



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 ensures 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's 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 Connectivity 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 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 equip-

ment, 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 ideal 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 complete Industrial Communications portfolio offer proven 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-free and without the use of tools.

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

Product Specifications:
Connectors: 108-3641, 108-19483,
108-106140
X-coded: 108-137008

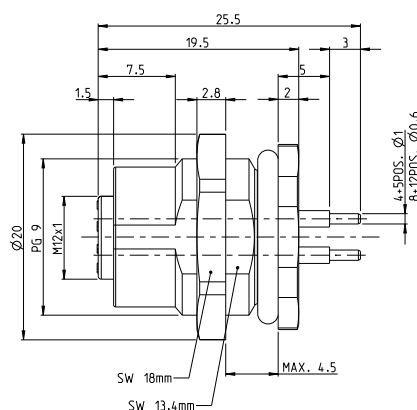
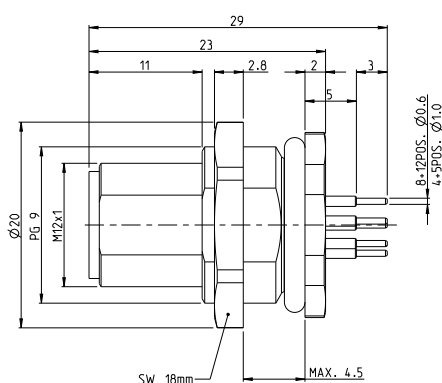


Size	Pins	Rated	Maximum Current per pin	Polution grade
M8	3	60 V	4 A	3
M8	4	30 V	4 A	3
M12	3	250 V	4 A	3
M12	4	250 V	4 A	3
M12	5	125 V	4 A	3
M12	8	60 V	2 A	3
M12	12	30 V	2 A	3

M12 Panel Mount Solder PCB

Male Series

Female Series



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

TE Part Number		
A coding		
M12 Male, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271140-2
5-Pole	PG9	4-2271140-2
8-Pole	PG9	5-2271140-2
12-Pole	PG9	6-2271140-2

B coding		
M12 Male, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271141-2
5-Pole	PG9	4-2271141-2

D coding		
M12 Male, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271142-2

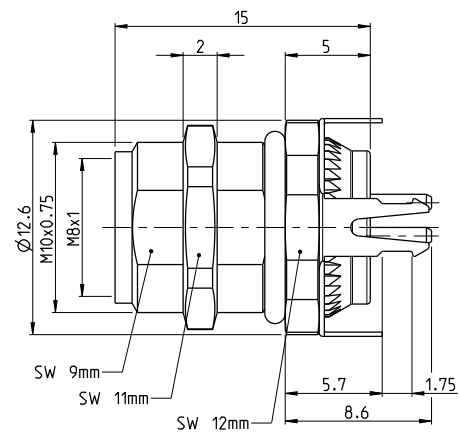
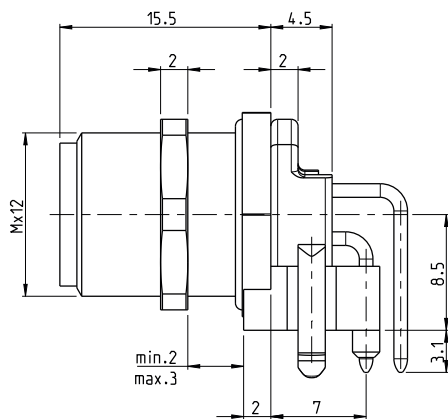
TE Part Number		
A coding		
M12 Female, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271143-2
5-Pole	PG9	4-2271143-2
8-Pole	PG9	5-2271143-2
12-Pole	PG9	6-2271143-2

B coding		
M12 Female, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271144-2
5-Pole	PG9	4-2271144-2

D coding		
M12 Female, Rear Mounting M16 x 1.5, Straight		
4-Pole	PG9	3-2271145-2

M12 Panel Mount Solder PCB

Male Series



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

TE Part Number	
A coding – M12, Male, Rear Mount, PCB, R/A, Unshielded	
4-Pole	3-2172062-2
5-Pole	4-2172062-2

