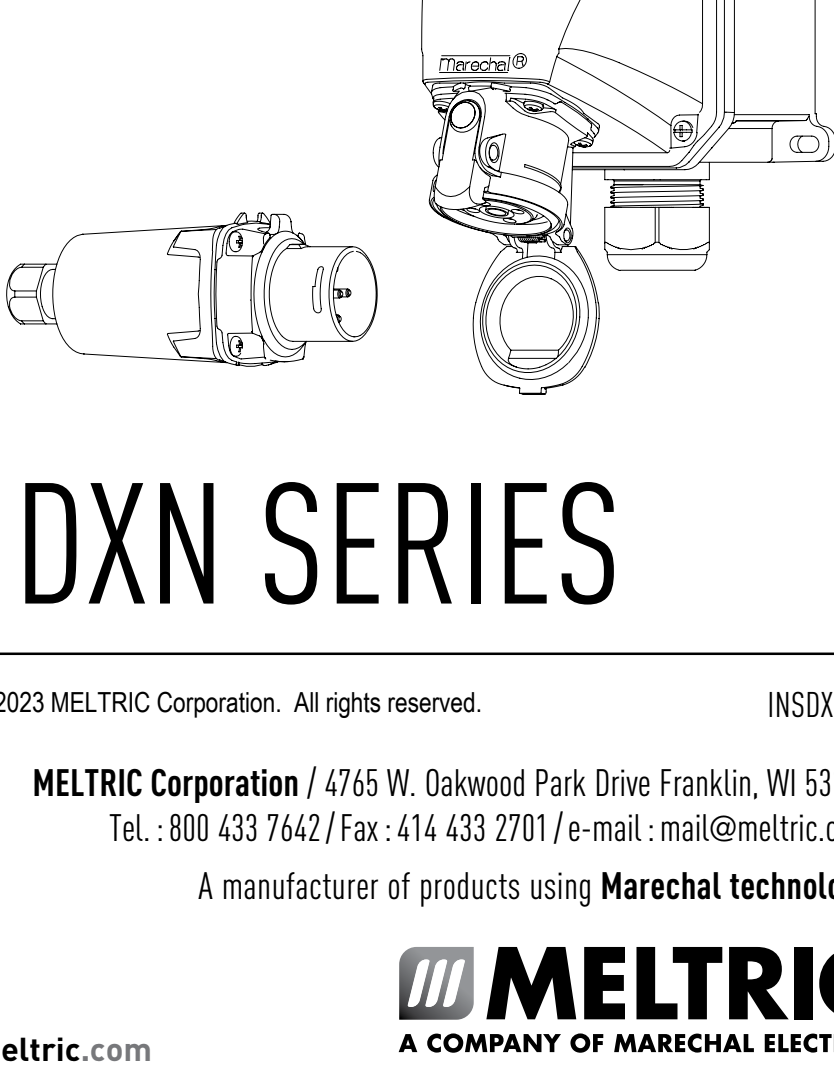


# ENGLISH OPERATING INSTRUCTIONS



## DXN SERIES

©2023 MELTRIC Corporation. All rights reserved.

INSDXN Q

MELTRIC Corporation / 4765 W. Oakwood Park Drive Franklin, WI 53132  
Tel.: 800 433 7642 / Fax: 414 433 2701 / e-mail: mail@meltric.com

A manufacturer of products using **Marechal technology**

meltric.com

**MELTRIC**  
A COMPANY OF MARECHAL ELECTRIC



**MODE D'EMPLOI**



**INSTRUCCIONES**

### ■ GENERAL

MELTRIC's DNX Series plugs & receptacles are designed and rated for use in hazardous environments where explosive gases or dusts may be present.

The DNX receptacle has a dead front, which isolates the supply contacts and prevents user exposure to live parts. The receptacle's safety shutter blocks access to the contacts and can only be opened by DNX plugs with compatible ratings and contact configurations.

**⚠ WARNING** There are inherent dangers associated with electrical products. Failure to follow safety precautions can result in serious injury or death. These instructions must be followed to ensure the safe and proper installation, operation and maintenance of the MELTRIC devices. Before installation, disconnect all sources of power to the circuit to eliminate the risk of electrical shock.

