

# RIGPOWER, LLC

Creating New Industry Standards



Safety wire holes  
(3) .062 DIA.

Versatile clamps  
complete cable range

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



RigPower, LLC'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, LLC's HP20 series connectors allow large cable sizes with smaller connector shells, providing tighter component spacing and maximizing the use of the available space.

Cab Ampacity Ratings in 40° Ambient		
Cable Size	90° C	125° C
4/0 MCM	364 AMPS	451 AMPS
313 MCM	513 AMPS	636 AMPS
373 MCM	548 AMPS	669 AMPS
444 MCM	642 AMPS	796 AMPS
535 MCM	724 AMPS	898 AMPS
646 MCM	814 AMPS	1009 AMPS

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.

**HP20 Female Receptacle**

Neoprene gasket provided on all receptacles.

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

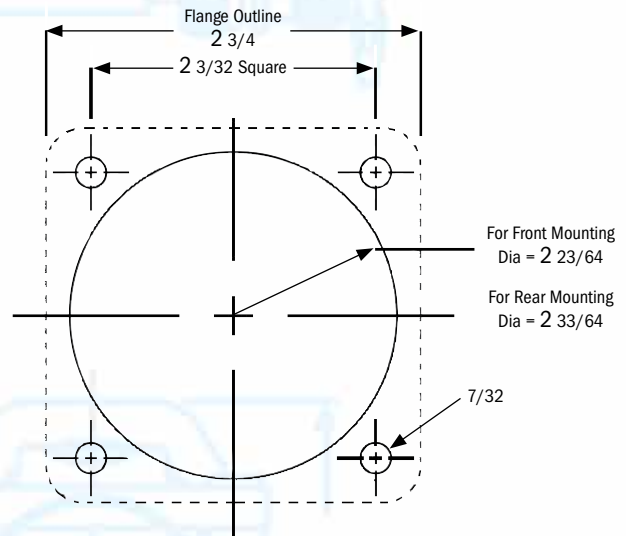
**HP20 Male Receptacle**

Neoprene gasket provided on all receptacles.

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 is a new (patent pending) product exclusive to RigPower, LLC. It offers a small shell size 20 connector available in a full range of cable sizes from 4/0 to 646 DLO. This is the smallest connector on the market which will accept the 646 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.



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

Insulator includes internal O-ring seals to prevent moisture intrusion

**Receptacle Cap**

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

**Receptacle Cap**

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

- Heavy duty 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**





# HP20 SERIES INTERNAL FEATURES

## Design & Performance Highlights

The advanced HP20 design techniques utilized by RigPower, LLC 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 1009 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

- Low Mating & Unmating Force permits ease of insertion and withdrawal. Available with an advanced “Multilam” insert
- Copper Alloy, Sn Plated Contacts and Buss Bars provide maximum conductivity
- All contacts use the same crimping die sets as the RigPower, LLC “RMP® II, Secure Mount®, Safe Stab®, VFD-1®, MCC-1 and MC20” series connectors
- Ingress Protection IP68 in mated condition or with protective cover in place
- Color Coding Option for positive phase identification

### 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 646 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.

**Male In-line Receptacle** – Sn plated high conductivity copper contact. All male plugs and receptacles have a dead front end to protect operators from shock hazard.

The HP20 Series connectors use the Multilam contact system. The Multilam Lower 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 Cable Adaptor W/ Internal Insulating Sleeve

### 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.

## HP20 Internal Mylar Insulating Sleeve

### INDUSTRY EXCLUSIVE

The extra-long barrel and the (patent pending) design of the internally insulated cable adaptor 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.



Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

**HP20 Female Plug**

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

**Coupling Nut**

- Note the locking screw on the coupling nut provides for severe service environments
- Includes internal O-ring seals to prevent moisture

**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 646 MCM cables.

**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.

**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.

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



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

**US Patent Pending**

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



**HP20 Cable Adaptor W/Internal Insulating Sleeve**

**HP20 Internal Mylar Insulating Sleeve**

**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 Male Plug**

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.

**Coupling Nut**

- Note the locking screw on the coupling nut provides for severe service environments
- Includes internal O-ring seals to prevent moisture

**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 646 MCM cables.

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



Insulator includes internal O-ring seals to prevent moisture intrusion

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.

\*Kellems®, is a Registered Trademark of Hubbell Inc.



# FIXED CABLE RECEPTACLE FEATURES AND BENEFITS

## HP20 Male Fixed Cable Receptacle

**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.

#20 Size Mounting Flange

Neoprene gasket provided.

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.

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

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 adaptor



**HP20 Cable Adaptor W/Internal Insulating Sleeve**

**HP20 Internal Mylar Insulating Sleeve**

## HP20 Female Fixed Cable Receptacle

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

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

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

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

#20 Size Mounting Flange

Neoprene gasket provided.

**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 Fixed In-line Connection



**HP20 Plug**

**HP20 Fixed Cable Receptacle**

**HP20 Female In-line Receptacle**

Cable Plugs can accommodate either a Mechanical Cable Clamp or Kellems® Grip.

**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 646 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.

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

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

**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.

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 In-line Connection**

**HP20 In-line Receptacle**

**HP20 Plug**

**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 Male In-line Receptacle**

**Advanced Crimping System**

The HP-0 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 646 MCM cables.

Insulator includes internal O-ring seals to prevent moisture intrusion

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.

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.

