/M12 CONNECTOR SYSTEM

| Application | Code | Pin Assignment | Male | Female | Shielding |
|-------------|--------|---|------|--------|---------------------|
| Ethernet | D code | (For Profinet/EtherCAT) PIN1 TD+ YELLOW PIN3 TD- ORANGE PIN2 RD+ WHITE PIN4 RD- BLUE (For EtherNET/IP) PIN1 TD+ WHITE-ORANGE PIN3 TD- ORANGE PIN2 RD+ WHITE-GREEN PIN4 RD- GREEN | | | Option on metal nut |

M8/M12 CONNECTOR SYSTEM

PART NUMBER GUIDE FOR M12 D-CODE MALE TO RJ45 CORDSETS



| | |
|----------|---|
| T | TE Brand |
| C | M12 to RJ45 |
| D | D code |
| S | Application Type |
| 1 | Shielding Industrial Ethernet Cate5e |
| 2 | Unshielding Industrial Ethernet Cate5e *only with TPE |
| B | Poles No. |
| 4 | 4 Poles |
| X | Interface Type |
| 7 | Male straight to RJ45 male straight |
| W | Wire Gauge |
| 3 | 24 AWG (*for TPE) |
| 4 | 22 AWG (*for PUR, PVC) |

| | |
|----------|--|
| Y | Cable Jacket |
| 1 | PVC Moderate flexible |
| 5 | PUR High flex |
| A | TPE Extreme high flex |
| O | Cable Color |
| 1 | Green (*PUR and PVC) |
| 2 | Teal (*TPE) |
| M | Over-Molding |
| 0 | Black TPU Over-molding (*for PUR and TPE) |
| 1 | Black PVC Over-molding (*for PVC) |
| N | Other |
| 1 | Standard screw nut with nickel plated Stamping contact 30u" AU plated |

| | |
|-------------|--------------------------------|
| -00L | Cable Length |
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -020 | 2.0M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -XXX | Customized Cable Length |
| -XX0 | XX.0M |
| -XX5 | XX.5M |
| -99X | (<1M) 0.XM |
| -993 | 0.3M |
| -155 | 15.5M |

FOR ETHERNET/IP (TPE CABLE)

Wiring Diagram-M12 Cable Cordset Shielded

| From D code Pin | 4 Poles | To RJ45 Pin |
|-----------------|--------------|-------------|
| 1 | White-Orange | 1 |
| 2 | White-Green | 2 |
| 3 | Orange | 3 |
| 4 | Green | 4 |
| Shielded | Metal Nut | Shielded |

FOR PROFINET/ETHERCAT (PUR, PVC CABLE)

Wiring Diagram-M12 Cable Cordset Shielded

| From D Code Pin | 4 Poles | To RJ45 Pin |
|-----------------|-----------|-------------|
| 1 | Yellow | 1 |
| 2 | White | 2 |
| 3 | Orange | 3 |
| 4 | Blue | 4 |
| Shielded | Metal Nut | Shielded |

M8/M12 CONNECTOR SYSTEM

Industrial Networks and Application Use: M12 Key Interfaces

| Application | Code | Pin Assignment | Male | Female | Shielding |
|-----------------------|--------|--|------|--------|-----------------------|
| Ethernet | D code | <p>(For Profinet/EtherCAT):</p> <p>PIN 1 TD+ YELLOW PIN 3 TD- ORANGE PIN 2 RD+ WHITE PIN 4 RD- BLUE</p> <p>(For Ethernet/IP):</p> <p>PIN 1 TD+ WHITE-ORANGE PIN 3 TD- ORANGE PIN 2 RD+ WHITE-GREEN PIN 4 RD- GREEN</p> | | | Optional on metal nut |
| CC-link | A code | <p>PIN 1 DRAIN BARE PIN 2 DS WHITE PIN 3 DG YELLOW PIN 4 DA BLUE</p> | | | On metal nut |
| Profibus | B code | <p>PIN 2 DATA CORE A GREEN PIN 4 DATA CORE B RED</p> | | | On metal nut |
| Devicenet/ Canopen | A code | <p>PIN 4 CAN_H WHITE PIN 5 CAN_L BLUE PIN 1 DRAIN BARE PIN 3 V- BLACK PIN 2 V+ RED</p> | | | On metal nut |

M12 X-CODE CORDSETS AND M12 X-CODE TO RJ45 CORDSETS

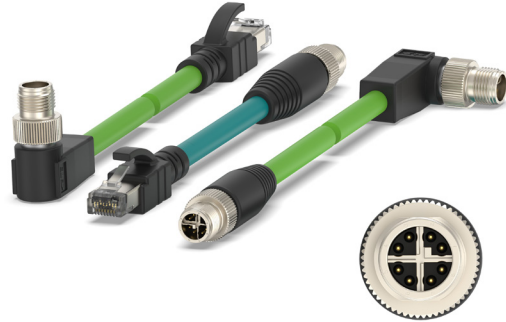
X-code connection technology is experiencing a significant increase in interest as more companies look for higher network speeds and more reliable, high-quality data transmissions.

