



# Russellstoll®

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<b>31** thru 35**</b>	Angle Type 480V	<b>Tech. Svcs.</b>	PR-1	see prior separate catalog only
<b>36** thru 39**</b>	FS/FD-Computer Sys.	<b>H58, H152</b>	PR-5-, DP-1	Washdown &-Computer Syst.
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<b>5*****</b>	DuraTite™	<b>H91</b>	DG-1	Industrial/Commercial
<b>71** thru 75**</b>	Angle Type 600V	<b>Tech. Svcs.</b>	PR-1	see prior catalog
<b>7X*****</b>	FS/DS-Computer Sys.	<b>H58, H152</b>	PR-5, DP-1	Washdown &-Computer Syst.
<b>80** thru 83**</b>	Standard EverLok®	<b>H96</b>	PR-2	Industrial/Commercial
<b>84**</b>	Heavy Svc. EverLok®	<b>H108</b>	PR-2	Industrial/Comemrcial
<b>85** &amp; 86**</b>	Standard EverLok®	<b>H96</b>	PR-2	Industrial/Commercial
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<b>8X*****</b>	MaxGard®	<b>H16</b>	MG-1	Heavy Industrial/Marine
<b>9*****</b>	DuraGard®	<b>H49</b>	DG-1	Washdown/Light Marine
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<b>9X*****</b>	DuraGard®	<b>H51, H52</b>	DG-1	Washdown/Light Marine
<b>A*****</b>	Angle Type	<b>Tech. Svcs.</b>	PR-1	see prior catalog
<b>AA*****</b>	Unigard™	<b>H81</b>	IEC-1	Washdown/Light Marine
<b>B,C or F*****</b>	Specials	<b>Tech. Svcs.</b>		
<b>BE*****</b>	Unigard™	<b>H81</b>	J-1	Heavy Industrial/Marine
<b>CFC*****</b>	Interlocks	<b>H133</b>	PR-6	Controls/Interlocks
<b>D*****</b>	MaxGard®	<b>H16, H141</b>	MG-1	Heavy Industrial Marine
<b>ER2****</b>	Computer Sys.	<b>H158</b>	DP-1	Computer Systems
<b>ERS*****</b>	Interlocks	<b>H131</b>	PR-6	Controls/Interlocks
<b>FS*****</b>	FS/FD-Computer Sys.	<b>H65, H154</b>	PR-5, DP-1	Washdown &-Computer Syst.
<b>GC**</b>	Safe Ground	<b>H146</b>	CD-1	Hazardous Location
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<b>J*****</b>	J-Line	<b>H36</b>	J-1	Heavy Industrial/Marine
<b>JB*****</b>	J-Line	<b>H35</b>	J-1	Heavy Industrial/Marine
<b>RS****</b>	Unigard™	<b>H74</b>	IEC-1	Washdown/Light Marine
<b>SGC*</b>	Safe Ground	<b>H149</b>	CD-1	Hazardous Location
<b>SGR**</b>	Safe Ground	<b>H149</b>	CD-1	Hazardous Location
<b>SK*****</b>	Control Circuits	<b>H116, H118</b>	PR-2, PR-5	Controls/Interlocks
<b>TH*****</b>	Interlocks	<b>H130</b>	PR-6	Controls/Interlocks

For U.S. Customer Service and Order Inquiries, call 1-800-816-7809 or fax 1-800-816-7810.

For International Service and Order Inquiries, call (U.S.) 901-252-5400 or fax 901-252-1330.

For Canadian Customer Service and Order Inquiries, call 450-347-5318 or fax 450-347-1976.

For U.S. Technical Services, call 1-888-862-3289 or fax 901-252-1321.

For International Technical Services, call (U.S.) 901-252-5000, enter 1, 6672.

For tool service and repair, call 1-800-284-TOOL (8665).

For technical questions, call 1-888-862-3289.



E2630, E47956, E5239, E10765



LR14096, C22.2-182

Unless otherwise noted, all products in this catalog are covered by one or more Agency Listings.

NOTES: 1. Many Russellstoll devices exceed competitor specifications. For any Competitive Cross-References, contact Technical Services.

2. Certain catalogs such as Angle Type will continue to be individually supported for replacement items.

Fax on Demand responses may include additional information useful in your application.

# Russellstoll®

## Application Guide

This catalog has been divided into sections based on standard application groups. Each application group has been color-coded for your convenience. Below is a description of each of the six general categories Russellstoll products fall in. Applications are not limited to those listed below.

### Heavy Industrial / Marine Applications: Outdoor, Severe or High Abuse Environments



- Industrial hook-ups
- Shore to ship power connections stations
- Portable generator sets
- Mills & process plants
- Agriculture
- Portable power connections
- Aerospace manufacturing and airports
- Lift stations
- Irrigation & wastewater equipment
- Industrial and shipyard welding
- Power distribution centers
- Job site power: For telephone power and communications equipment

### Washdown & Light Marine Applications: Watertight / Waterproof



- Food processing plants
- Pharmaceutical manufacturing
- Bottling and beverage plants
- Barge and workboat applications
- Pulp & paper factories
- Outdoor construction sites

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### Industrial and Commercial Applications



- Entertainment (lighting & sound systems)
- Machinery
- Computer related equipment
- Welding installations
- Construction sites
- Facilities electrical power

### Control Circuit and Industrial / Interlock Applications



Automotive/Industrial Interlock systems were designed for the needs of the manufacturing industry. These devices are used where safety requirements mandate a mechanically interlocked system for connection and removal of

- plugs under full load.
- Automatic press
- Heavy duty portable welding
- Portable systems
- Machine tool control or Servo systems
- Shipyard maintenance power
- Battery chargers
- Automated welder applications
- Food processing
- Temporary power connections

### Hazardous Location Applications: Class I, Div. 1 / Class II, Div. 1



- Aerospace
- Steel mills and mining
- Petroleum
- Chemical
- Food processing
- Waste treatment

### Computer Systems: Data Center and OEM Products

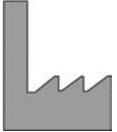
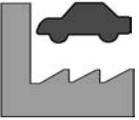
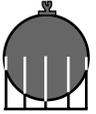


- Raised Floor Applications
- Main Power Connections
- Critical power for test, instrumentation, telephone and medical equipment

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## Application Guide

		Amperage						
		20	30	50	60	100	200	400/ 600
<b>Heavy Industrial / Marine</b>		<b>Page H8 to H43</b>						
	MaxGard®		✓		✓	✓	✓	✓
	J-Line™		✓		✓	✓	✓	
<b>Washdown &amp; Light Marine</b>		<b>Page H44 to H88</b>						
	DuraGard®	✓	✓	✓				
	FS/FD™	✓	✓					
	Mechanically Interlocked Receptacles	✓	✓	✓				
	UniGard™ (IEC) IP67	✓	✓		✓	✓		
<b>Industrial &amp; Commercial</b>		<b>Page H89 to H113</b>						
	DuraTite™	✓	✓					
	Standard Everlok® (+Midget)	✓	✓	✓				
	Heavy Service Everlok®		✓		✓	✓		
	UniGard™ (IEC) IP44	✓	✓		✓	✓		
<b>Control Circuit &amp; Industrial Interlock</b>		<b>Page H114 to H137</b>						
	Control Circuit Connectors	✓						
	Industrial Interlock Systems (Custom Products)	✓	✓		✓	✓		
<b>Hazardous Location</b>		<b>Page H138 to H149</b>						
	MaxGard®		✓		✓	✓		
	Interlocked Switch Receptacles	✓	✓					
	Delayed Action Circuit Breaking Receptacles	✓	✓					
	Tumbler Switches	✓	✓					
	Safe Ground Indicator System							
<b>Computer Systems</b>		<b>Page H150 to H158</b>						
	FS/FD & Angle Type DP	✓	✓	✓	✓			
	Spec Grade	✓	✓	✓				
	DuraGard®	✓	✓	✓				
	UniGard™ (IEC)	✓	✓		✓			

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**T&B Russellstoll Specification Project Information: RFQ**

(Copy and Fax)

Regional Office: \_\_\_\_\_ Inquiry Date: \_\_\_\_\_  
 File or quote (T&B): \_\_\_\_\_ Response Date: \_\_\_\_\_  
 Customer Name: \_\_\_\_\_ Project Contact: \_\_\_\_\_  
 Installation Site: \_\_\_\_\_ Position/Company: \_\_\_\_\_  
 Customer Contact: \_\_\_\_\_ Contact Phone: \_\_\_\_\_  
 Position: \_\_\_\_\_ Contact Fax/Email: \_\_\_\_\_  
 Customer Phone: \_\_\_\_\_ Other: \_\_\_\_\_  
 T&B Rep & Phone: \_\_\_\_\_  
 T&B Rep. Fax/Email: \_\_\_\_\_

**Please fill out as much information as possible; better information makes a better bid!**

**Project Type: (circle)** [New/Expanded Facility] [New Equipment] [Competitive Replacement]  
 Other/Note: \_\_\_\_\_

Specification	Definition	Information
1. Application/Usage or System	How used, connectors for... What is needed or requested. Heavy Duty or Standard Service?	
2. Environment & Operational	Indoor or Outdoor; Washdown? Chemical, XP or other needs. Temperature range service issues	
3. Amperage & Voltage	Full load motor amps (3 phase?) System Amperage or Request Note any DC apps./specials	
4. Poles/Wires & Cable & Control Contacts?	XpYw & cable type & O.D. Control Contacts? & why needed. Conductor stranding — Superflex?	
5. Enclosure Specs & Mounting (Interlocks)	Switched, Fused, Circuit Breaker NEMA style and cast aluminum/brass Environmental / usage issues	
6. Competitive Issues	Competitor ratings or specs List Cat. #'s, qty's, prices Direct mate or crossover OK?	
7. Response Type and Timing	Quantities, pricing issues Budget info or formal quote Project schedule for bids	
8. Other Requirements: Issues or Drawings	Specs or drawings needed Other competitive / channel issues Special colors, coatings, specs Added device features requests	

**Fax this form to: 901-252-1321**

Technical Services: Call 1-888-862-3289  
 outside U.S. (901) 252-5000, enter 1, 6672

**Thanks for Specifying Russellstoll: The Maximum in Safety, Durability and Performance!**

**Thomas & Betts**

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## Heavy Industrial / Marine

### Defined

- Any application where electrical connections need protection from water and/or dust ingress to contacts or wiring compartment.
- Cable-to-connector sealing and watertight device locking designs are critical.
- Metal connectors are usually preferred for long service life.

### Russellstoll Line Selections for Outdoor (and Indoor) Applications

#### MaxGard 4P5W + 2 Opt. 30 thru 400/600A

The widest range and toughest construction. Safety, Durability and Performance by design, in copper-free cast aluminum epoxy powder coated housings. Built to last, from 30 through 400/600 amp application, with a full interlock line too. Optional 2 control contacts and over 200 individual voltage polarization options through 600VAC/250VDC, 4P5W. "O" ringed sealed pins, sleeves and interiors.

#### J-Line 4P4W Max. 30 thru 200A

Tough service in metal for many industrial applications, the J-Line offers a value alternative to MaxGard in 3P4W, 30-200 Amp applications with less severe needs. Unique among competitors, the J-Line uses a reversible contact carrier for maximum flexibility in many portable service applications.



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### Typical Application Groups

#### Marine

Lighting Systems  
Shore to Ship Power  
Welding Stations  
Power Distribution Centers  
Shipboard Power Outlets  
Barge Power Connection

#### Construction & Agricultural

Generator Sets & Systems  
Portable Tools & Equipment  
Irrigation Systems Panels  
Portable Lighting & Equipment

#### Government Municipal and Utilities

Portable Building Power  
Army Corps of Engineers  
Utilities Panels  
Emergency Power Systems  
Sewage Pumping Stations  
Light & Controls  
Telephone Vault Systems  
Cellular Telephone Masts

#### OEM's

GenSet & Welding Systems  
Transportable Equipment

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## MaxGard® Interconnection Systems

30-400/600 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Receptacles, Inlets, Plugs, Connectors, Interlocked Receptacles, Explosion Proof Interlocked Receptacles

### Benefits

Russellstoll® builds a variety of benefits into one plug, receptacle and interlock system for your application.

### Safety

- **Waterproof construction:** standard neoprene "O" ringed interior components provide environmental separation at the front of each device; they don't have to be connected together just to be called "watertight."
- **Different power supply ratings can't mix:** 24 single rated device polarizations ensure exact voltage, frequency and phase differentiation plus a few specials too. In every current range.
- **Plugs stay in:** Standard delayed action pull & turn withdrawal offers all plugs an XP rating (30– 100 amps). All system components use mating screw collars.
- **Foreign objects stay out:** All receptacles and connectors have a gated rotating disk on the face of the interior, engaged on insertion.

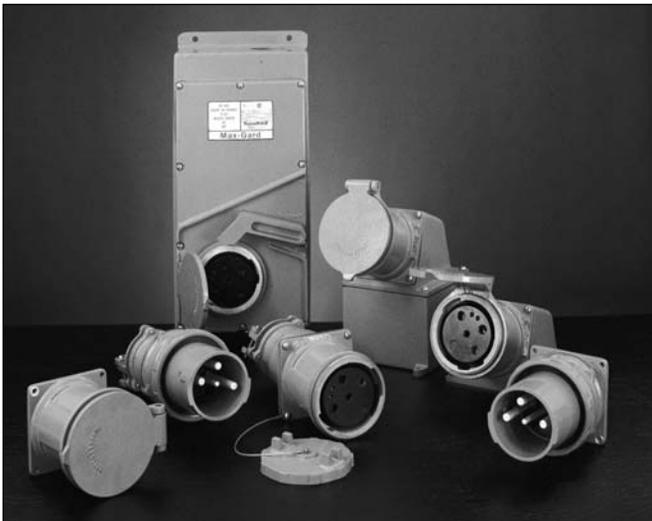
The MaxGard system. **MAXimum Safety, Durability and Performance** in electrical interconnections.

### Durability

- **At last – Durability:** Rugged cast aluminum housings with 2 layers of electrostatic epoxy coating are standard, along with stainless steel hardware. Available with flap or screw covers. Interiors are molded from a tough reinforced UL94 VØ thermoset polyester.
- **The best connections for life:** Pins and Sleeves are made from CDA 360 and Marine grade CDA 485 brass; 200 and 400 amp lines are silver-plated as well.
- **The most power available in the most packages:** 30, 60, 100, 200 and 400 amp lines in one system with cast aluminum NEMA 4X interlocks, steel 30, 60 and 100 amp NEMA 12 interlocks, or cast aluminum XP interlocks in 30, 60 and 100 amp ranges.

