

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.



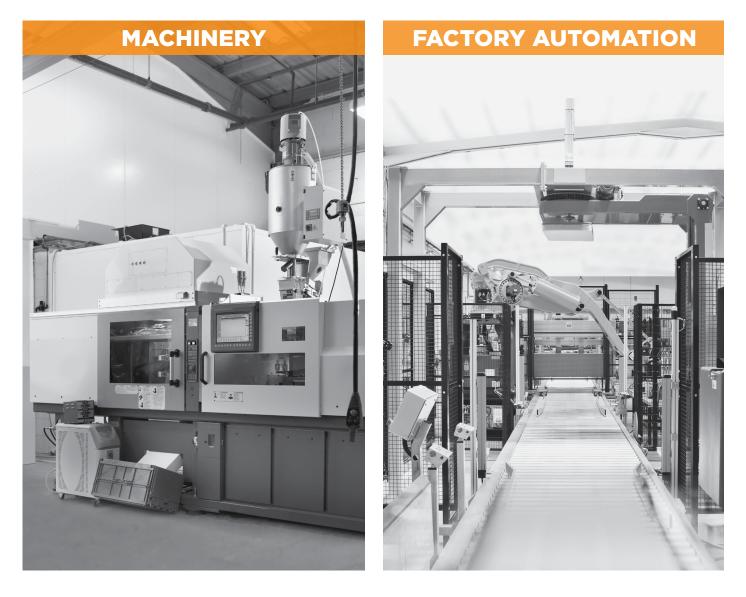
TE'S INDUSTRIAL COMMUNICATIONS PRODUCTS PLAY A VITAL ROLE IN FACTORY AUTOMATION.

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



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	0 0 0

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

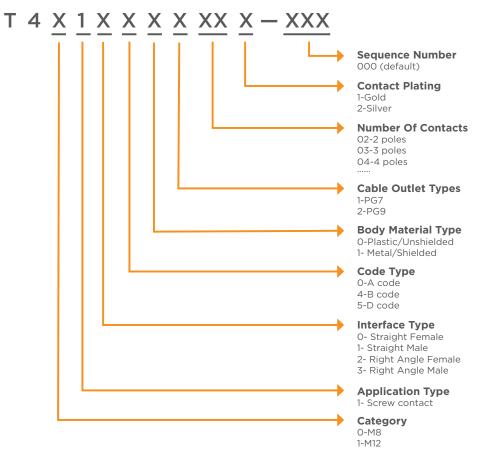
Product Specifications:

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

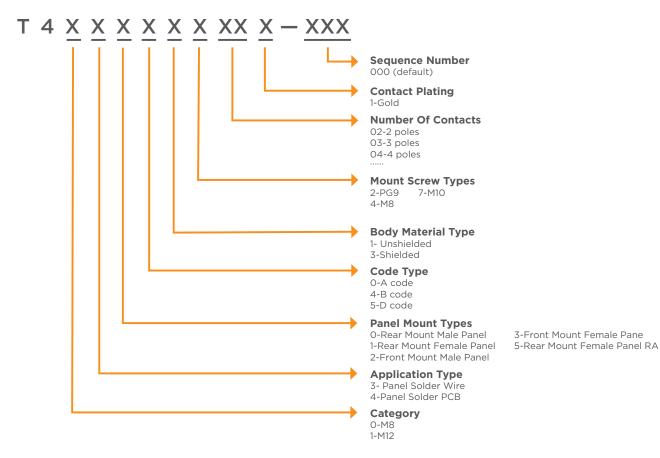
Size	Pins	Rated	Maximum Current per pin	Pollution grade
M8	3	60 V	4 A	3
M8	4	30 V	4 A	3
M12	3	250 V	4 A	3
M12	4	250 V	4 A	3
M12	5	60V	4 A	3
M12	8	60 V	2 A	3
M12	12	30 V	2 A	3



M8M12 Field Installable Connector PNs: T401/T411

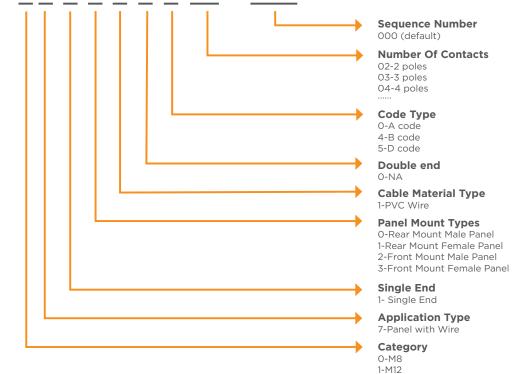


M8M12 Panel Mount Connector PNs: T403/T404/T413/T414/T407

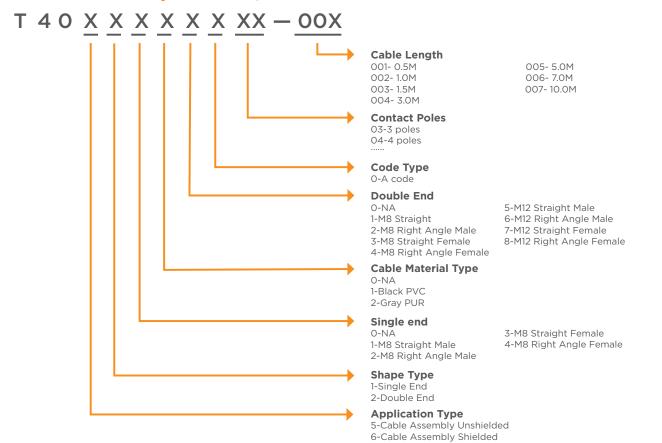


M8M12 Panel Mount Connector with Wire PNs: T407/T417

$\mathsf{T} 4 \underbrace{\mathsf{X} 7}_{\mathsf{X}} \underbrace{\mathsf{X}}_{\mathsf{X}} \underbrace{\mathsf{X}}_{\mathsf{X}} \underbrace{\mathsf{X}}_{\mathsf{X}} \underbrace{\mathsf{X}}_{\mathsf{X}} - \underbrace{\mathsf{XXX}}_{\mathsf{XXX}}$



M8 Cable Assembly PNs: T405/T406



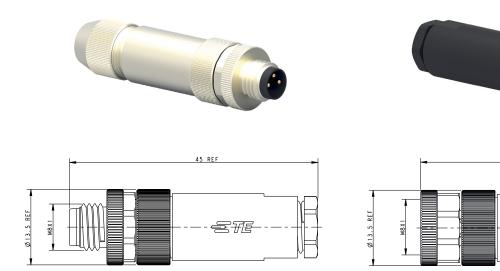
M12 Cable Assembly PNs: T415/T416 T 4 1 X X X X X X X X X - OOX**Cable Length** 001- 0.5M 005- 5.0M 002- 1.0M 006- 7.0M 003- 1.5M 007-10.0M 004- 3.0M **Contact Poles** 02-2 poles 03-3 poles 04-4 poles Code Type 0-A code 4-B code 5-D code Double End 0-NA 3-M12 Straight Female 1-M12 Straight Male 4-M12 Right Angle Female 2-M12 Right Angle Male **Cable Material Type** 0-NA 1-Black PVC 2-Gray PUR Single end 3-M12 Straight Female 0-NA 4-M12 Right Angle Female 1-M12 Straight Male 2-M12 Right Angle Male Shape Type 1-Single End 2-Double End **Application Type**

5-Cable Assembly Unshielded 6-Cable Assembly Shielded

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 Screv	v Connection, Straight,	Unshielded
3-Pole		T4011008031-000
4-Pole		T4011008041-000

		TE Part Number
M8 Female Sc	rew Connection, Straigh	ıt, Unshielded
3-Pole		T4010008031-000
4-Pole		T4010008041-000

40 REF

SFE

M8 Male Screw Connection, Straight, Shielded

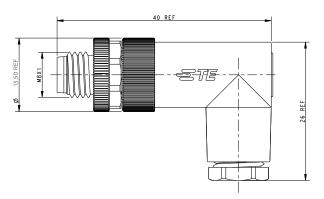
3-Pole	T4011019031-000
4-Pole	T4011019041-000

M8 Female Screw Connection, Straight, Shielded

3-Pole		T4010019031-000
4-Pole		T4010019041-000

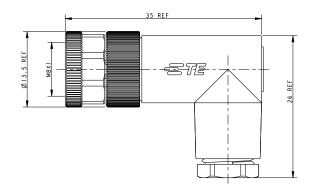
M8 Angled Field Installable

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

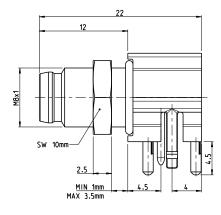
3-Pole	T4010019031-000
4-Pole	T4010019041-000

INDUSTRIAL / M8/M12 CONNECTOR SYSTEM

M8 Panel Mount R/A PCB

Male Series





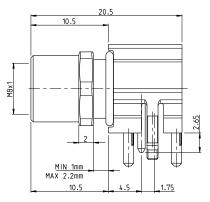
All dimensions in mm. Temperature range: -40 to +85° C.

