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Hazardous duty rated plugs and receptacles

DXN Series plugs and receptacles are convenient, lightweight devices that are safe for use in hazardous environments such as refineries or silos where exposure to flammable gas or dust is a concern. The DXN's compact size and durable construction makes them easy to handle and well suited for in-line connections of electrical equipment. When used to connect modular equipment, DXN's provide plug and play simplicity and help reduce costs by eliminating the need for expensive safety enclosures. With DXN's installed, users can safely connect or disconnect equipment under full load in potentially explosive areas. The DXN's dead front construction assures electrical safety by preventing user access to live parts. IP66 + 67 ratings are achieved as soon as the plug and receptacle are mated, making them the perfect choice for wet or dusty environments.

Main Advantages

- ▼ Easy to handle due to compact, lightweight design
- ▼ Available in in-line and wall/panel mounted configurations
- ▼ CSA and ATEX rated for use in Zones 1 and 2 (gas) and Zones 21 and 22 (dust).

Product Features



Pushbutton Pawl

Provides quick, safe and easy current interruption.

Silver-Nickel Contacts

Silver-nickel contact material provides superior conductivity, durability and corrosion resistance.

Hazardous Duty Termination Areas

Includes enhanced creepage and clearance distances and specially designed terminals to ensure perfect and permanent clamping.

Casing

Self-extinguishing, non-static, material provides outstanding resistance to mechanical abuse and chemicals.

Lid

When closed, the lid maintains NEMA 4X, IP66 + 67 protection for the receptacle after removal of the plug.

Spring Loaded Butt-Style Contacts

Ensures optimal contact force and superior electrical performance over thousands of operations.

Explosion Proof Arc Chamber

Withstands internal pressure due to gas/dust ignited by arcing and isolates it from the outside environment.

Explosion Proof Pathways

Dissipates internal pressure created during arcing while also preventing any associated ignition sources from reaching the surrounding atmosphere.

Operating Instructions



To connect, align the red dots, push the plug partially in, then turn clockwise slightly to line up the latch with the catch.



Push the plug fully home until it is held in place by the latch. The circuit is now closed.



To disconnect, depress the latch and pull the plug simultaneously. This breaks the circuit. The plug contacts are now dead.



Rotate 30° counterclockwise and then withdraw the plug. The safety shutter prevents access to live parts.

General Ratings

Amperage	20 to 60A
Voltage	600 VAC*, 250 VDC Max
Frequency	50-400 Hz
Environmental	NEMA 4X, IP66 + 67
Temperature	min -40°F/max 140°F

* DXN1 devices are 480 VAC
DXN3 and DXN6 devices are 550VAC if ordered with optional auxiliary contacts

Hazardous Duty Listings

CSA	ATEX
Class I, Zone 1 Ex IIC T6	II 2 G/D Dust T85°C EEx ed IIC
Class I, Zone 1 AEx, de IIC T6	
Class I Division 2 Gr A, B, C, D	
Class II Division 2 Gr E, F, G	

* See following page for additional ratings detail

Plug & Receptacle Listings

Category	CSA	IEC
Plugs and Receptacles	C22.2 No. 182.1	60309-1

CE ratings available upon request

Highlighted Feature

Dead Front



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

DXN Certifications

Hazardous Duty Certification

DXN's have CSA and ATEX certifications for use in hazardous locations.



CSA

Class I, Zone 1, Ex de IIC T6

Class I, Zone 1, AEx de IIC T6

Class I Division 2 Gr A,B,C,D

Class I – Indicates suitability for use in applications where flammable Gases, Vapors, or Mists may be present.

Zone I – Indicates suitability for use in applications where an explosive environment is likely to occur.

Division 2 – Indicates suitability for use where exposure to the hazard occurs under abnormal conditions.

GR A,B,C,D – Indicates suitability for use in areas that may contain Acetylene, Hydrogen, Ethylene, or Propane.

Class II Division 2 Gr E,F,G

Class II – Indicates suitability for use in applications where dust may occur.

Division 2 – Indicates suitability for use where hazard exposure occurs under abnormal conditions.