TE Part Number	
A coding – M12, Male, Rear Mount, PCB, R/A, Shielded	
4-Pole (45 degrees)	3-2172094-2
4-Pole	3-2172081-2
5-Pole	4-2172081-2
8-Pole	5-2172081-2

TE Part Number	
A coding – M12, Male, Rear Mount, PCB, Straight, Unshielded	
4-Pole	3-2172070-2
5-Pole	4-2172070-2
8-Pole	5-2172070-2

TE Part Number	
A coding – M12, Male, Rear Mount, PCB, Straight, Shielded	
4-Pole	3-2172080-2
5-Pole	4-2172080-2
8-Pole	5-2172080-2

TE Part Number	
B coding – M12, Male, Rear Mount, PCB, R/A, Unshielded	
5-Pole	4-2172082-2

TE Part Number	
B coding – M12, Male, Rear Mount, PCB, R/A, Shielded	
5-Pole	4-2172063-2

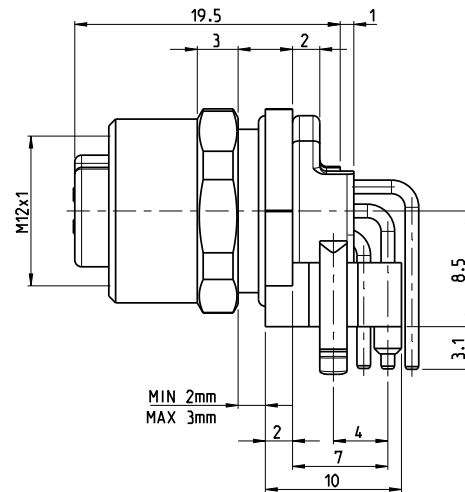
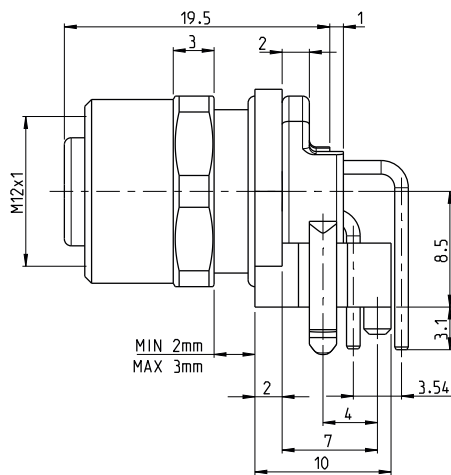
TE Part Number	
B coding – M12, Male, Rear Mount, PCB, Straight, Shielded	
5-Pole	4-2172073-2

TE Part Number	
D coding – M12, Male, Rear Mount, PCB, R/A, Unshielded	
4-Pole	3-2172086-2

TE Part Number	
D coding – M12, Male, Rear Mount, PCB, R/A, Shielded	
4-Pole	3-2172065-2

TE Part Number	
D coding – M12, Male, Rear Mount, PCB, Straight, Shielded	
4-Pole	3-2172084-2

Female Series



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

TE Part Number	
A coding – M12, Female, Rear Mount, PCB, R/A, Unshielded	
4-Pole	3-2172072-2
5-Pole	4-2172072-2

TE Part Number	
A coding – M12, Female, Rear Mount, PCB, R/A, Shielded	
4-Pole (45 degrees)	3-2172095-2
4-Pole	3-2172079-2
5-Pole	4-2172079-2
8-Pole	5-2172079-2

TE Part Number	
A coding – M12, Female, Rear Mount, PCB, Straight, Unshielded	
4-Pole	3-2172071-2
5-Pole	4-2172071-2
8-Pole	5-2172071-2

TE Part Number	
A coding – M12, Female, Rear Mount, PCB, Straight, Shielded	
4-Pole	3-2172078-2
5-Pole	4-2172078-2
8-Pole	5-2172078-2

TE Part Number	
B coding – M12, Female, Rear Mount, PCB, R/A, Unshielded	
5-Pole	4-2172083-2

TE Part Number	
B coding – M12, Female, Rear Mount, PCB, R/A, Shielded	
5-Pole	4-2172064-2

TE Part Number	
B coding – M12, Female, Rear Mount, PCB, Straight, Shielded	
5-Pole	4-2172074-2