	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

Female Series





TE Part Number

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

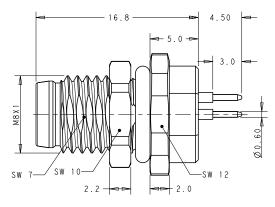
M8, Female, Rear Mount, PCB, R/A, Shielded		
3-Pole 2-2172091-2		
4-Pole		3-2172091-2

M8 Panel Mount Straight PCB

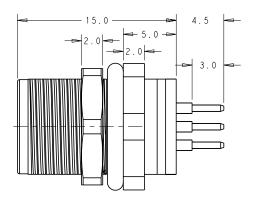
Male Series

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

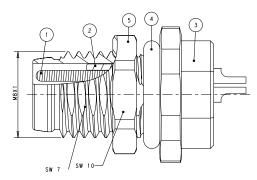
, ,	 -
3-Pole	T4043014031-000
4-Pole	T4043014041-000

M8, Female, R	ear Mount, PCB	, Straight,	Shielded	

3-Pole	T4041037031-000
4-Pole	T4041037041-000

M8 Panel Mount Solder Wire

Male Series



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

TE Part Number

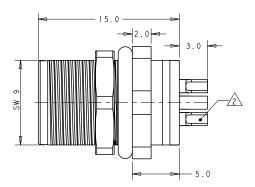
M8, Male, Rear Mount, Solder Wire, Straight		
3-Pole		T4030014031-000
4-Pole		T4030014041-000

M8, Male, Front Mount, Solder Wire, Straight

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

Female Series





TE Part Number

M8, Female, Rear Mount, Solder Wire, Straight		
3-Pole		T4031017031-000
4-Pole		T4031017041-000

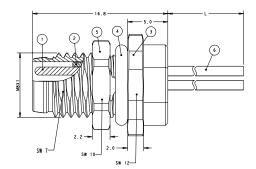
M8, Female, Front Mount, Solder Wire, Straight

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

M8 Panel Mount 200mm Wire

Male Series





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

TE Part Number

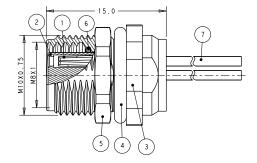
M8, Male, Rear Mount, 200mm Wire, Straight		
3-Pole		T4070014031-001
4-Pole		T4070014041-001

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

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

Female Series





TE Part Number

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

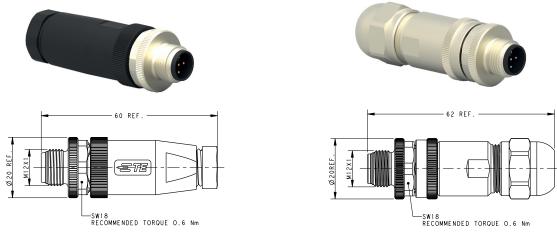
3-Pole	T4071017031-001
4-Pole	T4071017041-001

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	2 Male Screw Connectio	n, 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	2 Male Screw Connectio	n, 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 - M1	2 Female Screw Connec	tion, 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 - M1	2 Female Screw Connec	tion, 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 codina -	M12 F	emale	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	

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 r	ange: -25 to +85	TE Part Number
A coding - M1	2 Male Screw Connection	on, 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	

A coding - M12 Male Screw Connection, Angled, Shielded			
PG7	T4113011021-000		
PG9	T4113012021-000		
PG7	T4113011031-000		
PG9	T4113012031-000		
PG7	T4113011041-000		
PG9	T4113012041-000		
PG7	T4113011051-000		
PG9	T4113012051-000		
PG9	T4113012081-000		
PG9	6-2271123-2		
	PG7 PG9 PG7 PG9 PG7 PG9 PG7 PG9 PG9		

TE Part Number

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

INDUSTRIAL / 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
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

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

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

		TE Part Number
A coding - M12 Female Screw Connection, Angled, Shielded		tion, 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, 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, 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

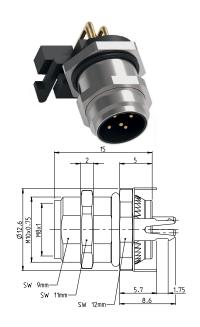
M12 Panel Mount R/A PCB

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 Mo	ount, PCB, R/A, Shielded
4-Pole (45 degrees)	3-2172094-2
4-Pole	T4144035041-000
4-Pole 5-Pole	T4144035041-000 T4144035051-000



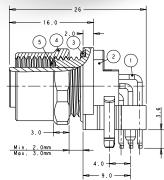
		TE Part Number
B coding - M12, Male	e, Rear Mount, PCI	3, R/A, Unshielded
5-Pole		T4144415051-000
B coding - M12, Male	e, Rear Mount, PCI	3, R/A, Shielded
5-Pole		T4144435051-000
D coding - M12, Male	e, Rear Mount, PC	B, R/A, Unshielded
4-Pole		T4144515041-000
D coding - M12, Male	e, Rear Mount, PC	B, R/A, Shielded
	1	

INDUSTRIAL / M8/M12 CONNECTOR SYSTEM

M12 Panel Mount R/A PCB

Female Series





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

I E Part Number	ΤE	Part	Number
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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



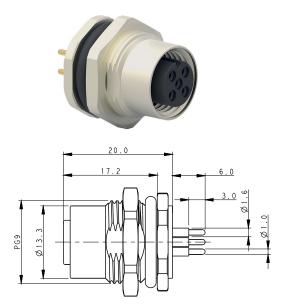
All dimensions in mm. Temperature range: -40 to +85° C.

TE Part Number	
A coding – M12 Male, Rear Mounting, Straight	
T4140012021-000	
T4140012031-000	
T4140012041-000	
T4140012051-000	

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

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

A-coding - M12 Male, Rear Mounting, Solder PCB	
8-Pole T4140012081-000	
12-Pole	T4140012121-000



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

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

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

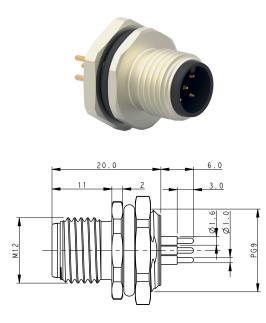
A-coding - M12 Female, Rear Mounting, Solder PCB

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.

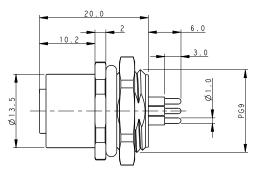
		TE Part Number
A coding – M12 Male, Front Mounting, Straight		
2-Pole		T4142012021-000
3-Pole		T4142012031-000
4-Pole		T4142012041-000
5-Pole		T4142012051-000

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

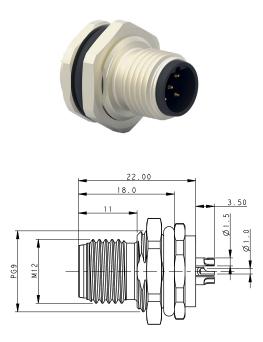
D coding – M12 Female, Front Mounting, Straight		
2-Pole	T4143512021-000	
3-Pole	T4143512031-000	
4-Pole	T4143512041-000	
5-Pole	T4143512051-000	

A-coding - M12 Female, Front Mounting, Solder PCB		
8-Pole	T4143012081-000	
12-Pole	T4143012121-000	

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
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 Femal	, Rear Mounting	, Straight
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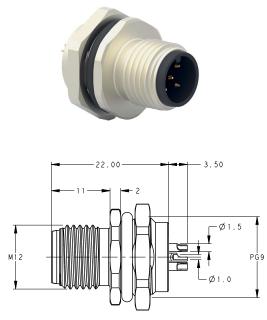
2-Pole		T4131412021-000
3-Pole		T4131412031-000
4-Pole		T4131412041-000
5-Pole		T4131412051-000

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



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

A coding – M12 Male, Front Mounting, Straight		
2-Pole		T4132012021-000
3-Pole		T4132012031-000
4-Pole		T4132012041-000
5-Pole		T4132012051-000

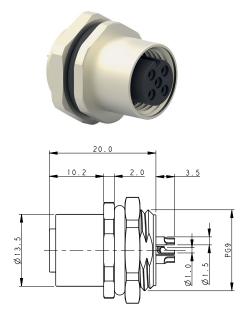
TE Part Number

B coding – M12 Male, Front Mounting, 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

Female Series



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	
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

22.0 2.0 "L"±0.05M

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

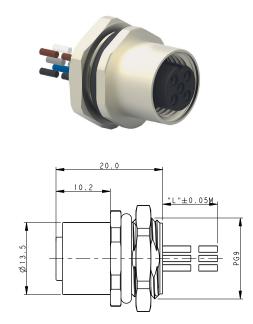
A coding – M12 Male, Front Mounting, 200mm wire	
2-Pole	T4171210002-001
3-Pole	T4171210003-001
4-Pole	T4171210004-001
5-Pole	T4171210005-001

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

Female Series



A coding - M12 Fema	ale, Front Mountin	ig, 200mm wire
2-Pole		T4171310002-001

2-F0le	14171310002-001
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

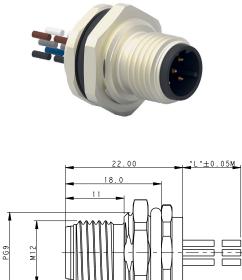
D coding - M12 Female, Front Mounting, 200mm wire	
2-Pole	T4171310502-001
3-Pole	T4171310503-001
4-Pole	T4171310504-001
5-Pole	T4171310505-001

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



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

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

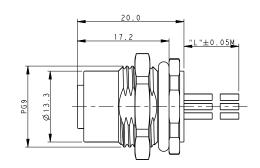
B coding - M12 Male	, Rear Mounting, 200mm wire
2-Pole	T4171010402-001
3-Pole	T4171010403-001
4-Pole	T4171010404-001
5-Pole	T4171010405-001

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, 2	200mm wire
8-Pole		T4171020008-001
12-Pole		T4171030012-001

Female Series





TE Part Number

A coding - M12 Fema	ale, 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 Fema	ale, 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

M12 Power Solutions

M12 L-coding Straight solder pcb





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





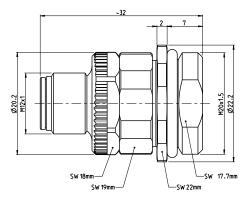


Female	2	Rear	T4141L12031-000
Female	3	Rear	T4141L12041-000
Female	4	Rear	T4141L12051-000

M12 S, T coded

Male Series



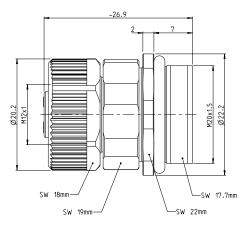


All dimensions in mm. Temperature range: -40 to +85° C.

