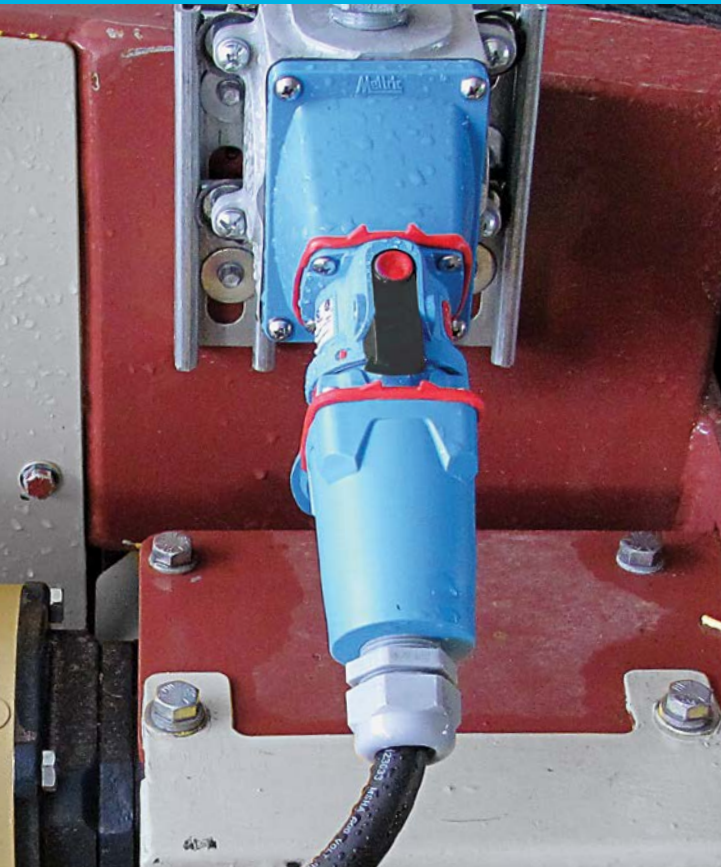




DSN / DS

Type 4X Rated Plugs & Receptacles for Automatic Watertightness

Washdown-Rated Plugs and Receptacles



MELTRIC DS and DSN Switch-Rated plugs and receptacles achieve their rated weathertightness simply by connecting the plug and receptacle. There is no need to thread on or turn weathertightness rings as is required on many pin and sleeve devices. Type 4X and IP69K/IP69 weathertightness is standard on all DSN devices and all DS devices except for the DS20 and the DS30; Type 3R is standard and Type 4X and IP69K/IP69 is optional on these two DS devices.

Problem: Most connecting devices sold today for washdown operations require a plastic ring that must be tightened by a user to achieve rated watertightness. If users fail to tighten the ring, leakage usually results.

Solution: The Automatic Watertight Connection

DSN and DS* Series plugs/receptacles feature automatic watertightness. A watertight, durable connection is achieved as soon as the plug is latched to the receptacle making them ideal for food, beverage and other facilities that washdown equipment.

Other Exclusive Benefits:

- ✓ **Provide the Safety of a Switch**
DSN/DS Series plugs and receptacles are UL/CSA switch-rated. They feature an integral switching mechanism that enables the safe make and break of inductive or resistive loads up to 200A or 75 hp.
- ✓ **Ensure Arc Flash Protection**
Switch-ratings along with a dead front safety shutter and enclosed arc chambers ensure that workers are never exposed to arcing or live parts.
- ✓ **Enable Quick Equipment Changeouts**
Since safety is ensured, technicians can change-out motors, welders and other electrical equipment with plug and play simplicity. NFPA 70E/CSA Z462 code compliance is simplified.

* DS20 and DS30 are Type 3R Standard, Type 4X Optional. All devices are 4X Standard.



Best Practices in Washdown Environments

Accessories



Poly Handle



Poly Cord Grip



Protective Inlet/Plug Cap

or



Padlockable Inlet/Plug Cap



Set of Two (2)

ORDERING BEST PRACTICES

Choose the best accessories for watertightness

▶ Threaded Handles + Cord Grips

For maximum protection from water ingress MELTRIC recommends handles with threaded NPT connections (PH or H type) sized to mate with a standard cord grip (with or without mesh). When installed properly the PH handle with cord grip offers a durable, watertight seal.

▶ Male Plug Caps

When a plug is left in the disconnected state the male contacts are exposed. To prevent water exposure, two types of caps are available. When fully inserted over the male inlet the Protective Cap provides excellent protection. If a lockable cap is preferred the Padlockable Plug Cap will provide rated watertightness as well as enable plug lockout.

