

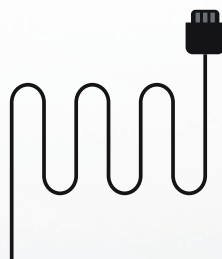
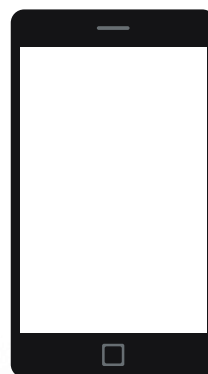
# Find the Latest Innovations and Information at **molex.com**

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The Molex App gives Apple and Android tablet and smartphone users ready access to information on over 90 different Molex product families. Users can visually compare product ranges, access product information and view datasheets offline. App users with an internet connection can directly link to Molex.com for more detailed part number information and product videos. Download the free app now at the App Store and Google Play.





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# Brad Core Program Industrial Automation

Europe

Brad products pioneered the market for rugged connectors in industrial applications since the introduction of the Mini-Change in 1968.

Today Molex supports one of the largest portfolios of connectivity and wiring solutions and defined the standards in the industrial market, covering multiple segments and applications.



## **AUTOMOTIVE PRODUCTION LINES**

Brad products are designed to withstand even the harshest environments with resistance to weld slag, abrasion, cuts and continuous flexing. Providing the foundation for your manufacturing plant, Brad Connectivity Solutions are used in metal stamping, body-weld, paint, final assembly and powertrain.

With functional safety as one of the most vital requirements on every factory floor, Molex has developed innovative solutions for Safety I/O modules which simplify the safety architecture of complex robotic work cells.



## **MATERIAL HANDLING**

The combination of Brad products with Molex Heavy Duty Connectors and Flamar cables enables the creation of compact connection systems that accommodate the multiple connector interfaces as needed for Material Handling applications.



## **FOOD AND BEVERAGE**

Brad Connectivity products are designed to meet the increasing need for IP67 and IP69K solutions in the food and beverage industry. The most unique and beneficial is the Brad M12 Ultra-Lock. It provides a safe, reliable connection of sensors, actuators and other control devices.



# The products you need... when and where you need them.

## **THE BRAD CORE PROGRAM**

The Brad Core Program includes the most commonly used items in the industrial automation market, ranging from connectivity products and presence sensing devices to active and passive I/O modules.

For further information or assistance, please contact Brad Connectivity tech support at [europa.brad.tech.support@molex.com](mailto:europa.brad.tech.support@molex.com).

# Complete Solutions from Molex

Molex is focused on offering value-added solutions to the targeted markets through our long years of expertise and technology in communication protocols and connectivity solutions supported by multiple plants for in house production worldwide.

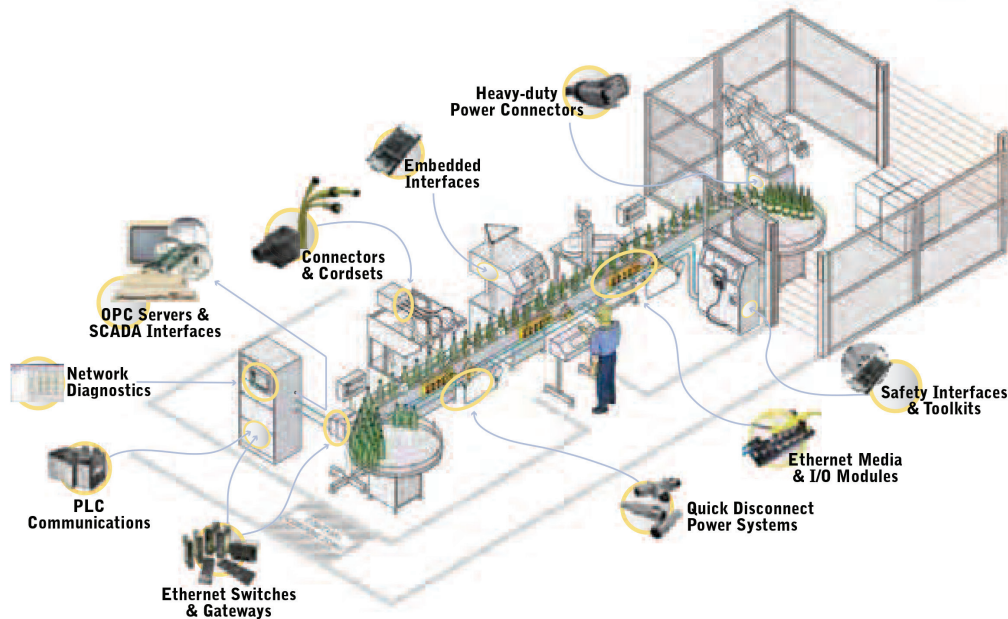
## Molex Competitive Advantages:

- **Recognized industrial Communication Competence Center**  
Active in automation and industrial committees boards like PNO, ODVA, CLPA, IEC, etc.
- **Designs and markets its own industrial communication technology**  
PROFINET, EtherNet/IP and safety stacks widely in use by many of the major automation manufacturers
- **Supports a large array of fieldbus communication protocols, both Safe and non-Safe**
  - Non-Safe: PROFIBUS, PROFINET, DeviceNet, EtherNet/IP, CC-Link, CC-Link IE, CanOpen, Modbus
  - Safe: CIP Safety, PROFSafe, CC-Link IE Safety
- **Product design and manufacturing integration capabilities**
  - Product development and customization
  - Product testing
  - Total Quality Process
- **Fully integrated capabilities**  
Stamping, plating, moulding, assembly, electronic population and assembly, potting and overmolding





# Complete Solutions from Molex



## Ethernet reliable solutions in harsh environments

### Worldwide Unique Feature: Quicker Setups and More Uptime Through Secure Connections Using the Brad Ultra-Lock Patented Connection System

- One simple push delivers a secure, consistent seal each and every time
- Eliminates connector-related intermittent signals that lead to costly production downtime
- Quick change-overs can now be a reality

### React to Problems Sooner Using Easy-to-Read Diagnostics

- Visible LEDs provide maintenance personnel with ability to easily determine I/O, module and network status
- Built-in web server for remote monitoring, configuration and diagnostics

### Reduce Infrastructure Costs with Built-in 2-Port Ethernet Switch

- 10/100 Mbps auto-sensing
- Supports straight or crossover Ethernet cable

### Reduce Inventory Costs Using Configurable I/O

- User configurable I/O – Digital points can be set as either an Input or Output (product also available in fixed I/O versions)

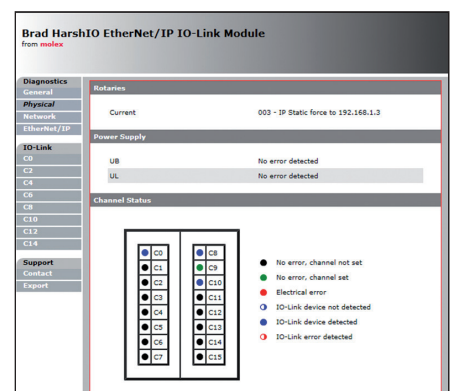
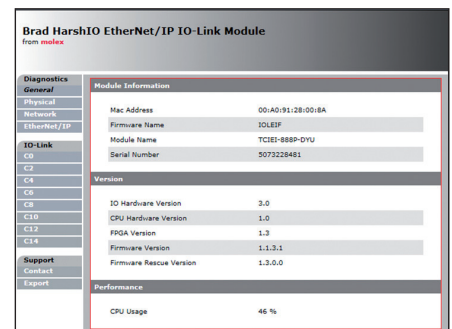
### Save Time Configuring or Replacing I/O Modules

- Thanks to Ethernet protocols, configuration setup can be downloaded into the product directly from the PLC
- With the 3 rotary switches, quickly adjust the last octets of the IP address

### Save Energy by Minimizing Power Supply

- On PROFINET, HarshIO supports PROFlenergy service, allowing the IO-Controller to minimize power supply to the connected HarshIO Module(s)

## Built-in Web Server



The module web server has no login and password. It is used to monitor the product information:

- Product version and configuration settings
- Protocol information
- Ethernet statistics
- Upload of description file (GSD/EDS)
- Technical support quick access

# Brad HarshIO

## Safety Solutions

Brad HarshIO Safety Modules provide a reliable solution for developing safety applications in harsh duty environments up to EN 61508 SIL3, PLe according to ISO 13849-1.

HarshIO modules provide input and output connectivity to safety sensors and actuators—ideal for automotive applications controlling robots into cells as well as complex machine builders.

### HarshIO Modules Benefits

- Rugged housing—module is potted with resin and has metallic connectors
- Compact design delivers enhanced space savings and simplifies retrofit applications
- Extend temperature range from  $-20^{\circ}$  up to  $+70^{\circ}\text{C}$  with no electrical derating
- 4-pole and 5-pole power connector versions
- Overmolded memory key—stores the module's configuration. Speeds up module replacement while eliminating special tools or recommissioning
- Ethernet Media Redundancy (DLR) and daisy-chaining
- USB stick—including safety manual, configuration software, EDS—with product package

### HarshIO I/O safe capabilities

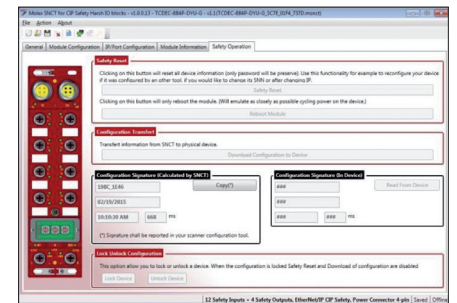
- TÜV certified: for use in safety applications, up to SIL3 and PLe
- Flexibility: supports connection of single and dual channel safety devices on inputs and outputs
- Individual test outputs: each test output can be assigned to a safety input device, allowing for optimized cable installations
- Safe sourcing outputs (1A) or safe bipolar outputs (2A) module versions
- Versatility: can connect to both standard and safety-rated sensors
- Advanced capabilities: reuse test outputs for added diagnostics, panel lamps, standard actuators, etc. and connect standard proximity switches, sensors and pushbuttons to unused safety inputs



EtherNet/IP™

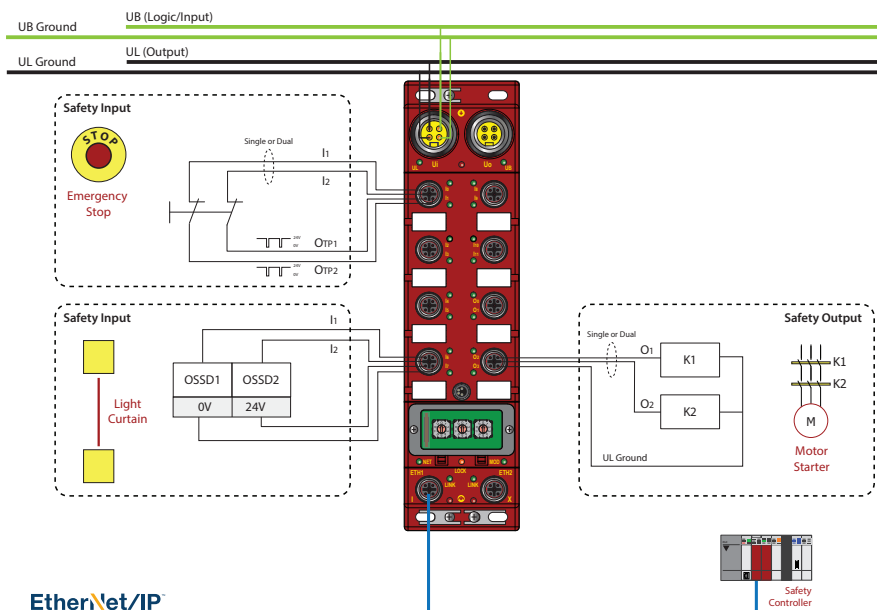


### SNCT—Configuration Software



Fast and easy solution for your HarshIO Safety module commissioning and diagnostic.

Advanced features like online device discovery, copy and paste SNN, Signature to and from RSLogix 5000, safety lock, password protection. SNCT is delivered with the product package.





# Brad HarshIO

## Safety Solutions

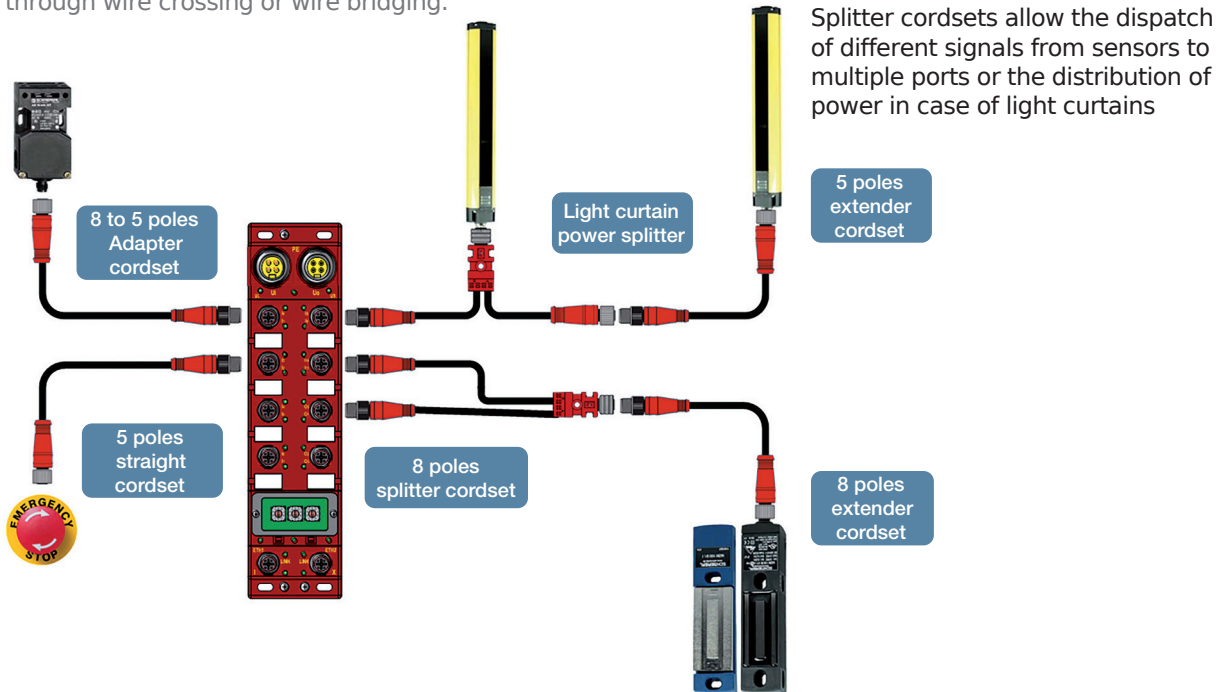
### Safety plug and play infrastructure solution

To simplify the integration of a high diversity of safety devices, Molex provides a range of Safety Passive components as adapters and splitters, for dedicated manufacturer and wiring standards.

An overview of the solutions available is listed in the Safety Integration Manual of our IO module or can be found on the Molex web site: [www.molex.com/link/brad\\_support.html](http://www.molex.com/link/brad_support.html)

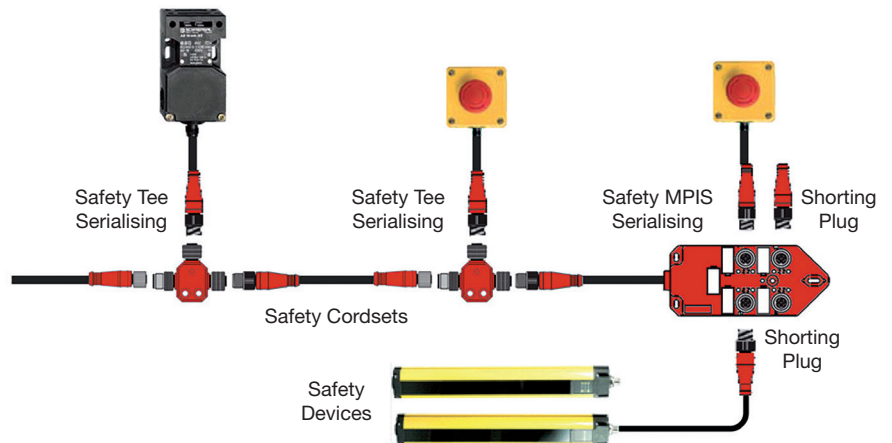
### Adapters and splitters for dedicated interconnection

Adapter cordsets convert different pinout to the standard Safety HarshIO port configuration through wire crossing or wire bridging.



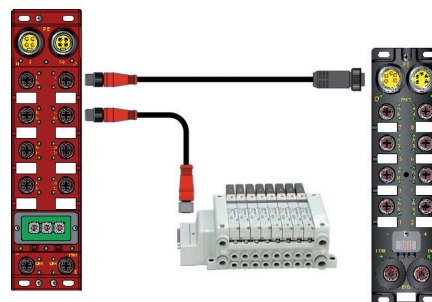
### Increase input sensors by serialisation

Safety Tee and Safety MPIS (Multiport Passive Interconnection Systems) allow the integration of several sensors in a single safety loop. Different wiring is available according to the safety signals (N.O., N.C., OSSD, etc.)



### Safe control of multiple output signals

Allows for power supply, cordset adapters as well as further automation equipment or digital output signals through one single Safe Output device.



# Flamar Cable Solutions

## Industrial Automation Applications

Selecting the right cable for your application is very important to ensure a reliable and problem-free installation.

Careful consideration of mechanical resistance, fluid/chemical exposure, flexibility (C-track, torsion), temperature resistance and flame retardancy are required to select the cable that will provide performance and reliability in service.

### Molex Flamar Solutions

Molex Flamar solutions propose a brand new set of cables designed to cover the broadest range of applications for machine builders and system integrators:

- Signal & Control: to connect sensors, actuators, valves and distribution boxes
- Servo Motor: for power and encoder/resolver connection
- Network: for I/O modules and connection to PLC
- Hybrid: composite multicore cables whenever an extremely compact solution is required
- Encoder and Resolver: for movable or chain applications, are suited for reduced bending radius applications

### Jacket Choice for Most Demanding Industrial Applications

- PVC: the most cost-effective solution for flexible and static installation.
- WSOR: Weld-Slag and Oil-Resistant Cable, a single-cable solution designed to withstand the severe environments found in automotive and industrial factory floors. Suitable for drag chain applications.
- PUR (Polyurethane): ensures top mechanical performance, withstands harsh environments, abrasion resistant. PUR Jacket are halogen free. Suitable for drag chain applications
- TPE: cables defined according to the US/Canadian market requirements (UL PLTC). Suitable for drag chain application.

### 3 Packaging Sizes

Each application section of the Brad Core Brochure includes the ordering number in Small, Medium and Large cable spool corresponding to the cable code from the Brad cordset engineering numbers.

More cable choices on [www.molex.com/flamar](http://www.molex.com/flamar)

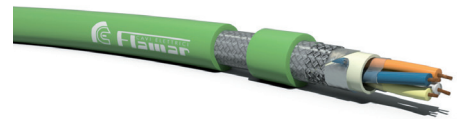
Signal & Control



Servo Motor



Network

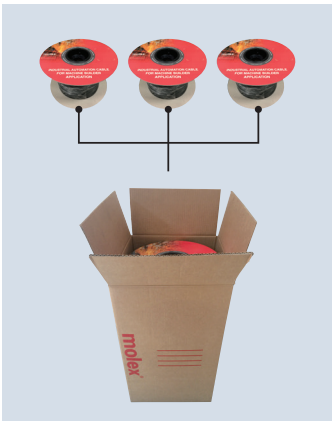




Hybrid



Encoder and Resolver



Small	Medium	Large
3x100m – 3x200m* 3 cardboard reels inside one box	250m – 800m* 1 plywood reel	500m – 1500m* 1 wooden drum
		

\* Depending on cable diameter

# Weld-Slag and Oil-Resistant (WSOR)

## The Single-Cable Solution



### Extended Characteristics and Resistance

- Withstands severe conditions in harsh environments: weld-slag and oil-resistant outer jacket cable.
- Meets UL 758/1581 and VDE 472-803/B specifications for harsh environment applications: hydrolysis resistant (EN50396); UV resistant (UL1581-300h); tear resistant (EN50396)
- Multiple design options in drag-chain applications: highly flexible cables with bend radius specifications of 5x outside diameter for static and 7.5x outside diameter for dynamic and drag chain conditions
- Wide temperature ranges: static  $-40$  to  $+90^{\circ}\text{C}$ , dynamic  $-25$  to  $+80^{\circ}\text{C}$  and drag-chain  $-5$  to  $+60^{\circ}\text{C}$
- Ensures safety for out-of-the-cabinet use: certified flame retardant according to IEC 60332-1, CSA FT1, UL Vertical Flame Test, UL AWM Style 21215 / CSA
- ECOLAB compatible: resistant to detergents, disinfectants and wash down water-jet used in Food & Beverage.



### One Solution for Various Applications

- Available in a large cross-section offering: 0.25, 0.34, 0.50, 0.75, 1.00, 1.50 and  $2.50\text{mm}^2$  (AWG 24 to AWG 14) for use in a variety of applications, from sensors and valves to servo motors and networks.
- Suitable for a variety of industry-standard connectors: available overmolded with M8, M12, MiniChange (7/8"), M23 standard connectors for quick and reliable installation in the field or to be combined with Molex field attachable connectors for increased flexibility.
- Designed for use in multiple markets: in the automotive and robotic area, from welding to cutting-oil environments, conveying and most machine applications.

### Optimized and Cost-Effective Connectivity Solution

As manufacturer of this cable range, Molex can control quality and cost at every step of cordset production to provide price-effective cordsets. Choosing this polyvalent WSOR cable also helps to reduce inventory costs. The WSOR cable can also be purchased raw by Molex for the termination on site.

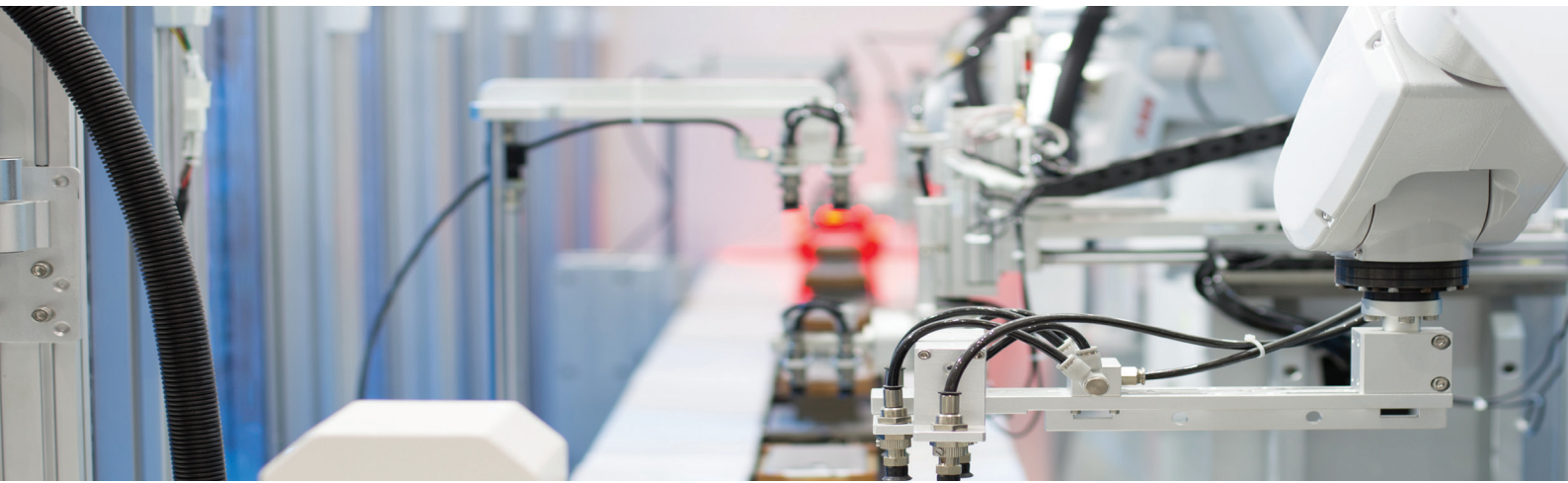
### Flamar Standard Cables for Industrial Automation Brochure



English  
987651-3992

Chinese  
987651-4141

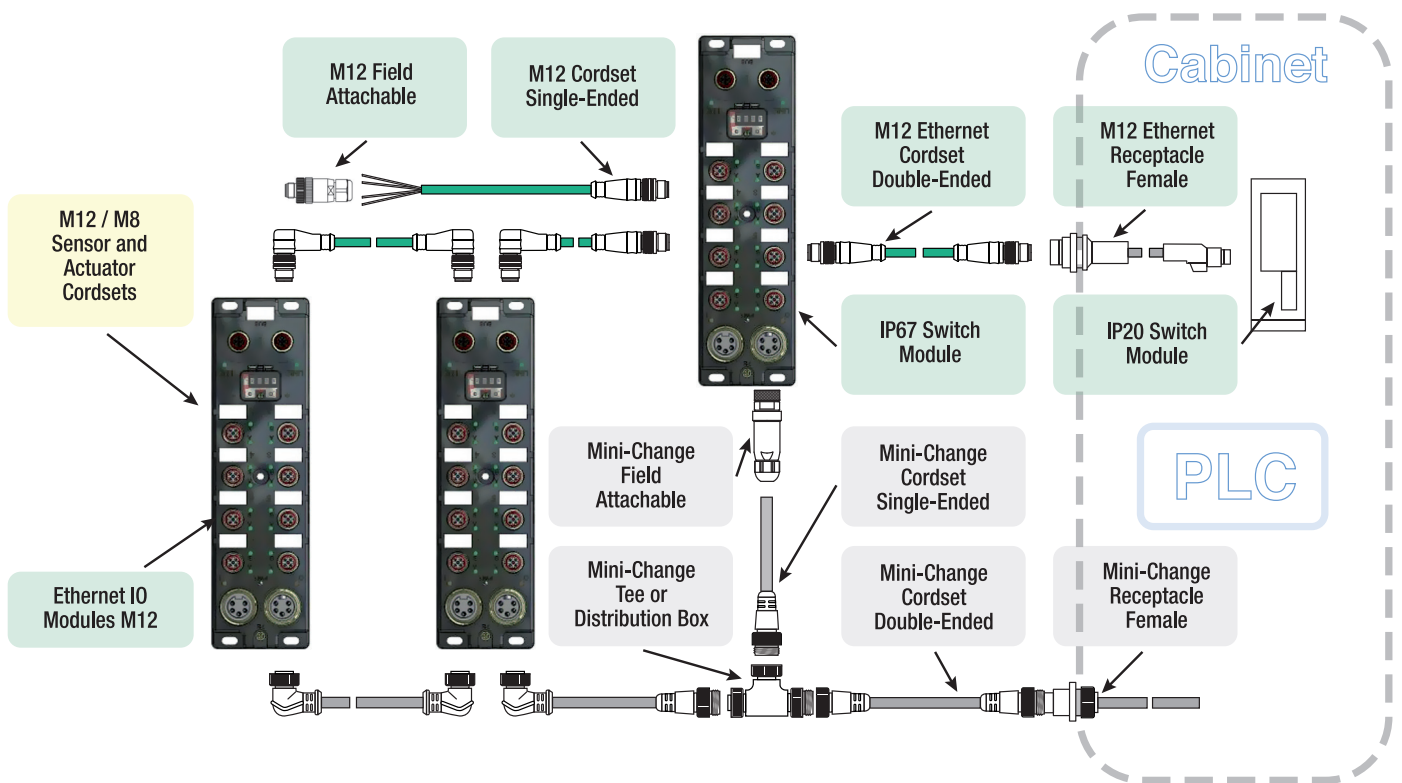




## ETHERNET AND MINI-CHANGE (7/8") POWER DISTRIBUTION ARCHITECTURE

EtherNet/IP™

PROFI  
NET



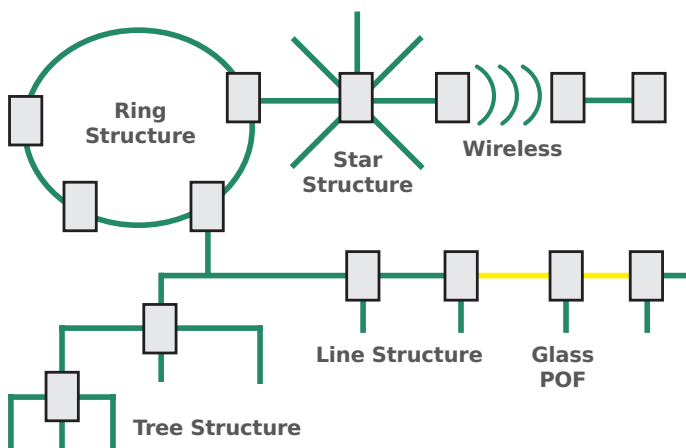




# Network Infrastructure Components

Ethernet in combination with industrial protocols like PROFINET or EtherNet/IP provide deterministic behavior for machine and process control applications with only COTS components.