### ■ RATINGS & CERTIFICATIONS

**⚠** To ensure the safe use of this product, the installer must verify that the product is properly rated for the application.

The amperage and voltage ratings are indicated on the device labels. Some DNX devices are provided with optional auxiliary contacts that make after and break before the phase contacts. The ratings for auxiliary contacts are shown in Table 1.

#### Hazardous Duty Ratings

**Table 1 - Auxiliary Contact Ratings**

Device	120 VAC	240 VAC	480 VAC	600 VAC
DXN30, 60	5A*	5A*	5A*	5A* (550 V max)

DXN plugs & receptacles have both ATEX and CSA ratings for use in hazardous environments.

ATEX – Class 1 Zone 1 AEx ed IIC T6

This rating certifies the product for use in surface (non-underground) applications where a high level of protection is required and where the presence of an explosive atmosphere of any type of gas or dust is likely to occur. The associated maximum surface temperature of the product is 85°C (185°F), at an ambient temperature of 40°C (104°F).

CSA – Class 1 Division 2 Group A, B, C, D Class 2 Division 2 Group E, F, G

This rating certifies the product for use in applications where flammable gases, such as acetylene, hydrogen, ethylene or propane, or dusts, such as magnesium, coal or grain, may be present under abnormal conditions.

### ■ INSTALLATION

**⚠** DNX's must be used in conjunction with other appropriately rated hazardous duty products and must be installed by qualified electricians in accordance with all applicable local and national electrical codes.

Before starting, ensure that the power is off and verify that the conductors meet the requirements of the National Electric Code and are within the capacities of the DNX terminals noted in Table 2.

**Table 2 - Wiring Terminal Capacity<sup>1</sup> - AWG**

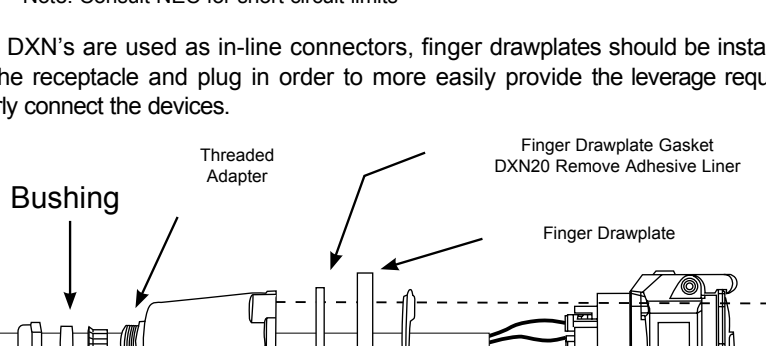
	Main Contacts		Aux. Contacts <sup>2</sup>
	Max	Min	Max
DXN20	10	16	N/A
DXN30	6	14	10
DXN60	4	10	10

<sup>1</sup> Capacity is based on certification testing. Wire size should be determined in accordance with the electrical code.

<sup>2</sup> Auxiliary contacts are optional

#### General Notes & Precautions

- Self-tapping screws are provided for use with some polymeric accessories. High torque may be required to drive them in and fully seat the gasket/s. Once they are seated, care should be taken in order to avoid over-tightening them against the poly material. Poly Box with 70° Poly Angle accessory: captive screws must be tightened to a torque of 1.2Nm (10.62 in-lbs)  
Metal Box with 70° Poly Angle accessory: captive screws must be tightened to a torque of 2.0Nm (17.7 in-lbs)
- Wire strip lengths are indicated in Table 3. Strip lengths for cable sheathing will depend on the specific application. When used with handles, the cable sheathing should extend into the handle to ensure secure cord gripping.



**Table 3 - Wire Strip Length - A (receptacle/inlet)**

	Inches	mm
	DXN20 - Main	0.50/0.50
DXN30 - Main	0.79/0.83	20/21
DXN30 - Aux.	0.67/0.67	17/17
DXN60 - Main	0.79/0.83	20/21
DXN60 - Aux.	0.67/0.83	17/21

3. Wiring terminals are spring assisted to prevent loosening due to wire strand settlement, vibration & thermal cycling. They should not be over-tightened. Appropriate tools and tightening torques are indicated in Table 4. **NOTICE:** Do not back terminal screws completely out.