GR E,F,G – Indicates suitability for use in areas where Magnesium, Coal or Grain dust may occur.

CSA certification based on IEC 60079-0, 60079-1, 60079-7

ATEX

II 2 G/D DUST T85°C EEx ed IIC T6

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.

T85°C – Indicates a maximum surface temperature of the product of 85°C, at 40°C ambient.

EEx ed – Indicates 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.

T6 – Temperature class – the maximum product surface temperature is 185°F (85°C) for ambient temperature of 104°F (40°).

ATEX certification was performed by LCIE.

Electrical Performance Testing

Key Performance Tests Passed					
Model	Mechanical Endurance	Electrical Endurance ¹	Overload Testing ²	Temperature Rise (max)	Dielectric Test
DXN20	-	5000 Operations	50 Operations	30°C	2 x V (rated) + 1000V
DXN30	1000 Cycles	1000 Operations	50 Operations	30°C	2 x V (rated) + 1000V
DXN60	1000 Cycles	1000 Operations	50 Operations	30°C	2 x V (rated) + 1000V

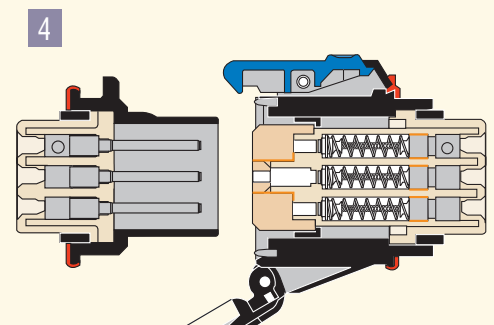
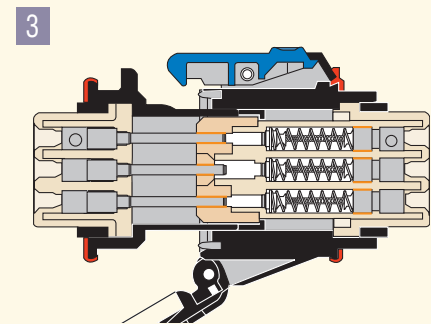
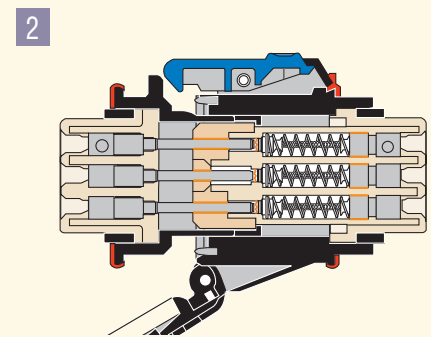
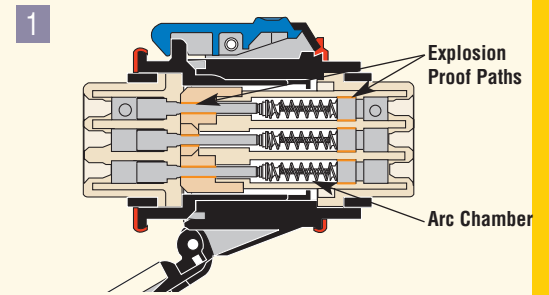
¹ @ 100% of rated current and voltage and 0.6 power factor ² @ 125% of rated current, 110% of rated voltage, & 0.6 power factor

DXN Operation

Arcing is a natural occurrence when electrical contacts make and break under load. The purpose of a hazardous duty product is to prevent arcing from igniting hazardous gases or dusts present in the atmosphere into an explosion that may cause personal injury or damage to facilities and equipment. The DXN accomplishes this with specially designed explosion-proof arc chambers.

The arc chambers are sized to minimize the amount of atmospheric gas or air/dust mixture that may ignite during arcing and are built to contain this internal mini-explosion and withstand the pressure that it generates. The length and width of the explosion-proof pathways are very precisely designed to provide for the effective dissipation of the pressure, while also ensuring that the arcing and internal ignitions of gases or air/dust mixture in the arc chamber are totally isolated from the surrounding atmosphere.

