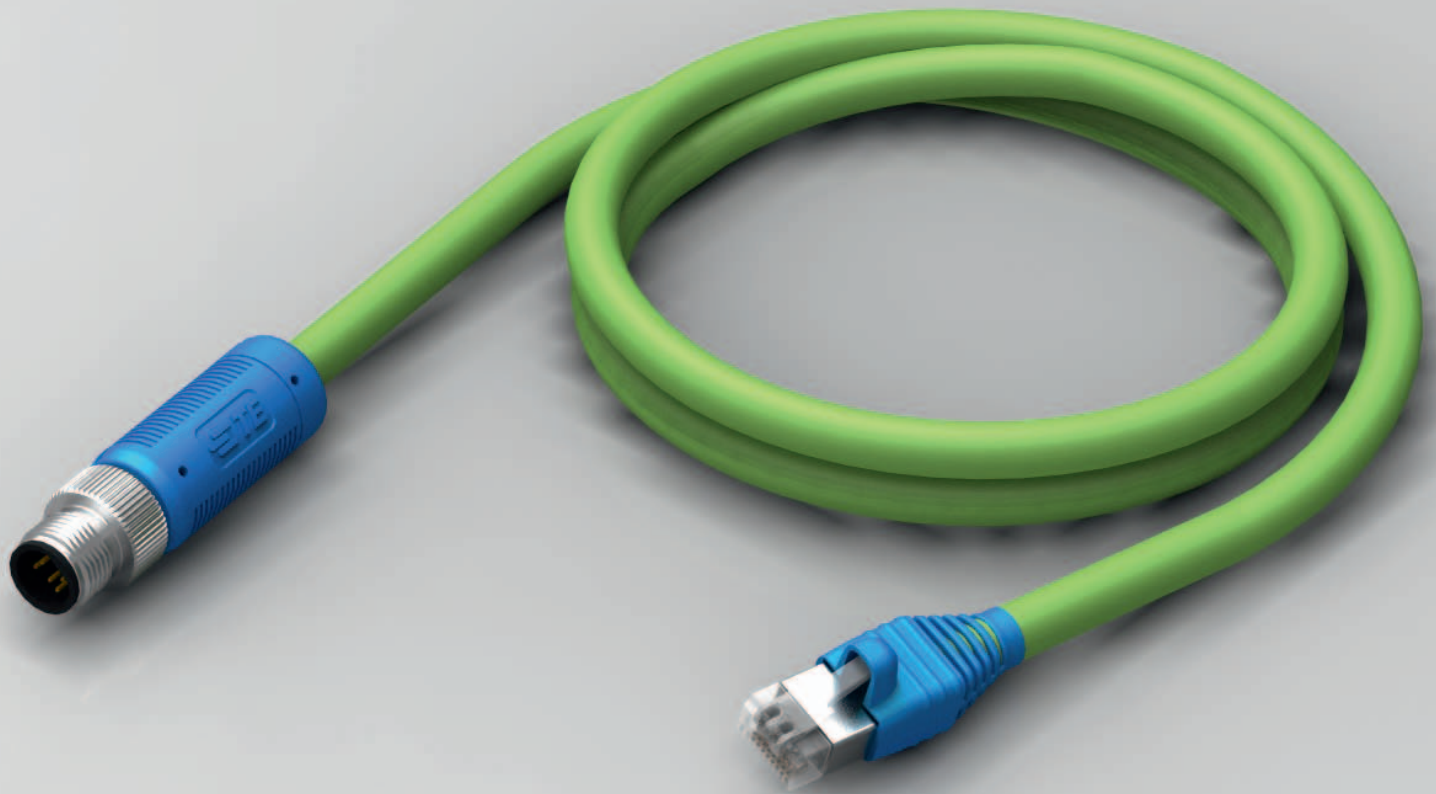
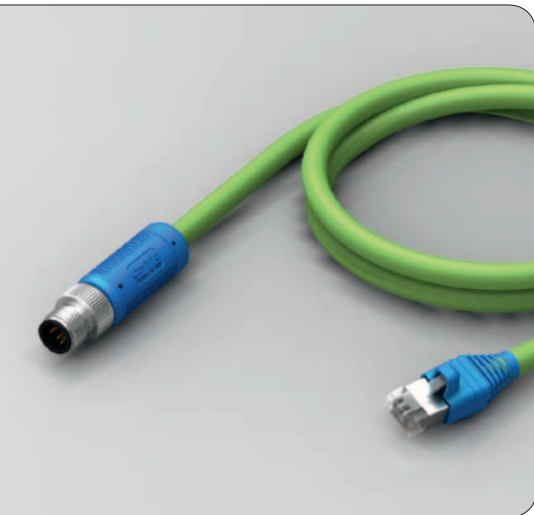




