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Brad® Ultra-Lock® (M12) EX Connection System for Zone 2 Hazardous Locations

120614 Single Ended Cordsets

120613 Double Ended Cordsets

120615 Receptacles

Achieve non-arcing connections in a one-step installation process with the Brad® Ultra-Lock® (M12) EX Connection System, designed for industrial automation use in Class I, Division 2 and Zone 2 hazardous areas

Brad Ultra-Lock (M12) EX cordsets and receptacles provide process automation installers a safe, quick connection interface for instrumentation and control devices in potentially explosive and hazardous areas.

The patented push-to-lock technology provides a simple and secure operator-independent connection. Ultra-Lock connectors are designed to eliminate connector-related intermittent signals in the harshest environments.

The Ultra-Lock (M12) EX connector has been designed with an integral isolating ring that limits the access to the release mechanism of the connector. The connector can be pushed on, but requires a screwdriver to disconnect. With this characteristic, the connection point is considered normally non-arcing and, therefore, suitable for use in a hazardous Class I, Division 2 and Zone 2 classified areas.

Brad® Ultra-Lock® (M12) EX Connection System for Zone 2 Hazardous Locations

Left: Female Single Ended (Series 120614)

Right: Male Single Ended (Series 120614)

Features and Benefits

Certified Class I, Division 2 and Zone 2 cordsets and receptacles	Meets safety requirements for hazardous usage areas
Integral isolating ring with access notch design on cordset	Ensures a code-compliant connection without additional installation steps
Pre-wired molded connections with polarized positioning on cordset	Provides excellent performance in high vibration applications; provides fast installation eliminating wiring termination errors
Push-to-lock connector design	Provides a quick, secure and reliable connection
Radial sealed	Provides IP67 / IP68 / IP69K watertight connection for temporary submersion; consistent operator-independent seal

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Specifications

Reference Information
FM File No.:
- Certificate 3039279 (for US) and 3039279C (for Canada)
  - Class I, Division 2, Groups A, B, C, D T6 when installed per control drawing SD-120614-999
  - Class1, Zone 2, Aex nA IIC T6 when installed per control

CSA File No.:
- Certificate 2251424 (for Canada)
  - Class I, Division 2, Groups A, B, C, D
  - Class I, Zone 2, IIC

Note: for FM and CSA Certificates see product specification PS-120614-001

Electrical
Voltage (max.):
- 125V – 3 and 4 Pole
- 32V – 5 Pole

Current (max.): 4.0A
Contact Resistance: < 5mOhms

Environmental
Protection: IP67 / IP68 / IP69K
Operating Temperature: -20 to +40°C

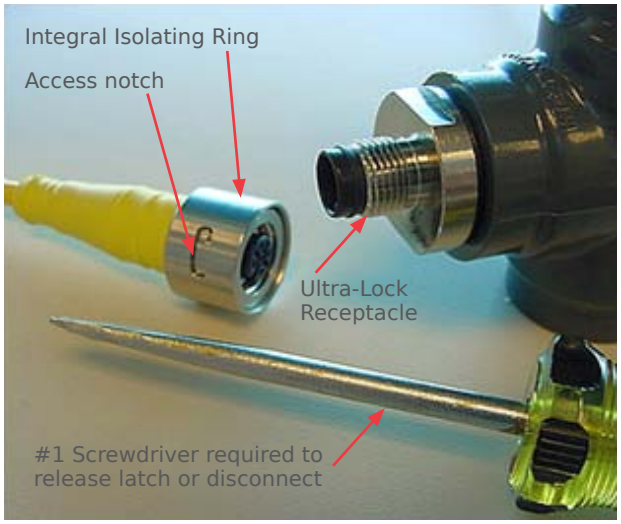
Physical
Isolating Ring: Stainless Steel 303
Coupling Nut: Nickel Plated Brass
O-ring: VITON
Contact Carrier: PUR
Connector Body: TPE
Contact:
- Copper Alloy with Gold over Nickel plating

