Arc-Guard™ Interlocked Magnet Crane Plug and Connector
Plug Catalog Number HBL100MAGM
Connector Catalog Number HBL100MAGF
Installation and Operation Instructions

PRODUCT DESCRIPTION

Hubbell Arc-Guard™ DC plug and connector are intended for use to supply the electromagnets on magnetic cranes. They are engineered to prevent connection and disconnection of the plug and connector prior to disconnecting supply power to the connector.

NOTICE: For installation by a qualified electrician in accordance with national and local electrical codes and the following instructions.

CAUTION: Ensure device type and rating are suitable for the application and installed in accordance with site safety protocols.

CAUTION: Ensure conductors are sized to comply with National Electrical Code® Table 400.5(A)(1) or 400.5(A)(2).

WARNING: Only for use in systems where magnet induced voltage is limited to 700 volts-peak maximum. Refer to magnet controller specifications.

CAUTION: The connector must be positioned vertically above the plug for best waterproof protection.

WARNING: Installed connector and plug MUST be properly secured to support structure with adequate strain relief such as the Kellems Grip strain relief shown in Table 1.

WARNING: Only use multi-conductor round electrical cords listed below.

Ratings:

Electrical: 100A 250VDC

Enclosure: NEMA 3R (when connector is positioned vertically above plug)

Cord types: Sizes in Table 1

Cord Type	Cord Dia. (in.)	Kellems Grip P/N
#6/2C Type W	0.91	02202015
#6/3C SOOW	0.98	02202015
#6/3C Type W	1.01	02202017
#4/2C Type W	1.02	02202017
#4/3C Type W	1.13	02202017
#4/3C SOOW	1.14	02202017
#2/2C Type W	1.21	02202017
#2/3C Type W	1.32	02202018

Table 1

Scan code for video instructions:

WIRING INSTRUCTIONS FOR PLUG AND CONNECTOR

CAUTION: **RISK OF ELECTRIC SHOCK**. Disconnect power before installing.

WARNING: To avoid the plug's exposed electrical contacts from being energized in an unmated condition, **always connect the plug to the load (magnet) side. The connector must always be connected to the power source. Do not reverse this order.**

Step 1: Remove bracket screws (4) holding the brackets and boots to the plug and connector bodies. Separate the bodies from the boots. See Figure 1.

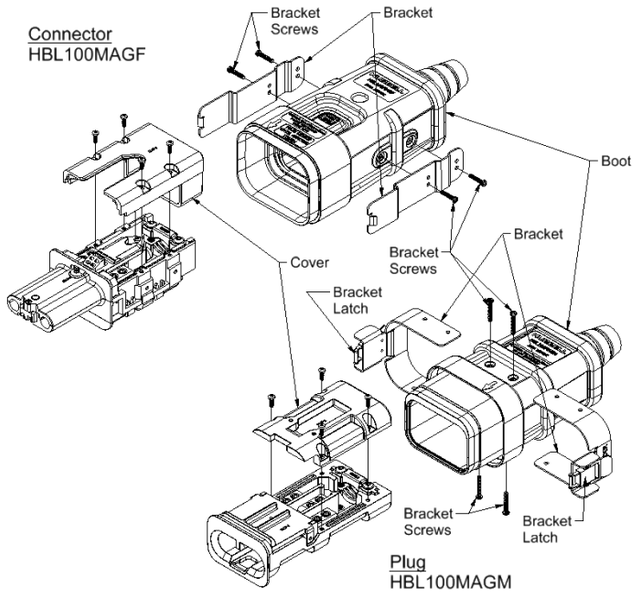


Figure 1

Step 2: Remove cover screws (4) from plug or connector and set aside cover. See Figure 1.

Step 3: Determine corresponding ring number for the cord type and size used. See Table 2 and Figure 2. Apply wire pulling lubricant to end of boot and cable for ease of insertion.

Ring Number	Diameter	For Cord Type
1 (No cut)	.90"	#6/2C Type W #6/3C SOOW #6/3C Type W
2	1.00"	#4/2C Type W #4/3C Type W #4/3C SOOW
3	1.20"	#2/2C Type W
4	1.32"	#2/3C Type W

Table 2

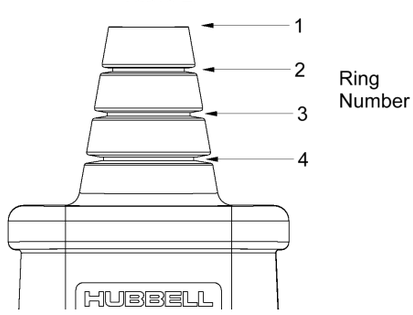


Figure 2

©2023 Hubbell Incorporated

Arc-Guard™ Interlocked Magnet Crane Plug and Connector
Plug Catalog Number HBL100MAGM
Connector Catalog Number HBL100MAGF

Installation and Operation Instructions

Step 3: Remove four screws from cover and remove cover. See Figure 1.

Step 4: For the connector, insert cord through the boot starting from the ring end and through top cover. For the plug, insert cord through the boot only, starting from the ring end . The fit between the cord and the boot end must be snug. See Figure 3.

