



IEC 309 Pin and Sleeve Devices

COOPER Crouse-Hinds



NEMA 4X—IP67
Industrial Versions
Zone 1 & 2,
Division 2 Versions

Introduction and Table of Contents

The Standard For Safety & Reliability

The more demanding the environment, the likelier you are to find Cooper Crouse-Hind's products at the very center of operations.

From fittings and enclosures to control and apparatus, industrial lighting, plugs and receptacles, and signals and alarms, Cooper Crouse-Hinds' products don't just meet safety standards. More often than not, they set them.

IEC 309 Pin & Sleeve Devices

Cooper Crouse-Hinds has combined years of field proven Arktite® pin and sleeve expertise with German-North American precision engineering and manufacturing to offer the world's best IEC 309 plug and socket product line. Available in both watertight and hazardous area designs, this global product line features the latest technological innovations to lead the way in IEC 309 performance.

Each Cooper Crouse-Hinds device is designed and manufactured to meet IEC 309-1 and 309-2 standards and is interchangeable with all other nonhazardous, UL Listed IEC 309 plugs and receptacles.

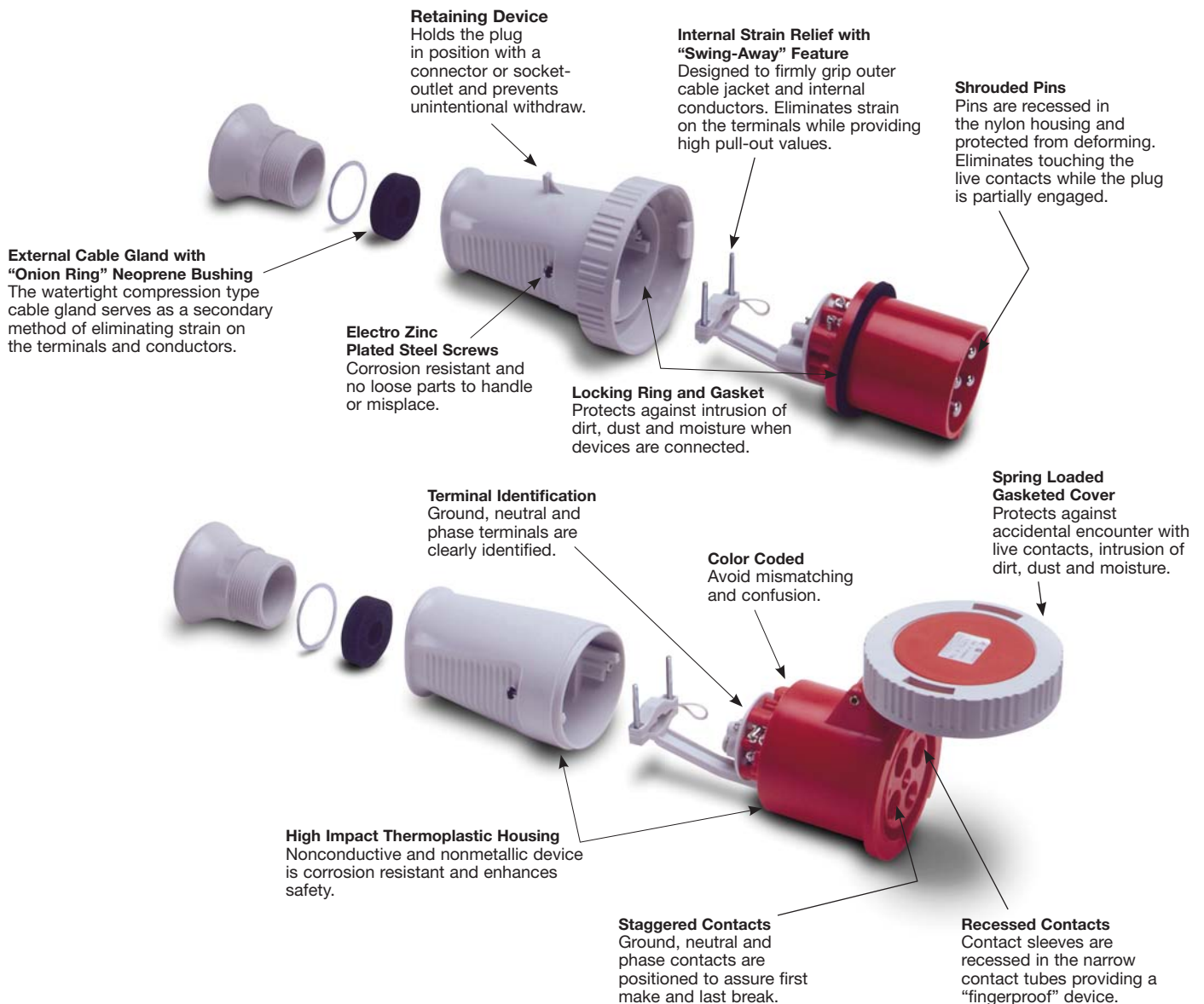


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IEC 309 Plugs, Connectors, Receptacles and Inlets— NEMA 4X, IP67, Nonmetallic

COOPER Crouse-Hinds



Retaining Device

Cooper Crouse-Hinds pin & sleeve devices are provided with a mechanical arrangement which holds a plug or connector in position when it is in proper engagement, and prevents its unintentional withdrawal.



Double Terminal Screws

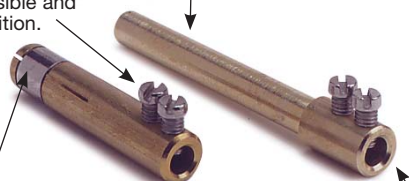
Maximum clamping pressure without damaging strands. Double terminal screws create a large area of safe and secure contact between conductor and terminal. Screws are captive, easily accessible and supplied in the open position.

Solid Brass Pins

Low contact resistance and high conductivity. Long lasting, reliable electrical contact.

Split Contact Sleeve with Nickel Plated Steel Springs
Provides optimum insertion/withdraw force and constant contact pressure.

Chamfered Terminals
Funnel Entry. Guides and captures all wire strands.



IEC 309 Plugs, Connectors, Receptacles and Inlets—Materials

PLUG

| | |
|---------------------------------|----------------------------|
| Assembly Screws* | Steel, Electro Zinc Plated |
| Friction Ring* | Steel, Electro Zinc Plated |
| Gland Cap | Polycarbonate Blend |
| Grommet | Solid Neoprene |
| Housing (Front and Back) | Type 6 Nylon |
| Internal Cord Clamp | Type 6 Nylon |
| Locking Ring | Type 6 Nylon |
| Pins (Watertight) | Brass, Nickel Plated |
| Pins (Splashproof) | Brass |
| Sealing Gasket | Neoprene |
| Terminal Screws | Steel, Nickel Plated |

INLET

| | |
|---------------------------|----------------------|
| Housing | Type 6 Nylon |
| Locking Ring | Type 6 Nylon |
| Mounting Flange | Type 6 Nylon |
| Pins (Watertight) | Brass, Nickel Plated |
| Pins (Splashproof) | Brass |
| Sealing Gasket | Neoprene |
| Terminal Screws | Steel, Nickel Plated |

* Stainless steel available upon request

Manufacturing pin & sleeve devices, of superior quality, can only be accomplished through the use of high grade materials. That is an important part of the Cooper Crouse-Hinds Pin & Sleeve system — quality products you can depend on.

Male pins and female sleeves are made of high conductivity brass. Contacts used with watertight devices are nickel plated to prevent corrosion. The insulated housing is made from a high impact, nylon material. The nonmetallic device, while resistant to most solvents, chemicals and salt water, is also non-conductive, which enhances the safety of the product.

All extracts from manufacturing, test standard or independent agency approvals are for informational purposes only and are not intended to be, should not be used as, nor considered to be a complete description of such. Contact customer service for a more complete version of the test standard or agency approval in question.

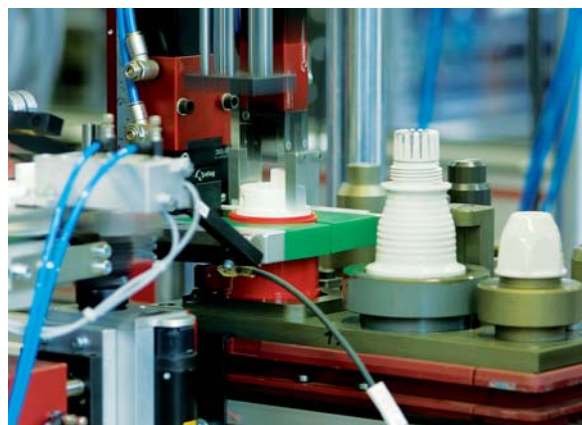
Cooper Crouse-Hinds reserves the right to make technical, descriptive, and dimensional changes due to product changes and/or improvements.

