



# 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

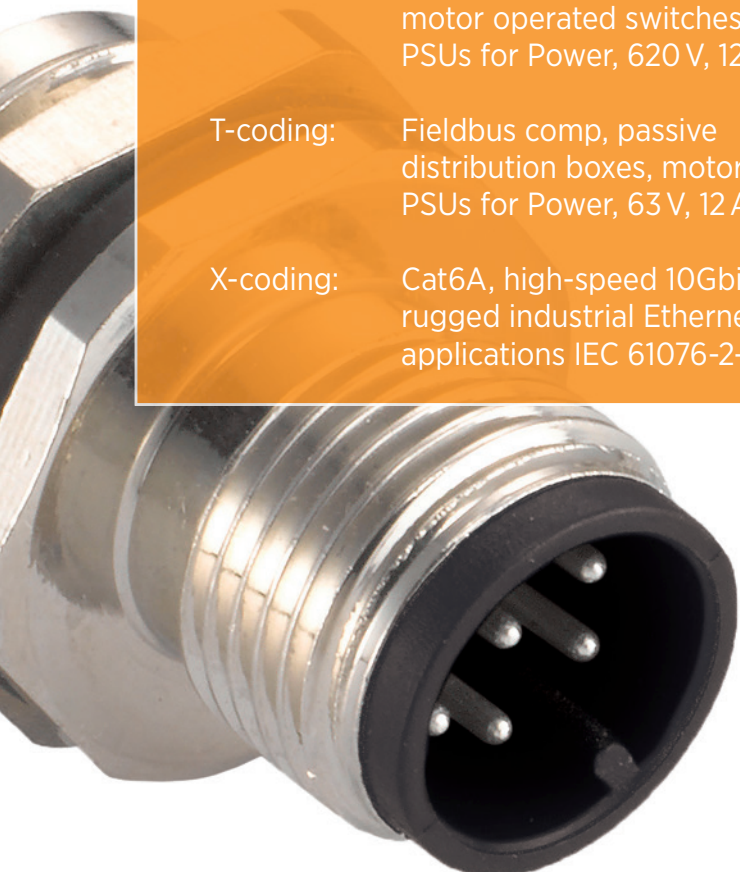
Current rating:  
4 and 5 pins: 4 A per pin  
8 and 12 pins: 2 A per pin

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

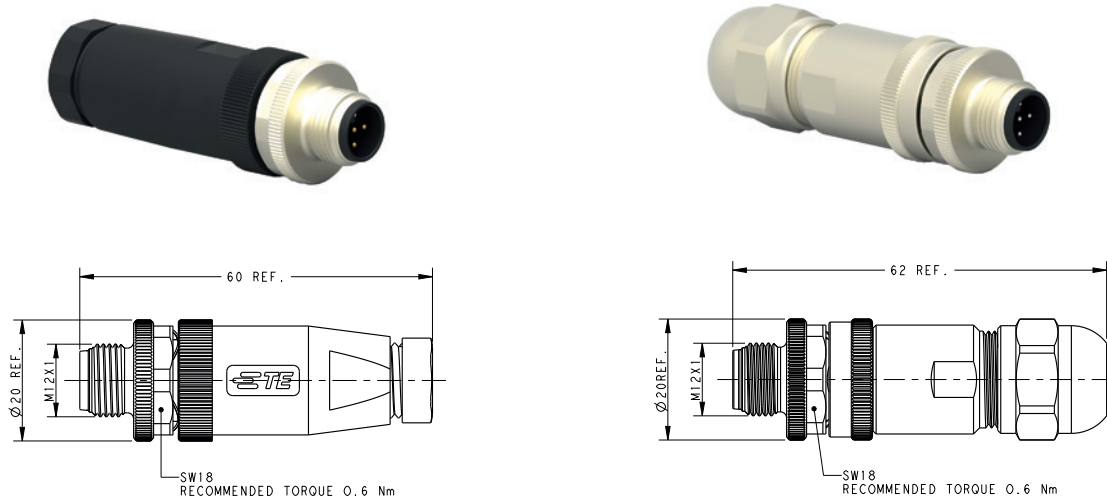
Product Specifications:  
Connectors: 108-3641, 108-19483,  
108-106140  
X-coded: 108-137008



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 Straight Field Installable A, B, D Code