Introducing Industrial Ethernet 10 Gb M12 Connector System

TE Connectivity (TE) introduces a next generation M12 connector system for machine vision, industrial automation and control applications, called the Industrial Ethernet 10 Gb M12 connector system. This connector system provides users with a future-proof interface that supports higher bandwidth needs - meeting the requirements of today's 100 MB/s and 1 Gb/s and tomorrow's 10 Gb/s. The connector system consists of various PCB headers and cable assemblies in a standard industrial circular format. Its eight contact system makes it suitable for both high-speed data applications or Power+Ethernet applications. TE's flexible product portfolio provides customers with shielded and unshielded cable assembly options in both Cat5e and Cat6_A cable types.





KEY FEATURES

- IP67 sealed and screw locking reliability
- Custom, orthogonal circuit pattern configuration - assures signal integrity/transmission performance
- Simplistic pin pattern eliminates the need for an additional pair isolation features
- High speed, industrial data solution in standard M12 format
- Small, compact form factor
- Configuration options: Cable assemblies (shielded and unshielded) and PCB mount connectors
- Quick connect, M12 modular wiring system with keyed connectors and pre-molded cable assemblies
- Rated Ethernet speed up to 10 Gbit/sec (10GBASE-T)
- Corrosion resistant hardware for compatibility with demanding environments

APPLICATIONS

- Factory automation
 - Industrial networking
 - Industrial machine vision systems
 - Industrial machine builders
 - HMI panels
- Harsh commercial applications
 - Outdoor data communications
 - Outdoor telecom
 - Advanced traffic monitoring

MECHANICAL

- M12 standard threaded coupling
- Polarized to assure correct mating
- Vibration-proof feature
- IP65/IP67 sealing performance when mated

ELECTRICAL

- 48 V
- 0.5 A current rating
- Up to 500 MHz (Up to 10 Gb/s)

MATERIALS

- Boot material (PUR): Thermoplastic polyurethane
- Insert material (LCP): Thermoplastic
- Contact material: Brass
- Under-plating material: Nickel 1.25µm
- Plating material: Gold .75µm
- Cable Jacket: PVC or PUR
- PCB and panel mount shell: Carbon steel
- Coupling nuts: Zinc die cast
- O-ring: Fluoropolymer elastomer

STANDARDS

- IEC 61076-2-109
- UL 1977

SPECIFICATIONS

- Product specification # 108-2464
- Application specification # 114-127000

PRODUCT OFFERING - CABLE ASSEMBLIES

Part Number	Length (Meters)	Description
2154451-1	1	Cable Assembly, Male to Male Double Ended, Shielded, Cat5e, M12 10 Gb
2154451-2	2	
2154451-3	3	
2154451-4	4	
2154451-5	5	
2154451-6	7	
2154451-7	10	
2154685-1	1	Cable Assembly, Male to Male Double Ended, Shielded, Cat6 _A , M12 10 Gb
2154685-2	2	
2154685-3	3	
2154685-4	4	
2154685-5	5	
2154685-6	7	
2154685-7	10	
2154452-1	1	Cable Assembly, Male to Male Double Ended, Unshielded, Cat5e, M12 10 Gb
2154452-2	2	
2154452-3	3	
2154452-4	4	
2154452-5	5	
2154452-6	7	
2154452-7	10	
2154686-1	1	Cable Assembly, Male to Male Double Ended, Unshielded, Cat6 _A , M12 10 Gb
2154686-2	2	
2154686-3	3	
2154686-4	4	
2154686-5	5	
2154686-6	7	
2154686-7	10	
2106994-1	1	Cable Assembly, Male to RJ45 Shielded Cable Assembly, Cat5e
2106994-2	2	
2106994-3	3	
2106994-4	4	
2106994-5	5	
2106994-6	7	
2106994-7	10	
2154688-1	1	Cable Assembly, Male to RJ45 Shielded Cable Assembly, Cat6 _A
2154688-2	2	
2154688-3	3	
2154688-4	4	
2154688-5	5	
2154688-6	7	
2154688-7	10	
2154689-1	1	Cable Assembly, Male to RJ45 Shielded Cable Assembly, Cat5e, Vision
2154689-2	2	
2154689-3	3	
2154689-4	4	
2154689-5	5	
2154689-6	7	
2154689-7	10	
2106993-1	1	Cable Assembly, Male to RJ45 Unshielded Cable Assembly, Cat5e
2106993-2	2	
2106993-3	3	
2106993-4	4	
2106993-5	5	
2106993-6	7	
2106993-7	10	
2154687-1	1	Cable Assembly, Male to RJ45 Unshielded Cable Assembly, Cat6 _A
2154687-2	2	
2154687-3	3	
2154687-4	4	
2154687-5	5	
2154687-6	7	
2154687-7	10	