CONNECTOR

| | |
|---------------------------------|--|
| Assembly Screws* | Steel, Electro Zinc Plated |
| Cover | Type 6 Nylon |
| Cover Fastener | Nickel Plated Brass, Brass or Macrolon |
| Cover Spring | Stainless Steel (A2) |
| Friction Ring* | Steel, Electro Zinc Plated |
| Gland Cap | Polycarbonate Blend |
| Grommet | Solid Neoprene |
| Housing (Front and Back) | Type 6 Nylon |
| Internal Cord Clamp | Type 6 Nylon |
| Sealing Gasket | Neoprene |
| Sleeve Spring | Steel, Nickel Plated |
| Sleeves (Watertight) | Brass, Nickel Plated |
| Sleeves (Splashproof) | Brass |
| Terminal Screws | Steel, Nickel Plated |

RECEPTACLE

| | |
|------------------------------|--|
| Cover | Type 6 Nylon |
| Cover Fastener | Nickel Plated Brass, Brass or Macrolon |
| Cover Spring | Stainless Steel (A2) |
| Housing | Type 6 Nylon |
| Mounting Flange | Type 6 Nylon |
| Sealing Gasket | Neoprene |
| Sleeve Spring | Steel, Nickel Plated |
| Sleeves (Watertight) | Brass, Nickel Plated |
| Sleeves (Splashproof) | Brass |
| Terminal Screws | Steel, Nickel Plated |



IEC 309 Plugs, Connectors, Receptacles and Inlets— North American Performance Specifications



| ELECTRICAL | |
|--|--|
| Insulation Resistance | 500V for 1 min. Resistance $\geq 5M\Omega$ |
| Dielectric Voltage Withstand | 3000V for 1 min. |
| Ground Path Current | See Table 1 |
| Endurance, Connect and Disconnect Cycles | See Table 2 |
| Current Interrupting | Certified for current interrupting at full rated current and voltage. |
| Overload Test (Power factor 0.75-0.80) | Tested for current interrupting at 150% of the rated current and 100% of the rated voltage for 50 cycles. |
| Temperature Rise | Maximum 30°C rise at full rated current (after overload). |
| Resistance to Arcing | Continuation of overload test for an additional 200 cycles. |
| MECHANICAL | |
| Mold Stress Relief | 70°C (158°F) for 7 hours |
| Humidity | 32°C (89.6°F), 93% humidity for 7 days (168 hours) |
| Cable Secureness | See Table 3 |
| Impact | A device is wired with a 90" (2300mm) length of flexible cord and dropped from 30" (760mm) 8 times. The device is then conditioned for 6 hours at -25°C and immediately subjected to a repeated impact test. |
| Crushing | 250 lbs for 1 minute. The device is then conditioned for 6 hours at -25°C and immediately subjected to a repeated crushing test. |
| Withdrawal Force | See Table 4 |
| Strength of Insulating Base and Support | 110% of specified tightening torque on terminal screws. |
| Polarization Integrity | Matching devices will not mate so that the ground is energized, even when polarization feature is removed and 40 lb (180 N) insertion force is applied. |
| ENVIRONMENTAL | |
| Flammability | V-2 or better per UL 94 or CSA 22.2 No. 0.6 |
| Ambient Temperature Range | Minimum: -25°C (-13°F) with impact Maximum: 90°C (194°F) |
| Resistance to Corrosion | Ferrous parts immersed for 10 min. in a 10% solution of ammonium chloride at a temperature of 20°C. |
| Moisture Resistance | Watertight (IP67): Device immersed for 24 hours in water at a temp. of 25°C, the highest point of the device being 2" (5cm) below the water level. Splashproof (IP44): Device is sprayed with water for 10 minutes and immediately afterwards subjected to splashing water in all directions (360°). |
| UV Resistance | Exposed plastic materials are UV stabilized. |

TABLE 1 MINIMUM GROUND PATH CURRENT TEST

| Device Rating Amperes | Minimum Size Grounding Conductor | | Time, Seconds | Test Current, Amperes |
|-----------------------|----------------------------------|-----------------|---------------|-----------------------|
| | AWG | mm ² | | |
| 20 | 12 | 3.3 | 4 | 470 |
| 30 | 10 | 5.3 | 4 | 750 |
| 60 | 10 | 5.3 | 4 | 750 |
| 100 | 8 | 8.4 | 4 | 1180 |

A test current that far exceeds the device rating is passed through the mating devices and grounding wires.

TABLE 2 MINIMUM ENDURANCE TEST

| Device Rating Amperes | Cycles with Load at Rated Current and Voltage | No-Load Cycles | Sequence |
|-----------------------|---|----------------|-------------|
| 20 | 5000 | 0 | — |
| 30 | 1000 | 1000 | Alternating |
| 60 | 1000 | 1000 | Alternating |
| 100 | 250 | 250 | Alternating |

The test sequence is conducted by using a no-load, followed by a load sequence. The power factor of the load is 0.75 to 0.80.

TABLE 3 MINIMUM CABLE SECURENESS TEST

| Device Rating Amperes | Force | | Torque | | Maximum Displacement | |
|-----------------------|-------|-----|--------|------|----------------------|------|
| | lb. | N | ft-lb. | N•m | Inches | mm |
| 20 | 30 | 133 | 0.4 | 0.54 | 3/32 | 2.38 |
| 30 | 75 | 333 | 0.5 | 0.68 | 3/32 | 2.38 |
| 60 | 150 | 667 | 1.0 | 1.4 | 3/32 | 2.38 |
| 100 | 150 | 667 | 2.0 | 2.7 | 3/32 | 2.38 |

The flexible cord or cable is simultaneously twisted and pulled. Values for the applied twisting torque and force of pull are shown in Table 3. In all cases the cord displacement is less than 3/32 inches.

TABLE 4 MINIMUM WITHDRAWAL FORCES TEST

| Device Rating Amperes | Minimum Withdrawal Force | | |
|-----------------------|--------------------------|----|------------|
| | lb. | N | Time, Min. |
| 20 | 5 | 22 | 1 |
| 30 | 6 | 27 | 1 |
| 60 | 15 | 67 | 1 |
| 100 | 20 | 89 | 1 |

The pressure exerted by mating contacts of a plug and connector must be sufficient to prevent unintentional withdrawal during normal use. During the test, any locking rings or retaining means are not to be engaged.



These products are Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc. UL 1682, UL 1686

IEC 309 Plugs, Connectors, Receptacles and Inlets— International Performance Specifications

ELECTRICAL

| | |
|---|--|
| Insulation Resistance Per IEC 309-1, Clause 19 | 500V for 1 min. Resistance $\geq 5M\Omega$ |
| Dielectric Strength Per IEC 309-1, Clause 19 | 3000V for 1 min. |
| Norm. Operation, Connect & Disconnect Cycles Per IEC 309-1, Clause 21 | See Table 1 |
| Breaking Capacity Per IEC 309-1, Clause 20 | Tested at 110% of the rated operating voltage and 125% of the rated current. |
| Temperature Rise Per IEC 309-1, Clause 22 | Maximum 50 K rise at full rated current. |

MECHANICAL

| | |
|---|---|
| Cable Secureness Per IEC 309, Clause 23 | See Table 2 |
| Impact Per IEC 309, Clause 24 | A device is wired with a 2.25m length of flexible cord and dropped from a height of 75cm, 8 times. The device is then tested for applicable degrees of protection against moisture. |

ENVIRONMENTAL

| | |
|----------------------------------|---|
| Flammability | Self-extinguishing Per IEC 309-1, Clause 27 |
| Ambient Temperature Range | Minimum: -25°C with impact Maximum: 90°C |
| Moisture Resistance | Watertight (IP67): Device immersed for 24 hours in water at a temp. of 25°C, the highest point of the device being 5cm (2") below the water level. Splashproof (IP44): Device is sprayed with water for 10 minutes and immediately afterwards subjected to splashing water in all directions (360°). |
| UV Resistance | Exposed plastic materials are UV stabilized. |

DECLARATION OF CONFORMITY

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We declare, under our sole responsibility, the conformity of the following products and standards:

Plugs and Sockets (Pin and Sleeve devices)
DIN EN 60 309, T. 1/BS 4343
DIN EN 60 309, T. 2

This declaration of conformity is according to the EC regulations 73/23, 91/368 and 89/336 (Low Voltage Directive), module A, in consideration of DIN EN 45 014.

TABLE 1

MINIMUM CONNECT AND DISCONNECT CYCLES

| Device Rating Amperes | Cycles with Load at Rated Current and Voltage | No-Load Cycles | Sequence |
|-----------------------|---|----------------|-------------|
| 16 | 5000 p.f of 0.6 | 0 | — |
| 32 | 1000 p.f of 0.6 | 1000 | Alternating |
| 63 | 1000 p.f of 0.6 | 1000 | Alternating |
| 125 | 250 p.f of 0.7 | 250 | Alternating |

The test sequence is conducted by using a no-load, followed by a load sequence.

TABLE 2

MINIMUM CABLE SECURENESS TEST

| Device Rating Amperes | Force | Torque | Maximum Displacement |
|-----------------------|-------|-----------|----------------------|
| | N | N•m | mm |
| 16 | 80 | 0.3500.68 | 2 |
| 32 | 100 | 0.425 | 2 |
| 63 | 120 | 0.8 | 2 |
| 125 | 200 | 1.5 | 2 |

The flexible cord or cable is twisted and pulled. Values for the applied twisting torque and force of pull are shown in Table 2. In all cases the cord displacement is less than 2mm.



Norway



Germany



Finland



Switzerland



Austria



Sweden



Belgium



Denmark



Italy



Netherlands



Czechoslovakia



Hungary



Russia



United States



Canada



IEC 309 Plugs, Connectors, Receptacles and Inlets— Useful Tables

MAKING A CONNECTION IS EASY

A clock face is used to represent the grounding contact position for all female connectors and receptacles. With the keyway at the bottom, the female grounding contact will appear at one of the twelve hour positions. To identify the system voltage, identify the housing color and hour location of the connector or receptacle grounding contact.

