Hazardous location 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. The DXN’s dead front construction assures electrical safety by preventing user access to live parts. IP66+IP67 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

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

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

Lid
When closed, the lid maintains IP66+IP67 protection for the receptacle after removal of the plug.

Pushbutton Pawl/Off Button
Provides quick, safe and easy current interruption.

Spring-Loaded Butt-Style Contacts
Ensures optimal contact force and superior electrical performance over thousands of operations.

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

Hazardous Location Termination Areas
Includes enhanced creepage and clearance distances and specially designed terminals to ensure perfect and permanent clamping.

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

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

General Ratings

<table>
<thead>
<tr>
<th>Feature</th>
<th>CSA</th>
<th>ATEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amperage</td>
<td>20 to 60A</td>
<td></td>
</tr>
<tr>
<td>Voltage</td>
<td>600 VAC*, 250 VDC Max</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>50-400 Hz</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66+IP67</td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>min -40°F/max 140°F</td>
<td></td>
</tr>
</tbody>
</table>

* DXN20 devices are 480 VAC
  DXN30 and DXN60 devices are 550 VAC if ordered with optional auxiliary contacts

Hazardous Duty Listings

<table>
<thead>
<tr>
<th>Category</th>
<th>CSA</th>
<th>ATEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I, Zone 1 Ex IIC T*</td>
<td></td>
<td>II 2 G/D</td>
</tr>
<tr>
<td>Class I, Zone 1 AEx, de IIC T*</td>
<td></td>
<td>Ex ed IIC T*</td>
</tr>
<tr>
<td>Class I Division 2 Gr A, B, C, D</td>
<td></td>
<td>Ex ED A2 T*</td>
</tr>
<tr>
<td>Class II Division 2 Gr E, F, G</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* See temperature tables in product sections
  See following page for additional ratings detail

Highlighted Feature

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

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.

Plug & Receptacle Listings

<table>
<thead>
<tr>
<th>Category</th>
<th>CSA</th>
<th>IEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plugs and Receptacles</td>
<td>C22.2 No. 182.1</td>
<td>60309-1</td>
</tr>
</tbody>
</table>
DXN Certifications

Hazardous Duty Certification (example)

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

**CSA**

Class I, Zone 1, Ex de IIC T6*, Class II, Zone 21
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 explosive dust atmosphere 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 and IECEx**

II 2 G/D Ex de 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.
Ex de – Indicates that explosion protection is provided with [e] increased safety in the conductor termination area, and [d] flame 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.
* Temperature ratings vary depending on product and ambient temperature. See specific product section for temperature ratings.

**Electrical Performance Testing**

<table>
<thead>
<tr>
<th>Key Performance Tests Passed</th>
<th>Model</th>
<th>Mechanical Endurance</th>
<th>Electrical Endurance¹</th>
<th>Overload Testing²</th>
<th>Temperature Rise (max)</th>
<th>Dielectric Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>DXN20</td>
<td>-</td>
<td>5000 Operations</td>
<td>50 Operations</td>
<td>30°C</td>
<td>2 x V (rated) + 1000V</td>
<td></td>
</tr>
<tr>
<td>DXN30</td>
<td>1000 Cycles</td>
<td>1000 Operations</td>
<td>50 Operations</td>
<td>30°C</td>
<td>2 x V (rated) + 1000V</td>
<td></td>
</tr>
<tr>
<td>DXN60</td>
<td>1000 Cycles</td>
<td>1000 Operations</td>
<td>50 Operations</td>
<td>30°C</td>
<td>2 x V (rated) + 1000V</td>
<td></td>
</tr>
</tbody>
</table>

¹ @ 100% of rated current and voltage & 0.6 power factor ² @125% of rated current, 110% of rated voltage, & 0.6 power factor
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 flame-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 flame-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 flameproof 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 flame-proof pathways dissipate the pressure.