PRODUCT OFFERING - PCB CONNECTORS

Part Number	Description
2106988-1	Rear Mount PCB Connector, Female, 8 position, M12 10 Gb
2154648-1	Stand Alone PCB Connector, Female, 8 position, M12 10 Gb
2154694-1	Stand Alone PCB Connector, Female, No Grounding Ring, 8 position, M12 10 Gb
2154647-1	Front Mount Grounded PCB Connector, Female Assembly, M12 10 Gb

APPLICATION EXAMPLES**Industrial machine vision systems**

- Gigabit Ethernet interface for IP67 machine vision cameras and accessories
- M12 upgrade path for Ethernet-based vision systems – Standard Physical Layer
- High bandwidth (1000 Mb/s+) for real time transfer of large uncompressed images

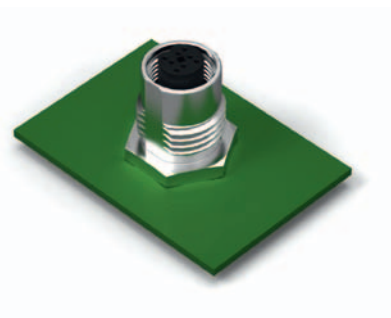
Industrial networking systems

- High-speed Gigabit Ethernet uplinks for IP67 Industrial Ethernet switches
- Enhancement to current M12 D-Code Ethernet applications

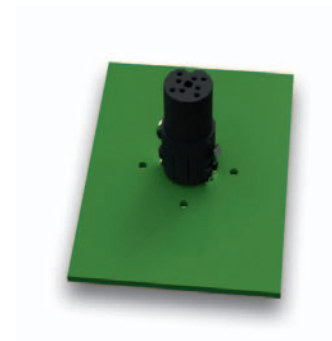
Wireless access points/wireless video

High-speed Ethernet links for:

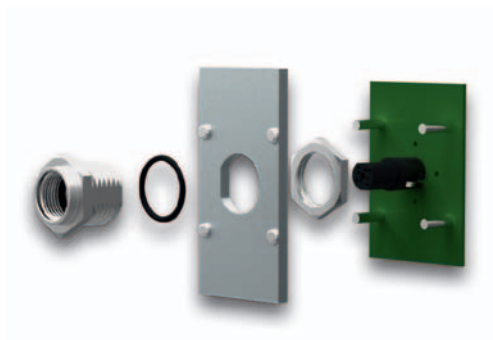
- Outdoor video for next generation transportation control
- Campus and metro WiFi / WiMAX video surveillance applications