		TE Part Number
S coding - M12 Male	Screw Connection	n, Straight, Shielded
3-Pole	plus PE	2120951-1
T coding - M12 Male	Screw Connection	n, Straight, Shielded
4-Pole		3-2172096-2
T coding - M12 Male,	Front Mounting N	120 x 1.5
4-Pole		2120947-1

Female Series





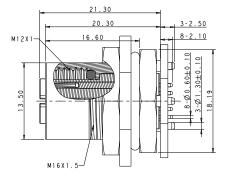
TE Part Number

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	
	1		

M12 X-Coded

M12 X-Coded PCB Connector



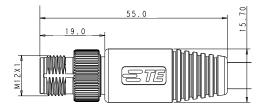


All dimensions in mm. Temperature range: -40 to +85° C.

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): 5.5-9mm cable diameter	2327989-1		

M12 Pin Connector Cable Assembly





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

Accessories

Dust Caps

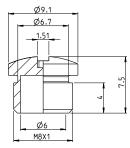


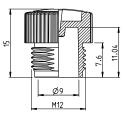


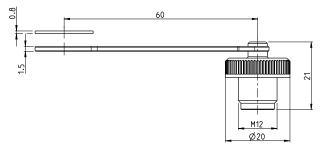
2823563-1

2823064-1

2823065-1







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

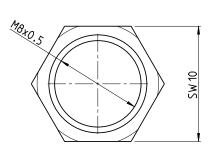
TE Part Number

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

Nuts for Panel Mount connectors

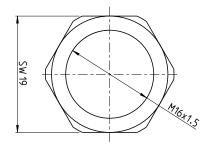


2823423-1





2823066-1

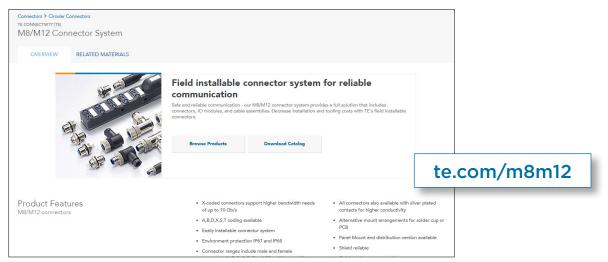


All dimensions in mm.

	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



M8M12 Cable Assemblies



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.

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

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M8/M12 CONNECTOR SYSTEM

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

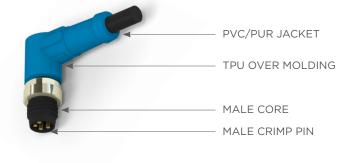
STANDARDS & APPLICATIONS

- 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 Single Ended Cable Assembly

M8 cable assemblies T405/T406 series

STANDARD: IEC61076-2-104





MN	Position
03	3P
04	4P

S	Application Type - Shield/ Unshielded	
5	Unshielded	
6	Shield	

Α	Single/Double	
1	Single end	
2	Double end	

Х	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

-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
-XXO	XX M
-XX5	XX.5 M

	Poles		To Din
n Pin	3	4	To Pin

From Pin	F OIES		To Pin
FIOIII PIII	3	4	TO PIT
1	Brown	Brown	1
2	-	White	2
3	Blue	Blue	3
4	Black	Black	4
Shielded	Metal Nut	Metal Nut	Shielded

Wiring Diagram-M8 cable assembly Shielded*

Wiring Diagram-M8 cable assembly Unshielded*

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

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

PRODUCT OFFERINGS - M8 Single Ended Cable Assembly

M8 STR SINGLE ENDED CABLE ASSEMBLY

PN	PN Part Description		Туре	Cable Material	Shielded/Unshielded
<u>T4051320003-001</u>	M8 FS 3P PUR CABLE 0.5M				Unshielded
<u>T4061320003-001</u>	M8 FS 3P PUR CABLE 0.5M SH	7	Female Straight	PUR	Shielded
<u>T4051310003-001</u>	M8 FS 3P PVC CABLE 0.5M	- 3		PVC	Unshielded
<u>T4061310003-001</u>	M8 FS 3P PVC CABLE 0.5M SH				Shielded
<u>T4051320004-001</u>	M8 FS 4P PUR CABLE 0.5M			PUR	Unshielded
<u>T4061320004-001</u>	M8 FS 4P PUR CABLE 0.5M SH		4		Shielded
<u>T4051310004-001</u>	M8 FS 4P PVC CABLE 0.5M	4			Unshielded
<u>T4061310004-001</u>	M8 FS 4P PVC CABLE 0.5M SH				Shielded

PN	Part Description		Туре	Cable Material	Shielded/Unshielded
<u>T4051120003-001</u>	M8 MS 3P PUR CABLE 0.5M			DUD	Unshielded
<u>T4061120003-001</u>	M8 MS 3P PUR CABLE 0.5M SH	7	Male Straight	PUR	Shielded
<u>T4051110003-001</u>	M8 MS 3P PVC CABLE 0.5M	3		51/6	Unshielded
<u>T4061110003-001</u>	M8 MS 3P PVC CABLE 0.5M SH			PVC	Shielded
<u>T4051120004-001</u>	M8 MS 4P PUR CABLE 0.5M			DUD	Unshielded
T4061120004-001	M8 MS 4P PUR CABLE 0.5M SH	4	PUR	Shielded	
<u>T4051110004-001</u>	M8 MS 0.5M 4P PVC CABLE 0.5M			PVC	Unshielded
<u>T4061110004-001</u>	M8 MS 4P PVC CABLE 0.5M SH				Shielded

M8 R/A SINGLE ENDED CABLE ASSEMBLY

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

PN	Part Description		Туре	Cable Material	Shielded/Unshielded
T4051220003-001	M8 MR 3P PUR CABLE 0.5M			PUR	Unshielded
<u>T4061220003-001</u>	M8 MR 3P PUR CABLE 0.5M SH	7	Male Right Angle	PUR	Shielded
<u>T4051210003-001</u>	M8 MR 3P PVC CABLE0.5M	3			Unshielded
<u>T4061210003-001</u>	M8 MR 3P PVC CABLE 0.5M SH			PVC	Shielded
<u>T4051220004-001</u>	M8 MR 4P PUR CABLE 0.5M				Unshielded
T4061220004-001	M8 MR 4P PUR CABLE 0.5M SH			PUR	Shielded
<u>T4051210004-001</u>	M8 MR 4P PVC CABLE 0.5M	- 4		51/6	Unshielded
<u>T4061210004-001</u>	M8 MR 4P PVC CABLE 0.5M SH			PVC	Shielded

M12 Single Ended Cable Assembly

M12 cable assemblies T415/T416 series

STANDARD: IEC61076-2-101









S	Shield/Unshielded
5	Unshielded
6	Shield

Α	Single/Double End
1	Single end
2	Double end

Х	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			
1	Black PVC		
2	Gray PUR		

MN	Position
03	3P
04	4P
05	5P
08	8P

Υ	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

A Code

С

0

-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

PVC/PUR

Wiring Diagram-M12 cable assembly Shielded*

Code

From Pin		Poles						
	2	3	4	5	8	To Pin		
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		