The 8-pin M12 X-code design is the most recent evolution in the Industrial environment which can handle 10 Gbit/s Ethernet transmission speeds.

Category 6A (Cat6A) cables usually consist of standardized twisted pair cables for Ethernet and other network layers. These can handle data rates up to 10 Gbit/s. In order to withstand these high speeds and data output, Cat6A cables have significant shielding and cable twist requirements.

The M12 X-code connector is specially developed for these requirements, whereby the channel pairs are separated and the degree of shielding in the connector itself has been increased. The new M12 X-coded cordsets, which are UL certified and have an IP67 rating for dust-tight and waterproof applications ensure efficient, high-quality and reliable connectivity and high integrity signal transmission. TE M12 overmolded X-code cordsets series contain male straight and right angle versions that transmit data rates up to 10 Gbit/s according to IEC 61076-2-109. Our Cat6A cable jackets vary between PVC, PUR and TPE which offer a unique solution toward satisfying the stringent needs of motion systems supporting both flexing and stationary industrial high speed Ethernet requirements.

TE's portfolio is further complemented with overmolded M12 X-code to RJ45 cable assemblies which are key components to an overall Industrial Ethernet application and designed for connection within control cabinets, machinery and outdoor applications. This further simplifies the concurrent use of both connector types (M12 & RJ45) within a single system.



FEATURES

- Enclosure rating of IP67
- 360 degrees shielding
- PUR cables suitable for drag chain application (up to 3 million cycles)
- TPE cables suitable for drag chain (up to 1 million cycles) and torsion applications (up to 3 million cycles)
- Oil resistant for PUR/TPE cable
- UV resistant for PUR/TPE/PVC cable
- **Flame retardant:**
 - CM for PVC/TPE cable
 - FT2 for PUR cable

BENEFITS

- Unit remains protected & fully operational in most industrial applications
- Secured signal connections and data transmission
- Ensure the application of cable assembly in flexible installation environment
- Ensure the application of cable assembly in Torsion application environment
- Oil-resistant for in oil industrial applications
- Application of UV-resistant environment

M8/M12 CONNECTOR SYSTEM

APPLICATIONS

- Vision systems and cameras
- Industrial communications
- Industrial machinery
- Robotics
- Material handling
- Test equipment
- I/O connectivity
- Data acquisition

MECHANICAL

- **Durability:** 100 cycles
- **Degree of protection:**
 - IP67 for M12 X-code (mated)
 - IP20 for RJ45 side
- **Mating and un-mating force:**
 - **Insertion:** 30N max.
 - **Withdraw:** 30N max.
- Sinusoidal vibration per IEC60512, test 6d
- Mechanical shock per IEC60512, test 6c

ELECTRICAL

- **Rated voltage:** 30V
- **Rated current:** 0.5A
- **Initial value contact resistance:** 15mΩ Max.
- **Rated impulse voltage:** 0.5KV"

MATERIALS

- Nylon for HSG
- TPU for TPE/PUR cable overmolding
- PVC for PVC cable overmolding
- Zinc alloy for metal nuts and shielded shell, Nickel plated for metal nut, Tin plated for shielded shell
- Copper alloy for terminals, 30um gold plated
- **Temperature rating:**
 - M12 X-code connector: -25...-85°C
 - RJ45 connector: -25...-60°C
 - **Cable:** -25...-80°C (MOVED)
-40...-80°C (FIXED)

STANDARDS

- UL1863
- UL444 for PVC/TPE cable
- UL758 for PUR cable

SPECIFICATIONS

- IEC 61076-2-109 for M12 X-code
- IEC60603-7 for RJ45

M8/M12 CONNECTOR SYSTEM

M12 X-CODE SINGLE AND DOUBLE END CORDSETS - PRODUCT CODE



| | |
|---------------------------|---------------------------------------|
| T | TE Brand |
| A | M12 series |
| X | X-code |
| S Application Type | |
| 3 | Shielding Industrial Ethernet Cate 6A |
| B Poles No. | |
| 8 | 8 Poles |
| X Interface Type | |
| 1 | Male straight |
| 2 | Male angled |
| 7 | Male straight to male straight |
| 8 | Male straight to male angled |
| B | Male angled to male angled |
| W Wire Gauge | |
| 2 | 26 AWG |

| | |
|-----------------------|---|
| Y Cable Jacket | |
| 1 | PVC Moderate flexible |
| 5 | PUR High flex |
| A | TPE Extreme high flex |
| O Cable Color | |
| 1 | Green (for PVC & PUR) |
| 2 | Teal (only for TPE) |
| M Over-Molding | |
| 0 | Black TPU Over-molding for TPE/PUR cable |
| 1 | Black PVC Over-molding for PVC cable |
| N Other | |
| 2 | Zinc alloy screw nut with nickel plated Maching terinal 30u" AU plated |

| | |
|-------------------------------------|------------|
| -00L Cable Length | |
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -020 | 2.0M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -150 | 15.0M |
| -XXX Customized Cable Length | |
| -XX0 | XX.0M |
| -XX5 | XX.5M |
| -99X | (<1M) 0.XM |
| -993 | 0.3M |
| -155 | 15.5M |

