HP20™ Series

- Utilizes a Small #20 Size Shell
- Accommodates Up to 646 MCM Cable
- Patents Pending

Safety wire holes (3) .062 DIA.

Reversible on complete cable assembly.
RigPower’s mission is to create new industry standards in industrial electrical connectors by combining appropriate technological advances, quality production methods and dependable customer support.

Introduction

As each new drilling rig is designed, more and more equipment is added to allow deeper and faster drilling. However, the size of the equipment that can be carried over the highways has a fixed limit. Thus the space that can be allowed for each component becomes smaller. RigPower’s HP20 series connectors allow large cable sizes with smaller connector shells, providing tighter component spacing and maximizing the use of the available space.

<table>
<thead>
<tr>
<th>CABLE SIZE</th>
<th>90°C</th>
<th>125°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/0 MCM</td>
<td>364 AMPS</td>
<td>451 AMPS</td>
</tr>
<tr>
<td>313 MCM</td>
<td>513 AMPS</td>
<td>636 AMPS</td>
</tr>
<tr>
<td>373 MCM</td>
<td>548 AMPS</td>
<td>669 AMPS</td>
</tr>
<tr>
<td>444 MCM</td>
<td>642 AMPS</td>
<td>796 AMPS</td>
</tr>
<tr>
<td>535 MCM</td>
<td>724 AMPS</td>
<td>898 AMPS</td>
</tr>
<tr>
<td>646 MCM</td>
<td>814 AMPS</td>
<td>1009 AMPS</td>
</tr>
<tr>
<td>777 MCM</td>
<td>916 AMPS</td>
<td>1135 AMPS</td>
</tr>
</tbody>
</table>

Each contact and buss bar has an O-Ring Seal designed into the body which offers improved mounting between the electrical component and the insulator. Additionally, the O-Ring provides a water tight seal so that the components won’t have the propensity to short or burn out, even when the cap is not installed.

The HP20 series is a new (patent pending) product exclusive to RigPower. It offers a small shell size 20 connector available in a full range of cable sizes from 4/0 to 777 DLO. This is the smallest connector on the market which will accept a 646 and 777 sized cable. It has a multilam contact system that is capable of carrying the full ampacity of 125 degree rated 646 cable. The HP20 series is available in a wide range of styles and is stocked in ten colors to provide correct phase identification.

A robust Buss Bar style back provides for larger current loads.
- Installation and breakdown is quick and reliable
- Double hole Buss Bar with cut indicator in the event a single hole buss bar is required
- Made from high conductivity copper, Sn coated

Quick acting double lead ACME threads for rapid yet secure connections.

Made from Sn plated high conductivity copper. The male buss bars and contacts have a dead front end to protect operators from shock hazard.

The HP20 series female receptacles use the Multilam Contact System. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.
- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

The HP20 Series have a matching two key way to assist with the mounting of the mating component.

Highly resistant stainless steel chain and clips to prevent loss of cap
- Powder coated for easier phase identification at hook-up

30° – 45° Reversible Locking Buss Bar Lug

Receptacle Cap
- Heavy duty stainless steel chain and clips to prevent loss of cap
- Powder Coated for easier phase identification at hook-up

For Front Mounting
Dia = 2 23/64
Flange Outline
2 3/4
2 3/32 Square

For Rear Mounting
Dia = 2 33/64

7/32
INTERNAL FEATURES

Design & Performance Highlights
The advanced HP20 design techniques utilized by RigPower have allowed us to design in two O-Rings (Contact to Insulator and Insulator to Cable Adapter) at the optimum locations to create a water tight seal.

- Rated for 1135 Amps continuous at 1,000 volts, AC/DC
- Rugged machined aluminum shell with a hard anodized coating is resistant to salt corrosion, drilling mud, humidity, moisture, oil and dust
- Heavy-Duty ACME Threaded Coupling permits positive and quick engagement even under harsh conditions
- A dead front tip on the male contact improves operator safety by eliminating exposed, live surfaces

Advanced Crimping System
The HP20 Series connectors are designed to use the standard hex crimp seen on all RigPower, LLC products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

The patent pending elastomeric combination shear and sealing ring which reduces the radial clearance needed and allows for a full size 646 crimp well.

Industry Exclusive
Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won’t have the propensity to short or burn out, even when the cap is not installed.

Industry Exclusive
The HP20 series is the smallest connector on the market that will accept 646 MCM cable. The (patent pending) combination shear and sealing elastomeric ring reduces the radial distance needed for the insulation between the OD of the copper contact and the ID of the connector body while providing safe operation at up to 1000 volts. This design allows for a size 20 shell to contain a full size contact capable of carrying the full amperage of 646 MCM cable. The 1100 amp rating of the contact assures complete reliability and full load rating.