Part Number 2106988-1



Part Number 2154648-1

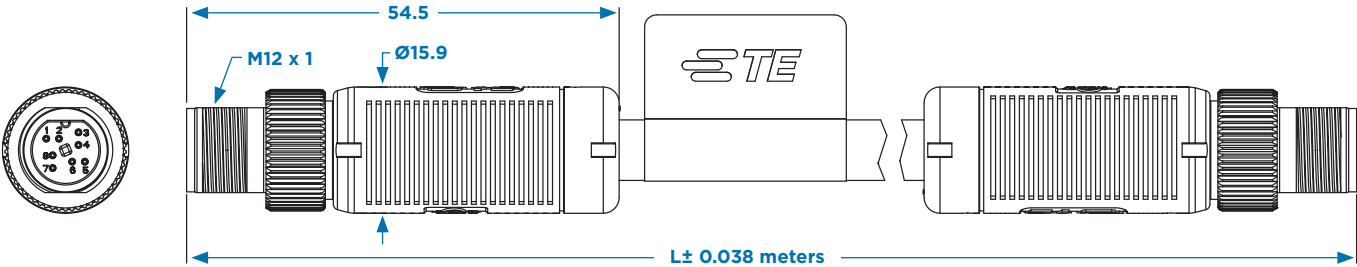


Part Number 2154647-1

NOTE:
Panel mounting plate and
standoffs not included

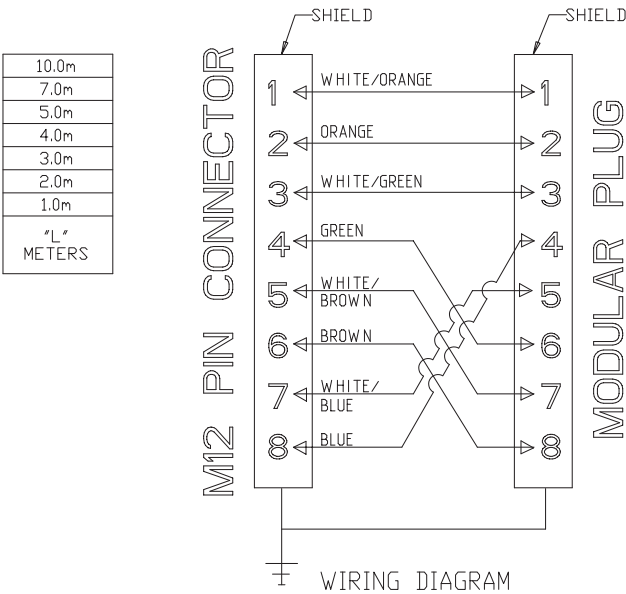
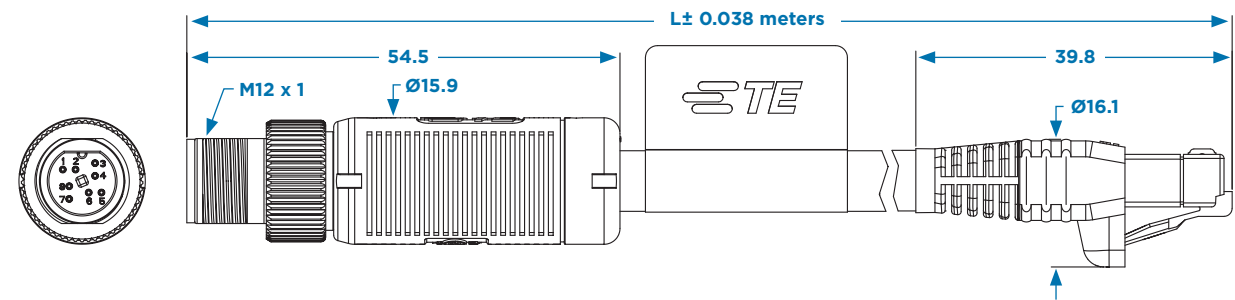
CABLE ASSEMBLY CONFIGURATIONS

DOUBLE-ENDED: M12 MALE TO M12 MALE



10.0m	WIRE TERMINATION CHART								
7.0m	NO OF POSITIONS	PIN NUMBER							
5.0m		1	2	3	4	5	6	7	8
4.0m		WIRE COLOR							
3.0m	8	WHITE-ORANGE	ORANGE	WHITE-GREEN	GREEN	WHITE-BROWN	BROWN	WHITE-BLUE	BLUE
2.0m									
1.0m									
"L" METERS									

DOUBLE-ENDED: M12 MALE TO RJ-45



FOR MORE INFORMATION

te.com/products/IE-M12-10GB

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Part numbers in this brochure are RoHS Compliant*, unless marked otherwise.

*as defined www.te.com/leadfree

te.com

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