**Table 4 - Recommended Tightening Torques**

Terminal	Torque	Flat Screwdriver
DXN20	7.1 in-lbs	1/8" precision tip
DXN30 (Main Contacts)	10.6 in-lbs	3/16" precision tip
DXN30 (Aux. Contacts)	7.1 in-lbs	1/8" precision tip
DXN60 (Main Contacts)	17.7 in-lbs	3/16" precision tip
DXN60 (Aux. Contacts)	7.1 in-lbs	1/8" precision tip

#### Assembly for In-line Plugs/Connectors

**⚠** Do not overtighten terminal or self-tapping screws. Tighten screws to the proper torque to ensure a secure connection.

Flexible cord connected devices must be equipped with a flexible cord listed for extra hard usage and terminated with listed fittings in accordance with all applicable local and national electrical codes. See table 6.

**Table 6 - Flexible Cord**

Type	Max Nos of Conductors	Flexible Cable Range	
		Max Øin	Min Øin
Extra Hard Usage	5	0.812	0.312

DXN devices are rated to make and withstand short circuit currents with appropriate fusing as indicated in Table 5.

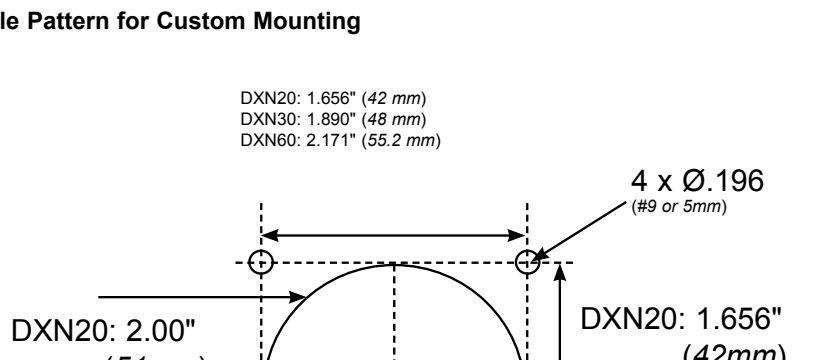
**Table 5 - Short Circuit Make & Withstand Ratings**

Device	Rating Fuse	Type*
DXN20 - 20A	25 kA@600VAC	RK1 30A
DXN30 - 30A	25 kA@600VAC	RK1 70A
DXN60 - 60A	25 kA@600VAC	RK1 100A

\* DXN20, 30 Ratings are based on testing with Mersen Non-Time delay current limiting fuses  
DXN60 Ratings are based on testing with Little Fuse Non-Time delay current limiting fuses

\* Note: Consult NEC for short circuit limits

When DNX's are used as in-line connectors, finger drawplates should be installed on both the receptacle and plug in order to more easily provide the leverage required to properly connect the devices.



Loosely re-assemble the compression nut, bushing and strain relief to the threaded adapter on the end of the handle and insert the cable through it, the thin black drawplate gasket and finger drawplate (if applicable), and the color-coded gasket. Being mindful that the strain relief must clamp on the cable sheath, strip the cable sheath as required to provide a workable wire length. Then strip the individual wires to the lengths indicated in Table 3, and twist the strands of each conductor together.

**NOTICE:** Back out the terminal screws on the receptacle (or inlet) only far enough to allow the conductors to pass, insert the conductors fully into their respective terminals and tighten the terminal screws with a hand screwdriver to the torque indicated in Table 4.

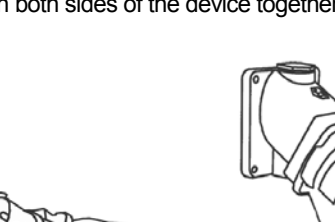
Verify that the cable jacket will extend beyond the strain relief and into the handle. Assemble the receptacle (or inlet), the color-coded gasket, the finger drawplate, and the thin black finger drawplate gasket to the handle with the four self-tapping screws provided. **NOTICE:** Over-tightening the screws may cause cracking in polymeric components. Adjust the cable location so that it will not be under tension inside the handle and tighten the compression nut to secure the cable.