- 1 When the plug and receptacle are connected, the explosion-proof arc chamber is completed with pressure relief/arc extinguishing pathways between the outer diameter of the plug contact and its associated contact hole in the safety shutter and between the main interior component and receptacle contact base.
- 2 DXN's are current interrupting rated devices. They can safely make and break under full load and also during moderate overload situations. During the making or breaking of the contacts, the arc chamber completely contains any ignitions of gas or dust due to arcing and the explosion-proof pathways dissipate the pressure.
- 3 As the plug is being inserted or removed, the explosion-proof arc chamber and pathways are maintained. This ensures continuous hazardous duty protection and the safety of the user.
- 4 When the plug and receptacle are disconnected, the receptacle maintains an explosion proof chamber. In this case, the explosion-proof pathway exists between the safety shutter and the main interior component. The shutter also prevents access to live parts, providing users with the safety of a dead front. The plug must be inserted into the safety shutter and be rotated in order to access the receptacle contacts.





DXN – 20A Hazardous Duty Plugs & Receptacles

Ratings

- **Voltage**
480 VAC, 250 VDC
- **Current Interruption Capability**
For current interrupting (AC)
- **Environmental Ratings**
NEMA 4X, IP66 + 67
- **Temperature Range**
Min -40°F/Max 140°F
See pg 194 for temps below -15°F.
- **Wiring Capacity***
Min 20 AWG Max 10 AWG
* Based on THHN wire sizes
- **Listings**
CSA, IEC, ATEX

Receptacle (female)



Don't forget to add installation accessories to your order

Standard DXN20 lid opens to 120°

Inlet (male)



Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-14167
125V	1P+N+E	22-14075
125/250V	2P+N+E	22-14076
208V	2P+E	22-14162
208V	3P+E	22-14163
250V	2P+E	22-14072
250V	3P+E	22-14073
277V	1P+N+E	22-14045
277/480V	3P+N+E	22-14047
480V	2P+E	22-14042
480V	3P+E	22-14043

Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-18167
125V	1P+N+E	22-18075
125/250V	2P+N+E	22-18076
208V	2P+E	22-18162
208V	3P+E	22-18163
250V	2P+E	22-18072
250V	3P+E	22-18073
277V	1P+N+E	22-18045
277/480V	3P+N+E	22-18047
480V	2P+E	22-18042
480V	3P+E	22-18043

Other voltage configurations are available – contact customer service at 800.433.7642.

Main Options



Padlock Pawl



Normally Closed Lid Configuration (unlatched)



180° Lid Opening (for connecting to wall mounted inlets)

Receptacle Options

Part

Padlock Pawl	Recept # - 843
Closed Lid Configuration	Recept # - R
180° Lid Opening	Recept # - 180

Inlet Options

Part

No Lockout Hole	Recept # - A155
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See pgs 171-180 for detailed information on these options

DXN20 Order Example:

To order a padlock pawl on a receptacle, add **-843** to the part number.

DXN20 Poly receptacle 3P+E=22-14043-**843**

Appropriate accessory part numbers must also be included on the order.

Installation Accessories

Handles



Cable Range	Poly Handle w/Clamp & Bushing
.31 - .51	22-1A013-20P
.51 - .75	22-1A013-25P
.67 - .98	22-1A013-32P

NPT Guidelines

Cable Range	NPT
.062 - .5	1/2"
.187 - .75	3/4"

NPT sizes are determined by the cable diameter and third party cord grip.

Angles



Nylon 30° Angle
22-1A027

Wall Boxes



NPT	Poly 30° Wall Box	Poly 70°* Wall Box
1/2"	22-1A023-12	22-1AB58
3/4"	22-1A023-34	-

Notes: • 70° wall boxes are ATEX rated only, CSA pending.
• Knockout hole provided.

Miscellaneous Accessories



Set of Two (2)

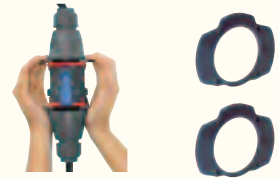


For Male Devices Only

Finger Drawplates	Protective Cap
61-1A346	22-1A126

Accessory Spotlight

Finger Drawplates



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

Order Example

A typical order should include an inlet part number, a receptacle part number **AND** the matching handles, angles or other required accessories.



