

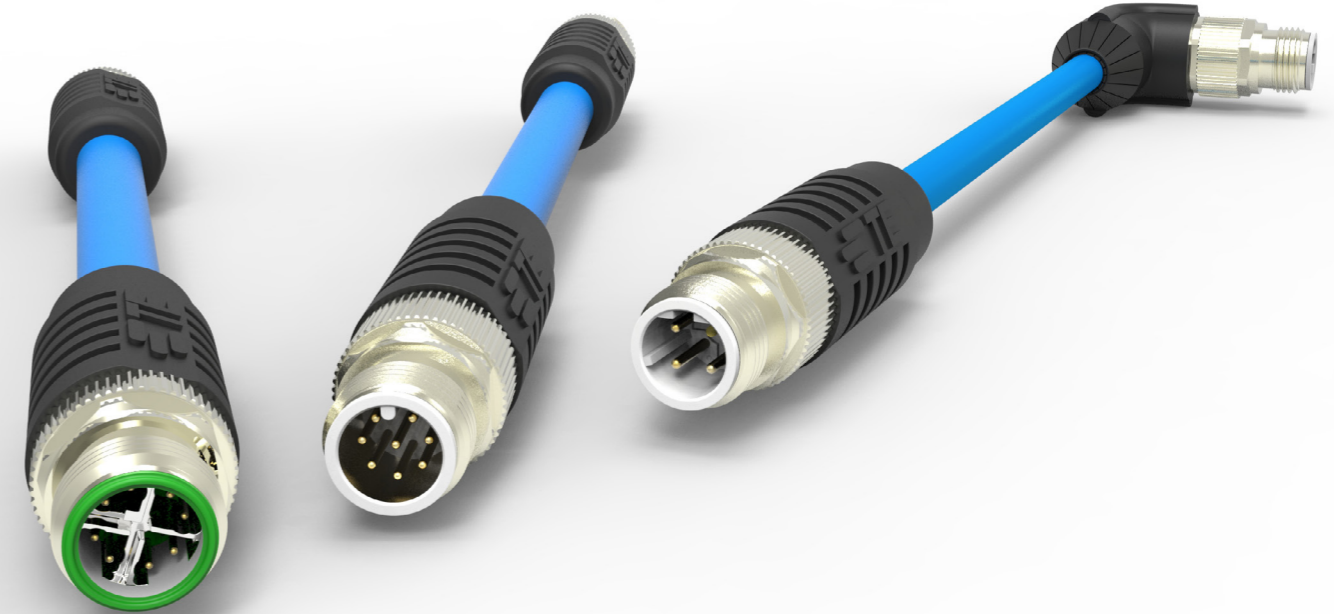
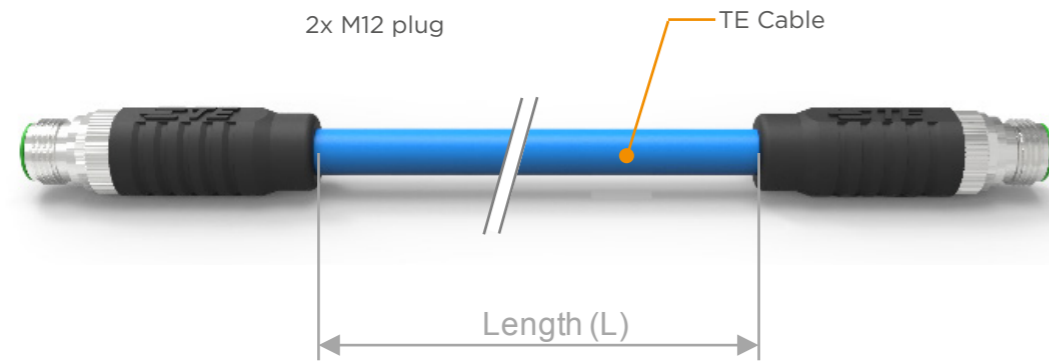


M12 CABLE ASSEMBLIES

M12 RAIL CONNECTOR SERIES

FEATURES AND BENEFITS

- Railway compliant to EN50155 and EN45545
- Rugged design enables them to withstand vibration according to EN 61373 Cat1 Class B
- Highly robust to enable the best passenger experience combined with safe and reliable transportation.
- High data transmission speed of up to 10 Gb/s
- Varied series using compact, straight and right-angled connectors allowing the cable to be used in confined areas
- High speed category 5e or 7 cable ensures they meet future requirements.
- The crimping system creates a tamper-proof installation, preventing accidental unlocking of the strain relief and eliminates cable rotation which potentially leads to conductor breakage.
- M12 Cable Assemblies are IP67 sealed and 100% tested in TE's factory to eliminate the possibility of false wiring.