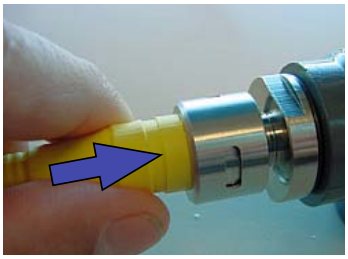
Cables
K05 – Yellow TPE jacket, 22 AWG PVC conductors, 300V, UL PLTC-ER, -40 to +105°C
K03 – Yellow TPE jacket, 18 AWG PVC conductors, 300V, UL PLTC-ER, -40 to +105°C
C02 – Yellow thermostat rubber cable, 18 AWG EPDM conductor 300V, SJOOW (UL) – SJOW (CSA), -50 to +105°C
A18 – PVC insulated Conductors, 22 AWG, 300V, 19x#34 stranding, UL 1061, 80°C
A16 – PVC insulated Conductors, 18 AWG, 300V, 19x#34 stranding, UL 1061, 80°C

Additional Product Information

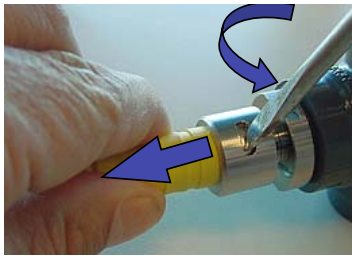
How it works - Mate/Disconnect Sequence*
1. Align keyways and push-to-lock connector to make connection
2. After mated connector is locked in place, there is no possibility to disconnect by hand
3. Insert #1 standard screwdriver into access notch, twist-to-release Ultra-Lock mechanism and pull at the same time to disconnect
4. The connector is now disconnected from the receptacle

* WARNING – Explosion Hazard - DO NOT CONNECT OR DISCONNECT WHILE ENERGIZED




1. Push-to-mate connector


2. Integral isolating ring does not allow pull-to-disconnect


3. Insert tool, twist and pull


4. Disconnect

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Ordering Information

Single-Ended Cordsets, Female

Pole	Current (max.)	Voltage (max.)	Cable Type	Cable Jacket (Cable Code)	Wire Size (AWG)	Length (m)	*Certifications	Female Straight		Female 90°	
								Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PLTC-ER	TPE (K05)	22	2	(1)	LW03000K05M020	120614-0001	LW03001K05M020	120614-0007
			SJOOW	RUBBER (C02)	18		(1), (2)	LW03000C02M020	120614-4001	LW03001C02M020	120614-4005
4			PLTC-ER	TPE (K05)	22		(1)	LW04000K05M020	120614-0005	LW04001K05M020	120614-0008
				TPE (K03)	18			LW04000K03M020	120614-2001	LW04001K03M020	120614-2005
			SJOOW	RUBBER (C02)			(1), (2)	LW04000C02M020	120614-4002	LW04001C02M020	120614-4006
5		32	PLTC-ER	TPE (K03)			(1)	LW05000K03M020	120614-2002	LW05001K03M020	120614-2006

Single-Ended Cordsets, Male

Pole	Current (max.)	Voltage (max.)	Cable Type	Cable Jacket (Cable Code)	Wire Size (AWG)	Length (m)	*Certifications	Male Straight		Male 90°	
								Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PLTC-ER	TPE (K05)	22	2	(1)	LW03006K05M020	120614-0003	LW03007K05M020	120614-0009
			SJOOW	RUBBER (C02)	18		(1), (2)	LW03006C02M020	120614-4003	LW03007C02M020	120614-4007
4			PLTC-ER	TPE (K05)	22		(1)	LW04006K05M020	120614-0006	LW04007K05M020	120614-0010
				TPE (K03)	18			LW04006K03M020	120614-2003	LW04007K03M020	120614-2007
			SJOOW	RUBBER (C02)			(1), (2)	LW04006C02M020	120614-4004	LW04007C02M020	120614-4008
5		32	PLTC-ER	TPE (K03)			(1)	LW05006K03M020	120614-2004	LW05007K03M020	120614-2008