Male Inlet with Handle (Plug)
22-18043 + 22-1A013-20P



Female Receptacle with Wall Box
22-14043 + 22-1A023-12



DXN – 30A Hazardous Duty Plugs & Receptacles

Ratings

- **Voltage**
600VAC, 250VDC
- **Current Interruption Capability**
For current interrupting (AC)
- **Environmental Ratings**
NEMA 4X, IP66 + 67
- **Temperature Range**
Min -40°F/Max 140°F
See pg 194 for temps below -15°F.
- **Wiring Capacity***
Min 14 AWG Max 6 AWG
Aux Contacts - Max 10 AWG
*Based on THHN wire sizes
- **Listings**
CSA, IEC, ATEX

Receptacle (female)



Don't forget to add installation accessories to your order

Standard DXN20 lid opens to 120°

Inlet (male)



Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-34167
125V	1P+N+E	22-34075
125/250V	2P+N+E	22-34076
208V	2P+E	22-34162
208V	3P+E	22-34163
250V	2P+E	22-34072
250V	3P+E	22-34073
277V	1P+N+E	22-34045
277/480V	3P+N+E	22-34047
347/600V	3P+N+E	22-34147
480V	2P+E	22-34042
480V	3P+E	22-34043
600V	2P+E	22-34142
600V	3P+E	22-34143

Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-38167
125V	1P+N+E	22-38075
125/250V	2P+N+E	22-38076
208V	2P+E	22-38162
208V	3P+E	22-38163
250V	2P+E	22-38072
250V	3P+E	22-38073
277V	1P+N+E	22-38045
277/480V	3P+N+E	22-38047
347/600V	3P+N+E	22-38147
480V	2P+E	22-38042
480V	3P+E	22-38043
600V	2P+E	22-38142
600V	3P+E	22-38143

Other voltage configurations are available – contact customer service at 800.433.7642.

Main Options



Padlock Pawl



Normally Closed Lid Configuration (unlatched)



180° Lid Opening (for connecting to wall mounted inlets)

Receptacle Options

Part

With 2 Auxiliary/Pilot Contacts*	Recept # - 972
Padlock Pawl	Recept # - 843
Closed Lid Configuration	Recept # - R
180° Lid Opening	Recept # - 180

Inlet Options

Part

With 2 Auxiliary/Pilot Contacts*	Inlet # - 972
No Lockout Hole	Inlet # - A155

* Not available with 600V devices, use -972-S74 for 480-550VAC

DXN30 Order Example:

To order 2 auxiliary/pilot contacts on an inlet and receptacle add **-972** to the part numbers.

DXN30 Poly inlet 3P+E=22-38043-**972**

DXN30 Poly receptacle 3P+E=22-34043-**972**

Appropriate accessory part numbers must also be included on the order.

See pgs 171-180 for detailed information on these options

Installation Accessories

Handles



Cable Range	Poly Handle
.31 - .51	22-3A013-20P
.51 - .75	22-3A013-25P
.67 - .98	22-3A013-32P
.95 - 1.26	22-3A013-40P

NPT Guidelines

Cable Range	NPT
.187 - .75	3/4"

NPT sizes are determined by the cable diameter and third party cord grip.

Angles Wall Boxes

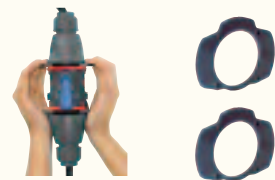


Nylon 30° Angle	NPT	Poly 30° Wall Box	Poly 70° Wall Box
22-3A027	3/4"	22-3A023-34	22-3AB58

Notes: • 70° wall boxes are ATEX rated only, CSA pending.
• Knockout hole provided.

Accessory Spotlight

Finger Drawplates



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

Miscellaneous Accessories



Set of Two (2)



For Male Devices Only

Finger Drawplates	Protective Cap
61-3A346	22-3A126

Order Example

A typical order should include an inlet part number, a receptacle part number **AND** the matching handles, angles or other required accessories.