### Performance

- **Any configuration you need:** Through 4 pole 5 wire configurations, all have a safety center earth ground pin design that makes-first and breaks last. This applies to all of our plugs, connectors, receptacles, male inlets and inter-lock systems.
- **More control available:** Two optional pilot/control pins for contactors, load monitor circuits, shunt trip or any other communication functions you need.
- **Ease of assembly:** Solderless pressure type screw terminals with hex socket heads and rear-access take apart housings provide quick wiring access. No interior removal required for wiring receptacles and connectors.
- **More Power:** 150% non-UL ratings allow extending MaxGard installations to 600 AMP custom loads, with separate disconnect service.



# Russellstoll® MaxGuard® Interconnection Systems

30-400/600 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Receptacles, Inlets, Plugs, Connectors, Interlocked Receptacles, Explosion Proof Interlocked Receptacles

## Plug and Receptacle with Angle Adapter and Junction Box

Electrostatic epoxy powder coat finish for maximum corrosion resistance.

Extra thick-wall back boxes.

CDA 485 Marine grade brass pins and sleeves.

300 series stainless steel hardware for corrosion resistance (entire line).

Copper free cast aluminum housings.

Neoprene "O" rings on pins, sleeves and interiors provide environmental separation and true waterproof integrity.

Optional pilot contacts available for control or electrical interlocking.

Extra long current contacts with deep well arc containment.

Acme threads prevent "freezing" of screw collars and covers.

Gated dead front construction.

Padlock-out access hole in plug shroud provided as standard safety feature.

**Delayed insertion/removal keyways provide XP approval for standard 30, 60 & 100 amp plugs.**

Compression-type gland bushing for optimal cable seal.

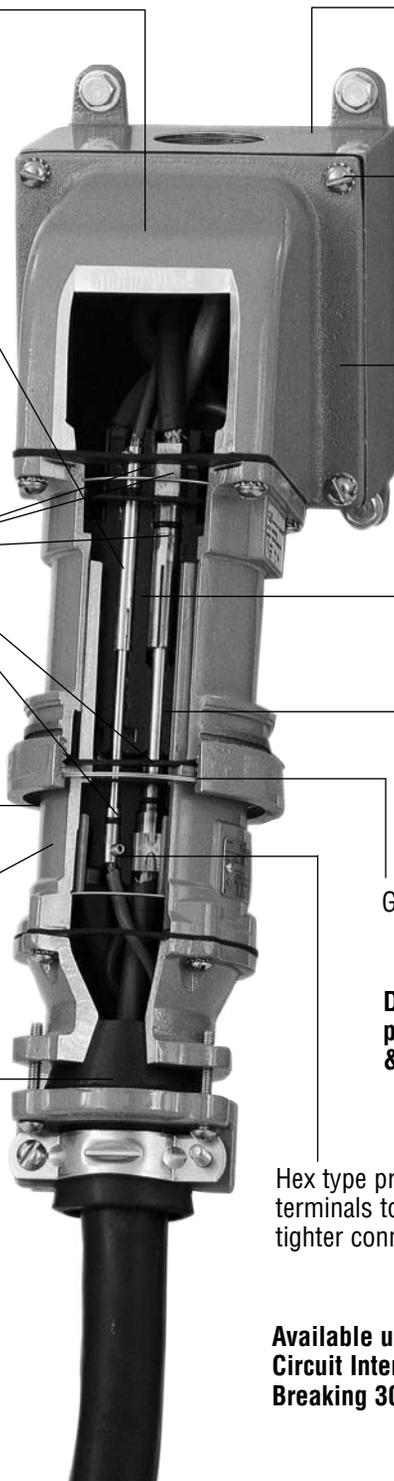
Hex type pressure terminals to ensure tighter connections.

Center Ground Contacts:  
Make First, Break Last

Optional Control/Pilot Contacts:  
Make Last, Break First

**Available up to 4P5W + pilot;  
Circuit Interrupting / Load  
Breaking 30 to 200 amps.**

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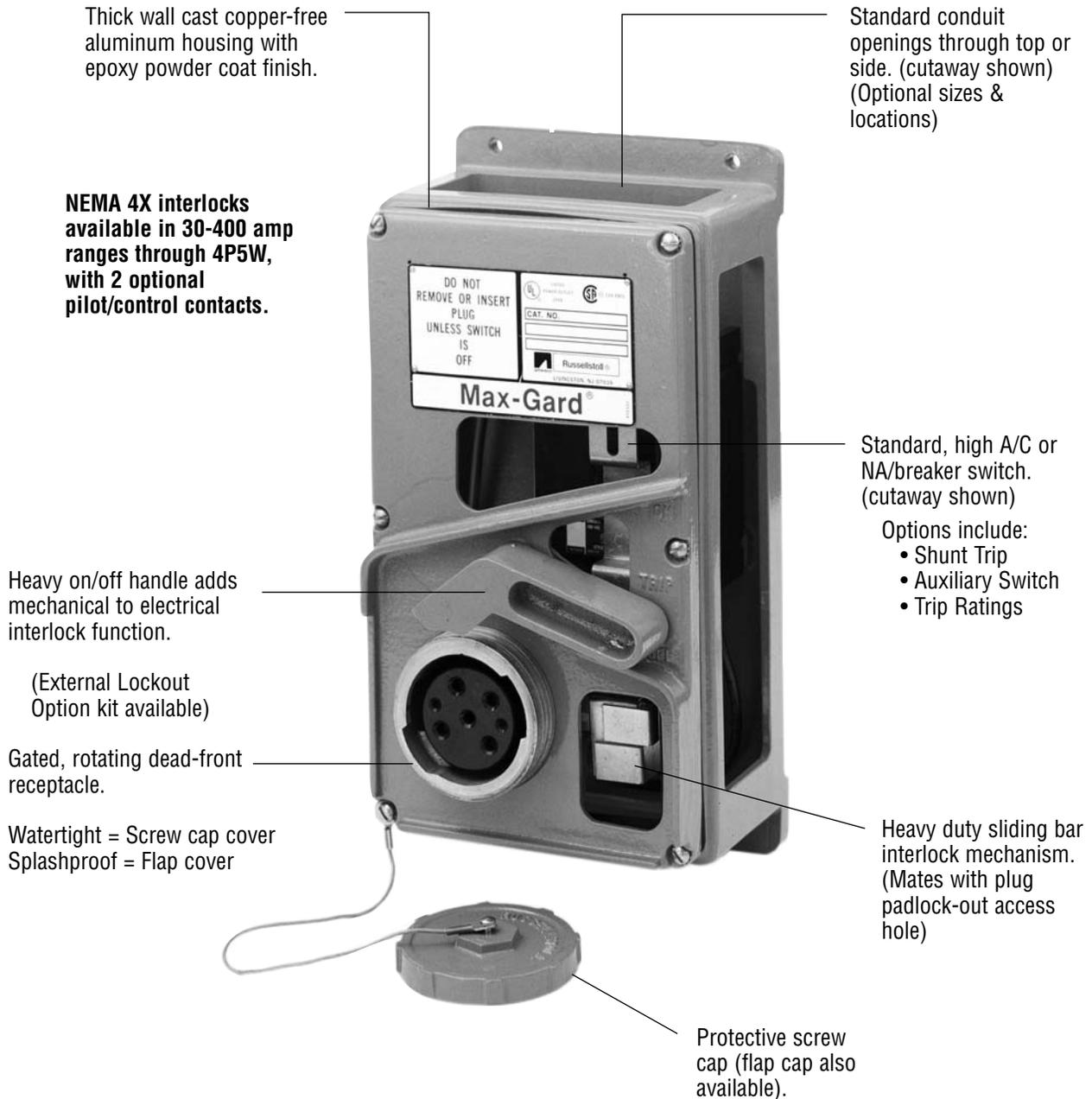


# Russellstoll® MaxGard® Interconnection Systems

30-400/600 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Receptacles, Inlets, Plugs, Connectors, Interlocked Receptacles, Explosion Proof Interlocked Receptacles

## Cast Aluminum Circuit Breaker Interlocked Receptacle (Cutaway View)



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# Russellstoll® MaxGard® Interconnection Systems

30-400/600 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Receptacles, Inlets, Plugs, Connectors, Interlocked Receptacles, Explosion Proof Interlocked Receptacles

## Fused-Disconnect Switch\* Interlocked Receptacle

Available in 30, 60 and 100 amp sizes, all polarizations thru 600VAC.

Standard 600V cartridge fuse clips and spacing.

Clear shield for test probes.

Safety fuse pulls.

Backup door safety latch.

Door safety switch.

Three external lockout points.

Heavy .060 steel galvaneel with baked enamel, NEMA 3R/12 construction.

Fully interlocked MaxGard receptacle.

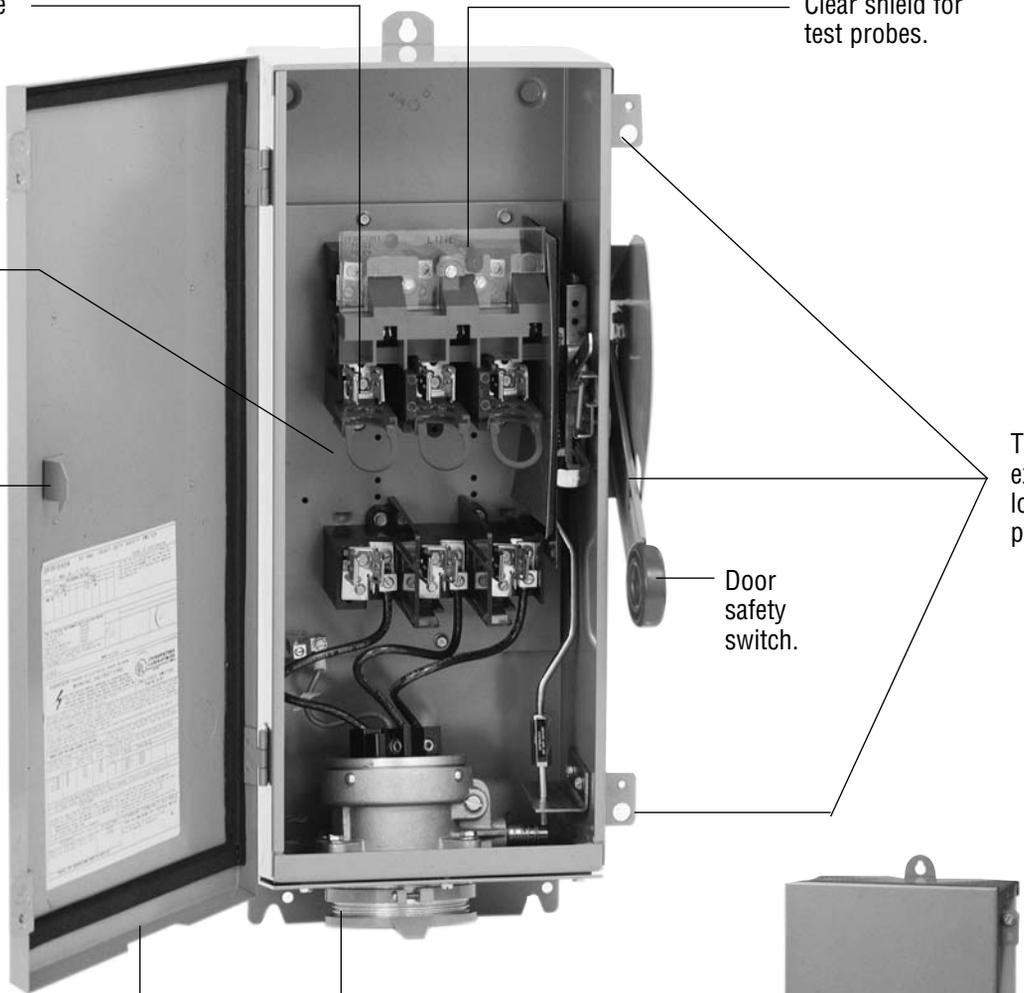
Consult Technical Services for additional options.

Meets Federal specification WS865C, UL File #E5239.  
Meets UL 98, 50, 1682, 508, 231  
Meets NEC Table 373-6(b).  
Meets major automotive specs.

\* Also available as switch-only

Angled front receptacle for easier access.

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# Russellstoll® MaxGard® Interconnection Systems

30-400/600 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Receptacles, Inlets, Plugs, Connectors, Interlocked Receptacles, Explosion Proof Interlocked Receptacles

## Explosion-Proof Waterproof Circuit Breaker Interlocked Receptacle

Available in 30, 60 and 100 amp sizes, all polarizations.

Heavy duty XP cast aluminum housing, electrostatic epoxy coat finish.

Standard, high AIC and NA (switched only) breakers available.

Threaded access (cover not shown) with "O" ring for XP and waterproof integrity.

Gated dead-front safety.

Drain Plug.

Factory sealed receptacle interior. Accepts standard XP rated MaxGard plugs.

UL and CSA listed for hazardous locations.

Class I, Division 1, Groups B, C and D

Class II, Division 1, Groups F and G

UL File E10919

NEMA 7, 8, 9

CSA

D.O.T. shipboard used above deck "green water"

NEMA 4X

USCG approved.

**MaxGard® DBRE and DSRE series interlocks are explosion proof *and* waterproof, (O-ring sealed) along with optional control contacts, fully UL listed.**

## Explosion-Proof Waterproof Non-Interlocked Receptacle

Available in 30A 480VAC max., all polarizations.

Heavy duty XP cast aluminum housing, electrostatic epoxy coat finish.

Threaded access with (cover not shown) "O" ring for XP and waterproof integrity.

Gated dead-front for safety.

All standard polarizations available to 480VAC.

Factory sealed receptacle interior. Accepts standard XP rated MaxGard plugs.

- **Factory Sealed Interior (no filled conduits).**
- **Easy low cost installation.**

UL and CSA listed for hazardous locations.

Class I, Division 1, C and D

Class II, Division 1, Groups F and G

UL File E10919

NEMA 7, 8, 9

CSA

D.O.T. shipboard used above deck "green water"

NEMA 4X

USCG approved.