Wiring Diagram-M12 cable assembly Unshielded*

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

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

PRODUCT OFFERINGS - M12 A-Code Single Ended Cable Assembly

M12 A-CODE STR SINGLE ENDED CABLE ASSEMBLY

PN	Part Description	Code	Pos	Туре	Cable Materials	Shield/Unshielded
<u>T4151320002-001</u>	M12 FS 2P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161320002-001</u>	M12 FS 2P PUR CABLE 0.5M SH				PUR	Shielded
T4151310002-001	M12 FS 2P PVC CABLE 0.5M		2		PVC	Unshielded
<u>T4161310002-001</u>	M12 FS 2P PVC CABLE 0.5M SH				PVC	Shielded
<u>T4151320003-001</u>	M12 FS 3P PUR CABLE 0.5M					Unshielded
<u>T4161320003-001</u>	M12 FS 3P PUR CABLE 0.5M SH		3		PUR	Shielded
<u>T4151310003-001</u>	M12 FS 3P PVC CABLE 0.5M		5	Female Straight	PVC	Unshielded
<u>T4161310003-001</u>	M12 FS 3P PVC CABLE 0.5M SH			Female Straight	PVC	Shielded
<u>T4151320004-001</u>	M12 FS 4P PUR CABLE 0.5M		4		PUR	Unshielded
<u>T4161320004-001</u>	M12 FS 4P PUR CABLE 0.5M SH	A		12	POR	Shielded
<u>T4151310004-001</u>	M12 FS 4P PVC CABLE 0.5M	A	4		PVC	Unshielded
<u>T4161310004-001</u>	M12 FS 4P PVC CABLE 0.5M SH				PVC	Shielded
<u>T4151320005-001</u>	M12 FS 5P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161320005-001</u>	M12 FS 5P PUR CABLE 0.5M SH		5		PUR	Shielded
<u>T4151310005-001</u>	M12 FS 5P PVC CABLE 0.5M		5		PVC	Unshielded
<u>T4161310005-001</u>	M12 FS 5P PVC CABLE 0.5M SH				PVC	Shielded
<u>T4151320008-001</u>	M12 FS 8P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161320008-001</u>	M12 FS 8P PUR CABLE 0.5M SH		8		PUR	Shielded
<u>T4151310008-001</u>	M12 FS 8P PVC CABLE 0.5M		ð		PVC	Unshielded
<u>T4161310008-001</u>	M12 FS 8P PVC CABLE 0.5M SH				PVC	Shielded

PN	Part Description	Code	Pos	Туре	Cable Materials	Shield/Unshielded
T4151120002-001	M12 MS 2P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161120002-001</u>	M12 MS 2P PUR CABLE 0.5M SH				1 OK	Shielded
<u>T4151110002-001</u>	M12 MS 2P PVC CABLE 0.5M		2		PVC	Unshielded
T4161110002-001	M12 MS 2P PVC CABLE 0.5M SH				FVC	Shielded
<u>T4151120003-001</u>	M12 MS 3P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161120003-001</u>	M12 MS 3P PUR CABLE 0.5M SH		_		FOR	Shielded
<u>T4151110003-001</u>	M12 MS 3P PVC CABLE 0.5M		3	Male Straight	PVC	Unshielded
T4161110003-001	M12 MS 3P PVC CABLE 0.5M SH			i lato ottalight	FVC	Shielded
<u>T4151120004-001</u>	M12 MS 4P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161120004-001</u>	M12 MS 4P PUR CABLE 0.5M SH				1 OK	Shielded
<u>T4151110004-001</u>	M12 MS 4P PVC CABLE 0.5M	A	4		PVC	Unshielded
T4161110004-001	M12 MS 4P PVC CABLE 0.5M SH				FVC	Shielded
<u>T4151120005-001</u>	M12 MS 5P PUR CABLE 0.5M			Sand P	PUR	Unshielded
<u>T4161120005-001</u>	M12 MS 5P PUR CABLE 0.5M SH		_		FOR	Shielded
T4151110005-001	M12 MS 5P PVC CABLE 0.5M		5		PVC	Unshielded
T4161110005-001	M12 MS 5P PVC CABLE 0.5M SH				FVC	Shielded
<u>T4151120008-001</u>	M12 MS 8P PUR CABLE 0.5M				PUR	Unshielded
T4161120008-001	M12 MS 8P PUR CABLE 0.5M SH	1			FUR	Shielded
T4151110008-001	M12 MS 8P PVC CABLE 0.5M	1	8		PVC	Unshielded
T4161110008-001	M12 MS 8P PVC CABLE 0.5M SH	1			FVC	Shield

M12 A-CODE R/A SINGLE ENDED CABLE ASSEMBLY

PN	Part Description	Code	Pos	Туре	Cable Materials	Shield/Unshielded
<u>T4151420002-001</u>	M12 FR 2P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161420002-001</u>	M12 FR 2P PUR CABLE 0.5M SH		2		PUR	Shield
<u>T4151410002-001</u>	M12 FR 2P PVC CABLE 0.5M		2		PVC	Unshielded
<u>T4161410002-001</u>	M12 FR 2P PVC CABLE 0.5M SH				PVC	Shield
<u>T4151420003-001</u>	M12 FR 3P PUR CABLE 0.5M				DUD	Unshielded
<u>T4161420003-001</u>	M12 FR 3P PUR CABLE 0.5M SH		7		PUR	Shield
<u>T4151410003-001</u>	M12 FR 3P PVC CABLE 0.5M		3	Female	PVC	Unshielded
<u>T4161410003-001</u>	M12 FR 3P PVC CABLE 0.5M SH			. emaie		Shield
<u>T4151420004-001</u>	M12 FR 4P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161420004-001</u>	M12 FR 4P PUR CABLE 0.5M SH	_	4	13	POR	Shield
<u>T4151410004-001</u>	M12 FR 4P PVC CABLE 0.5M	A			PVC	Unshielded
<u>T4161410004-001</u>	M12 FR 4P PVC CABLE 0.5M SH				PVC	Shield
<u>T4151420005-001</u>	M12 FR 5P PUR CABLE 0.5M				PUR	Unshielded
<u>T4161420005-001</u>	M12 FR 5P PUR CABLE 0.5M SH		5		PUR	Shield
<u>T4151410005-001</u>	M12 FR 5P PVC CABLE 0.5M		5		PVC	Unshielded
<u>T4161410005-001</u>	M12 FR 5P PVC CABLE 0.5M SH				PVC	Shield
<u>T4151420008-001</u>	M12 FR 8P PUR CABLE 0.5M				DUD	Unshielded
<u>T4161420008-001</u>	M12 FR 8P PUR CABLE 0.5M SH				PUR	Shield
<u>T4151410008-001</u>	M12 FR 8P PVC CABLE 0.5M		8			Unshielded
<u>T4161410008-001</u>	M12 FR 8P PVC CABLE 0.5M SH				PVC	Shield

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

PRODUCT OFFERINGS - M8 to M8 Double Ended Cable Assembly

M8 MALE STR - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

PN	Part Description	Pos	Туре	Cable Materials	Shield/ Unshielded
<u>T4052123003-001</u>	M8 MS 3P - M8 FS 3P PUR CABLE 0.5M	- 3		PUR	Unshielded
<u>T4062123003-001</u>	M8 MS 3P - M8 FS 3P PUR CABLE 0.5M SH		MS-FS		Shield
T4052113003-001	M8 MS 3P - M8 FS 3P PVC CABLE 0.5M			PVC	Unshielded
<u>T4062113003-001</u>	M8 MS 3P - M8 FS 3P PVC CABLE 0.5M SH				Shield
<u>T4052123004-001</u>	M8 MS 4P - M8 FS 4P PUR CABLE 0.5M				Unshielded
T4062123004-001	M8 MS 4P - M8 FS 4P PUR CABLE 0.5M SH			PUR	Shield
T4052113004-001	M8 MS 4P - M8 FS 4P PVC CABLE 0.5M	- 4	12 m	DVC	Unshielded
<u>T4062113004-001</u>	M8 MS 4P - M8 FS 4P PVC CABLE 0.5M SH			PVC	Shield

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

PN	Part Description	Pos	Туре	Cable Materials	Shield/ Unshielded
<u>T4052124003-001</u>	M8 MS 3P - M8 FR 3P PUR CABLE 0.5M			PUR	Unshielded
<u>T4062124003-001</u>	M8 MS 3P - M8 FR 3P PUR CABLE 0.5M SH	_	MS-FR	PUR	Shield
<u>T4052114003-001</u>	M8 MS 3P - M8 FR 3P PVC CABLE 0.5M	- 3		PVC	Unshielded
<u>T4062114003-001</u>	M8 MS 3P - M8 FR 3P PVC CABLE 0.5M SH				Shield
T4052124004-001	M8 MS 4P - M8 FR 4P PUR CABLE 0.5M				Unshielded
T4062124004-001	M8 MS 4P - M8 FR 4P PUR CABLE 0.5M SH			PUR	Shield
<u>T4052114004-001</u>	M8 MS 4P - M8 FR 4P PVC CABLE 0.5M	4		DVC	Unshielded
T4062114004-001	M8 MS 4P - M8 FR 4P PVC CABLE 0.5M SH			PVC	Shield

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

PN	Part Description	Pos	Туре	Cable Materials	Shield/ Unshielded
T4052224003-001	M8 MR 3P - M8 FR 3P PUR CABLE 0.5M	- 3		PUR	Unshielded
T4062224003-001	M8 MR 3P - M8 FR 3P PUR CABLE 0.5M SH		MR-FR		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
<u>T4062224004-001</u>	M8 MR 4P - M8 FR 3P PUR CABLE 0.5M				Unshielded
<u>T4052224004-001</u>	M8 MR 4P - M8 FR 3P PUR CABLE 0.5M SH			PUR	Shield
<u>T4062214004-001</u>	M8 MR 4P - M8 FR 3P PVC CABLE 0.5M	4		DVC	Unshielded
<u>T4052214004-001</u>	M8 MR 4P - M8 FR 3P PVC CABLE 0.5M SH			PVC	Shield