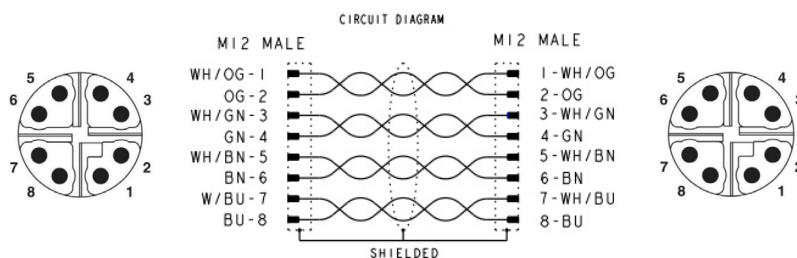
M12 X-CODE CORDSET - WIRING SCHEMA

Wiring Diagram - M12 PUR/TPE Cordset Shielded, Double Ended

| From Pin | 8 Poles | To Pin |
|----------|--------------|----------|
| 1 | White/Orange | 1 |
| 2 | Orange | 2 |
| 3 | White/Green | 3 |
| 4 | Green | 4 |
| 5 | White/Brown | 5 |
| 6 | Brown | 6 |
| 7 | White/Blue | 7 |
| 8 | Blue | 8 |
| Shielded | Metal nut | Shielded |

Wiring Diagram - M12 PVC Cordset Shielded, Double Ended

| From Pin | 8 Poles | To Pin |
|----------|-----------|----------|
| 1 | White | 1 |
| 2 | Orange | 2 |
| 3 | White | 3 |
| 4 | Green | 4 |
| 5 | White | 5 |
| 6 | Brown | 6 |
| 7 | White | 7 |
| 8 | Blue | 8 |
| Shielded | Metal Nut | Shielded |



M12 X-CODE TO RJ45 CORDSETS - PRODUCT CODE



| | |
|---------------------------|---------------------------------------|
| T | TE Brand |
| C | M12 TO RJ45 |
| X | X-code |
| S Application Type | |
| 3 | Shielding industrial ethernet Cate 6A |
| B Poles No. | |
| 8 | 8 Poles |
| X Interface Type | |
| 7 | Male straight to RJ45 Male straight |
| 8 | Male angled TO RJ45 Male straight |
| W Wire Gauge | |
| 2 | 26 AWG |

| | |
|-----------------------|---|
| Y Cable Jacket | |
| 1 | PVC Moderate flexible |
| 5 | PUR High flex |
| A | TPE Extreme high flex |
| O Cable Color | |
| 1 | Green (for PVC & PUR) |
| 2 | Teal (only for TPE) |
| M Over-Molding | |
| 0 | Black TPU Over-molding for TPE/PUR cable |
| 1 | Black PVC Over-molding for PVC cable |
| N Other | |
| 2 | Zinc alloy screw nut with nickel plated Maching terinal 30u" AU plated |

| | |
|-------------------------------------|------------|
| -00L Cable Length | |
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -020 | 2.0M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -150 | 15.0M |
| -XXX Customized Cable Length | |
| -XX0 | XX.0M |
| -XX5 | XX.5M |
| -99X | (<1M) 0.XM |
| -993 | 0.3M |
| -155 | 15.5M |

M8/M12 CONNECTOR SYSTEM

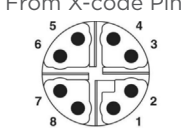

M12 X-CODE MALE TO RJ45 MALE CORDSETS - WIRING SCHEMA FOR TPE & PUR

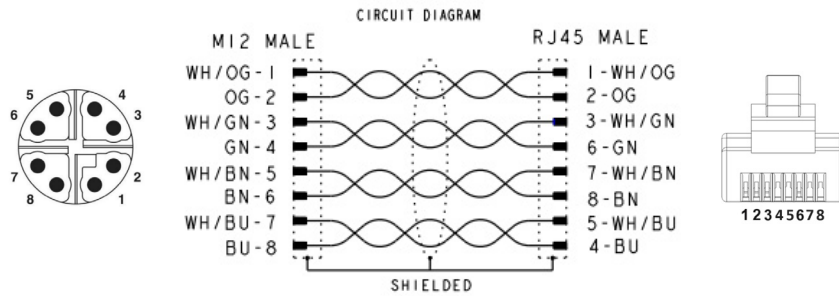
Wiring Diagram - M12 PUR/TPE Cordset Shielded, Double Ended

| From X-code Pin | 8 Poles | To RJ45 Pin |
|---|--------------|---|
|  | |  |
| 1 | White/Orange | 1 |
| 2 | Orange | 2 |
| 3 | White/Green | 3 |
| 4 | Green | 4 |
| 5 | White/Brown | 5 |
| 6 | Brown | 6 |
| 7 | White/Blue | 7 |
| 8 | Blue | 8 |
| Shielded | Metal nut | Shielded |