The transition from the fieldbus to the Ethernet communication technologies helps to simplify the industrial infrastructure and enhance the management and maintenance of the devices providing significant cost savings and performance improvement.



## Type of Network

- Multi-station network
- CSMA/CD—Carrier Sense Multiple Access with Collision Detection

## Physical Media

- Shielded 2 or 4 twisted pairs, AWG22 (PROFINET) RJ45 or M12 D-Code Connectivity

## Network Topology

- Point-to-point communication
- Star topology with switches
- Daisy chain through device integrated 3 port switches
- Ring and redundancy topology protocol dedicated functionalities

## Maximum Distance

- 100m between two devices
- 4 connections between 2 devices allowed
- No termination required

## Power and Communication

- Power is supplied separately from network communication

# Harsh IO Modules

## Brad Ethernet/IP CIP Safety Classic

Brad HarshIO IP67 Modules for EtherNet/IP featuring CIP Safety technology deliver significant operational advantages of protection and versatility for industrial safety applications.

### Specifications

EtherNet/IP CIP Safety IO Adapter

For use in safety applications, up to SIL3 and PLe; mission time > 20 years

Real-time I/O update, up to 10 ms

Output bipolar version: max. 2A per dual channel

Support ODVA CIP Safety I/O generic profiles

Services: Automatic Conflict Detection (ACD), DLR Client

EDS upload file (downloadable via CIP File Service)

Integrated Web server for diagnostics

IP address: DHCP, Static Address and EtherNet/IP 0xF5/0xF6 objects

Grounding isolation between Input/logic and Output Power

Easy commissioning thanks to Molex SNCT software and RA RSLogix™ 5000

Memory key for configuration storage: External (M8) or Internal (Window)

Operating temperature: -25 to +70°C

Storage temperature: -40 to +90°C

Approvals: CE, UL, cUL, Rohs, REACH, TUV, ODVA Certified

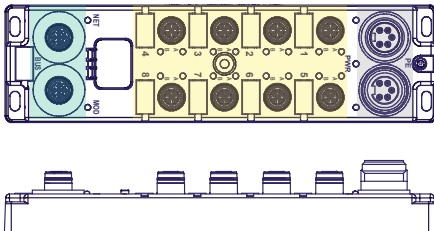


EtherNet/IP



User manual and description files to download under:  
[www.molex.com/link/brad\\_support.html](http://www.molex.com/link/brad_support.html)

## Brad HarshIO IP67 EtherNet/IP CIP Safety



### Connectivity

#### Ethernet:

2x Female M12 4P  
 D-code  
 Built-in 2 port switch  
 Ultra-Lock compatible

#### Inputs/Outputs:

8x Female M12 5P  
 A-Code  
 Dual IO signal per port  
 Inputs 24V max. 140mA  
 Outputs 24V max. 2A  
 Ultra-Lock compatible

#### Power:

1x Male 7/8" 4 or 5 Pole  
 1x Fem. 7/8" 4 or 5 Pole  
 Voltage: 24V Input &  
 Output, max. 8 Amps

Power Type	Input/Output (PNP)	Engineering No.	Standard Order No.
with external M8 configuration memory			
7/8" 5 Pole	12I/4O	TCDEC-8B4P-D1U-G8	112095-5129
	12I/2O (Bipolar)	TCDEC-8B4B-D1U-G8	112095-5130
7/8" 4 Pole (1)	12I/4O	TCDEC-8B4P-DYU-G8	112095-5127
	12I/2O (Bipolar)	TCDEC-8B4B-DYU-G8	112095-5128
with internal window configuration memory			
7/8" 5 Pole	12I/4O	TCDEC-8B4P-D1U-GW	112095-5111
	12I/2O (Bipolar)	TCDEC-8B4B-D1U-GW	112095-5112
7/8" 4 Pole (1)	12I/4O	TCDEC-8B4P-DYU-GW	112095-5107
	12I/2O (Bipolar)	TCDEC-8B4B-DYU-GW	112095-5108
(1) 4 Poles Mini-Change (7/8") cordsets are not listed in this brochure. For more information consult our web page.			

# Harsh IO Modules

## Brad PROFINET Digital Classic HarshIO Modules

IP67-rated digital IO modules for harsh environments are designed for direct machine mount applications with PROFINET IO communication capabilities.

### Specifications

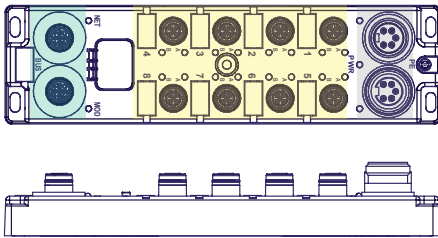
- PROFINET IO-Device, Conformance class B
- IP addressing: DCP or static
- Real-time I/O update, up to 1 ms
- Services: PROFlenergy, SNMP V1/V2/V3, LLDP Send/Rec, MRP, I&M, Easy Device replacement, Fast Start-Up (FSU) < 500ms
- GSDML configuration file (downloadable via integrated Web server)
- Embedded display for diagnostic
- Grounding isolation between Input/logic and Output Power<sup>(1)</sup>
- Operating temperature: -25 to 70°C
- Storage temperature: -40 to +90°C
- Approvals: CE, UL, cUL, RoHS, REACH, PNO Certified

<sup>1</sup> Not available on User Configurable IO model.

User manual and description files to download under:  
[www.molex.com/link/brad\\_support.html](http://www.molex.com/link/brad_support.html)



### Brad HarshIO IP67 PROFINET Module 60mm M12



Power Type	Input/Output (PNP)	Engineering No.	Standard Order No.
7/8" 5 Pole	16I	TCDEP-8D0P-D1U-G	112095-5048
	8I/8O	TCDEP-888P-D1U-G	112095-5050
	12I/4O	TCDEP-8B4P-D1U-G	112095-5051
	User Config.	TCDEP-8YYX-D1U-01	112095-5115

For more information consult our web page.

### Connectivity

<b>Ethernet:</b> 2x Female M12 4P D-code Built-in 2 port switch Ultra-Lock compatible	<b>Inputs/Outputs:</b> 8x Female M12 5P A-code Dual IO signal per port Inputs 24V max. 140mA Outputs 24V max. 2A Ultra-Lock® compatible	<b>Power:</b> 1x Male 7/8" 5 Pole 1x Fem. 7/8" 5 Pole Voltage: 24V Input 8 Amps
---	--	---

# Harsh IO Modules

## Brad EtherNet/IP

**IP67-rated digital IO modules for harsh environments are designed for direct machine mount applications with EtherNet/IP communication capabilities.**

### Specifications

EtherNet/IP adapter  
IP address: DHCP, Static Address, and 0xF5/0xF6 objects  
Real-time I/O update, up to 1 ms  
Services: Automatic Conflict Detection (ACD),  
QuickConnect < 500ms (QC Class A device)  
EDS configuration file (downloadable via CIP File Service)  
Embedded display for diagnostic  
Grounding isolation (1) between Input/logic and Output Power  
Operating temperature: -25 to +70°C  
Storage temperature: -40 to +90°C  
Approvals: CE, UL, cUL, RoHS, REACH, ODVA Certified

User manual and description files to download under:  
[www.molex.com/link/brad\\_support.html](http://www.molex.com/link/brad_support.html)



**EtherNet/IP**

## Brad HarshIO IP67 EtherNet/IP Module – 60mm M12

Power Type	Input/Output (PNP)	Engineering No.	Standard Order No.
7/8" 4 Pole <sup>(1)</sup>	16I	TCDEI-8D0P-DYU-G02	112095-5137
	8I/8O	TCDEI-888P-DYU-G02	112095-5138
	User Config.	TCDEI-8YYX-DYU-G02	112095-5116
7/8" 5 Pole	User Config.	TCDEI-8YYX-D1U-G02	112095-5117

<sup>1</sup> 4 Poles Mini-Change (7/8") cordsets are not listed in this brochure.  
For more information consult our web page.



# Switches

## Brad Harsh-Duty Unmanaged Ethernet Switches

**IP67-rated Harsh-Duty Unmanaged Ethernet Switches provide customers with a fast, rugged and secure on machine Ethernet connection to reduce network cabling, lower installation costs and eliminate wiring errors.**

### Specifications

Unmanaged IP67 switches  
 Compatible with PROFINET and EtherNet/IP systems  
 Speed 10/100Mbps auto negotiation, full or half duplex  
 Auto-learning with no software or configuration required  
 Operating temperature: -40 to +75°C  
 Storage temperature: -40 to +90°C  
 Approvals: CE, UL, cUL  
 Power supply: 9 to 36v DC



EtherNet/IP



### Brad Harsh-Duty Unmanaged IP67 Ethernet Switch – M12

Power Type	Ethernet	No. of Ports	Housing	Engineering No.	Standard Order No.
M12 A-Coded	M12 D-Coded	5	30mm	DRL-750	112111-5001
M12 L-Coded		8	60mm	DRL-884	112105-5010

# Infrastructure Connectivity

## Brad EtherNet/IP

Plug-and-play infrastructure to interconnect CAT5e Ethernet IP67 devices based on 4 Pole D-Code M12 standard connectors.

EtherNet/IP

### Brad EtherNet/IP Double-Ended Male to Male M12 Cordsets (D-Code)



Length	EtherNet/IP Shielded PVC Cable 15 - Teal		EtherNet/IP Shielded WSOR Cable 16 - Teal	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	E11A06015M010	130048-0122	E11A06016M010	120108-8420
2m	E11A06015M020	130048-0124	E11A06016M020	120108-8421
5m	E11A06015M050	130048-0126	E11A06016M050	120108-8424
10m	E11A06015M100	130048-0128	E11A06016M100	120108-8427
20m	—	—	E11A06016M200	120108-8431
30m	—	—	E11A06016M300	120108-8435



### EtherNet/IP M12 Male (D-Code) to RJ45 Plug Cordsets



Length	EtherNet/IP Shielded PVC Cable 15 - Teal		EtherNet/IP Shielded WSOR Cable 16 - Teal	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	E16A06015M010	130048-0280	E16A06016M010	120108-8450
2m	E16A06015M020	130048-8099	E16A06016M020	120108-8451
5m	E16A06015M050	130048-0237	E16A06016M050	120108-8454
10m	E16A06015M100	130048-8101	E16A06016M100	120108-8458

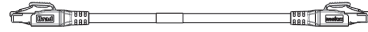


# Infrastructure Connectivity

## Brad EtherNet/IP

EtherNet/IP

### EtherNet/IP RJ45 Plug to RJ45 Plug Cordsets



Length	EtherNet/IP Shielded PVC Cable 15 - Teal		EtherNet/IP Shielded WSOR Cable 16	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	E66A06015M010	120108-8249	E66A06016M010	120108-8474
2m	E66A06015M020	120108-8250	E66A06016M020	120108-8475
3m	E66A06015M030	120108-8258	E66A06016M030	120108-8476
5m	E66A06015M050	120108-8251	E66A06016M050	120108-8478
10m	E66A06015M100	120108-8252	E66A06016M100	120108-8482



### EtherNet/IP Female M12 (D-Code) Receptacle to RJ45 Plug Cordsets



Length	EtherNet/IP Shielded TPE Cable 16 - Teal (M16 BPM)	
	Engineering No.	Standard Order No.
1m	ERWPAU7016M010	120108-8499
2m	ERWPAU7016M020	120108-8500



### Raw Cable

EtherNet/IP Shielded PVC Cable 15 - Teal		EtherNet/IP Shielded WSOR Cable 16 - Teal	
Size	Standard Order No.	Size	Standard Order No.
1x800m	155441-8002	1x500m	155421-6008



This cable can also be used for any other Ethernet communication protocol

ETHERNET  
**POWERLINK**

Ether**CAT**

**MODBUS**

**TCP**

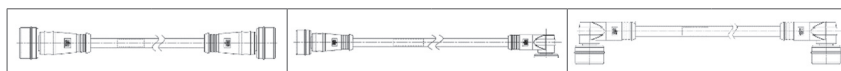
EtherNet/IP

# Infrastructure Connectivity

## Brad EtherNet/IP

Plug-and-play infrastructure to interconnect CAT5e Ethernet IP67 devices based on 4-Pole D-Code M12 Ultra-Lock 2.0 connectors.

### EtherNet/IP Double-Ended Male to Male M12 Ultra-Lock 2.0 Cordsets (D-Code)

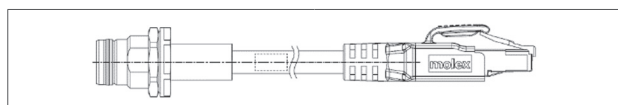


16 WSOR Cable 2x2x24 AWG

Length	Male Straight / Male Straight		Male Straight / Male 90		Male 90 / Male 90	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
1m	EYYA06016M010	120406-1021	EYYA06216M010	120406-1029	EYYA06316M010	120406-1037
2m	EYYA06016M020	120406-1022	EYYA06216M020	120406-1030	EYYA06316M020	120406-1038
5m	EYYA06016M050	120406-1023	EYYA06216M050	120406-1031	EYYA06316M050	120406-1039
10m	EYYA06016M100	120406-1024	EYYA06216M100	120406-1032	EYYA06316M100	120406-1040



### EtherNet/IP Female M12 Ultra-Lock 2.0 (D-Code) Receptacle to RJ45 Plug Cordsets



16 WSOR Cable 2x2x24 AWG

Length	Female Straight / Male Straight	
	Engineering No.	Standard Order No.
0.5m	ERYPAU7016M005	120406-1046
1m	ERYPAU7016M010	120406-1047
2m	ERYPAU7016M020	120406-1048
5m	ERYPAU7016M050	120406-1049
10m	ERYPAU7016M100	120406-1050



All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europa.brad.tech.support@molex.com](mailto:europa.brad.tech.support@molex.com)



# Infrastructure Connectivity

## Brad CAT6A Ethernet M12 X-Code

Plug-and-play infrastructure to interconnect CAT6A Ethernet IP67 devices based on Shielded 8 Pole X-Code M12 standard connectors.

### CAT6A Ethernet Double-Ended Male to Male M12 Cordsets (X-Code)

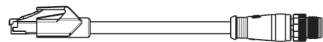


CAT6A EtherNet Shielded PUR Cable 20 - Teal

Length	Engineering No.	Standard Order No.
1m	E22E06020M010	120341-0301
2m	E22E06020M020	120341-0302
5m	E22E06020M050	120341-0305
10m	E22E06020M100	120341-0306



### CAT6A Ethernet M12 Male (X-Code) to RJ45 Plug Cordsets



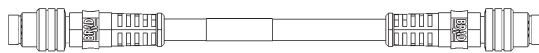
CAT6A EtherNet Shielded PUR Cable 20 - Teal

Length	Engineering No.	Standard Order No.
1m	E26E06020M010	120341-0501
2m	E26E06020M020	120341-0502
3m	E26E06020M030	120341-0503
5m	E26E06020M050	120341-0505
10m	E26E06020M100	120341-0506



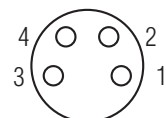
## M8 Infrastructure Components

### EtherNet M8 Cordsets



M8 Male to Male Straight

Length	Engineering No.	Standard Order No.
1m	E44A06020M010	120359-1001
2m	E44A06020M020	120359-1002
5m	E44A06020M050	120359-1004
10m	E44A06020M100	120359-1006
15m	E44A06020M150	120359-1008
20m	E44A06020M200	120359-1009




Shielded 4x26 AWG Green PUR cable  
 Pair 1: Pin 1/Pin 4  
 Pair 2: Pin 2/Pin 3

# Infrastructure Connectivity



## Brad CAT6A Ethernet M12 X-Code

Plug-and-play infrastructure to interconnect CAT6A Ethernet IP67 devices based on Shielded 8 Pole X-Code M12 standard connectors.

### CAT6A Ethernet M12 Shielded Field Attachable (X-Code)

Poles	Cable Size	Wire Gauge	Wire Termination Style	Male Straight		
				Engineering No.	Standard Order No.	
8	6.5 - 8.5mm	< AWG 18	IDC	E2AS06-52	120341-0806	

### CAT6A Ethernet RJ45 Shielded Field Attachable

Poles	Cable Size	Wire Gauge	Wire Termination Style				
				Male Straight		Male 90°	
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
8	5.5 - 9.0mm	AWG 24-22	IDC	E6AS06-5	130047-8008	E6AS07-5	130047-8009
8	5.5 - 9.0mm	AWG 26-24	IDC	E6AS06-6	130047-8010	E6AS07-6	130047-8011

# Infrastructure Connectivity

Brad PROFINET

Plug-and-play infrastructure to interconnect CAT5e PROFINET IP67 devices based on 4 Pole D-Code M12 standard connectors.



## PROFINET Double-Ended Male to Male M12 Cordsets (D-Code)

PROFINET Shielded WSOR Cable 12 - Green			PROFINET Shielded WSOR Cable 12 - Male to Male 90°	
Length	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	E11A06012M010	120108-8304	E11A06312M010	120108-0508
2m	E11A06012M020	120108-8305	E11A06312M020	120108-0509
5m	E11A06012M050	120108-8308	E11A06312M050	120108-0510
10m	E11A06012M100	120108-8311	E11A06312M100	120108-0511
15m	E11A06012M150	120108-8313	—	—
20m	E11A06012M200	120108-8315	—	—
30m	E11A06012M300	120108-8317	—	—



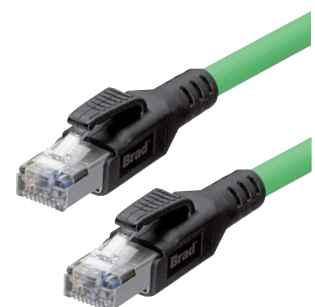
## PROFINET M12 Male (D-Code) to RJ45 Plug Cordsets

PROFINET Shielded WSOR Cable 12 - Green		
Length	Engineering No.	Standard Order No.
1m	E16A06012M010	120108-0521
2m	E16A06012M020	120108-0522
5m	E16A06012M050	120108-8333
10m	E16A06012M100	120108-0524



## PROFINET RJ45 Plug to RJ45 Plug Cordsets

PROFINET Shielded WSOR Cable 12 - Green		
Length	Engineering No.	Standard Order No.
1m	E66A06012M010	120108-8353
2m	E66A06012M020	120108-8354
3m	E66A06012M030	120108-8355
5m	E66A06012M050	120108-8357
10m	E66A06012M100	120108-8361



# Infrastructure Connectivity

Brad PROFINET

Plug-and-play infrastructure to interconnect CAT5e PROFINET IP67 devices based on 4-Pole D-Code M12 standard connectors.



## PROFINET Female M12 (D-Code) Receptacle to RJ45 Plug Cordsets



PROFINET Shielded WSOR Cable 12 - Green

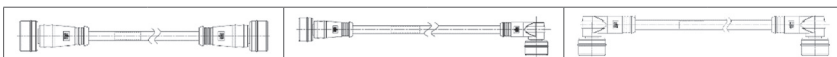
Length	Engineering No.	Standard Order No.
1m	ERWPAU7012M010	120108-0519
2m	ERWPAU7012M020	120108-0520

## EtherNet/IP M12 Shielded Field Attachable (D-Code)

Poles	Cable Size	Wire Gauge	Wire Termination Style	Male Straight		Female Straight	
				Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
4	6.0 - 8.0mm	< AWG 18	Screw	E1AS06-32	130047-0035	E1AS00-32	130047-0037
4	4.0 - 8.0mm	AWG 26-22	IDC	E1AS06-53	130047-0039	E1AS00-53	130047-0040

Plug-and-play infrastructure to interconnect CAT5e PROFINET IP67 devices based on 4-Pole D-Code M12 Ultra-Lock 2.0 Cordsets (D-Code).

## PROFINET Double-Ended Male to Male M12 Ultra-Lock 2.0 Cordsets (D-Code)

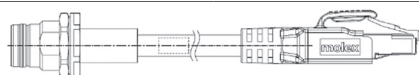


12 WSOR Cable 2x2x22 AWG

Length	Male Straight / Male Straight		Male Straight / Male 90		Male 90 / Male 90	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
1m	EYYAS6012M010	120406-1017	EYYAS6212M010	120406-1025	EYYAS6312M010	120406-1033
2m	EYYAS6012M020	120406-1018	EYYAS6212M020	120406-1026	EYYAS6312M020	120406-1034
5m	EYYAS6012M050	120406-1019	EYYAS6212M050	120406-1027	EYYAS6312M050	120406-1035
10m	EYYAS6012M100	120406-1020	EYYAS6212M100	120406-1028	EYYAS6312M100	120406-1036



## PROFINET Female M12 Ultra Lock 2.0 (D-Code) Receptacle to RJ45 Plug Cordsets



12 WSOR Cable 2x2x22 AWG

Length	Female Straight / Male Straight	
	Engineering No.	Standard Order No.
0.5m	ERYPAU7012M005	120406-1041
1m	ERYPAU7012M010	120406-1042
2m	ERYPAU7012M020	120406-1043
5m	ERYPAU7012M050	120406-1044
10m	ERYPAU7012M100	120406-1045



All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europe.brad.tech.support@molex.com](mailto:europe.brad.tech.support@molex.com)





## FUTURE-PROOF YOUR INDUSTRIAL COMMUNICATION INFRASTRUCTURE

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# Introducing the Industrial SPE Connectors and Cable Assemblies

It's time to replace your fragmented legacy network with a unified Ethernet-based solution. Realize your Industrial IoT initiatives with Molex's new Industrial Connectors and Cable Assemblies.



## ADVANCE NETWORKING STANDARDS WITH SINGLE PAIR ETHERNET

**Faster Data Speeds** of 1 Gbps are achieved using only two wires and the simultaneous power supply for terminals through Power over Data Line (PoDL) up to 50W.

**End-to-End TCP/IP-Based Communication** permits a barrier-free connection of equipment and sensor/actuator technology to reduce costs, simplify setup and improve efficiency.

**Miniaturization** of the Molex SPE Series significantly eases cable routing and reduces weight by utilizing only one twisted pair of wires with a gauge as small as AWG26 and AWG22.

**Ruggedization** against harsh industrial environments has been designed into the series using halogen-free, oil-resistant and flame-retardant cable assemblies with IP20 rating.

From the factory floor to the cloud, future-proof your industrial communication infrastructure with Single Pair Ethernet by Molex.







Learn more at  
[molex.com/link/spe](https://molex.com/link/spe)



*creating connections for life*

# Infrastructure Connectivity

## T1 Industrial Single-Pair Ethernet (SPE) Connectors and Cable Assemblies

Affords the standard T1 industrial interface and single-twisted-pair cabling to make Ethernet connectivity easy and affordable, support miniaturization and enable the transmission of data from the cloud to devices and sensors.

