Brad® Micro-Change® CAT6$_A$ Connector System

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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



Micro-Change® M12 CAT6$_A$ Cable and Receptacle



Micro-Change® M12 CAT6$_A$ Field-Attachable Connectors

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 360º 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 standoffs	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

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

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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 +85ºC

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 +75ºC

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		
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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