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# Russellstoll® MaxGuard® Interconnection Systems

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

## Engineering Specifications

Pin & Sleeve Plugs, Receptacles & Systems

### 1.0 Scope

- 1.1 This document covers multi-contact: pin & sleeve, industrial grade, arc-quenching, circuit interrupting rated electrical plugs, motor plugs, connectors, receptacles, mechanically interlocked receptacles and assorted accessories. Usable in dry, damp, wet, marine and/or hazardous locations for electrical power circuits. Devices are to be rated 30, 60, 100, 200 and/or 400 amperes at 600 VAC, 50-400 Hz and 250 VDC maximum. Devices are also rated for continuous use in temperatures from -40 degrees C to + 130 degrees C. These devices must provide internal environmental seals for marine and extreme wet applications and can be electrically interlocked.
- 1.2 The devices described shall be Thomas & Betts/ Russellstoll MaxGuard catalog numbers as specified.

### 2.0 Product Classifications (Features)

- 2.1 **Gated Dead Front** – All receptacles and connectors must have a rotating disk on the face of the interior which provides live contact isolation and environmental separation.
- 2.2 **Delayed Action Arc Containment** – All devices upon disconnect under load shall have provision so the arc is contained and extinguished within the insulation cavity making it impossible to withdraw a live plug.
- 2.3 **Flap Cover or Screw Cover Option** – Flap cover option must provide weathertight capability by utilizing a spring actuated self closing flap. Watertight capability shall be obtained by using a gasketed crew cap.
- 2.4 **Polarization** – All devices shall be factory polarized for amperage, voltage, frequency and phase; thus providing a single voltage rating, single interface system.
- 2.5 **Grounding** – The grounding of the device shall be accomplished through a separate center ground (earth) make-first and break-last pole on all devices for complete system grounding.
- 2.6 **Pole Capabilities** – All devices shall accommodate up to four power pins plus a separate center ground pin and they shall be integral with the connector bodies (5 pins total).

- 2.7 **Interior Type** – Interiors must be male (pin type) or female (sleeve type). Pins and sleeves shall also be self-aligning and self-wiping/self-cleaning.
- 2.8 **Control Contacts** – All devices must have an option for two control contacts which shall be make-last and break-first for use in electrical interlocks and/or control circuits. See table below.
- 2.9 **Conductor Terminals** – Pin and sleeve connections shall employ solderless pressure type screw terminals and be sized to accept stranded or solid copper conductors in AWG sizes (max. O.D.'s as noted). The screw terminals shall also have socket heads to insure proper torquing of wires.
- 2.10 **Environmental Seals** – Each device must have an environmental seal or “O” ring around all interiors and around each pin and sleeve to prevent water and contaminants from entering the wiring compartment. This provides waterproof capability, even when not mated.
- 2.11 **Hazardous Location** – All standard plugs 30, 60 and 100 amp shall be UL and CSA listed for hazardous location Class I Division 1, Groups C & D; Class II Division 1, Groups F & G. A hazardous location circuit-breaker protected interlock shall also be applicable to the same environments and possess all the same product features as outlined above. Enclosures shall meet NEMA 8 hazardous outdoor duty classifications and shall meet shipboard use above deck in accordance with the Department of Transportation. (USCG “Green Water”)
- 2.12 **Lockout Devices** – Plug connection lockout is achieved by a padlock through plug sleeve housing hole provided for this purpose. On Hazardous Location/Explosion Proof Interlock Receptacles, lockout shall additionally be achieved by separate lockout accessory available from the factory. On standard Interlocks, lockout accessory/construction is available from the factory.
- 2.13 **Horsepower Ratings** – Horsepower ratings shall be in accordance with NEC Article 430 conditions, depending on applicable voltage up to 600 VAC. See Chart Next Page.

### Rating for Pilot/Control Contacts\*

Contact Rating Code Designation A-600, Table 119.1 - U.L. 508 Heavy Pilot Duty Load (720 VA/600 VAC) Maximum

Thermal Continuous Current Amps	120V		Maximum Current, Ampere				600V		Max Volt Ampere	
			240V		480V					
10	Make 60	Break 6	Make 30	Break 3	Make 15	Break 1.5	Make 12	Break 1.2	Make 7200	Break 720

# Russellstoll®

## MaxGard® Interconnection Systems

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Engineering Specifications (Continued)

#### Maximum Horsepower Ratings\*

Service Connection Use: Not for normal disconnect service, but plug may be withdrawn if necessary within these maximum HP ratings.

	Plug and Receptacle Amp Rating	Full Load - Motor Rated HP			
		120 Volts	240 Volts	480 Volts	600 Volts
Single-phase	30	2	3	7.5	10
	60	3	10	20	20
	100	7.5	15	30	30
	200	15	30	40	40
Three-phase	30	3	7.5	15	20
	60	7.5	15	30	30
	100	10	20	40	40
	200	20	40	50	50

\* Use of a horsepower rated switch for motor disconnection (under load) is recommended per NEC 430.

- 2.14 **Disconnect (Non-Interrupting) Current Ratings –** Devices may be used at up to 150% of rated current within applicable NEC wiring guidelines. When used at 150% ratings, device shall not make or break current loads while in service. UL approved 45 amp (30) and 150 amp (100) polarizations are available; for other ratings and special polarizations, consult factory.

### 3.0 Materials Requirements

- 3.1 **Housings –** Plug, motor plug, receptacles, connectors and interlock housings, associated covers and caps, screw collars, and clamp holders shall be made of copper-free cast aluminum (max. .004% copper).
- 3.2 **Finish –** All external surfaces except those that provide means of grounding shall be epoxy powder coated to resist corrosion.
- 3.3 **Hardware –** All hardware, external and springs, shall be stainless steel. Cable clamps shall be stainless steel or epoxy powder coated copper-free cast aluminum.
- 3.4 **Insulators –** All device body insulators shall be molded from glass-reinforced high strength thermoset polyester, minimum of UL94V0 flammability rated.
- 3.5 **Contacts –** Contacts base material shall be made of a conductive copper alloy, (brass CDA485) to prevent dezincification. Accessory material of the contacts shall be made of a compatible corrosion resistant material.
- 3.6 **Environmental Seals –** Environmental gaskets and “O” rings shall be made of neoprene material.

### 4.0 Design and Construction Requirements

- 4.1 **Circuit Interrupting Rating –** All devices 30, 60, 100 and 200 amperes shall be tested to be interrupted at 150% of rated current. Additionally, all devices shall be designed and tested to interrupt 100% of rated current.
- 4.2 **Wiring –** All devices shall be wired from the rear requiring no disassembly of the pins and/or sleeves from the insulated body.
- 5.0 Applicable Documents (Compliances)
- 5.1 **Underwriters Laboratories (UL) –** The devices specified herein shall be listed in applicable sections of UL Standards 1010, 231, 1682 and 1686, File Nos. E2630, E57324, E68085, E123752.
- 5.2 **Canadian Standard Association (CSA) –** The devices specified shall be listed in the applicable sections of CSA C22.2-182.1, File Number LR14096.
- 5.3 **International Electro-Technical Commission (IEC) –** The 30, 60 and 100 ampere devices specified shall have been tested and comply with IEC 309-1.
- 5.4 **Federal Department of Transportation –** Refrigerated National Shipboard location devices shall meet and comply with Federal Register volume 47, number 68, subpart 111.79.
- 5.5 **Standards –** The devices specified shall comply with Military Standards MIL-STD-105 and 1344; ASTM Standards D570 and D2565: NEMA Standard PR4-1983; and OSHA regulations when installed in accordance with the National Electrical Code (NEC).

### 5.6 NEMA 250 Enclosures Standard

- NEMA-1 – General Purpose for indoor use; guards against contact with equipment.
- NEMA-3R – Outdoor use primarily to protect against rain, sleet, wind-blown dust and damage from external ice formation.
- NEMA-4 – Indoor or outdoor use to protect against windblown dust and rain; splashing and hose directed water.
- NEMA-4X – Watertight, dust-tight corrosion-resistant for indoor or outdoor applications.
- NEMA-6 – Watertight, casual/temporary immersion.
- NEMA-7 - Class I (Hazardous) for indoor use in Class I areas, per NEC.
- NEMA-8 - Class I (Hazardous) for indoor use in Class I, oil-immersed equipment.
- NEMA-9 – Class II (Hazardous) for indoor use in Class II areas, per NEC.
- NEMA-12 – Industrial use, dust-tight for indoor use to protect against dust, falling dirt and dripping non-corrosive liquids.

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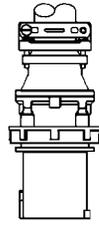
## MaxGuard® Interconnection Systems

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

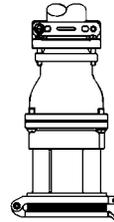
### Ordering Information

All available voltage polarizations on pg. H20.

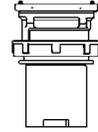
Maximum  
600 VAC  
250 VDC, Load  
Breaking



Male Plug†



Female Connector\*



Male Inlet†

Standard Ratings		Cat. No.	Std. Bushing I.D.**	Cat. No.	Std. Bushing I.D.**	Cat. No.
Poles Wires	Voltage					
<b>30 Amp / 45*</b>						
2P3W	125	DS3107MP000	7/8"	DF3107FP000	7/8"	DS3107MR000
2P3W	250	DS3207MP000	7/8"	DF3207FP000	7/8"	DS3207MR000
3P4W	125/250	DS3307MP000	1"	DF3307FP000	1"	DS3307MR000
3P4W	3Ø 480	DS3404MP000	1"	DF3404FP000	1"	DS3404MR000
4P5W	3ØY 277/480	DS3504MP000	1 3/16"	DF3504FP000	1 3/16"	DS3504MR000
<b>60 Amp / 90*</b>						
2P3W	250	DS6207MP000	1 3/16"	DF6207FP000	1 3/16"	DS6207MR000
3P4W	125/250	DS6307MP000	1 5/16"	DF6307FP000	1 5/16"	DS6307MR000
3P4W	3Ø 480	DS6404MP000	1 5/16"	DF6404FP000	1 5/16"	DS6404MR000
4P5W	3ØY 277/480	DS6504MP000	1 1/2"	DF6504FP000	1 1/2"	DS6504MR000
<b>100 Amp / 150*</b>						
2P3W	250	DS1207MP000	1 1/16"	DF1207FP000	1 1/16"	DS1207MR000
3P4W	125/250	DS1307MP000	1 1/8"	DF1307FP000	1 1/8"	DS1307MR000
3P4W	3Ø 480	DS1404MP000	1 1/8"	DF1404FP000	1 1/8"	DS1404MR000
4P5W	3ØY 277/480	DS1504MP000	2"	DF1504FP000	2"	DS1504MR000
<b>200 Amp / 300*</b>						
3P4W	277/480	DS2304MP000	2 1/4"	DF2304FP000	2 1/4"	DS2304MR000
3P4W	3Ø 480	DS2404MP000	2 1/4"	DF2404FP000	2 1/4"	DS2404MR000
4P5W	3ØY 277/480	DS2504MP000	2 1/2"	DF2504FP000	2 1/2"	DS2504MR000
<b>400 Amp / 600*</b>						
3P4W	277/480	DS4304MP000	3"	DF4304FP000	3"	DS4304MR000
3P4W	3Ø 480	DS4404MP000	3"	DF4404FP000	3"	DS4404MR000
4P5W	3ØY 277/480	DS4504MP000	3 1/4"	DF4504FP000	3 1/4"	DS4504MR000

\* Special Disconnect Service Ratings Available (Consult Factory)  
150% non-UL ratings (consult technical services) with separate disconnect service.

\*\* Standard cable bushings shown. Additional sizes available, see page H26.

† Always furnished with screw collar. **We recommend cup cap with male inlet and male plug; order catalog number DS(X)CC.** (X) is the amperage 3=30, 6=60, 1=100, 2=200 & 4=400.

**Boldface** figures are for voltage assignment; for different ratings see following pages.

▼ Control contacts for plugs/receptacles: Use "K" where noted.  
Ex: DS3104MR00K

◆ "F" Flap Cap style shown. "S" Screw Cover option also available.  
ex: "DF\_\_\_\_\_" vs. "DS\_\_\_\_\_"

• 400 AMP plugs and connectors are supplied with cast aluminum handles.

### Maximum Terminal Wire Size:

Rating	Max. Conductor Size AWG	Entrance Dia.
30	#8 AWG - 7 Strand or Flexible Conduit	.187"
60	#4 AWG - 7 Strand or Flexible Conduit	.302"
100	#0 AWG - 19 Strand or Flexible	.386"
200	#4/0 AWG - 19 Strand or Flexible	.625"
400	500MCM-37 Strand or Flexible	.937"

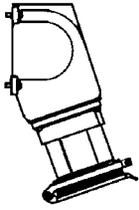
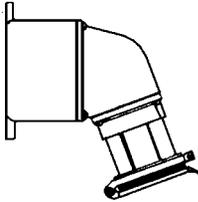
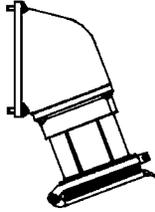
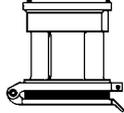
Male Inlets: Mounted same as receptacle, all options available. See pg. H29.

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## MaxGuard® Interconnection Systems

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Ordering Information

			
Receptacle with Angle Enclosure	Receptacle with Angle Adapter & Junction Box**	Receptacle with Angle Adapter**	Receptacle Only
Cat. No.	Cat. No.	Cat. No.	Cat. No.
◆ ▼ DF3107FR0EO DF3207FR0EO DF3307FR0EO DF3404FR0EO DF3504FR0EO	◆ ▼ DF3107FRAB0 DF3207FRAB0 DF3307FRAB0 DF3404FRAB0 DF3504FRAB0	◆ ▼ DF3107FRA00 DF3207FRA00 DF3307FRA00 DF3404FRA00 DF3504FRA00	◆ ▼ DF3107FR000 DF3207FR000 DF3307FR000 DF3404FR000 DF3504FR000
DF6207FR0EO DF6307FR0EO DF6404FR0EO DF6504FR0EO	DF6207FRAB0 DF6307FRAB0 DF6404FRAB0 DF6504FRAB0	DF6207FRA00 DF6307FRA00 DF6404FRA00 DF6504FRA00	DF6207FR000 DF6307FR000 DF6404FR000 DF6504FR000
DF1207FR0EO DF1307FR0EO DF1404FR0EO DF1504FR0EO	DF1207FRAB0 DF1307FRAB0 DF1404FRAB0 DF1504FRAB0	DF1207FRA00 DF1307FRA00 DF1404FRA00 DF1504FRA00	DF1207FR000 DF1307FR000 DF1404FR000 DF1504FR000
— — —	DF2304FRAB0 DF2404FRAB0 DF2504FRAB0	DF2304FRA00 DF2404FRA00 DF2504FRA00	DF2304FR000 DF2404FR000 DF2504FR000
— — —	DF4304FRAB0 DF4404FRAB0 DF4504FRAB0	DF4304FRA00 DF4404FRA00 DF4504FRA00	DF4304FR000 DF4404FR000 DF4504FR000

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**\* Disconnect Service Ratings Available (Consult Factory)**

\*\* If receptacle is desired with a Straight Adapter instead of standard Angle Adapter, substitute "S" for the "A" in the catalog number.