## Male Series



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

TE Part Number		
<b>A coding – M12 Male Screw Connection, Straight, Unshielded</b>		
2-Pole	PG7	T4111001021-000
	PG9	T4111002021-000
3-Pole	PG7	<b>T4111001031-000</b>
	PG9	<b>T4111002031-000</b>
4-Pole	PG7	<b>T4111001041-000</b>
	PG9	<b>T4111002041-000</b>
5-Pole	PG7	<b>T4111001051-000</b>
	PG9	<b>T4111002051-000</b>
8-Pole	PG9	<b>T4111002081-000</b>

TE Part Number		
<b>A coding – M12 Male Screw Connection, Straight, Shielded</b>		
2-Pole	PG7	T4111011021-000
	PG9	T4111012021-000
3-Pole	PG7	<b>T4111011031-000</b>
	PG9	<b>T4111012031-000</b>
4-Pole	PG7	<b>T4111011041-000</b>
	PG9	<b>T4111012041-000</b>
5-Pole	PG7	<b>T4111011051-000</b>
	PG9	<b>T4111012051-000</b>
8-Pole	PG9	<b>T4111012081-000</b>

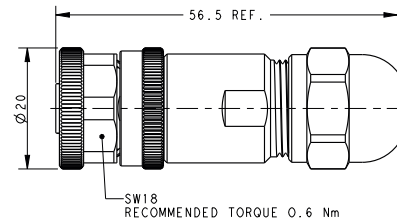
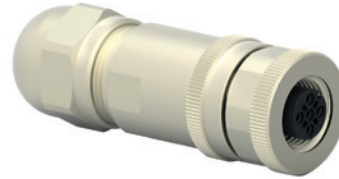
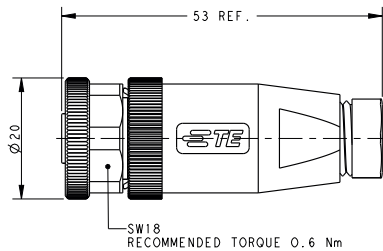
B coding – M12 Male Screw Connection, Straight, Unshielded		
2-Pole	PG7	T4111401021-000
	PG9	T4111402021-000
3-Pole	PG7	T4111401031-000
	PG9	T4111402031-000
4-Pole	PG7	T4111401041-000
	PG9	T4111402041-000
5-Pole	PG7	<b>T4111401051-000</b>
	PG9	<b>T4111402051-000</b>

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	<b>T4111411051-000</b>
	PG9	<b>T4111412051-000</b>

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

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	<b>T4111511041-000</b>
	PG9	<b>T4111512041-000</b>
5-Pole	PG7	T4111511051-000
	PG9	T4111512051-000

## Female Series



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

TE Part Number		
<b>A coding – M12 Female Screw Connection, Straight, Unshielded</b>		
2-Pole	PG7	T4110001021-000
	PG9	T4110002021-000
3-Pole	PG7	<b>T4110001031-000</b>
	PG9	<b>T4110002031-000</b>
4-Pole	PG7	<b>T4110001041-000</b>
	PG9	<b>T4110002041-000</b>
5-Pole	PG7	<b>T4110001051-000</b>
	PG9	<b>T4110002051-000</b>
8-Pole	PG9	<b>T4110002081-000</b>

TE Part Number		
<b>A coding – M12 Female Screw Connection, Straight, Shielded</b>		
2-Pole	PG7	T4110011021-000
	PG9	T4110012021-000
3-Pole	PG7	<b>T4110011031-000</b>
	PG9	<b>T4110012031-000</b>
4-Pole	PG7	<b>T4110011041-000</b>
	PG9	<b>T4110012041-000</b>
5-Pole	PG7	<b>T4110011051-000</b>
	PG9	<b>T4110012051-000</b>
8-Pole	PG9	<b>T4110012081-000</b>

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	<b>T4110401051-000</b>
	PG9	<b>T4110402051-000</b>

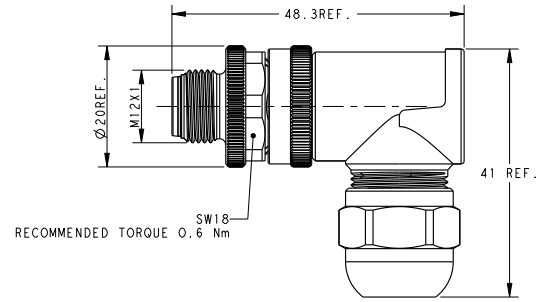
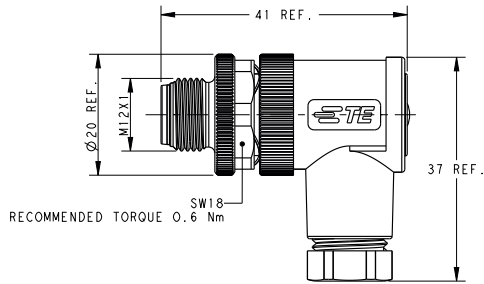
B coding – M12 Female Screw Connection, Straight, Shielded		
2-Pole	PG7	T4110411021-000
	PG9	T4110412021-000
3-Pole	PG7	T4110411031-000
	PG9	T4110412031-000
4-Pole	PG7	T4110411041-000
	PG9	T4110412041-000
5-Pole	PG7	<b>T4110411051-000</b>
	PG9	<b>T4110412051-000</b>