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

PN	Part Description	Pos	Туре	Cable Materials	Shield/ Unshielded
T4062223003-001	M8 MR 3P - M8 FS 3P PUR CABLE 0.5M			PUR	Unshield
<u>T4052223003-001</u>	M8 MR 3P - M8 FS 3P PUR CABLE 0.5M SH	- 3	MR-FS	PUR	Shielded
<u>T4062213003-001</u>	M8 MR 3P - M8 FS 3P PVC CABLE 0.5M		e la	PVC	Unshield
<u>T4052213003-001</u>	M8 MR 3P - M8 FS 3P PVC CABLE 0.5M SH				Shielded
T4052223004-001	M8 MR 4P - M8 FS 3P PUR CABLE 0.5M			סעוס	Unshielded
T4062223004-001	M8 MR 4P - M8 FS 3P PUR CABLE 0.5M SH	- 4	No.	PUR	Shield
T4052213004-001	M8 MR 4P - M8 FS 3P PVC CABLE 0.5M				Unshielded
<u>T4062213004-001</u>	M8 MR 4P - M8 FS 3P PVC CABLE 0.5M SH			PVC	Shield

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

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

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

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

PN	Part Description	Pos	Туре	Code	Cable Materials	Shield/ Unshielded
<u>T4152224002-001</u>	M12 MR 2P - M12 FR 2P PUR CABLE 0.5M				PUR	Unshielded
T4162224002-001	M12 MR 2P - M12 FR 2P PUR CABLE 0.5M SH	2			PUR	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
<u>T4152224003-001</u>	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		MS-FS			Shield
<u>T4152214003-001</u>	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		A		PVC	Shield
T4152224004-001	M12 MR 4P - M12 FR 4P PUR CABLE 0.5M			A	PUR	Unshielded
T4162224004-001	M12 MR 4P - M12 FR 4P PUR CABLE 0.5M SH	4			PUR	Shield
T4152214004-001	M12 MR 4P - M12 FR 4P PVC CABLE 0.5M	4			DVC	Unshielded
T4162214004-001	M12 MR 4P - M12 FR 4P PVC CABLE 0.5M SH				PVC	Shield
T4152224005-001	M12 MR 5P - M12 FR 5P PUR CABLE 0.5M				PUR	Unshielded
T4162224005-001	M12 MR 5P - M12 FR 5P PUR CABLE 0.5M SH	- 5			PUR	Shield
T4152214005-001	M12 MR 5P - M12 FR 5P PVC CABLE 0.5M				PVC	Unshielded
<u>T4162214005-001</u>	M12 MR 5P - M12 FR 5P PVC CABLE 0.5M SH				FVC	Shield

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

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

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

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

PN	Part Description	Pos	Туре	Code	Cable Materials	Shield/ Unshielded
<u>T4152223002-001</u>	M12 MR 2P - M12 FS 2P PUR CABLE 0.5M				PUR -	Unshielded
T4162223002-001	M12 MR 2P - M12 FS 2P PUR CABLE 0.5M SH	2			PUR	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				PVC	Shield
T4152223003-001	M12 MR 3P - M12 FS 3P PUR CABLE 0.5M			А	PUR -	Unshielded
T4162223003-001	M12 MR 3P - M12 FS 3P PUR CABLE 0.5M SH	- 3	MR-FS		PUR	Shield
<u>T4152213003-001</u>	M12 MR 3P - M12 FS 3P PVC CABLE 0.5M	3			PVC	Unshielded
T4162213003-001	M12 MR 3P - M12 FS 3P PVC CABLE 0.5M SH				PVC	Shield
T4152223004-001	M12 MR 4P - M12 FS 4P PUR CABLE 0.5M				PUR	Unshielded
<u>T4162223004-001</u>	M12 MR 4P - M12 FS 4P PUR CABLE 0.5M SH	4				Shield
T4152213004-001	M12 MR 4P - M12 FS 4P PVC CABLE 0.5M	4			PVC	Unshielded
T4162213004-001	M12 MR 4P - M12 FS 4P PVC CABLE 0.5M SH				PVC	Shield
T4152223005-001	M12 MR 5P - M12 FS 5P PUR CABLE 0.5M					Unshielded
T4162223005-001	M12 MR 5P - M12 FS 5P PUR CABLE 0.5M SH	5			PUR	Shield
T4152213005-001	M12 MR 5P - M12 FS 5P PVC CABLE 0.5M	5			PVC -	Unshielded
<u>T4162213005-001</u>	M12 MR 5P - M12 FS 5P PVC CABLE 0.5M SH				FVC	Shield

PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly

M8 FEMALE STR - M12 MALE STR DOUBLE ENDED CABLE ASSEMBLY

PN	Part Description	Pos	Туре	Cable Materials	Shield/Unshielded
<u>T4052325003-001</u>	M8 3P FS - M12 3P MS PUR CABLE 0.5M	7	M8 FS - M12 MS	PUR	
<u>T4052315003-001</u>	M8 3P FS - M12 3P MS PVC CABLE 0.5M	3		PVC	
<u>T4052325004-001</u>	M8 4P FS - M12 4P MS PUR CABLE 0.5M	4		PUR	Unshielded
<u>T4052315004-001</u>	01 M8 4P FS - M12 4P MS PVC CABLE 0.5M	4		PVC	

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

PN	Part Description P		Туре	Cable Materials	Shield/Unshielded
<u>T4052326003-001</u>	M8 3P FS - M12 3P MR PUR CABLE 0.5M	7	M8 FS -M12 MR	PUR	
<u>T4052316003-001</u>	M8 3P FS - M12 3P MR PVC CABLE 0.5M	- 3		PVC	
<u>T4052326004-001</u>	M8 4P FS - M12 4P MR PUR CABLE 0.5M	4		PUR	Unshielded
<u>T4052316004-001</u>	M8 4P FS - M12 4P MR PVC CABLE 0.5M	4		PVC	

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

PN	Part Description P		Туре	Cable Materials	Shield/Unshielded
<u>T4052425003-001</u>	M8 3P FR - M12 3P MS PUR CABLE 0.5M	7	M8 FR -M12 MS	PUR	
<u>T4052415003-001</u>	M8 3P FR - M12 3P MS PVC CABLE 0.5M	3		PVC	
<u>T4052425004-001</u>	M8 4P FR - M12 4P MS PUR CABLE 0.5M	4		PUR	Unshielded
<u>T4052415004-001</u>	M8 4P FR - M12 4P MS PVC CABLE 0.5M	- 4		PVC	

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

PN	Part Description P		Туре	Cable Materials	Shield/Unshielded
<u>T4052426003-001</u>	M8 3P FR - M12 3P MR PUR CABLE 0.5M	- 3	M8 FR -M12 MR	PUR	
<u>T4052416003-001</u>	M8 3P FR - M12 3P MR PVC CABLE 0.5M	5		PVC	
<u>T4052426004-001</u>	M8 4P FR - M12 4P MR PUR CABLE 0.5M	4		PUR	Unshielded
<u>T4052416004-001</u>	M8 4P FR - M12 4P MR PVC CABLE 0.5M	4		PVC	

PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly

M8 MALE STR - M12 FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

PN	Part Description P		Туре	Cable Materials	Shield/Unshielded	
<u>T4052127003-001</u>	M8 3P MS - M12 3P FS PUR CABLE 0.5M	7	M8 MS -M12 FS	PUR		
<u>T4052117003-001</u>	M8 3P MS - M12 3P FS PVC CABLE 0.5M	- 5		PVC		
<u>T4052127004-001</u>	M8 4P MS - M12 4P FS PUR CABLE 0.5M	4		PUR	Unshielded	
<u>T4052117004-001</u>	M8 4P MS - M12 4P FS PVC CABLE 0.5M	4	22	PVC		

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

PN	Part Description F		Туре	Cable Materials	Shield/Unshielded
<u>T4052128003-001</u>	M8 3P MS - M12 3P FR PUR CABLE 0.5M	7	M8 MS -M12 FR	PUR	
<u>T4052118003-001</u>	M8 3P MS - M12 3P FR PVC CABLE 0.5M	5		PVC	
<u>T4052128004-001</u>	M8 4P MS - M12 4P FR PUR CABLE 0.5M			PUR	Unshielded
<u>T4052118004-001</u>	M8 4P MS - M12 4P FR PVC CABLE 0.5M	- 4		PVC	

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

PN	Part Description P		Туре	Cable Materials	Shield/Unshielded
<u>T4052227003-001</u>	M8 3P MR - M12 3P FS PUR CABLE 0.5M	7	M8 MR -M12 FS	PUR	
<u>T4052217003-001</u>	M8 3P MR - M12 3P FS PVC CABLE 0.5M	3		PVC	
<u>T4052227004-001</u>	M8 4P MR - M12 4P FS PUR CABLE 0.5M	4		PUR	Unshielded
<u>T4052217004-001</u>	M8 4P MR - M12 4P FS PVC CABLE 0.5M	4		PVC	

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

PN	Part Description F		Туре	Cable Materials	Shield/Unshielded	
<u>T4052228003-001</u>	M8 3P MR - M12 3P FR PUR CABLE 0.5M	3	M8 MR - M12 FR	PUR		
<u>T4052218003-001</u>	M8 3P MR - M12 3P FR PVC CABLE 0.5M	5		PVC		
<u>T4052228004-001</u>	M8 4P MR - M12 4P FR PUR CABLE 0.5M			PUR	Unshielded	
<u>T4052218004-001</u>	M8 4P MR - M12 4P FR PVC CABLE 0.5M	4		PVC		