Industry Exclusive
Sn plated high conductivity copper contact. All male plugs and receptacles have a dead front end to protect operators from shock hazard.

Industry Exclusive
Sn plated high conductivity copper contact. All male plugs and receptacles have a dead front end to protect operators from shock hazard.

Industry Exclusive
The extra-long barrel and the (patent pending) design of the internally insulated cable adapter allows no “line of sight” between the copper contact and the internal of the metal shell. This allows a full sized 646 MCM crimp well to be safely contained in the smaller Size 20 connector shell.

The HP20 Series connectors use the Multilam contact system. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points.
- High resistance to heat
- High electrical and thermal conductivity
- Sufficiently high contact forces
- High number of contact cycles
- Excellent resistance to corrosion
- Resistance to vibration
- Long product life

HP20™ Internal Mylar Insulating Sleeve

HP20™ Cable Adaptor w/ Internal Insulating Sleeve
**INDUSTRY FEATURES AND BENEFITS**

**Advanced Crimping System**

The HP20 Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

**US Patent Pending**

The small size of the HP20 connector is made possible by our exclusive shielded cable adapter.

**Industry Exclusive**

Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won’t have the propensity to short or burn out, even when the cap is not installed.

**HP20™ Female Plug**

- Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

**HP20™ Male Plug**

- Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Quick acting double lead ACME threads for rapid, yet secure, connections.

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**HP20™ Female Plug**

- Robust Hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil and dust.

Quick acting double lead ACME threads for rapid, yet secure, connections.

**Hubbell® Gripp**

Made from Sn plated high conductivity copper. The male contacts have a dead front end to protect operators from shock hazard.

**Plug Cap**

- Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

**Insulator**

Includes internal O-ring seals to prevent moisture intrusion.
FIXED CABLE RECEPTACLE FEATURES AND BENEFITS

**HP20™ Male Fixed Cable Receptacle**

- Cable plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.
- Robust hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil, and dust.
- Quick acting double lead ACME threads for rapid yet secure connections.

**HP20™ Female Fixed Cable Receptacle**

- Can accommodate either a Mechanical Cable Clamp or Kellems® Grip.
- Neoprene gasket provided.
- Robust hex grip for easy assembly and handling. Fully anodized to resist salt corrosion, drilling mud, humidity, moisture, oil, and dust.

**HP20™ Fixed In-line Connection**

- Made from Sn plated high conductivity copper. The male contacts have a dead front end to protect operators from shock hazard.
- Neoprene gasket provided.
- Quick acting double lead ACME threads for rapid yet secure connections.

**US Patent Pending**

The small size of the HP20 connector is made possible by our exclusive shielded cable adapter.

- The HP20 series female receptacles use the Multilam Contact System. The Multilam Louver Strip allows electrical contact to be made via a large number of defined, current carrying contact points:
  - High resistance to heat
  - High electrical and thermal conductivity
  - Sufficiently high contact forces
  - High number of contact cycles
  - Excellent resistance to corrosion
  - Resistance to vibration
  - Long product life

- Fixed cable receptacle cap – Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.
**HP20™ Series**

**IN-LINE RECEPTACLE CONNECTIONS**

**HP20™ Female In-line Receptacle**

- **Advanced Crimping System**
  - The HP20 Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

**Industry Exclusive**
- Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won’t have the propensity to short or burn out, even when the cap is not installed.

**Plug Cap**
- Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

**HP20™ In-line Connection**

**HP20™ Plug**

- **Advanced Crimping System**
  - The HP-0 Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

**Industry Exclusive**
- Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won’t have the propensity to short or burn out, even when the cap is not installed.

**Insulator**
- Includes internal O-ring seals to prevent moisture intrusion.

**Plug Cap**
- Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

**HP20™ Male In-line Receptacle**

- **Advanced Crimping System**
  - The HP-0 Series connectors are designed to use the standard hex crimp seen on all RigPower products. This standard crimp design provides a more robust and durable crimp and standardizes the tools needed. One set of four hex die sizes will accommodate all RigPower contacts from 4/0 to 777 MCM cables.

**Industry Exclusive**
- Each contact and receptacle insulator has an O-Ring Seal designed into the body which offers improved mounting between the insulator and cable adapter shell and receptacle housing. Additionally, the O-Ring provides a water tight seal so that the component won’t have the propensity to short or burn out, even when the cap is not installed.

**Plug Cap**
- Fully powder coated, helps protect roughnecks by identifying proper phase color easily, up close or from a distance. Heavy duty stainless steel chain and clips to prevent loss of cap.