T1 Industrial Single-Pair Ethernet (SPE) Connectors		
Right Angle PCB Jack		
Description	Standard Order No.	
T1 Industrial Single-Pair Ethernet (SPE) PCB Jack, RA	220957-0001	
T1 Industrial Single-Pair Ethernet (SPE) PCB Jack, M12, RA	220957-0002	
Straight PCB Jack		
Description	Standard Order No.	
T1 Industrial Single-Pair Ethernet (SPE) PCB Jack, M12, STR, 8.00mm	220957-0005	
T1 Industrial Single-Pair Ethernet (SPE) PCB Jack, M12, STR, 12.50mm	220957-0008	

T1 Industrial Single-Pair Ethernet (SPE) Receptacles		
M12 Receptacle Shell, Straight IP67		
Description	Standard Order No.	
T1 Industrial Single-Pair Ethernet (SPE) M12 Receptacle Shell, Back Mount	220957-0011	
T1 Industrial Single-Pair Ethernet (SPE) M12 Receptacle Shell, Front Mount	220957-0012	

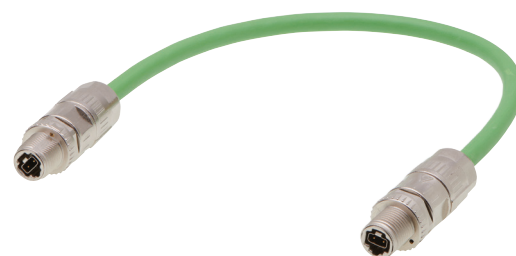
# Infrastructure Connectivity

## T1 Industrial Single-Pair Ethernet (SPE) Connectors and Cable Assemblies

T1 Industrial Single-Pair Ethernet (SPE) Plug Cable Assembly		
Plug Cable Assembly IP20		
Length	Description	Standard Order No.
0.3m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 0.3m	220957-0102
1m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 1m	220957-0104
3m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 3m	220957-0107
5m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 5m	220957-0108
10m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 10m	220957-0110
15m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 15m	220957-0111
20m	T1 SPE IP20 1x2xAWG 26 / 19 PUR 20m	220957-0112



Plug Cable Assembly IP65/67		
Length	Description	Standard Order No.
0.3m	M12 T1 SPE 1x2xAWG 22/7 PUR 0.3m	220957-0115
1m	M12 T1 SPE 1x2xAWG 22/7 PUR 1m	220957-0116
3m	M12 T1 SPE 1x2xAWG 22/7 PUR 3m	220957-0119
5m	M12 T1 SPE 1x2xAWG 22/7 PUR 5m	220957-0120
10m	M12 T1 SPE 1x2xAWG 22/7 PUR 10m	220957-0122
15m	M12 T1 SPE 1x2xAWG 22/7 PUR 15m	220957-0123
20m	M12 T1 SPE 1x2xAWG 22/7 PUR 20m	220957-0124
30m	M12 T1 SPE 1x2xAWG 22/7 PUR 30m	220957-0125









# molex **CONTRINEX**

Molex supports one of the largest portfolios of connectivity and wiring solutions in the industrial market and brings industry-leading expertise to deliver integrated solutions for customers worldwide.

The collaboration with Contrinex, a Swiss-based manufacturer of inductive and photoelectric sensors for factory automation, expands the Molex portfolio to address customer requirements for smart manufacturing, thanks to the broad availability of IO link solutions within the product range.

## At a Glance

- Technology-leading manufacturer of inductive and photoelectric sensors as well as safety and RFID systems
- World market leader for miniature sensors, sensors with long operating distances and devices for particularly demanding operating conditions (all-metal, high-pressure and high-temperature resistant sensors)
- Represented in over 60 countries worldwide, headquarters in Switzerland



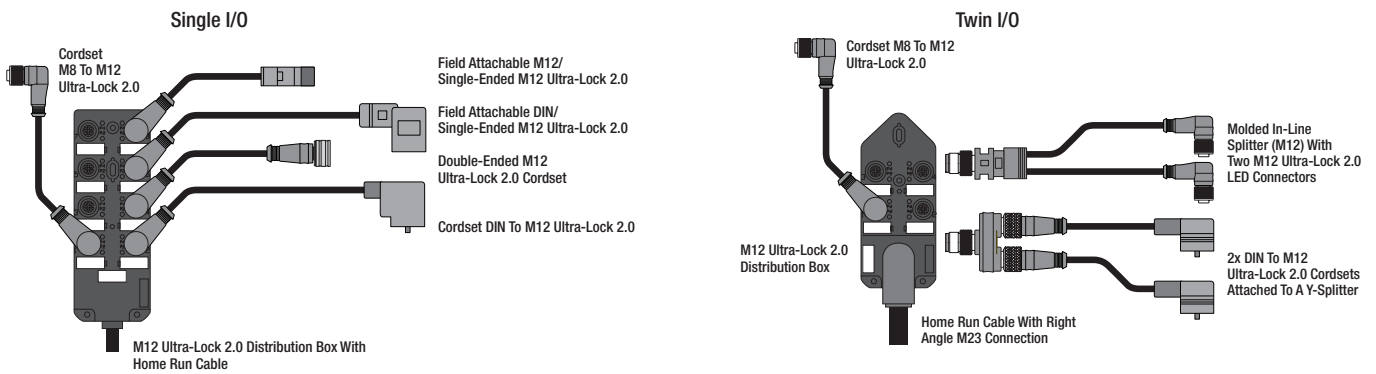
For more information regarding the range of Contrinex products available by Molex, please visit

[https://www.molex.com/molex/products/family/contrinex\\_inductive\\_and\\_photoelectric](https://www.molex.com/molex/products/family/contrinex_inductive_and_photoelectric)

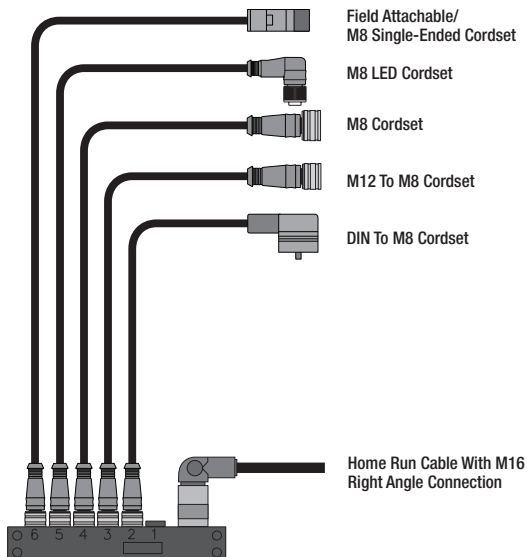




## MICRO-CHANGE M12 SENSOR/ACTUATOR INTERCONNECTION



## NANO-CHANGE M8 SENSOR/ACTUATOR INTERCONNECTION





# Sensors and Actuators Connectivity

## ADDITIONAL INDUSTRIAL POWER CONNECTORS FROM MOLEX

### Brad Multi-Port Interconnection Systems (MPIS)

Solution to reduce installation time and costs:

- IP67 protection can be installed directly on the machine, close to the automation devices keeping single wiring distances low.
- Concentrate sensor and actuator signals and distribute the power supply reducing homerun cable dimensions.
- Signal diagnostic information to quickly detect machine status and failures on devices.
- Home run cable termination via an M16/M23 connector, via field terminated screw terminal for installation flexibility or for cost savings directly mounted on the module.

### MPIS Applications

MPIS solutions are ideal in case of small or mid-size machines. Larger machines or higher IO counts may prefer the active networked HarshIO modules.

### Single and Dual signal ports

Brad MPIS and Active HarshIO I/O Ports can manage up to 2 signals per port (Twin I/O).

Signals are concentrated on Twin I/O ports:

- By using Splitter cordsets
- By using solid body Y or Tee Splitters as shown in the diagram on the previous page.

Primary signal (from device A) will be on Pin 4  
Secondary signal (from device B) will be on Pin 2  
As displayed below.



# Sensor/Actuator Distribution Boxes

Brad MPIS

IP67-rated passive IO modules for harsh environments are designed to concentrate the sensor/actuator signals into one unique home run cable for better mechanical infrastructure wiring on the machine.

## Specifications

IP67 Molded PBT Housing, color Black  
Single or Dual Input/Output signal per port  
Indicating LED for Power and sensor trigger

PNP Version (available also in NPN version)  
Electrical: 10-30V DC max. & 12.0A max. (4.0A max. per port) Approvals: UL, CSA, IP67



## Brad M12 Distribution Boxes with Home Run Cable

IO Type	Length	4 Ports		8 Ports	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Single IO	5m	BTB400P-FBW-05	120248-0004	BTB800P-FBW-05	120248-0022
	10m	BTB400P-FBW-10	120248-0005	BTB800P-FBW-10	120248-0023
Dual IO	5m	BTB405P-FBW-05	120248-0031	BTB805P-FBW-05	120248-0049
	10m	BTB405P-FBW-10	120248-0032	BTB805P-FBW-10	120248-0050

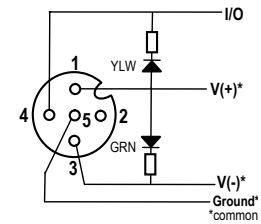
## Brad M12 Distribution Boxes with M23 Connector and Home Run Cable

IO Type	4 Ports		8 Ports	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Single IO	BTB401P-FBC	120248-0056	BTB801P-FBC	120248-0060
Dual IO	BTB403P-FBC	120248-0062	BTB803P-FBC	120248-0066

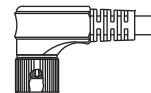
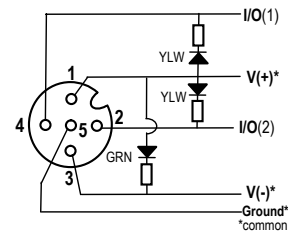
  

Length	Single IO Home Run Cable (12p/11 wires)		Dual IO Home Run Cable (19p/19 wires)	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
10m	K02101B80M100*	120094-8150	K03001B80M100*	120094-8163

### Micro-Change M12 Single IO Connector Wiring



### Micro-Change M12 Dual IO Connector Wiring



## Brad M12 Distribution Boxes with Mini-Change Connector and Home Run Cable

IO Type	4 Ports		8 Ports	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Single IO	BTB401P-FBB	120248-0068	BTB801P-FBB	120248-0074
Dual IO	BTB403P-FBB	120248-0077	BTB803P-FBB	120248-0083

Home run cable also available in 1m, 5m, 15m, 20m, 30m and also with m23 straight connector.

# Sensor/Actuator Distribution Boxes

Brad MPIS

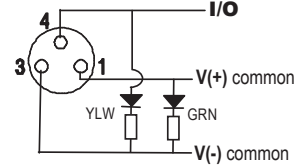
## Brad M8 Distribution Boxes with Side Mount PUR Home Run Cable

IO Type	Length	4 Ports		6 Ports	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
		Single IO	5m	BEB401P-FBW-05	120247-0001
10m	BEB401P-FBW-10		120247-0002	BEB601P-FBW-10	120247-0041

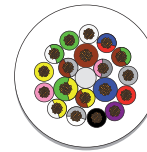
IO Type	Length	8 Ports		10 Ports	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
		Single IO	5m	BEB801P-FBW-05	120247-0012
10m	BEB801P-FBW-10		120247-0013	BEBA01P-FBW-10	120247-0007



### Nano-Change M8 Single IO Connector Wiring

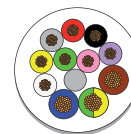


### B80 WSOR Raw Cable Ordering Information



Black	Gray / White
Pink	Yellow / White
Yellow	Green / White Gray
Green	Blue / Red
White	Brown / Green
Gray	Yellow / Brown
Red	Yellow / Green
Violet	Gray / Brown
Blue	Gray / Pink
Brown	

Wires	Size	Standard Order No.
3xAWG19 + 16xAWG22	1x100m	155220-9019
	1x500m	155220-9020
	1x1000m	155220-9021



White	Brown
Yellow	Yellow / Green
Gray	Blue
Red	Green
Black	Pink
Violet	

Wires	Size	Standard Order No.
3xAWG19 + 8xAWG22	1x200m	155220-9013
	1x500m	155220-9014
	1x1000m	155220-9015

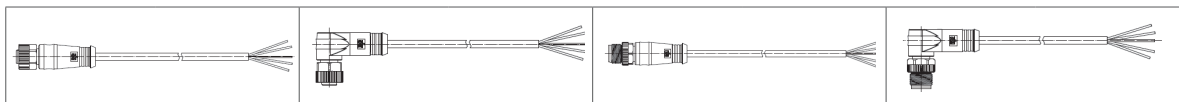
#### Note:

Further technical information, datasheet or drawing can be downloaded from the Molex website using the ordering part number.

# Sensor/Actuator Connectivity

## Brad Micro-Change M12

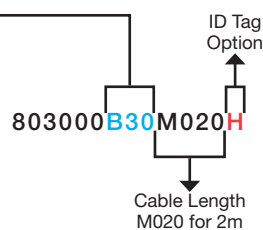
Brad Micro-Change M12 connectivity is a ready-to-use solution based on the A-Code M12 standard with IP67/68 rating to wire a wide range of sensors and actuators from proximity switches to rotary encoders in harsh environments.



B30 WSOR Cable									
Poles	Length	Female Straight		Female 90°		Male Straight		Male 90°	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	1m	803000B30M010	120065-2247	803001B30M010	120065-2259	803006B30M010	120065-2271	803007B30M010	120065-2283
	2m	803000B30M020	120065-2248	803001B30M020	120065-2260	803006B30M020	120065-2272	803007B30M020	120065-2284
	5m	803000B30M050	120065-2249	803001B30M050	120065-2261	803006B30M050	120065-2273	803007B30M050	120065-2285
	10m	803000B30M100	120065-2250	803001B30M100	120065-2262	803006B30M100	120065-2274	803007B30M100	120065-2286
4	1m	804000B30M010	120065-2251	804001B30M010	120065-2263	804006B30M010	120065-2275	804007B30M010	120065-2287
	2m	804000B30M020	120065-2252	804001B30M020	120065-2264	804006B30M020	120065-2276	804007B30M020	120065-2288
	5m	804000B30M050	120065-2253	804001B30M050	120065-2265	804006B30M050	120065-2277	804007B30M050	120065-2289
	10m	804000B30M100	120065-2254	804001B30M100	120065-2266	804006B30M100	120065-2278	804007B30M100	120065-2290
5	1m	805000B30M010	120065-9518	805001B30M010	120065-9522	805006B30M010	120065-9526	805007B30M010	120065-9530
	2m	805000B30M020	120065-9519	805001B30M020	120065-9523	805006B30M020	120065-9527	805007B30M020	120065-9531
	5m	805000B30M050	120065-9520	805001B30M050	120065-9524	805006B30M050	120065-9528	805007B30M050	120065-9532
	10m	805000B30M100	120065-9521	805001B30M100	120065-9525	805006B30M100	120065-9529	805007B30M100	120065-9533
8	1m	808000B41M010	120065-2306	808001B41M010	120065-2310	808006B41M010	120065-2302	808007B41M010	120065-2314
	2m	808000B41M020	120065-9458	808001B41M020	120065-2311	808006B41M020	120065-9453	808007B41M020	120065-2315
	5m	808000B41M050	120065-2308	808001B41M050	120065-2312	808006B41M050	120065-2304	808007B41M050	120065-2316
	10m	808000B41M100	120065-9463	808001B41M100	120065-2313	808006B41M100	120065-2305	808007B41M100	120065-2317

### Build-A-Part Number Configuration Code

	Poles	Cable	Code
0.34mm <sup>2</sup> (22 AWG)	3, 4, 5	PVC	E03
		WSOR	B30
		PUR	H09
0.25mm <sup>2</sup> (24 AWG)	8	PVC	E02
		WSOR	B41
		PUR	H08

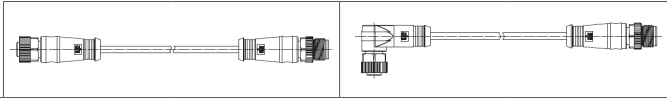




# Sensor/Actuator Connectivity

## Brad Micro-Change M12

### Brad Micro-Change M12 Double-Ended Cordsets



#### B30 WSOR Cable

Poles	Length	Female to Male Straight		Female 90° to Male Straight	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	0.6m	883030B30M006	120066-8889	883031B30M006	120066-8877
	1m	883030B30M010	120066-8890	883031B30M010	120066-8878
	2m	883030B30M020	120066-8891	883031B30M020	120066-8879
	3m	883030B30M030	120066-8892	883031B30M030	120066-8880
	5m	883030B30M050	120066-8893	883031B30M050	120066-8881
	10m	883030B30M100	120066-8894	883031B30M100	120066-8882
4	0.6m	884030B30M006	120066-8817	884031B30M006	120066-8829
	1m	884030B30M010	120066-8818	884031B30M010	120066-8830
	2m	884030B30M020	120066-8819	884031B30M020	120066-8831
	3m	884030B30M030	120066-8820	884031B30M030	120066-8832
	5m	884030B30M050	120066-8821	884031B30M050	120066-8833
	10m	884030B30M100	120066-8822	884031B30M100	120066-8834
5	0.6m	885030B30M006	120066-8991	885031B30M006	120066-8997
	1m	885030B30M010	120066-8992	885031B30M010	120066-8998
	2m	885030B30M020	120066-8993	885031B30M020	120066-8999
	3m	885030B30M030	120066-8994	885031B30M030	120066-9000
	5m	885030B30M050	120066-8995	885031B30M050	120066-9001
	10m	885030B30M100	120066-8996	885031B30M100	120066-9002
8	0.6m	888030B41M006	120066-8895	888031B41M006	120066-8883
	1m	888030B41M010	120066-8896	888031B41M010	120066-8884
	2m	888030B41M020	120066-8897	888031B41M020	120066-8885
	3m	888030B41M030	120066-8898	888031B41M030	120066-8886
	5m	888030B41M050	120066-8899	888031B41M050	120066-8887
	10m	888030B41M100	120066-8900	888031B41M100	120066-8888

#### B30 WSOR Cable Specification\*

Conductors: 3x0,34 mm<sup>2</sup>, 4x0,34 mm<sup>2</sup> or 5x0,34 mm<sup>2</sup> \*\*  
(Brown, White, Blue, Black, Grey)

Jacket material: Black WSOR, flame retardant, oil, UV & Weld Slag resistant, silicone & FCKW free

Diameter 3 Pole: 4,8 +/-0,2mm

Diameter 4 Pole: 5,1 +/-0,2mm

Diameter 5 Pole: 5,5 +/-0,2mm

Voltage Rating: 600V

Static Operating Temp: -40 to +90°C

Dynamic Operating Temp: -25 to +80°C

Drag Chain (>5 Mio Cycles) & torsion suitable

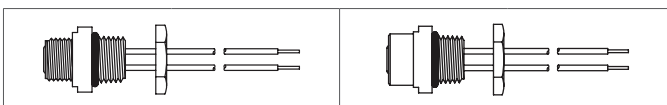
Approvals: UL AWM Style 21215 / CSA

\* Detailed cable specification attached to bulk cable drawings

\*\* 8 pole cable specification: see B41 description in M8 section



### Brad Micro-Change M12 Front Mount Receptacles



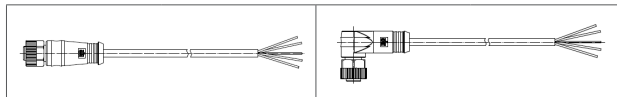
#### Wires with PVC Jacket

Poles	Mount Thread	Male		Female	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	PG9	8R4J36E03C3003	120070-0156	8R4J30E03C3003	120070-0395
	M14x1	8R4E36E03C3003	120011-0017	8R4E30E03C3003	120011-0013
5	PG9	8R5J36E03C3003	120070-0231	8R5J30E03C3003	120070-0229
	M14x1	8R5E36E03C3003	120011-0035	8R5E30E03C3003	120011-0033

# Sensor/Actuator Connectivity

## Brad Micro-Change M12 Cordsets

### Brad Micro-Change M12 Single-Ended Cordsets with LED Wiring

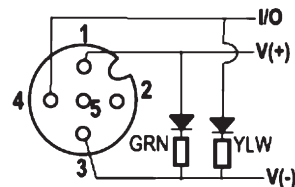


B30 WSOR Cable					
Poles	Length	Female Straight		Female 90°	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	1m	8030P0B30M010	120067-8454	8030P1B30M010	120067-8450
	2m	8030P0B30M020	120067-8455	8030P1B30M020	120067-8451
	3m	8030P0B30M030	120067-8456	8030P1B30M030	120067-8452
	5m	8030P0B30M050	120067-8431	8030P1B30M050	120067-8432
	10m	8030P0B30M100	120067-8457	8030P1B30M100	120067-8453
4	1m	8040P0B30M010	120067-8463	8040P1B30M010	120067-8458
	2m	8040P0B30M020	120067-8464	8040P1B30M020	120067-8459
	3m	8040P0B30M030	120067-8465	8040P1B30M030	120067-8460
	5m	8040P0B30M050	120067-8430	8040P1B30M050	120067-8461
	10m	8040P0B30M100	120067-8466	8040P1B30M100	120067-8462



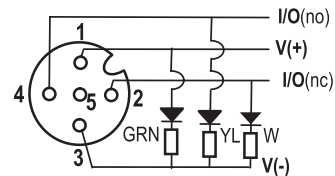
### Micro-Change M12 with LED Wiring

#### 3 pole/1 LED



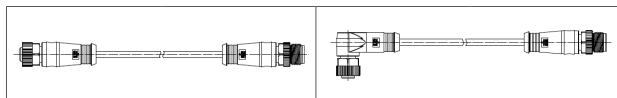
- 1 - Brown
- 3 - Blue
- 4 - Black

#### 4 pole/2 LED



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black

### Brad Micro-Change M12 Double-Ended Cordsets with LED Wiring

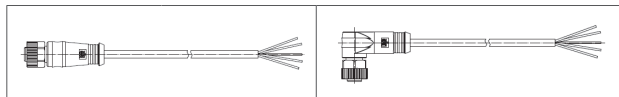


B30 WSOR Cable					
Poles	Length	Female Straight		Female 90°	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	1m	8830P6B30M010	120067-8472	8830P7B30M010	120067-8467
	2m	8830P6B30M020	120067-8473	8830P7B30M020	120067-8468
	3m	8830P6B30M030	120067-8474	8830P7B30M030	120067-8469
	5m	8830P6B30M050	120067-8475	8830P7B30M050	120067-8470
	10m	8830P6B30M100	120067-8476	8830P7B30M100	120067-8471
4	1m	8840P6B30M010	120067-8423	8840P7B30M010	120067-8420
	2m	8840P6B30M020	120067-8424	8840P7B30M020	120067-8421
	3m	8840P6B30M030	120067-8478	8840P7B30M030	120067-8477
	5m	8840P6B30M050	120067-8425	8840P7B30M050	120067-8422
	10m	8840P6B30M100	120067-8426	8840P7B30M100	120067-8427

# Sensor/Actuator Connectivity

## Brad Micro-Change M12 Shielded Cable

### Brad Micro-Change M12 Single-Ended Shielded Cable



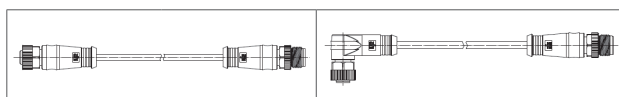
BS1 / BS2 WSOR Shielded Cable					
Pole	Length	Female Straight		Female 90°	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	804S00BS1M010	120069-8595	804S01BS1M010	120069-8606
	2m	804S00BS1M020	120069-8596	804S01BS1M020	120069-8485
	5m	804S00BS1M050	120069-8487	804S01BS1M050	120069-8486
	10m	804S00BS1M100	120069-8556	804S01BS1M100	120069-8559
5	1m	805S00BS1M010	120069-8597	805S01BS1M010	120069-8607
	2m	805S00BS1M020	120069-8598	805S01BS1M020	120069-8608
	5m	805S00BS1M050	120069-8538	805S01BS1M050	120069-8542
	10m	805S00BS1M100	120069-8539	805S01BS1M100	120069-8543
8	1m	808S00BS2M010	120069-8599	808S01BS2M010	120069-8609
	2m	808S00BS2M020	120069-8600	808S01BS2M020	120069-8610
	5m	808S00BS2M050	120069-8601	808S01BS2M050	120069-8611
	10m	808S00BS2M100	120069-8540	808S01BS2M100	120069-8612



### BS1 / BS2 Shielded WSOR Cable Specification\*

BS1 Conductors: 0,34 mm<sup>2</sup> (Brown, White, Blue, Black, Grey)  
 BS2 Conductors: 0,25 mm<sup>2</sup> (Brown, White, Red, Blue, Pink, Grey, yellow, Green)  
 Jacket material: Black WSOR PUR, flame retardant, oil, UV & Weld Slag resistant, silicone & FCKW free  
 Braid coverage > 80%  
 Diameter 4 Pole: 5,7 +/-0,2mm  
 Diameter 5 Pole: 6,1 +/-0,2mm  
 Diameter 8 Pole: 8,1 +/-0,2mm  
 Voltage Rating: 600V, max 4 Amps  
 Static Operating Temp: -40 to +90°C  
 Dynamic Operating Temp: -25 to +80°C  
 Drag Chain (>5 Mio Cycles) & torsion suitable  
 Approvals: UL AWM Style 21215 / CSA

### Brad Micro-Change M12 Double-Ended Shielded Cable

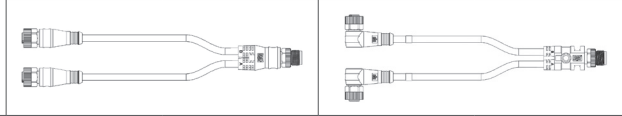


BS1 / BS2 WSOR Shielded Cable					
Pole	Length	Female to Male Straight		Female 90° to Male Straight	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	884S30BS1M010	120069-8649	884S31BS1M010	120069-8689
	2m	884S30BS1M020	120069-8650	884S31BS1M020	120069-8690
	5m	884S30BS1M050	120069-8652	884S31BS1M050	120069-8692
	10m	884S30BS1M100	120069-8653	884S31BS1M100	120069-8693
5	1m	885S30BS1M010	120069-8654	885S31BS1M010	120069-8694
	2m	885S30BS1M020	120069-8655	885S31BS1M020	120069-8695
	5m	885S30BS1M050	120069-8657	885S31BS1M050	120069-8697
	10m	885S30BS1M100	120069-8658	885S31BS1M100	120069-8698
8	1m	888S30BS2M010	120069-8659	888S31BS2M010	120069-8699
	2m	888S30BS2M020	120069-8660	888S31BS2M020	120069-8700
	5m	888S30BS2M050	120069-8662	888S31BS2M050	120069-8702
	10m	888S30BS2M100	120069-8663	888S31BS2M100	120069-8703

