

# M8/M12 CABLE ASSEMBLIES



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## 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 ( $\leq 4$  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 $\Omega$  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

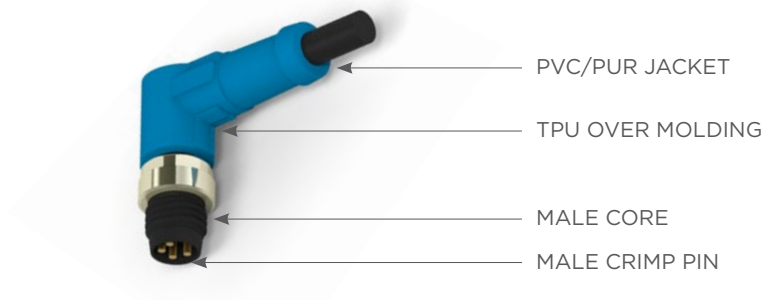
- Product Specification: 108-106140
- Application Specification: 114-137144
- UL Standard: UL2238
- IEC 61076-2-101: Detail specification for M12 connectors with screw-locking
- IEC 61076-2-104: Detail specification with M8 screw-locking or snap-locking
- IEC 60512: Electromechanical components for electronic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

# Sensor/Actuator M8M12 Cable Assemblies

## M8 Single Ended Cable Assembly

M8 cable assemblies T405/T406 series

STANDARD: IEC61076-2-104



# T40 S A X W Y O MN -00L

S	Application Type - Shield/Unshielded
5	Unshielded
6	Shield

A	Single/Double
1	Single end
2	Double end

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

W	Cable Material Type
1	Black PVC
2	Gray PUR

MN	Position
03	3P
04	4P

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

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

Wiring Diagram-M8 cable assembly Unshielded*			
From Pin	Poles		To Pin
	3	4	
1	Brown	Brown	1
2	-	White	2
3	Blue	Blue	3
4	Black	Black	4


Wiring Diagram-M8 cable assembly Shielded*			
From Pin	Poles		To Pin
	3	4	
1	Brown	Brown	1
2	-	White	2
3	Blue	Blue	3
4	Black	Black	4
Shielded	Metal Nut	Metal Nut	Shielded


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

## Sensor/Actuator M8M12 Cable Assemblies


### PRODUCT OFFERINGS - M8 Single Ended Cable Assembly

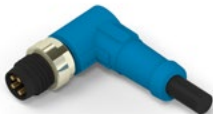
#### M8 STR SINGLE ENDED CABLE ASSEMBLY

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

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

#### M8 R/A SINGLE ENDED CABLE ASSEMBLY

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

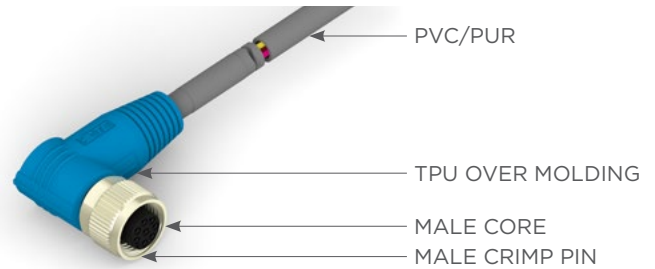
PN	Part Description	Pos	Type	Cable Material	Shielded/Unshielded
T4051220003-001	M8 MR 3P PUR CABLE 0.5M	3	Male Right Angle	PUR	Unshielded
T4061220003-001	M8 MR 3P PUR CABLE 0.5M SH				Shielded
T4051210003-001	M8 MR 3P PVC CABLE 0.5M			PVC	Unshielded
T4061210003-001	M8 MR 3P PVC CABLE 0.5M SH				Shielded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

# Sensor/Actuator M8M12 Cable Assemblies

## M12 Single Ended Cable Assembly

M12 cable assemblies T415/T416 series

STANDARD: IEC61076-2-101



# T41 S A X W Y C MN -00L

S	Shield/Unshielded
5	Unshielded
6	Shield

A	Single/Double End
1	Single end
2	Double end

X	Connector Type for Single End
1	M12 Straight, Male
2	M12 Right angle, Male
3	M12 Straight, Female
4	M12 Right angle, Female

W	Cable Material Type
1	Black PVC
2	Gray PUR

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

Y	Connector Type for Double End
0	N/A
1	M12 Straight, Male
2	M12 Right angle, Male
3	M12 Straight, Female
4	M12 Right angle, Female

C	Code
0	A Code

-00L	Cable Length
-001	0.5M
-002	1.0M
-003	1.5M
-004	3.0M
-005	5.0M
-006	7.0M
-007	10.0M