Cable Specifications

M8 UNSHIELDED CABLE ASSEMBLIES

M8 cable a	ssembly unshielded PVC	series	M8 cable assembly ur	M8 cable assembly unshielded PUR series			
	PVC		PU	R			
Image							
No. of conductors	3 4		3	4			
Jacket material	PVC		PUR				
Jacket color	Blacl	<	Gra	Gray			
Cross section	24AW	'G	24A	24AWG			
Contruction	32/0.10	mm	32/0.1	0mm			
Temp range-Fixed	-10°C-8	0°C	-40°C-	·80°C			
Temp range-Flexible	-5°C-80°C		-25°C-80°C				
Features	Flame Retardant, Rohs		Flame Retardant, d	oil resistant, Rohs			
Standards	UL758, UL158	1, UL2464	UL758, UL158	UL758, UL1581, UL20549			

M8 SHIELDED CABLE ASSEMBLIES

M8 cabl	le assembly shielded PVC	series	M8 cable assembly	shielded PUR series		
Image	je PVC		PUR			
No. of conductors	3	4	3	4		
Jacket material	P\	/C	Pl	PUR		
Jacket color	Bla	ack	Gr	Gray		
Cross section	24A	WG	244	24AWG		
Contruction	Construction Shield1: A Shield2: Tinned		Shield1: /	n: 32/0.10mm AL/Mylar d copper braid		
Temp range-Fixed	-10°C	-10°C-80°C		-80°C		
Temp range-Flexible	-5°C-	-5°C-80°C		-80°C		
Features	Flame Reta	Flame Retardant, Rohs		oil resistant, Rohs		
Standards	UL758, UL15	UL758, UL1581, UL2464		81, UL20549		

M12 UNSHIELDED CABLE ASSEMBLIES

	M12 PVC c	able assemb	oly unshield	ed series		M12	PUR cable	assembly u	nshielded se	eries
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
Contruction	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				<u>.</u>
Temp range- Flexible	-5°C-80°C			-25°C-80°C						
Features	Flame Retardant, Rohs			Flame Retardant, oil resistant, Rohs						
Standards		UL758	8, UL1581, UL	.2464			UL758	8, UL1581, UL2	20549	

M12 SHIELDED CABLE ASSEMBLIES

	M1	2 cable	assembl	y shield	ed 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				Blac	K	Gray				
Cross section	22AWG	22AWG	22AWG	22AWG	24AWG	22AWG 22AWG 22AWG 22AWG 24AWG				24AWG
Contruction		struction Shield1: / d2: Tinne	AL/Mylar	r	Construction: 32/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid	Shield1: AL/Mylar Shield1: AL/Mylar				Construction: 2/0.10mm Shield1: AL/Mylar Shield2: Tinned copper braid
Temp range-Fixed	-10°C-80°C					-40°C-80°C				80°C
Temp range- Flexible	-5°C-80°C					-25°C-80°C				30°C
Features		Flame Retardant, Rohs					Fla	ime Reta	ardant, c	il resistant, Rohs
Standards			UL75	8, UL158	1, UL2464			UL75	8, UL158	1, 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

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)

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAA541B1411-001	M12A4-MS-PVC-0.5M				Male / Female Straight	PVC Red 20AWG	
TAA543B1411-001	M12A4-FS-PVC-0.5M	CC-Link	A	4		-D	Yes
<u>TAA544B1411-001</u>	M12A4-FR-PVC-0.5M	(10Mbs)	A	4	Male / Female R/A		162
TAA542B1411-001	M12A4-MR-PVC-0.5M						

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

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

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

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

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAA755A5501-001</u>	M12A5-MS-FS-PUR-0.5M				MS-FS	PUR Violet 2x24AWG+2x 22AWG	
<u>TAA75AA5501-001</u>	M12A5-MR-FS-PUR-0.5M	DeviceNet (500Kbs)	А	5	MR-FS / MS-FR	A COL	Yes
<u>TAA756A5501-001</u>	M12A5-MS-FR-PUR-0.5M				Ra	3	

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

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAA751A1611-001</u>	M12A5-MS-PVC-0.5M				Male / Female Straight	PVC Gray 2x24AWG+2x22AWG	
<u>TAA753A1611-001</u>	M12A5-FS-PVC-0.5M	DeviceNet (500Kbs)	A	5	CO P	3 3	
<u>TAA754A1611-001</u>	M12A5-FR-PVC-0.5M				Male / Female R/A		Yes
<u>TAA752A1611-001</u>	M12A5-MR-PVC-0.5M				6	8	

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAA755A1611-001</u>	M12A5-MS-FS-PVC-0.5M				MS-FS	PVC Gray 2x24AWG+2x22 AWG	
<u>TAA75AA1611-001</u>	M12A5-MR-FS-PVC-0.5M	DeviceNet (500Kbs)	A	5	MR-FS / MS-FR	18 M	Yes
<u>TAA756A1611-001</u>	M12A5-MS-FR-PVC-0.5M				6	8	

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAB62146501-001	M12B2-MS-PUR TORS-0.5M	Profibus DP (12Mbs)	В	2	Male / Female Straight	PUR Torsion 22AWG Violet	
<u>TAB62346501-001</u>	M12B2-FS-PUR TORS-0.5M					the second second	
<u>TAB62446501-001</u>	M12B2-FR-PUR TORS-0.5M				Male / Female R/A		Yes
TAB62246501-001	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	Туре	Cable Material	Shielded
TAB62546501-001	M12B2-MS-FS-PUR/T-0.5M				MS-FS	PUR Torsion 22AWG Violet	
TAB62A46501-001	M12B2-MR-FS-PUR/T-0.5M	Profibus DP (12Mbs)	В	2	MR-FS / MS-FR	(in the second s	Yes
TAB62646501-001	M12B2-MS-FR-PUR/T-0.5M				C	0	

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

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

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

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

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 trasnmission
- 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

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: $100M\Omega$ 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



PART NUMBER LIST

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAD14545101-001</u>	M12D4-MS-FS-PUR- 22SH-TYPE C-0.5M	Profinet, EtherCAT, Ethernet/IP (up to 100Mbs)			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	
TAD1453A201-001	M12D4-MS-FS- TPE-24SH-0.5M			4 —	M12 MS-FS	CAT5E TPE, SF/ UTP 24AWG TEAL	
TAD2453A201-001	M12D4-MS-FS-TPE- 24UNSH-0.5M				M12 MS-FS	CAT5E TPE, U/UTP 24AWG, TEAL	No

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TCD14745101-001	M12D4-MS-RJ45-PUR- 22SH-TYPE C-0.5M	Profinet, EtherCAT, Ethernet/IP (up to 100Mbs)	AT, t/IP D		M12 MS - RJ45	CAT5E TYPE C, PUR, 22AWG, GREEN	Yes
TCD14741111-001	M12D4-MS-RJ45-PVC- 22SH-TYPE B-0.5M				M12 MS - RJ45	CAT5E TYPE B, PVC, 22AWG, GREEN	
TCD1473A201-001	M12D4-MS-RJ45- TPE-24SH-0.5M			4 —	M12 MS - RJ45	CAT5E TPE, SF/ UTP 24AWG TEAL	
TAD2473A201-001	M12D4-MS-RJ45- TPE-24UNSH-0.5M				M12 MS - RJ45	CAT5E TPE, U/UTP 24AWG, TEAL	No

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	Туре	Cable Material	Shielded
TAD2413A201-001	M12D4-MS-TPE USH-0.5M		π, /IP D	D 4	Male Straight (MS)	CAT5E TPE SF/UTP 24AWG, TEAL	Vez
TAD2423A201-001	M12D4-MR-TPE USH-0.5M	Profinet, EtherCAT,			Male Right Angle (MR)	3	Yes
TAD1413A201-001	M12D4-MS-TPE SH-0.5M	Ethernet/IP (up to 100Mbs)			Male Straight (MS)	CAT5E TPE U/UTP 24AWG, TEAL	Ne
TAD1423A201-001	M12D4-MR-TPE SH-0.5M				Male Right Angle (MR)	3	No

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	Туре	Cable Material	Shielded
TAD1473A201-001	M12D4-MS-MS- TPE SH-0.5M		D		MS-MS	CAT5E TPE SF/UTP 24AWG, TEAL	Net
TAD1483A201-001	M12D4-MS-MR- TPE SH-0.5M	Profinet, EtherCAT,			MS-MR	3	Yes
TAD2473A201-001	M12D4-MS-MS- TPE USH-0.5M	 Ethernet/IP (up to 100Mbs) 		4	MS-MS	CAT5E TPE U/UTP 24AWG, TEAL	
TAD2483A201-001	M12D4-MS-MR- TPE USH-0.5M				MS-MR	3	No

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAD14145101-001	M12D4-MS-PUR TYPE C GREEN-0.5M	Profinet, EtherCAT , Ethernet/IP	D	4	Male Straight	CAT5E TYPE C, PUR, 22AWG, GREEN	Yes
TAD14245101-001	M12D4-MR-PUR TYPE C GREEN-0.5M	(up to 100Mbs)		4	Male R/A	** -2	Tes

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

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAD14745101-001	M12D4-MS-MS-PUR TYPE C GREEN-0.5M	Profinet, EtherCAT , Ethernet/IP			MS-MS	CAT5E TYPE C, PUR, 22AWG, GREEN	Vez
TAD14845101-001	M12D4-MS-MR-PUR TYPE C GREEN-0.5M	(up to 100Mbs)	D	4	MS-MR	** (3)	Yes