**Boldface** figures are for voltage assignment; **for different ratings see following pages.** Receptacles furnished with flap cap also have screw thread to accept male collar on plug.

**Catalog numbers shown are for flap cap receptacles, change "DF" to "DS" for ordering screw cap.**

▼ Control contacts for plugs/receptacles: Use "K" where noted.  
Ex: DS3104MR00K

◆ "F" Flap Cap style shown. "S" Screw Cover option also available.  
ex: "DF\_ \_ \_ \_" vs. "DS\_ \_ \_ \_".

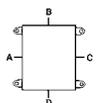
### Maximum Terminal Wire Size:

Rating	Max. Conductor Size AWG	Entrance Dia.
30	<b>#8</b> AWG - 7 Strand or Flexible Conduit	.187"
60	<b>#4</b> AWG - 7 Strand or Flexible Conduit	.302"
100	<b>#0</b> AWG - 19 Strand or Flexible	.386"
200	<b>#4/0</b> AWG - 19 Strand or Flexible	.625"
400	500MCM-37 Strand or Flexible	.937"

Conduit entry furnished at location "B" unless otherwise specified.

30 Amp 1" NPT 200 Amp 3" NPT  
60 Amp 1½" NPT 400 Amp 4" NPT  
100 Amp 2" NPT

For adapters, junction boxes and accessories,  
See pg. H29.



**Thomas & Betts**

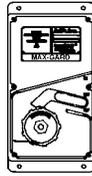
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## MaxGard® Interconnection Systems – Ordering Information

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Interlocked Receptacles

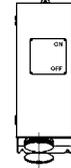
Maximum  
600 VAC or  
250 VDC



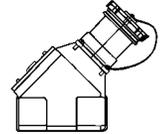
Interlocked Receptacle  
w/Circuit Breaker  
Nema 4X



Explosion-Proof  
Interlocked Receptacle  
With Circuit Breaker  
Class I, Class II



Fused Disconnect\*\*  
Interlocked Receptacle  
NEMA 12/3R



Explosion Proof  
Receptacle

Poles Wires	Voltage	Cat. No.	Cat. No.	Cat. No.	Cat. No.
<b>30 Amp</b>					
2P3W	125	DBRF310703000	DBRE310703000	DFRF31070	DSE3107FRO
2P3W	250	DBRF320703000	DBRE320703000	DFRF32070	DSE3207FRO
3P4W	3Ø250	DBRF330703000	DBRE330703000	DFRF33070	DSE3307FRO
3P4W	3Ø480	DBRF340403000	DBRE340403000	DFRF34040	DSE3404FRO
4P5W	277/480	DBRF350403000	DBRE350403000	DFRF35040	DSE3504FRO
<b>60 Amp</b>					
2P3W	250	DBRF620706000	DBRE620706000	DFRF62070	—
3P4W	125/250	DBRF630706000	DBRE630706000	DFRF63070	—
3P4W	3Ø480	DBRF640406000	DBRE640406000	DFRF64040	—
4P5W	277/480	DBRF650406000	DBRE650406000	DFRF65040	—
<b>100 Amp</b>					
2P3W	250	DBRF120710000	DBRE120710000	DFRF12070	—
3P4W	125/250	DBRF130710000	DBRE130710000	DFRF13070	—
3P4W	3Ø480	DBRF140410000	DBRE140410000	DFRF14040	—
4P5W	277/480	DBRF150410000	DBRE150410000	DFRF15040	—
<b>200 Amp</b>					
3P4W	277/480	DBRF230420000	—	—	—
3P4W	3Ø480	DBRF240420000	—	—	—
4P5W	277/480	DBRF250420000	—	—	—
<b>400 Amp</b>					
3P4W	277/480	DBRF430740000	—	—	—
3P4W	3Ø480	DBRF440440000	—	—	—
4P5W	277/480	DBRF450440000	—	—	—

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\*\* Non-fused version available. Replace DFRF with DNRF.  
**Boldface** figures are for voltage assignment; **for different ratings see following pages.**  
 ◆ "F" Flap Cap style shown. "S" Screw Cover option also available. ex: "DF\_ \_ \_ \_" vs. "DS\_ \_ \_ \_".

**Notes to Catalog Numbers: Suffixes**

▼ **Control Contacts**  
 (position 12)  
 use "K" example:  
 DBRF6104060K0

**Breaker Trip Ratings**  
 (positions 9, 10, 11)  
 30 amp use 030  
 50 amp use 050  
 60 amp use 060

**Shunt Trip Breaker**  
 (position 13)  
 add "Z" to above:  
 DBRF6104060KZ

**Non-Auto Switch**  
 (repl. "DBRF" with "DSRF")

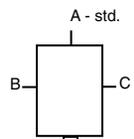
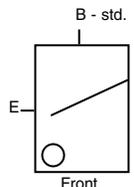
**Conduit Entries: NEMA 4X (at B or E)**

Amp	Std. NPT thread outlet	Max
30	1½"	2½"
60	1½"	2½"
100	2"	2½"

**Conduit Entries: NEMA XP (at A,B, or C)**

Amp	Std. NPT thread outlet	Max
30	1.25"	Consult Technical Services
60	1.50"	Consult Technical Services
100	2.00"	Consult Technical Services

Fused Disconnect DFRF – top entry only

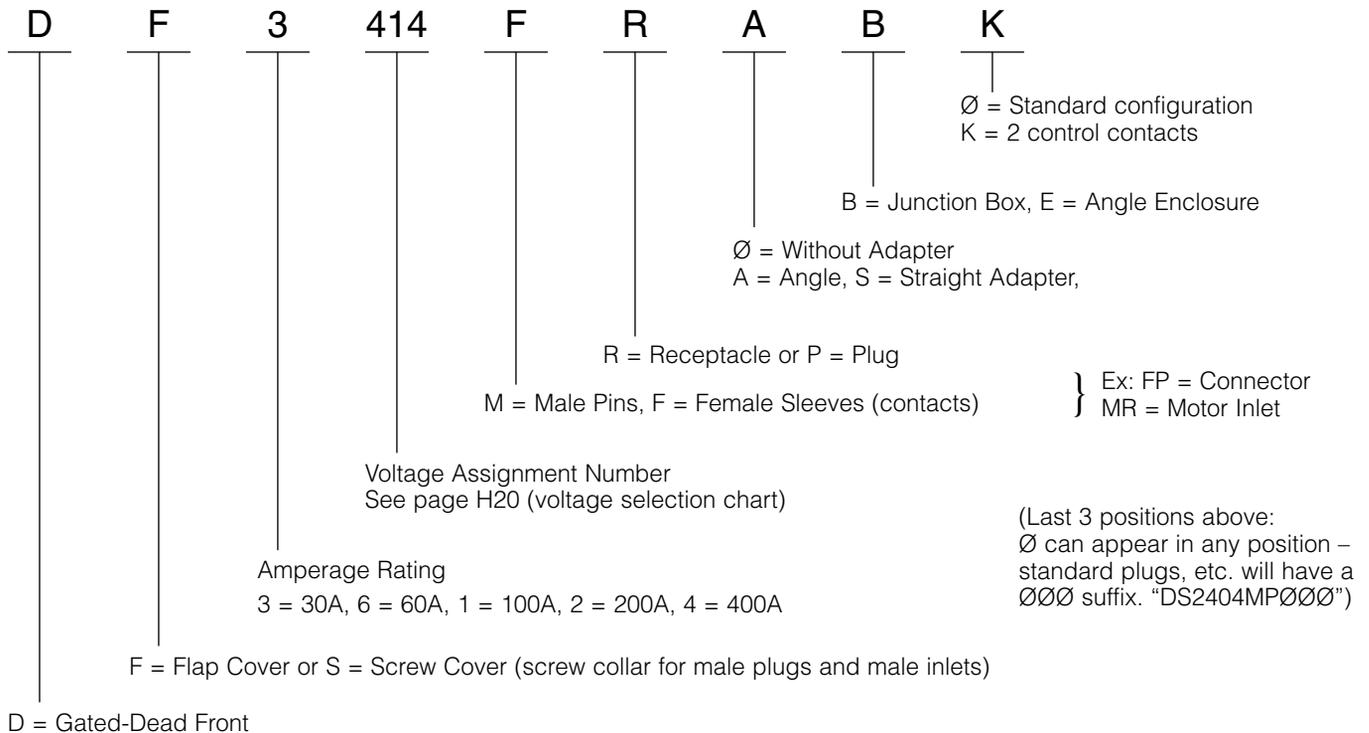


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## MaxGuard® Interconnection Systems – Catalog Numbering System

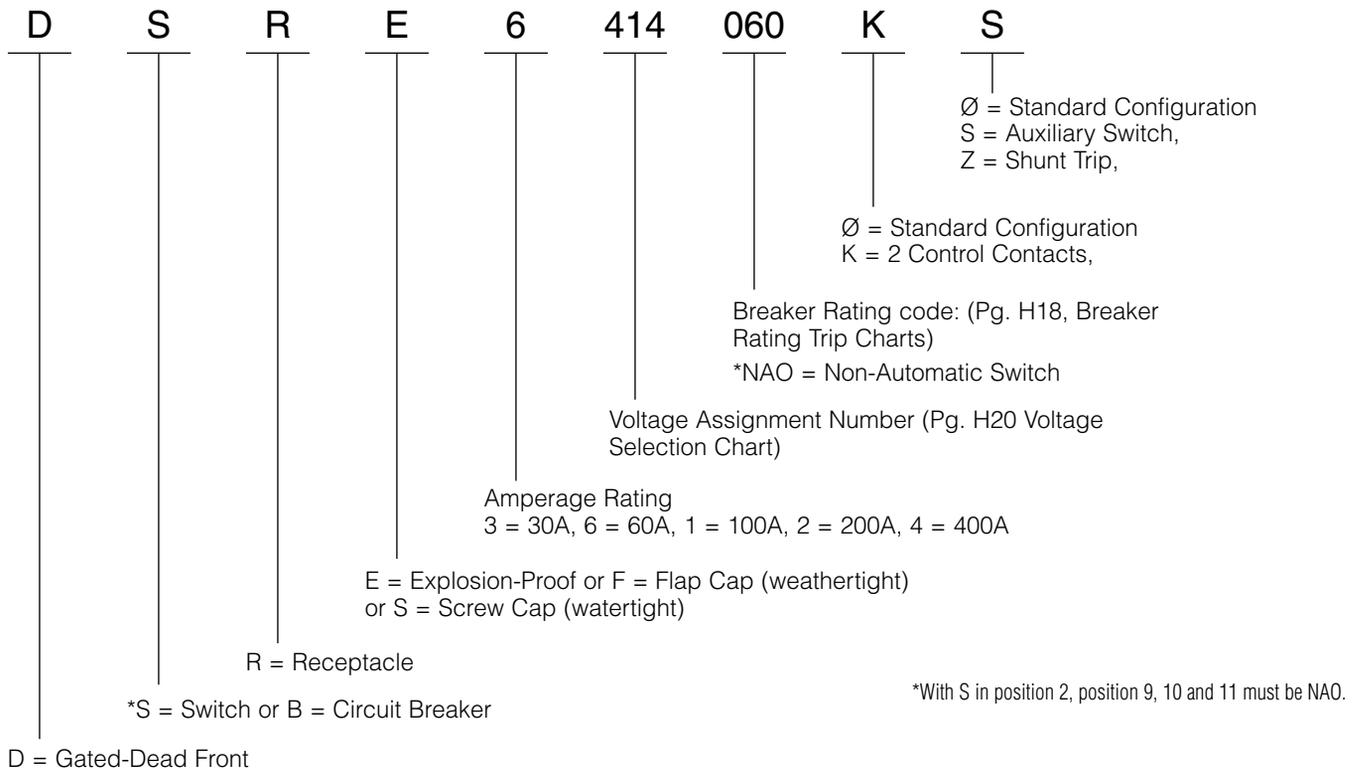
30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Receptacles, Plugs and Connectors.



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### Interlocks (Standard or Explosion Proof)



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## MaxGard® Interconnection Systems – Voltage Selection Chart

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Single Polarization/Multiple Service\* Assigned Voltages and Wiring Systems

N-R1-G		R1-S2-G		N-R1-S2-G		R1-S2-T3-G		N-R1-S2-T3-G		2P+G(DC)		
Voltage Assign. No. Voltage		Voltage Assign. No. Voltage		Voltage Assign. No. Voltage		Voltage Assign. No. Voltage		Voltage Assign. No. Voltage		Voltage Assign. No. Voltage Index		
101	220V-50Hz	201	380V-50Hz	301	220/380V-50Hz	401	380V-50Hz	501	220/380V-50Hz			01
103	127V-50Hz	203	220V-50Hz	303	220/127V-50Hz	403	220V-50Hz	503	220/127V-50Hz			03
104	277V-60Hz	204	480V-60Hz	304	277/480V-60Hz	404	3Ø480V-60Hz	504	3ØY277/480V/60Hz			04
105	250V-50Hz	205	440V-50Hz	305	250/440V-50Hz	405	3Ø440V-50Hz	505	3Ø250/440V-50Hz			05
107	125V-60Hz	207	250V-60Hz	307	125/250V-60Hz	407	3Ø250V-60Hz	507	3ØY125/250V-60Hz			07
108	220V-60Hz	208	380V-60Hz	308	220/380V-60Hz	408	3Ø380V-60Hz	508	3Ø220/380V-60Hz			08
109	100V-60Hz	209	220V-60Hz	309	100/220V-60Hz	409	3Ø220V-60Hz	509	3Ø100/220V-60Hz			09
111	115V-400Hz	211	220V-400Hz	311	220/115V-400Hz	411	220V-400Hz	511	220/115V-400Hz			11
—	—	—	—	—	—	—	—	513	230V DC	613	250V DC	13
114	347V-60Hz	214	600V-60Hz	314	347/600V-60Hz	414	3Ø600V-60Hz	514	3ØY347/600V-60Hz			14
115	100V-50Hz	215	220V-50Hz	315	100/220V-50Hz	415	3Ø220V-50Hz	515	3Ø100/220V-50Hz			15
116	120V-60Hz	216	208V-60Hz	316	120/208V-60Hz	416	3Ø208V-60Hz	516	3ØY120/208V-60Hz			16
117	120V-400Hz	217	208V-400Hz	317	120/208V-400Hz	417	3Ø208V-400Hz	517	3Ø120/208V-400Hz			17
—	—	—	—	—	—	—	208V	—	—	618	28VDC	18
—	—	221	440V-60Hz	321	250/440V-60Hz	421	3Ø440V-60Hz	521	3ØY250/440V-60Hz			20
							150% reserved				21	
							250V				22	
							480V				23	
							600V				24	
							150% reserved					
							150% reserved					
							150% reserved					

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MaxGard receptacles and plugs may be furnished in any of the above voltage and phasing systems.