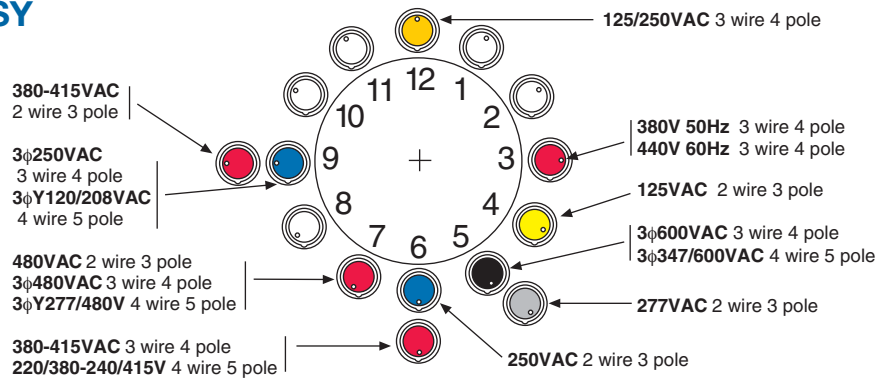


TABLE 1 We've made our catalog number ordering system as easy to use as our products! Simply follow the six-part "code":

| CH Prefix | 4 1st digit | 20 2nd-4th digit | R 1st letter | 7 Last digit | W Last letter |
|---------------------|--|--|---|--|-------------------------|
| CH = Crouse-Hinds | 3 = 3 pole 4 = 4 pole 5 = 5 pole | 16 = 16 Amp 20 = 20 Amp 30 = 30 Amp 32 = 32 Amp 60 = 60 Amp 63 = 63 Amp 100 = 100 Amp 125 = 125 Amp | P = Plug C = Connector R = Receptacle Straight RA = Receptacle 15° Angled RA80 = Receptacle 80° Angled B = Inlet MI = Mechanical Interlock MIB = Circuit Breaker Interlock | Clock position of female grounding contact | W = Watertight |

TABLE 2 CABLE AND CONDUCTOR STRIP LENGTH

| Device Rating | | | | | |
|------------------------------|------|-----|-------|------|-------|
| North American | | 20A | 30A | 60A | 100A |
| International | | 16A | 32A | 63A | 125A |
| Outer Jacket Strip Length | inch | 2 | 2 1/2 | 3 | 4 |
| | mm | 50 | 63 | 76 | 102 |
| Conductor Strip Length | inch | 1/2 | 1/2 | 3/4 | 1 1/8 |
| | mm | 12 | 12 | 19 | 28 |
| Pilot Conductor Strip Length | inch | | | 7/16 | 5/8 |
| | mm | | | 11 | 16 |

TABLE 3 MAXIMUM TORQUE APPLIED TO TERMINAL SCREWS

| Device Rating | | | | | |
|-----------------------|---------|-----|-----|------|------|
| North American | | 20A | 30A | 60A | 100A |
| International | | 16A | 32A | 63A | 125A |
| Torque Terminal Screw | lb.-in. | 7.1 | 7.1 | 17.6 | 35.3 |
| | N-m | 0.8 | 0.8 | 2 | 4 |
| Torque Pilot Screw | lb.-in. | | | 7.1 | 7.1 |
| | N-m | | | 0.8 | 0.8 |

TABLE 4 METRIC AND AWG/MCM CONDUCTOR SIZE EQUIVALENTS

| Conductor Size | | Test Range (Amperage) |
|-----------------|---------|-----------------------|
| mm ² | AWG/MCM | |
| 1,0 | 18 | 0-8 |
| 1,5 | 16 | 8-12 |
| 2,5 | 14 | 12-15 |
| 2,5 | 12 | 15-20 |
| 4,0 | 10 | 20-25 |
| 6,0 | 10 | 25-32 |
| 10 | 8 | 32-50 |
| 16 | 6 | 50-65 |
| 25 | 4 | 65-85 |
| 35 | 3 | 85-100 |
| 35 | 2 | 100-115 |
| 50 | 1 | 115-130 |
| 50 | 1/0 | 130-150 |
| 70 | 2/0 | 150-175 |
| 95 | 3/0 | 175-200 |
| 95 | 4/0 | 200-225 |
| 120 | 250 | 225-250 |
| 150 | 300 | 250-275 |
| 185 | 350 | 275-300 |
| 185 | 400 | 300-350 |
| 240 | 500 | 350-400 |

IEC 309-1 and 309-2 Mechanical Interlocks— NEMA 4X, IP67, Nonhazardous

Compliance with OSHA Lockout Requirements

Cooper Crouse-Hinds Mechanical Interlock's bright red handle can be locked in the "OFF" position as a method of compliance with OSHA lockout requirements. The handle can accept up to a 5/16" padlock shaft.

Watertight NEMA 4X, 12K Enclosure

Cooper Crouse-Hinds Mechanical Interlocks are gasketed and rated as a Watertight NEMA 4X, 12K enclosure. The nonmetallic enclosure, while abuse and corrosion resistant, is also nonconductive which enhances the safety of the product.

Grounding Plate

Cooper Crouse-Hinds Mechanical Interlocks are supplied with a free floating grounding plate. Because of this unique method of grounding, conduit entry may be made from the top, bottom or side. No other brand offers this type of installation versatility.

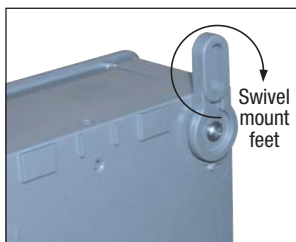


A Pre-Molded Offset Dimple

Cooper Crouse-Hinds does not install a hub at the top of our mechanical interlocks, rather a pre-molded offset dimple (drill point) is provided instead of a conduit entry hole. This allows the installer to choose the size of the conduit to be used, and the location where the conduit will be attached to the enclosure (top, bottom or side entry) without the use of knockout plugs and reducers. Arranging the conduit entry hole at the dimple location will prevent condensation from falling directly on the interior electrical components, such as the switch. It will also allow for more room to pull conductors when wiring. Approximately 40% of all entry is from the bottom.

Swivel Mount Feet (135°)

Swivel mount feet can be used for installations where irregular or tight fit applications exist.



Compact Size

All versions and sizes are designed to fit within the web of an 8" column. This compact size allows the use of columns as a mounting location.

Easy Identification

Catalog number, rating and certifications are indicated on the label for easy identification of mating devices.

Color Coded Receptacle Covers

Receptacle covers are color-coded by voltage in accordance with IEC 309 standard.

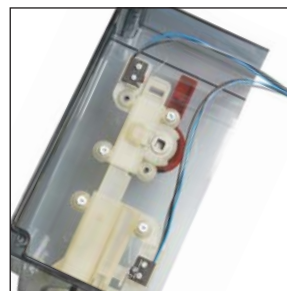


Completely Compatible

Completely compatible with not only Cooper Crouse-Hinds IEC 309-1 and 309-2 plugs, but with any manufacturer's plugs that conform to the IEC 309 standards and color coding system anywhere in the world. When Cooper Crouse-Hinds IP67 plugs are used in conjunction with NEMA 4X rated Cooper Crouse-Hinds Mechanical Interlocks, both devices are NEMA 4X rated.

Micro Switch

Available upon request. May be used to transmit signal when plug is inserted or when switch is turned to the "ON" position. May also be used for indicator light to display and confirm when switch is turned "ON" or "OFF". Consult technical service for price and delivery.



SAFETY

Designed to combine a disconnect switch and a receptacle into one compact device. Mechanical interlock receptacles eliminate the possibility of making or breaking the circuit under load or making a haphazard connection. A mechanism within the enclosure prevents the switch from being turned to the “ON” position until the plug is fully engaged into the receptacle. Once inserted, the plug is locked in place when the switch is turned on and can’t be removed until the switch is turned to the “OFF” position. This prevents making or breaking the circuit under load.

The integration of the switch and the receptacle in a single, compact enclosure encourages the safe operating practice of disconnecting at the switch rather than the plug and receptacle.

The nonmetallic enclosure, while abuse and corrosion resistant, is also nonconductive, which enhances the safety of the product. The device can be connected to metallic conduit without interfering with the ground continuity. All mechanical interlock receptacles provide lockout protection for greater safety and comply with OSHA Lockout/Tagout requirements.

RELIABILITY

These horsepower rated devices are available in both splashproof and watertight versions. NEMA 4X Watertight (IP67) devices are designed for the most demanding environments and provide protection against corrosion, dirt, dust, splashing water and hose-directed water.

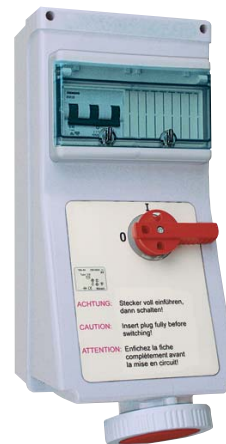
Splashproof (IP44) devices provide many of the heavy-duty construction features found in the watertight devices, but at a more economical cost. These units are suitable and recommended for use in a variety of

light industrial environments and provide protection against damaging deposits of dirt and dust, rain and splashing water.

Watertight and splashproof devices provide exceptional UV stability for superior outdoor performance.

WORLDWIDE INTERCHANGEABILITY

Mechanical interlock receptacles are built to IEC 309-1 and 309-2 specifications and are completely compatible with not only IEC 309-2 plugs, but with any manufacturer’s plugs that conform to these IEC standards and color coding system anywhere in the world.



Mechanical Interlocks, with built-in circuit breakers, incorporate an interlocking receptacle with MCB Type “C” circuit breakers in a nonmetallic enclosure that meets Type 4X (Washdown, Corrosion Resistant) requirements.

This new design combines the circuit breakers, switch and receptacle in a single enclosure. The Type “C” circuit breakers are mounted on DIN rail directly above the switch.

HORSEPOWER RATINGS

| Amperage | Wires/ Poles | 120VAC | Three Phase | | | |
|------------|-----------------|--------|-------------|--------|--------|--|
| | | | 240VAC | 480VAC | 600VAC | |
| 20 and 30 | 2W, 3P | 2 | 5 | 10 | – | |
| 20 and 30 | 3W, 4P | 2 | 10 | 20 | 25 | |
| 20 and 30 | 4W, 5P | 10 | – | 20 | 25 | |
| 60 and 100 | 2W, 3P | 3 | 7.5 | 15 | – | |
| 60 and 100 | 3W, 4P | 3 | 15 | 25 | 30 | |
| 60 and 100 | 4W, 5P | 15 | – | 25 | 30 | |



COOPER CROUSE-HINDS CIRCUIT-BREAKER MECHANICAL INTERLOCKS

The new CIRCUIT-BREAKER Mechanical Interlock integrates a circuit breaker (which takes the place of a switch) and receptacle in a nonmetallic enclosure that meets Type 4X (Washdown, Corrosion Resistant) requirements.