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAD14147101-001	M12D4-MS-FRNC TYPE B GREEN-0.5M	Profinet, EtherCAT , Ethernet/IP	D	4	Male Straight	CAT5E TYPE B, FRNC, 22AWG, GREEN	Yes
TAD14247101-001	M12D4-MR-FRNC TYPE B GREEN-0.5M	(up to 100Mbs)			Male R/A	<u>چې د اور م</u>	103

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
TAD14747101-001	M12D4-MS-MS-FRNC TYPE B GREEN-0.5M	Profinet, EtherCAT , Ethernet/IP			MS-MS	CAT5E TYPE B, FRNC, 22AWG, GREEN	No.
<u>TAD14847101-001</u>	M12D4-MS-MR-FRNC TYPE B GREEN-0.5M	(up to 100Mbs)	D	4	MS-MR	2 (3)	Yes

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

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAD14141111-001</u>	M12D4-MS-PVC TYPE B-0.5M	Profinet, EtherCAT , – Ethernet/IP	D	4	Male Straight	CAT5E TYPE B, PVC, 22AWG, GREEN	Yes
<u>TAD14241111-001</u>	M12D4-MR-PVC TYPE B-0.5M	(up to 100Mbs)		4	Male R/A	»» ~~~ ©	163

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAD14741111-001</u>	M12D4-MS-MS-PVC TYPE B-0.5M	Profinet, EtherCAT , Ethernet/IP	D	4	MS-MS	CAT5E TYPE B, PVC, 22AWG, GREEN	Yes
<u>TAD14841111-001</u>	M12D4-MS-MR-PVC TYPE B-0.5M	(up to 100Mbs)		7	MS-MR	چې ا	163

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded
<u>TAD14141311-001</u>	M12D4-MS-PVC TYPE B RED-0.5M	SERCOS-III	D		Male Straight	CAT5E TYPE B, PVC, 22AWG, RED	
<u>TAD14241311-001</u>	M12D4-MR-PVC TYPE B RED-0.5M	(up to 100Mbs)		4	Male R/A	6	Yes

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

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

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
-200	20.0M
-250	25.0M
-300	30.0M

-XXX	Customized Cable Length
-XX0	XXM
-XX5	XX.5M

Application	Code		Pin Assignment		M12 D Code Male	RJ45 Plug	Shielding
			finet/EtherCAT P jacketed cables) 12 D code TO RJ 4				
		Pin1 TD+	Yellow	Pin1			
Ethernet		Pin3 TD-	Orange	Pin2			Option on metal nut
		Pin2 RD+	White	Pin3			
	D code	Pin4 RD-	Blue	Pin6			
		(For EtherNET/IP TPE jacketed cable)				123 6	
		M12 D code TO RJ45					
		Pin1 TD+	White-Orange	Pin1	-		
		Pin3 TD-	Orange	Pin2			
		Pin2 RD+	White-Green	Pin3			
		Pin4 RD-	Green	Pin6			

PART NUMBER GUIDE FOR M12 D-CODE CORDSETS

T A D S B X W Y O M N -XXX		A D	S	В	Х	W	Y	0	Μ	Ν	-XXX
----------------------------	--	-----	---	---	---	---	---	---	---	---	------

Ν	Other
1	Standard screw nut with nickel plated
I	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

Customized Cable Length	-XXX
XX.0M	-XXO
XX.5M	-XX5
(<1M) 0.XM	-99X
0.3M	-993
15.5M	-155

W	Wire Gauge
3	24 AWG (*for TPE)
4	22 AWG (*for PUR, PVC)

Cable Jacket
PVC Moderate flexible
PUR high flex
TPE Extreme high flex

0	Cable Color
1	Green
2	Teal
3	Red

Μ	Over-Molding
0	Black TPU Over-molding (*for PUR and TPE)
1	Black PVC Over-molding for PVC

TE Brand	Т
M12 series	A
D code	D

S	Application Type
1	Shielding industrial ethernet Cate5e
2	Unshielding industrial ethernet Cate5e *only with TPE

В	Poles No.
4	4 Poles
х	Interface Type

	•••
1	Male straight
2	Male angled
5	Male straight to female straight
7	Male straight to male straight
8	Male straight to male angled

FOR ETHERNET/IP (TPE CABLE)

FOR PROFINET/ETHERCAT (PUR, PVC CABLE)

Wiring Diagram-M12 Cable Cordset Shielded

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

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

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		3 4 0 0 2 1	Option on metal nut

Т

С

D

s

1

2

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



-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
-XXO	XX.0M
-XX5	XX.5M
-99X	(<1M) 0.XM
-993	0.3M
-155	15.5M

Υ	Cable Jacket
1	PVC Moderate flexible
5	PUR High flex
А	TPE Extreme high flex

0	Cable Color
1	Green (*PUR and PVC)
2	Teal (*TPE)

Over-Molding
Black TPU Over-molding (*for PUR and TPE)
Black PVC Over-molding (*for PVC)

Туре		
ernet ate5e	0	
ernet	1	Green (*P
n TPE	2	

Ν

1

в	Poles No.
4	4 Poles
х	Interface Type

~	interface Type
7	Male straight to RJ45 male straight

W	Wire Gauge
3	24 AWG (*for TPE)
4	22 AWG (*for PUR, PVC)

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)

Other

nickel plated

AU plated

Standard screw nut with

Stamping contact 30u"

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

Application Type	
Shielding Industrial Ethernet Cate5e	0
Unshielding Industrial Ethernet	1
Cate5e *only with TPE	2

TE Brand

D code

M12 to RJ45

Application	Code	Pin Assignment	Male	Female	Shielding
Ethernet	D code	(For Profinet/EtherCAT): PIN 1 TD+ YELLOW PIN 3 TD- ORANGE PIN 2 RD+ WHITE PIN 4 RD- BLUE (For Ethernet/IP): PIN 1 TD+ WHITE-ORANGE PIN 3 TD- ORANGE PIN 2 RD+ WHITE-GREEN PIN 4 RD- GREEN		3 4 5 0 0 2 1	Optional on metal nut
CC-link	A code	PIN 1 DRAIN BARE PIN 2 DS WHITE PIN 3 DG YELLOW PIN 4 DA BLUE		$\begin{array}{c} 3 \\ 0 \\ 0 \\ 2 \\ 1 \end{array}$	On metal nut
Profibus	B code	PIN 2 DATA CORE A GREEN PIN 4 DATA CORE B RED		$\begin{array}{c}3\\0\\5\\0\\0\\2\\1\end{array}$	On metal nut
Devicenet/ Canopen	A code	PIN 4 CAN_H WHITE PIN 5 CAN_L BLUE PIN 1 DRAIN BARE PIN 3 V- BLACK PIN 2 V+ RED	$\begin{array}{c}4\\ \bullet\\5\\ \bullet\\1\\ \end{array}$	$\begin{array}{c}3 \\ 0 \\ 5 \\ 0 \\ 0 \\ 2 \\ 1\end{array}$	On metal nut

Industrial Networks and Application Use: M12 Key Interfaces

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 overal 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 trasnmission
- 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

APPLICATIONS

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

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: $15m\Omega$ 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

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



Т	TE Brand
А	M12 series
Х	X-code

S	Application Type
3	Shielding Industrial Ethernet Cate 6A
В	Poles No.
8	8 Poles
х	Interface Type
X	Interface Type Male straight
1	Male straight

Y	Cable Jacket
1	PVC Moderate flexible
5	PUR High flex
А	TPE Extreme high flex
0	Cable Color
1	Green (for PVC & PUR)
2	Teal (only for TPE)
м	Over-Molding
M	Over-Molding Black TPU Over-molding for TPE/PUR cable
	Black TPU Over-molding for
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for PVC cable

-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
-XXO	XX.OM
-XX5	XX.5M
-99X	(<1M) 0.XM
-993	0.3M
-155	15.5M

-XX

W Wire Gauge 2 26 AWG

From Pin

1

2

3

4

5

6

8

Shielded

В

M12 X-CODE CORDSET - WIRING SCHEMA

Male angled to male angled

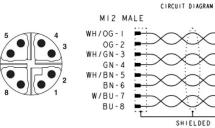
	ng Diagram - M12 P set Shielded, Doubl	,		Diagram - M12 PV hielded, Double En	
m Pin	8 Poles	To Pin	From Pin	8 Poles	To Pin
1	White/Orange	1	1	White	1
2	Orange	2	2	Orange	2
3	White/Green	3	3	White	3
4	Green	4	4	Green	4
5	White/Brown	5	5	White	5
6	Brown	6	6	Brown	6
7	White/Blue	7	7	White	7
8	Blue	8	8	Blue	8
elded	Metal nut	Shielded	Shielded	Metal Nut	Shielded

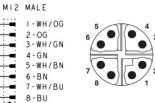
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Wiring Diagram - M12 PVC Cordset





M12 X-CODE TO RJ45 CORDSETS - PRODUCT CODE



Т	TE Brand
С	M12 TO RJ45
Х	X-code
S	Application Type
3	Shielding industrial ethernet Cate 6A
В	Poles No.
8	8 Poles
8	8 Poles
8 X	8 Poles Interface Type
X	Interface Type Male straight to RJ45 Male
X 7	Interface Type Male straight to RJ45 Male straight Male angled TO RJ45 Male
X 7	Interface Type Male straight to RJ45 Male straight Male angled TO RJ45 Male