Double-Ended Cordsets

Pole	Current (max.)	Voltage (max.)	Cable Type	Cable Jacket (Cable Code)	Wire Size (AWG)	Length (m)	*Certifications	Female Straight to Male Straight		Female 90° to Male Straight	
								Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PLTC-ER	TPE (K05)	22	2	(1)	LWLW3030K05M010	120613-0001	LWLW3031K05M010	120613-0005
			SJOOW	RUBBER (C02)	18		(1), (2)	LWLW3030C02M010	120613-4001	LWLW3031C02M010	120613-4005
4			PLTC-ER	TPE (K05)	22		(1)	LWLW4030K05M010	120613-0002	LWLW4031K05M010	120613-0006
				TPE (K03)	18			LWLW4030K03M010	120613-2001	LWLW4031K03M010	120613-2005
			SJOOW	RUBBER (C02)			(1), (2)	LWLW4030C02M010	120613-4002	LWLW4031C02M010	120613-4006
5		32	PLTC-ER	TPE (K03)			(1)	LWLW5030K03M010	120613-2002	LWLW5031K03M010	120613-2006

Pole	Current (max.)	Voltage (max.)	Cable Type	Cable Jacket (Cable Code)	Wire Size (AWG)	Length (m)	*Certifications	Female Straight to Male 90°		Female 90° to Male 90°	
								Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PLTC-ER	TPE (K05)	22	2	(1)	LWLW3032K05M010	120613-0003	LWLW3033K05M010	120613-0007
			SJOOW	RUBBER (C02)	18		(1), (2)	LWLW3032C02M010	120613-4003	LWLW3033C02M010	120613-4007
4			PLTC-ER	TPE (K05)	22		(1)	LWLW4032K05M010	120613-0004	LWLW4033K05M010	120613-0008
				TPE (K03)	18			LWLW4032K03M010	120613-2003	LWLW4033K03M010	120613-2007
			SJOOW	RUBBER (C02)			(1), (2)	LWLW4032C02M010	120613-4004	LWLW4033C02M010	120613-4008
5		32	PLTC-ER	TPE (K03)			(1)	LWLW5032K03M010	120613-2004	LWLW5033K03M010	120613-2008

* (1) Certified for US installations (2) Certified for Canadian installations

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Ordering Information

Female Receptacles

Pole	Current (max.)	Voltage (max.)	Wire Type	Wire Size (AWG)	Length (m)	½" - 14NPT Front Panel Mount		¼" - 18NPT Front Panel Mount	
						Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PVC UL1061 (A18)	22	0.305	LWR3000A18C300	120615-0001	LWR3A00A18C300	120615-0004
4						LWR4000A18C300	120615-0002	LWR4A00A18C300	120615-0005
5		32				LWR5000A18C300	120615-0003	LWR5A00A18C300	120615-0006

Male Receptacles

Pole	Current (max.)	Voltage (max.)	Wire Type	Wire Size (AWG)	Length (m)	½" - 14NPT Front Panel Mount		¼" - 18NPT Front Panel Mount	
						Eng. No.	Order No.	Eng. No.	Order No.
3	4.0A	125	PVC UL1061 (A18)	22	0.305	LWR3006A18C300	120615-1001	LWR3A06A18C300	120615-1004
4						LWR4006A18C300	120615-1002	LWR4A06A18C300	120615-1005
5		32				LWR5006A18C300	120615-1003	LWR5A06A18C300	120615-1006

Applications

Field Instrumentation and Control Devices in Class I, Division 2 and Zone 2 Hazardous areas:

- Oil and Gas Production and Transportation Facilities
- Oil Refineries
- Petrochemical Complexes
- Waste Water Processing Plants
- Pharmaceutical Manufacturing
- Food and Beverage Processing

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