*Cellems*, is a Registered Trademark of Hubbell Inc.
RIGPOWER CONNECTORS
HP20™ SERIES
WWW.RIGPOWER.COM

PARTS LIST

ORDERING TABLE FOR HP20 SINGLE POLE POWER CONNECTORS — (Rated for 1000 Volts / 1135 Amps)

<table>
<thead>
<tr>
<th>RECEPTACLE GENDER</th>
<th>ORDERING FORMAT: HP20-(1)-(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBR = Male Double Hole Buss Bar Panel Mount Receptacle</td>
<td>BK = Black</td>
</tr>
<tr>
<td>FBR = Female Double Hole Buss Bar Panel Mount Receptacle</td>
<td>BL = Blue</td>
</tr>
<tr>
<td>BR = Brown</td>
<td>G = Green</td>
</tr>
<tr>
<td>OR = Orange</td>
<td>R = Red</td>
</tr>
<tr>
<td>W = White</td>
<td>Y = Yellow</td>
</tr>
</tbody>
</table>

HP20 PLUGS, IN-LINE RECEPTACLES & FIXED CABLE RECEPTACLES – Ordering Format: HP20-(1)-(2)-(3)-(4)-(5)

<table>
<thead>
<tr>
<th>MALE &amp; FEMALE CONTACT SIZE</th>
<th>STYLE OF PLUG CASING</th>
<th>GROMMET</th>
<th>MECHANICAL CLAMP</th>
<th>COLOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>P = Plug</td>
<td>16 = 0.870 - 1.000</td>
<td>M = Mechanical Clamp</td>
<td>BK = Black</td>
</tr>
<tr>
<td>4/0M = 4/0 Male Contact</td>
<td>OR</td>
<td>18 = 1.000 - 1.125</td>
<td>OR</td>
<td>BL = Blue</td>
</tr>
<tr>
<td>3M = 313 Male Contact</td>
<td>20 = 1.125 - 1.250</td>
<td></td>
<td>BR = Brown</td>
<td></td>
</tr>
<tr>
<td>4M = 444 Male Contact</td>
<td>22 = 1.250 - 1.375</td>
<td></td>
<td>G = Green</td>
<td></td>
</tr>
<tr>
<td>5M = 535 Male Contact</td>
<td>24 = 1.375 - 1.500</td>
<td>Kellems Grip</td>
<td>OR = Orange</td>
<td></td>
</tr>
<tr>
<td>6M = 646 Male Contact</td>
<td>IR = In-Line Receptacle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7M = 777 Male Contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>OR</td>
<td>K16 = #16 (0.875 - 1.000)</td>
<td>P = Purple</td>
<td></td>
</tr>
<tr>
<td>4/0F = 4/0 Female Contact</td>
<td></td>
<td>K18 = #18 (1.000 - 1.125)</td>
<td>R = Red</td>
<td></td>
</tr>
<tr>
<td>3F = 313 Female Contact</td>
<td>OR</td>
<td>K20 = #20 (1.125 - 1.250)</td>
<td>W = White</td>
<td></td>
</tr>
<tr>
<td>4F = 444 Female Contact</td>
<td>22 = 1.250 - 1.375</td>
<td>K22 = #22 (1.250 - 1.375)</td>
<td>Y = Yellow</td>
<td></td>
</tr>
<tr>
<td>5F = 535 Female Contact</td>
<td>24 = 1.375 - 1.500</td>
<td>K24 = #24 (1.375 - 1.500)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6F = 646 Female Contact</td>
<td>FCR = Fixed Cable Receptacle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7F = 777 Female Contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you for selecting RigPower, LLC connectors