Male Inlet with Handle (Plug)
22-38043 + 22-3A013-25P



Female Receptacle with Wall Box
22-34043 + 22-3A023-34



DXN – 60A Hazardous Duty Plugs & Receptacles

Ratings

- **Voltage**
600VAC, 250VDC
- **Current Interruption Capability**
For current interrupting (AC)
- **Environmental Ratings**
NEMA 4X, IP66 + 67
- **Temperature Range**
Min -40°F/Max 140°F
See pg 194 for temps below -15°F.
- **Wiring Capacity***
Min 10 AWG Max 4 AWG
Aux Contacts - Max 10 AWG
* Based on THHN wire sizes
- **Listings**
CSA, IEC, ATEX

Receptacle (female)



Don't forget to add installation accessories to your order

Standard DXN20 lid opens to 120°

Inlet (male)



Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-64167
125V	1P+N+E	22-64075
125/250V	2P+N+E	22-64076
208V	2P+E	22-64162
208V	3P+E	22-64163
250V	2P+E	22-64072
250V	3P+E	22-64073
277V	1P+N+E	22-64045
277/480V	3P+N+E	22-64047
347/600V	3P+N+E	22-64147
480V	2P+E	22-64042
480V	3P+E	22-64043
600V	2P+E	22-64142
600V	3P+E	22-64143

Voltage	Polarity	Part # Poly
120/208V	3P+N+E	22-68167
125V	1P+N+E	22-68075
125/250V	2P+N+E	22-68076
208V	2P+E	22-68162
208V	3P+E	22-68163
250V	2P+E	22-68072
250V	3P+E	22-68073
277V	1P+N+E	22-68045
277/480V	3P+N+E	22-68047
347/600V	3P+N+E	22-68147
480V	2P+E	22-68042
480V	3P+E	22-68043
600V	2P+E	22-68142
600V	3P+E	22-68143

Other voltage configurations are available – contact customer service at 800.433.7642.

Main Options



Padlock Pawl



Normally Closed Lid Configuration (unlatched)

Receptacle Options

Part

With 2 Auxiliary/Pilot Contacts*	Recept # - 972
Padlock Pawl	Recept # - 843
Closed Lid Configuration	Recept # - R
180° Lid Opening	Recept # - 180

Inlet Options

Part

With 2 Auxiliary/Pilot Contacts*	Inlet # - 972
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* Not available with 600V devices, use -972-S74 for 480-550 VAC.

DXN60 Order Example:

To order 2 auxiliary/pilot contacts on an inlet and receptacle add **-972** to the part numbers.

DXN60 Poly inlet 3P+E=22-68043-**972**

DXN60 Poly receptacle 3P+E=22-64043-**972**

Appropriate accessory part numbers must also be included on the order.

See pgs 171-180 for detailed information on these options

Installation Accessories

Handles



Cable Range	Poly Handle w/Clamp & Bushing
.51 - .75	22-6A013-25P
.67 - .98	22-6A013-32P
.95 - 1.26	22-6A013-40P

NPT Guidelines

Cable Range	NPT
.437 - 1.10	1"

NPT sizes are determined by the cable diameter and third party cord grip.

Angles Wall Boxes



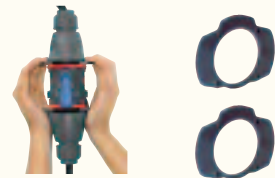
Nylon 30° Angle	NPT	Poly 30° Wall Box	Poly 70° Wall Box
22-6A027	1"	22-6A023-1	22-6AB58

Notes:

- 70° wall boxes are ATEX rated only, CSA pending.
- Knockout hole provided.

Accessory Spotlight

Finger Drawplates



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

Miscellaneous Accessories



Set of Two (2)



For Male Devices Only

Finger Drawplates	Protective Cap
61-6A346	22-6A126

Order Example

A typical order should include an inlet part number, a receptacle part number **AND** the matching handles, angles or other required accessories.



Male Inlet with Handle (Plug)
22-68043 + 22-6A013-32P



Female Receptacle with Wall Box
22-64043 + 22-6A023-1