M12 X-CODE MALE TO RJ45 MALE CORDSET - WIRING SCHEMA FOR PVC

Wiring Diagram - M12 PVC Cordset Shielded, Double Ended

| From X-code Pin | 8 Poles | To RJ45 Pin |
|--|-----------|---|
|  | |  |
| 1 | White | 1 |
| 2 | Orange | 2 |
| 3 | White | 3 |
| 4 | Green | 6 |
| 5 | White | 7 |
| 6 | Brown | 8 |
| 7 | White | 5 |
| 8 | Blue | 4 |
| Shielded | Metal Nut | Shielded |



M8/M12 CONNECTOR SYSTEM

M12 X-CODE 8POS SINGLE & DOUBLE ENDED TPE CABLE ASSEMBLIES

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|--|-----------------------------|--|--------|-----|-----------------------|----------------|----------|
| <u>TAX3812A202-002</u> | M12X-MS-8CON-TPE-1.0SH | Ethernet up to 10 Gb/s data transmission | X-code | 8 | Male Straight (MS) | TPE | Yes |
| <u>TAX3822A202-002</u> | M12X-MR-8CON-TPE-1.0SH | | | | Male Right Angle (MR) | | |
| <u>TAX3872A202-002</u> | M12X-8MS-1.0SH-M12X-8MS-TPE | | | | MS - MS | | |
| <u>TAX38B2A202-002</u> | M12X-8MR-1.0SH-M12X-8MR-TPE | | | | MR - MR | | |
| <u>TAX3882A202-002</u> | M12X-8MS-1.0SH-M12X-8MR-TPE | | | | MS - MR | | |
| <u>TCX3882A202-002</u> | M12X-8MR-1.0SH-RJ45-8MS-TPE | | | | MR - Straight RJ45 | | |
| <u>TCX3872A202-002</u> | M12X-8MS-1.0SH-RJ45-8MS-TPE | | | | MS - Straight RJ45 | | |

M8/M12 CONNECTOR SYSTEM

M12 X-CODE 8POS SINGLE & DOUBLE ENDED PUR & PVC CABLE ASSEMBLIES

| Part Number | Part Description | Application | Code | POS | Type | Cable Material | Shielded |
|---------------------------------|---------------------------------|---|--------|-----|--------------------------|----------------|----------|
| TAX38125102-002 | M12X-MS-8CON- PUR-1.0SH | Ethernet up to 10 Gb/s data transmission | X-code | 8 | Male Straight (MS) | PUR | Yes |
| TAX38121112-002 | M12X-MS-8CON- PVC-1.0SH | | | | PVC | | |
| TAX38225102-002 | M12X-MR-8CON- PUR-1.0SH | | | | Male Right Angle (MR) | PUR | |
| TAX38221112-002 | M12X-MR-8CON- PVC-1.0SH | | | | PVC | | |
| TAX38725102-002 | M12X-8MS-1.0SH- M12X-8MS-PUR | | | | MS - MS | PUR | |
| TAX38721112-002 | M12X-8MS-1.0SH- M12X-8MS-PVC | | | | PVC | | |
| TAX38825102-002 | M12X-8MS-1.0SH- M12X-8MR-PUR | | | | MS - MS | PUR | |
| TAX38821112-002 | M12X-8MS-1.0SH- M12X-8MR-PVC | | | | PVC | | |
| TCX38825102-002 | M12X-8MR-1.0SH- RJ45-8MS-PUR | | | | MR - MS | PUR | |
| TCX38821112-002 | M12X-8MR-1.0SH- RJ45-8MS-PVC | | | | PVC | | |
| TCX38725102-002 | M12X-8MS-1.0SH- RJ45-8MS-PUR | | | | MS - Straight RJ45 | PUR | |
| TCX38721112-002 | M12X-8MS-1.0SH- RJ45-8MS-PVC | | | | PVC | | |
| TAX38B25102-002 | M12X-8MR-1.0SH- M12X-8MR-PUR | | | | MR - MR | PUR | |
| TAX38B21112-002 | M12X-8MR-1.0SH- M12X-8MR-PVC | | | | PVC | | |

CABLE MATERIAL

| PUR | PVC |
|---|---|
|  |  |
|  |  |

M12 L-CODE CABLE ASSEMBLY

M12 Power L-code connectors are an extension of the current M12 IEC standard and have been selected by PROFIBUS and PROFINET International as the standard for 24-volt power supply systems used in PROFINET devices. An extension of TE's M12 product portfolio, M12 L-code cable assemblies handle up to 16A per pin – the highest in TE's M12 family – delivering four times the power of standard M12 connectors while providing reliable and efficient power supply.

M12 Power L-coded connectors take up to 40% less space and almost 80% more power than 7/8" connectors traditionally used for high-power connections. The M12 power cable assemblies are available in both male and female connectors and suitable for every purpose with its conductor size from 1.5 mm² up to 2.5 mm² allowing for a more compact build of a high-power solutions for automation devices.