# Sensor/Actuator Connectivity

## Brad Micro-Change M12

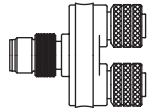
### Brad M12 Cable Splitters



#### B30 WSOR Cable

Poles	Length	2x Female to Male Straight		2x Female 90° to Male Straight	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	0.6m	884A30B30M006	120068-8193	884A31B30M006	120068-8189
	1m	884A30B30M010	120068-8194	884A31B30M010	120068-8190
	2m	884A30B30M020	120068-8195	884A31B30M020	120068-8191
	5m	884A30B30M050	120068-8196	884A31B30M050	120068-8192

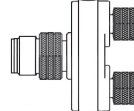
### Brad Micro-Change M12 Y-Splitters & Adapters



#### Y-Splitter M12 to M12

1x M12 Male to 2x M12 Female

Poles	Engineering No.	Standard Order No.
4	081204EMF00000	120068-0294
5	081205EMF00000	120068-0139



#### Y-Splitter M12 to M8

1x M12 Male to 2x M8 Female

Poles	Engineering No.	Standard Order No.
4	080804EMF00000	120089-0031

#### Adapter Connector

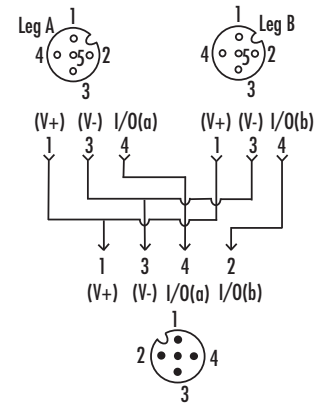
Poles

1xM12 Male to 1xM8 Female

Poles	1xM12 Male to 1xM8 Female	
	Engineering No.	Standard Order No.
3	483030	120033-0002
4	484030	120033-0001

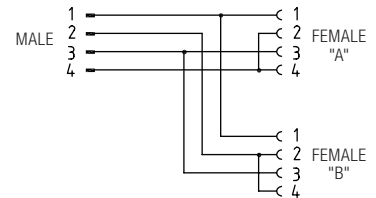


### M12 Cable Splitter Wiring

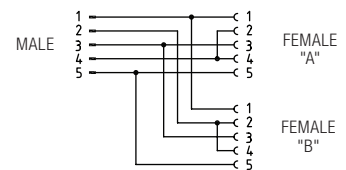


### Y-Splitter Wiring Schematic

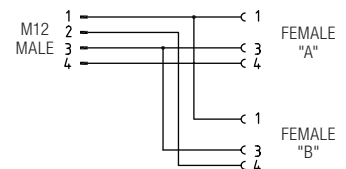
#### M12 to M12 4 Pole



#### M12 to M12 5 Pole



#### M12 to M8 4 Pole



# Sensor/Actuator Connectivity

## Brad Micro-Change M12

### Brad Micro-Change M12 Field Attachable for Sensors and Actuators



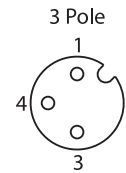
Poles	Cable Size	Wire Gage	Male Straight		Female Straight	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Unshielded & Screw termination						
4	3.3-6.6	< AWG 18	8A4006-31	120071-0038	8A4000-31	120071-0035
	4.1-8.1	< AWG 18	8A4006-32	120071-0039	8A4000-32	120071-0036
5	3.3-6.6	< AWG 18	8A5006-31	120071-0045	8A5000-31	120071-0041
	4.1-8.1	< AWG 18	8A5006-32	120071-0047	8A5000-32	120071-0043
8	6.0-8.0	< AWG 20	8A8006-32	120071-0030	8A8000-32	120071-0031
Unshielded & IDC termination						
4	3.5-6.0	AWG26-22	8A4006-51	120071-0086	8A4000-51	120071-0087
	4.0-8.0	AWG22-18	8A4006-52	120071-0088	8A4000-52	120071-0089
Shielded & Screw termination						
4	6.0-8.0	< AWG 18	8A4506-32	120071-0032	8A4500-32	120071-0033
5	6.0-8.0	< AWG 18	8A5506-32	120071-0034	8A5500-32	120071-0081
8	6.0-8.0	< AWG 20	8A8506-32	120071-0082	8A8500-32	120071-0083

Poles	Cable Size	Wire Gage	Male 90°		Female 90°	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Unshielded & Screw termination						
4	3.3-6.6	< AWG 18	8A4007-31	120071-0040	8A4001-31	120071-0037
	4.1-8.1	< AWG 18	8A4007-32	120071-5011	8A4001-32	120071-5010
5	3.3-6.6	< AWG 18	8A5007-31	120071-0049	8A5001-31	120071-0044
	4.1-8.1	< AWG 18	8A5007-32	120071-0071	8A5001-32	120071-0070

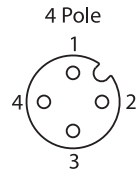
### Brad Micro-Change M12 Bulkhead

M12 Bulkhead		
Poles	Engineering No.	
5	120084-8168	
8	120084-8169	

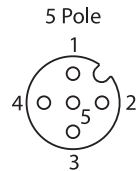
### Micro-Change M12 Connector Pinout



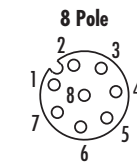
- 1 - Brown
- 2 - Blue
- 3 - Black



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black



- 1 - Brown
- 2 - White
- 3 - Blue
- 4 - Black
- 5 - Grey



- 1 - White
- 2 - Brown
- 3 - Green
- 4 - Yellow
- 5 - Grey
- 6 - Pink
- 7 - Blue
- 8 - Red



# Sensor/Actuator Connectivity

## Brad Micro-Change M12

### Flamar Unshielded Signal & Control Cable Reels

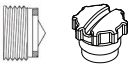
Cross Section		Cable Code - Material	No. of Circuits	Cable Diameter in mm	Packaging		
mm <sup>2</sup>	AWG				3x200m	1x800m	1x1500m
0.34	22	WSOR	3	4.8	155220-0052	155220-0053	155220-0054
			4	5.1	155220-0064	155220-0065	155220-0066
			5	5.5	155220-0076	155220-0077	155220-0078
		PVC	3	4.8	155210-0052	155210-0053	155210-0054
			4	5.1	155210-0064	155210-0065	155210-0066
			5	5.5	155210-0076	155210-0077	155210-0078
		PUR	3	4.8	155230-0052	155230-0053	155230-0054
			4	5.1	155230-0064	155230-0065	155230-0066
			5	5.5	155230-0076	155230-0077	155230-0078


				Packaging			
				3x100m	1x500m	1x1000m	
0.25	24	WSOR	8	6.4	155220-0034	155220-0035	155220-0036
		PVC			155210-0034	155210-0035	155210-0036
		PUR			155230-0034	155230-0035	155230-0036

### Flamar Shielded Signal & Control Cable Reels

Cross Section		Cable Code - Material	No. of Circuits	Cable Diameter in mm	Packaging		
mm <sup>2</sup>	AWG				3x200m	1x800m	1x1500m
0.34	22	WSOR	3	5.4	155221-0001	155221-0002	155221-0003
			4	5.7	155221-0013*	155221-0014*	155221-0015*
			5	6.1	155221-0025*	155221-0026*	155221-0027*
		PVC	3	5.4	155211-0001	155211-0002	155211-0003
			4	5.7	155211-0013*	155211-0014*	155211-0015*
			5	6.1	155211-0025*	155211-0026*	155211-0027*
		PUR	3	5.4	155231-0001	155231-0002	155231-0003
			4	5.7	155231-0013*	155231-0014*	155231-0015*
			5	6.1	155231-0025*	155231-0026*	155231-0027*

### Brad Micro-Change M12 Closure Caps

To Cover Male		To Cover Female		 Plastic Closure Cap
Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
—	120308-0680	—	120358-0007	

To Cover Male		To Cover Female		 Rubber Closure Cap with Leash
Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
—	120076-5046	—	120076-5047	



#### Knurled/Hex Nut for WSOR Cordsets



All WSOR M12 and M8 cordsets have a knurled/hex coupling nut to use with dynamometric torque tools to make sure that your connection is perfectly tight.

#### M8 Torque Tool (Wrench Size 9)



Standard Order No.  
120303-5017

#### M12 Torque Tool (Wrench Size 13)

Standard Order No.  
120303-5018

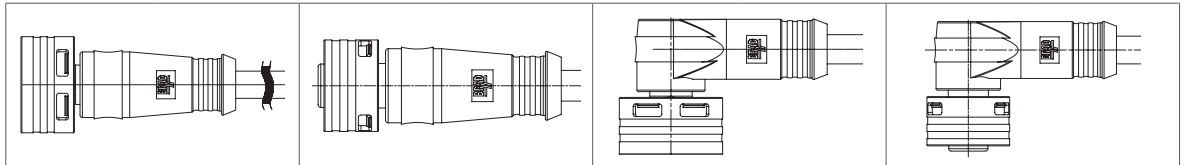
# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

The Brad M12 Ultra-Lock 2.0 products meet the IEC 61076-2-010 standard and provide an easy-to-assemble interface, delivering increased productivity and cost savings while surpassing the performance and reliability of traditional threaded connectors.



### Brad M12 Ultra-Lock 2.0 Single-Ended A-Code Cordsets



#### Brad M12 Ultra-Lock 2.0 Single-Ended A-Code Cordsets

##### E03 PVC Cable 0.34mm<sup>2</sup>

Poles	Length	Male Straight		Female Straight		Male 90		Female 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	Y04006E03M010	120400-0049	Y04000E03M010	120400-0013	Y04007E03M010	120400-0248	Y04001E03M010	120400-0212
	2m	Y04006E03M020	120400-0050	Y04000E03M020	120400-0014	Y04007E03M020	120400-0249	Y04001E03M020	120400-0213
	5m	Y04006E03M050	120400-0051	Y04000E03M050	120400-0015	Y04007E03M050	120400-0250	Y04001E03M050	120400-0214
	10m	Y04006E03M100	120400-0052	Y04000E03M100	120400-0016	Y04007E03M100	120400-0251	Y04001E03M100	120400-0215
5	1m	Y05006E03M010	120400-0061	Y05000E03M010	120400-0025	Y05007E03M010	120400-0260	Y05001E03M010	120400-0224
	2m	Y05006E03M020	120400-0062	Y05000E03M020	120400-0026	Y05007E03M020	120400-0261	Y05001E03M020	120400-0225
	5m	Y05006E03M050	120400-0063	Y05000E03M050	120400-0027	Y05007E03M050	120400-0262	Y05001E03M050	120400-0226
	10m	Y05006E03M100	120400-0064	Y05000E03M100	120400-0028	Y05007E03M100	120400-0263	Y05001E03M100	120400-0227

##### E02 PVC Cable 0.25mm<sup>2</sup>

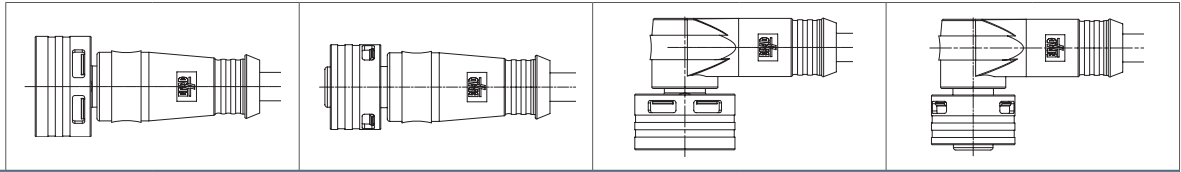
8	1m	Y08006E02M010	120400-0116	Y08000E02M010	120400-0100	Y08007E02M010	120400-0316	Y08001E02M010	120400-0300
	2m	Y08006E02M020	120400-0117	Y08000E02M020	120400-0101	Y08007E02M020	120400-0317	Y08001E02M020	120400-0301
	5m	Y08006E02M050	120400-0118	Y08000E02M050	120400-0102	Y08007E02M050	120400-0318	Y08001E02M050	120400-0302
	10m	Y08006E02M100	120400-0119	Y08000E02M100	120400-0103	Y08007E02M100	120400-0319	Y08001E02M100	120400-0303

All cordsets/receptacles on these pages are available in additional lengths and pole versions. Please contact Molex at [europa.brad.tech.supply@molex.com](mailto:europa.brad.tech.supply@molex.com)

# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Single-Ended A-Code Cordsets



#### B30 WSOR Cable 0.34mm<sup>2</sup>

Poles	Length	Male Straight		Female Straight		Male 90		Female 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	Y04006B30M010	120400-0053	Y04000B30M010	120400-0017	Y04007B30M010	120400-0252	Y04001B30M010	120400-0216
	2m	Y04006B30M020	120400-0054	Y04000B30M020	120400-0018	Y04007B30M020	120400-0253	Y04001B30M020	120400-0217
	5m	Y04006B30M050	120400-0055	Y04000B30M050	120400-0019	Y04007B30M050	120400-0254	Y04001B30M050	120400-0218
	10m	Y04006B30M100	120400-0056	Y04000B30M100	120400-0020	Y04007B30M100	120400-0255	Y04001B30M100	120400-0219
5	1m	Y05006B30M010	120400-0065	Y05000B30M010	120400-0029	Y05007B30M010	120400-0264	Y05001B30M010	120400-0228
	2m	Y05006B30M020	120400-0066	Y05000B30M020	120400-0030	Y05007B30M020	120400-0265	Y05001B30M020	120400-0229
	5m	Y05006B30M050	120400-0067	Y05000B30M050	120400-0031	Y05007B30M050	120400-0266	Y05001B30M050	120400-0230
	10m	Y05006B30M100	120400-0068	Y05000B30M100	120400-0032	Y05007B30M100	120400-0267	Y05001B30M100	120400-0231

#### B41 WSOR Cable 0.25mm<sup>2</sup>

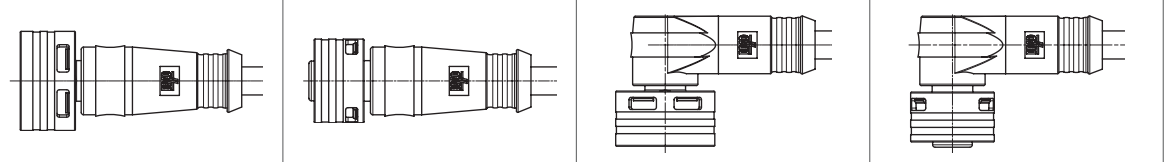
8	1m	Y08006B41M010	120400-0120	Y08000B41M010	120400-0104	Y08007B41M010	120400-0320	Y08001B41M010	120400-0304
	2m	Y08006B41M020	120400-0121	Y08000B41M020	120400-0105	Y08007B41M020	120400-0321	Y08001B41M020	120400-0305
	5m	Y08006B41M050	120400-0122	Y08000B41M050	120400-0106	Y08007B41M050	120400-0322	Y08001B41M050	120400-0306
	10m	Y08006B41M100	120400-0123	Y08000B41M100	120400-0107	Y08007B41M100	120400-0323	Y08001B41M100	120400-0307

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# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Single-Ended A-Code Cordsets



#### H09 PUR Cable 0.34mm<sup>2</sup>

Poles	Length	Male Straight		Female Straight		Male 90		Female 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	Y04006H09M010	120400-0057	Y04000H09M010	120400-0021	Y04007H09M010	120400-0256	Y04001H09M010	120400-0220
	2m	Y04006H09M020	120400-0058	Y04000H09M020	120400-0022	Y04007H09M020	120400-0257	Y04001H09M020	120400-0221
	5m	Y04006H09M050	120400-0059	Y04000H09M050	120400-0023	Y04007H09M050	120400-0258	Y04001H09M050	120400-0222
	10m	Y04006H09M100	120400-0060	Y04000H09M100	120400-0024	Y04007H09M100	120400-0259	Y04001H09M100	120400-0223
5	1m	Y05006H09M010	120400-0069	Y05000H09M010	120400-0033	Y05007H09M010	120400-0268	Y05001H09M010	120400-0232
	2m	Y05006H09M020	120400-0070	Y05000H09M020	120400-0034	Y05007H09M020	120400-0269	Y05001H09M020	120400-0233
	5m	Y05006H09M050	120400-0071	Y05000H09M050	120400-0035	Y05007H09M050	120400-0270	Y05001H09M050	120400-0234
	10m	Y05006H09M100	120400-0072	Y05000H09M100	120400-0036	Y05007H09M100	120400-0271	Y05001H09M100	120400-0235

#### H08 PUR Cable 0.25mm<sup>2</sup>

8	1m	Y08006H08M010	120400-0124	Y08000H08M010	120400-0108	Y08007H08M010	120400-0324	Y08001H08M010	120400-0308
	2m	Y08006H08M020	120400-0125	Y08000H08M020	120400-0109	Y08007H08M020	120400-0325	Y08001H08M020	120400-0309
	5m	Y08006H08M050	120400-0126	Y08000H08M050	120400-0110	Y08007H08M050	120400-0326	Y08001H08M050	120400-0310
	10m	Y08006H08M100	120400-0127	Y08000H08M100	120400-0111	Y08007H08M100	120400-0327	Y08001H08M100	120400-0311

#### H45 PUR Cable 0.14mm<sup>2</sup>

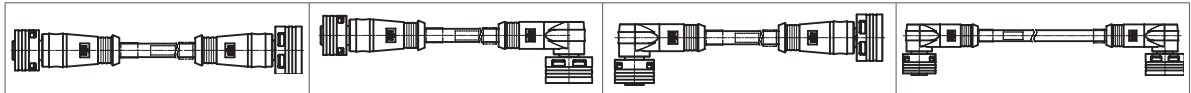
12	1m	Y0C006H45M010	120400-0128	Y0C000H45M010	120400-0112	Y0C007H45M010	120400-0328	Y0C001H45M010	120400-0312
	2m	Y0C006H45M020	120400-0129	Y0C000H45M020	120400-0113	Y0C007H45M020	120400-0329	Y0C001H45M020	120400-0313
	5m	Y0C006H45M050	120400-0130	Y0C000H45M050	120400-0114	Y0C007H45M050	120400-0330	Y0C001H45M050	120400-0314
	10m	Y0C006H45M100	120400-0131	Y0C000H45M100	120400-0115	Y0C007H45M100	120400-0331	Y0C001H45M100	120400-0315

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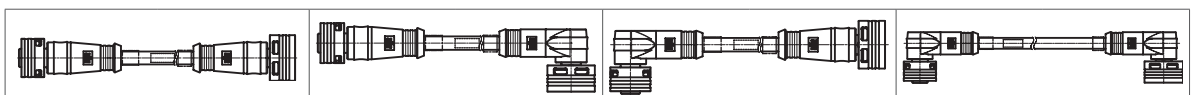
# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Double-Ended A-Code Cordsets



E03 PVC Cable 0.34mm <sup>2</sup>									
Poles	Length	Female Straight / Male Straight		Female Straight / Male 90		Female 90 / Male Straight		Female 90 / Male 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	YY4030E03M010	120401-0001	YY4032E03M010	120401-0073	YY4031E03M010	120401-0037	YY4033E03M010	120401-0109
	2m	YY4030E03M020	120401-0002	YY4032E03M020	120401-0074	YY4031E03M020	120401-0038	YY4033E03M020	120401-0110
	5m	YY4030E03M050	120401-0003	YY4032E03M050	120401-0075	YY4031E03M050	120401-0039	YY4033E03M050	120401-0111
	10m	YY4030E03M100	120401-0004	YY4032E03M100	120401-0076	YY4031E03M100	120401-0040	YY4033E03M100	120401-0112
5	1m	YY5030E03M010	120401-0013	YY5032E03M010	120401-0085	YY5031E03M010	120401-0049	YY5033E03M010	120401-0121
	2m	YY5030E03M020	120401-0014	YY5032E03M020	120401-0086	YY5031E03M020	120401-0050	YY5033E03M020	120401-0122
	5m	YY5030E03M050	120401-0015	YY5032E03M050	120401-0087	YY5031E03M050	120401-0051	YY5033E03M050	120401-0123
	10m	YY5030E03M100	120401-0016	YY5032E03M100	120401-0088	YY5031E03M100	120401-0052	YY5033E03M100	120401-0124



E02 PVC Cable 0.25mm <sup>2</sup>									
Poles	Length	Female Straight / Male Straight		Female Straight / Male 90		Female 90 / Male Straight		Female 90 / Male 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
8	1m	YY8030E02M010	120401-0025	YY8032E02M010	120401-0097	YY8031E02M010	120401-0061	YY8033E02M010	120401-0133
	2m	YY8030E02M020	120401-0026	YY8032E02M020	120401-0098	YY8031E02M020	120401-0062	YY8033E02M020	120401-0134
	5m	YY8030E02M050	120401-0027	YY8032E02M050	120401-0099	YY8031E02M050	120401-0063	YY8033E02M050	120401-0135
	10m	YY8030E02M100	120401-0028	YY8032E02M100	120401-0100	YY8031E02M100	120401-0064	YY8033E02M100	120401-0136

B30 WSOR Cable 0.34mm <sup>2</sup>									
Poles	Length	Female Straight / Male Straight		Female Straight / Male 90		Female 90 / Male Straight		Female 90 / Male 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	YY4030B30M010	120401-0005	YY4032B30M010	120401-0077	YY4031B30M010	120401-0041	YY4033B30M010	120401-0113
	2m	YY4030B30M020	120401-0006	YY4032B30M020	120401-0078	YY4031B30M020	120401-0042	YY4033B30M020	120401-0114
	5m	YY4030B30M050	120401-0007	YY4032B30M050	120401-0079	YY4031B30M050	120401-0043	YY4033B30M050	120401-0115
	10m	YY4030B30M100	120401-0008	YY4032B30M100	120401-0080	YY4031B30M100	120401-0044	YY4033B30M100	120401-0116
5	1m	YY5030B30M010	120401-0017	YY5032B30M010	120401-0089	YY5031B30M010	120401-0053	YY5033B30M010	120401-0125
	2m	YY5030B30M020	120401-0018	YY5032B30M020	120401-0090	YY5031B30M020	120401-0054	YY5033B30M020	120401-0126
	5m	YY5030B30M050	120401-0019	YY5032B30M050	120401-0091	YY5031B30M050	120401-0055	YY5033B30M050	120401-0127
	10m	YY5030B30M100	120401-0020	YY5032B30M100	120401-0092	YY5031B30M100	120401-0056	YY5033B30M100	120401-0128

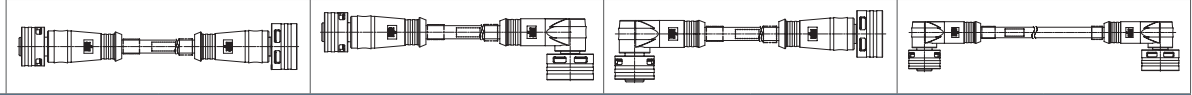
B41 WSOR Cable 0.25mm <sup>2</sup>									
Poles	Length	Female Straight / Male Straight		Female Straight / Male 90		Female 90 / Male Straight		Female 90 / Male 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
8	1m	YY8030B41M010	120401-0029	YY8032B41M010	120401-0101	YY8031B41M010	120401-0065	YY8033B41M010	120401-0137
	2m	YY8030B41M020	120401-0030	YY8032B41M020	120401-0102	YY8031B41M020	120401-0066	YY8033B41M020	120401-0138
	5m	YY8030B41M050	120401-0031	YY8032B41M050	120401-0103	YY8031B41M050	120401-0067	YY8033B41M050	120401-0139
	10m	YY8030B41M100	120401-0032	YY8032B41M100	120401-0104	YY8031B41M100	120401-0068	YY8033B41M100	120401-0140



# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Double-Ended A-Code Cordsets



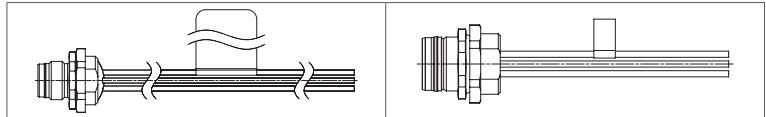
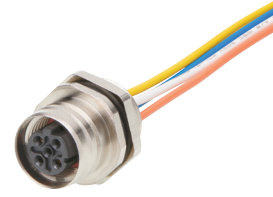
H09 PUR Cable 0.34mm <sup>2</sup>									
Poles	Length	Female Straight / Male Straight		Female Straight / Male 90		Female 90 / Male Straight		Female 90 / Male 90	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	1m	YY4030H09M010	120401-0009	YY4032H09M010	120401-0081	YY4031H09M010	120401-0045	YY4033H09M010	120401-0117
	2m	YY4030H09M020	120401-0010	YY4032H09M020	120401-0082	YY4031H09M020	120401-0046	YY4033H09M020	120401-0118
	5m	YY4030H09M050	120401-0011	YY4032H09M050	120401-0083	YY4031H09M050	120401-0047	YY4033H09M050	120401-0119
	10m	YY4030H09M100	120401-0012	YY4032H09M100	120401-0084	YY4031H09M100	120401-0048	YY4033H09M100	120401-0120
5	1m	YY5030H09M010	120401-0021	YY5032H09M010	120401-0093	YY5031H09M010	120401-0057	YY5033H09M010	120401-0129
	2m	YY5030H09M020	120401-0022	YY5032H09M020	120401-0094	YY5031H09M020	120401-0058	YY5033H09M020	120401-0130
	5m	YY5030H09M050	120401-0023	YY5032H09M050	120401-0095	YY5031H09M050	120401-0059	YY5033H09M050	120401-0131
	10m	YY5030H09M100	120401-0024	YY5032H09M100	120401-0096	YY5031H09M100	120401-0060	YY5033H09M100	120401-0132
H08 PUR Cable 0.25mm <sup>2</sup>									
8	1m	YY8030H08M010	120401-0033	YY8032H08M010	120401-0105	YY8031H08M010	120401-0069	YY8033H08M010	120401-0141
	2m	YY8030H08M020	120401-0034	YY8032H08M020	120401-0106	YY8031H08M020	120401-0070	YY8033H08M020	120401-0142
	5m	YY8030H08M050	120401-0035	YY8032H08M050	120401-0107	YY8031H08M050	120401-0071	YY8033H08M050	120401-0143
	10m	YY8030H08M100	120401-0036	YY8032H08M100	120401-0108	YY8031H08M100	120401-0072	YY8033H08M100	120401-0144