3. As the plug is being inserted or removed, the flame-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 a flame-proof chamber. In this case, the flame-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 Location Plugs & Receptacles**

### Ratings

- **Voltage**  
  480 VAC

- **Current Interruption Capability**  
  For current interrupting (AC)

- **Environmental Ratings**  
  IP66+IP67

- **Wiring Capacity**  
  Min 16 AWG Max 10 AWG  
  *Based on THHN wire sizes*

- **Listings**  
  CSA, IEEEx, ATEX

  *For CE rated devices, contact customer service*

- **DXN20 Ratings Label**  
  The CSA ratings are applicable for USA and Canada

### Temperature Table

<table>
<thead>
<tr>
<th>Ambient Temperature</th>
<th>Gas</th>
<th>Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40°F &lt; Ta &lt; 104°F</td>
<td>16</td>
<td>77°C</td>
</tr>
<tr>
<td>-40°F &lt; Ta &lt; 140°F</td>
<td>15</td>
<td>190°C</td>
</tr>
</tbody>
</table>

### Receptacle (female)

- Receptacle and Inlet (male)

**Voltage| Polarity| Part #| Poly**
---|---|---|---
480V | 1P+N+G | 22-14075 |  
480V | 2P+G | 22-14163 |  
480V | 3P+G | 22-14167 |  
480V | 2P+N+G | 22-14072 |  
480V | 3P+N+G | 22-14073 |  
277V | 1P+N+G | 22-14045 |  
480V | 2P+G | 22-14042 |  
480V | 3P+G | 22-14043 |  
480V | 3P+N+G | 22-14047 |  

### Inlet (male)

- Standard DXN20 lid opens to 120°

**Hazardous Location rating terminology and labeling is different for CE marked products – contact customer service for part numbers if international ratings are desired.**

### Main Options

- **Padlock Pawl**
- **Normally Closed Lid Configuration (unlatched)**
- **180° Lid Opening (for connecting to wall mounted inlets)**

### Other Voltage Configurations

- See pgs 197-206 for detailed information on these options

### How to Order

- Receptacle and Inlet (see above)
- Accessories
  - Angle, Handle, etc are interchangeable (see opposite page)

### DXN20 Order Example:

To order a padlock pawl on a receptacle, add -843 to the part number.  
DXN20 Poly receptacle 3P+G-22-14043-843

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

Handles

For Zone 1/21 applications

For use with Class I/II Division 2 or Zone 1/21 fittings

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>Poly Handle w/Bushing*</th>
<th>NPT</th>
<th>Poly Handle w/NPT***</th>
</tr>
</thead>
<tbody>
<tr>
<td>.31 - .51</td>
<td>22-1A013-20P*</td>
<td>1/2”</td>
<td>22-1A013-12***</td>
</tr>
<tr>
<td>.51 - .75</td>
<td>22-1A013-25P*</td>
<td>3/4”</td>
<td>22-1A013-34***</td>
</tr>
<tr>
<td>.67 - .98</td>
<td>22-1A013-32P*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* ATEX rated for use in Zone 1/21, not listed for Class I or II, Division 2.
*** For use in Class I or II, Division 2 or Zone 1/21 depending on fitting used. Fitting manufactured by others.

Angles

Wall Boxes

Nylon 30° Angle

<table>
<thead>
<tr>
<th>NPT</th>
<th>Poly 30° Wall Box+</th>
<th>Poly 30° Wall Box++</th>
<th>Poly 70° Wall Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2”</td>
<td>22-1A023-12-T</td>
<td>22-1A023-12-B</td>
<td>22-1AB58</td>
</tr>
<tr>
<td>3/4”</td>
<td>22-1A023-34-T</td>
<td>22-1A023-34-B</td>
<td>–</td>
</tr>
</tbody>
</table>

* NPT thread on top
** NPT thread on bottom
+ Interior volume with receptacle installed.

Miscellaneous Accessories

Finger Drawplates

Set of Two (2) For Male Devices Only

<table>
<thead>
<tr>
<th>Finger Drawplates</th>
<th>Protective Cap*</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-1A346</td>
<td>22-1A426</td>
</tr>
</tbody>
</table>

* For watertight seal, the male inlet must also be ordered with the ‘No Lockout Hole’ option (-A155).

