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# 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, ATEX and IECEx 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.

#### Hazardous Location 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

Pushbutton Pawl/OFF Button

Provides quick, safe and

easy current interruption.

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

## **General Ratings**

Voltage600 VAC*Frequency50-400 HzHorsepower1/4 to 20 hp
Horsepower 1/4 to 20 hp
Environmental IP66+IP67
Temperaturemin -40°F/max 140°F

\* DXN30 and DXN60 devices are 550VAC if ordered with optional auxiliary contacts.

# **Hazardous Duty Listings**

CSA Strange	ATEX
Class I, Zone 1 Ex IIC T*, Class II, Zone 21	II 2 G/D
Class I, Zone 1 AEx, de IIC T*	Ex ed IIC T* Ex ED A2I T*
Class I Division 2 Gr A, B, C, D	
Class II Division 2 Gr E, F, G	

\* See temperature tables in product sections. 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

#### **Operating** Instructions

# 1

Spring-Loaded

**Butt-Style Contacts** 

Ensures optimal contact

electrical performance

force and superior

over thousands of

operations.

**Explosion Proof Arc Chamber** 

**Explosion Proof Flame Path** 

the surrounding atmosphere.

Dissipates internal pressure created

during arcing while also preventing any

associated ignition sources from reaching

Withstands internal pressure due to

gas/dust ignited by arcing and isolates it from the outside environment.

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.



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

HAZARDOUS Location

protection from accidental tool insertion.

# **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**

Key Performance Tests Passed					
Model	Mechanical Endurance	Electrical Endurance <sup>1</sup>	Overload Testing <sup>2</sup>	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





# **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 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.

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.

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)

•	Horsepo	wer	Ratings
	<b>120V</b>	1Ø	1/2 hp
	240V	3Ø	2 hp
	480V	3Ø	5 hp
	600V	3Ø	5 hp

- Environmental Ratings IP66+IP67
- Wiring Capacity Min 16 AWG Max 10 AWG \* Based on THHN wire sizes
- Listings CSA, IECEX, ATEX
- \* For CE rated devices, contact customer service
- DXN20 Ratings Label

-40°C ≤Ta ≤+60°C
Class I Zone1 Ex de IIC T5 DIP A21 T90°C
Class I Zone1 AEx de IIC T5 tD 21 T90°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

#### • Temperature Table

Ambient Temperature	Gas	Dust
-40°F < Ta < 104°F	T6	T70°C
-40°F < Ta < 140°F	T5	T90°C

#### Main Options







Normally Closed Lid Configuration (unlatched)



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



# **Receptacle** (female)



wall box.

opens to 120°



#### Devices rated for hazardous locations are not returnable.

Receptacle Options	Part #
Padlock Pawl	Recept # - 843
Metal Pawl on Poly Receptacle	Recept # - 924
Closed Lid Configuration	Recept # - R
180° Lid Opening	Recept # - 180



Inlet (male)

Hazardous Location rating terminology and labeling is different for CE marked products – For international configurations (CE) visit meltric.com/international-catalog or contact customer service.

Voltage	Polarity	Part # Poly
120V	1P+N+G	22-18165
125V	1P+N+G	22-18075
208V	2P+G	22-18162
208V	3P+G	22-18163
208V	3P+N+G	22-18167
250V	2P+G	22-18072
250V	3P+G	22-18073
250V	2P+N+G	22-18076
277V	1P+N+G	22-18045
480V	2P+G	22-18042
480V	3P+G	22-18043
480V	3P+N+G	22-18047
600V	2P+G	22-18142
600V	3P+G	22-18143
600V	3P+N+G	22-18147

Inlet Options	Part #
No Lockout Hole	Inlet # - A155



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.

# **DXN20**

# Installation Accessories

#### Handles For use with Class I/II For Zone 1/21 applications Division 2 or Zone 1/21 fittings 22-1A027 22-1A013-20P+ 22-1A013-12\*\*\* .31 - .51 1/2" .51 - .75 22-1A013-25P+ 3/4" 22-1A013-34\*\*\* .67 - .98 22-1A013-32P+

+ 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.



- + Interior volume with receptacle installed.
- ++ Poly cord grip is located on the top of box.
- For bottom cord entry, rotate the box 180°.
- \*\* NPT thread on bottom.
- \*\*\* NPT is drilled on top of aluminum box as standard. For NPT on side only, add an "L" suffix. To switch from top to bottom or left to right the box can be rotated 180°.

# **Miscellaneous Accessories**

<b>OO</b> * Set of Two (2)	For Male Devices Only	
Finger Drawplates	Protective Cap	Receptacle + Lockout Pin
61-1A346	22-1A426	LP-843

\* Recommended for cord to cord assembly applications, for easier connector closure.

Requires Padlockable Pawl option (-843) on receptacle.