- Switched, Circuit Breaker Interlock Receptacles are available in 20, 30, 60 and 100 Amp (North American Ratings) and 16, 32, 63 and 125 Amp (International Ratings).
- UL489 Listed 22KAIC protection.

IEC 309-1 and 309-2 Mechanical Interlocks— Performance Specifications

ELECTRICAL

| | |
|---------------------------------------|---|
| Dielectric Voltage Withstand | 3,000 Volts |
| Maximum Working Voltage | 600 Volts RMS (switch version) 480 Volts RMS (circuit breaker version) |
| Current Interrupting | Certified for current interrupting at full rated current and voltage. |
| Short Circuit Withstand Rating | Suitable for use on a circuit capable of delivering not more than 10,000 RMS symmetrical amperes at the voltage rating of the receptacle. |
| Operations | Mechanical: 10,000 cycles Electrical: 6,000 cycles |

MECHANICAL

| | |
|--------------------------------|---|
| Impact Resistance | In accordance with UL 746C |
| Terminal Identification | In accordance with UL, CSA and international conventions. |
| Product Identification | Identification, ratings and color code in accordance with UL, CSA and IEC requirements. |
| Lockout/Tagout | “ON” and “OFF” lockout/tagout capability at switch handle. Complies with OSHA Reg. 29CFR 1910.147 |
| Mounting | Switch Version (Internal or external adjustable mounting feet) Compact Version (Internal mounting) Circuit Breaker Version (Internal or external adjustable mounting feet) |

ENVIRONMENTAL

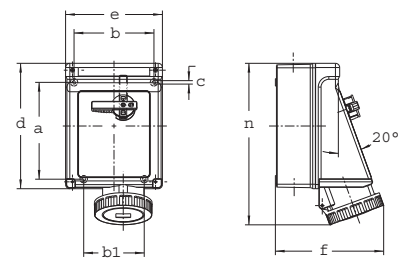
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| Moisture Resistance | Watertight IP67 (Washdown) UL Type 4X Splashproof IP44 |
| Flammability | UL94-5VA & V0 Classifications |
| Operating Temperatures | Maximum Continuous: 60°C (140°F) Minimum Continuous: -40°C (-40°F) |
| UV Resistance | UV stabilized material |
| Chemicals | Resists most standard industrial hydrocarbons, acids, bases and solvents. |

MATERIALS

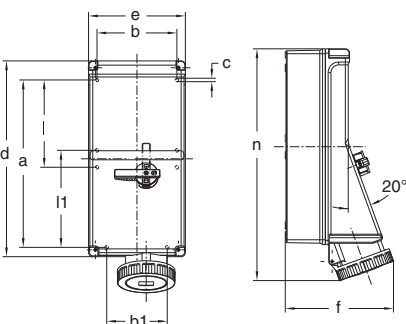
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|--|---|
| Enclosure (all exterior components) | UL94-5VA/V0, UV stabilized, impact modified Valox. |
| Contact Carrier | Molded arc resistant UL94-V0 thermoplastic |
| Gaskets | Neoprene or EPDM |
| Contacts (NEMA 4X, Watertight IP67) | Brass, Nickel Plated |
| Contacts (Splashproof (IP44)) | Brass |
| Hardware (screws & springs) | Steel with zinc-plated blue chromate or nickel plating. |

APPROVALS & COMPLIANCES

| |
|---|
| UL 508 (switch version) Motor Disconnect |
| UL 508 (compact version) Manual Motor Controller |
| UL 231 & UL 489 (circuit breaker version) |
| UL1682 & 1686 |
| CSA C22.2 No. 14, 182.1 |
| IEC 309-1 & IEC 309-2 |



Drawing A



Drawing B

DRAWING A

| Dimensions | | | | | | | | | | | | | |
|------------|-------|-----------------|-----------------|------|------|------|------|------|------|------|---------|-------|---------|
| Amps | | Wires and Poles | Unit of Measure | a | b | b1 | c | d | e | IP44 | NEMA 4X | IP44 | NEMA 4X |
| N.A. | Int'l | | | | | | | | | | IP67 | | IP67 |
| 20 | 16 | 2W3P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.17 | 7.60 | 10.55 | 10.63 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 182 | 193 | 268 | 270 |
| 20 | 16 | 3W4P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.36 | 7.64 | 10.63 | 10.71 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 187 | 194 | 270 | 272 |
| 20 | 16 | 4W5P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.24 | 7.72 | 10.75 | 10.91 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 184 | 196 | 273 | 277 |
| 30 | 32 | 2W3P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.36 | 7.91 | 11.10 | 11.22 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 187 | 201 | 282 | 285 |
| 30 | 32 | 3W4P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.36 | 7.91 | 11.10 | 11.22 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 187 | 201 | 282 | 285 |
| 30 | 32 | 4W5P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.44 | 7.91 | 11.18 | 11.38 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 189 | 201 | 284 | 289 |
| 60 | 63 | 2W3P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.72 | 8.23 | 11.89 | 12.17 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 196 | 209 | 302 | 309 |
| 60 | 63 | 3W4P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.72 | 8.23 | 11.89 | 12.17 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 196 | 209 | 302 | 309 |
| 60 | 63 | 4W5P | inch | 7.20 | 5.94 | 4.49 | 0.26 | 9.33 | 7.20 | 7.72 | 8.23 | 11.89 | 12.17 |
| | | | mm | 183 | 151 | 151 | 6.5 | 237 | 183 | 196 | 209 | 302 | 309 |

DRAWING B

| Dimensions | | | | | | | | | | | |
|------------|-------|-----------------|-----------------|--------------|-------------|-------------|-------------|--------------|-------------|----------------|----------------|
| Amps | | Wires and Poles | Unit of Measure | | | | | | | NEMA 4X IP44 f | NEMA 4X IP44 n |
| N.A. | Int'l | | | a | b | b1 | c | d | e | | |
| 100 | 125 | 2W3P | inch mm | 12.44 316 | 5.94 151 | 4.96 126 | 0.26 6.5 | 14.57 370 | 7.20 183 | 9.57 243 | 17.72 450 |
| 100 | 125 | 3W4P | inch mm | 12.44 316 | 5.94 151 | 4.96 126 | 0.26 6.5 | 14.57 370 | 7.20 183 | 9.57 243 | 17.72 450 |
| 100 | 125 | 4W5P | inch mm | 12.44 316 | 5.94 151 | 4.96 126 | 0.26 6.5 | 14.57 370 | 7.20 183 | 9.57 243 | 17.72 450 |