TE's new M12 Power L-code connectors are IP67 rated, protected from dust and resist temporary submersion in water at depths of up to 1 meter for 30 minutes. The L-coding version is designed for DC power supplies with 63 V DC / 16 A, where a high current and low voltage is required making ideal for Fieldbus Ethernet I/O boxes, Ethernet systems, Network Devices, Motors and Drives and Valve applications. The power cable assemblies are available through TE's global distribution network, which provides customers with short lead-times and fast responses for technical support.



KEY FEATURES

- Enclosure rating of IP67
- 360 degrees shielding for reliable EMC protection and robustness
- Preventing mismatching connectors with different voltages
- PROFINET-conforming color scheme with L-coding versions
- Different cable materials PUR or PVC in shielded and non-shielded versions
- Custom specifications and cable lengths are available
- Depending on the material, the assemblies withstand up to 4 million flexes, machine oils, abrasion and UV radiation
- The new assemblies are available with several standard cable length options from 0.5m through to 20m

BENEFITS

- Unit remains protected and fully operational in most industrial applications
- Secured signal connections and data transmission
- Protection against mismatching with coded pin connector patterns
- PNO approved for immediate implementation into PROFINET standard and embracing miniaturization of distribution boxes
- One stop shop solution with broad product portfolio with cable jacket colors and material options
- Highly configurable with numerous connector variations, standard cable lengths up to 20mtrs and wire sizes

M8/M12 CONNECTOR SYSTEM

APPLICATIONS

- Industrial communications
- Industrial machinery
- Robotics
- Material handling
- Industrial control and factory automation
- Test equipment
- I/O connectivity
- Sensor and actuators

ELECTRICAL

- 63V DC/AC
- 12A (16AWG)
- 16A (14AWG)
- Initial value contact resistance: 5mΩ Max.
- Rated impulse voltage 1.5KV

MECHANICAL

- Durability: 100 cycles
- Degree of protection: IP67
- Mating and un-mating force:
 - Insertion: 30N max. for 4P,45N Max. for 5P
 - Withdraw: 30N max. for 4P,45N Max. for 5P
- Sinusoidal vibration per IEC60512, Test 6d
- Mechanical shock per EIA364-27

STANDARDS

- UL 2237
- AWM style cables
- Electrical Standard 61076-2-111

MATERIALS

- Nylon for HSG
- TPU for overmolding
- Copper alloy for metal nuts, Nickel plated
Cable jacket materials: PVC and PUR
- Cable information:
 - Temperature rating:
 - Power cable AWM2464 4C AWG14 (2.5mm²)
PVC black
Operating temperature -40°C to +80°C (fixed)
-20°C to +80°C (flexible)
 - Power cable AWM20233 4C AWG16 (1.5mm²)
PUR black drag chain
Operating temperature -50°C to +80°C (fixed)
-30°C to +80°C (flexible)
 - Power cable AWM2464 5C AWG14 (2.5mm²)
PVC Gray
Operating temperature -40°C to +80°C (fixed)
-20°C to +80°C (flexible)
 - Power cable AWM20233 5C AWG14 (2.5mm²)
PUR Gray drag chain
Operating temperature -40°C to +80°C (fixed)
-20°C to +80°C (flexible)
 - Power cable AWM20233 5C AWG16 (1.5mm²)
PUR Gray drag chain
Operating temperature -50°C to +80°C (fixed)
-30°C to +80°C (flexible)
 - Power cable AWM20233 5C AWG14 (2.5mm²)
PUR Gray Shielded Drag chain
Operating temperature -50°C to +80°C (fixed)
-30°C to +80°C (flexible)
 - PUR cables suitable for drag chain application
(up to 4 million cycles)
 - Oil resistant
 - Flame retardant: VW-1/FT1
 - UV resistant
 - High Conductivity Copper alloy for terminals, Gold plated

Note: Color coding has been introduced by the "PROFIBUS and PROFINET International" (PI) user organization for better identification and to avoid confusion during installation:

- 4-pole versions have a black contact carrier and jacket
- 5-pole versions have a grey contact carrier and jacket

The contact carriers and the cables are color-coded so that end users don't confuse the 4-pin and 5-pin variants. The 4-pin L-coded M12 variants have a black contact carrier and cable. The 5-pin variants with an FE contact have a gray contact carrier and cable.

M8/M12 CONNECTOR SYSTEM

T 4 1 S B X W Y L M N -XXX

| | |
|----------|----------------------------------|
| T | TE Brand |
| 4 | Circular Connector |
| 1 | M12 |
| S | Shielding |
| 5 | Unshielded |
| 6 | Shielded |
| B | Forms |
| 1 | Single Sided |
| 2 | Double Sided |
| X | Interface Type |
| 1 | Male Straight |
| 2 | Male Angled |
| 3 | Female Straight |
| 4 | Female Angled |
| 5 | Male Straight to Female Straight |
| 6 | Male Straight to Female Angled |
| A | Male Angled to Female Straight |

| | |
|----------|-------------------|
| W | Wire Gauge |
| 9 | 14 AWG PVC |
| B | 14 AWG PUR |
| C | 16 AWG PUR |