RIGPOWER HP20 SERIES SINGLE POLE – SPARE PARTS

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>PART DESCRIPTION</th>
<th>PART NUMBER</th>
<th>PART DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>G16-20</td>
<td>Grommet #16 (0.875 - 1.000)</td>
<td>HP20-4/0M</td>
<td>HP20 - 4/0 Male Contact w/insulator</td>
</tr>
<tr>
<td>G18-20</td>
<td>Grommet #18 (1.000 - 1.125)</td>
<td>HP20-2M</td>
<td>HP20 - 373 Male Contact w/insulator</td>
</tr>
<tr>
<td>G20-20</td>
<td>Grommet #20 (1.125 - 1.250)</td>
<td>HP20-3M</td>
<td>HP20 - 313 Male Contact w/insulator</td>
</tr>
<tr>
<td>G22-20</td>
<td>Grommet #22 (1.250 - 1.375)</td>
<td>HP20-4M</td>
<td>HP20 - 444 Male Contact w/insulator</td>
</tr>
<tr>
<td>G24-20</td>
<td>Grommet #24 (1.375 - 1.500)</td>
<td>HP20-5M</td>
<td>HP20 - 535 Male Contact w/insulator</td>
</tr>
<tr>
<td>GW24-20</td>
<td>Grommet Washer #24 (for #20 Shell)</td>
<td>HP20-6M</td>
<td>HP20 - 646 Male Contact w/insulator</td>
</tr>
<tr>
<td>K16-20</td>
<td>Kellems Grip #16 (0.875 - 1.000)</td>
<td>HP20-7M</td>
<td>HP20 - 777 Male Contact w/insulator</td>
</tr>
<tr>
<td>K18-20</td>
<td>Kellems Grip #18 (1.000 - 1.125)</td>
<td>HP20-MBB</td>
<td>HP20 - Male Buss Bar w/insulator</td>
</tr>
<tr>
<td>K20-20</td>
<td>Kellems Grip #20 (1.125 - 1.250)</td>
<td>HP20-4/0F</td>
<td>HP20 - 4/0 Female Contact w/insulator</td>
</tr>
<tr>
<td>K22-20</td>
<td>Kellems Grip #22 (1.250 - 1.375)</td>
<td>HP20-2F</td>
<td>HP20 - 373 Female Contact w/insulator</td>
</tr>
<tr>
<td>K24-20</td>
<td>Kellems Grip #24 (1.375 - 1.500)</td>
<td>HP20-3F</td>
<td>HP20 - 313 Female Contact w/insulator</td>
</tr>
<tr>
<td>MC24-20</td>
<td>Mechanical Clamp #24 (for #20 Shell)</td>
<td>HP20-4F</td>
<td>HP20 - 444 Female Contact w/insulator</td>
</tr>
<tr>
<td></td>
<td>PART NUMBER</td>
<td>PART DESCRIPTION</td>
<td>DOUBLE HOLE LUGS</td>
</tr>
<tr>
<td>SL-646-AL</td>
<td>646 MCM 30°/45° Reversable Locking Buss Bar Lug</td>
<td>QS-646-L</td>
<td>Quick/Quad Stab Double Hole 646 Lug</td>
</tr>
<tr>
<td>SL-777-AL</td>
<td>777 MCM 30°/45° Reversable Locking Buss Bar Lug</td>
<td>QS-777-L</td>
<td>Quick/Quad Stab Double Hole 777 Lug</td>
</tr>
</tbody>
</table>

CABLE GROMMET
Has a tapered fit to the cable adapter and is available in fourteen sizes to ensure a proper water tight seal to the cable.

<table>
<thead>
<tr>
<th>PART NUMBER</th>
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<th>PART DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MC24-20</td>
<td>Mechanical Clamp #24 (for #20 Shell)</td>
<td>HP20-4F</td>
<td>HP20 - Female Buss Bar w/insulator</td>
</tr>
<tr>
<td>SL-355-AL</td>
<td>355 MCM 30°/45° Reversable Locking Buss Bar Lug</td>
<td>QS-355-L</td>
<td>Quick/Quad Stab Double Hole 355 Lug</td>
</tr>
<tr>
<td>SL-777-AL</td>
<td>777 MCM 30°/45° Reversable Locking Buss Bar Lug</td>
<td>QS-777-L</td>
<td>Quick/Quad Stab Double Hole 777 Lug</td>
</tr>
</tbody>
</table>

Mechanical Clamp
Has a dual holding pattern. One size for larger cables, reverse it and it accommodates smaller cables more effectively.

Kellems® Grip
Also available for extra protection from high tensile loads on cables.

*Kellems®, is a Registered Trademark of Hubbell Inc.
The HP20 Series:

- Patents Pending
- Smallest connector available that will accommodate a 777 MCM cable
- Dual O-Ring seals (Contact to Insulator and Insulator to Outer Shell) which creates a water tight seal
- Easy insert and withdrawal force via the Multilam contact system

Single Pole High-Amperage Connectors for Use on Land-Based and Off-Shore Oil Drilling Rigs and Other High-Amperage Power Generation Applications
For Use With Single Conductor Cables 4/0 MCM to 777 MCM

If You Want The Very Best Single Pole Electrical Connectors
Demand Genuine RigPower Electrical Parts

Look for these other fine products from RigPower:
The RMP® II Series, Secure Mount® Series, Safe Stab®, Quick Stab®, Quad Stab™ Series, VFD-1® Series, MCC-1™ Series, MC20™ Series and
The Phase-Lock® Sequential Locking System

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