

Brad[®] Micro-Change[®] CAT6_A Connector System

molex[®]

Suited for harsh and high-vibration applications, the Brad[®] Micro-Change[®] CAT6_A Connector System delivers next-gen speeds of up to 10 Gigabit Ethernet and superior signal integrity through a 360° shielded X-code interface

Features and Benefits

M12 CAT6 _A X-Code or RJ45 connector design	Delivers CAT6 _A speeds of 500Mhz for 10 Gigabit Ethernet. Delivers design flexibility through a compact, robust connector interface. Meets TIA-568 and ISO/IEC 11801 CAT6 _A specification. Allows blind-mating via X-code keying alignment
Complete 360° shielded design	Provides optimal signal performance without system noise interference via the two shielding crosses of the M12 connector. Achieves superior signal-integrity values when compared to current RJ45 CAT6 systems
Recessed male pins within die-cast X-code shield	Prevents damage to pins during mating. Eliminates scooping
Factory overmolded and tested cable assemblies in 26 AWG wire gauge	Assures uncompromised reliability in harsh environments
IDC wire termination	Ensures a secure and reliable wire connection. Enhances speed and simplicity in assembly
Nickel-plated die-cast housings	Performs reliably in harsh, demanding environments. Utilizes corrosion-resistant hardware
Standard M12-threaded coupling nut mating interface with internal and external o-ring seals	Guarantees IP67 protection from dust and water. Conforms to TIA-568 and IEC 61076-2-10x
Receptacle PCB standoff	Secures the receptacle to the PCB. Prevents damaging of the PCB and contacts. Prevents connector rotation
Through-Hole Reflow (THR) mounting technology	Allows for automated assembly process for attaching the receptacle to the PCB



Micro-Change[®] M12 CAT6_A Cable and Receptacle



Micro-Change[®] M12 CAT6_A Field-Attachable Connectors

Applications

Commercial Vehicle

- GPS
- Telematics
- Mobile Data Acquisition
- Railway Data Networks
- Video Protection Systems

Military

- Vision Systems
- High-Speed Video Communication
- Vehicle Open-System Architecture
- Mobile Data Acquisition
- Sensor Networks
- Unmanned Vehicles

Industrial Automation

- Robotic Welding
- Food and Beverage Production



Automation



Railways



Vision Systems

Specifications

REFERENCE INFORMATION

Packaging:
 Receptacles – Blister Pack
 Cables – Bag
 Field Attachable – Individual
 UL File No.: E200650 Pending
 RoHS: Yes
 Halogen Free: Yes
 NEMA Rating:
 M12: IP67
 RJ45: IP20

ENVIRONMENTAL

Protection: IP67 for M12, IP20 for RJ45
 Operating Temperature: -40 to +85°C

ELECTRICAL

Voltage (max.): 48V
 Current (max.): 0.5A
 Contact Resistance (max.):
 M12 – 10 milliohms
 RJ45 – 20 milliohms
 Insulation Resistance (min.):
 M12 – 100 Megohms
 RJ45 – 500 Megohms
 Transmission Characteristics (Category): CAT6_A
 POE+ According to IEEE 802.3AT

WIRE TERMINATION

IDC Technology

PHYSICAL

Housing:
 Receptacles and Cables – Nickel-Plated Brass
 Field-Attachables – Nickel Plated Zinc Die-cast
 Coupling Nut: Nickel-Plated Brass
 Contact: Gold Over Nickel
 Connector Body: PUR Black
 Insertion Force (max.): 30 N
 Durability (mating cycles):
 M12 – 100
 RJ45 – 750
 Cable Jacket (Outer): Blue PUR
 Wire Type: 4 Twisted Pairs
 Wire Gauge: 26 AWG
 Pair Shielding: Aluminum-Bonded Polyester Tape
 Cable Shielding: Tinned Copper Wire Braid
 Operating Temperature: -40 to +75°C

Ordering Information

Field Attachables

Order No.	Description	Orientation	Number of Positions	MOQ
120341-0806	M12 Male X-Coded Shielded Field-Attachable	Straight	8 Pole	10
130047-8008	RJ45 Male RJ-45 STR Shielded Field-Attachable (AWG 22)			
130047-8010	RJ45 Male RJ-45 STR Shielded Field-Attachable (AWG 26)			
130047-8009	RJ45 Male RJ-45 90° Shielded Field-Attachable (AWG 22)	Right Angle	8 Pole	10
130047-8011	RJ45 Male RJ-45 90° Shielded Field-Attachable (AWG 26)			

Receptacles

Order Number	Mounting Style	Poles	Ethernet Protocol	MOQ
120341-0075	Front Panel	8	CAT6 _A	100
120341-0150	Back Panel			

Cable Assemblies

Order Number	Cable Length	Poles	Ethernet Protocol	MOQ
120341-0300	0.5m	8	CAT6 _A	8
120341-0301	1.0m			
120341-0302	2.0m			
120341-0303	3.0m			
120341-0304	4.0m			
120341-0305	5.0m			
120341-0306	10.0m			

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