Ordering Information

PIN & SLEEVE ORDERING INFORMATION*

| 20A AND 30A NORTH AMERICAN RATINGS SERIES 2 16A AND 32A INTERNATIONAL RATINGS SERIES 1 | | | | | WATERTIGHT DEVICES | | | | | | |
|---|-----------------|----------------|------------|-------------------|---------------------|------------------------|-----------|-----------|-----------|-------------------|---------------------------|
| Amps | Wires and Poles | CONFIGURATION | | | Straight Receptacle | Angled 15° Receptacle† | Plug | Connector | Inlet | Interlock Unfused | Circuit Breaker Interlock |
| | | Recept./ Conn. | Plug/Inlet | Voltage | | | | | | | |
| 16A | 2W3P | | | 110-130 | CH316R4W | CH316RA4W | CH316P4W | CH316C4W | CH316B4W | CH316MI4W | CH316MIB4W |
| | 2W3P | | | 220-240 | CH316R6W | CH316RA6W | CH316P6W | CH316C6W | CH316B6W | CH316MI6W | CH316MIB6W |
| | 3W4P | | | 380-400 | CH416R6W | CH416RA6W | CH416P6W | CH416C6W | CH416B6W | CH416MI6W | CH416MIB6W |
| | 4W5P | | | 220-380 & 240-415 | CH516R6W | CH516RA6W | CH516P6W | CH516C6W | CH516B6W | CH516MI6W | CH516MIB6W |
| 20A | 2W3P | | | 125 | CH320R4W | CH320RA4W | CH320P4W | CH320C4W | CH320B4W | CH320MI4W | CH320MIB4W |
| | 2W3P | | | 250 | CH320R6W | CH320RA6W | CH320P6W | CH320C6W | CH320B6W | CH320MI6W | CH320MIB6W |
| | 2W3P | | | 480 | CH320R7W | CH320RA7W | CH320P7W | CH320C7W | CH320B7W | CH320MI7W | CH320MIB7W |
| | 3W4P | | | 125/250 | CH420R12W | CH420RA12W | CH420P12W | CH420C12W | CH420B12W | CH420MI12W | CH420MIB12W |
| | 3W4P | | | 3Ø250 | CH420R9W | CH420RA9W | CH420P9W | CH420C9W | CH420B9W | CH420MI9W | CH420MIB9W |
| | 3W4P | | | 3Ø480 | CH420R7W | CH420RA7W | CH420P7W | CH420C7W | CH420B7W | CH420MI7W | CH420MIB7W |
| | 3W4P | | | 3Ø600 | CH420R5W | CH420RA5W | CH420P5W | CH420C5W | CH420B5W | CH420MI5W | CH420MIB5W |
| | 4W5P | | | 3ØY120/208 | CH520R9W | CH520RA9W | CH520P9W | CH520C9W | CH520B9W | CH520MI9W | CH520MIB9W |
| | 4W5P | | | 3ØY277/480 | CH520R7W | CH520RA7W | CH520P7W | CH520C7W | CH520B7W | CH520MI7W | CH520MIB7W |
| | 4W5P | | | 3ØY347/600 | CH520R5W | CH520RA5W | CH520P5W | CH520C5W | CH520B5W | CH520MI5W | CH520MIB5W |
| | 2W3P | | | 125 | CH330R4W | CH330RA4W | CH330P4W | CH330C4W | CH330B4W | CH330MI4W | CH330MIB4W |
| | 2W3P | | | 250 | CH330R6W | CH330RA6W | CH330P6W | CH330C6W | CH330B6W | CH330MI6W | CH330MIB6W |
| | 2W3P | | | 480 | CH330R7W | CH330RA7W | CH330P7W | CH330C7W | CH330B7W | CH330MI7W | CH330MIB7W |
| | 3W4P | | | 125/250 | CH430R12W | CH430RA12W | CH430P12W | CH430C12W | CH430B12W | CH430MI12W | CH430MIB12W |
| | 3W4P | | | 3Ø250 | CH430R9W | CH430RA9W | CH430P9W | CH430C9W | CH430B9W | CH430MI9W | CH430MIB9W |
| | 3W4P | | | 3Ø480 | CH430R7W | CH430RA7W | CH430P7W | CH430C7W | CH430B7W | CH430MI7W | CH430MIB7W |
| 30A | 3W4P | | | 3Ø600 | CH430R5W | CH430RA5W | CH430P5W | CH430C5W | CH430B5W | CH430MI5W | CH430MIB5W |
| | 4W5P | | | 3ØY120/208 | CH530R9W | CH530RA9W | CH530P9W | CH530C9W | CH530B9W | CH530MI9W | CH530MIB9W |
| | 4W5P | | | 3ØY277/480 | CH530R7W | CH530RA7W | CH530P7W | CH530C7W | CH530B7W | CH530MI7W | CH530MIB7W |
| | 4W5P | | | 3ØY347/600 | CH530R5W | CH530RA5W | CH530P5W | CH530C5W | CH530B5W | CH530MI5W | CH530MIB5W |
| | 2W3P | | | 110-130 | CH332R4W | CH332RA4W | CH332P4W | CH332C4W | CH332B4W | CH332MI4W | CH332MIB4W |
| | 2W3P | | | 220-240 | CH332R6W | CH332RA6W | CH332P6W | CH332C6W | CH332B6W | CH332MI6W | CH332MIB6W |
| | 3W4P | | | 380-400 | CH432R6W | — | CH432P6W | CH432C6W | CH432B6W | CH432MI6W | CH432MIB6W |
| | 4W5P | | | 220-380 & 240-415 | CH532R6W | CH532RA6W | CH532P6W | CH532C6W | CH532B6W | CH532MI6W | CH532MIB6W |
| | 2W3P | | | 110-130 | CH332R4W | CH332RA4W | CH332P4W | CH332C4W | CH332B4W | CH332MI4W | CH332MIB4W |
| | 2W3P | | | 220-240 | CH332R6W | CH332RA6W | CH332P6W | CH332C6W | CH332B6W | CH332MI6W | CH332MIB6W |
| | 3W4P | | | 380-400 | CH432R6W | — | CH432P6W | CH432C6W | CH432B6W | CH432MI6W | CH432MIB6W |
| | 4W5P | | | 220-380 & 240-415 | CH532R6W | CH532RA6W | CH532P6W | CH532C6W | CH532B6W | CH532MI6W | CH532MIB6W |

* Splashproof IP44 products are also available—please consult factory.

250VDC and Barge Overflow products are also available—please consult factory.

† Angled 80° receptacles are also available. To order, add suffix "80" directly after "RA" in the angled 15° receptacle catalog number. Example: CH330RA804W

Ordering Information

PIN & SLEEVE ORDERING INFORMATION*

**60A AND 100A
NORTH AMERICAN RATINGS SERIES 2
63A AND 125A
INTERNATIONAL RATINGS SERIES 1**

WATERTIGHT DEVICES



| Amps | Wires and Poles | CONFIGURATION | | Voltage | | | | | | | |
|------|-----------------|---------------|------------|-------------------|---------------------|------------------------|------------|------------|--------------|-------------------|---------------------------|
| | | Recept./Conn. | Plug/Inlet | | Straight Receptacle | Angled 15° Receptacle† | Plug | Connector | Inlet | Interlock Unfused | Circuit Breaker Interlock |
| 60A | 2W3P | | | 125 | CH360R4W | CH360RA4W | CH360P4W | CH360C4W | CH360B4W | CH360MI4W | CH360MIB4W |
| | 2W3P | | | 250 | CH360R6W | CH360RA6W | CH320P6W | CH360C6W | CH360B6W | CH360MI6W | CH360MIB6W |
| | 2W3P | | | 480 | CH360R7W | CH360RA7W | CH360P7W | CH360C7W | CH360B7W | CH360MI7W | CH360MIB7W |
| | 3W4P | | | 125/250 | CH460R12W | CH460RA12W | CH460P12W | CH460C12W | CH460B12W | CH460MI12W | CH460MIB12W |
| | 3W4P | | | 3Ø250 | CH460R9W | CH460RA9W | CH460P9W | CH460C9W | CH460B9W | CH460MI9W | CH460MIB9W |
| | 3W4P | | | 3Ø480 | CH460R7W | CH460RA7W | CH460P7W | CH460C7W | CH460B7W | CH460MI7W | CH460MIB7W |
| | 3W4P | | | 3Ø600 | CH460R5W | CH460RA5W | CH460P5W | CH460C5W | CH460B5W | CH460MI5W | CH460MIB5W |
| | 4W5P | | | 3ØY120/208 | CH560R9W | CH560RA9W | CH560P9W | CH560C9W | CH560B9W | CH560MI9W | CH560MIB9W |
| | 4W5P | | | 3ØY277/480 | CH560R7W | CH560RA7W | CH560P7W | CH560C7W | CH560B7W | CH560MI7W | CH560MIB7W |
| | 4W5P | | | 3ØY347/600 | CH560R5W | CH560RA5W | CH560P5W | CH560C5W | CH560B5W | CH560MI5W | CH560MIB5W |
| | 63A | 2W3P | | 220-240 | CH363R6W | CH363RA6W | CH363P6W | CH363C6W | CH363B6W | CH363MI6W | CH363MIB6W |
| | 3W4P | | | 380-400 | CH463R6W | CH463RA6W | CH463P6W | CH463C6W | CH463B6W | CH463MI6W | CH463MIB6W |
| 100A | 4W5P | | | 220-380 & 240-415 | CH563R6W | CH563RA6W | CH563P6W | CH563C6W | CH563B6W | CH563MI6W | CH563MIB6W |
| | 2W3P | | | 125 | CH3100R4W | CH3100RA4W | CH3100P4W | CH3100C4W | CH3100B4W ‡ | CH3100MI4W | CH3100MIB4W |
| | 2W3P | | | 250 | CH3100R6W | CH3100RA6W | CH3100P6W | CH3100C6W | CH3100B6W ‡ | CH3100MI6W | CH3100MIB6W |
| | 2W3P | | | 480 | CH3100R7W | CH3100RA7W | CH3100P7W | CH3100C7W | CH3100B7W ‡ | CH3100MI7W | CH3100MIB7W |
| | 3W4P | | | 125/250 | CH4100R12W | CH4100RA12W | CH4100P12W | CH4100C12W | CH4100B12W ‡ | CH4100MI12W | CH4100MIB12W |
| | 3W4P | | | 3Ø250 | CH4100R9W | CH4100RA9W | CH4100P9W | CH4100C9W | CH4100B9W ‡ | CH4100MI9W | CH4100MIB9W |
| | 3W4P | | | 3Ø480 | CH4100R7W | CH4100RA7W | CH4100P7W | CH4100C7W | CH4100B7W ‡ | CH4100MI7W | CH4100MIB7W |
| | 3W4P | | | 3Ø600 | CH4100R5W | CH4100RA5W | CH4100P5W | CH4100C5W | CH4100B5W ‡ | CH4100MI5W | — |
| | 4W5P | | | 3ØY120/208 | CH5100R9W | CH5100RA9W | CH5100P9W | CH5100C9W | CH5100B9W ‡ | CH5100MI9W | CH5100MIB9W |
| | 4W5P | | | 3ØY277/480 | CH5100R7W | CH5100RA7W | CH5100P7W | CH5100C7W | CH5100B7W ‡ | CH5100MI7W | CH5100MIB7W |
| | 4W5P | | | 3ØY347/600 | CH5100R5W | CH5100RA5W | CH5100P5W | CH5100C5W | CH5100B5W ‡ | CH5100MI5W | — |
| | 125A | 2W3P | | 110-130 | CH3125R6W | CH3125RA6W | CH3125P6W | CH3125C6W | CH3125B6W ‡ | CH3125MI6W | CH3125MIB6W |
| 125A | 3W4P | | | 380-400 | CH4125R6W | CH4125RA6W | CH4125P6W | CH4125C6W | CH4125B6W ‡ | CH4125MI6W | CH4125MIB6W |
| | 3W4P | | | 500 | CH4125R7W | CH4125RA7W | CH4125P7W | CH4125C7W | CH4125B7W ‡ | CH4125MI7W | — |
| | 4W5P | | | 220-380 & 240-415 | CH5125R6W | CH5125RA6W | CH5125P6W | CH5125C6W | CH5125B6W ‡ | CH5125MI6W | CH5125MIB6W |

* Splashproof IP44 products are also available—please consult factory.

250VDC and Barge Overflow products are also available—please consult factory.

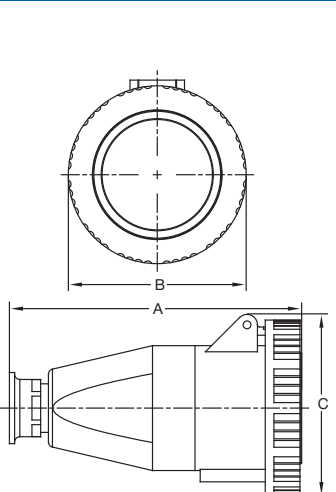
† Angled 80° receptacles are also available. To order, add suffix "80" directly after "RA" in the angled 15° receptacle catalog number. Example: CH330RA804W

‡ 100A and 125A inlets are straight.