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

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	<b>T4110511041-000</b>
	PG9	<b>T4110512041-000</b>
5-Pole	PG7	T4110511051-000
	PG9	T4110512051-000

# M12 Angled Field Installable A, B, D Code

## Male Series



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

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

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

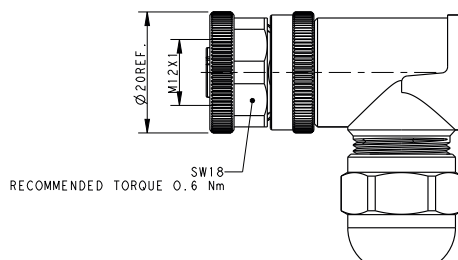
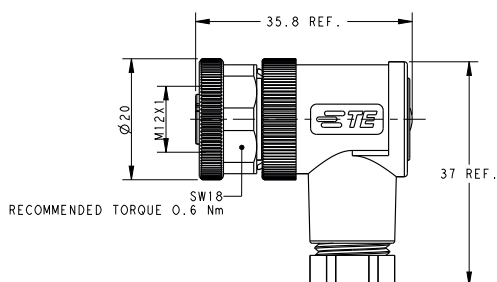
B coding – M12 Male Screw Connection, Angled, Unshielded		
2-Pole	PG7	T4113401021-000
	PG9	T4113402021-000
3-Pole	PG7	T4113401031-000
	PG9	T4113402031-000
4-Pole	PG7	T4113401041-000
	PG9	T4113402041-000
5-Pole	PG7	<b>T4113401051-000</b>
	PG9	<b>T4113402051-000</b>

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	<b>T4113411051-000</b>
	PG9	<b>T4113412051-000</b>

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

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	<b>T4113511041-000</b>
	PG9	<b>T4113512041-000</b>
5-Pole	PG7	T4113511051-000
	PG9	T4113512051-000

## Female Series



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

TE Part Number		
<b>A coding – M12 Female Screw Connection, Angled, Unshielded</b>		
2-Pole	PG7	T4112001021-000
	PG9	T4112002021-000
3-Pole	PG7	<b>T4112001031-000</b>
	PG9	<b>T4112002031-000</b>
4-Pole	PG7	<b>T4112001041-000</b>
	PG9	<b>T4112002041-000</b>
5-Pole	PG7	<b>T4112001051-000</b>
	PG9	<b>T4112002051-000</b>
8-Pole	PG9	<b>T4112002081-000</b>

TE Part Number		
<b>A coding – M12 Female Screw Connection, Angled, Shielded</b>		
2-Pole	PG7	T4112011021-000
	PG9	T4112012021-000
3-Pole	PG7	<b>T4112011031-000</b>
	PG9	<b>T4112012031-000</b>
4-Pole	PG7	<b>T4112011041-000</b>
	PG9	<b>T4112012041-000</b>
5-Pole	PG7	<b>T4112011051-000</b>
	PG9	<b>T4112012051-000</b>
8-Pole	PG9	<b>T4112012081-000</b>

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	<b>T4112401051-000</b>
	PG9	<b>T4112402051-000</b>

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	<b>T4112411051-000</b>
	PG9	<b>T4112412051-000</b>

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	<b>T4112511041-000</b>
	PG9	<b>T4112512041-000</b>
5-Pole	PG7	T4112511051-000
	PG9	T4112512051-000



# M12 Straight Field Installable

## Male Series



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

TE Part Number		
<b>A coding – M12 Male Screw Connection, Straight</b>		
3-Pole	PG7	2-2271110-1
	PG9	2-2271110-2
4-Pole	PG7	3-2271110-1
	PG9	3-2271110-2
5-Pole	PG7	4-2271110-1
	PG9	4-2271110-2
8-Pole	PG9	5-2271110-2
12-Pole	PG9	6-2271110-2

<b>B coding – M12 Male Screw Connection, Straight</b>		
4-Pole	PG7	3-2271112-1
	PG9	3-2271112-2
5-Pole	PG7	4-2271112-1
	PG9	4-2271112-2