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# Sensor/Actuator Connectivity

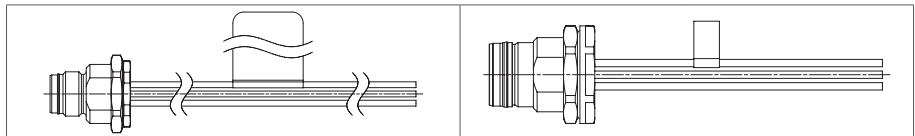
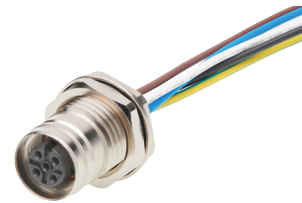
## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Front Mount Receptacles with Wires



Wires with PVC Insulation							
Poles	Coding	Mount Thread	Length	Male		Female	
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	A-code	PG9	0.3m	YR4J26E03C300	120404-0058	YR4J20E03C300	120404-0011
			0.5m	YR4J26E03C500	120404-0062	YR4J20E03C500	120404-0036
		M16x1.5	0.3m	YR4U26E03C300	120404-0066	YR4U20E03C300	120404-0021
			0.5m	YR4U26E03C500	120404-0070	YR4U20E03C500	120404-0041
5		PG9	0.3m	YR5J26E03C300	120404-0059	YR5J20E03C300	120404-0012
			0.5m	YR5J26E03C500	120404-0063	YR5J20E03C500	120404-0037
		M16x1.5	0.3m	YR5U26E03C300	120404-0067	YR5U20E03C300	120404-0022
			0.5m	YR5U26E03C500	120404-0071	YR5U20E03C500	120404-0042
8	PG9	0.3m	YR8J26E02C300	120404-0060	YR8J20E02C300	120404-0013	
		0.5m	YR8J26E02C500	120404-0064	YR8J20E02C500	120404-0038	
	M16x1.5	0.3m	YR8U26E02C300	120404-0068	YR8U20E02C300	120404-0023	
		0.5m	YR8U26E02C500	120404-0072	YR8U20E02C500	120404-0043	
12	PG9	0.3m	YRCJ26E01C300	120404-0061	YRCJ20E01C300	120404-0014	
		0.5m	YRCJ26E01C500	120404-0065	YRCJ20E01C500	120404-0039	
	M16x1.5	0.3m	YRCU26E01C300	120404-0069	YRCU20E01C300	120404-0024	
		0.5m	YRCU26E01C500	120404-0073	YRCU20E01C500	120404-0044	
4	D-code	PG9	0.3m	ERYA2J26E03C300	120406-3009	ERYA2J20E03C300	120406-3002
			0.5m	ERYA2J26E03C500	120406-3010	ERYA2J20E03C500	120406-3005
		M16x1.5	0.3m	ERYA2U26E03C300	120406-3011	ERYA2U20E03C300	120406-3003
			0.5m	ERYA2U26E03C500	120406-3012	ERYA2U20E03C500	120406-3006

### Brad M12 Ultra-Lock 2.0 Back Mount M16x1.5 Thread Receptacles with Wires

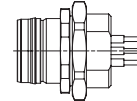
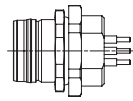


Wires with PVC Insulation						
Poles	Coding	Length	Male		Female	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	A-code	0.3m	YR4U46E03C300	120404-0046	YR4U40E03C300	120404-0001
		0.5m	YR4U46E03C500	120404-0050	YR4U40E03C500	120404-0031
5		0.3m	YR5U46E03C300	120404-0047	YR5U40E03C300	120404-0002
		0.5m	YR5U46E03C500	120404-0051	YR5U40E03C500	120404-0032
8		0.3m	YR8U46E02C300	120404-0048	YR8U40E02C300	120404-0003
		0.5m	YR8U46E02C500	120404-0052	YR8U40E02C500	120404-0033
12		0.3m	YRCU46E01C300	120404-0049	YRCU40E01C300	120404-0004
		0.5m	YRCU46E01C500	120404-0053	YRCU40E01C500	120404-0034
4	D-code	0.3m	ERYA2U46E03C300	120406-3007	ERYA2U40E03C300	120406-3001
		0.5m	ERYA2U46E03C500	120406-3008	ERYA2U40E03C500	120406-3004

# Sensor/Actuator Connectivity

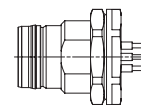
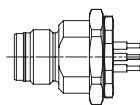
## Brad M12 Ultra-Lock 2.0 Connector System

### Brad M12 Ultra-Lock 2.0 Front Mount Receptacles PCB Pins



PCB Pins					
Poles	Coding	Female PG9 Mount Thread		Female M16x1.5 Mount Thread	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	A-code	YR4J20000	120404-0016	YR4U20000	120404-0026
5		YR5J20000	120404-0017	YR5U20000	120404-0027
8		YR8J20000	120404-0018	YR8U20000	120404-0028
12		YRCJ20000	120404-0019	YRCU20000	120404-0029
4	D-code	ERYD2J20000	120406-2002	ERYD2U20000	120406-2003

### Brad M12 Ultra-Lock 2.0 Back Mount M16x1.5 Thread Receptacles PCB Pins



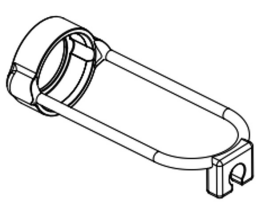
PCB Pins					
Poles	Coding	Male		Female	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
4	A-code	YR4U46000	120404-0054	YR4U40000	120404-0006
5		YR5U46000	120404-0055	YR5U40000	120404-0007
8		YR8U46000	120404-0056	YR8U40000	120404-0008
12		YRCU46000	120404-0057	YRCU40000	120404-0009
4	D-code	ERYD2U46000	120406-2004	ERYD2U40000	120406-2001

All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europe.brad.tech.support@molex.com](mailto:europe.brad.tech.support@molex.com)

# Sensor/Actuator Connectivity

## Brad M12 Ultra-Lock 2.0 Connector System

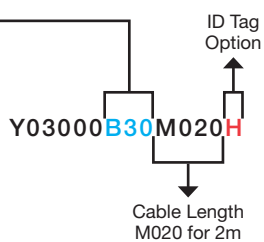
### Brad M12 Ultra-Lock 2.0 Accessories

Male Puller	
Standard Order No.	
120466-0004	

Below configuration valid for A-code cordsets

### Build-A-Part Number Configuration Code

	Poles	Cable	Code
0.34mm <sup>2</sup> (22 AWG)	3, 4, 5	PVC	E03
		WSOR	B30
		PUR	H09
0.25mm <sup>2</sup> (24 AWG)	8	PVC	E02
		WSOR	B41
		PUR	H08
0.14mm <sup>2</sup> (26 AWG)	12	PUR	H45



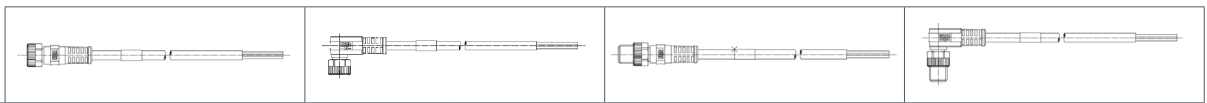
# Sensor/Actuator Connectivity

## Brad Nano-Change M8

Brad Nano-Change M8 connectivity provides a rugged and space-saving solution to wire a wide range of sensors and actuators from proximity switches to rotary encoders in harsh environments.



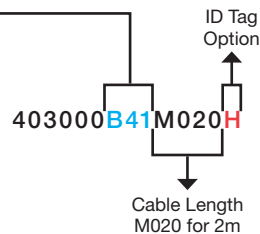
### Brad Nano-Change M8 Single-Ended Cordsets



B41 WSOR Cable									
Poles	Length	Female Straight		Female 90°		Male Straight		Male 90°	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	1m	403000B41M010	120086-8655	403001B41M010	120086-8667	403006B41M010	120086-8631	403007B41M010	120086-8643
	2m	403000B41M020	120086-8656	403001B41M020	120086-8668	403006B41M020	120086-8632	403007B41M020	120086-8644
	5m	403000B41M050	120086-8657	403001B41M050	120086-8669	403006B41M050	120086-8633	403007B41M050	120086-8645
	10m	403000B41M100	120086-8658	403001B41M100	120086-8670	403006B41M100	120086-8634	403007B41M100	120086-8646
4	1m	404000B41M010	120086-8659	404001B41M010	120086-8671	404006B41M010	120086-8635	404007B41M010	120086-8647
	2m	404000B41M020	120086-8660	404001B41M020	120086-8672	404006B41M020	120086-8636	404007B41M020	120086-8648
	5m	404000B41M050	120086-8661	404001B41M050	120086-8673	404006B41M050	120086-8637	404007B41M050	120086-8649
	10m	404000B41M100	120086-8662	404001B41M100	120086-8674	404006B41M100	120086-8638	404007B41M100	120086-8650
5	1m	405000B41M010	120086-8663	405001B41M010	120086-8675	405006B41M010	120086-8639	405007B41M010	120086-8651
	2m	405000B41M020	120086-8664	405001B41M020	120086-8676	405006B41M020	120086-8640	405007B41M020	120086-8652
	5m	405000B41M050	120086-8665	405001B41M050	120086-8677	405006B41M050	120086-8641	405007B41M050	120086-8653
	10m	405000B41M100	120086-8666	405001B41M100	120086-8678	405006B41M100	120086-8642	405007B41M100	120086-8654

### Build-A-Part Number Configuration Code

	Poles	Cable	Code
0.25mm <sup>2</sup>	8	PVC	E02
		WSOR	B41
		PUR	H08



# Sensor/Actuator Connectivity

## Brad Nano-Change M8

### Brad Nano-Change M8 Double-Ended Cordsets

B41 WSOR Cable					
Poles	Length	Female to Male Straight		Female 90° to Male Straight	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	0.6m	443030B41M006	120087-8703	443031B41M006	120087-8721
	1m	443030B41M010	120087-8704	443031B41M010	120087-8722
	2m	443030B41M020	120087-8705	443031B41M020	120087-8723
	3m	443030B41M030	120087-8706	443031B41M030	120087-8724
	5m	443030B41M050	120087-8707	443031B41M050	120087-8725
4	0.6m	444030B41M006	120087-8709	444031B41M006	120087-8727
	1m	444030B41M010	120087-8710	444031B41M010	120087-8728
	2m	444030B41M020	120087-8711	444031B41M020	120087-8729
	3m	444030B41M030	120087-8712	444031B41M030	120087-8730
	5m	444030B41M050	120087-8713	444031B41M050	120087-8731
5	0.6m	445030B41M006	120087-8715	445031B41M006	120087-8733
	1m	445030B41M010	120087-8716	445031B41M010	120087-8734
	2m	445030B41M020	120087-8717	445031B41M020	120087-8735
	3m	445030B41M030	120087-8718	445031B41M030	120087-8736
	5m	445030B41M050	120087-8719	445031B41M050	120087-8737



### B41 WSOR Cable Specification

Conductors: 3x0,25 mm<sup>2</sup>, 4x0,25 mm<sup>2</sup> 5x0,25 mm<sup>2</sup>, 8x0,25 mm<sup>2</sup>

(Brown, White, Blue, Black, Grey)  
(BN, WH, BE, RD, GY, GN, YE, PK)

Jacket material: Black WSOR, flame retardant, oil, UV & Weld Slag resistant, silicone & FCKW free

Diameter 3 Pole: 4,5 ±0,2mm

Diameter 4 Pole: 4,8 ±0,2mm

Diameter 5 Pole: 5,3 ±0,2mm

Diameter 8 Pole: 6,4 ±0,2mm

Voltage Rating: 600V

Static Operating Temp: -40 to +90°C

Dynamic Operating Temp: -25 to +80°C

Drag Chain (20 Mio cycles at 15xO.D.) & torsion suitable

Approvals: UL AWM Style 21215 / CSA

### B41 Raw Cable Ordering Information

Poles	Size	Standard Order No.
3 Poles	3x200m	1552200001
	1x800m	1552200002
	1x1500m	1552200003
4 Poles	3x200m	1552200013
	1x800m	1552200014
	1x1500m	1552200015
5 Poles	3x200m	1552200025
	1x800m	1552200026
	1x1500m	1552200027
8 Poles	3x100m	1552200034
	1x500m	1552200035
	1x1000m	1552200036
12 Poles	3x100m	1552200043
	1x500m	1552200044
	1x1000m	1552200045

### Brad Nano-Change M8 Receptacles

Poles	Mount Thread	Male		Female	
		Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
3	M8x0.5 Front	4R3F06E02C3003	120031-0004	4R3F30E02C3003	120031-0015
	M8x1 Back	4R3F46E02C200	120090-5073	4R3L40E02C200	120090-5104
4	M8x0.5 Front	4R4F06E02C3003	120031-0006	4R4F30E02C3003	120031-0049
	M8x1 Back	4R4F46E02C200	120090-5078	4R4L40E02C200	120090-8037
5	M8x0.5 Front	4R5F06E02C3003	120031-0027	4R5F46E02C200	120031-0028
	M8x1 Back	4R5F30E02C3003	120031-0028	4R5L40E02C200	120090-8056



# Sensor/Actuator Connectivity

## Brad Nano-Change M8

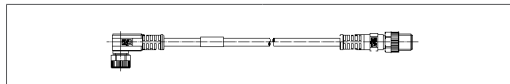
### Brad Nano-Change M8 Single-Ended Cordsets with LED



Poles	Length	Female 90°	
		Engineering No.	Standard Order No.
3	1m	4030P1B41M010	120086-8687
	2m	4030P1B41M020	120086-8688
	5m	4030P1B41M050	120086-8689
	10m	4030P1B41M100	120086-8690

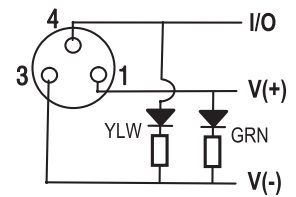


### Brad Nano-Change M8 Double-Ended Cordsets with LED



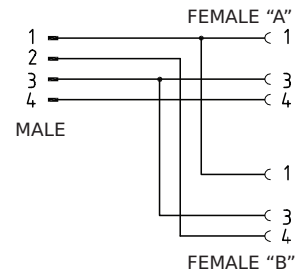
Poles	Length	Female 90° to Male Straight	
		Engineering No.	Standard Order No.
3	1m	4430P7B41M006	120087-8779
	2m	4430P7B41M010	120087-8780
	5m	4430P7B41M020	120087-8781
	10m	4430P7B41M050	120087-8782

#### Nano-Change M8 Connector Pinout



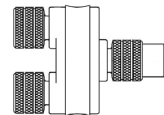
1 - Brown 4 - Black  
3 - Blue

#### Y-Splitter Wiring Schematic M8 to M8 4 Pole

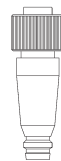


### Brad Nano-Change M8 Y-Splitters & Adapters

Y-Splitter		
1x M8 Male to 2x M8 Female		
Poles	Engineering No.	Standard Order No.
4	080804LMF00000	120089-0033



Adapter Connector		
1x M8 Male to 1x M12 Female		
Poles	Engineering No.	Standard Order No.
3	853030	120017-0004
4	854030	120017-0003



Note: M8 male connector thread is fixed.

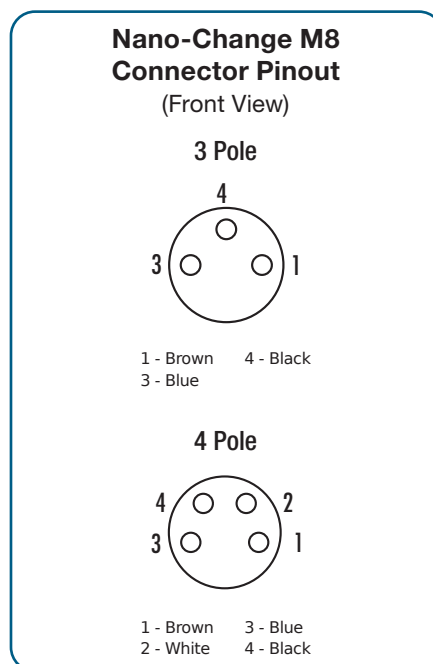
# Sensor/Actuator Connectivity

## Brad Nano-Change M8

### Brad Nano-Change M8 Field Attachable Connectors

Poles	Cable Size	Wire Gage	Male Straight		Female Straight	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Unshielded & soldering termination						
3	3.5-5.0	AWG 24	N03MA03124	120091-0004	N03FA03124	120091-0001
4	3.5-5.0	AWG 24	N04MA03124	120091-0010	N04FA03124	120091-0007
Unshielded & Screw termination						
3	3.5-5.0	AWG26-20	N03MA03134	120091-0023	N03FA03134	120091-0024
4	3.5-5.0	AWG26-20	N04MA03134	120091-0025	N04FA03134	120091-0026
Unshielded & IDC termination						
3	2.5-5.2	AWG24-20	N03MA03144	120091-0027	N03FA03144	120091-0028
4	2.5-5.2	AWG24-20	N04MA03144	120091-0029	N04FA03144	120091-0030

Poles	Cable Size	Wire Gage	Male 90°		Female 90°	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
Unshielded & soldering termination						
3	3.5-5.0	AWG 24	N03MA04124	120091-0002	N03FA04124	120091-0003
4	3.5-5.0	AWG 24	N04MA04124	120091-0012	N04FA04124	120091-0009



# Sensor/Actuator Connectivity

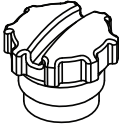
## Brad Nano-Change M8

### Flamar Unshielded Signal & Control Cable Reels

Cross Section		Cable Code-Material	No. of Circuits	Cable Diameter in mm	Packaging		
mm <sup>2</sup>	AWG				3x200m	1x800m	1x1500m
0.25	24	WSOR	3	4.5	155220-0001	155220-0002	155220-0003
			4	4.8	155220-0013	155220-0014	155220-0015
			5	5.3	155220-0025	155220-0026	155220-0027
		PVC	3	4.5	155210-0001	155210-0002	155210-0003
			4	4.8	155210-0013	155210-0014	155210-0015
			5	5.3	155210-0025	155210-0026	155210-0027
		PUR	3	4.5	155230-0001	155230-0002	155230-0003
			4	4.8	155230-0013	155230-0014	155230-0015
			5	5.3	155230-0025	155230-0026	155230-0027



### Brad Nano-Change M8 Closure Caps


Standard Order No.	Cover Female
120308-0677	 <p>Plastic Closure Cap</p>


# DIN Valve Connectors


## Brad mPm

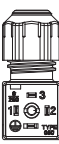
The mPm DIN valve connectors conform to the industry standard of electrical connectors EN 175301-803, which are commonly used with solenoid valves. The new generation of Molex DIN connectors provides unsurpassed sealing performance, easier assembly and mounting and lower applied costs.


### Brad mPm Field Attachable DIN Valve Connectors

Form A External Thread			
Description	Engineering No.	Standard Order No.	
Non-Electronic	C28200N2RSN	121201-0034	
With Electronic	S28200TC422RSN	121207-0358	

Form Industrial External Thread			
Description	Engineering No.	Standard Order No.	
Non-Electronic	C22200N2RSN	121202-0012	
With Electronic	S22200TC422RSN	121208-0230	

Form B External Thread			
Description	Engineering No.	Standard Order No.	
Non-Electronic	C92200N2TSN	121203-0009	
With Electronic	S92200TC422TSN	121209-0197	

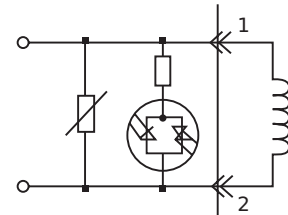
Form C External Thread			
Description	Engineering No.	Standard Order No.	
Non-Electronic	C25200N2TSN	121204-0010	
With Electronic	S25200TC422TSN	121210-0332	

Form Micro External Thread			
Description	Engineering No.	Standard Order No.	
Non-Electronic	C29200N2TSN	121205-0012	
With Electronic	S29200TC422TSN	121211-0332	



### Circuit C4 Schematics

Bipolar LED and VDR to protect supply and switch.  
Available voltage rating on C4 circuit against peak of overvoltage:  
12, 24, 48, 115 and 230 V AC-DC



**Note:**

The mPm DIN valve connectors are available with various pole counts, housings and electronics.

Further technical information, datasheet or drawing can be downloaded from the Molex website using the ordering part number.

UL recognized, cURus marked, file E218123 (product available upon request or specific part number)

# DIN Valve Connectors

Brad mPm

The mPm connectors with molded-in cable are suitable for use with most types of solenoid. They offer a fast and efficient method of connection resulting in greatly reduced installation time and costs.



## Brad mPm DIN Valve Connectors Overmolded to M12 Male Connector

DIN Valve Connector, FORM A, C4 Circuit, Ground Pos H6/H12				
Length	Male Straight	Male 90°		
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
0.6m	E850B0P12M006	121036-0192	E850B2P12M006	121036-0208
1m	E850B0P12M010	121036-0193	E850B2P12M010	121036-0209
1.5m	E850B0P12M015	121036-0194	E850B2P12M015	121036-0821
3m	E850B0P12M030	121036-0356	E850B2P12M030	121036-0211

**DIN PUR/PVC Cable Specification**

Conductors: 3x0,5mm<sup>2</sup> PVC (Brown, Blue, Green/Yellow)  
 Jacket Material: Black PUR  
 Voltage Rating: 300V  
 Operating Temperature: -5 to +90°C (flexing)  
 -30 to +90°C (static)  
 Diameter: 5,5 0,3 mm

DIN Valve Connector, FORM Industrial, C4 Circuit, Ground Pos H6				
0.6m	F850B0P12M006	121036-0352	F850B2P12M006	121036-0505
1m	F850B0P12M010	121036-0255	F850B2P12M010	121036-0506
1.5m	F850B0P12M015	121036-0822	F850B2P12M015	121036-0823
3m	F850B0P12M030	121036-0257	F850B2P12M030	121036-0824

DIN Valve Connector, FORM B, C4 Circuit, Ground Pos H6				
0.6m	D850B0P12M006	121036-0056	D850B2P12M006	121036-0828
1m	D850B0P12M010	121036-0825	D850B2P12M010	121036-0829
1.5m	D850B0P12M015	121036-0826	D850B2P12M015	121036-0830
3m	D850B0P12M030	121036-0827	D850B2P12M030	121036-0831

DIN Valve Connector, FORM C, C4 Circuit, Ground Pos H6/H12				
0.6m	H850B0P12M006	121036-0295	H850B2P12M006	121036-0832
1m	H850B0P12M010	121036-0296	H850B2P12M010	121036-0305
1.5m	H850B0P12M015	121036-0471	H850B2P12M015	121036-0833
3m	H850B0P12M030	121036-0440	H850B2P12M030	121036-0834

DIN Valve Connector, FORM Micro, C4 Circuit, Ground Pos H6/H12				
0.6m	G850B0P12M006	121036-0406	G850B2P12M006	121036-0836
1m	G850B0P12M010	121036-0277	G850B2P12M010	121036-0621
1.5m	G850B0P12M015	121036-0835	G850B2P12M015	121036-0837
3m	G850B0P12M030	121036-0481	G850B2P12M030	121035-0270

**Notes:**

The mPm DIN valve overmolded cordsets are available with various pole counts, housings, cables, lengths and electronics.

Further technical information, datasheet or drawing can be downloaded from the Molex website using the ordering part number.



# Power Distribution Connectivity

## Brad M12 Power L-Code Connector System

63V AC/DC; up to 16.0A current per pin

- IP67-sealed interface
- Delivers 4 times the power of standard M12 connectors



## Brad Mini-Change 7/8" for Power Distribution

Dedicated +24VDC power supply for 60mm HarshIO modules.

- Up to 8 Amps UL per contacts
- 16 AWG Wires (1.5mm<sup>2</sup>) for low voltage drop
- 5 Poles version



## Heavy Duty Connectors

- Rectangular connector for high density and modular connectivity applications
- Up to 100 Amps according to inserts and contacts used





# Power Infrastructure Connectivity

## Brad M12 Power L-Code Connector System

Provides the power required for Industry 4.0 electric propulsion while being both compact and reliable. Meets PROFIBUS and PROFINET International (PI) standards for PROFINET systems. Compact and powerful.