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

### Wiring Diagram-M12 cable assembly Unshielded\*

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

### Wiring Diagram-M12 cable assembly Shielded\*

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

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



## Sensor/Actuator M8M12 Cable Assemblies

### PRODUCT OFFERINGS - M12 A-Code Single Ended Cable Assembly

#### M12 A-CODE STR SINGLE ENDED CABLE ASSEMBLY

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



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





## Sensor/Actuator M8M12 Cable Assemblies

### M12 A-CODE R/A SINGLE ENDED CABLE ASSEMBLY

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





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





## Sensor/Actuator M8M12 Cable Assemblies

### PRODUCT OFFERINGS - M8 to M8 Double Ended Cable Assembly



#### M8 MALE STR - FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

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



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

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

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

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


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

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


## Sensor/Actuator M8M12 Cable Assemblies

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

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

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



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

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



## Sensor/Actuator M8M12 Cable Assemblies

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

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

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


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

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

## Sensor/Actuator M8M12 Cable Assemblies

### PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly


#### M8 FEMALE STR - M12 MALE STR DOUBLE ENDED CABLE ASSEMBLY

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


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

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

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

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


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

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


## Sensor/Actuator M8M12 Cable Assemblies

### PRODUCT OFFERINGS - M8 to M12 Double Ended Cable Assembly


#### M8 MALE STR - M12 FEMALE STR DOUBLE ENDED CABLE ASSEMBLY

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


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

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

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

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

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

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



## Sensor/Actuator M8M12 Cable Assemblies

### Cable Specifications

#### M8 UNSHIELDED CABLE ASSEMBLIES

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

#### M8 SHIELDED CABLE ASSEMBLIES

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





# Sensor/Actuator M8M12 Cable Assemblies

## M12 UNSHIELDED CABLE ASSEMBLIES

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

## M12 SHIELDED CABLE ASSEMBLIES

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



## M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS

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

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

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

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

# M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS

## BENEFITS

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

## • APPLICATIONS

- Industrial Communications
- Industrial Machinery
- Industrial Automation
- Machine tools
- Robotics
- Material Handling
- Process control systems

## 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 & 15m.

## 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 PUR:  
Operating temperature -20°C to +75°C
- DeviceNet PVC:  
Operating temperature -40°C to +80°C
- CC-Link PVC:  
Operating temperature -30°C to +60°C

## 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

## 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)

## M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS



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

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

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


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

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



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

## M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS


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

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

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



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

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


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

## M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS



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

Part Number	Part Description	Application	Code	POS	Type	Cable Material	Shielded
TAB62146501-001	M12B2-MS-PUR TORS-0.5M	Profibus DP (12Mbs)	B	2	Male / Female Straight	PUR Torsion 22AWG Violet	Yes
TAB62346501-001	M12B2-FS-PUR TORS-0.5M						
TAB62446501-001	M12B2-FR-PUR TORS-0.5M				Male / Female R/A		
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	Type	Cable Material	Shielded
TAB62546501-001	M12B2-MS-FS-PUR/T-0.5M	Profibus DP (12Mbs)	B	2	MS-FS	PUR Torsion 22AWG Violet	Yes
TAB62A46501-001	M12B2-MR-FS-PUR/T-0.5M				MR-FS / MS-FR		
TAB62646501-001	M12B2-MS-FR-PUR/T-0.5M						

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

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

## M12 FIELDBUS CABLE ASSEMBLY SOLUTIONS

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

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

OOL	Cable Length
-001	0.5M
-002	1.0M
-020	2.0M
-040	4.0M
-060	6.0M
-080	8.0M
-007	10.0M
-150	15.0M

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





## M12 INDUSTRIAL ETHERNET D-CODE CABLE ASSEMBLY CONNECTIVITY

TE Connectivity now offers M12 data cable assemblies with D-code interfaces that support Ethernet protocols as part of its package of Industrial Ethernet and Fieldbus solutions. 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.

### BENEFITS

- Ethernet is rapidly becoming the technology of choice for higher-level industrial control applications that call for real-time data.
- In order for Ethernet to be used in industrial environments, cables and connectors must be adapted to withstand harsh environmental conditions often found there.
- TE M12 Ethernet cable assemblies deliver the speed, reliability and ruggedness that smart factories demand.
- With the high cost of downtime in industrial applications, it pays to invest in cable assemblies that provide reliable high performance.
- TE's M12 cable assemblies will play an important role in bringing the Industrial Internet of Things to life.

# M12 Industrial Ethernet Cable Assembly Connectivity

## APPLICATIONS

- Industrial Communications
- Process control systems
- Industrial Machinery
- Industrial Automation
- Machine tools
- Robotics
- Material Handling

## FEATURES

- Jacketing is in halogen-free flame-retardant thermoplastic polyurethane (PUR) or other FRNC (flame retardant, non-corrosive) materials.
- 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.
- Depending on the material, the assemblies withstand up to 1 million flexes, machine oils, abrasion and UV radiation.
- 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.

## MATERIALS

- Contact: Brass, Gold Plating 30um
- Nut & Shells: Brass, Nickel plating
- O-ring: Silicon rubber
- Over-molding: PUR/PVC
- Housing: PA
- Cable Jacket materials: PUR,PVC, FRNC

## ELECTRICAL

- M12 D code 4 poles:30V/1.5A

## MECHANICAL

- Durability: 100 cycles (up to 1M for drag chain cable)
- Degree of protection: IP67
- Temperature Ratings:
  - Industrial Ethernet SERCOS III Type B PVC:
    - Operating temperature -40°C to +80°C (fixed)
    - 20°C to +60°C (flexible)
  - Industrial Ethernet Profinet Type B PVC:
    - Operating temperature -40°C to +80°C (fixed)
    - 20°C to +60°C (flexible)
  - Industrial Ethernet Profinet Type C PUR:
    - Operating temperature -30°C to +70°C (fixed)
    - 20°C to +60°C (flexible)
  - Industrial Ethernet Profinet Type B FRNC:
    - Operating temperature -25°C to +80°C (fixed)
    - 25°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





## M12 Industrial Ethernet Cable Assembly Connectivity




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

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

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




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

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




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

## M12 Industrial Ethernet Cable Assembly Connectivity

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

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

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



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

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

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

## M12 Industrial Ethernet Cable Assembly Connectivity

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

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

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

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

00L	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

# M12 Industrial Ethernet Cable Assembly Connectivity

## Industrial Networks and Application Use: M12 Key Interfaces

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

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