M12 CABLE ASSEMBLIES

Up to
10Gb/s
Data Transmission
Speed

IP67
Sealed

EN50155
Compliant

PRODUCT APPLICATIONS

- Public transportation
- Railway
- Tram
- Metro
- Heavy industrial applications

Our M12 cable assemblies meet the demand for increasing digitization in applications such as rail data communication systems and they fit heavy industrial applications. The cables are pre-assembled so customers can reduce installation time. With its ruggedized design and contacts, the cable can withstand severe shocks and vibrations according to EN 61373 Cat1 ClassB. They deliver the best data speed possible, up to 10 Gb/s, and are highly robust to enable the best passenger experience combined with safe and reliable transport.

TE's series of standard M12-to-M12 cable assemblies uses compact, straight and right-angled connectors allowing the cable to be used in confined areas. The full metal shell in combination with secure cable shield termination makes the system EN50155 compliant. The unique crimped cable strain relief enables the best data speed possible (up to 10Gb/s) while it eliminates conductor breakage and ultimately system failure. At the same time the crimping system creates a tamper proof installation, eliminating accidental unlocking of the strain relief. With its fire and smoke characteristics conforming to EN45545 HL3 this cable assembly can be used in public transportation applications as well as other industries where fire and smoke compliance is required.

M12 Cable Assemblies

M12 Rail Connectors Series

Left connector	D4-M Straight	D4-M Straight	A8-M Straight	A8-M Straight	X8-M Straight
Cable	TE Cat 5 Cable PN2320808-1	TE Cat 5 Cable PN2320808-1	TE Cat 7 Cable PN2297799-1	TE Cat 7 Cable PN2297799-1	TE Cat 7 Cable PN2297799-1
Max. Data Speed	100Mb/s	100Mb/s	1Gb/s	1Gb/s	10Gb/s
Right connector	D4-M Straight	D4-M Right Angle	A8-M Straight TE	A8-M Right Angle	X8-M Straight
Image					
1.0m	2322330-1	2322422-1	2322421-1	2322423-1	1-2317142-1
1.5m	2322330-2	2322422-2	2322421-2	2322423-2	1-2317142-2
2.0m	2322330-3	2322422-3	2322421-3	2322423-3	1-2317142-3
2.5m	2322330-4	2322422-4	2322421-4	2322423-4	1-2317142-4
3.0m	2322330-5	2322422-5	2322421-5	2322423-5	1-2317142-5
3.5m	2322330-6	2322422-6	2322421-6	2322423-6	1-2317142-6
4.0m	2322330-7	2322422-7	2322421-7	2322423-7	1-2317142-7
4.5m	2322330-8	2322422-8	2322421-8	2322423-8	1-2317142-8
5.0m	2322330-9	2322422-9	2322421-9	2322423-9	1-2317142-9
5.5m	1-2322330-0	1-2322422-0	1-2322421-0	1-2322423-0	2-2317142-0
6.0m	1-2322330-1	1-2322422-1	1-2322421-1	1-2322423-1	2-2317142-1
6.5m	1-2322330-2	1-2322422-2	1-2322421-2	1-2322423-2	2-2317142-2
7.0m	1-2322330-3	1-2322422-3	1-2322421-3	1-2322423-3	2-2317142-3
7.5m	1-2322330-4	1-2322422-4	1-2322421-4	1-2322423-4	2-2317142-4
8.0m	1-2322330-5	1-2322422-5	1-2322421-5	1-2322423-5	2-2317142-5
8.5m	1-2322330-6	1-2322422-6	1-2322421-6	1-2322423-6	2-2317142-6
9.0m	1-2322330-7	1-2322422-7	1-2322421-7	1-2322423-7	2-2317142-7
9.5m	1-2322330-8	1-2322422-8	1-2322421-8	1-2322423-8	2-2317142-8
10.0m	1-2322330-9	1-2322422-9	1-2322421-9	1-2322423-9	2-2317142-9
10.5	2-2322330-0	2-2322422-0	2-2322421-0	2-2322423-0	3-2317142-0
11.0m	2-2322330-1	2-2322422-1	2-2322421-1	2-2322423-1	3-2317142-1
11.5m	2-2322330-2	2-2322422-2	2-2322421-2	2-2322423-2	3-2317142-2
12.0m	2-2322330-3	2-2322422-3	2-2322421-3	2-2322423-3	3-2317142-3
12.5m	2-2322330-4	2-2322422-4	2-2322421-4	2-2322423-4	3-2317142-4
13.0m	2-2322330-5	2-2322422-5	2-2322421-5	2-2322423-5	3-2317142-5
13.5m	2-2322330-6	2-2322422-6	2-2322421-6	2-2322423-6	3-2317142-6
14.0m	2-2322330-7	2-2322422-7	2-2322421-7	2-2322423-7	3-2317142-7
14.5m	2-2322330-8	2-2322422-8	2-2322421-8	2-2322423-8	3-2317142-8
15.0m	2-2322330-9	2-2322422-9	2-2322421-9	2-2322423-9	3-2317142-9
15.5m	3-2322330-0	3-2322422-0	3-2322421-0	3-2322423-0	4-2317142-0
16.0m	3-2322330-1	3-2322422-1	3-2322421-1	3-2322423-1	4-2317142-1
16.5m	3-2322330-2	3-2322422-2	3-2322421-2	3-2322423-2	4-2317142-2
17.0m	3-2322330-3	3-2322422-3	3-2322421-3	3-2322423-3	4-2317142-3
17.5m	3-2322330-4	3-2322422-4	3-2322421-4	3-2322423-4	4-2317142-4
18.0m	3-2322330-5	3-2322422-5	3-2322421-5	3-2322423-5	4-2317142-5
18.5m	3-2322330-6	3-2322422-6	3-2322421-6	3-2322423-6	4-2317142-6
19.0m	3-2322330-7	3-2322422-7	3-2322421-7	3-2322423-7	4-2317142-7
19.5m	3-2322330-8	3-2322422-8	3-2322421-8	3-2322423-8	4-2317142-8
20.0m	3-2322330-9	3-2322422-9	3-2322421-9	3-2322423-9	4-2317142-9