## HP rated DXN20

#### **DXN20 Horsepower Ratings**

AMPS	VAC (Max) @ 60 Hz	Phases	HP Rating
20	120V	1Ø	1/2 hp
20	240V	3Ø	2 hp
20	480V	ЗØ	5 hp
20	600V	3Ø	5 hp



<sup>•</sup> HP ratings are based on CSA certification

# Angles



**NPT Guidelines** 

Cable Range	NPT
.312625	1/2"
.438812	3/4"

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

#### **Accessory Spotlight**

#### **Receptacle Lockout Pin**



A 5/16" lockout pin can be ordered to securely lockout receptacles that include the 'padlockable pawl' option. Alternatively the user can utilize a lock with a 5/16" shank. Locks with smaller shanks will NOT securely lockout a receptacle pawl.

#### **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



# **DXN - 30A Hazardous Location Plugs & Receptacles**

#### Ratings

- Voltage 600 VAC
- Current Interruption Capability For current interrupting (AC)

<ul> <li>Horsepo</li> </ul>	wer	Ratings
<b>120V</b>	1Ø	1 hp
240V	3Ø	5 hp
480V	3Ø	10 hp
600V	3Ø	15 hp

- Environmental Ratings IP66+IP67
- Wiring Capacity Min 14 AWG Max 6 AWG Aux Contacts - Max 10 AWG \* Based on THHN wire sizes
- Listings CSA, IECEX, ATEX \* For CE rated devices, contact
- customer service
- DXN30 Ratings Label

 $-40^{\circ}$ C ≤Ta ≤+60°C Class I Zone1 Ex de IIC T4 DIP A21 T98°C Class I Zone1 AEx de IIC T4 tD 21 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

•	Temperature	Table
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Ambient Temperature	Gas	Dust
-40°F < Ta < 104°F	T6	T57°C
-40°F < Ta < 140°F	T5	T77°C

#### Main Options







Normally Closed Lid Configuration (unlatched)



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



# **Receptacle** (female)



wall box.







120V

125V

208V

208V

208V

Hazardous Location rating terminology and labeling is different for CE marked products – For international configurations (CE) visit meltric.com/international-catalog or contact customer service.

1P+N+G

1P+N+G

2P+G

3P+G

3P+N+G

Polv

22-38165

22-38075

22-38162

22-38163

22-38167

Voltage	Polarity	Part # Poly
120V	1P+N+G	22-34165
125V	1P+N+G	22-34075
208V	2P+G	22-34162
208V	3P+G	22-34163
208V	3P+N+G	22-34167
250V	2P+G	22-34072
250V	3P+G	22-34073
250V	2P+N+G	22-34076
277V	1P+N+G	22-34045
480V	2P+G	22-34042
480V	3P+G	22-34043
480V	3P+N+G	22-34047
600V	2P+G	22-34142
600V	3P+G	22-34143
600V	3P+N+G	22-34147
		1

#### Devices rated for hazardous locations are not returnable.

Receptacle Options	Part #
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

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





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



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

# **Installation Accessories**

# **DXN30**

# applications 22-3A013-20P+ .31 - .51 .51 - .75 22-3A013-25P+

Handles





22-3A013-34\*\*\*

22-3A013-1\*\*\*

3/4"

1"

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





22-3A027

75 N in<sup>3</sup>

Pol<u>y 70°\*\*</u>

Alum Wall Boy

# **NPT Guidelines**

Cable Range	NPT
.438812	3/4"
.660 - 1.000	1"

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

#### **Accessory Spotlight**

**Receptacle Lockout Pin** 



A 5/16" lockout pin can be ordered to securely lockout receptacles that include the 'padlockable pawl' option. Alternatively the user can utilize a lock with a 5/16" shank. Locks with smaller shanks will NOT securely lockout a receptacle pawl.

## **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

.6798	22-3A013-32F	D+		
.95 - 1.26	22-3A013-40F	D+		
<ul> <li>ATEX rated for use in Zone 1/21, not listed for Class I or II, Division 2.</li> <li>*** For use in Class I or II, Division 2 or Zone 1/21 depending on fitting used. Fitting manufactured by others.</li> </ul>				
Wall Bo	Kes 81.9 in <sup>3+</sup>		NPT 5.4 in <sup>3+</sup>	NPT
Cable Range	Poly 70° <sup>++</sup> Wall Box	NPT	Poly 30°* Wall Box	Poly 30°** Wall Box
.472708	22-3AB58	1/2"	-	-

22-3AB58	1/2"	-	-	22-3A058-12
	3/4"	22-3A023-34-T	22-3A023-34-B	22-3A058-34
	1"	-	-	22-3A058-1
	1 1/4"	-	-	22-3A058-114
	1 1/2"	-	-	22-3A058-112

- + Interior volume with receptacle installed.
- \*\* NPT thread on bottom. ++ Poly cord grip is located on the top of box.
- For bottom cord entry, rotate the box 180°.
- \* NPT thread on top.
- \*\*\* NPT is drilled on top of aluminum box as standard. For NPT on side only, add an "L"
  - suffix. To switch from top to bottom or left to right the box can be rotated 180°.