WATERTIGHT PLUGS (IP67)

| Amps | | Poles | Dimensions | | Cord Grip Range | |
|------|-------|-----------|-------------|------------|-------------------------|-------------------------|
| | | | A | B | N. American | International |
| N.A. | Intl. | | inch (mm) | inch (mm) | | |
| 20 | 16 | 3 | 4.96 (126) | 2.83 (72) | 0.275-0.530 (7.0-13.5) | 0.275-0.530 (7.0-13.5) |
| 20 | 16 | 4 | 5.20 (132) | 3.19 (81) | 0.395-0.825 (10.0-21.0) | 0.275-0.630 (7.0-16.0) |
| 20 | 16 | 5 | 5.20 (132) | 3.46 (88) | 0.395-0.825 (10.0-21.0) | 0.275-0.630 (7.0-16.0) |
| 30 | 32 | 3 | 6.14 (156) | 3.78 (96) | 0.395-0.825 (10.0-21.0) | 0.395-0.825 (10.0-21.0) |
| 30 | 32 | 4 | 6.14 (156) | 3.78 (96) | 0.650-1.10 (16.5-28.0) | 0.395-0.825 (10.0-21.0) |
| 30 | 32 | 5 | 6.14 (156) | 4.06 (103) | 0.650-1.10 (16.5-28.0) | 0.395-0.825 (10.0-21.0) |
| 60 | 63 | 3, 4, & 5 | 9.57 (243) | 4.33 (110) | 0.650-1.50 (16.5-38.0) | 0.650-1.50 (16.5-38.0) |
| 100 | 125 | 3, 4, & 5 | 12.40 (315) | 5.12 (130) | 0.950-1.90 (24.0-48.0) | 0.950-1.90 (24.0-48.0) |

WATERTIGHT CONNECTORS (IP67)

|  | Amps | | | | | Dimensions | | | Cord Grip Range | |
|--|------|-----------|-------|------|------|------------|------------|-------------|-----------------|--|
| | N.A. | Intl. | Poles | | A | B | C | N. American | International | |
| | 20 | 16 | 3 | inch | 5.35 | 2.83 | 3.07 | 0.275-0.530 | 0.275-0.530 | |
| | | | | mm | 136 | 72 | 78 | 7.0-13.5 | 7.0-13.5 | |
| | 20 | 16 | 4 | inch | 5.63 | 3.19 | 3.35 | 0.395-0.825 | 0.275-0.630 | |
| | | | | mm | 143 | 81 | 85 | 10.0-21.0 | 7.0-16.0 | |
| | 20 | 16 | 5 | inch | 5.63 | 3.46 | 3.58 | 0.395-0.825 | 0.275-0.630 | |
| | | | | mm | 143 | 88 | 91 | 10.0-21.0 | 7.0-16.0 | |
| | 30 | 32 | 3 | inch | 6.97 | 3.78 | 3.78 | 0.395-0.825 | 0.395-0.825 | |
| | | | | mm | 177 | 96 | 96 | 10.0-21.0 | 10.0-21.0 | |
| 30 | 32 | 4 | inch | 6.97 | 3.78 | 3.78 | 0.650-1.10 | 0.395-0.825 | | |
| | | | mm | 177 | 96 | 96 | 16.5-28.0 | 10.0-21.0 | | |
| 30 | 32 | 5 | inch | 6.97 | 4.06 | 4.13 | 0.650-1.10 | 0.395-0.825 | | |
| | | | mm | 177 | 103 | 105 | 16.5-28.0 | 10.0-21.0 | | |
| 60 | 63 | 3, 4, & 5 | inch | 10.0 | 4.33 | 4.61 | 0.650-1.50 | 0.650-1.50 | | |
| | | | mm | 255 | 110 | 117 | 16.5-38.0 | 16.5-38.0 | | |
| 100 | 125 | 3, 4, & 5 | inch | 13.1 | 5.12 | 5.12 | 0.950-1.90 | 0.950-1.90 | | |
| | | | mm | 332 | 130 | 130 | 24.0-48.0 | 24.0-48.0 | | |

WATERTIGHT RECEPTACLE (IP67) – Straight

5.5mm (.22") 20 and 30 Amp
6.5mm (.26") 60 and 100 Amp

| Amps | | | Dimensions | | | | | | | | |
|------|-------|-----------|------------|------|------|------|------|------|------|------|------|
| N.A. | Intl. | Poles | | A | B | C | D | E | F | G | H |
| 20 | 16 | 3 | inch | 2.82 | 2.05 | 1.10 | 1.81 | 2.44 | 2.44 | 1.85 | 1.85 |
| | | | mm | 71.5 | 52 | 28 | 46 | 62 | 62 | 47 | 47 |
| 20 | 16 | 4 | inch | 31.9 | 2.05 | 1.10 | 2.36 | 2.95 | 2.95 | 2.36 | 2.36 |
| | | | mm | 81 | 52 | 28 | 60 | 75 | 75 | 60 | 60 |
| 20 | 16 | 5 | inch | 3.46 | 2.05 | 1.10 | 2.36 | 2.95 | 2.95 | 2.36 | 2.36 |
| | | | mm | 88 | 52 | 28 | 60 | 75 | 75 | 60 | 60 |
| 30 | 32 | 3 & 4 | inch | 3.78 | 2.56 | 1.06 | 2.36 | 2.95 | 2.95 | 2.36 | 2.36 |
| | | | mm | 96 | 65 | 27 | 60 | 75 | 75 | 60 | 60 |
| 30 | 32 | 5 | inch | 4.06 | 2.56 | 1.06 | 2.36 | 2.95 | 2.95 | 2.36 | 2.36 |
| | | | mm | 103 | 65 | 27 | 60 | 75 | 75 | 60 | 60 |
| 60 | 63 | 3, 4, & 5 | inch | 4.29 | 3.27 | 2.05 | 3.54 | 3.94 | 4.21 | 3.03 | 3.35 |
| | | | mm | 109 | 83 | 52 | 90 | 100 | 107 | 77 | 85 |
| 100 | 125 | 3, 4, & 5 | inch | 5.12 | 3.78 | 2.52 | 3.54 | 4.49 | 4.49 | 3.54 | 3.54 |
| | | | mm | 130 | 96 | 64 | 90 | 114 | 114 | 90 | 90 |

Dimension Drawings

WATERTIGHT RECEPTACLE (IP67)—Angled 15°

Technical drawing of a terminal block showing three views: top, side, and front. The top view shows dimensions C, B, and 15°. The side view shows dimensions A and 15°. The front view shows dimensions F, G, and E. The front view also shows a circular opening with a diameter of 5.5mm (.22").

5.5mm (.22")
20 and 30 Amp
6.5mm (.26")
60 and 100 Amp

Technical drawing of a terminal block showing a front view with dimensions G, H, S, and D. The front view shows a circular opening with a diameter of 5.5mm (.22").

| Amps | | | Dimensions | | | | | | | | |
|------|-------|-----------|------------|------|------|------|------|------|------|------|------|
| N.A. | Intl. | Poles | | A | B | C | D | E | F | G | H |
| 20 | 16 | 3 | inch | 2.82 | 1.93 | 1.61 | 2.01 | 2.44 | 2.68 | 1.85 | 1.85 |
| | | | mm | 71.5 | 49 | 41 | 51 | 62 | 68 | 47 | 47 |
| 20 | 16 | 4 | inch | 31.9 | 2.05 | 1.50 | 2.87 | 3.62 | 3.94 | 3.03 | 3.35 |
| | | | mm | 81 | 52 | 38 | 73 | 92 | 100 | 77 | 85 |
| 20 | 16 | 5 | inch | 3.46 | 2.05 | 1.50 | 2.87 | 3.62 | 3.94 | 3.03 | 3.35 |
| | | | mm | 88 | 52 | 38 | 73 | 92 | 100 | 77 | 85 |
| 30 | 32 | 3 & 4 | inch | 3.78 | 2.20 | 1.85 | 2.87 | 3.62 | 3.94 | 3.03 | 3.35 |
| | | | mm | 96 | 56 | 47 | 73 | 92 | 100 | 77 | 85 |
| 30 | 32 | 5 | inch | 4.06 | 2.36 | 1.85 | 2.87 | 3.62 | 3.94 | 3.03 | 3.35 |
| | | | mm | 103 | 60 | 47 | 73 | 92 | 100 | 77 | 85 |
| 60 | 63 | 3, 4, & 5 | inch | 4.29 | 3.23 | 2.52 | 3.19 | 3.94 | 4.21 | 3.03 | 3.35 |
| | | | mm | 109 | 82 | 64 | 81 | 100 | 107 | 77 | 85 |
| 100 | 125 | 3, 4, & 5 | inch | 5.12 | 3.70 | 2.95 | 3.54 | 4.49 | 4.49 | 3.54 | 3.54 |
| | | | mm | 130 | 94 | 75 | 90 | 114 | 114 | 90 | 90 |