▶ Finger Drawplates

Finger drawplates are recommended for easier connector closure on cord to cord assemblies.

Selecting Lid Options



Select the **NC** lid when receptacles are readily accessible and visible.

DSN60 Order Example: 63-68043-NC



Select the **NO** lid when receptacles are not easily accessible and visible.

DSN60 Order Example: 63-68043-NO

▲ NC and NO lids must be fully closed prior to washdown.

Order the Best Plug/Receptacle Options for Washdown Performance

Choosing the appropriate lid will ensure the receptacle operates with maximum performance in washdown environments. MELTRIC receptacles are available in either a normally open (NO) or normally closed (NC) lid option. Here are some guidelines to determine which lid option is best for you:

- ▶ **Normally Closed:** The NC lid requires an operator to manually close it to obtain a complete watertight seal. It is recommended that this option should be used when an operator is less than 20 feet from the device or within easy reach. This ensures the operator can see the **NC lid needs to be manually closed prior to washdown operations** in order to keep the plug and receptacle dry.
- ▶ **Normally Open:** If an operator is more than 20 feet from the device, as in cord drop applications, the NO lid option is recommended because at a distance it is easily seen and readily indicates that the receptacle lid **needs to be manually closed** before washdown operations in order to keep it dry.



Cord Grip Configuration



Use cord grips with mesh on the receptacle side to maximize resistance to cord pullout.

INSTALLATION BEST PRACTICES

Installing a DSN/DS for Maximum Watertightness

Since MELTRIC devices are used in a wide variety of applications and environments, they possess different mounting options made capable by their modular design. But for washdown environments, plugs and receptacles should be installed in a manner that will prevent water from entering the device during a washdown event. Here are some guidelines for installing a MELTRIC device for washdown environments:

- ▶ **Mounting Orientation:** Always install the receptacle (or inlet) so it is pointing down and the plug pointing up. This will ensure water goes over the device during washdowns. (If the receptacle is mounted pointing up, it will act like a cup and collect water during washdowns and potentially flood the device with water.)
- ▶ **Threaded Handle Accessory:** A threaded poly handle (PH) is preferred over the commonly used Nylon Handle because the threaded handle enables a more watertight seal when a mating cord grip is properly installed.
- ▶ **Sealer Tape on Cord Grip:** Poly/threaded handles that allow third party cord grips must be sealed to keep water out. Always use sealer tape on the NPT fittings of the handle.

Wall-Mounted Configuration



It is best to install the receptacle so it is pointing down with the plug pointing up. For washdown environments, a Threaded Handle with cord grip would have been a better accessory choice over the Nylon Handle shown.



Best Practices in Washdown Environments

OPERATION BEST PRACTICES

How To Operate a MELTRIC Device in Washdown Environments?

MELTRIC devices are cleverly engineered plugs and receptacles that combine the convenience of a plug and receptacle with the functionality of a disconnect switch. Despite this enhanced engineering and flexible/modular design, special precautions should be taken to ensure they are operated properly so their internal parts remain dry. Here are some guidelines for best ways to operate a MELTRIC device in washdown environments:

- ▶ **Avoid The Rest Position:** When an operator depresses the pawl on a MELTRIC device, the plug is ejected from the receptacle due to the spring-loaded action of the integral switching mechanism. At this point, the plug is in the “rest” position, which means the plug is electrically separated from the receptacle and the load is disconnected from electrical power. If the plug is left in the rest position and a washdown operation commences, there is no means to prevent water from entering the resting plug and receptacle. So, avoid leaving the MELTRIC device in the rest position during washdowns.
- ▶ **Close the Lid and Cap the Plug:** To maintain the watertightness rating, it is recommended that an operator should remove the plug from the receptacle, close the lid fully, and insert protective caps on the plug. MELTRIC has recently improved the protective caps giving them a better watertight seal. Padlockable plug caps are also available to prevent water leakage through the lockout hole. Protective plug caps are the best protection when the MELTRIC plug is not in use.
- ▶ **Condensation Prevention:** Washdowns with hot water in production facilities that typically have cold ambient temperatures; such as dairies, may cause in some instances the formation of condensation within MELTRIC devices. For these environments, users should take all actions necessary to keep the device dry.

Take all Actions to Keep the Devices Dry



Avoid leaving the MELTRIC device in the REST or OFF position during washdowns.



Protective plug caps are the best way to keep the plug dry when not in use or during washdowns.



DS and DSN Series plugs achieve rated watertightness up to Type 4X as soon as the plug is latched to the receptacle.



DSN/DS plugs can be locked in the disconnected position and an optional pawl enables locking of the receptacles.



After the removal of the plug from the receptacle, rated watertightness (Type 4X) is maintained by simply closing the lid.

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