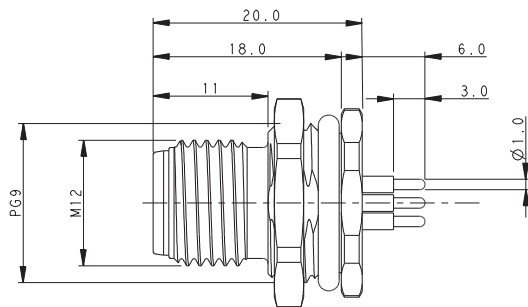
TE Part Number	
D coding – M12, Female, Rear Mount, PCB, R/A, Unshielded	
4-Pole	3-2172087-2

TE Part Number	
D coding – M12, Female, Rear Mount, PCB, R/A, Shielded	
4-Pole	3-2172066-2

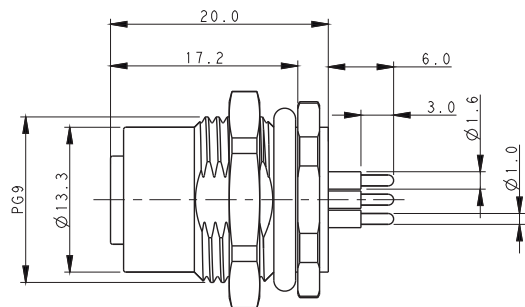
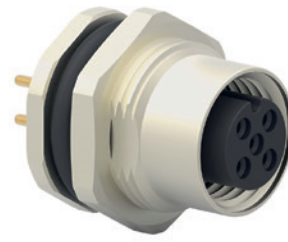
TE Part Number	
D coding – M12, Female, Rear Mount, PCB, Straight, Shielded	
4-Pole	3-2172085-2

M12 Panel Mount PCB – Rear Mounting

Male Series



Female Series



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

TE Part Number	
A coding – M12 Male, Rear Mounting, Straight	
2-Pole	T4140012021-000
3-Pole	T4140012031-000
4-Pole	T4140012041-000
5-Pole	T4140012051-000

TE Part Number	
B coding – M12 Male, Rear Mounting, Straight	
2-Pole	T4140412021-000
3-Pole	T4140412031-000
4-Pole	T4140412041-000
5-Pole	T4140412051-000

TE Part Number	
D coding – M12 Male, Rear Mounting, Straight	
2-Pole	T4140512021-000
3-Pole	T4140512031-000
4-Pole	T4140512041-000
5-Pole	T4140512051-000

TE Part Number	
A coding – M12 Female, Rear Mounting, Straight	
2-Pole	T4141012021-000
3-Pole	T4141012031-000
4-Pole	T4141012041-000
5-Pole	T4141012051-000

TE Part Number	
B coding – M12 Female, Rear Mounting, Straight	
2-Pole	T4141412021-000
3-Pole	T4141412031-000
4-Pole	T4141412041-000
5-Pole	T4141412051-000

TE Part Number	
D coding – M12 Female, Rear Mounting, Straight	
2-Pole	T4141512021-000
3-Pole	T4141512031-000
4-Pole	T4141512041-000
5-Pole	T4141512051-000

M12 Panel Mount PCB – Front Mounting

Male Series



Female Series



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

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

TE Part Number	
B coding – M12 Male, Front Mounting, Straight	
2-Pole	T4142412021-000
3-Pole	T4142412031-000
4-Pole	T4142412041-000
5-Pole	T4142412051-000

TE Part Number	
D coding – M12 Male, Front Mounting, Straight	
2-Pole	T4142512021-000
3-Pole	T4142512031-000
4-Pole	T4142512041-000
5-Pole	T4142512051-000

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

TE Part Number	
B coding – M12 Female, Front Mounting, Straight	
2-Pole	T4143412021-000
3-Pole	T4143412031-000
4-Pole	T4143412041-000
5-Pole	T4143412051-000

TE Part Number	
D coding – M12 Female, Front Mounting, Straight	
2-Pole	T4143512021-000
3-Pole	T4143512031-000
4-Pole	T4143512041-000
5-Pole	T4143512051-000

M12 Panel Mount Solder Wire – Rear Mounting

Male Series



Female Series



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

TE Part Number	
A coding – M12 Male, Rear Mounting, PCB	
2-Pole	T4130012021-000
3-Pole	T4130012031-000
4-Pole	T4130012041-000
5-Pole	T4130012051-000