### Brad M12 Power L-Code Single-Ended 4-Pole Cordsets



B43 WSOR Cable 1.50mm<sup>2</sup>

Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LOP4006B43M010	120500-0342	LOP4000B43M010	120500-0328
5m	LOP4006B43M050	120500-0345	LOP4000B43M050	120500-0331
10m	LOP4006B43M100	120500-0346	LOP4000B43M100	120500-0332
15m	LOP4006B43M150	120500-0347	LOP4000B43M150	120500-0333
20m	LOP4006B43M200	120500-0348	LOP4000B43M200	120500-0334



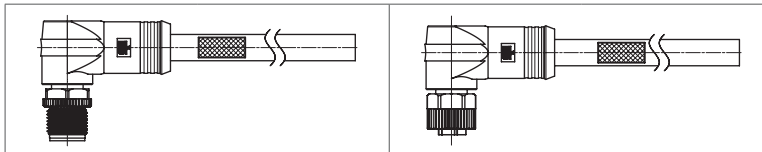
MALE  
MATING SIDE



FEMALE  
MATING SIDE



### Brad M12 Power L-Code Single-Ended 4-Pole Cordsets



B43 WSOR Cable 1.50mm<sup>2</sup>

Length	Male 90		Female 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LOP4007B43M010	120500-0349	LOP4001B43M010	120500-0335
5m	LOP4007B43M050	120500-0352	LOP4001B43M050	120500-0338
10m	LOP4007B43M100	120500-0353	LOP4001B43M100	120500-0339
15m	LOP4007B43M150	120500-0354	LOP4001B43M150	120500-0340
20m	LOP4007B43M200	120500-0355	LOP4001B43M200	120500-0341



#### B43 WSOR Cable Specification

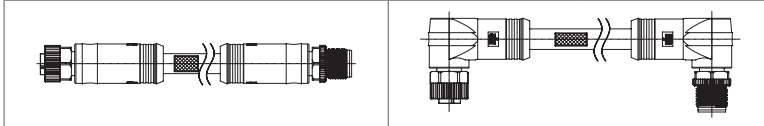
Conductors: 4 x AWG 16 (1.50mm<sup>2</sup>)  
 Color cores: Brown, White, Blue, Black  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Black, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: - 40°C to +90°C\*  
 Drag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europe.brad.tech.support@molex.com](mailto:europe.brad.tech.support@molex.com)

# Power Infrastructure Connectivity

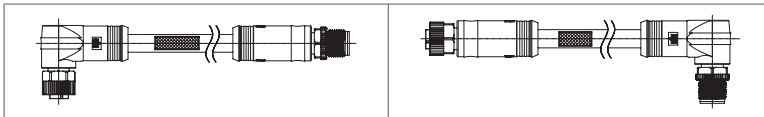
## Brad M12 Power L-Code Connector System

### Brad M12 Power L-Code Double-Ended 4-Pole Cordsets



B43 WSOR Cable 1.50mm<sup>2</sup>

Length	Female Straight / Male Straight		Female 90 / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP4030B43M010	120501-0233	LLP4033B43M010	120501-0257
5m	LLP4030B43M050	120501-0236	LLP4033B43M050	120501-0260
10m	LLP4030B43M100	120501-0237	LLP4033B43M100	120501-0261
15m	LLP4030B43M150	120501-0238	LLP4033B43M150	120501-0262
20m	LLP4030B43M200	120501-0239	LLP4033B43M200	120501-0263



B43 WSOR Cable 1.50mm<sup>2</sup>

Length	Female 90 / Male Straight		Female Straight / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP4031B43M010	120501-0241	LLP4032B43M010	120501-0249
5m	LLP4031B43M050	120501-0244	LLP4032B43M050	120501-0252
10m	LLP4031B43M100	120501-0245	LLP4032B43M100	120501-0253
15m	LLP4031B43M150	120501-0246	LLP4032B43M150	120501-0254
20m	LLP4031B43M200	120501-0247	LLP4032B43M200	120501-0255



#### B43 WSOR Cable Specification

Conductors: 4 x AWG 16 (1.50mm<sup>2</sup>)  
 Color cores: Brown, White, Blue, Black  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Black, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: - 40°C to +90°C\*  
 Drag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

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# Power Infrastructure Connectivity

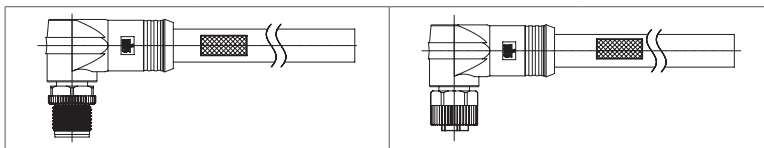
## Brad M12 Power L-Code Connector System

### Brad M12 Power L-Code Single-Ended 4-Pole Cordsets



B65 WSOR Cable 2.50mm<sup>2</sup>

Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	L0P4006B65M010	120500-0242	L0P4000B65M010	120500-0228
5m	L0P4006B65M050	120500-0245	L0P4000B65M050	120500-0231
10m	L0P4006B65M100	120500-0246	L0P4000B65M100	120500-0232
15m	L0P4006B65M150	120500-0247	L0P4000B65M150	120500-0233
20m	L0P4006B65M200	120500-0248	L0P4000B65M200	120500-0234



B65 WSOR Cable 2.50mm<sup>2</sup>

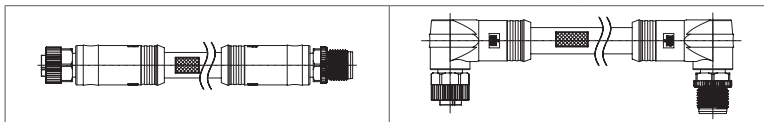
Length	Male 90		Female 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	L0P4007B65M010	120500-0249	L0P4001B65M010	120500-0235
5m	L0P4007B65M050	120500-0252	L0P4001B65M050	120500-0238
10m	L0P4007B65M100	120500-0253	L0P4001B65M100	120500-0239
15m	L0P4007B65M150	120500-0254	L0P4001B65M150	120500-0240
20m	L0P4007B65M200	120500-0255	L0P4001B65M200	120500-0241



#### B65 WSOR Cable Specification

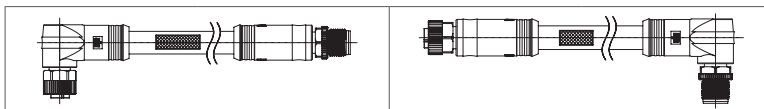
Conductors: 4 x AWG 14 (2.50mm<sup>2</sup>)  
 Color cores: Brown, White, Blue, Black  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Black, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: -40°C to +80°C\*  
 Drag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

### Brad M12 Power L-Code Double-Ended 4-Pole Cordset



B65 WSOR Cable 2.50mm<sup>2</sup>

Length	Female Straight / Male Straight		Female 90 / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP4030B65M010	120501-0133	LLP4033B65M010	120501-0157
5m	LLP4030B65M050	120501-0136	LLP4033B65M050	120501-0160
10m	LLP4030B65M100	120501-0137	LLP4033B65M100	120501-0161
15m	LLP4030B65M150	120501-0138	LLP4033B65M150	120501-0162
20m	LLP4030B65M200	120501-0139	LLP4033B65M200	120501-0163



B65 WSOR Cable 2.50mm<sup>2</sup>

Length	Female 90 / Male Straight		Female Straight / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP4031B65M010	120501-0141	LLP4032B65M010	120501-0149
5m	LLP4031B65M050	120501-0144	LLP4032B65M050	120501-0152
10m	LLP4031B65M100	120501-0145	LLP4032B65M100	120501-0153
15m	LLP4031B65M150	120501-0146	LLP4032B65M150	120501-0154
20m	LLP4031B65M200	120501-0147	LLP4032B65M200	120501-0155



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# Power Infrastructure Connectivity

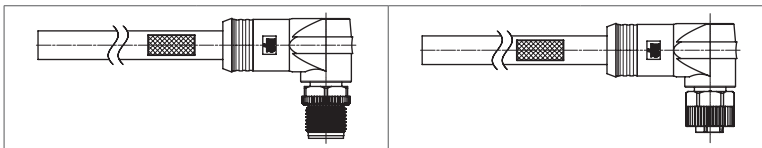
## Brad M12 Power L-Code Connector System

### Brad M12 Power L-Code Single-Ended 5-Pole Cordsets



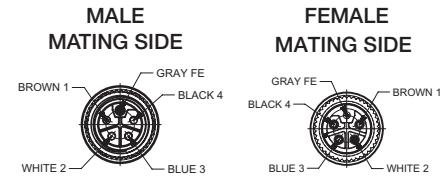
B66 WSOR Cable 1.50mm<sup>2</sup>

Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	L0P5006B66M010	120500-0314	L0P5000B66M010	120500-0300
5m	L0P5006B66M050	120500-0317	L0P5000B66M050	120500-0303
10m	L0P5006B66M100	120500-0318	L0P5000B66M100	120500-0304
15m	L0P5006B66M150	120500-0319	L0P5000B66M150	120500-0305
20m	L0P5006B66M200	120500-0320	L0P5000B66M200	120500-0306



B66 WSOR Cable 1.50mm<sup>2</sup>

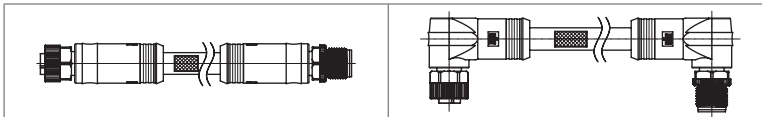
Length	Male 90		Female 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	L0P5007B66M010	120500-0321	L0P5001B66M010	120500-0307
5m	L0P5007B66M050	120500-0324	L0P5001B66M050	120500-0310
10m	L0P5007B66M100	120500-0325	L0P5001B66M100	120500-0311
15m	L0P5007B66M150	120500-0326	L0P5001B66M150	120500-0312
20m	L0P5007B66M200	120500-0327	L0P5001B66M200	120500-0313



### B66 WSOR Cable Specification

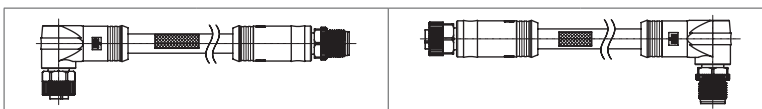
Conductors: 5 x AWG 16 (1.50mm<sup>2</sup>)  
 Color cores: White, Blue, Black, Grey, Brown  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Light grey, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: - 40°C to +80°C\*  
 Drag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

### Brad M12 Power L-Code Double-Ended 5-Pole Cordsets



B66 WSOR Cable 1.50mm<sup>2</sup>

Length	Female Straight / Male Straight		Female 90 / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP5030B66M010	120501-0201	LLP5033B66M010	120501-0225
5m	LLP5030B66M050	120501-0204	LLP5033B66M050	120501-0228
10m	LLP5030B66M100	120501-0205	LLP5033B66M100	120501-0229
15m	LLP5030B66M150	120501-0206	LLP5033B66M150	120501-0230
20m	LLP5030B66M200	120501-0207	LLP5033B66M150	120501-0231



B66 WSOR Cable 1.50mm<sup>2</sup>

Length	Female 90 / Male Straight		Female Straight / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP5031B66M010	120501-0209	LLP5032B66M010	120501-0217
5m	LLP5031B66M050	120501-0212	LLP5032B66M050	120501-0220
10m	LLP5031B66M100	120501-0213	LLP5032B66M100	120501-0221
15m	LLP5031B66M150	120501-0214	LLP5032B66M150	120501-0222
20m	LLP5031B66M200	120501-0215	LLP5032B66M150	120501-0223



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# Power Infrastructure Connectivity

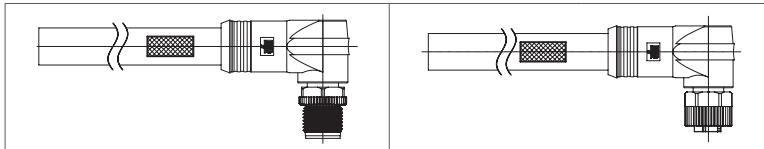
## Brad M12 Power L-Code Connector System

### Brad M12 Power L-Code Single-Ended 5-Pole Cordsets



B63 WSOR Cable 2.50mm<sup>2</sup>

Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LOP5006B63M010	120500-0214	LOP5000B63M010	120500-0200
5m	LOP5006B63M050	120500-0217	LOP5000B63M050	120500-0203
10m	LOP5006B63M100	120500-0218	LOP5000B63M100	120500-0204
15m	LOP5006B63M150	120500-0219	LOP5000B63M150	120500-0205
20m	LOP5006B63M200	120500-0220	LOP5000B63M200	120500-0206

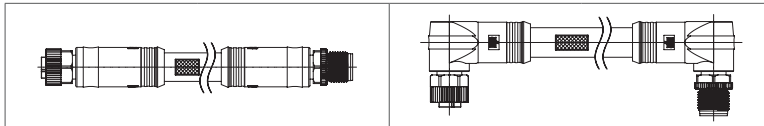


B63 WSOR Cable 2.50mm<sup>2</sup>

Length	Male 90		Female 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LOP5007B63M010	120500-0221	LOP5001B63M010	120500-0207
5m	LOP5007B63M050	120500-0224	LOP5001B63M050	120500-0210
10m	LOP5007B63M100	120500-0225	LOP5001B63M100	120500-0211
15m	LOP5007B63M150	120500-0226	LOP5001B63M150	120500-0212
20m	LOP5007B63M200	120500-0227	LOP5001B63M200	120500-0213



### Brad M12 Power L-Code Double-Ended 5-Pole Cordsets



B63 WSOR Cable 2.50mm<sup>2</sup>

Length	Female Straight / Male Straight		Female 90 / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP5030B63M010	120501-0101	LLP5033B63M010	120501-0125
5m	LLP5030B63M050	120501-0104	LLP5033B63M050	120501-0128
10m	LLP5030B63M100	120501-0105	LLP5033B63M100	120501-0129
15m	LLP5030B63M150	120501-0106	LLP5033B63M150	120501-0130
20m	LLP5030B63M200	120501-0107	LLP5033B63M150	120501-0131



#### B63 WSOR Cable Specification

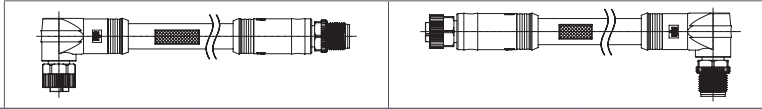
Conductors: 5 x AWG 14 (2.50mm<sup>2</sup>)  
 Color cores: Brown, White, Blue, Black, Grey  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Light Grey, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: - 40°C to +80°C\*  
 Dag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

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# Power Infrastructure Connectivity

## Brad M12 Power L-Code Connector System

### Brad M12 Power L-Code Double-Ended 5-Pole Cordsets

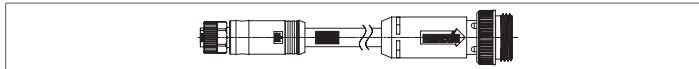


B63 WSOR Cable 2.50mm<sup>2</sup>

Length	Female 90 / Male Straight		Female Straight / Male 90	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
1m	LLP5031B63M010	120501-0109	LLP5032B63M010	120501-0117
5m	LLP5031B63M050	120501-0112	LLP5032B63M050	120501-0120
10m	LLP5031B63M100	120501-0113	LLP5032B63M100	120501-0121
15m	LLP5031B63M150	120501-0114	LLP5032B63M150	120501-0122
20m	LLP5031B63M200	120501-0115	LLP5032B63M150	120501-0123

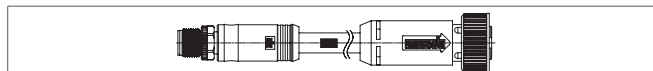
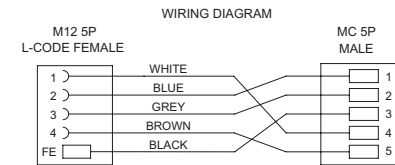
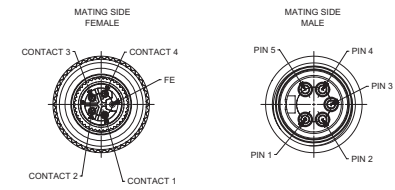


### Brad M12 Power L-Code Adapter 5-Pole Cordsets



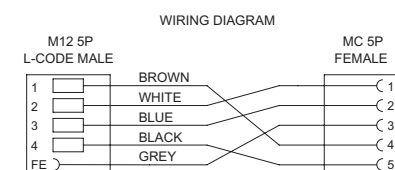
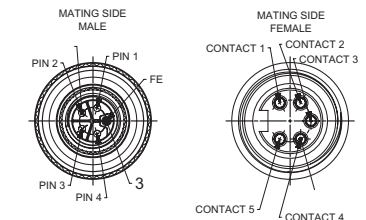
B66 WSOR Cable 1.50mm<sup>2</sup>

Length	M12 L-Code Female Straight / Mini Male Straight	
	Engineering No.	Standard Order No.
2m	L1P5030B66M020H	120505-0100
5m	L1P5030B66M050H	120505-0101
10m	L1P5030B66M100H	120505-0102
15m	L1P5030B66M150H	120505-0103
20m	L1P5030B66M200H	120505-0104



B66 WSOR Cable 1.50mm<sup>2</sup>

Length	Mini Female Straight / M12 L-Code Male Straight	
	Engineering No.	Standard Order No.
2m	1LP5030B66M020H	120505-0105
5m	1LP5030B66M050H	120505-0106
10m	1LP5030B66M100H	120505-0107
15m	1LP5030B66M150H	120505-0108
20m	1LP5030B66M200H	120505-0109



### B66 WSOR Cable Specification

Conductors: 5 x AWG 16 (1.50mm<sup>2</sup>)  
 Color cores: White, Blue, Black, Grey, Brown  
 Jacket Material: Weld, Slag, and Oil Resistant PUR based; Light grey, not halogen free, flame retardant, UV resistant, silicon and FCKW free.  
 Voltage rating: 600V  
 Operating Temperature Range: - 40°C to +80°C\*  
 Drag Chain\*\* and Torsion suitable  
 UL758 Certified  
 \* Fixed temperature range  
 \*\* Up to 5 million bending cycles @ 20°C

All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europa.brad.tech.support@molex.com](mailto:europa.brad.tech.support@molex.com)



# Power Infrastructure Connectivity

## Brad M12 Power L-Code Receptacles

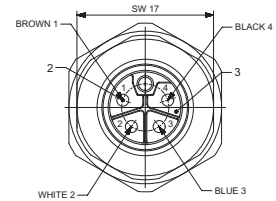
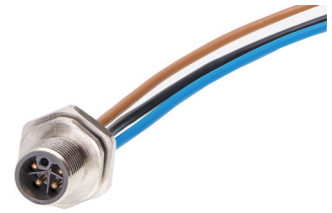
### Brad Micro Change M12 Power L-Code 4x1.5mm<sup>2</sup> Receptacles



M16x1.5 Front Panel Mount

1.5 mm<sup>2</sup> (16AWG) Wire Leads

Length	Male		Female	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
0.5m	LRP4U26L15M005	120502-0026	LRP4U24L15M005	120502-0028
0.2m	LRP4U26L15M002	120502-0027	LRP4U24L15M002	120502-0029



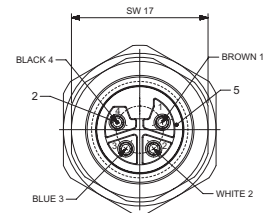
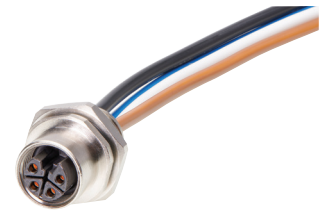
### Brad Micro Change M12 Power L-Code 4x2.5mm<sup>2</sup> Receptacles



M16x1.5 Front Panel Mount

2.5 mm<sup>2</sup> (14AWG) Wire Leads

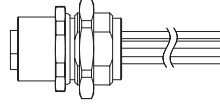
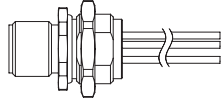
Length	Male		Female	
	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
0.5m	LRP4U26L25M005	120502-0030	LRP4U24L25M005	120502-0032
0.2m	LRP4U26L25M002	120502-0031	LRP4U24L25M002	120502-0033



# Power Infrastructure Connectivity

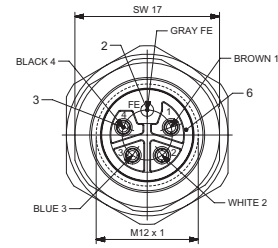
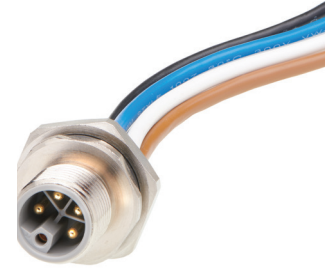
## Brad M12 Power L-Code Receptacles

### Brad Micro Change M12 Power L-Code 5.00 x 1.50mm<sup>2</sup> Receptacles

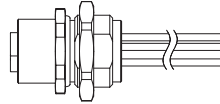
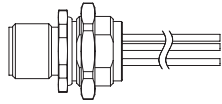


M16x1.5 Front Panel Mount 1.50mm<sup>2</sup> (16 AWG) Wire Leads

Length	Male		Female	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
0.5m	LRP5U26L15M005	120502-0012	LRP5U24L15M005	120502-0014
0.2m	LRP5U26L15M002	120502-0013	LRP5U24L15M002	120502-0015

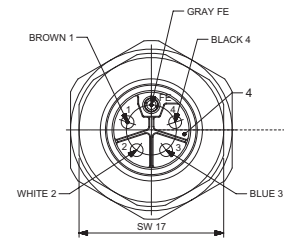


### Brad Micro Change M12 Power L-Code 5x2.5mm<sup>2</sup> Receptacles



M16x1.5 Front Panel Mount 2.50mm<sup>2</sup> (14 AWG) Wire Leads

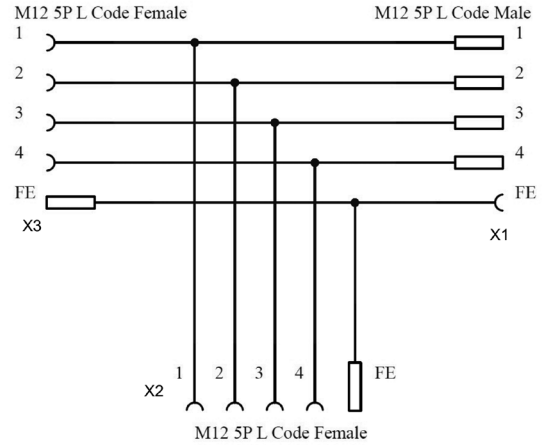
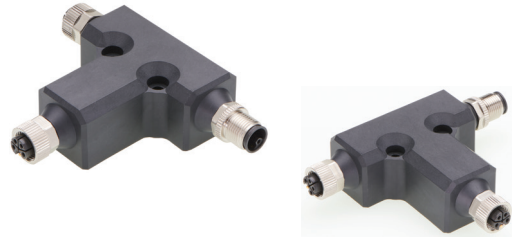
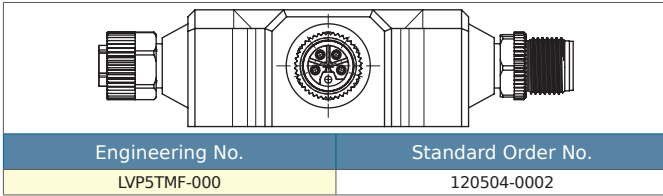
Length	Male		Female	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
0.5m	LRP5U26L25M005	120502-0022	LRP5U24L25M005	120502-0024
0.2m	LRP5U26L25M002	120502-0023	LRP5U24L25M002	120502-0025



All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europa.brad.tech.support@molex.com](mailto:europa.brad.tech.support@molex.com)

# Power Infrastructure Connectivity

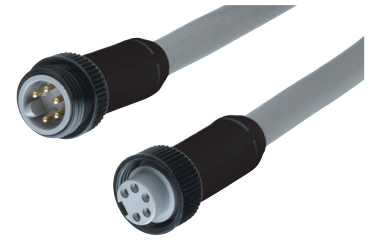
## Brad M12 Power L-Code Splitters



# Power Infrastructure Connectivity

## Brad Mini-Change 7/8" Auxiliary Power Infrastructure Components

Plug & Play 5 Pole power distribution infrastructure to interconnect IP67 devices based on the 7/8" standard connectors also called Mini-Change.