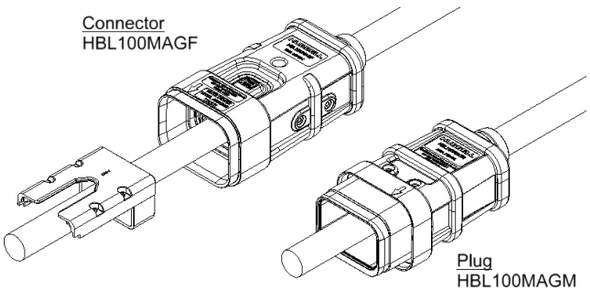


Figure 3

Step 5: Strip cord jacket and conductor jackets to the specified lengths as shown in Figure 4.
Plug cord jacket: 3-3/8 inch (85mm)
Connector cord jacket: 4 inch (101mm)
All conductors: 1-1/2 inch (38mm).

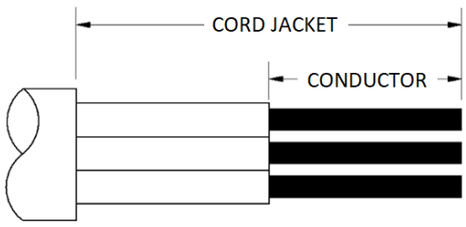


Figure 4

Step 6: Loosen terminal set screws. See Figure 5. Remove cord clamp assembly screws and cord clamp assembly. See Figure 5.

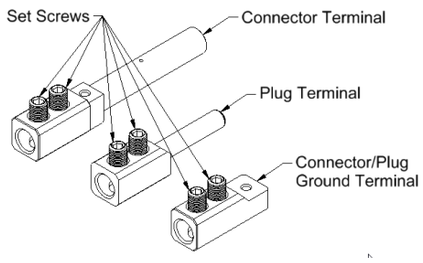


Figure 5

Step 7: Prepare each stripped conductor end by inserting into a conductor ferrule. Ensure no loose strands. (Ferrules for 2 AWG conductors are provided with device. Ferrules for other conductor sizes not included.) Do not tin conductors. Insert each conductor with ferrule as far as possible into terminals. Follow "+", "-", and "G" markings on device. Tighten terminal set screws securely to 75 in-lbs. (8.5 Nm) with a 3/16-inch Allen wrench.

Step 8: Reinstall cord clamp assembly. See Figure 6. Tighten (2) clamp screws, alternating between two sides, to 40 in-lbs (4.5Nm) with 5/32-inch Allen wrench.

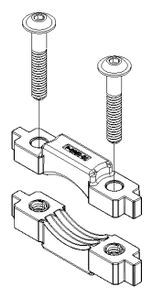


Figure 6

Step 9: Reinstall cover with four screws and tighten to 12-in-lbs. (1.3 Nm) using #2 Phillips screwdriver. See Figure 7.

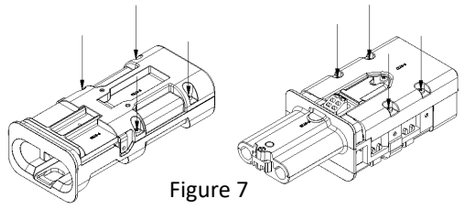


Figure 7

Step 10: Slide boot over plug or connector body. See Figure 8 for alignment. For plugs, place bracket marked UNDER against boot, then place bracket marked OVER on top of that bracket. Secure with (4) screws and tighten to 12-in-lbs. (1.3 Nm) of torque using #2 Phillips screwdriver.

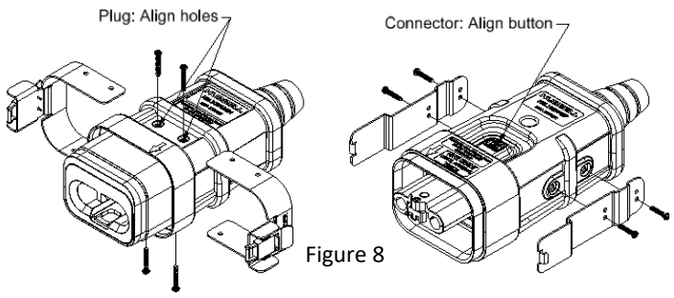


Figure 8

Note: A thin coating of silicone sealant may be applied around the cord entry area of the boot to enhance waterproofing.

Operation:
To mate/un-mate during normal use, unlock plug latches by depressing latch release, depress connector button then mate/ un-mate. See Figure 9. **The bracket latches must be engaged whenever the plug and connector are mated. See Figure 10.**

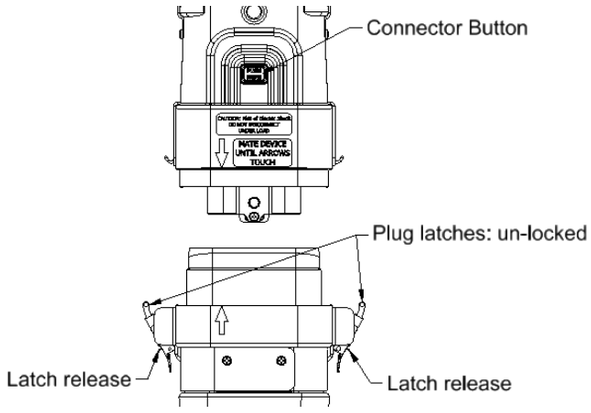


Figure 9

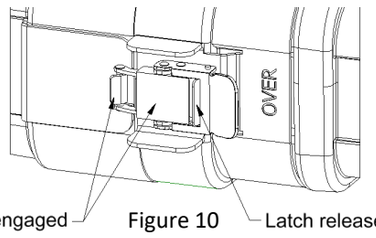


Figure 10

Troubleshooting:
If an un-powered connector's buttons become locked, follow these steps to unlock the buttons. Power on for at least 5 seconds, then power off and wait an additional 5-10 seconds for the buttons to reset to the unlocked position.

NOTICE: The connector complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

©2023 Hubbell Incorporated