To order any device in a voltage and phasing not shown in the preceding catalog pages, substitute the Voltage Assignment Number in the above chart for that portion of the listed catalog number appearing in bold face type.

**Example:**

200 amp Weathertight Receptacle with Flap Cover, Angle Adapter and Junction Box for 3Ø 480 volt (3 pole and ground) is DF2**404**FRAB0.

To change to 3Ø 208 volt, the catalog number becomes DF2**416**FRAB0.

**Note:** All devices may be furnished with two control contacts. Add "K" to the end of the catalog number, in place of last position Ø.

**\*Dual Voltage or Multiple Service Applications:**

(for any given polarization number)

**Example:** A factory installation may consist of all receptacles specified and wired at polarization "507". This is a 3ph.Y-125/250V-60Hz supply. However, all circuit requirements "below" (507) can also be met; for instance a "207" plug will draw phasing for 250V-60Hz operation of equipment as well, while another ".507" receptacle supplies power for a 3 phase motor installation. See chart above.

**For Polarizations at 45, 90, 150, 300, 600A ratings Consult Technical Services.**

# Russellstoll®

## MaxGard® Interconnection Systems – Custom Products

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles



### Portable Power Distribution Centers

MaxGard® portable power centers provide power to temporary, mobile or permanent applications that may require utilizing transformers, branch circuit or outlet breakers, multiple voltage outputs and even different power outlet types in a single enclosure. The resulting package powers welding machines, compressors, heaters, lighting, blowers, thermal containers or any other distributed power need.

Panels can be completely customized to various output, input, protection, construction and cabling requirements, including interlocked switched or standard outlets in any polarization. For instance, 480 volt 3-phase industrial power can be supplied along with a 60Hz standard 125 volt output in the same case; or with convenience outlets from another Russellstoll line for electric hand tools in the full range of amperages available. Even in the same amperage rating, plugs are non-interchangeable due to single rating polarizations. It's a flexible, economical system that can eliminate 50% or more of temporary wiring requirements.

### Safety

- All MaxGard receptacles in power centers are gated dead-front types, either interlocked with a circuit breaker, separate fused switch or discrete main breaker.
- No plug can be inserted or removed from interlocked receptacles unless the circuit breaker or switch is in the off position.
- Interlocks cannot be turned ON until a plug is fully inserted.
- All circuit breakers trip free of interlock handles.

### Durability

- Power centers are protected from rough handling and severe weather at the dock, construction site, or other installations by a rugged steel frame and enclosure.
- Final design and finishes are to customer spec.

### Performance

- MaxGard Portable power centers are available with power ratings from 30 to 400 amperes at 120 to 600 volts AC.
- Combinations are available to meet many job conditions.
- All power centers can be supplied with provisions for male inlet, receptacle or direct cable feeds.
- "Customization is Standard."

**Russellstoll®****MaxGard® Interconnection Systems – Competitive Checklist**

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

**Receptacles, Plugs and Connectors**

Feature	Russellstoll MaxGard®	Crouse Hinds Arkrite®	Appleton Powertite®
30 to 400 amps, + 150% ratings	Yes	Yes	No
Center Ground Contact	Yes	No	No
24 Single Rated Factory Polarizations	Yes	No	No
Gated Dead Front Construction	Yes	No	No
Two Optional Control Contacts	Yes	No	No
Marine Grade CDA485 Brass Pins/Sleeves (200-400 amp silver-plated)	Yes	No	No
"O" Rings/Environmental Separation, Full Line	Yes	No	No
Available to 5 wire (4 pole, 5 wire)	Yes	30 & 60 amp only	No
Complete line epoxy powder coated — standard	Yes	No	Some

**Interlocked XP Receptacles**

Feature	Russellstoll DBRE/DSRE Series	Crouse Hinds EPC Series	Appleton EBR Series (w/FB breaker)
Waterproof (DurORing™) O-ring sealing	Yes	No	No
Available to 5 wire (4 pole, 5 wire) thru 100 Amp	Yes	No	No
Gated Dead Front	Yes	No	No
Center Ground Sleeve Contact	Yes	No	No
24 Single Rated Factory Polarizations	Yes	No	No
Class I, Div. 1, Groups B, C, D	Yes	Yes	Yes
Class II, Div. 1, Groups F&G	Yes	Yes	Yes*
Meets Coast Guard (was CG259) Approvals	Yes	No	No

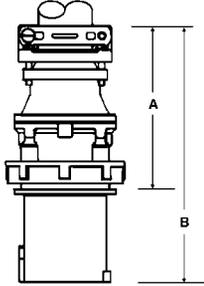
\* Group F excepting electrically conductive dusts

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## MaxGard® Interconnection Systems – Dimensions

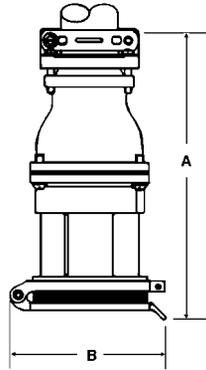
30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Male Plug



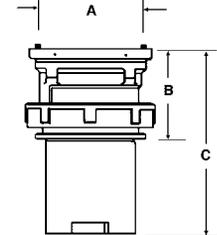
Amp	A	B
30	4¾"	7⅞"
60	5½"	9⅞"
100	6½"	10⅞"
200	9"	13¾"
400	12⅝"	17⅞"

### Connector



Amp	A	B
30	8¾"	5⅞"
60	10"	5⅞"
100	11⅞"	5⅞"
200	15"	9½"
400	19⅞"	10¾"

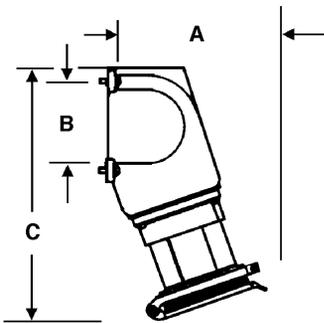
### Male Inlet



Amp	A	B	C
30	2⅞"	2½"	5½"
60	3⅞"	2½"	5½"
100	3⅞"	2½"	5½"
200	5¼"	3½"	9¼"
400	3⅞"	4⅞"	9¼"

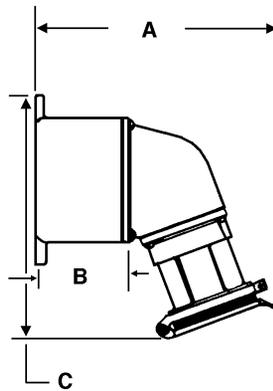
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### Receptacle with Angle Enclosure



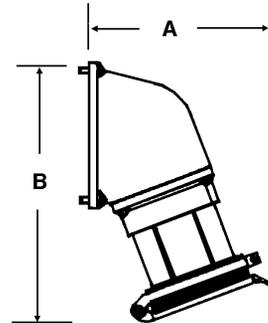
Amp	A	B	C
30	6⅜"	3⅞"	9⅞"
60	7⅞"	4"	11⅞"
100	7½"	4"	11⅞"
200	—	—	—
400	—	—	—

### Receptacle w/ Angle Adapter & DJB Junction Box



Amp	A	B	C
30	9⅞"	3"	9⅞"
60	10½"	3"	9¾"
100	10¾"	3¾"	10"
200	15¾"	6⅝"	14⅝"
400	25¼"	12"	20¾"

### Receptacle with Angle Adapter



Amp	A	B
30	6⅞"	9⅞"
60	7½"	9¾"
100	7"	10"
200	9½"	14¾"
400	13¼"	20¾"

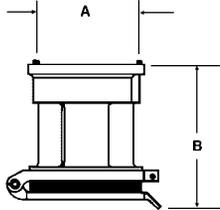
(Flap covers shown – screw covers available. On all, screw covers have nominal effect on outside dimensions.)

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## MaxGard® Interconnection Systems – Dimensions

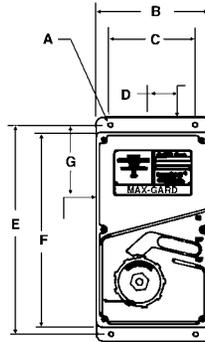
30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Receptacle Only



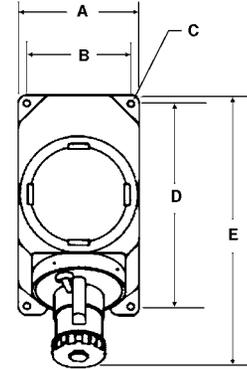
Amp	A	B
30	27/8"	41/2"
60	33/8"	51/8"
100	35/8"	53/8"
200	51/4"	65/8"
400	7"	71/8"

### Interlocked Receptacle w/ Circuit Breaker NEMA 4X



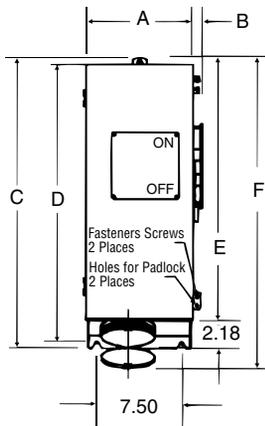
Amp	A	B	C	D	E	F	G
30	3/8"	83/4"	61/2"	11/2"	161/4"	151/8"	31/8"
60	3/8"	83/4"	61/2"	11/2"	161/4"	151/8"	31/8"
100	3/8"	83/4"	61/2"	11/2"	173/4"	165/8"	31/8"
200	9/16"	121/4"	9"	21/2"	261/4"	243/4"	5"
400	9/16"	151/2"	12"	3"	301/2"	29"	6"

### Explosion-Proof, Circuit-Breaker Interlocked Receptacle



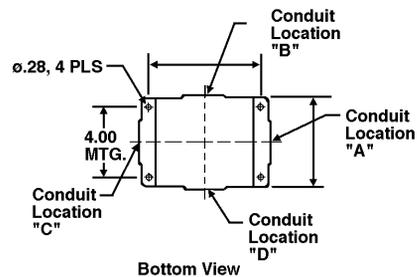
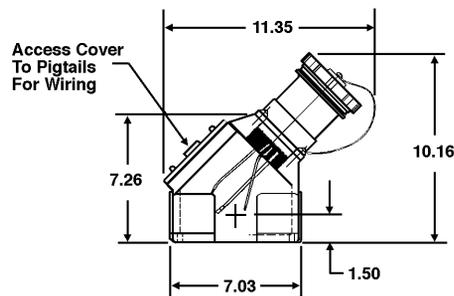
Amp	A	B	C	D	E
30	83/4"	71/2"	1/2"	143/4"	20"
60	83/4"	71/2"	1/2"	143/4"	20"
100	83/4"	71/2"	1/2"	143/4"	20"
200	N/A	N/A	N/A	N/A	N/A
400	N/A	N/A	N/A	N/A	N/A

### Fused Disconnect Interlocked Receptacle NEMA 3R/12



Amp	A	B	C	D	E	F
30	91/2"	3/4"	251/4"	25"	223/4"	30"
60	91/2"	3/4"	251/4"	25"	223/4"	30"
100	91/2"	3/4"	251/4"	25"	223/4"	30"
200	N/A	N/A	N/A	N/A	N/A	N/A
400	N/A	N/A	N/A	N/A	N/A	N/A

### Explosion Proof Non-Interlocked Receptacle



**Russellstoll®****MaxGard® Interconnection Systems – Accessories**

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

**For Interlocked NEMA 12/3R Receptacles**

Description	30 Amp Cat. No.	60 Amp Cat. No.	100 Amp Cat. No.	200 Amp Cat. No.	400 Amp Cat. No.
Fused Disconnect Interlocked Receptacle with Safety Switch 30-100A					
1 NO - 1 NC CONTACT	<b>F34757</b>	<b>F34757</b>	<b>F34757</b>	<b>N/A</b>	<b>N/A</b>
2 NO - 2 NC CONTACT	<b>F34758</b>	<b>F34756B</b>	<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
Copper Body lugs - 6 lugs per kit	<b>F34756A</b>	<b>F34756B</b>	<b>F34756C</b>	<b>N/A</b>	<b>N/A</b>
Type R Fuse Clips - 3 per kit	<b>F34755A</b>	<b>F34755B</b>	<b>F34755C</b>	<b>N/A</b>	<b>N/A</b>
Neutral Block	<b>F34754A</b>	<b>F34754B</b>	<b>F34754B</b>	<b>N/A</b>	<b>N/A</b>

**Circuit Breakers for NEMA 4X Interlocked Receptacles**

High Interrupt breakers may be furnished at additional cost.

Interlock	Standard Circuit Breakers		High Interrupt Circuit Breakers (optional)	
	Max. Volts	Amperes	Max. Volts	Amperes
30, 60 & 100 Amp	240 AC	20,000 Asym., 18,000 Sym.	240 AC	75,000 Asym., 65,000 Sym.
	277 AC	15,000 Asym., 14,000 Sym.	277 AC	30,000 Asym., 25,000 Sym.
	480 AC	15,000 Asym., 14,000 Sym.	600 AC	20,000 Asym., 18,000 Sym.
	600 AC	15,000 Asym., 14,000 Sym.	600 AC	20,000 Asym., 18,000 Sym.
	250 DC	10,000 Amperes	250 DC	10,000 Amperes
200 Amp	240 AC	75,000 Asym., 65,000		
	480 AC	30,000 Asym., 25,000 Sym.		
	600 AC	20,000 Asym., 18,000 Sym.		N/A
	250 DC	10,000 Amperes		
400 Amp	240 AC	50,000 Asym., 42,000 Sym.	240 AC	75,000 Asym., 65,000 Sym.
	277 AC	35,000 Asym., 30,000 Sym.	480 AC	40,000 Asym., 35,000 Sym.
	480 AC	25,000 Asym., 22,000 Sym.	600 AC	30,000 Asym., 25,000 Sym.
	250 DC	10,000 Amperes	250 DC	20,000 Amperes

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## MaxGard® Interconnection Systems – Accessories

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

### Cable Bushings

For MaxGard Plugs & Connectors

To order non-standard bushing, add cable bushing number to end of catalog number. This is furnished at no additional cost at time of order. Ex: DF2504FP000/DF2032.