### Brad Mini-Change Single-Ended 5 Pole Cordsets

B35 WSOR Cable				
Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
Unshielded & soldering termination				
2m	105006B35M020	130006-8159	105000B35M020	130006-8164
5m	105006B35M050	130006-8160	105000B35M050	130006-8165
10m	105006B35M100	130006-8161	105000B35M100	130006-8166
20m	105006B35M200	130006-8162	105000B35M200	130006-8167
30m	105006B35M300	130006-8163	105000B35M300	130006-8168

### Brad Mini-Change Double-Ended 5 Pole Cordsets

B35 WSOR Cable				
Length	Female Straight - Male Straight		Female Right Angle - Male Right Angle	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
Unshielded & soldering termination				
1m	115030B35M010	130010-8044	115033B35M010	130010-8051
2m	115030B35M020	130010-8045	115033B35M020	130010-8052
3m	115030B35M030	130010-8046	115033B35M030	130010-8053
5m	115030B35M050	130010-8047	115033B35M050	130010-8054
10m	115030B35M100	130010-8048	115033B35M100	130010-8055
15m	115030B35M150	130010-8049	115033B35M150	130010-8056
20m	115030B35M200	130010-8050	115033B35M200	130010-8057

### Brad Mini-Change 5 Pole Receptacles

B35 WSOR Cable				
Length	Male Straight		Female Straight	
	Engineering No.	Std. Order No.	Engineering No.	Std. Order No.
Unshielded & soldering termination				
1m	1R5006A80M010	130013-8078	1R5000A80M010	130013-8076
2m	1R5006A80M020	130013-8079	1R5000A80M020	130013-8077

Description	Engineering No.	Standard Order No.
Gasket for Receptacle, 1/2"	00-5087	130180-0059
Locknut for Receptacle, 1/2" 14NPT	30-1100	130184-0031

### B35 WSOR Cable Specification\*

Conductors: 5 x 16 AWG (1.5mm<sup>2</sup>)  
 Brown, White, Blue, Black, Yellow/Green  
 Jacket Material: WSOR, Light grey, not halogen free, flame retardant, oil resistant  
 Voltage Rating: 600V  
 Static Operating Temp: -40 to +90°C  
 Dynamic Operating Temp: -25 to +80°C  
 C-Track and Torsion Flex Rated (>5Mio Cycles)  
 Approvals: UL AWM Style 21215 / CSA



### Raw Cable Ordering Information

Size	Std. Order No.
1x200m	155220-0238
1x500m	155220-0239
1x1000m	155220-0240

\* Also available with PVC (A01) or PUR (B21) jacket

All cordsets/receptacles on these pages are available in additional lengths. Please contact Molex at [europa.brad.tech.support@molex.com](mailto:europa.brad.tech.support@molex.com)

# Power Infrastructure Connectivity

## Brad Mini-Change 7/8" Auxiliary Power Infrastructure Components

### Brad Mini-Change 5 Pole Field Attachable Connector

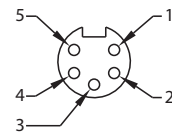
Male		Female	
Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
1A5006-34	130017-0029	1A5000-34	130017-0023
Enhanced* Option Stainless			
1A5006-348	130017-0030	1A5000-348	130017-0024

\* Coupling Nut = SS with Passivated finish instead of Brass with Nickel Plated finish



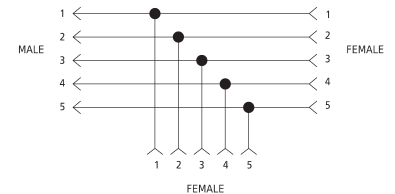
### Mini-Change 5 Pole Female Connector Pinout (Front View)

#### 5 Pole



- 1 - Black – Output Power V-
- 2 - Blue – Bus Power V-
- 3 - Green/Yellow – Ground
- 4 - Brown – Bus Power V+
- 5 - White – Output Power V+

### 5 Pole Mini-Change Tee, Y-Splitter and Distribution Box Wiring



### Brad Mini-Change 5 Pole Tees

Mini-Change Tee		
Engineering No.	Std. Order No.	
PBAPT	120101-0001	

Mini-Change Y-Splitter		
Engineering No.	Std. Order No.	
DN3200	130035-0071	

Mini-Change Tee w/M12 Drop		
Engineering No.	Std. Order No.	
DND3020	130039-0341	

Mini-Change Distribution Box			
Description	Engineering No.	Std. Order No.	
2 ports	DN2100	130039-0336	
4 Ports	DN4000	130036-0005	
6 Ports	DN6000	130036-0008	
8 ports	DN8000	130036-0010	

### Brad Mini-Change Accessories

Mini-Change Caps			
Description	Engineering No.	Std. Order No.	
Int. Thread	65-0086	130201-1111	
Ext. Thread	65-0085	130201-1109	



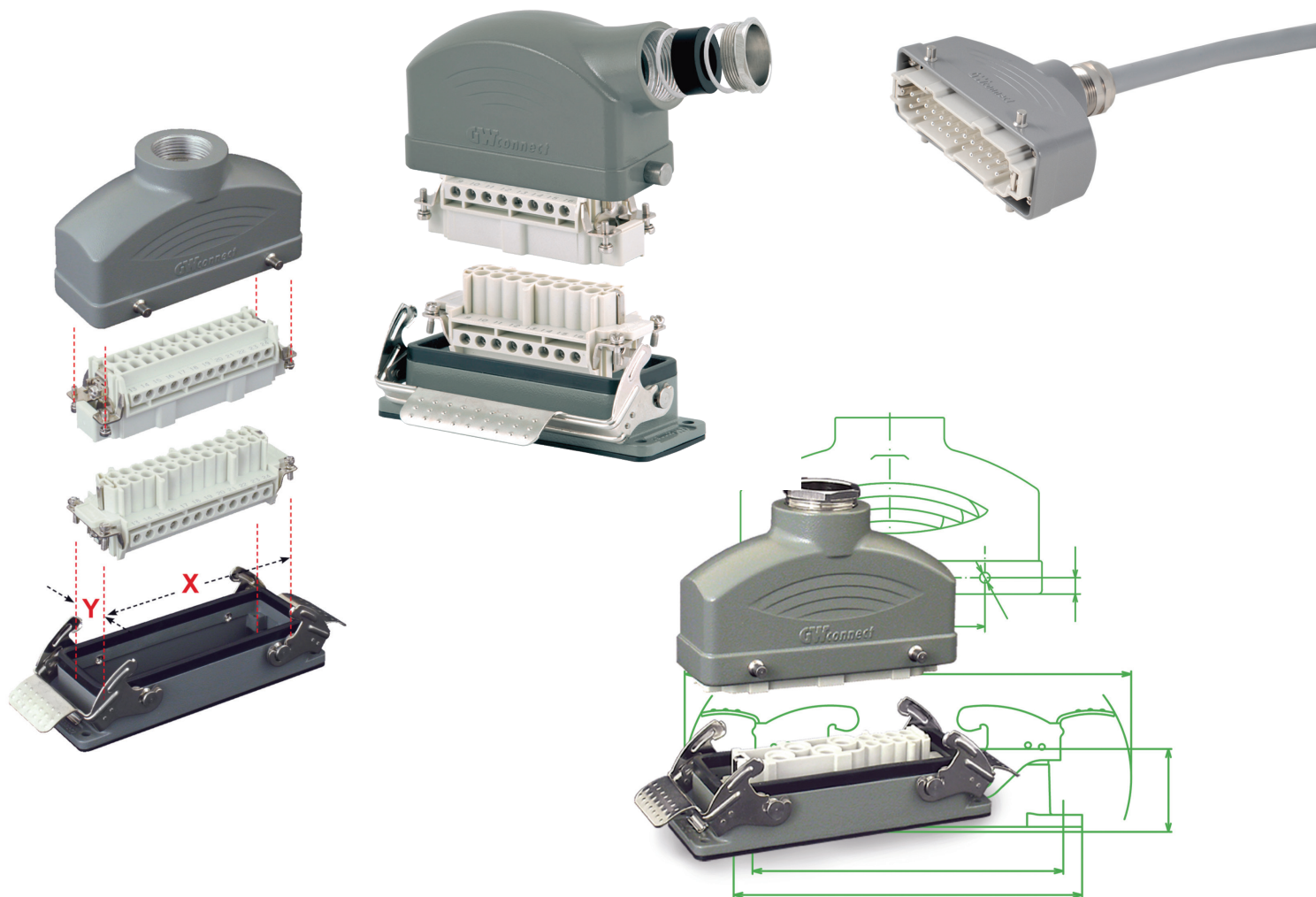
**Note:**  
Further technical information, datasheet or drawing can be downloaded from the Molex website using the Standard Order part number listed.

# Heavy Duty Connectors

## Overview

Ask about our full range of products—more than 6000 items available!






Type	Size	Housing Space for Inserts with Screw Fixing Centre Distance X-Y (mm)
3A	21 x 21	21 x 21
10A	49 x 16	49.5 x 16
16A	66 x 16	66 x 16
32A	66 x 40	66 x 16 (2 inserts)
6B	44 x 27	44 x 27
10B	57 x 27	57 x 27
16B	77 x 27	77.5 x 27
24B	104 x 27	104 x 27
32B	77 x 62	77.5 x 27 (2 inserts)
48B	104 x 62	104 x 27 (2 inserts)
QD	32 x 13	32.2 x 13.4





# Heavy Duty Connectors

Size 3A 21x21

Inserts								
Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
3A	3+PE	250V 10A	S-A Series	7203.6101.0	93601-0125	7203.6001.0	93601-0121	 Screw Terminal
	4+PE	250V 10A	S-A Series	7204.6102.0	93601-0133	7204.6002.0	93601-0129	 Screw Terminal
	5+PE	230/400V 16A	S-Q 0/5 Series	7605.5901.0	93601-0436	7605.5801.0	93601-0435	 Crimp Contacts
	7+PE	250V 10A	S-D Series	7107.4101.0	93601-0079	7107.4001.0	93601-0077	 Crimp Contacts
	8	250V 10A	S-D Series	7108.4102.0	93601-0084	7108.4002.0	93601-0081	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.

Single Lever Hoods and Housings								
Size	Thread	Description	Metal		Plastic		M (Metric)	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.		
3A	M 20	Top Entry	7803.6228.0	93601-0682	7803.6227.0	93601-0680		
	M 20	Side Entry	7803.6230.0	93601-0687	7803.6229.0	93601-0685		
	M 20	Coupler	7803.6232.0	93601-0692	7803.6231.0	93601-0690		
			Bulkhead Mount	7803.6202.0	93601-0616	7803.6201.0	93601-0614	
			Bulkhead Mount Angle	7803.6204.0	93601-0622	7803.6203.0	93601-0620	
	M 20	Surface Mount	7803.6226.0	93601-0676	7803.6225.0	93601-0674		
			Cover Male Insert	7803.6804.0	93601-0710	7803.6803.0	93601-0708	
			Cover Female Insert	7803.6802.0	93601-0702	7803.6801.0	93601-0696	

PG threads also available




Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry

[www.molex.com/en-us/products/industrial-automation](http://www.molex.com/en-us/products/industrial-automation)

# Heavy Duty Connectors









Size QD 32x13

## Inserts

Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
32x13	8+PE	500V 16A	S-QD 8 Series	7608.5907.0	93601-0446	7608.5807.0	93601-0445	 Crimp Contacts
	17+PE	250V 10A	S-QD 17 Series	7617.5911.0	93601-0450	7617.5811.0	93601-0449	 Crimp Contacts
	4+2+PE	460/690 + 250V 4x40A + 2x10A	S-QD 4/2 Series	7606.5915.0	93601-0438	7606.5815.0	93601-0437	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.

## Single Lever Hoods and Housings




Size	Thread	Description	Engineering No.	Standard Order No.		
32x13	PG 16	Top Entry*	7908.6646.1	93601-4684		
	PG 21		7908.6648.1	93601-4685		
	PG 16	Side Entry*	7908.6640.1	93601-4682		
	PG 21		7908.6643.1	93601-4683		
	PG 16	Coupler*	7908.6667.1	93601-4688		
	PG 21		7908.6668.1	93601-4689		
	PG 16	Bulkhead Angle + 1 Cable Entry*	7908.6663.1	93601-4686		
	PG 21		7908.6664.1	93601-4687		
	Thread		Bulkhead Mount	7808.6660.1	93601-1041	
			Bulkhead Mount Angle	7808.6669.1	93601-1051	
			Cover Male Insert	7808.6666.1	93601-1048	
			Cover Female Insert with Gasket	7808.6665.1	93601-1047	

\* These enclosures include the relevant cable glands.  
Metal versions available, M and PG

# Heavy Duty Connectors








Size 10A 49x16

## Inserts

Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
10A	10 +PE	250V 16A	S-A Series	7210.4411.0	93601-0139	7210.4401.0	93601-0137	 Screw Terminal
				7210.4461.0	93601-0142	7210.4451.0	93601-0141	 Crimp Contacts
	15 +PE	250V 10A	S-D Series	7115.4106.0	93601-0092	7115.4006.0	93601-0091	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.

## Single Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)	
10A	M 20	Top Entry	7810.4550.0	93601-1167	 HC	
	M 25		7810.4551.0	93601-1170		
	M 20 HC		7810.4561.5	93601-1182		
	M 25 HC		7810.4562.5	93601-1188		
	M 20	Side Entry	7810.4571.0	93601-1206	 HC	
	M 20 HC		7810.4581.5	93601-1218		
	M 25 HC		7810.4582.5	93601-1224		
	M 20	Surface Mounting	7810.4501.0	93601-1126		
	M 25		7810.4503.0	93601-1131		
	M 20 x2		7810.4502.0	93601-1128		
	M 25 x2		7810.4504.0	93601-1133		
	M 20	Surface Mounting with Cover	7810.4511.0	93601-1146		
	M 25		7810.4513.0	93601-1150		
	M 20 x2		7810.4512.0	93601-1148		
	M 25 x2		7810.4514.0	93601-1152		
			Bulkhead Mounting	7810.4541.0	93601-1162	
			Bulkhead Mounting with Cover	7810.4542.0	93601-1165	
			Cover	7810.4591.0	93601-1239	
			Cover + Lever	7810.4594.0	93601-1242	

PG threads available




Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry

[www.molex.com/en-us/products/industrial-automation](http://www.molex.com/en-us/products/industrial-automation)

# Heavy Duty Connectors








Size 16A 66x16

## Inserts

Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
16A	16 +PE	250V 16A	S-A Series	7216.4412.0	93601-0147	7216.4402.0	93601-0143	 Screw Terminal
				7216.4462.0	93601-0153	7216.4452.0	93601-0151	 Crimp Contacts
	25 +PE	250V 10A	S-D Series*	7125.4112.0	93601-0101	7125.4012.0	93601-0099	 Crimp Contacts

\* Also available w/ "Z" mark  
Crimp contacts to be ordered separately. See page 86.




## Single Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)	
16A	M 20	Top Entry	7816.4555.0	93601-2162	 HC	
	M 25		7816.4556.0	93601-2165		
	M 20 HC		7816.4566.5	93601-2177		
	M 25 HC		7816.4567.5	93601-2183		
	M 20	Side Entry	7816.4575.0	93601-2201	 HC	
	M 20 HC		7816.4586.5	93601-2213		
	M 25 HC		7816.4587.5	93601-2219		
	M 20	Surface Mounting	7816.4521.0	93601-2121		
	M 25		7816.4523.0	93601-2126		
	M 20 x2		7816.4522.0	93601-2123		
	M 25 x2		7816.4524.0	93601-2128		
	M 20	Surface Mounting with Cover	7816.4531.0	93601-2141		
	M 25		7816.4533.0	93601-2145		
	M 20 x2		7816.4532.0	93601-2143		
	M 25 x2		7816.4534.0	93601-2147		
			Bulkhead Mounting	7816.4543.0	93601-2157	
			Bulkhead Mounting with Cover	7816.4544.0	93601-2160	
			Cover	7816.4592.0	93601-2234	
			Cover + Lever	7816.4595.0	93601-2237	










PG threads are available

# Heavy Duty Connectors

Size 32A 66x40

Inserts							
Size	Voltage/Current	Description	Male		Female		
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
32A	250V 16A	S-A Series	7216.4412.0 + .4413.0	93601-0147 + 93601-0149	7216.4402.0 + .4403.0	93601-0143 + 93601-0145	 Screw Terminal
			7216.4462.0 + .4463.0	93601-0153+ 93601-0154	7216.4452.0 + .4453.0	93601-0151 + 93601-0152	 Crimp Contacts
	250V 10A	S-D Series	2 x 7125.4112.0	2 x 93601-0101	2 x 7125.4012.0	2 x 93601-0099	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.







Double Lever Hoods and Housings						
Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)	
32A	M 25 HC	Top Entry	7832.4641.5	93601-4121		
	M 32 HC		7832.4642.5	93601-4127		
	M 25	Side Entry	7832.4647.0	93601-4142		
	M 25 HC		7832.4651.5	93601-4154		
	M 32 HC		7832.4652.5	93601-4160		
	M 25	Surface Mounting	7832.4600.0	93601-4067		
	M 32		7832.4602.0	93601-4072		
	M 25 x2		7832.4601.0	93601-4069		
	M 32 x2		7832.4603.0	93601-4074		
			Bulkhead Mounting	7832.4631.0	93601-4112	
			Bulkhead Mounting with Cover	7832.4705.0	93601-4227	
		M 25	Reversed Surface Mounting	7832.4610.0	93601-4092	
		M 32		7832.4612.0	93601-4096	
		M 25 x2		7832.4611.0	93601-4094	
		M 32 x2		7832.4613.0	93601-4098	
			Reversed Bulkhead Mounting	7832.4633.0	93601-4115	
		M 25 HC	Reversed Top Entry	7832.4656.5	93601-4177	
		M32 HC		7832.4657.5	93601-4181	
		M 25 HC	Reversed Side Entry	7832.4665.5	93601-4199	
		M32 HC		7832.4666.5	93601-4203	
		4 pegs	Cover	7832.4671.0	93601-4213	
			Cover for Reversed	7832.4673.0	93601-4219	
		2 Levers	Cover	7832.4672.0	93601-4216	
			Cover for Reversed	7832.4674.0	93601-4221	

PG threads available

Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry

# Heavy Duty Connectors

Size 6B 44x27

Inserts								
Size	Poles	Voltage/ Current	Description	Male		Female		Image
				Engineer. No.	Std. Order No.	Engineer. No.	Std. Order No.	
6B	24 +PE	250V 10A	S-DD Series	7124.4140.0	93601-0094	7124.4040.0	93601-0093	 Crimp Contacts
	6 +PE	500V 16A	S-E Series	7306.6103.0	93601-0215	7306.6003.0	93601-0207	 Screw Terminal
				7306.6161.0	93601-0222	7306.6061.0	93601-0214	 Crimp Contacts
	6 +PE	500V 16A	S-ES Series	7306.5951.0	93601-0205	7306.5851.0	93601-0203	 Spring Terminal
	6 +PE	500V 16A	S-EP Series	7306.5961.0	93601-0206	7306.5861.0	93601-0204	 Push-in Terminal
	10 +PE	500V 16A	S-EE Series	7310.6190.0	93601-0244	7310.6090.0	93601-0237	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.

## Single Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)
6B	M 20	Top Entry	7806.6553.0	93601-0917	 HC
	M 25		7806.6554.0	93601-0920	
	M 25 HC		7806.6449.5	93601-0862	
	M 32 HC		7806.6450.5	93601-0868	
	M 20	Side Entry	7806.6551.0	93601-0911	 HC
	M 25		7806.6552.0	93601-0914	
	M 25 HC		7806.6491.5	93601-0886	
	M 32 HC		7806.6492.5	93601-0892	
	M 20	Surface Mount	7806.6351.0	93601-0828	 HC
	M 20 x2		7806.6352.0	93601-0831	
	M 32 HC		7806.7151.0	93601-0947	
	M 32 x2 HC		7806.7152.0	93601-0949	
	M 40 HC		7806.7153.0	93601-0952	
	M 40 x2 HC	7806.7154.0	93601-0954		
	M 20	Surface Mount with Cover	7806.6361.0	93601-0834	 HC
	M 20 x2		7806.6362.0	93601-0836	
	M 32 HC		7806.7265.0	93601-0995	
	M 32 x2 HC		7806.7266.0	93601-0996	
	M 40 HC		7806.7267.0	93601-0998	
	M 40 x2 HC	7806.7268.0	93601-0998		
		Bulkhead	7806.6401.0	93601-0842	
M 20	Coupler	7806.6592.0	93601-0925	 HC	
M 25		7806.6581.0	93601-0923		
		Cover 1 Lever	7806.6818.0	93601-0930	
		Cover 2 Pegs	7806.6813.0	93601-0927	







PG threads available  
Housings w/ automatic cover available

Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry










# Heavy Duty Connectors

Size 10B 57x27

Inserts								
Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
10B	42 +PE	250V 10A	S-DD Series	7142.4146.0	+93601-0106	7142.4046.0	93601-0105	 Crimp Contacts
	10 +PE	500V 16A	S-E Series	7310.6104.0	93601-0238	7310.6004.0	93601-0231	 Screw Terminal
				7310.6162.0	93601-0243	7310.6062.0	93601-0236	 Crimp Contacts
	10 +PE	500V 16A	S-ES Series	7310.5952.0	93601-0229	7310.5852.0	93601-0227	 Spring Terminal
	10 +PE	500V 16A	S-EP Series	7310.5962.0	93601-0230	7310.5862.0	93601-0228	 Push-in Terminal
18 +PE	500V 16A	S-EE Series	7318.6191.0	93601-0284	7318.6091.0	93601-0283	 Crimp Contacts	

Crimp contacts to be ordered separately. See page 86.

## Single Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)	
10B	M 20	Top Entry	7810.6556.0	93601-1738	 HC	
	M 25		7810.6593.0	93601-1758		
	M 32 HC		7810.6451.5	93601-1637		
	M 40 HC		7810.6452.5	93601-1643		
	M 20	Side Entry	7810.6555.0	93601-1735	 HC	
	M 25		7810.6594.0	93601-1761		
	M 32 HC		7810.6493.5	93601-1703		
	M 40 HC		7810.6494.5	93601-1709		
	M 20	Surface Mount	7810.6353.0	93601-1547	 HC	
	M 20 x2		7810.6354.0	93601-1550		
	M 32 HC		7810.7160.0	93601-1886		
	M 32 x2 HC		7810.7161.0	93601-1888		
	M 40 HC		7810.7162.0	93601-1891		
	M 40 x2 HC		7810.7163.0	93601-1893		
	M 20	Surface Mount with Cover	7810.6363.0	93601-1553	 HC	
	M 20 x2		7810.6364.0	93601-1556		
	M 32 HC		7810.7274.0	93601-1951		
	M 32 x2 HC		7810.7275.0	93601-1953		
	M 40 HC		7810.7276.0	93601-1956		
	M 40 x2 HC		7810.7277.0	93601-1958		
			Bulkhead	7810.6403.0	93601-1569	
		M 25	Coupler	7810.6582.0	93601-1751	 HC
		M 25 HC		7810.7008.5	93601-1825	
	M 32 HC	7810.7009.5		93601-1831		
		Cover 1 Lever	7810.6819.0	93601-1802		
		Cover 2 Pegs	7810.6814.0	93601-1800		

PG threads available

Housings w/ automatic cover available







Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry

[www.molex.com/en-us/products/industrial-automation](http://www.molex.com/en-us/products/industrial-automation)

# Heavy Duty Connectors

Size 10B 57x27

## Double Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)
10B	M 20	Top Entry	7810.6570.0	93601-1746	 HC
	M 32 HC		7810.6443.5	93601-1619	
	M 40 HC		7810.6444.5	93601-1629	
	M 20	Side Entry	7810.6569.0	93601-1741	 HC
	M 32 HC		7810.6485.5	93601-1685	
	M 40 HC		7810.6486.5	93601-1695	
	M 20	Surface Mount	7810.6372.0	93601-1559	 HC
	M 20 x2		7810.6373.0	93601-1564	
	M 32 HC		7810.7460.0	93601-1981	
	M 32x2 HC		7810.7461.0	93601-1986	
	M 40 HC		7810.7462.0	93601-1991	
	M 40 x2 HC	7810.7463.0	93601-1996		
		Bulkhead	7810.6412.0	93601-1575	
	M 20	Cable-to-Cable	7810.6598.0	93601-1774	 HC
	M 25 HC		7810.7003.5	93601-1808	
	M 32 HC		7810.7004.5	93601-1816	
		Cover 2 Levers	7810.6809.0	93601-1797	
	Cover 4 Pegs	7810.6805.0	93601-1794		

PG threads are also available

# Heavy Duty Connectors

Size 16B 77x27

## Inserts








Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
16B	40 +PE	250V 10A	S-D Series	7140.4118.0	93601.0104	7140.4018.0	93601-0113	 Crimp Contacts
	72 +PE	250V 10A	S-DD Series	7172.4152.0	93601-0115	7172.4052.0	93601-0105	 Crimp Contacts
	16 +PE	500V 16A	S-E Series	7316.6105.0	93601-0273	7316.6005.0	93601-0263	 Screw Terminal
				7316.6163.0	93601-0281	7316.6063.0	93601-0271	 Crimp Contacts
	16 +PE	500V 16A	S-ES Series	7316.5953.0	93601-0259	7316.5853.0	93601-0255	 Spring Terminal
	16 +PE	500V 16A	S-EP Series	7316.5963.0	93601-0261	7316.5863.0	93601-0257	 Push-in Terminal
	32 +PE	500V 16A	S-EE Series	7332.6192.0	93601-0321	7332.6092.0	93601-0318	 Crimp Contacts
	6 +PE	830V 35A	S-K Series	7306.6141.0	93601-0219	7306.6041.0	93601-0211	 Screw Terminal
	4 +PE	830V 80A		7304.6144.0	93601-0198	7304.6044.0	93601-0197	
	4+2 +PE	830/500V 80 + 16A		7306.6145.0	93601-0221	7306.6045.0	93601-0213	

Crimp contacts to be ordered separately. See page 86.

# Heavy Duty Connectors

Size 16B 77x27

## Single Lever Hoods and Housings







Size	Thread	Description	Engineering No.	Standard Order No.		
16B	M 25	Top Entry	7816.6558.0	93601-2816	 HC	
	M 32		7816.6547.0	93601-2801		
	M 32 HC		7816.6453.5	93601-2667		
	M 40 HC		7816.6454.5	93601-2673		
	M 25	Side Entry	7816.6557.0	93601-2813	 HC	
	M 32		7816.6549.0	93601-2807		
	M 32 HC		7816.6495.5	93601-2761		
	M 40 HC		7816.6496.5	93601-2767		
	M 25	Surface Mount	7816.6355.0	93601-2549	 HC	
	M 25 x2		7816.6356.0	93601-2552		
	M 32 HC		7816.7169.0	93601-2934		
	M 32 x2 HC		7816.7170.0	93601-2936		
	M 40 HC		7816.7171.0	93601-2939		
	M 40 x2 HC		7816.7172.0	93601-2941		
	M 25	Surface Mount with Cover	7816.6365.0	93601-2555	 HC	
	M 25 x2		7816.6366.0	93601-2558		
	M 32 HC		7816.7283.0	93601-2999		
	M 32 x2 HC		7816.7284.0	93601-3001		
	M 40 HC		7816.7285.0	93601-3004		
	M 40 x2 HC	7816.7286.0	93601-3006			
			Bulkhead	7816.6405.0	93601-2571	
	M 25	Coupler	7816.6583.0	93601-2829	 HC	
	M 25 HC		7816.6461.5	93601-2695		
M 32 HC	7816.6462.5		93601-2701			
		Cover 1 Lever	7816.6820.0	93601-2892		
		Cover 2 Pegs	7816.6815.0	93601-2890		

PG threads available  
Housings w/ automatic cover available

# Heavy Duty Connectors

Size 16B 77x27

## Double Lever Hoods and Housings









Size	Thread	Description	Engineering No.	Standard Order No.	
16B	M 25	Top Entry	7816.6572.0	93601-2824	 HC
	M 32		7816.6921.0	93601-2894	
	M 32 HC		7816.6445.5	93601-2649	
	M 40 HC		7816.6446.5	93601-2659	
	M 25	Side Entry	7816.6571.0	93601-2819	 HC
	M 32		7816.6922.0	93601-2899	
	M 32 HC		7816.6487.5	93601-2743	
	M 40 HC		7816.6488.5	93601-2753	
	M 25	Surface Mount	7816.6374.0	93601-2561	 HC
	M 25 x2		7816.6375.0	93601-2566	
	M 32 HC		7816.7469.0	93601-3024	
	M 32 x2 HC		7816.7470.0	93601-3029	
	M 40 HC		7816.7471.0	93601-3034	
	M 40 x2 HC		7816.7472.0	93601-3039	
		Bulkhead	7816.6413.0	93601-2577	
	M 25	Cable-to-Cable	7816.6587.0	93601-2832	 HC
	M 32		7816.6923.0	93601-2904	
	M 25 HC		7816.6457.5	93601-2680	
	M 32 HC		7816.6458.5	93601-2688	
		Cover 2 Levers	7816.6810.0	93601-2887	
	Cover 4 Pegs	7816.6806.0	93601-2884		

PG threads available

# Heavy Duty Connectors

Size 24B 104x27

## Inserts

Size	Poles	Voltage/Current	Description	Male		Female		
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
24B	64 +PE	250V 10A	S-D Series	7164.4124.0	93601-0112	7164.4024.0	93601-0111	 Crimp Contacts
	108 +PE	250V 10A	S-DD Series	7108.4158.0	93601-0085	7108.4058.0	93601-0082	 Crimp Contacts
	24 +PE	500V 16A	S-E Series	7324.6107.0	93601-0307	7324.6007.0	93601-0297	 Screw Terminal
				7324.6165.0	93601-0315	7324.6065.0	93601-0305	 Crimp Contacts
	24 +PE	500V 16A	S-ES Series	7324.6165.0	93601-0315	7324.6065.0	93601-0305	 Spring Terminal
	24 +PE	500V 16A	S-EP Series	7324.5965.0	93601-0295	7324.5865.0	93601-0291	 Push-in Terminal
	46 +PE	S-EE Series	500V 16A	7346.6194.0	93601-0329	7346.6094.0	93601-0327	 Crimp Contacts
	4+8 +PE	S-K Series	830/500V 80 + 16A	7312.6143.0	93601-0247	7312.6043.0	93601-0245	 500 V Screw Terminal








Crimp contacts to be ordered separately. See page 86.