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# HP20 PARTS LIST

## Ordering Table for HP20 Single Pole Power Connectors

(Rated for 1000 Volts / 1135 Amps)

### HP20 Panel Mount Receptacles

Ordering Format: HP20-(1)-(2)


(1) Receptacle Gender	(2) Color
<b>MBR</b> = Male Double Hole Buss Bar Panel Mount Receptacle	<b>BK</b> = Black
<b>FBR</b> = Female Double Hole Buss Bar Panel Mount Receptacle	<b>BR</b> = Brown
	<b>GY</b> = Gray
	<b>P</b> = Purple
	<b>W</b> = White
	<b>BL</b> = Blue
	<b>G</b> = Green
	<b>OR</b> = Orange
	<b>R</b> = Red
	<b>Y</b> = Yellow

### HP20 Plugs, In-line Receptacles & Fixed Cable Receptacles

Ordering Format: HP20-(1)-(2)-(3)-(4)-(5)

(1) Male & Female Contact Size	(1) Style of Plug Casing	(3) Grommet	(4) Mechanical Clamp	(5) Color
Male	P = Plug	16 = 0.870 - 1.000	M = Mechanical Clamp	BK = Black
4/OM = 4/0 Male Contact		18 = 1.000 - 1.125		BL = Blue
3M = 313 Male Contact	OR	20 = 1.125 - 1.250	OR	BR = Brown
4M = 444 Male Contact		22 = 1.250 - 1.375		G = Green
5M = 535 Male Contact	IR = In-Line Receptacle	24 = 1.375 - 1.500	Kellems Grip	GY = Gray
6M = 646 Male Contact				
Female	OR		K16 = #16 (0.875 - 1.000)	P = Purple
4/OF = 4/0 Female Contact			K18 = #18 (1.000 - 1.125)	R = Red
3F = 313 Female Contact	FCR = Fixed Cable Receptacle		K20 = #20 (1.125 - 1.250)	W = White
4F = 444 Female Contact			K22 = #22 (1.250 - 1.375)	Y = Yellow
5F = 535 Female Contact	Thank You for selecting RigPower, LLC connectors		K24 = #24 (1.375 - 1.500)	
6F = 646 Female Contact				

### RigPower HP20 Series Single Pole - Spare Parts

Part Number	Part Description	Part Number	MALE Part Description
G16-20	Grommet #16 (0.875 - 1.000)	HP20-4/OM	HP20 - 4/0 Male Contact w/Insulator
G18-20	Grommet #18 (1.000 - 1.125)	HP20-2M	HP20 - 373 Male Contact w/Insulator
G20-20	Grommet #20 (1.125 - 1.250)	HP20-3M	HP20 - 313 Male Contact w/Insulator
G22-20	Grommet #22 (1.250 - 1.375)	HP20-4M	HP20 - 444 Male Contact w/Insulator
G24-20	Grommet #24 (1.375 - 1.500)	HP20-5M	HP20 - 535 Male Contact w/Insulator
GW24-20	Grommet Washer #24 (for #20 Shell)	HP20-6M	HP20 - 646 Male Contact w/Insulator
K16-20	Kellems Grip #16 (0.875 - 1.000)	HP20-MBB	HP20 - Male Buss Bar w/Insulator
K18-20	Kellems Grip #18 (1.000 - 1.125)	<b>Part Number</b>	<b>FEMALE Part Description</b>
K20-20	Kellems Grip #20 (1.125 - 1.250)	HP20-4/OF	HP20 - 4/0 Female Contact w/Insulator
K22-20	Kellems Grip #22 (1.250 - 1.375)	HP20-2F	HP20 - 373 Female Contact w/Insulator
K24-20	Kellems Grip #24 (1.375 - 1.500)	HP20-3F	HP20 - 313 Female Contact w/Insulator
MC24-20	Mechanical Clamp #24 (for #20 Shell)	HP20-4F	HP20 - 444 Female Contact w/Insulator
	<b>Cable Grommet</b> Has a tapered fit to the cable adapter and is available in fourteen sizes to ensure a proper water tight seal to the cable.	HP20-5F	HP20 - 535 Female Contact w/Insulator
		HP20-6F	HP20 - 646 Female Contact w/Insulator
		HP20-FBB	HP20 - Female Buss Bar w/Insulator
		<b>Part Number</b>	<b>Double Hole Lugs</b>
SL-535-AL	535 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-535-L	Quick/Quad Stab Double Hole 535 Lug
SL-646-AL	646 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-646-L	Quick/Quad Stab Double Hole 646 Lug
SL-777-AL	777 MCM 30°/45° Reversible Locking Buss Bar Lug	QS-777-L	Quick/Quad Stab Double Hole 777 Lug

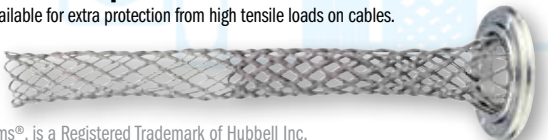


### Mechanical Clamp

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.



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### 30° - 45° Reversible Locking Buss Bar Lug

The small footprint of the HP20 panel mounted receptacles, combined with the RigPower, LLC exclusive locking lug allows the designed to combine a small foot print on the panel with short radius cable bends behind the panel while ensuring that shock or vibration loads will not loosen the plug to buss bar connection



The HP20 Series:

- Patents Pending
- Smallest connector available that will accommodate a 646 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 646 MCM  
If You Want The Very Best Single Pole Electrical Connectors

## Demand Genuine RigPower, LLC Electrical Parts

Look for these other fine products from RigPower, LLC:

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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