| | |
|----------|-------------------|
| Y | Cable Grip |
| 9 | Black TPU |

| | |
|----------|------------------|
| L | Code Type |
| L | L Code |

| | |
|----------|---------------------|
| M | Jacket Color |
| 1 | Black |
| 2 | Grey |

| | |
|----------|---------------------|
| N | Pole Numbers |
| 4 | 4 Poles |
| 5 | 5 Poles |

| | |
|-------------|--------------------------------|
| -00L | Cable Length |
| -001 | 0.5M |
| -002 | 1.0M |
| -003 | 1.5M |
| -020 | 2.0M |
| -004 | 3.0M |
| -005 | 5.0M |
| -006 | 7.0M |
| -007 | 10.0M |
| -200 | 20.0M |
| -XXX | Customized Cable Length |
| -XX0 | XX.0M |
| -XX5 | XX.5M |
| -99X | (<1M)0.XM |

Following PI Guidelines, the available configurations are as below table:

| Wire Gauge | Positions | Amp/V | Cable Materials | Contact Carrier |
|-----------------------------|-----------|---------|----------------------|-----------------|
| AWG14 (2.5mm ²) | 4 | 16A/63V | PVC black | Black |
| AWG16 (1.5mm ²) | 4 | 12A/63V | PUR black drag | Black |
| AWG14 (2.5mm ²) | 5 (4+FE) | 16A/63V | PVC gray | Gray |
| AWG14 (2.5mm ²) | 5 (4+FE) | 16A/63V | PUR gray drag | Gray |
| AWG16 (1.5mm ²) | 5 (4+FE) | 12A/63V | PUR gray drag | Gray |
| AWG14 (2.5mm ²) | 5 (4+FE) | 16A/63V | PUR gray Shield drag | Gray |

Note: Color coding has been introduced by the "PROFIBUS and PROFINET International" (PI) user organization for better identification and to avoid confusion during installation:

- 4-pole versions have a black contact carrier and jacket
- 5-pole versions have a grey contact carrier and jacket

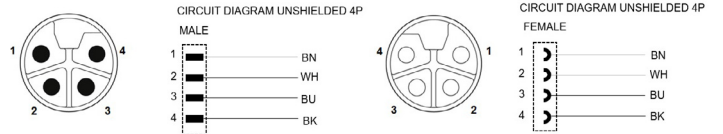
The contact carriers and the cables are color-coded so that end users don't confuse the 4-pin and 5-pin variants. The 4-pin L-coded M12 variants have a black contact carrier and cable. The 5-pin variants with an FE contact have a grey contact carrier and cable.

M8/M12 CONNECTOR SYSTEM

WIRING SCHEMA UNSHIELDED 4P

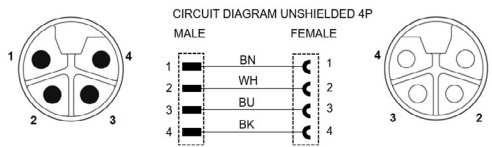
Wiring Diagram: M12 L-code Cable Single Ended

| From Pin | 4 Poles | To Pin |
|----------|-----------|--------|
| 1 | Brown | - |
| 2 | White | - |
| 3 | Blue | - |
| 4 | Black | - |
| Shielded | Metal Nut | - |



Wiring Diagram: M12 L-code Cable Double Ended

| From Pin | 4 Poles | To Pin |
|----------|---------|--------|
| 1 | Brown | 1 |
| 2 | White | 2 |
| 3 | Blue | 3 |
| 4 | Black | 4 |



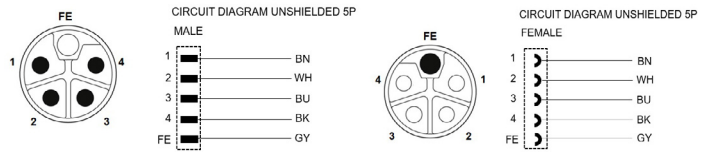
| Application | Code | Pin Assignment | Male | Female | Shielding |
|-------------|--------|---|------|--------|---------------------|
| Power | L-code | PIN1 Brown PIN2 White PIN3 Blue PIN4 Black | | | Option on metal nut |

M8/M12 CONNECTOR SYSTEM

WIRING SCHEMA UNSHIELDED 5P

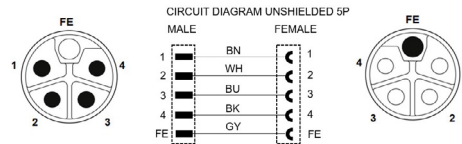
Wiring Diagram: M12 L-code Cable Single Ended

| From Pin | 5 Poles | To Pin |
|----------|---------|--------|
| 1 | Brown | - |
| 2 | White | - |
| 3 | Blue | - |
| 4 | Black | - |
| FE | Gray | - |



Wiring Diagram: M12 L-code Cable Double Ended

| From Pin | 5 Poles | To Pin |
|----------|---------|--------|
| 1 | Brown | 1 |
| 2 | White | 2 |
| 3 | Blue | 3 |
| 4 | Black | 4 |
| FE | Gray | FE |