Y	Cable Jacket		
1	PVC Moderate flexible		
5	PUR High flex		
А	TPE Extreme high flex		
0	Cable Color		
1	Green (for PVC & PUR)		
2	Teal (only for TPE)		
М	Over-Molding		
м 0	Over-Molding Black TPU Over-molding for TPE/PUR cable		
	Black TPU Over-molding for		
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for		
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for		
0	Black TPU Over-molding for TPE/PUR cable Black PVC Over-molding for PVC cable		

-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
-XXO	XX.0M
-XX5	XX.5M
-99X	(<1M) 0.XM
-993	0.3M
-155	15.5M

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

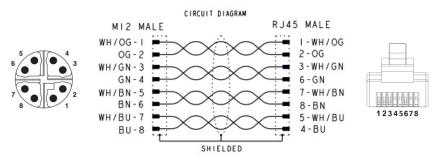
M12 X-CODE MALE TO RJ45 MALE CORDSET -WIRING SCHEMA FOR PVC

Wiring Diagram - M12 PVC Cordset

Shielded, Double Ended				
From X-code Pin 5 - 4 - 4 - 3 7 - 4 - 2 7 - 4 - 2	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		

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

Shielded, Double Ended				
From X-code Pin $5 \xrightarrow{5} \xrightarrow{6} \xrightarrow{6} \xrightarrow{6} \xrightarrow{4} \xrightarrow{3}$ $7 \xrightarrow{8} \xrightarrow{6} \xrightarrow{1} \xrightarrow{2} \xrightarrow{2}$	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		



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

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

Part Number	Part Description	Application	Code	POS	Туре	Cable Material	Shielded		
TAX38125102-002	M12X-MS-8CON- PUR-1.0SH			Ma	Male Straight (MS)	PUR			
TAX38121112-002	M12X-MS-8CON- PVC-1.0SH				5)	PVC			
TAX38225102-002	M12X-MR-8CON- PUR-1.0SH				Male Right Angle (MR)	PUR			
TAX38221112-002	M12X-MR-8CON- PVC-1.0SH					PVC			
<u>TAX38725102-002</u>	M12X-8MS-1.0SH- M12X-8MS-PUR	_		e 8	MS - MS	PUR			
<u>TAX38721112-002</u>	M12X-8MS-1.0SH- M12X-8MS-PVC	_			0	PVC			
TAX38825102-002	M12X-8MS-1.0SH- M12X-8MR-PUR	Ethernet up to 10			MS - MS	PUR	Yes		
TAX38821112-002	M12X-8MS-1.0SH- M12X-8MR-PVC	Gb/s data transmission			0	PVC	res		
TCX38825102-002	M12X-8MR-1.0SH- RJ45-8MS-PUR				MR - MS	PUR			
TCX38821112-002	M12X-8MR-1.0SH- RJ45-8MS-PVC					PVC			
<u>TCX38725102-002</u>	M12X-8MS-1.0SH- RJ45-8MS-PUR	_					MS - Straight RJ45	PUR	
TCX38721112-002	M12X-8MS-1.0SH- RJ45-8MS-PVC				0	PVC			
TAX38B25102-002	M12X-8MR-1.0SH- M12X-8MR-PUR				MR - MR	ביוס			
TAX38B21112-002	M12X-8MR-1.0SH- M12X-8MR-PVC					PUR			

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

CABLE MATERIAL



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

- IEnclosure 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

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: $5m\Omega$ 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.



Wire Gauge

W

Ν

4

5

TE Brand

Shielding

M12

Circular Connector

-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
-XXO	XX.0M
-XX5	XX.5M
-99X	(<1M)0.XM

-	
5	Unshielded
6	Shielded
в	Forms

Т

4

1

S

0	l offitis
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
А	Male Angled to Female Straight

	Jacket Color
L	L Code
L	Code Type
9	Black TPU
Y	Cable Grip
С	16 AWG PUR
В	14 AWG PUR
9	14 AWG PVC

M	Jacket Color
1	Black
2	Grey

Pole Numbers 4 Poles

5 Poles

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

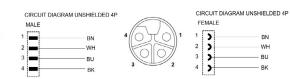
5-pole versions have a grey contact carrier and jacket

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 gray contact carrier and cable.

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	-	2 3
Shielded	Metal Nut	-	



Wiring Diagram: M12 L-code Cable Double Ended

From Pin	4 Poles	To Pin		RAM UNSHIELDED) 4P
1	Brown	1	MALE	FEMALE	
2	White	2	1 BN		
3	Blue	3	3 BU	C 3	3 2
4	Black	4	4	C 4	

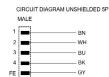
Application	Code	Pin Assignment	Male	Female	Shielding
Power	L-code	PIN1 Brown PIN2 White PIN3 Blue PIN4 Black			Option on metal nut

WIRING SCHEMA UNSHIELDED 5P

Wiring Diagram: M12 L-code Cable Single Ended

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



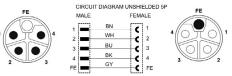




		IRCUIT DIA	GRAM UNSHIELDED 5P
	F	EMALE	
	1	>	BN
1	2	>	WH
	3	>	BU
	4	>	ВК
	FE	>	GY

Wiring Diagram: M12 L-code Cable Double Ended

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

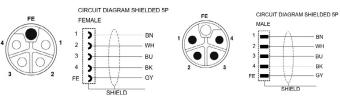


Application	Code	Pin Assignment	Male	Female	Shielding
Power	L-code	PIN1 Brown PIN2 White PIN3 Blue PIN4 Black FE Gray	FE 1 2 3	FE 4 3 2	N/A

WIRING SCHEMA SHIELDED 5P

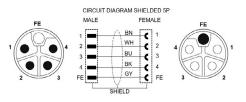
Wiring Diagram: M12 L-code Cable Single Ended

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	FE 1 2 3		On metal nut

BN

WH

BU

BK

GY

Part Number List

Part Number	Part Description	Code	POS	Туре	Cable Material
<u>T4151199L14-001</u>	M12L-4MS-0.5-PVC 14AWG BK			Male Straight	
<u>T4151299L14-001</u>	M12L-4MR-0.5-PVC 14AWG BK	-		Male Right Angle	
<u>T4151399L14-001</u>	M12L-4FS-0.5-PVC 14AWG BK	-		Female Straight	PVC 14 AWG Black
<u>T4151499L14-001</u>	M12L-4FR-0.5-PVC 14AWG BK	L	4	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	6
T4152A99L14-001	M12L-4MR-0.5-4FS- PVC 14AWG BK			Male Right Angle to Female Straight	

Part Number	Part Description	Code	POS	Туре	Cable Material
<u>T41511C9L14-001</u>	RPC-M12L-4MS-0.5- PUR 16AWG BK			Male Straight	
T41513C9L14-001	RPC-M12L-4FS-0.5- PUR 16AWG BK			Female Straight	PUR 16 AWG Black
T41514C9L14-001	RPC-M12L-4FR-0.5- PUR 16AWG BK		4 -	Female Right Angle	
T41525C9L14-001	RPC-M12L-4MS-0.5- 4FS-PUR 16AWG BK		L 4	Male Straight to Female Straight	1 Alexandre
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

Part Number List

Part Number	Part Description	Code	POS	Туре	Cable Material
<u>T4151199L25-001</u>	RPC-M12L-5MS-0.5- PVC 14AWG GY			Male Straight	
T4151399L25-001	RPC-M12L-5FS-0.5- PVC 14AWG GY	L		Female Straight	PVC 14 AWG Gray
<u>T4151499L25-001</u>	RPC-M12L-5FR-0.5- PVC 14AWG GY			Female Right Angle	
<u>T4152599L25-001</u>	RPC-M12L-5MS-0.5- 5FS-PVC 14AWG GY		5(4+FE) -	Male Straight to Female Straight	-
<u>T4152699L25-001</u>	RPC-M12L-5MS-0.5- 5FR-PVC 14AWG GY			Male Straight to Female Right Angle	3
T4152A99L25-001	RPC-M12L-5MR-0.5- 5FS-PVC 14AWG GY			Male Right Angle to Female Straight	

Part Number	Part Description	Code	POS	Туре	Cable Material
<u>T41511B9L25-001</u>	RPC-M12L-5MS-0.5- PUR 14AWG GY			Male Straight	
T41512B9L25-001	RPC-M12L-5MR-0.5- PUR 14AWG GY			Male Right Angle	
T41513B9L25-001	RPC-M12L-5FS-0.5- PUR 14AWG GY	L		Female Straight	PUR 14 AWG Gray
T41514B9L25-001	RPC-M12L-5FR-0.5- PUR 14AWG GY		5(4+FE)	Female Right Angle	
T41525B9L25-001	RPC-M12L-5MS-0.5- 5FS-PUR 14AWG GY			Male Straight to Female Straight	1 Alexandre
T41526B9L25-001	RPC-M12L-5MS-0.5- 5FR-PUR 14AWG GY			Male Straight to Female Right Angle	•
<u>T4152AB9L25-001</u>	RPC-M12L-5MR-0.5- 5FS-PUR 14AWG GY			Male Right Angle to Female Straight	

Part Number List

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

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

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