Shaded areas show Cable Bushings provided with strain relief neck; larger bushings are collar style.

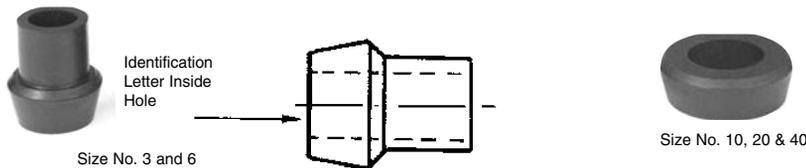
Hole Diameter for Cable	Size 3 30 Amp	Size 6 60 Amp	Size 10 100 Amp	Size 20 200 Amp	Size 40 400 Amp
.625"	JG63				
.750"	JG64	JG104			
.875"	JG65 Std. 2P3W	JG105			
1.000"	JG66 Std. 2P3W	JG106	DF1020	DF2020	
1.188"	JG67 Std. 3P4W	JG107 Std. 2P3W	DF1022	DF2022	
1.313"		JG108 Std. 3P4W	DF1024	DF2024	
1.375"	JG69				
1.500"	JG610	JG1010 Std. 4P5W	DF1026	DF2026	
1.625"					
1.688"		JG1011	DF1027 Std. 2P3W	DF2027	
1.813"			DF1029 Std. 3P4W	DF2029	
1.875"		JG1013	DF1030	DF2032 Std. 2P3W	
2.000"			DF1032 Std. 4P5W		
2.125"				DF2034 Std. 3P4W	
2.250"				DF2036 Std. 4P5W	
2.500"				DF2040	
2.625"					DF4042
2.750"					DF4044
3.000"					DF4048 Std. 3P4W
3.250"					DF4054 Std. 4P5W

#### Standard Cable Bushings:

#### Notes:

When ordering, select bushing size slightly larger than your cable O.D. for best fit.

**Material** – Neoprene



**Russellstoll®****MaxGard® Interconnection Systems – Accessories**

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

JPA xx  
Conduit  
Adapter**Adapters for Conduit and Fittings**

Adapters are tapped NPT standard pipe thread to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit.

**For Plug or Connector Sizes**

30 Amp Cat. No.	Tapped Hole Size NPT	60 Amp Cat. No.	Tapped Hole Size NPT	100 Amp Cat. No.	Tapped Hole Size NPT	200 Amp Cat. No.	Tapped Hole Size NPT	400 Amp Cat. No.	Tapped Hole Size NPT
<b>JPA62</b>	¾"	<b>JPA104</b>	1¼"	<b>DFA14</b>	1¼"	<b>DFA25</b>	1½"	<b>DFA46</b>	2"
<b>JPA63</b>	1"	<b>JPA105</b>	1½"	<b>DFA15</b>	1½"	<b>DFA26</b>	2"	<b>DFA47</b>	2½"
<b>JPA64</b>	1¼"	<b>JPA 106</b>	2"	<b>DFA16</b>	2"	<b>DFA27</b>	2½"	<b>DFA48</b>	3"
<b>JPA65</b>	1½"								

**Notes:****Material** – cast aluminum, corrosion-resistant copper-free alloy, electrostatic epoxy coated. Furnished complete with gasket and screws.

To specify standard plugs or connectors equipped with one of the above adapters, add the catalog number of the adapter selected to the catalog number of the plug or connector. Complete list price is the list price of the device plus list price of the adapter.

**Example:** Cat. No. DS3107MP000 with adapter tapped 1-inch would be Cat. No. DS3107MP000/JPA63.**H**

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**Replacement Flap Covers & Screw Covers**

For Connectors, Receptacles &amp; Interlocks

Description	Amperage	Cat. No.
 Flap Cover Assembly (Weathertight)	30	<b>DFC3</b>
	60	<b>DFC6</b>
	100	<b>DFC10</b>
	200	<b>DFC20</b>
	400	<b>DFC40</b>
 Screw Cap and STS - Lanyard Assembly (Watertight)	30	<b>DSC3</b>
	60	<b>DSC6</b>
	100	<b>DSC10</b>
	200	<b>DSC20</b>
	400	<b>DSC40</b>

**Russellstoll**<sup>®</sup>**MaxGuard<sup>®</sup> Interconnection Systems – Accessories**

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

**Replacement Interiors**

For Receptacles, Connectors, Plugs &amp; Male Inlets



Rating	Voltage Polarization	Corresponding Male Interior Assembly		Corresponding Female Interior Assembly		
		Plug/Inlet	Male Interior	Connector/Receptacle	Female Interior	
30A	2P3W	125VAC	DS3107MP000	DFPU3107	DF3107FP000	DFRU3107
	2P3W	250VAC	DS3207MP000	DFPU3207	DF3207FP000	DFRU3207
	3P4W	125/250 VAC	DS3307MP000	DFPU3307	DF3307FP000	DFRU3307
	3P4W	3 ph 480VAC	DS3404MP000	DFPU3404	DF3404FP000	DFRU3404
	4P5W	277/480VAC	DS3504MP000	DFPU3504	DF3504FP000	DFRU3504
60A	2P3W	250VAC	DS6207MP000	DFPU6207	DF6207FP000	DFRU6207
	3P4W	125/250 VAC	DS6307MP000	DFPU6307	DF6307FP000	DFRU6307
	3P4W	3 ph 480VAC	DS6404MP000	DFPU6404	DF6404FP000	DFRU6404
	4P5W	277/480VAC	DS6504MP000	DFPU6504	DF6504FP000	DFRU6504
100A	2P3W	250VAC	DS1207MP000	DFPU1207	DF1207FP000	DFRU1207
	3P4W	125/250 VAC	DS1307MP000	DFPU1307	DF1307FP000	DFRU1307
	3P4W	3 ph 480VAC	DS1404MP000	DFPU1404	DF1404FP000	DFRU1404
	4P5W	277/480VAC	DS1504MP000	DFPU1504	DF1504FP000	DFRU1504
200A	3P4W	277/480VAC	DS2304MP000	DFPU2304	DF2304FP000	DFRU2304
	3P4W	3 ph 480VAC	DS2404MP000	DFPU2404	DF2404FP000	DFRU2404
	4P5W	277/480VAC	DS2504MP000	DFPU2504	DF2504FP000	DFRU2504
400A	3P4W	277/480VAC	DS4304MP000	DFPU4304	DF4304FP000	DFRU4304
	3P4W	3 ph 480VAC	DS4404MP000	DFPU4404	DF4404FP000	DFRU4404
	4P5W	277/480VAC	DS4504MP000	DFPU4504	DF4504FP000	DFRU4504

**Note:**

For other interiors not shown, use same polarization index as plug, connector, etc. Ex: DS6416MP000 plug uses DFPU6416 interior.

**Russellstoll®****MaxGard® Interconnection Systems – Accessories**

30-400/600 Amp Plugs, Connectors, Receptacles, Inlets and Interlocked Receptacles

**For Receptacles**

Description	30 Amp Cat. No.	60 Amp Cat. No.	100 Amp Cat. No.	200 Amp Cat. No.	400 Amp Cat. No.
 <p><b>Cup Caps</b> For watertight plugs/inlets. Cup caps are used where portable equipment is on a standby basis and plugs are not in use. To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion. <b>Material</b> – cast aluminum, corrosion-resistant copper-free alloy, electrostatic epoxy coated with steel braid cable attached.</p>	<b>DS3CC</b>	<b>DS6CC</b>	<b>DS1CC</b>	<b>DS2CC</b>	<b>DS4CC</b>
 <p><b>Adapter Flush Frames – Single Gang</b> Provide suitable means for mounting box covers of junction box receptacles flush in a wall.</p>	<b>JFA6</b>	<b>JFA10</b>	<b>JFA10</b>	<b>JFA20</b>	<b>Consult Factory</b>
 <p><b>Adapters for Conduit Box Receptacles</b> Adapters to fit existing boxes and for special mounting requirements can also be furnished. Consult Factory. 20° Vertical Angle Adapter 30° Vertical Angle Adapter 45° Vertical Angle Adapter Straight Adapter</p>	<b>JAA6-AB6</b> — <b>JAA6-45</b> <b>JRA6-AB6</b>	<b>JAA10</b> — <b>JAA10-45</b> <b>JRA10</b>	<b>DAA10</b> — <b>DRA10</b>	<b>DAA20</b> — <b>DRA20</b>	— <b>DAA40</b> — <b>DRA40</b>
 <p>Junction Box - Single Gang</p>	<b>JB6-1</b>	<b>JB10-B150</b>	<b>JB10-B200</b>	<b>DJB20</b>	<b>DJB40</b>
 <p>Angle Enclosure</p>	<b>JE6</b>	<b>JE10</b>	<b>JE10M</b>	—	—
 <p><b>MACK Adapter Plates</b> Allows mounting of MaxGard receptacles to competitive existing back boxes. This involves removing the existing non-hazardous location receptacle from back box, inserting adapter plate and installing MaxGard receptacle. Adapter plates are available for competitor's boxes including Hubbel, Killark, Appleton &amp; Crouse-Hinds.</p>	<b>DCCA3</b>	<b>DCCA6</b>	<b>DCCA10</b>	<b>DCCA20</b>	—
 <p><b>Russellstoll Adapter Plates</b> Adapt MaxGard receptacles to existing J-Line, Angle Type and Heavy Service Ever-Lok back boxes.</p>	<b>DRCA3</b>	<b>DRCA6</b>	<b>DRCA10</b>	<b>DRCA20</b>	<b>N/A</b>

**Note:** For 8X ... Cat. #s, contact Customer Service. These are additional accessory items.**H**

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**Thomas & Betts**

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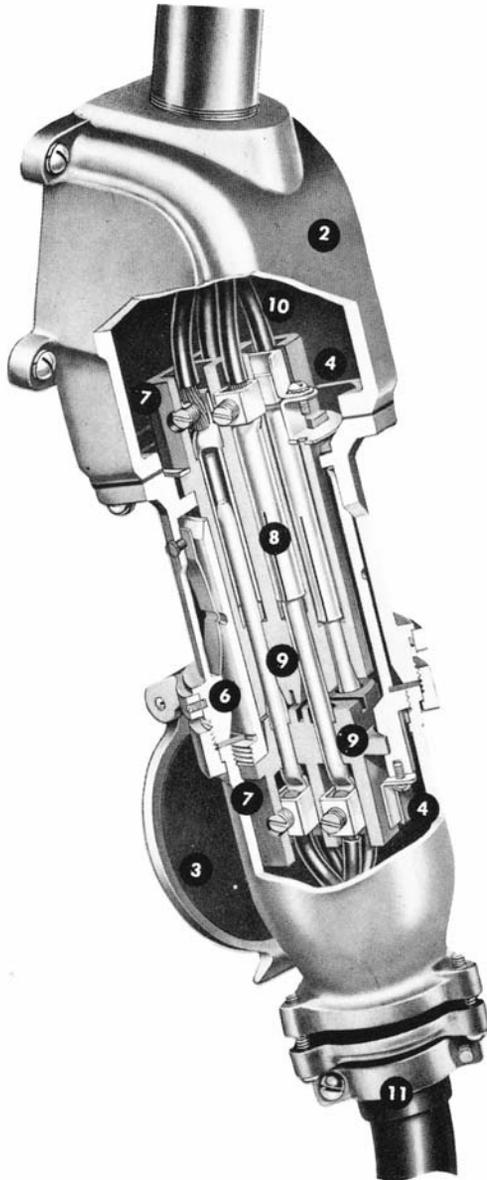
## J-Line Interconnection Systems

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Load Breaking Receptacles, Plugs, Connectors & Inlets

### Design Features

#### Russellstoll® J-Line Load Breaking Plugs, Connectors and Receptacles



1. Circuit interrupting rated safety.
2. Cast aluminum, corrosion resistant copper free alloy housings and enclosures provide light weight and maximum corrosion resistance, along with electrostatic epoxy powder coat finish.
3. Quick conversion between weathertight flap cover and watertight screw cap assemblies. Basic receptacle housing accommodates both covers and is the basic component of all complete units. All watertight configured plugs may be used interchangeably.
4. Two grounding arrangements (Style No. 1 and Style No. 2).
5. Four Complete J-Lines  
30, 60, 100 and 200 Amps, 600 Volts, A.C. 250 Volts, D.C. (plus 150A/270A specials)
6. Flap cover can be rotated and locked in any convenient position.
7. Pressure type solderless wiring terminals.
8. Silver plated contacts.
9. One-piece interior assemblies. Interchangeable from regular to reverse service in the field with a screwdriver.
10. Wiring space  
Ample for maximum requirements.
11. Cable Clamps  
Adjustable, for maximum range of cable size. Oil resistant neoprene strain-relief bushing compresses around cable tightly, prevents entry of dust and moisture.
12. Polarization  
Provides positive non-interchangeability for different electrical systems.
13. Reversed contacts flexibility male-female reversed installation within any housing.

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## J-Line Interconnection Systems

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Load Breaking Receptacles, Plugs, Connectors & Inlets

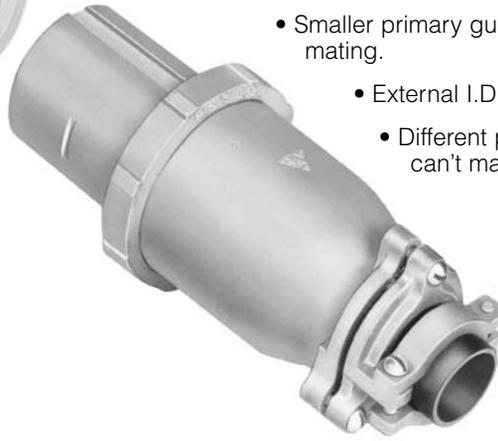
### Polarization



Devices offer standard and custom polarization for total operator safety so that plugs will fit only into receptacles or connectors having the same electrical/specification characteristics.