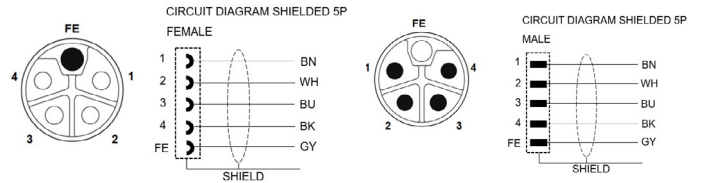
| Application | Code | Pin Assignment | Male | Female | Shielding |
|-------------|--------|--|------|--------|-----------|
| Power | L-code | PIN1 Brown PIN2 White PIN3 Blue PIN4 Black FE Gray | | | N/A |

M8/M12 CONNECTOR SYSTEM

WIRING SCHEMA SHIELDED 5P

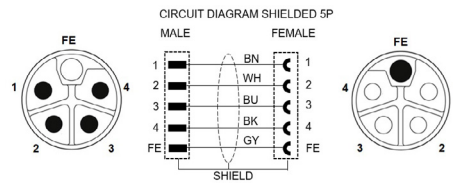
Wiring Diagram: M12 L-code Cable Single Ended

| Side 1 | 5 Poles | Side 2 |
|----------|-----------|--------|
| 1 | Brown | - |
| 2 | White | - |
| 3 | Blue | - |
| 4 | Black | - |
| FE | Gray | - |
| Shielded | Metal Nut | - |



Wiring Diagram: M12 L-code Cable Double Ended

| Side 1 | 5 Poles | Side 2 |
|----------|-----------|----------|
| 1 | Brown | 1 |
| 2 | White | 2 |
| 3 | Blue | 3 |
| 4 | Black | 4 |
| FE | Gray | FE |
| Shielded | Metal Nut | Shielded |




| Application | Code | Pin Assignment | Male | Female | Shielding |
|-------------|--------|--|------|--------|--------------|
| Power | L code | PIN1 Brown PIN2 White PIN3 Blue PIN4 Black FE Gray | | | On metal nut |

M8/M12 CONNECTOR SYSTEM

Part Number List

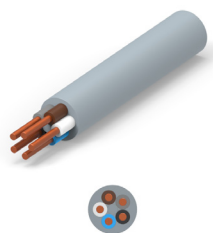
| Part Number | Part Description | Code | POS | Type | Cable Material |
|---------------------------------|-------------------------------|------|-----|-------------------------------------|---|
| T4151199L14-001 | M12L-4MS-0.5-PVC 14AWG BK | L | 4 | Male Straight | PVC 14 AWG Black  |
| T4151299L14-001 | M12L-4MR-0.5-PVC 14AWG BK | | | Male Right Angle | |
| T4151399L14-001 | M12L-4FS-0.5-PVC 14AWG BK | | | Female Straight | |
| T4151499L14-001 | M12L-4FR-0.5-PVC 14AWG BK | | | Female Right Angle | |
| T4152599L14-001 | M12L-4MS-0.5-4FS-PVC 14AWG BK | | | Male Straight to Female Straight | |
| T4152699L14-001 | M12L-4MS-0.5-4FR-PVC 14AWG BK | | | Male Straight to Female Right Angle | |
| T4152A99L14-001 | M12L-4MR-0.5-4FS-PVC 14AWG BK | | | Male Right Angle to Female Straight | |

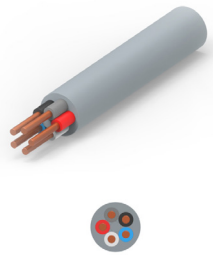
| Part Number | Part Description | Code | POS | Type | Cable Material |
|---------------------------------|-----------------------------------|------|-----|-------------------------------------|---|
| T41511C9L14-001 | RPC-M12L-4MS-0.5-PUR 16AWG BK | L | 4 | Male Straight | PUR 16 AWG Black  |
| T41513C9L14-001 | RPC-M12L-4FS-0.5-PUR 16AWG BK | | | Female Straight | |
| T41514C9L14-001 | RPC-M12L-4FR-0.5-PUR 16AWG BK | | | Female Right Angle | |
| T41525C9L14-001 | RPC-M12L-4MS-0.5-4FS-PUR 16AWG BK | | | Male Straight to Female Straight | |
| T41526C9L14-001 | RPC-M12L-4MS-0.5-4FR-PUR 16AWG BK | | | Male Straight to Female Right Angle | |
| T4152AC9L14-001 | RPC-M12L-4MR-0.5-4FS-PUR 16AWG BK | | | Male Right Angle to Female Straight | |

Note: Cable lengths are available up to 20mtrs. For full scope of lengths please visit PN guide on [page 3](#)