TE Part Number	
B coding – M12 Male, Rear Mounting, PCB	
2-Pole	T4130412021-000
3-Pole	T4130412031-000
4-Pole	T4130412041-000
5-Pole	T4130412051-000

TE Part Number	
D coding – M12 Male, Rear Mounting, PCB	
2-Pole	T4130512021-000
3-Pole	T4130512031-000
4-Pole	T4130512041-000
5-Pole	T4130512051-000

TE Part Number	
A coding – M12 Female, Rear Mounting, PCB	
2-Pole	T4131012021-000
3-Pole	T4131012031-000
4-Pole	T4131012041-000
5-Pole	T4131012051-000

TE Part Number	
B coding – M12 Female, Rear Mounting, PCB	
2-Pole	T4131412021-000
3-Pole	T4131412031-000
4-Pole	T4131412041-000
5-Pole	T4131412051-000

TE Part Number	
D coding – M12 Female, Rear Mounting, PCB	
2-Pole	T4131512021-000
3-Pole	T4131512031-000
4-Pole	T4131512041-000
5-Pole	T4131512051-000

M12 Panel Mount Solder Wire – Front Mounting

Male Series



Female Series



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

TE Part Number	
A coding – M12 Male, Front Mounting, PCB	
2-Pole	T4132012021-000
3-Pole	T4132012031-000
4-Pole	T4132012041-000
5-Pole	T4132012051-000

TE Part Number	
B coding – M12 Male, Front Mounting, PCB	
2-Pole	T4132412021-000
3-Pole	T4132412031-000
4-Pole	T4132412041-000
5-Pole	T4132412051-000

TE Part Number	
D coding – M12 Male, Front Mounting, PCB	
2-Pole	T4132512021-000
3-Pole	T4132512031-000
4-Pole	T4132512041-000
5-Pole	T4132512051-000

TE Part Number	
A coding – M12 Female, Front Mounting, PCB	
2-Pole	T4133012021-000
3-Pole	T4133012031-000
4-Pole	T4133012041-000
5-Pole	T4133012051-000

TE Part Number	
B coding – M12 Female, Front Mounting, PCB	
2-Pole	T4133412021-000
3-Pole	T4133412031-000
4-Pole	T4133412041-000
5-Pole	T4133412051-000

TE Part Number	
D coding – M12 Female, Front Mounting, PCB	
2-Pole	T4133512021-000
3-Pole	T4133512031-000
4-Pole	T4133512041-000
5-Pole	T4133512051-000

M12 Panel Mount 200mm Wire – Rear Mounting

Male Series



Female Series



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

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

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

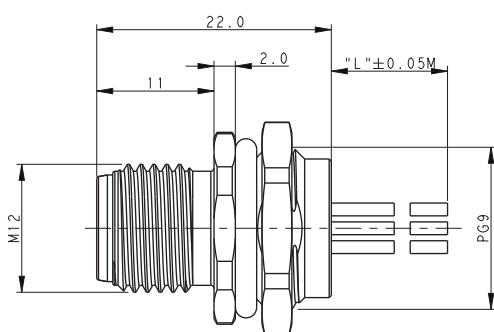
B coding – M12 Female, Rear Mounting, 200mm wire	
2-Pole	T4171110402-001
3-Pole	T4171110403-001
4-Pole	T4171110404-001
5-Pole	T4171110405-001

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

M12 Panel Mount 200mm Wire – Front Mounting

Male Series

Female Series



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

TE Part Number	
A coding – M12 Male, Front Mounting, 200mm wire	
2-Pole	T4171210002-001
3-Pole	T4171210003-001
4-Pole	T4171210004-001
5-Pole	T4171210005-001

TE Part Number	
B coding – M12 Male, Front Mounting, 200mm wire	
2-Pole	T4171210402-001
3-Pole	T4171210403-001
4-Pole	T4171210404-001
5-Pole	T4171210405-001

TE Part Number	
D coding – M12 Male, Front Mounting, 200mm wire	
2-Pole	T4171210502-001
3-Pole	T4171210503-001
4-Pole	T4171210504-001
5-Pole	T4171210505-001