NPT Guidelines

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>.312 - .425</td>
<td>1/2”</td>
</tr>
<tr>
<td>.438 - .812</td>
<td>3/4”</td>
</tr>
</tbody>
</table>

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

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-T
With 2 Auxiliary/Pilot Contacts*  
Recept # - 972
Padlock Pawl  
Recept # - 843
Metal Pawl on Poly Receptacle  
Recept # - 924
Closed Lid Configuration  
Recept # - R
180° Lid Opening  
Recept # - 180

Don’t forget to add installation accessories to your order

Hazardous Location rating terminology and labeling is different for CE marked products – contact customer service for part numbers if international ratings are desired.

-40°C ≤ T_a ≤ +60°C

Class I Zone 1 Ex de IIC T4 DIP A21 T98°C
Class I Zone 1 AEEx de IIC T4 ID I21 T98°C
Class I div 2 Gr IIC (A,B,C,D)
Class II div 2 Gr E,F,G

cCSAus 208161-1144106X

The CSA ratings are applicable for USA and Canada

Receptacle Options  Part #
With 2 Auxiliary/Pilot Contacts*  22-34075
Padlock Pawl  22-34162
Metal Pawl on Poly Receptacle  22-34163
Closed Lid Configuration  22-34164
180° Lid Opening  22-34165

Inlet Options  Part #
With 2 Auxiliary/Pilot Contacts*  22-38075
No Lockout Hole  22-38162

Option Spotlight
2 Auxiliary Contacts

2 auxiliary/pilot contacts can be added for signal or control circuits. Avoid the need for separate connectors.

To order add -972 to the inlet and receptacle part numbers.
Installation Accessories

Handles

For Zone 1/21 applications

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>Poly Handle w/Bushing*</th>
</tr>
</thead>
<tbody>
<tr>
<td>.31 - .51</td>
<td>22-3A013-20P*</td>
</tr>
<tr>
<td>.51 - .75</td>
<td>22-3A013-25P*</td>
</tr>
<tr>
<td>.67 - .98</td>
<td>22-3A013-32P*</td>
</tr>
<tr>
<td>.95 - 1.26</td>
<td>22-3A013-40P*</td>
</tr>
</tbody>
</table>

For use with Class I/II Division 2 or Zone 1/21 fittings

<table>
<thead>
<tr>
<th>NPT</th>
<th>Poly Handle w/NPT***</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>22-3A013-34***</td>
</tr>
<tr>
<td>1&quot;</td>
<td>22-3A013-1***</td>
</tr>
</tbody>
</table>

NPT Guidelines

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>.438 - .812</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

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

Angles • Wall Boxes

<table>
<thead>
<tr>
<th>Nylon 30° Angle</th>
<th>NPT</th>
<th>Poly 30° Wall Box+</th>
<th>Poly 30° Wall Box++</th>
<th>Poly 70° Wall Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>22-3A027</td>
<td>3/4&quot;</td>
<td>22-3A023-34-T</td>
<td>22-3A023-34-B</td>
<td>22-3AB58</td>
</tr>
</tbody>
</table>

* NPT thread on top
** NPT thread on bottom
* Interior volume with receptacle installed.

Miscellaneous Accessories

Set of Two (2) For Male Devices Only

<table>
<thead>
<tr>
<th>Finger Drawplates</th>
<th>Protective Cap*</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-3A346</td>
<td>22-3A426</td>
</tr>
</tbody>
</table>

* For watertight seal, the male inlet must also be ordered with the ‘No Lockout Hole’ option [A155].