WATERTIGHT RECEPTACLE (IP67)—Angled 80°

5.5mm (.22")
20 and 30 Amp
6.2mm (.24") 60 Amp

| Amps | | | Dimensions | | | | | | | | |
|------|-------|----------|------------|------|------|------|-------|------|------|------|------|
| N.A. | Intl. | Poles | | A | B | C | D max | E | F | G | H |
| 20 | 16 | 3 | inch | 2.83 | 3.46 | 4.29 | 1.18 | 2.56 | 2.05 | 2.17 | 1.18 |
| | | | mm | 72 | 88 | 109 | 30 | 65 | 52 | 55 | 30 |
| 20 | 16 | 4 | inch | 3.19 | 4.25 | 4.84 | 1.50 | 3.15 | 2.60 | 2.68 | 1.57 |
| | | | mm | 81 | 108 | 123 | 38 | 80 | 66 | 68 | 40 |
| 20 | 16 | 5 | inch | 3.46 | 4.25 | 4.84 | 1.50 | 3.15 | 2.60 | 2.68 | 1.57 |
| | | | mm | 88 | 108 | 123 | 38 | 80 | 66 | 68 | 40 |
| 30 | 32 | 3 & 4 | inch | 3.78 | 4.76 | 5.71 | 1.73 | 3.54 | 2.95 | 3.07 | 1.77 |
| | | | mm | 96 | 121 | 145 | 44 | 90 | 75 | 78 | 45 |
| 30 | 32 | 5 | inch | 4.06 | 4.84 | 5.71 | 1.73 | 3.54 | 2.95 | 3.07 | 1.77 |
| | | | mm | 103 | 123 | 145 | 44 | 90 | 75 | 78 | 45 |
| 60 | 63 | 3, 4 & 5 | inch | 4.33 | 5.63 | 7.99 | 2.20 | 4.49 | 4.49 | 3.54 | 3.54 |
| | | | mm | 110 | 143 | 203 | 56 | 114 | 114 | 90 | 90 |

WATERTIGHT INLETS (IP67)—Angled 80°

5.5mm (.22")
20 and 30 Amp
6.2mm (.24")
60 and 100 Amp


| Amps | | | Dimensions | | | | | | | | |
|------------|----|-----------|------------|------|------|------|------|------|------|------|------|
| N.A. Intl. | | Poles | | A | B | C | D | E | F | G | H |
| 20 | 16 | 3 | inch | 2.83 | 3.19 | 3.86 | 1.18 | 2.56 | 2.05 | 2.17 | 1.18 |
| | | | mm | 72 | 81 | 98 | 30 | 65 | 52 | 55 | 30 |
| 20 | 16 | 4 | inch | 3.19 | 3.90 | 4.33 | 1.50 | 3.15 | 2.60 | 2.68 | 1.57 |
| | | | mm | 81 | 99 | 110 | 38 | 80 | 66 | 68 | 40 |
| 20 | 16 | 5 | inch | 3.50 | 4.06 | 4.45 | 1.50 | 3.15 | 2.60 | 2.68 | 1.57 |
| | | | mm | 89 | 103 | 113 | 38 | 80 | 66 | 68 | 40 |
| 30 | 32 | 3 | inch | 3.78 | 4.45 | 5.12 | 1.73 | 3.54 | 2.95 | 3.07 | 1.77 |
| | | | mm | 96 | 113 | 130 | 44 | 90 | 75 | 78 | 45 |
| 30 | 32 | 4 | inch | 3.78 | 4.45 | 5.12 | 1.73 | 3.54 | 2.95 | 3.07 | 1.77 |
| | | | mm | 96 | 113 | 130 | 44 | 90 | 75 | 78 | 45 |
| 30 | 32 | 5 | inch | 4.02 | 4.61 | 5.12 | 1.73 | 3.54 | 2.95 | 3.07 | 1.77 |
| | | | mm | 102 | 117 | 130 | 44 | 90 | 75 | 78 | 45 |
| 60 | 32 | 3, 4, & 5 | inch | 4.33 | 5.00 | 7.20 | 2.20 | 4.49 | 4.49 | 3.54 | 3.54 |
| | | | mm | 110 | 127 | 183 | 56 | 114 | 114 | 90 | 90 |

WATERTIGHT INLETS (IP67)—Straight

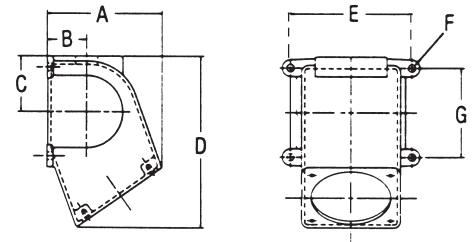
6.5mm (.26")
60 and 100 Amp

| Amps | | | Dimensions | | | | | | | | |
|------|-------|-------|------------|------|------|------|------|------|------|------|------|
| N.A. | Intl. | Poles | | A | B | C | D | E | F | G | H |
| 100 | 125 | 3 | inch | 5.12 | 3.70 | 2.20 | 3.54 | 5.12 | 5.12 | 4.09 | 4.09 |
| | | | mm | 130 | 94 | 56 | 90 | 130 | 130 | 104 | 104 |
| 100 | 125 | 4 | inch | 5.12 | 3.70 | 2.20 | 3.54 | 5.12 | 5.12 | 4.09 | 4.09 |
| | | | mm | 130 | 94 | 56 | 90 | 130 | 130 | 104 | 104 |
| 100 | 125 | 5 | inch | 5.12 | 3.70 | 2.20 | 3.54 | 5.12 | 5.12 | 4.09 | 4.09 |
| | | | mm | 130 | 94 | 56 | 90 | 130 | 130 | 104 | 104 |


BACK BOXES—for use with straight watertight and splashproof receptacles.

| | Cat. No. | Description | Hub Size | Dimensions (Inches) | | | | | | | Cubic Inch Capacity |
|---|-----------|---|----------|---------------------|------|------|------|------|------|------|---------------------|
| | | | | A | B | C | D | E | F | G | |
|  | BE3-B75 | 20° angle for 20A, 4 and 5 pole recepts. and all 30A recepts. | 3/4" | 3.34 | 0.97 | 1.12 | 4.12 | 4.00 | 0.25 | — | 20.4 |
| | BE3-B100 | | 1" | 3.34 | 0.97 | 1.12 | 4.12 | 4.00 | 0.25 | — | 20.4 |
| | BE6-B125 | 20° angle for all 60A receptacles | 1 1/4" | 4.41 | 1.41 | 2.09 | 5.63 | 5.00 | 0.28 | 3.00 | 59.7 |
| | BE6-B150 | | 1 1/2" | 4.41 | 1.41 | 2.09 | 5.63 | 5.00 | 0.28 | 3.00 | 59.7 |
| | BE10-B150 | 20° angle for all 100A receptacles | 1 1/2" | 5.18 | 1.78 | 2.50 | 7.71 | 5.50 | 0.34 | 4.00 | 96.6 |
| | BE10-B200 | | 2" | 5.18 | 1.78 | 2.50 | 7.71 | 5.50 | 0.34 | 4.00 | 96.6 |


Epoxy-coated cast aluminum junction boxes are corrosion resistant and designed to pass the 500-hour salt spray test, the UL hosedown and external icing tests.



BACK BOX ADAPTER PLATES—for use with Hubbell back boxes.

|  | Cat. No. | Receptacle | For use with Hubbell Back Box |
|---|----------|---------------------------------------|----------------------------------|
| | CHAP20H | 20A, 3 Pole | BB201W, BB301W, FT202W or FT302W |
| | CHAP30H | 20A, 4 & 5 Pole 30A, 3, 4 & 5 Pole | BB201W, BB301W, FT202W or FT302W |
| | CHAP60H | 60A, 3, 4 & 5 Pole | BB601W, BB602W or FW60/100 |
| | CHAP100H | 100A, 3, 4 & 5 Pole | BB1001W, BB1002W or FW60/100 |

WATERTIGHT CLOSURE CAPS—for use with watertight male plugs and inlets.

|  | Cat. No. | Poles | Amperage Rating | Std. Pkg Qty. |
|---|----------|-------|-----------------|---------------|
| | CHCC320 | 3 | 20A | 5 |
| | CHCC3430 | | 30A | 5 |
| | CHCC60 | | 60A | 2 |
| | CHCC100 | | 100A | 2 |
| | CHCC420 | 4 | 20A | 5 |
| | CHCC3430 | | 30A | 5 |
| | CHCC530 | | 60A | 2 |
| | CHCC60 | | 100A | 2 |
| | CHCC520 | 5 | 20A | 5 |
| | CHCC530 | | 30A | 5 |
| | CHCC60 | | 60A | 2 |
| | CHCC100 | | 100A | 2 |

PRE-INSTALLED CLOSURE CAPS

Closure caps provide watertight or splashproof protection to disconnected plugs and inlets. The possibility of removing or misplacing the cap can be eliminated by securing the chain or nylon strap to the inlet flange. If the closure cap will be fastened to a plug, Cooper Crouse-Hinds can pre-install the cap on the device. This factory installation assures safe and reliable utilization of the two components. Contact customer service for ordering information.



Hazardous Area IEC 309 Plugs and Interlocks— Class I, Zone 1 & 2, Division 2, NEMA 4X, IP66



HEAVY DUTY STRAIN RELIEF

Offering superior pullout protection and significantly reducing the occurrence of seal failure, our external strain relief system absorbs all tensile and torsional forces. In addition, an extremely long and dependable inside seal provides added protection.

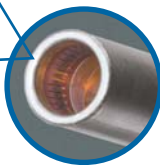
Hazardous Area IEC 309 Plugs and Interlocks— Class I, Zone 1 & 2, Division 2, NEMA 4X, IP66

COOPER Crouse-Hinds



Easy to wire. Cover removes along an innovative break line that permits full access to internal switch terminations.

Brass contacts with field-proven, self-cleaning multi-lam pressure bands for smooth plug insertion, low heat rise and uniform electrical contact.



Factory sealed switch provides Zone 1 & 2, Div. 2 explosion protection. Receptacle is dead-front until plug is fully engaged and rotated to activate switch. Plug cannot be removed under load. Switch is horsepower, and AIC-rated.