Visual means of aligning units for a specific, positive polarization are provided:

- Button inside of receptacle housing mates to groove on plug shroud.
- Smaller primary guides also assist positive part-part mating.
- External I.D. of 1 of 8 polarization indexes visible.
- Different polarizations assigned to voltages can't mate – a safer system!



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### Conversion To Weathertight and Watertight Types



Weathertight J-Line with flap cover assembly



Watertight J-Line With Screw Cap

Substitution of either the flap cover assembly or the screw cap assembly on the housing of the basic receptacle permits quick and easy conversion between the weathertight and watertight types. Only a small screwdriver is needed to change in the field.

The basic receptacle housing is constructed with a threaded end to accommodate a screw cap or the collar nut of a watertight plug. A special groove above the threads

accommodates the flap cover assembly. The flap cover assembly may be rotated around this grooved shell and the set-screw locked in any convenient position.

The watertight plug, with its collar screwed firmly to the basic receptacle shell, forms a completely watertight connection on either type of receptacle assembly.

These conversion features also permit the use of flap cover or screw cap on connector housings.

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## J-Line Interconnection Systems

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC  
Load Breaking Receptacles, Plugs, Connectors & Inlets

### Reversed Contacts Service

#### For all Weathertight and Watertight types

All J-Line plugs, receptacles and connectors can be furnished for Reverse Service – male (plug) interiors in the receptacles and female (receptacle) interiors in the plugs. When ordering reverse service add a final suffix “R” to the complete catalog number. Price on application.

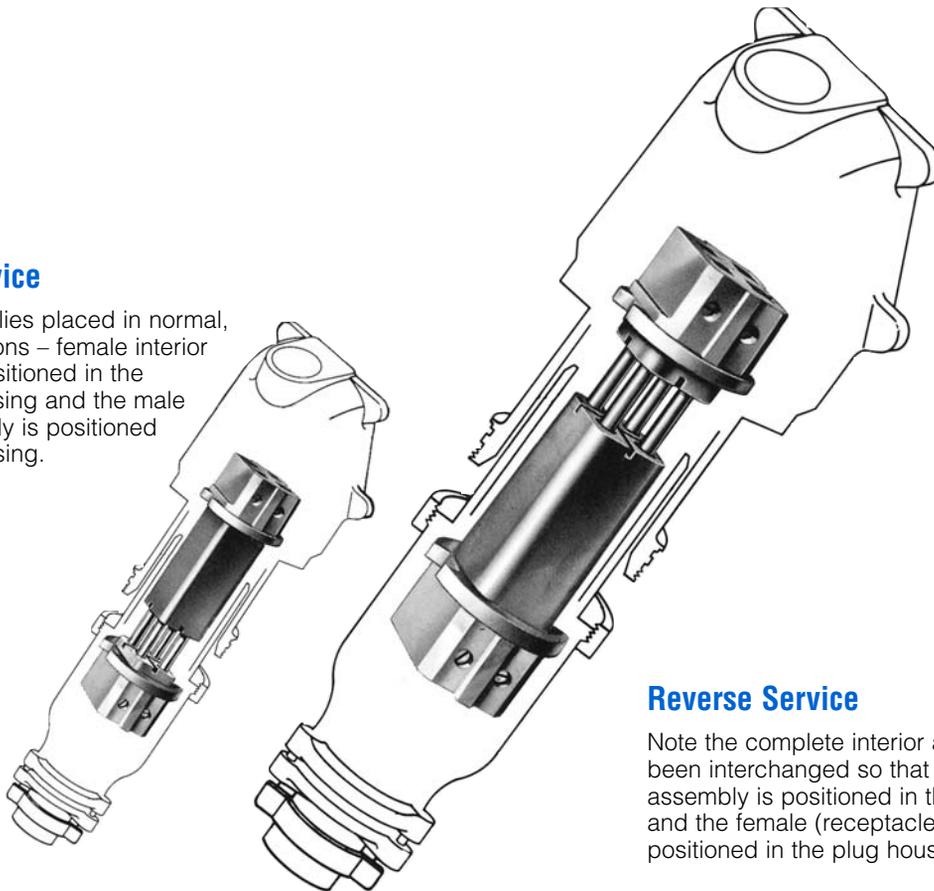
Example: JRFA334HR

J-Line receptacle and plug interior assemblies of the same amperage may be quickly interchanged from regular to reverse service (or vice versa) in the field. A screwdriver is the only tool required.

Example: Panel mounted low profile receptacles with male interiors act as Male Inlets in remote equipment; receive power from “Female Plugs”. (Cup cap also recommended).

#### Regular Service

Interior assemblies placed in normal, standard positions – female interior assembly is positioned in the receptacle housing and the male interior assembly is positioned in the plug housing.



#### Reverse Service

Note the complete interior assemblies have now been interchanged so that the male (plug) interior assembly is positioned in the receptacle housing and the female (receptacle) interior assembly is positioned in the plug housing.

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## J-Line Interconnection Systems

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

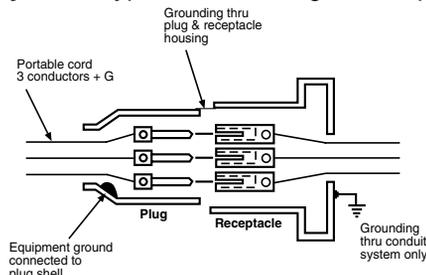
Load Breaking Receptacles, Plugs, Connectors &amp; Inlets

### Grounding Data

Effective grounding of portable electric equipment is necessary to protect operators from electric shock. The National Electrical Code requires that in most cases exposed non-current-carrying metal parts of portable equipment shall be grounded if operated at more than 150 volts to ground. Grounding must be used in other than residential occupancies when used in damp or wet

locations, or by persons standing on the ground or on metal floors or working inside of metal tanks or boilers, except where supplied through an insulating transformer with ungrounded secondary of not over 50 volts. **Plugs and receptacles provide for grounding of portable equipment in either of two ways:**

#### Style 1 – Typical 3P3W Plug & Receptacle



### STYLE 1

#### 4P4W (or 3P3W)

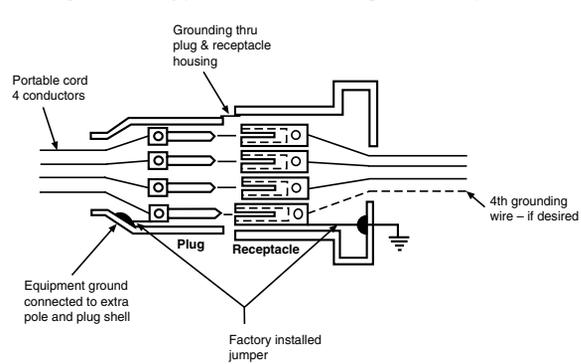
##### Through Metal Housings of Plug and Receptacle

In this system shown above, the equipment grounding conductor in the flexible cable is electrically connected directly to the plug or cable connector housing by a suitable terminal. The receptacle is grounded by being part of a grounded conduit system.

When inserted, the plug housing makes contact with the grounded receptacle or connector housing by means of the receptacle ground spring before the current-carrying contacts engage. On withdrawal, it remains in contact until after the current-carrying contacts disengage.

**Corrosive Locations:** The National Electrical Code requires that under conditions favorable to corrosion, the grounding conductor for enclosures and equipment be of copper or other corrosion-resistant material. In alternating current systems, this necessitates running another conductor back to the common grounding electrode. This may be run

#### Style 2 – Typical 3P4W Plug & Receptacle



### STYLE 2

#### 3P4W (or 2P3W)

##### Through a Separate Grounding Pole in Plug and Receptacle

In this system shown above, the equipment grounding conductor in the flexible cable is electrically connected to the equipment grounding pole in the plug or cable connector interior. The grounding pole of the receptacle interior is electrically connected by a spring strap jumper to the receptacle housing which itself is grounded by being part of the ground spring of the receptacle or connector housing as described in system number one.

The grounding contact in a type 2 receptacle is longer than the current-carrying contacts so that the ground connection makes first and breaks last.

through the conduit containing the circuit conductors. At the receptacle, this grounding conductor should be connected to the extra (grounding) pole by the pressure connector provided for that purpose. Where such an extra grounding conductor is required, Style 2 receptacles should be used.

**Thomas & Betts**

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## J-Line Interconnection Systems

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Load Breaking Receptacles, Plugs, Connectors & Inlets

### Receptacle Mounting Options – J-Line Construction

#### Progressive Assembly

Mounting Style	To Order Use:	Current Rating			
		30 Amp	60 Amp	100/150 Amps	200/270 Amps
Standard Series <b>JRFA/JRSA</b> <input type="checkbox"/> 	Receptacle + Vertical or Square Mount Box + Angle Adapter	Basic Receptacle* + JB3 1" Std. Conduit Size + JAA3 (20°) or JAA3-45 (45°)	Basic Receptacle* + JB6 1½" Std. Conduit Size + JAA6-AB6 (20°) or JAA6-45 (45°)	Basic Receptacle* + JB10 2" Std. Conduit Size + JAA10 (20°) or JAA10-45 (45°)	Basic Receptacle* + JB20 3" Std. Conduit Size + JAA20 (20°) or JAA20-45 (45°)
Series <b>JRFR/JRSR</b> <input type="checkbox"/> Straight 	Receptacle + Vertical Mount Box + Straight Adapter	Basic Receptacle* + JB3 1" Std. Conduit Size + JRA3	Basic Receptacle* + JB6 1½" Std. Conduit Size + JRA6-AB6	Basic Receptacle* + JB10 2" Std. Conduit Size + JRA10	Basic Receptacle* + JB20 3" Std. Conduit Size + JRA20
Series <b>JRFB/JRSB</b> <input type="checkbox"/> 	Receptacle + 30° Angle Adapter	Basic Receptacle* + JAAB3	Basic Receptacle* + JAAB6	Basic Receptacle* + JAAB10	Basic Receptacle* + JAAB20
Series <b>JRFE/JRSE</b> <input type="checkbox"/> 	Receptacle + Angle Enclosure	Basic Receptacle* + JE3 1" Std. Conduit Size	Basic Receptacle* + JE6 1½" Std. Conduit Size	Basic Receptacle* + JE10 2" Std. Conduit Size	N/A
Series <b>JRFH/JRSH</b> <input type="checkbox"/> Horizontal 	Receptacle + Horizontal Mount Box + Angle Adapter	Basic Receptacle* + JB3 1" Std. Conduit Size + JHA3 (20°)	N/A	N/A	N/A

\* Select appropriate receptacle by rating, configuration and voltage on Page H37.

**Note:** JRXX 3rd letter denotes Flap (F) or Screw (S) Cover.

Ex: JRSA – Screw Cover

JRFA – Flap Cover

JRF – Flap Cover, Basic Receptacle

JRS – Screw Cover, Basic Receptacle

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## J-Line Interconnection Systems – Ordering Information

30-270 Amp, (30, 60, 100 and 200 Amp Load Breaking  
150 and 270 Amp Special Service) Maximum 600 VAC/250 VDC  
Receptacles, Plugs, Connectors & Inlets

For any J-Line catalog numbers not shown here, check page H35 for “Series” information.

For special polarizations (suffixes) contact Technical Services.

### Plugs



(All plugs come with watertight screw collar)

### Max. 600VAC / 250VDC

Current Rating	Weathertight / Watertight	Configuration	
30 Amp	Weathertight (Spring Hinged Flap Cover)	2P3W 3P3W* 3P4W 4P4W*	☐ ▼ JPS323H — JPS333F JPS334H JPS344F
	Watertight (Screw Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS323H JPS333F JPS334H JPS344F
60 Amp	Weathertight (Spring Hinged Flap Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS623H JPS633F JPS634H JPS644F
	Watertight (Screw Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS623H JPS633F JPS634H JPS644F
100 Amp (150 Amp)**	Weathertight (Spring Hinged Flap Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS1023H JPS1033F JPS1034H JPS1044F
	Watertight (Screw Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS1023H JPS1033F JPS1034H JPS1044F
200 Amp (270 Amp)**	Weathertight (Spring Hinged Flap Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS2023H JPS2033F JPS2034H JPS2044F
	Watertight (Screw Cover)	2P3W 3P3W* 3P4W 4P4W*	JPS2023H JPS2033F JPS2034H JPS2044F

\* Housing Ground Only (Style 1 Grounding) see page H34.

+ Shown with 20° angle adapter. Can be furnished with 45° angle at same price. When ordering add suffix -45 to catalog number.

\*\* Special rated devices (not shown). Consult customer service for details.

**Note:** To order Reverse Service add a final suffix “R” to catalog number. Examples: JRFA334HR — a receptacle housing with male interior.

☐ Polarization index (std. shown) Consult Technical Services for more.

◆ Flap Cover “F” noted. Screw Cover “S” also available

▼ For Reversed Contacts, use “R” suffix to any catalog number.

### Std. Cable Bushing

Current Rating	Bushing I.D.	Max. AWG Size
30	7/8"	#6 - 7 strand or #8 flexible
60	1 1/8"	#4 - 7 strand or flexible
100	1 1/2"	#0 - 19 strand or #1 flexible
200	2"	#4/0 - 19 strand or flexible

(see page H41 for other bushings)

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## J-Line Interconnection Systems – Ordering Information

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Load Breaking Receptacles, Plugs, Connectors & Inlets

Connectors		Receptacles	
	 Panel Mount	 Basic Receptacle	 Standard Series*
◆ □ ▼ JCF323H — JCF333F JCF334H JCF344F	◆ □ ▼ JRF323H — JRF333F JRF334H JRF344F	◆ □ ▼ JRF323H — JRF333F JRF334H JRF344F	◆ □ ▼ JRFA323H — JRFA333F JRFA334H JRFA344F
JCS323H JCS333F JCS334H JCS344F	JRSX323H JRSX333F JRSX334H JRSX344F	JRS323H JRS333F JRS334H JRS344F	JRSA323H JRSA333F JRSA334H JRSA344F
JCF623H JCF633F JCF634H JCF644F	JRF623H JRF633F JRF634H JRF644F	JRF623H JRF633F JRF634H JRF644F	JRFA623H JRFA633F JRFA634H JRFA644F
JCS623H JCS633F JCS634H JCS644F	JRSX623H JRSX633F JRSX634H JRSX644F	JRS623H JRS633F JRS634H JRS644F	JRSA623H JRSA633F JRSA634H JRSA644F
JCF1023H JCF1033F JCF1034H JCF1044F	JRF1023H JRF1033F JRF1034H JRF1044F	JRF1023H JRF1033F JRF1034H JRF1044F	JRFA1023H JRFA1033F JRFA1034H JRFA1044F
JCS1023H JCS1033F JCS1034H JCS1044F	JRSX1023H JRSX1033F JRSX1034H JRSX1044F	JRS1023H JRS1033F JRS1034H JRS1044F	JRSA1023H JRSA1033F JRSA1034H JRSA1044F
JCF2023H JCF2033F JCF2034H JCF2044F	JRF2023H JRF2033F JRF2034H JRF2044F	JRF2023H JRF2033F JRF2034H JRF2044F	JRFA2023H JRFA2033F JRFA2034H JRFA2044F
JCS2023H JCS2033F JCS2034H JCS2044F	JRSX2023H JRSX2033F JRSX2034H JRSX2044F	JRS2023H JRS2033F JRS2034H JRS2044F	JRSA2023H JRSA2033F JRSA2034H JRSA2044F

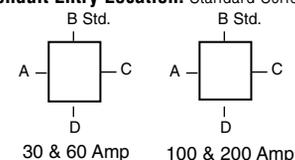
Conduit Size: (Using JPA\_Series Conduit Adapters)

Current Rating	Std. Size	Max. Size
30	1"	1¼"
60	1½"	1½"
100	2"	2"
200	3"	3"

\* Smaller NPT openings available on request.

