

Brad® Micro-Change® M12 Heavy-Duty Ethernet Solutions



First-to-meet SAE J2839 standards for heavy-duty vehicle applications, Brad® Micro-Change® M12 Heavy-Duty Ethernet Solutions deliver Fast Ethernet speeds of 10/100 Mbps while being able to withstand 10 times the amount of pull-force as standard M12 connectors

Features and Benefits

Complies with SAE J2839 specifications	Meets industry standards for heavy-duty vehicles
Two connector options available: HDM12EX and HDM12	Supports 444N (HDM12) or 1334N (HDM12EX) of pull force resistance. Enhances design and cost flexibility by multiple options
-55 to +125°C operating temperature range	Withstands the wide temperature variations found in heavy-duty vehicle applications
Cat5e compliant for Fast Ethernet (10/100 Mbps) data rates	Meets Fast Ethernet requirements prevalent in commercial vehicles
Complete 360° shielded design through the coupling nut	Meets CE standards for Electro Magnetic Interference (EMI) and Radio Frequency Interference (RFI) requirements. Optimizes signal performance without system noise interference
Backward-compatible to standard Brad® Micro-Change® M12 connectors	Simplifies upgrade process for existing M12 designs to new heavy-duty standards. Complies fully to IEC 61076-2-101 standards
Vibration-resistant mounting nut	Withstands vibrations found in heavy-duty chassis applications
IP67 and IP69k compliant	Seals against water at depths up to 1m. Withstands high-pressure wash down



Brad® Micro-Change® HDM12 Heavy-Duty Ethernet Cordset (130304-0003 shown left) Receptacle (130303-5100 shown right)



Brad® Micro-Change® HDM12EX Heavy-Duty Ethernet Cordset (130304-5003 shown left) Receptacle (130303-1600 shown right)

Applications

Commercial Vehicle

- Vehicle Controllers
- Ethernet Switches
- Telematics
- Sensors
- Scanners
- Navigation Devices
- Construction, Agriculture, Forestry and Mining Equipment

Industrial Automation

- Robotic Welding
- High-Traffic Areas
- Mining
- Construction Equipment

Aerospace and Defense

- Vehicle Open-System Architectures
- High-Speed Video Communications
- Mobile Data-Acquisition Systems
- Unmanned Vehicles
- Avionics

Harsh Commercial Products

- Outdoor Displays and Signs
- Telecommunications



Underground Mining Equipment

Brad® Micro-Change® M12 Heavy-Duty Ethernet Solutions



Specifications

REFERENCE INFORMATION

Packaging: Bag
 UL File No.: Pending
 CSA File No.: Pending
 RoHS: Yes
 NEMA Rating: IP67, IP69k

MECHANICAL

Durability: 100 Mating Cycles
 Pull Force:
 HDM12 – 444N
 HDM12EX – 1334N

ELECTRICAL

Voltage (max.): Male to Male Cordsets – 30V DC
 Current (max.): Male to Male Cordsets 1.5A
 All Others 4.0A
 Dielectric Voltage: 1500V AC
 Contact Resistance: <10 milliohms
 Transmission Characteristics: Cat5e
 Insulation Resistance: >100 milliohms

PHYSICAL

Receptacle Shell : Stainless Steel
 Coupling Nut: Stainless Steel
 Contacts: Gold over Nickel
 Coupling Nut Torque: 3 to 4 Nm for now
 Cable: 18/4 RADXLE Jacket: twisted quad
 Shield: 80% braid with foil, 100% coverage
 Operating Temperature: -55 to +125°C

Ordering Information

Order No.	Connector Version	Mounting Style	Receptacle Configuration	Pull Force Rating (Front of Panel)	Pull Force Rating (Rear of Panel)
130303-5001	HDM12	Back Panel Mount M18	Cable Out	444N (100 lbs.)	444N (100 lbs.)
130303-5100			Wire Leads		N/A
130303-5200			PCB		N/A
130303-0001	HDM12EX	Back Panel Mount M24	Cable Out	1334N (300 lbs.)*	444N (100 lbs.)
130303-0100			Wire Leads		N/A
130303-0200			PCB		N/A
130303-1600			Cable Out		1334N (300 lbs.)
130303-1500			Cable Out		1334N (300 lbs.)
45339	Plug (Wire Termination Version)	10	Cable Out with RJ-45 Jack	444N (100 lbs.)	444N (100 lbs.)
45339	Plug (Wire Termination Version)	15			
45339	Plug (Wire Termination Version)	16			

Order No.	Connector Version	Cordset Style	Cable Length (M)	
130304-0001	HDM12	Single Ended	0.3	18/4
130304-0003			1	
130304-0007			5	
130304-0012			10	
130304-5001	HDM12EX	Single Ended	0.3	
130304-5003			1	
130304-5007			5	
130304-5012			10	
130304-0401	HDM12	Double Ended	0.3	
130304-0403			1	
130304-0407			5	
130304-0412			10	
130304-5401	HDM12EX	Double Ended	0.3	
130304-5403			1	
130304-5407			5	
130304-5412			10	

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