APPLICATIONS

IEC 309 explosion protected devices are used:

- to supply power to portable or fixed electrical equipment
- where hazardous gases may be present
- in damp or wet locations
- where impact and corrosion resistance are required
- where compact equipment is required in tight spaces

FEATURES

- mechanically interlocked plug and receptacle—plug cannot be engaged or disengaged under load
- simple “insert plug and twist” design to activate internal switch
- self cleaning multi-lam contacts provide reliable power connection
- compact size, easy to handle and install
- OSHA lockout/tagout
- dual bottom entry Zone 1 Myers® hubs
- full wiring access, saves time and money
- VØ rated materials


OPTIONS

- auxiliary contacts for PLC or pilot light applications—add suffix [S483]

STANDARD MATERIALS

- enclosure: type 12 nylon
- plug body: fiber-reinforced nylon
- hardware: stainless steel
- contacts: brass

CERTIFICATIONS

















































- AEx de IIc T6
- Class I, Zone I, Div. 2, Groups A, B, C & D
- EEx ed IIC T6
-  II 2G/D
- UL,* cUL
- PTB 99 ATEX 1039
- IP66, NEMA 4X
- CE
- VDE



* 20A, 30A, 60A, 100A Pin Configuration to IEC 309-1/2 Series 2—UL Listed
16A, 32A, 63A, 125A, Pin Configuration to IEC 309-1/2 Series 1—Not U.L. Listed

Ordering Information

HAZARDOUS AREA PIN & SLEEVE ORDERING INFORMATION

| Amps | Cable Gland | Myers Hub | Wires and Poles | CONFIGURATION | | Voltage |  Interlock Receptacle |  Plug |
|------|-------------|-----------|-----------------|---|---|---------|---|---|
| | | | | Recept./ Conn. | Plug/Inlet | | | |
| 16A | M20 | | 2W3P |  |  | 110–120 | GHG 511 4304 R3001 | GHG 511 7304 R0001 |
| | M20 | | 2W3P |  |  | 220–240 | GHG 511 4306 R3001 | GHG 511 7306 R0001 |
| | M25 | | 3W4P |  |  | 220–240 | GHG 511 4409 R3001 | GHG 511 7409 R0001 |
| | M25 | | 3W4P |  |  | 380–415 | GHG 511 4406 R3001 | GHG 511 7406 R0001 |
| | M25 | | 3W4P |  |  | 500 | GHG 511 4407 R3001 | GHG 511 7407 R0001 |
| | M25 | | 3W4P |  |  | 690 | GHG 511 4405 R3001 | GHG 511 7405 R0001 |
| | M25 | | 4W5P |  |  | 380–415 | GHG 511 4506 R3001 | GHG 511 7506 R0001 |
| 20A | | 1/2 | 2W3P |  |  | 125 | GHG 511 4304 L3001 | GHG 511 7304 L0001 |
| | | 1/2 | 2W3P |  |  | 250 | GHG 511 4306 L3001 | GHG 511 7306 L0001 |
| | | 3/4 | 3W4P |  |  | 3Ø250 | GHG 511 4409 L3001 | GHG 511 7409 L0001 |
| | | 3/4 | 3W4P |  |  | 3Ø480 | GHG 511 4407 L3001 | GHG 511 7407 L0001 |
| | | 3/4 | 3W4P |  |  | 3Ø600 | GHG 511 4405 L3001 | GHG 511 7405 L0001 |
| 30A | | 1 | 3W4P |  |  | 3Ø250 | GHG 512 4409 L3001 | GHG 512 7409 L0001 |
| | | 1 | 3W4P |  |  | 3Ø480 | GHG 512 4407 L3001 | GHG 512 7407 L0001 |
| | | 1 | 3W4P |  |  | 3Ø600 | GHG 512 4405 L3001 | GHG 512 7405 L0001 |
| 32A | M32 | | 3W4P |  |  | 220–240 | GHG 512 4409 R3001 | GHG 512 7409 R0001 |
| | M32 | | 3W4P |  |  | 380–415 | GHG 512 4406 R3001 | GHG 512 7406 R0001 |
| | M32 | | 3W4P |  |  | 500 | GHG 512 4407 R3001 | GHG 512 7407 R0001 |
| | M32 | | 3W4P |  |  | 690 | GHG 512 4405 R3001 | GHG 512 7405 R0001 |
| | M32 | | 4W5P |  |  | 380–415 | GHG 512 4506 R3001 | GHG 512 7506 R0001 |
| 60A | | 1 1/4 | 3W4P |  |  | 3Ø250 | GHG 514 4409 L3001 | GHG 514 7409 L0001 |
| | | 1 1/4 | 3W4P |  |  | 3Ø480 | GHG 514 4407 L3001 | GHG 514 7407 L0001 |
| | | 1 1/4 | 3W4P |  |  | 3Ø600 | GHG 514 4405 L3001 | GHG 514 7405 L0001 |

































ADDITIONAL PRODUCTS

10A and 20A multi-pin interlock receptacle and plugs are available—Please see Cooper Crouse-Hinds Catalog 310 or consult factory for ordering information

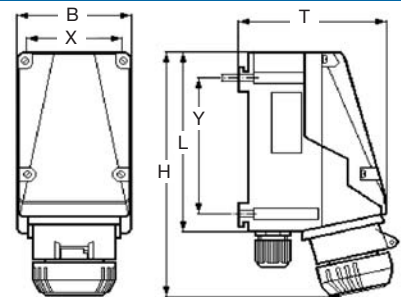
16A and 32A flange receptacles and connectors are available—Please see Cooper Crouse-Hinds Catalog 310 or consult factory for ordering information



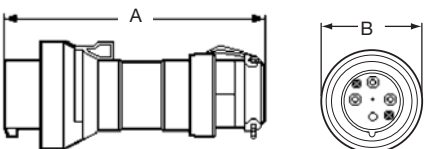
HAZARDOUS AREA PIN & SLEEVE ORDERING INFORMATION

| Amps | Cable Gland | Myers Hub | Wires and Poles | CONFIGURATION | | |  Interlock Receptacle |  Plug |
|------|-------------|-----------|-----------------|---|---|---------|---|---|
| | | | | Recept./Conn. | Plug/Inlet | Voltage | | |
| 63A | M40 | | 3W4P |  |  | 220-240 | GHG 514 4409 R3001 | GHG 514 7409 R0001 |
| | M40 | | 3W4P |  |  | 380-415 | GHG 514 4406 R3001 | GHG 514 7406 R0001 |
| | M40 | | 3W4P |  |  | 500 | GHG 514 4407 R3001 | GHG 514 7407 R0001 |
| | M40 | | 3W4P |  |  | 690 | GHG 514 4405 R3001 | GHG 514 7405 R0001 |
| | M40 | | 4W5P |  |  | 380-415 | GHG 514 4506 R3001 | GHG 514 7506 R0001 |
| 100A | | 1 1/2 | 3W4P |  |  | 125/250 | GHG 515 4412 L3001 | GHG 515 7412 L0001 |
| | | 1 1/2 | 3W4P |  |  | 3Ø250 | GHG 515 4409 L3001 | GHG 515 7409 L0001 |
| | | 1 1/2 | 3W4P |  |  | 3Ø480 | GHG 515 4407 L3001 | GHG 515 7407 L0001 |
| | | 1 1/2 | 3W4P |  |  | 3Ø600 | GHG 515 4405 L3001 | GHG 515 7405 L0001 |
| | | 1 1/2 | 4W5P |  |  | 230-400 | GHG 515 4506 L3001 | GHG 515 7506 L0001 |
| 125A | M63 | | 3W4P |  |  | 220-240 | GHG 515 4409 R3001 | GHG 515 7409 R0001 |
| | M63 | | 3W4P |  |  | 380-415 | GHG 515 4406 R3001 | GHG 515 7406 R0001 |
| | M63 | | 3W4P |  |  | 500 | GHG 515 4407 R3001 | GHG 515 7407 R0001 |
| | M63 | | 3W4P |  |  | 690 | GHG 515 4405 R3001 | GHG 515 7405 R0001 |
| | M63 | | 4W5P |  |  | 380-415 | GHG 515 4506 R3001 | GHG 515 7506 R0001 |

HAZARDOUS INTERLOCK RECEPTACLE

|  | 16/20A | | 30/32A | 60/63A | 100/125A |
|---|--------|------|--------|--------|----------|
| | 3P | 4/5P | 4/5P | 4/5P | |
| | B | 3.5 | 4.3 | 4.7 | 7.9 |
| | X | 3.15 | 3.94 | 4.33 | 7.09 |
| | T | 4.8 | 5.8 | 6.6 | 8.9 |
| | Y | 4.53 | 5.31 | 6.7 | 10.87 |
| | L | 6.1 | 6.9 | 8.1 | 14.6 |
| | H | 8.8 | 9.3 | 11.5 | 18.7 |

HAZARDOUS PLUG

|  | 16/20A | | 30/32A | 60/63A | 100/125A |
|---|--------|-----------|--------|------------|------------|
| | 3P | 4P | 4/5P | 4/5P | |
| | A | 6.7 | 7.4 | 7.4 | 9.8 |
| | B | 2.8 | 3.0 | 3.3 | 3.9 |
| Cord Dia. Range (In.) | | .515-.827 | | .515-1.102 | .630-1.378 |
| | | | | .630-1.378 | .827-2.28 |

For more information:

If further assistance is required, please contact an authorized Cooper Crouse-Hinds Distributor, Sales Office or Customer Service Department:

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(905) 507-4187
FAX: (905) 568-7048

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CEAG Middle East LLC
971-4-324-1519
FAX: 971-4-324-1640

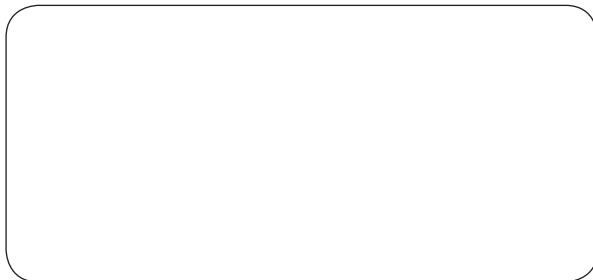
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