Note: For more cable assembly options please contact a sales representative.

M12 Cable Assemblies

M12 Rail Connectors Series

Cable Specifications		
	 TE Cat 5 ^e cable	 TE Cat 7 cable
No of conductors	4	8
No of pairs	2 (Quad Core)	4 (Individually Shielded)
Cross section	22 AWG	24 AWG
Temp range	-40°C to +90°C	-20°C to +80°C
Construction	SFTP Insulation: Colour coded thermoplastic Conductor: Stranded, tin plated copper Inner Sheath: Low smoke, fire retardant, zero Halogen Black Shield 1: Alumised polyester tape Shield 2: Tinned copper braid Jacket: Low smoke, fire retardant, zero halogen EM104 TE Blue	SFTP Insulation: Colour coded thermoplastic Conductor: Stranded tinned copper Shield 1: Alumised polyester tape Shield 2: Tinned copper braid Jacket: Low smoke, fire retardant, zero halogen
Features	Flame Retardant, halogen free, low toxicity, low smoke, oil resistant, fuel resistant	Flame retardant, halogen free, flexible, low toxicity, low smoke, oil resistant, fuel resistant
Standards	EN45545-2 R15/R16 - Hazard level 3, ANSI/TIA-568-C.2, DIN 5510-2	EN45545-2 R15/R16 - Hazard level 3, IEC61156-6, ISO/IEC 11801, DIN 5510-2

Wiring Diagram				
From Pin	Cable type			To Pin
	D4-D4	A8-A8	X8-X8	
1	Yellow	White Orange	White Orange	1
2	White	Orange	Orange	2
3	Orange	White Green	White Green	3
4	Blue	Blue	Green	4
5	-	Green	White Brown	5
6	-	White Blue	Brown	6
7	-	White Brown	White Blue	7
8	-	Brown	Blue	8

Connector Specifications			
	D4-M	A8-M	X8-M
No of pins	4	8	8
Gender	-	Male (pin)	
Coding	D-Coding	A-Coding	X-Coding
Temperature range	-40°C to 85°C (without cable boot), -40°C to 70°C (with cable boot)		
Current rating	4A	2A	0.5A
Operational voltage	50V	30V	48V
Max Data transmission rate	100Mbit/s	1Gbit/s	10Gbit/s
IP rating	IP67		
Mating cycles	> 250 mating cycles		
Standards	EN61373 Cat1 Class B, NFF-16-101 I2/F2, EN45545-2 HL3 R22/R23		
Materials	Housing: Cu Alloy NI Plated, Insulator and contact holder: thermoplastic, Contact: Cu alloy Au plated, Sealing: Elastomer, Boot: TPE		

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