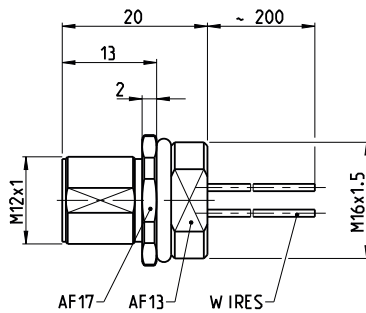
TE Part Number	
A coding – M12 Female, Front Mounting, 200mm wire	
2-Pole	T4171310002-001
3-Pole	T4171310003-001
4-Pole	T4171310004-001
5-Pole	T4171310005-001

TE Part Number	
B coding – M12 Female, Front Mounting, 200mm wire	
2-Pole	T4171310402-001
3-Pole	T4171310403-001
4-Pole	T4171310404-001
5-Pole	T4171310405-001

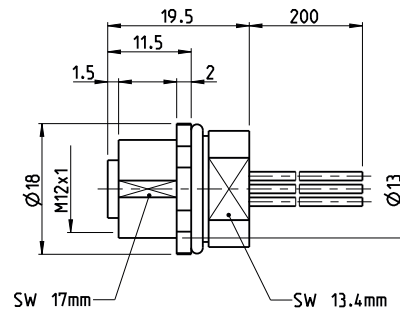
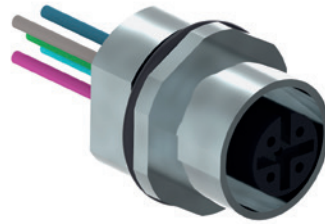
TE Part Number	
D coding – M12 Female, Front Mounting, 200mm wire	
2-Pole	T4171310502-001
3-Pole	T4171310503-001
4-Pole	T4171310504-001
5-Pole	T4171310505-001

M12 Panel Mount Wire

Male Series



Female Series



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

TE Part Number		
A coding		
M12 Male, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole		3-2271134-2
5-Pole		4-2271134-2
8-Pole		5-2271134-2
12-Pole		6-2271134-2

B coding		
M12 Male, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole		3-2271135-2
5-Pole		4-2271135-2

D coding		
M12 Male, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole	PG9	3-2271136-2

T coding		
M12 Male, Front Mounting M20 x 1.5		
4-Pole		2120947-1

TE Part Number		
A coding		
M12 Female, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole		3-2271137-2
5-Pole		4-2271137-2
8-Pole		5-2271137-2
12-Pole		6-2271137-2

B coding		
M12 Female, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole		3-2271138-2
5-Pole		4-2271138-2

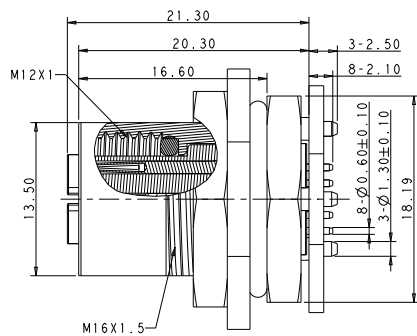
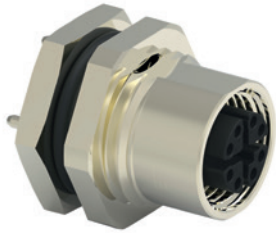
D coding		
M12 Female, Front Mounting M16 x 1.5 with wires 0.25 200 mm		
4-Pole		3-2271139-2

S coding		
M12 Female, Panel Mount M12 x 1, Screw Connection		
3-Pole	Plus PE	3-2823647-2

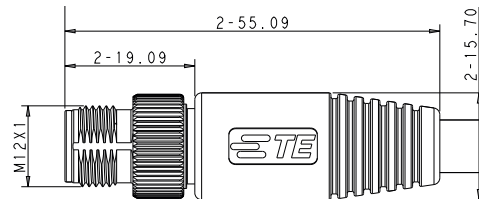
T coding		
M12 Female, Front Mounting M20 x 1.5		
4-Pole		2120946-1

M12 X-Coded

M12 X-Coded PCB Connector



M12 Pin Connector Cable Assembly



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

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): 5.5-9mm cable diameter	2120952-1

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