M8/M12 CONNECTOR SYSTEM

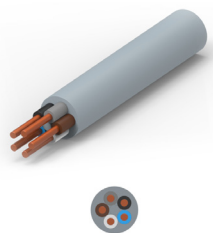
Part Number List

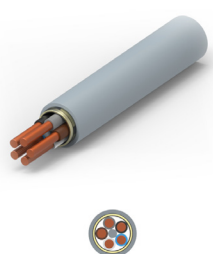
| Part Number | Part Description | Code | POS | Type | Cable Material |
|---------------------------------|-----------------------------------|------|---------|-------------------------------------|--|
| T4151199L25-001 | RPC-M12L-5MS-0.5-PVC 14AWG GY | L | 5(4+FE) | Male Straight | PVC 14 AWG Gray  |
| T4151399L25-001 | RPC-M12L-5FS-0.5-PVC 14AWG GY | | | Female Straight | |
| T4151499L25-001 | RPC-M12L-5FR-0.5-PVC 14AWG GY | | | Female Right Angle | |
| T4152599L25-001 | RPC-M12L-5MS-0.5-5FS-PVC 14AWG GY | | | Male Straight to Female Straight | |
| T4152699L25-001 | RPC-M12L-5MS-0.5-5FR-PVC 14AWG GY | | | Male Straight to Female Right Angle | |
| T4152A99L25-001 | RPC-M12L-5MR-0.5-5FS-PVC 14AWG GY | | | Male Right Angle to Female Straight | |

| Part Number | Part Description | Code | POS | Type | Cable Material |
|---------------------------------|-----------------------------------|------|---------|-------------------------------------|--|
| T41511B9L25-001 | RPC-M12L-5MS-0.5-PUR 14AWG GY | L | 5(4+FE) | Male Straight | PUR 14 AWG Gray  |
| T41512B9L25-001 | RPC-M12L-5MR-0.5-PUR 14AWG GY | | | Male Right Angle | |
| T41513B9L25-001 | RPC-M12L-5FS-0.5-PUR 14AWG GY | | | Female Straight | |
| T41514B9L25-001 | RPC-M12L-5FR-0.5-PUR 14AWG GY | | | Female Right Angle | |
| T41525B9L25-001 | RPC-M12L-5MS-0.5-5FS-PUR 14AWG GY | | | Male Straight to Female Straight | |
| T41526B9L25-001 | RPC-M12L-5MS-0.5-5FR-PUR 14AWG GY | | | Male Straight to Female Right Angle | |
| T4152AB9L25-001 | RPC-M12L-5MR-0.5-5FS-PUR 14AWG GY | | | Male Right Angle to Female Straight | |

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Part Number List

| Part Number | Part Description | Code | POS | Type | Cable Material |
|--|-----------------------------------|------|---------|-------------------------------------|--|
| <u>T41511C9L25-001</u> | RPC-M12L-5MS-0.5-PUR 16AWG GY | L | 5(4+FE) | Male Straight | PUR 16 AWG Gray  |
| <u>T41512C9L25-001</u> | RPC-M12L-5MR-0.5-PUR 16AWG GY | | | Male Right Angle | |
| <u>T41513C9L25-001</u> | RPC-M12L-5FS-0.5-PUR 16AWG GY | | | Female Straight | |
| <u>T41514C9L25-001</u> | RPC-M12L-5FR-0.5-PUR 16AWG GY | | | Female Right Angle | |
| <u>T41525C9L25-001</u> | RPC-M12L-5MS-0.5-5FS-PUR 16AWG GY | | | Male Straight to Female Straight | |
| <u>T41526C9L25-001</u> | RPC-M12L-5MS-0.5-5FR-PUR 16AWG GY | | | Male Straight to Female Right Angle | |
| <u>T4152AC9L25-001</u> | RPC-M12L-5MR-0.5-5FS-PUR 16AWG GY | | | Male Right Angle to Female Straight | |

| Part Number | Part Description | Code | POS | Type | Cable Material |
|--|--------------------------------------|------|---------|-------------------------------------|---|
| <u>T41611B9L25-001</u> | RPC-M12L-5MS-0.5-SH PUR 14AWG GY | L | 5(4+FE) | Male Straight | PUR 14 AWG Shielded Gray  |
| <u>T41612B9L25-001</u> | RPC-M12L-5MR-0.5-SH PUR 14AWG GY | | | Male Right Angle | |
| <u>T41613B9L25-001</u> | RPC-M12L-5FS-0.5-SH PUR 14AWG GY | | | Female Straight | |
| <u>T41614B9L25-001</u> | RPC-M12L-5FR-0.5-SH PUR 14AWG GY | | | Female Right Angle | |
| <u>T41625B9L25-001</u> | RPC-M12L-5MS-0.5-5FS-SH PUR 14AWG GY | | | Male Straight to Female Straight | |
| <u>T41626B9L25-001</u> | RPC-M12L-5MS-0.5-5FR-SH PUR 14AWG GY | | | Male Straight to Female Right Angle | |
| <u>T4162AB9L25-001</u> | RPC-M12L-5MR-0.5-5FS-SH PUR 14AWG GY | | | Male Right Angle to Female Straight | |

M8/M12 CONNECTOR SYSTEM

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