# **Miscellaneous** Accessories

<b>00</b> * Set of Two (2)	For Male Devices Only	
Finger Drawplates	Protective Cap	Receptacle + Lockout Pin
61-3A346	22-3A426	LP-843

\* Recommended for cord to cord assembly applications, for easier connector closure.

Requires Padlockable Pawl option (-843) on receptacle.

## HP rated DXN30

#### **DXN30 Horsepower Ratings**

AMPS	VAC (Max) @ 60 Hz	Phases	HP Rating
30	120V	1Ø	1 hp
30	240V	3Ø	5 hp
30	480V	ЗØ	10 hp
30	600V	3Ø	15 hp



• HP ratings are based on CSA certification



# **DXN - 60A Hazardous Location Plugs & Receptacles**

#### Ratings

- Voltage 600 VAC
- Current Interruption Capability For current interrupting (AC)

•	Horsepo	wer	Ratings
	<b>120V</b>	1Ø	2 hp
	240V	3Ø	7.5 hp
	480V	3Ø	20 hp
	600V	3Ø	20 hp

- Environmental Ratings IP66+IP67
- Wiring Capacity Min 10 AWG Max 4 AWG Aux Contacts - Max 10 AWG
- \* Based on THHN wire sizes
- Listings<sup>+</sup> CSA, IECEX, ATEX \* For CE rated devices, contact
- customer service
- DXN60 Ratings Label

-40°C ≤Ta ≤+60°C Class I Zone1 Ex de IIC T5 DIP A21 T100°C Class I Zone1 AEx de IIC T5 tD 21 T100°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

<ul> <li>Temperatur</li> </ul>	e Table
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Ambient Temperature	Gas	Dust
-40°F < Ta < 104°F	T6	T80°C
-40°F < Ta < 140°F	T4	T100°C

#### Main Options







Normally Closed Lid Configuration (unlatched)



# **Receptacle** (female)



wall box.

opens to 120°



Devices rated for hazardous locations are not returnable.

Receptacle Options	Part #
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
* N 1 1 1 1 00 000 1 1 070	07/ 4 550 \/\0

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





Inlet (male)

Hazardous Location rating terminology and labeling is different for CE marked products – For international configurations (CE) visit meltric.com/international-catalog or contact customer service.

Voltage	Polarity	Part # Poly
120V	1P+N+G	22-68165
125V	1P+N+G	22-68075
208V	2P+G	22-68162
208V	3P+G	22-68163
208V	3P+N+G	22-68167
250V	2P+G	22-68072
250V	3P+G	22-68073
250V	2P+N+G	22-68076
277V	1P+N+G	22-68045
480V	2P+G	22-68042
480V	3P+G	22-68043
480V	3P+N+G	22-68047
600V	2P+G	22-68142
600V	3P+G	22-68143
600V	3P+N+G	22-68147
		1

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



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

#### **DXN60** Installation Accessories Handles Angles For use with Class I/II For Zone 1/21 applications Division 2 or Zone 1/21 fittings DXN accessories are not returnable. 22-6A027 22-6A013-25P+ 22-6A013-1\*\*\* .51 - .75 1' .67 - .98 22-6A013-32P+ **NPT Guidelines** .95 - 1.26 22-6A013-40P+ NPT Cable Range + 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. .660 - 1.000 1" NPT sizes are determined by the cable Wall Boxes diameter and third party cord grip. 170.0 in<sup>3+</sup> 183.3 in<sup>3+</sup> NPT Poly 30°\*\* Poly 70°++ Poly 70°\*\*\* NPT **Accessory Spotlight** Wall Box Finger Drawplates .629 - .984 22-6AB58 1/2" 22-6A058-12 3/4" 22-6A058-34 1" 22-6A023-1-B 22-6A023-1-T 22-6A058-1 1 1/4" 22-6A058-114 1 1/2" 22-6A058-112 + Interior volume with receptacle installed. \* NPT thread on top. ++ Poly cord grip is located on the top of box. \*\* NPT thread on bottom. Finger drawplates are recommended \*\*\* NPT is drilled on top of aluminum box as standard. For NPT on side only, add an "L" For bottom cord entry, rotate the box 180°. for easier connector closure on cord to suffix. To switch from top to bottom or left to right the box can be rotated 180°. cord assemblies. **Miscellaneous Accessories Order Example** A typical order should include an inlet part number, a receptacle part number AND the matching handles, angles or other required accessories.

<b>OO</b> * Set of Two (2)	For Male Devices Only	
Finger Drawplates	Protective Cap	Receptacle + Lockout Pin
61-6A346	22-6A426	LP-843

\* Recommended for cord to cord assembly applications, for easier connector closure.

+ Requires Padlockable Pawl option (-843) on receptacle.

# HP rated DXN60

#### **DXN60 Horsepower Ratings**

AMPS	VAC (Max) @ 60 Hz	Phases	HP Rating
60	120V	1Ø	2 hp
60	240V	3Ø	7.5 hp
60	480V	ЗØ	20 hp
60	600V	ЗØ	20 hp



• HP ratings are based on CSA certification



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



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