# Heavy Duty Connectors

Size 24B 104x27

## Single Lever Hoods and Housings







Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)	
24B	M 25	Top Entry	7824.6560.0	93601-3767	 HC	
	M 32		7824.6624.0	93601-3851		
	M 32 HC		7824.6455.5	93601-3628		
	M 40 HC		7824.6456.5	93601-3634		
	M 25	Side Entry	7824.6559.0	93601-3764	 HC	
	M 32		7824.6925.0	93601-3854		
	M 32 HC		7824.6497.5	93601-3722		
	M 40 HC		7824.6498.5	93601-3728		
	M 25	Surface Mount	7824.6357.0	93601-3510	 HC	
	M 25 x2		7824.6358.0	93601-3513		
	M 32 HC		7824.7178.0	93601-3905		
	M 32 x2 HC		7824.7179.0	93601-3907		
	M 40 HC		7824.7180.0	93601-3910		
	M 40 x2 HC	7824.7181.0	93601-3912			
	M 25	Surface Mount with Cover	7824.6367.0	93601-3516	 HC	
	M 25 x2		7824.6368.0	93601-3519		
	M 32 HC		7824.7292.0	93601-3964		
	M 32 x2 HC		7824.7293.0	93601-3966		
	M 40 HC		7824.7294.0	93601-3970		
	M 40 x2 HC	7824.7295.0	93601-3972			
			Bulkhead	7824.6407.0	93601-3532	
	M 32	Coupler	7824.6584.0	93601-3780	 HC	
	M 25 HC		7824.6463.5	93601-3656		
	M 32 HC		7824.6464.5	93601-3662		
		Cover 1 Lever	7824.6821.0	93601-3849		
		Cover 2 Pegs	7824.6816.0	93601-3847		

PG threads available  
Housings w/ automatic cover available

# Heavy Duty Connectors

Size 24B 104x27

## Double Lever Hoods and Housings









Size	Thread	Description	Engineering No.	Standard Order No.	
24B	M 25	Top Entry	7824.6574.0	93601-3775	 HC
	M 32		7824.6926.0	93601-3857	
	M 32 HC		7824.6447.5	93601-3610	
	M 40 HC		7824.6448.5	93601-3620	
	M 25	Side Entry	7824.6573.0	93601-3770	 HC
	M 32		7824.6927.0	93601-3862	
	M 32 HC		7824.6489.5	93601-3704	
	M 40 HC		7824.6490.5	93601-3714	
	M 25	Surface Mount	7824.6376.0	93601-3522	 HC
	M 25 x2		7824.6377.0	93601-3527	
	M 32 HC		7824.7478.0	93601-3987	
	M 32 x2 HC		7824.7479.0	93601-3992	
	M 40 HC		7824.7480.0	93601-3997	
	M 40 x2 HC		7824.7481.0	93601-4002	
		Bulkhead	7824.6414.0	93601-3538	
	M 32	Cable-to-Cable	7824.6588.0	93601-3783	 HC
	M 25 HC		7824.6459.5	93601-3641	
	M 32 HC		7824.6460.5	93601-3649	
	Cover 2 Levers	7824.6811.0	93601-3844		
	Cover 4 Pegs	7824.6807.0	93601-3841		

PG threads available

# Heavy Duty Connectors

Size 32B 77x62

## Inserts








Size	Poles	Voltage/Current	Description	Male		Female		M (Metric)
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
32B	80 +PE	250V 10A	S-D Series	2 x 7140.4118.0	2 x 93601-0104	2 x 7140.4018.0	2 x 93601-0103	 Crimp Contacts
	144 +PE	250V 10A	S-DD Series	7172.4152.0 + 7172.4153.0	93601-0115 + 93601-0116	7172.4052.0 + 7172.4053.0	93601-0113 + 93601-0114	 Crimp Contacts
	32 +PE	500V 16A	S-E Series	7316.6105.0 + 7316.6106.0	93601-0273 + 93601-0277	7316.6005.0 + 7316.6006.0	93601-0263 + 93601-0267	 Screw Terminal
				7316.6163.0 + 7316.6164.0	93601-0281 + 93601-0282	7316.6063.0 + 7316.6064.0	93601-0271 + 93601-0272	 Crimp Contacts
	32 +PE	500V 16A	S-ES Series	7316.5953.0 + 7316.5954.0	93601-0259 + 93601-0260	7316.5853.0 + 7316.5854.0	93601-0255 + 93601-0256	 Spring Terminal
	32 +PE	500V 16A	S-EP Series	7316.5963.0 + 7316.5964.0	93601-0261 + 93601-0262	7316.5863.0 + 7316.5864.0	93601-0257 + 93601-0258	 Push-in Terminal
	64 +PE	500V 16A	S-EE Series	7332.6192.0 + 7332.6193.0	93601-0321 + 93601-0322	7332.6092.0 + 7332.6093.0	93601-0318 + 93601-0319	 Crimp Contacts
	12 +PE	830V 35A	S-HSB Series	7306.6141.0 + .6142.0	93601-0219 + 93601-0220	7306.6041.0 + .6042.0	93601-0211 + 93601-0212	 Screw Terminal

Crimp contacts to be ordered separately. See page 86.







# Heavy Duty Connectors

Size 32B 77x62

## Single Lever Hoods and Housings

Thread	Description	Engineering No.	Standard Order No.	
M 32	Top Entry	7832.7135.0	93601-4481	 HC
M 40		7832.6562.0	93601-4423	
M 40	Side Entry	7832.6561.5	93601-4421	 HC
M 40	Surface Mount	7832.6380.0	93601-4355	 HC
M 40 x2		7832.6381.0	93601-4356	
M 50		7832.6359.0	93601-4345	
M 50 x2		7832.6360.0	93601-4346	
M 40	Surface Mount with Cover	7832.6382.0	93601-4358	 HC
M 40 x2		7832.6383.0	93601-4359	
M 50		7832.6369.0	93601-4348	
M 50 x2		7832.6370.0	93601-4349	
	Bulkhead	7832.6409.0	93601-4365	
M 40 HC	Coupler	7832.6585.0	93601-4451	 HC
	Cover 1 Lever	7832.6822.0	93601-4473	
	Cover 2 Pegs	7832.6817.0	93601-4471	








## Double Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.	M (Metric)
32B	M 32 HC	Top Entry	7832.6578.0	93601-4439	 HC
	M 40 HC		7832.6579.0	93601-4443	
	M 50 HC		7832.6580.0	93601-4447	
	M 32 HC	Side Entry	7832.6575.5	93601-4429	 HC
	M 40 HC		7832.6576.5	93601-4433	
	M 50 HC		7832.6577.5	93601-4437	
	M 40	Surface Mount	7832.6384.0	93601-4361	 HC
	M 40 x2		7832.6385.0	93601-4363	
	M 50		7832.6378.0	93601-4351	
	M 50 x2		7832.6379.0	93601-4353	
		Bulkhead	7832.6415.0	93601-4369	
	M 32 HC	Cable-to-Cable	7832.6589.0	93601-4455	 HC
	M 40 HC		7832.6590.0	93601-4459	
	M 50 HC		7832.6591.0	93601-4463	
		Cover 2 Levers	7832.6812.0	93601-4469	
		Cover 4 Pegs	7832.6808.0	93601-4467	

PG threads available






# Heavy Duty Connectors

Size 48B 104x62

Inserts								
Size	Poles	Voltage/Current	Description	Male		Female		M (Metric)
				Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	
48B	128 +PE	250V 10A	S-D Series	2 x 7164.4124.0	2 x 93601-0112	2 x 7164.4024.0	2 x 93601-0111	 Crimp Contacts
	216 +PE	250V 10A	S-DD Series	7108.4158.0 + 7108.4159.0	93601-0085 + 93601-0086	7108.4058.0 + 7108.4059.0	93601-0082 + 93601-0083	 Crimp Contacts
	48 +PE	500V 16A	S-E Series	7324.6107.0 + 7324.6108.0	93601-0307 + 93601-0311	7324.6007.0 + 7324.6008.0	93601-0297 + 93601-0301	 Screw Terminal
				7324.6165.0 + 7324.6166.0	93601-0315 + 93601-0316	7324.6065.0 + 7324.6066.0	93601-0305 + 93601-0306	 Crimp Contacts
	48 +PE	500V 16A	S-ES Series	7324.5955.0 + 7324.5956.0	93601-0293 + 93601-0294	7324.5855.0 + 7324.5856.0	93601-0289 + 93601-0290	 Spring Terminal
	48 +PE	500V 16A	S-EP Series	7324.5965.0 + 7324.5966.0	93601-0295 + 93601-0296	7324.5865.0 + 7324.5866.0	93601-0291 + 93601-0291	 Push-in Terminal
	92 +PE	500V 16A	S-EE Series	7346.6194.0 + 7346.6195.0	93601-0329 + 93601-0330	7346.6094.0 + 7346.6095.0	93601-0327 + 93601-0328	 Crimp Contacts

Crimp contacts to be ordered separately. See page 86.

## Single Lever Hoods and Housings

Size	Thread	Description	Engineering No.	Standard Order No.		
48B	M 32	Top Entry	7848.6566.0	93601-4569	 HC	
	M 40		7848.6567.0	93601-4573		
	M 50		7848.6568.0	93601-4577		
	M 32	Side Entry	7848.6563.5	93601-4559	 HC	
	M 40		7848.6564.5	93601-4563		
	M 50		7848.6565.5	93601-4567		
	M 32 x2	M 40 x2	Surface Mount	7848.7429.0	93601-4582	 HC
				7848.7430.0	93601-4584	
				7848.7431.0	93601-4586	
	M 32 x2	M 40 x2	Surface Mount with Cover	7848.7433.0	93601-4588	 HC
				7848.6386.0	93601-4529	
				7848.6371.0	93601-4527	
			Bulkhead	7848.7440.0	93601-4590	 HC

Abbreviations PE = Ground HC = High Construction Thread x2 = Double entry

# Heavy Duty Connectors

## Crimp Contacts—Turned Crimp Contacts

### Size 10A Inserts and Modules

Wire		10 Amp Crimp Contacts			
mm <sup>2</sup>	AWG	Female		Male	
		Silver Plated	Gold Plated	Silver Plated	Gold Plated
0.14 to 0.37	26 to 22	7100.4201.0	7100.4201.1	7100.4211.0	7100.4211.1
		93601-0039	93601-0040	93601-0051	93601-0052
0.50	20	7100.4202.0	7100.4202.1	7100.4212.0	7100.4212.1
		93601-0041	93601-0042	93601-0053	93601-0054
0.75	18	7100.4203.0	7100.4203.1	7100.4213.0	7100.4213.1
		93601-0043	93601-0044	93601-0055	93601-0056
1.00	17	7100.4204.0	7100.4204.1	7100.4214.0	7100.4214.1
		93601-0045	93601-0046	93601-0057	93601-0058
1.50	16	7100.4205.0	7100.4205.1	7100.4215.0	7100.4215.1
		93601-0047	93601-0048	93601-0059	93601-0060
2.50	14	7100.4206.0	7100.4206.1	7100.4216.0	7100.4216.1
		93601-0049	93601-0050	93601-0061	93601-0062



### Size 16A Inserts and Modules

Wire		16 Amp Crimp Contacts			
mm <sup>2</sup>	AWG	Female		Male	
		Silver Plated	Gold Plated	Silver Plated	Gold Plated
0.14 to 0.37	26 to 22	7300.6240.0	7300.6240.1	7300.6237.0	7300.6237.1
		93601-0171	93601-0172	93601-0165	93601-0166
0.50	20	7300.6241.0	7300.6241.1	7300.6246.0	7300.6246.1
		93601-0173	93601-0174	93601-0183	93601-0184
0.75	18	7300.6239.0	7300.6239.1	7300.6236.0	7300.6236.1
		93601-0169	93601-0170	93601-0163	93601-0164
1.00	17	7300.6242.0	7300.6242.1	7300.6247.0	7300.6247.1
		93601-0175	93601-0176	93601-0185	93601-0186
1.50	16	7300.6243.0	7300.6243.1	7300.6248.0	7300.6248.1
		93601-0177	93601-0178	93601-0187	93601-0188
2.50	14	7300.6244.0	7300.6244.1	7300.6249.0	7300.6249.1
		93601-0179	93601-0180	93601-0189	93601-0190
4.00	12	7300.6245.0	7300.6245.1	7300.6250.0	7300.6250.1
		93601-0181	93601-0182	93601-0191	93601-0192



### Size 40A Inserts and Modules

Wire		40 Amp Crimp Contacts	
mm <sup>2</sup>	AWG	Female	Male
		Silver Plated	Silver Plated
1.50	16	7600.5700.0	7600.5710.0
		93601-0406	93601-0416
2.50	14	7600.5701.0	7600.5711.0
		93601-0408	93601-0418
4.00	12	7600.5702.0	7600.5712.0
		93601-0410	93601-0420
6.00	10	7600.5703.0	7600.5713.0
		93601-0412	93601-0422
10.00	7	7600.5704.0	7600.5714.0
		93601-0414	93601-0424



# Heavy Duty Connectors—Accessories

## Crimping Tools

Crimp Contact Tools			
Description	Engineering No.	Standard Order No.	
Crimping Tool	93605-0073	8500.7925.0	
Crimping Tool	93605-0065	8500.6251.0	
Crimping Tool	93605-0076	8500.7930.0	
Removal Tool 10A Contacts	93605-0079	8500.7940.0	
Removal Tool 16A Contacts	93605-0083	8500.7945.0	
Removal Tool 40A Contacts	93605-0080	8500.7941.0	
Insertion Tool 10A Contacts for Wire Diameter 0.14 to 1.50mm <sup>2</sup>	93605-0084	8500.7948.0	



# Heavy Duty Connectors—Accessories

## Cable Glands



IP68 Metal Cable Glands — 5 Bar

Thread Type	Cab. Dia. mm <sup>2</sup>	Thread	Engineering No.	Standard Order No.
PG	4.00 to 10.00	PG 11	7000.6825.0	93600-0012
	5.00 to 12.00	PG 13.5	7000.6826.0	93600-0014
	8.00 to 14.00	PG 16	7000.6827.0	93600-0016
	11.00 to 18.00	PG 21	7000.6828.0	93600-0018
	16.00 to 25.00	PG 29	7000.6829.0	93600-0020
	19.00 to 36.00	PG 36	7000.6830.0	93600-0022
Metric	4.00 to 10.00	M 16	7000.6896.0	93600-0063
	8.00 to 14.00	M 20	7000.6831.0	93600-0024
	11.00 to 18.00	M 25	7000.6832.0	93600-0026
	14.00 to 21.00	M 32	7000.6833.0	93600-0028
	19.00 to 28.00	M 40	7000.6834.0	93600-0030
	24.00 to 38.00	M 50	7000.6835.0	93600-0032

Also available: Stainless Steel and EMC version

## Metal Nuts

Metal nuts

Thread Type	Thread	Engineering No.	Standard Order No.
PG	PG 7	7000.6965.0	93600-0106
	PG 9	7000.6966.0	93600-0107
	PG 11	7000.6957.0	93600-0098
	PG 13.5	7000.6958.0	93600-0099
	PG 16	7000.6959.0	93600-0100
	PG 21	7000.6960.0	93600-0101
	PG 29	7000.6961.0	93600-0102
	PG 36	7000.6962.0	93600-0103
Metric	M 12	7000.6950.0	93600-0091
	M 16	7000.6951.0	93600-0092
	M 20	7000.6952.0	93600-0093
	M 25	7000.6953.0	93600-0094
	M 32	7000.6954.0	93600-0095
	M 40	7000.6955.0	93600-0096
	M 50	7000.6956.0	93600-0097

Also available: Plastic and Stainless Steel Nuts



# Heavy Duty Connectors—Accessories

## Cable Glands



IP68 Cable Glands without Nut and Gasket								
Thread Type	Cab. Dia. mm <sup>2</sup>	Thr.	Grey		Light Grey		Black	
			Engineering No.	Standard Order No.	Engineering No.	Standard Order No.	Engineering No.	Standard Order No.
PG	3.00 to 6.50	PG 7	7000.7829.0	93600-0385	7000.7829.2	93600-0387	7000.7829.1	93600-0386
	4.00 to 8.00	PG 9	7000.7830.0	93600-0391	7000.7830.2	93600-0393	7000.7830.1	93600-0392
	5.00 to 10.00	PG 11	7000.7831.0	93600-0397	7000.7831.2	93600-0399	7000.7831.1	93600-0398
	6.00 to 11.00	PG 13.5	7000.7832.0	93600-0403	7000.7832.2	93600-0405	7000.7832.1	93600-0404
	9.00 to 13.00	PG 16	7000.7833.0	93600-0409	7000.7833.2	93600-0411	7000.7833.1	93600-0410
	13.00 to 18.00	PG 21	7000.7834.0	93600-0415	7000.7834.2	93600-0417	7000.7834.1	93600-0416
	17.50 to 25.00	PG 29	7000.7835.0	93600-0421	7000.7835.2	93600-0423	7000.7835.1	93600-0422
	22.00 to 32.00	PG 36	7000.7836.0	93600-0427	7000.7836.2	93600-0429	7000.7836.1	93600-0428
Metric	3.00 to 6.50	M 12	7000.7821.0	93600-0337	7000.7821.2	93600-0339	7000.7821.1	93600-0338
	4.00 to 8.00	M 16	7000.7822.0	93600-0343	7000.7822.2	93600-0345	7000.7822.1	93600-0344
	7.00 to 12.00	M 20	7000.7823.0	93600-0349	7000.7823.2	93600-0351	7000.7823.1	93600-0350
	11.00 to 18.00	M 25	7000.7824.0	93600-0355	7000.7824.2	93600-0357	7000.7824.1	93600-0356
	12.00 to 21.00	M 32	7000.7825.0	93600-0361	7000.7825.2	93600-0363	7000.7825.1	93600-0362
	22.00 to 32.00	M 40	7000.7826.0	93600-0367	7000.7826.2	93600-0369	7000.7826.1	93600-0368
	30.00 to 38.00	M 50	7000.7827.0	93600-0373	7000.7827.2	93600-0375	7000.7827.1	93600-0374

Part Numbers with nut are also available

IP66 Cable Glands				
Thread Type	Cab. Dia. mm <sup>2</sup>	Thread	Engineering No.	Std. Order No.
PG Plastic	7.00 to 12.00	PG 11	7000.6837.0	93600-0035
PG Metal	7.00 to 12.00	PG 11	7000.6841.0	93600-0039
	7.00 to 12.00	PG 13.5	7000.6842.0	93600-0040
	7.00 to 14.50	PG 16	7000.6843.0	93600-0041
	9.50 to 18.50	PG 21	7000.6844.0	93600-0042
	17.50 to 26.50	PG 29	7000.6845.0	93600-0043
	23.50 to 32.50	PG 36	7000.6846.0	93600-0044
Metric Plastic	3.50 to 12.50	M 20	7000.6839.0	93600-0037
Metric Metal	3.50 to 12.50	M 20	7000.6848.0	93600-0046
	7.00 to 12.00	M 25	7000.6849.0	93600-0047
	15.50 to 24.50	M 32	7000.6850.0	93600-0048
	22.50 to 31.50	M 40	7000.6851.0	93600-0049
	29.50 to 38.50	M 50	7000.6852.0	93600-0050



# Heavy Duty Connectors—Accessories

## Enclosures

8000 Series Aluminum Enclosures and Metal Plates										
8000	STD/RAL9006		STD/RAL7035		STD/RAL9005		Sandblasted		ATEX/RAL7037	
	Eng. No.	Std. Order No.	Eng. No.	Std. Order No.	Eng. No.	Std. Order No.	Eng. No.	Std. Order No.	Eng. No.	Std. Order No.
<b>S1</b>										
Inner (mm) 91 x 91 x 53 Outer (mm) 101 x 101 x 58	8000.6261.0	93604-0012	8000.6261.2	93604-0014	8000.6261.1	93604-0013	8000.6281.0	93604-0058	8000.6291.0	93604-0067
<b>S2</b>										
Inner (mm) 128 x 103 x 55 Outer (mm) 138.5 x 113.5 x 61.5	8000.6262.0	93604-0017	8000.6262.2	93604-0019	8000.6262.1	93604-0018	8000.6282.0	93604-0059	8000.6292.0	93604-0068
<b>S3</b>										
Inner (mm) 154 x 129 x 58 Outer (mm) 165.5 x 140.5 x 63.5	8000.6263.0	93604-0022	8000.6263.2	93604-0024	8000.6263.1	93604-0023	8000.6283.0	93604-0060	8000.6293.0	93604-0069
<b>S4</b>										
Inner (mm) 178 x 155 x 74 Outer (mm) 189 x 167 x 80	8000.6264.0	93604-0027	8000.6264.2	93604-0029	8000.6264.1	93604-0028	8000.6284.0	93604-0062	8000.6294.0	93604-0070
<b>S5</b>										
Inner (mm) 239 x 202 x 85 Outer (mm) 252 x 215 x 91	8000.6265.0	93604-0032	8000.6265.2	93604-0034	8000.6265.1	93604-0033	8000.6285.0	93604-0063	8000.6295.0	93604-0071
<b>S6</b>										
Inner (mm) 294 x 244 x 114 Outer (mm) 307 x 257 x 120.5	8000.6266.0	93604-0037	8000.6266.2	93604-0039	8000.6266.1	93604-0038	8000.6286.0	93604-0064	8000.6296.0	93604-0072
<b>S7</b>										
Inner (mm) 392 x 298 x 144 Outer (mm) 406.5 x 312.5 x 151	8000.6267.0	93604-0042	8000.6267.2	93604-0044	8000.6267.1	93604-0043	8000.6287.0	93604-0065	8000.6297.0	93604-0073
<b>S3-HC</b>										
Inner (mm) 154 x 129 x 130.8 Outer (mm) 165.5 x 140.5 x 136.8	8000.6268.0	93604-0047	8000.6268.2	93604-0049	8000.6268.1	93604-0048	8000.6288.0	93604-0066	—	—

Metal Plates for 8000 Series Enclosures			
Size	Description	Engineering No.	Standard Order No.
S2	Metal Plate For S-2 Box	0936040052	8000.6272.0
S3/S3-HC	Metal Plate for S-3/S-3HC Box	0936040053	8000.6273.0
S4	Metal Plate for S-4 Box	0936040054	8000.6274.0
S5	Metal Plate for S-5 Box	0936040055	8000.6275.0
S6	Metal Plate for S-6 Box	0936040056	8000.6276.0
S7	Metal Plate for S-7 Box	0936040057	8000.6277.0



# Heavy Duty Connectors—Accessories

## Enclosures

8100 Series Aluminum Enclosures			
Model	H x W x D (mm)	RAL7001	
		Engineering No.	Std. Order No.
07.07.04	70 x 70 x 45	8100.8001.0	093604-0077
10.07.04	100 x 70 x 45	8100.8002.0	093604-0079
16.07.04	165 x 70 x 45	8100.8003.0	093604-0081
05.05.03	50 x 45 x 30	8100.8005.0	93604-0083
06.06.03	58 x 64 x 36	8100.8006.0	93604-0085
10.06.03	98 x 64 x 34	8100.8007.0	93604-0087
15.06.03	150 x 64 x 36	8100.8008.0	93604-0089
08.08.06	80 x 75 x 57	8100.8009.0	93604-0091
13.08.06	125 x 80 x 57	8100.8010.0	93604-0093
18.08.06	175 x 80 x 57	8100.8011.0	93604-0095
16.10.08	160 x 100 x 81	8100.8012.0	93604-0097
15.10.08	150 x 100 x 80	8100.8013.0	93604-0099
18.08.08	175 x 80 x 80	8100.8014.0	93604-0101
10.08.08	100 x 100 x 80	8100.8015.0	93604-0103
12.12.08	122 x 120 x 80	8100.8016.0	93604-0105
20.10.08	200 x 100 x 81	8100.8017.0	93604-0107
22.12.09	220 x 120 x 90	8100.8018.0	93604-0109
16.16.09	160 x 160 x 90	8100.8019.0	93604-0111
14.14.09	140 x 140 x 91	8100.8020.0	93604-0113
24.16.10	240 x 160 x 100	8100.8021.0	93604-0115
25.08.08	250 x 80 x 80	8100.8022.0	93604-0117
20.23.11	200 x 230 x 110	8100.8023.0	93604-0119
28.23.11	280 x 230 x 110	8100.8024.0	93604-0121
36.16.09	360 x 160 x 90	8100.8025.0	93604-0123
36.12.08	360 x 120 x 80	8100.8026.0	93604-0125
33.23.12	330 x 230 x 120	8100.8027.0	93604-0127
25.08.06	250 x 80 x 57	8100.8029.0	93604-0131
18.18.10	180 x 180 x 101	8100.8030.0	93604-0133
20.14.19	200 x 140 x 91	8100.8031.0	93604-0135
28.18.10	200 x 180 x 101	8100.8033.0	93604-0139
20.23.18	200 x 230 x 180	8100.8034.0	93604-0141
40.31.11	404 x 313 x 111	8100.8039.0	93604-0144
50.36.20	496 x 365 x 200	8100.8040.0	93604-0146



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