TE Part Number		
<b>A coding – M12 Male Screw Connection, Straight, Shielded</b>		
4-Pole	PG7	3-2271111-2
5-Pole	PG7	4-2271111-2
8-Pole	PG7	5-2271111-2
12-Pole	PG9	6-2271111-2

<b>B coding – M12 Male Screw Connection, Straight, Shielded</b>		
4-Pole	PG7	3-2271113-2
5-Pole	PG7	4-2271113-2

<b>D coding – M12 Male Screw Connection, Straight, Shielded</b>		
4-Pole	PG7	3-2271115-2

<b>S coding – M12 Male Screw Connection, Straight, Shielded</b>		
3-Pole	plus PE	2120951-1

<b>T coding – M12 Male Screw Connection, Straight, Shielded</b>		
4-Pole		3-2172096-2

## Female Series



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

TE Part Number		
<b>A coding – M12 Female Screw Connection, Straight</b>		
3-Pole	PG7	2-2271116-1
	PG9	2-2271116-2
4-Pole	PG7	3-2271116-1
	PG9	3-2271116-2
5-Pole	PG7	4-2271116-1
	PG9	4-2271116-2
8-Pole	PG9	5-2271116-2
12-Pole	PG9	6-2271116-2

B coding – M12 Female Screw Connection, Straight		
4-Pole	PG7	3-2271118-1
	PG9	3-2271118-2
5-Pole	PG7	4-2271118-1
	PG9	4-2271118-2

TE Part Number		
<b>A coding – M12 Female Screw Connection, Straight, Shielded</b>		
4-Pole	PG9	3-2271117-2
5-Pole	PG9	4-2271117-2
8-Pole	PG9	5-2271117-2
12-Pole	PG9	6-2271117-2

B coding – M12 Female Screw Connection, Straight, Shielded		
4-Pole	PG7	3-2271119-2
5-Pole	PG7	4-2271119-2

D coding – M12 Female Screw Connection, Straight, Shielded		
4-Pole	PG7	3-2271121-2

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

# M12 Angled Field Installable

## Male Series



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

TE Part Number		
<b>A coding – M12 Male Screw Connection, Angled</b>		
3-Pole	PG7	2-2271122-1
	PG9	2-2271122-2
4-Pole	PG7	3-2271122-1
	PG9	3-2271122-2
5-Pole	PG7	4-2271122-1
	PG9	4-2271122-2
8-Pole	PG9	5-2271122-2
12-Pole	PG9	6-2271122-2

B coding – M12 Male Screw Connection, Angled		
4-Pole	PG7	3-2271124-1
	PG9	3-2271124-2
5-Pole	PG7	4-2271124-1
	PG9	4-2271124-2

TE Part Number		
<b>A coding – M12 Male Screw Connection, Angled, Shielded</b>		
4-Pole	PG7	3-2271123-2
5-Pole	PG7	4-2271123-2
8-Pole	PG7	5-2271123-2
12-Pole	PG9	6-2271123-2

B coding – M12 Male Screw Connection, Angled, Shielded		
4-Pole	PG7	3-2271125-2
5-Pole	PG7	4-2271125-2

D coding – M12 Male Screw Connection, Angled, Shielded		
4-Pole	PG7	3-2271127-2
	PG9	3-2271133-2

## Female Series



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

TE Part Number		
<b>A coding – M12 Female Screw Connection, Angled</b>		
3-Pole	PG7	2-2271128-1
	PG9	2-2271128-2
4-Pole	PG7	3-2271128-1
	PG9	3-2271128-2
5-Pole	PG7	4-2271128-1
	PG9	4-2271128-2
8-Pole	PG9	5-2271128-2
12-Pole	PG9	6-2271128-2

<b>B coding – M12 Female Screw Connection, Angled</b>		
4-Pole	PG7	3-2271130-1
	PG9	3-2271130-2
5-Pole	PG7	4-2271130-1
	PG9	4-2271130-2

TE Part Number		
<b>A coding – M12 Female Screw Connection, Angled, Shielded</b>		
4-Pole	PG7	3-2271129-2
5-Pole	PG7	4-2271129-2
8-Pole	PG7	5-2271129-2
12-Pole	PG9	6-2271129-2

<b>B coding – M12 Female Screw Connection, Angled, Shielded</b>		
4-Pole	PG9	3-2271131-2
5-Pole	PG9	4-2271131-2

<b>D coding – M12 Female Screw Connection, Angled, Shielded</b>		
4-Pole	PG7	3-2271133-2