Short Circuit MELTRIC's DNX Series Plugs & Receptacles have short circuits make (close) and withstand ratings up to 25kA when used with the fusing shown in Table 5.

#### Assembly for Mounted Receptacles (or Inlets)

In applications where DNX receptacles (or inlets) are mounted to wall boxes, panels or other equipment, optimal operation is achieved when the device is installed with the pawl/latch at the top.

**NOTICE:** If the device is mounted to a wall box, make sure that appropriate hole plugs are securely tightened in any unused connection holes.



Insert the cable or wires through the wall box and cut to allow adequate length, strip the cable sheath, as desired, strip the individual wires to the lengths indicated in Table 3, and twist the strands of each conductor together. Back out the terminal screws on the receptacle (or inlet) far enough (but not completely) to allow the conductors to pass, insert the conductors fully into their respective terminals and tighten the terminal screws to the torque indicated in Table 4, with a hand screwdriver.

Assemble the receptacle (or inlet) and the color-coded gasket to the box with appropriate hardware. **NOTICE:** Over-tightening the screws may cause cracking in polymeric components. Assemble the mating plug (or receptacle) to the cord end as indicated in the assembly instructions above for in-line connections, except there will be no finger drawplate or associated black gasket.

In cases where custom mounting is being performed to an appropriate hazardous duty box or panel, the clearance and mounting holes should be drilled as indicated in the following diagram.

#### Hole Pattern for Custom Mounting



**NOTICE:** In order to maintain IP66/IP67 protection in custom installations, watertight seals must be used under the heads of the four mounting bolts and they must be retained by a lock washer and nut on the inside of the box or panel. Alternatively, four blind holes can be drilled and threaded to accommodate #8-32 x 5/8" mounting screws. The hole depth must be sufficient to achieve adequate gasket compression.

### ■ OPERATION

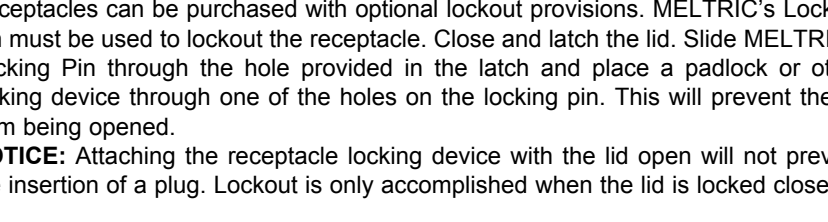
**⚠** To ensure safe and reliable operation, MELTRIC plugs and receptacles must be used in accordance with their assigned ratings.

They can only be used in conjunction with mating receptacles or plugs manufactured by MELTRIC or another licensed producer of products bearing the **MARECHAL** technology trademark.

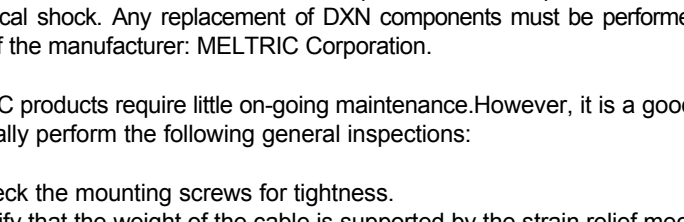
MELTRIC plugs & receptacles are designed with different keying arrangements, so that only plugs and receptacles with compatible contact configurations and electrical ratings will mate with each other.

#### Connection

To connect a plug and receptacle, first depress the pawl to open the lid on the receptacle, then orient the plug 1, so that the red arrow on the outside of the casing lines up with the red arrow just to the left of the latch on the receptacle casing. Push the plug partially into the receptacle until it hits a stop, then rotate the plug in the clockwise direction until it hits another stop after about 30° of rotation. At this point, the circuit is still open. Push the plug straight into the receptacle 2, until it becomes securely latched in place. The connection is now made. For in-line connectors, squeeze the drawplates on both sides of the device together until the plug latches in place.



