

DX Hazardous Location plug and receptacle



Main Advantages

- ▶ Rugged Construction, cost effective design
- ▶ Rated for Zone 1 and Zone 21 applications



- | | | | |
|----------------------------|--------|--------------|--------|
| ▶ Features & Ratings | p. 209 | ▶ DX3 | p. 213 |
| ▶ Certifications & Testing | p. 210 | ▶ DX6 | p. 214 |
| ▶ Operation | p. 211 | ▶ DX9 | p. 215 |
| ▶ DX1 | p. 212 | ▶ Dimensions | p. 216 |

PRODUCT FEATURES



Dead Front

The 'dead' load-side switching contacts block access to the receptacle and are locked in the open position until an appropriate mating plug is fully inserted. This prevents unintended access to live parts and ensures user safety.

ON & OFF Positions when Mated

The operation of the switching mechanism allows the circuit to be disconnected without removing the plug.

Normally Closed Receptacle Lid

The lid automatically closes to a pre-latched position when the plug is removed. This prevents the entry of dust and debris. The lid must be manually latched to maintain IP 65 protection.

Heavy Duty Aluminum Casing

All components are enclosed in rugged copper free aluminum housings for maximum durability and protection.

Explosion Proof Chamber

The making and breaking of the contacts occurs in an explosion proof chamber, which is specially designed to withstand the pressure generated during arcing and to ensure that no arc, flame or other ignition source can be communicated with the external environment.

Spring Operated Switching Mechanism

An integral switching mechanism ensures quick-make, quick-break operation, independent of the motion of the user.

Silver-Nickel Butt Contacts

Contact design provides a superior connection, with maximum conductivity, the ability to withstand arcing and oxidation, excellent wear resistance, and a long operating life. A wiping motion during operation also provides a self-cleaning action.

Operating Instructions



When a DX is connected there is total safety.



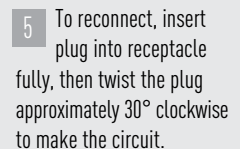
Pressing the pawl while turning the plug about 30° counterclockwise causes the circuit to be broken.



Press the pawl while withdrawing the plug from the receptacle. This is done in complete safety because the circuit is already dead.



The plug and receptacle are separated. The safety shutter prevents access to live parts.



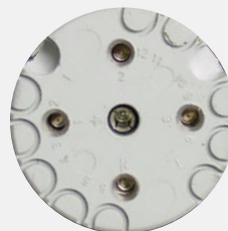
To reconnect, insert plug into receptacle fully, then twist the plug approximately 30° clockwise to make the circuit.

General Ratings

Amperage	20 to 125A
Voltage	750 VAC
Frequency	50-400 Hz
Environmental	IP65
Temperature	min -13°F/max 140°F* [DX1/DX3] min -40°F/max 140°F* [DX6/DX9]

Highlighted Feature

Dead Front



The dead front on the DX receptacle provides protection from accidental tool and wire insertion.

DX Certifications

Hazardous Duty Certification

ATEX and IECEx



II 2 G/D Ex de IIC tD A21

- II** – Indicates suitability for installation in surface applications (as opposed to underground mine applications).
- 2** – Indicates suitability for use where a high level of protection is required and where the presence of an explosive atmosphere is likely to occur (Zone 1 and Zone 21 environments).
- G/D** – Indicates suitability for installation in areas that may contain flammable gases, vapors/mists, or dusts.
- Ex de** – Protection method for gas atmospheres indicating that explosion protection is provided with (e) increased safety in the conductor termination area, and (d) explosion proof chambers for making and breaking the current that can withstand the pressure of internal ignition and that prevent arcs, flame or other ignition events from being communicated to the surrounding atmosphere.
- IIC** – Indicates suitability for installation in areas where exposure to any type of gas, including the most dangerous subdivision C gases may occur.
- tD** – Protection method for dust atmospheres indicating that explosion protection is provided by the type of enclosure (casing) used.
- A21** – Indicates a dust tight enclosure (IP6x) is used to achieve a Zone 21 rating.

ATEX & IECEx certification was performed by LCIE.

* Temperature ratings vary depending on product and ambient temperature. See specific product section for temperature ratings.

Electrical Performance Testing

Key Performance Tests Passed				
Model	Mechanical Endurance	Electrical Endurance ¹	Overload Testing ²	Dielectric Test
DX1	-	5000 Operations	50 Operations	2 x V (rated) + 1000V
DX3	1000 Cycles	1000 Operations	50 Operations	2 x V (rated) + 1000V
DX6	1000 Cycles	1000 Operations	50 Operations	2 x V (rated) + 1000V
DX9	1000 Cycles	1000 Operations	50 Operations	2 x V (rated) + 1000V

¹ @ 100% of rated current and voltage and 0.6 power factor.

² @ 125% of rated current, 110% of rated voltage, & 0.6 power factor.

DX complies with

ATEX	2014/35/EV Directive
IEC/EN	60079-0
	60079-1
	60079-7
	60079-31

DX Operation

Connection

1



Insertion of the Plug

As the plug contact is inserted, it engages and depresses the 'dead' switching contact.

This releases the locking mechanism. The switching contact is free to operate.

2



Charging the Operating Spring

Clockwise rotation of the inserted plug winds the operating spring and rotates the switching contact into position to engage with the live receptacle contact.

3



Making the Circuit

With the final few degrees of rotation, the switching contact is released and force from the spring quickly drives it into engagement with the live receptacle contact.

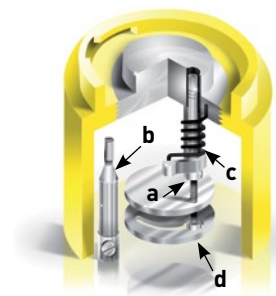
Disconnection



After depressing the pawl, the plug is rotated in a counter-clockwise direction. This frees the switching contact for operation and the release of the remaining spring tension causes a quick breaking of the contacts. The plug may now be removed, if desired.



Receptacle with Plug Disconnected



- a. **Switching Contact**
Shown in the open (dead) position
- b. **'Live' Receptacle Contact**
Accessibility is denied
- c. **Operating Spring**
Shown with tension released
- d. **Mechanical Locking Device**
Blocks contact operation