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) 22-38043 + 22-3A013-25P

Female Receptacle with Wall Box 22-34043 + 22-3A023-34-T
**DXN - 60A**

Hazardous Location Plugs & Receptacles

### Ratings

- **Voltage**
  - 600 VAC

- **Current Interruption Capability**
  - For current interrupting (AC)

- **Environmental Ratings**
  - IP66+IP67

- **Wiring Capacity**
  - Min 10 AWG
  - Max 4 AWG

- **Aux Contacts**
  - Max 10 AWG

* Based on THHN wire sizes

- **Listings**
  - CSA, IECEx, ATEX

* For CE rated devices, contact customer service

- **DXN60 Ratings Label**

  The CSA ratings are applicable for USA and Canada

- **Temperature Table**

<table>
<thead>
<tr>
<th>Ambient Temperature</th>
<th>Gas</th>
<th>Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>-40°F ≤ Ta ≤ 104°F</td>
<td>T6</td>
<td>T80 °C</td>
</tr>
<tr>
<td>-40°F ≤ Ta ≤ 140°F</td>
<td>TS4</td>
<td>1100°C</td>
</tr>
</tbody>
</table>

### Main Options

- **Padlock Pawl**

- **Normally Closed Lid Configuration** (unlatched)

- **With 2 Auxiliary/Pilot Contacts**
  - Receptacle # = 972
  - Inlet # = 972

- **Metal Pawl on Poly Receptacle**
  - Receptacle # = 924

- **Closed Lid Configuration**
  - Receptacle # = R

- **180° Lid Opening**
  - Receptacle # = -180

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

### Inlet Options

- **With 2 Auxiliary/Pilot Contacts**
  - Inlet # = 972

- **No Lockout Hole**
  - Inlet # = A155

### Option Spotlight

**2 Auxiliary Contacts**

2 auxiliary/pilot contacts can be added for signal or control circuits. Avoid the need for separate connectors.

*To order add -972 to the inlet and receptacle part numbers.*

### How to Order

- **Receptacle and Inlet**
  - (see above)

### Accessories

Angle, Handle, etc. are interchangeable (see opposite page)

---

See pgs 197-206 for detailed information on these options.
Installation Accessories

Handles

For Zone 1/21 applications

For use with Class I/II Division 2 or Zone 1/21 fittings

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>Poly Handle w/Bushing*</th>
<th>NPT Poly Handle w/NPT***</th>
</tr>
</thead>
<tbody>
<tr>
<td>.51 - .75</td>
<td>22-6A013-25P+</td>
<td>1” 22-6A013-1***</td>
</tr>
<tr>
<td>.67 - .98</td>
<td>22-6A013-32P+</td>
<td></td>
</tr>
<tr>
<td>.95 - 1.26</td>
<td>22-6A013-40P+</td>
<td></td>
</tr>
</tbody>
</table>

* ATEX rated for use in Zone 1/21, not listed for Class I or II, Division 2.
*** For use in Class I or II, Division 2 or Zone 1/21 depending on fitting used. Fitting manufactured by others.

Angles  Wall Boxes

Nylon 30° Angle  NPT  Poly 30° Wall Box+  Poly 70° Wall Box++  Poly 70° Wall Box

<table>
<thead>
<tr>
<th>NPT</th>
<th>Poly 30° Wall Box+</th>
<th>Poly 70° Wall Box++</th>
<th>Poly 70° Wall Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>1”</td>
<td>22-6A023-1-T</td>
<td>22-6A023-1-B</td>
<td>22-6AB58</td>
</tr>
</tbody>
</table>

* NPT thread on top
** NPT thread on bottom
* Interior volume with receptacle installed.

Miscellaneous Accessories

Set of Two (2)  For Male Devices Only

Finger Drawplates  Protective Cap*

<table>
<thead>
<tr>
<th>Finger Drawplates</th>
<th>Protective Cap*</th>
</tr>
</thead>
<tbody>
<tr>
<td>61-6A346</td>
<td>22-6A426</td>
</tr>
</tbody>
</table>

* For watertight seal, the male inlet must also be ordered with the ‘No Lockout Hole’ option (-A155).

NPT Guidelines

<table>
<thead>
<tr>
<th>Cable Range</th>
<th>NPT</th>
</tr>
</thead>
<tbody>
<tr>
<td>.660 - 1.000</td>
<td>1”</td>
</tr>
</tbody>
</table>

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

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) 22-68043 + 22-6A013-32P

Female Receptacle with Wall Box 22-6A043 + 22-6A023-1-T