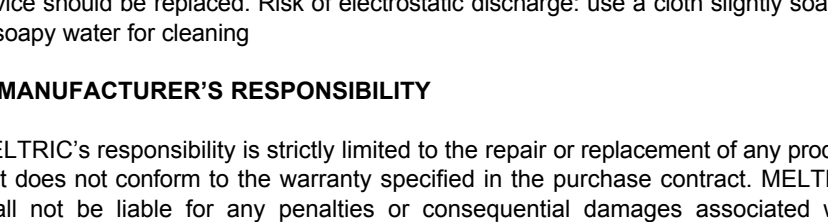
**NOTICE:** When making a connection, ensure that the plug latch is secured behind the catch on the blue pawl. A properly connected plug cannot be pulled out of the receptacle.



#### Disconnection

To break the connection, simply depress the pawl as shown in figure 3. This will break the circuit and eject the plug straight out to the rest, or off, position. The plug contacts are de-energized at this point. To remove the plug, rotate it counterclockwise (CCW) (about 30°) until it releases from the receptacle as shown in figure 4. Close and latch the lid on the receptacle.

#### Achieving Watertightness Ratings



DXN's have an IP66/IP67 rating for protection against ingress of water, dust and other matter. IP66 provides total protection against dust and water jets. IP67 adds protection for temporary immersion in shallow water.

These ratings apply when the plug and receptacle are mated. They also apply to the receptacle alone, provided that its lid is latched in the closed position. Optional plug caps are available for providing IP66/IP67 protection on unmated plugs.

**NOTICE:** MELTRIC threaded handles come with tapered style threads. The use of fitting seal tape is recommended to maintain watertightness of all NPT fittings and joints.

#### Lockout Provisions

All DNX plugs are provided with lockout provisions. To lockout the plug, insert the locking device through the hole provided in the casing. This will prevent the plug from being able to be inserted into a receptacle.

Receptacles can be purchased with optional lockout provisions. MELTRIC's Locking Pin must be used to lockout the receptacle. Close and latch the lid. Slide MELTRIC's Locking Pin through the hole provided in the latch and place a padlock or other locking device through one of the holes on the locking pin. This will prevent the lid from being opened.

**NOTICE:** Attaching the receptacle locking device with the lid open will not prevent the insertion of a plug. Lockout is only accomplished when the lid is locked closed.

### ■ MAINTENANCE

**⚠ WARNING** Before inspecting, repairing, or maintaining MELTRIC products, disconnect electrical power to the receptacle to eliminate the risk of electrical shock. Any replacement of DNX components must be performed under the control of the manufacturer: MELTRIC Corporation.

MELTRIC products require little on-going maintenance. However, it is a good practice to periodically perform the following general inspections:

- Check the mounting screws for tightness.
- Verify that the weight of the cable is supported by the strain relief mechanism and not by the terminal connections.
- Check the IP gaskets for wear and resiliency. Replace as required.
- Verify the electrical continuity of the ground circuit.
- Check the contact surfaces for cleanliness and pitting.

Deposits of dust or similar foreign materials can be rubbed off the male contacts with a clean cloth. Sprays and grease should not be used, as they tend to collect dirt. If any significant pitting of the contacts or other serious damage is observed, the device should be cleaned. Risk of electrostatic discharge: use a cloth slightly soaked in soapy water for cleaning.

#### ■ MANUFACTURER'S RESPONSIBILITY

MELTRIC's responsibility is strictly limited to the repair or replacement of any product that does not conform to the warranty specified in the purchase contract. MELTRIC shall not be liable for any penalties or consequential damages associated with the loss of production, work, profit, or any other kind of financial loss incurred by the customer.

MELTRIC Corporation shall not be held liable when its products are used in conjunction with products not bearing the **MARECHAL** technology trademark. The use of MELTRIC products in conjunction with mating devices that are not marked with the **MARECHAL** technology trademark shall void all warranties on the product.

**MELTRIC Corporation is an ISO 9001 certified company. Its products are designed, manufactured and rated in accordance with applicable UL, CSA and IEC standards. MELTRIC designs and manufactures its products in accordance with Marechal keying standards established to ensure intercompatibility with similarly rated products manufactured by Marechal Electric Group.**

INSDXN Q

Back to Top