Cable Conduit Adapters: see page H42.

Conduit Entry Location: Standard Series



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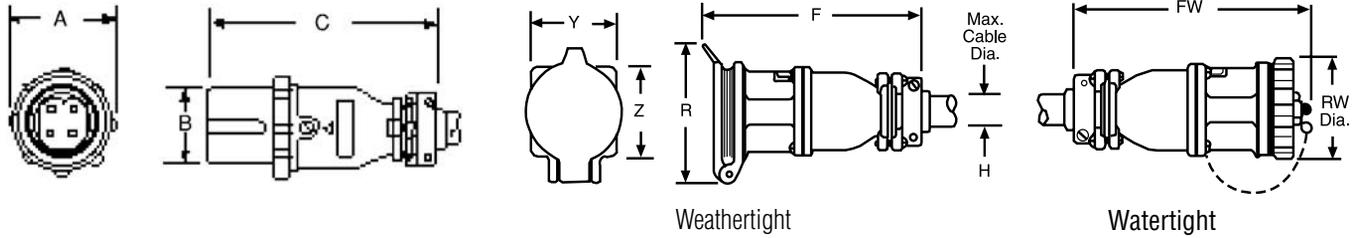
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## J-Line Interconnection Systems – Dimensions

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC

Load Breaking Receptacles, Plugs, Connectors & Inlets

### Plugs and Connectors



Watertight Male — Plug

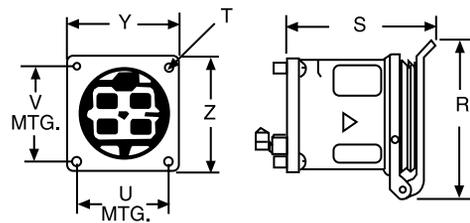
Female - Connector

### Dimensions for 2, 3 or 4 wire Weathertight and Watertight Units

Amp	A	B	C	Weathertight F	Watertight FW	Weathertight R	Watertight RW	Y	Z	H
30	3"	2 <sup>1</sup> / <sub>8</sub> "	7"	8 <sup>1</sup> / <sub>8</sub> "	8 <sup>3</sup> / <sub>8</sub> "	4 <sup>1</sup> / <sub>4</sub> "	3"	2 <sup>3</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>4</sub> "	1
60	3 <sup>3</sup> / <sub>4</sub> "	2 <sup>9</sup> / <sub>16</sub> "	8 <sup>7</sup> / <sub>8</sub> "	10 <sup>3</sup> / <sub>4</sub> "	10 <sup>3</sup> / <sub>8</sub> "	5"	3 <sup>3</sup> / <sub>4</sub> "	3 <sup>1</sup> / <sub>2</sub> "	3 <sup>1</sup> / <sub>2</sub> "	3 <sup>3</sup> / <sub>8</sub> "
100/150	4 <sup>1</sup> / <sub>8</sub> "	2 <sup>9</sup> / <sub>16</sub> "	10 <sup>1</sup> / <sub>4</sub> "	10 <sup>1</sup> / <sub>2</sub> "	10 <sup>7</sup> / <sub>8</sub> "	5 <sup>1</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>8</sub> "	4"	4"	1 <sup>7</sup> / <sub>8</sub> "
200/270	5 <sup>3</sup> / <sub>4</sub> "	3 <sup>5</sup> / <sub>16</sub> "	14 <sup>5</sup> / <sub>8</sub> "	14 <sup>7</sup> / <sub>8</sub> "	15 <sup>3</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>8</sub> "	5 <sup>3</sup> / <sub>4</sub> "	5 <sup>5</sup> / <sub>8</sub> "	5 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub> "

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### Basic Receptacles



### Dimensions for 2, 3 or 4 wire Units

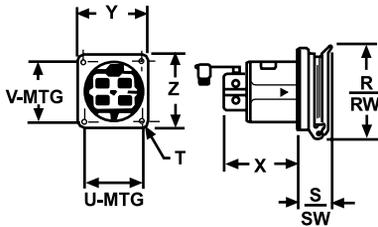
Amp	Z	Y	X	Weathertight S	Watertight SW	Weathertight R	Watertight RW	V	U	T
30	2 <sup>3</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>4</sub> "	1	3 <sup>3</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>4</sub> "	3"	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	1 <sup>1</sup> / <sub>4</sub> "
60	3 <sup>1</sup> / <sub>2</sub> "	3 <sup>1</sup> / <sub>2</sub> "	1 <sup>1</sup> / <sub>4</sub> "	4 <sup>5</sup> / <sub>8</sub> "	4 <sup>3</sup> / <sub>4</sub> "	5"	3 <sup>3</sup> / <sub>4</sub> "	2 <sup>7</sup> / <sub>8</sub> "	2 <sup>7</sup> / <sub>8</sub> "	9 <sup>3</sup> / <sub>32</sub> "
100/150	4"	4"	1 <sup>1</sup> / <sub>4</sub> "	5"	5 <sup>1</sup> / <sub>4</sub> "	5 <sup>1</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>8</sub> "	3 <sup>3</sup> / <sub>8</sub> "	9 <sup>5</sup> / <sub>32</sub> "
200/270	5 <sup>5</sup> / <sub>8</sub> "	5 <sup>5</sup> / <sub>8</sub> "	1 <sup>3</sup> / <sub>4</sub> "	6 <sup>1</sup> / <sub>8</sub> "	6 <sup>3</sup> / <sub>8</sub> "	7 <sup>1</sup> / <sub>8</sub> "	5 <sup>3</sup> / <sub>4</sub> "	4 <sup>7</sup> / <sub>8</sub> "	4 <sup>7</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>32</sub> "

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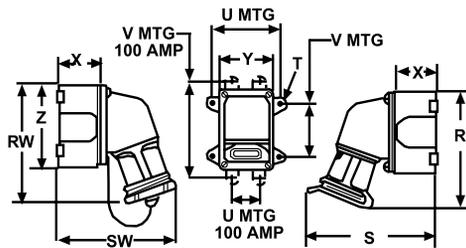
## J-Line Interconnection Systems – Dimensions

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC  
Load Breaking Receptacles, Plugs, Connectors & Inlets

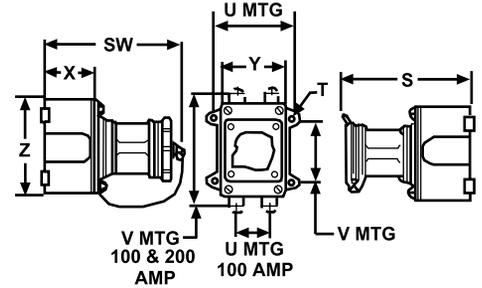
### Panel Mount Series



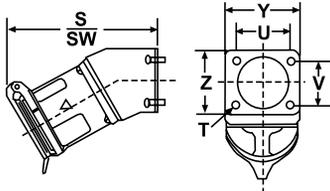
### Standard Series JRFA/JRSA



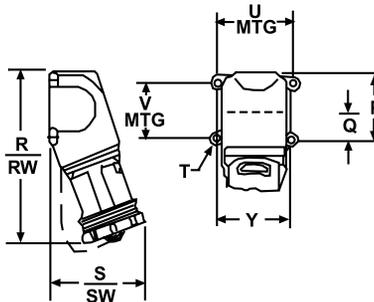
### Series JRFR/JRSR



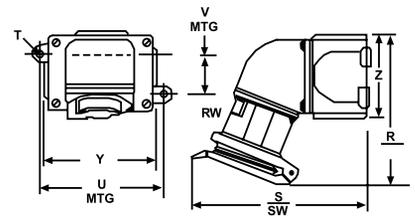
### Series JRFB/JRSB



### Series JRFE/JRSE



### Series JRFH/JRSH



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Amp	Series	Z	Y	X	Weathertight				Q	P	V	U	T	Panel Opening
					S	SW	R	RW						
30	Panel Mount	3½"	3½"	2⅞"	1¾"	2"	4¼"	3"	–	–	2⅞"	2⅞"	¼"	2¾"
	Standard (20°)	4½"	3"	2½"	7"	6½"	6¾"	6¾"	–	–	2⅞"	3⅞"	¼"	–
	JRFR/JRSR	4½"	3"	2½"	6⅞"	6½"	–	–	–	–	2⅞"	3⅞"	¼"	–
	JRFB/JRSB	3⅞"	3⅞"	–	5¾"	5¾"	–	–	–	–	2¼"	2¼"	¼"	2¼"
	JRFE/JRSE	–	3½"	–	5¼"	4⅞"	7⅞"	7⅞"	1¼"	2⅞"	–	4	¼"	–
60	JRFB/JRSB	3⅞"	4½"	2½"	7"	6½"	6⅞"	6⅞"	–	–	2⅞"	3⅞"	¼"	–
	Panel Mount	4"	4"	3⅞"	1¾"	2"	5"	3¾"	–	–	3⅞"	3⅞"	⅝"	3¼"
	Standard (20°)	5⅞"	4"	3"	9¼"	8⅞"	8⅞"	9"	–	–	3⅞"	4⅞"	1⅝"	–
	JRFR/JRSR	5⅞"	4"	3"	8⅞"	8½"	–	–	–	–	3⅞"	4⅞"	1⅝"	–
	JRFB/JRSB	3⅞"	3⅞"	–	7⅞"	7⅞"	–	–	–	–	2⅞"	2⅞"	⅝"	2½"
100/150	JRFE/JRSE	–	4¼"	–	6⅞"	5¾"	9¾"	9½"	1⅞"	3⅞"	3⅞"	4½"	⅝"	–
	Panel Mount	4¼"	4¼"	4⅞"	1¾"	2"	5¼"	4⅞"	–	–	3⅞"	3⅞"	⅝"	3½"
	Standard (20°)	5½"	5½"	3½"	10½"	9⅞"	9⅞"	9¾"	–	–	6¾"	4¼"	1⅝"	–
200/270	JRFR/JRSR	5½"	5½"	3½"	11¼"	11⅞"	–	–	–	–	6¾"	4¼"	1⅝"	–
	JRFB/JRSB	3⅞"	3⅞"	–	8¼"	8¼"	–	–	–	–	2⅞"	2⅞"	⅝"	–
	Panel Mount	6"	6"	5⅞"	2"	2½"	7⅞"	5¾"	–	–	5¼"	5¼"	1⅝"	5⅞"
200/270	Standard (20°)	8⅞"	8⅞"	6⅞"	15⅞"	15⅞"	12⅞"	12⅞"	–	–	9⅞"	7⅞"	⅝"	–
	JRFR/JRSR	8⅞"	8⅞"	6⅞"	15"	15½"	–	–	–	–	9⅞"	7⅞"	⅝"	–
	JRFB/JRSB	4"	4"	–	12¼"	12¼"	–	–	–	–	2¾"	2¾"	1⅝"	–

Note: U = horizontal mounting hole centers; V = vertical mounting hole centers

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## J-Line Interconnection Systems – Accessories

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC  
Load Breaking Receptacles, Plugs, Connectors & Inlets

### Replacement Interiors

For Receptacles, Connectors, Plugs & Male Inlets



Female Interiors: Receptacles & Connectors



Male Interiors: Plug & Male Inlets

Poles/Wires	30 Amp	60 Amp	100/150 Amp	200/270 Amp	30 Amp	60 Amp	100/150 Amp	200/270 Amp
+ 2P2W 2P3W	JRU322 JRU323	JRU622 JRU623	JRU1022 JRU1023	JRU2022 JRU2023	JPU322 JPU323	JPU622 JPU623	JPU1022 JPU1023	JPU2022 JPU2023
* 3P3W 3P4W * 4P4W	JRU333 JRU334 JRU344	JRU633 JRU634 JRU644	JRU1033 JRU1034 JRU1044	JRU2033 JRU2034 JRU2044	JPU333 JPU334 JPU344	JPU633 JPU634 JPU644	JPU1033 JPU1034 JPU1044	JPU2033 JPU2034 JPU2044

\*Includes equipment grounding lug for attachment to enclosure.

+For replacement only – includes equipment grounding lug.

**Material** – Molded composition with silvered copper contacts.

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### Cup Caps

For Watertight (Series JPS) Plugs – Standard or Reverse Service



Amperes	Cat. No.
30	F30717A
60	F30718A
100	F30814A
200	F30815A

Cup Caps are used:

\* Where portable equipment is on a standby basis and plugs are not in use.

\* To effectively protect insulation and contacts from excessive moisture, dirt, dust and corrosion.

**Material** – cast aluminum, corrosion-resistant copper-free alloy, electrostatic epoxy coated with steel braid cable attached.

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## J-Line Interconnection Systems – Accessories

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC  
 Load Breaking Receptacles, Plugs, Connectors & Inlets

### Cable Bushings

#### For J-Line Plugs and Connectors

Boxed catalog numbers are standard bushing sizes. To order non-standard bushing, specify as follows:  
 example JPS634H/JG65

Hole Diameter for Cable	30 Amp	60 Amp	100/150 Amp	200/270 Amp
.375"	JG31			
.500"	JG32			
.563"	JG325			
.594"	JG32B			
.625"	JG33	JG63		
.750"	JG34	JG64	JG104	
.781"	JG341			
.875"	JG35	JG65	JG105	
.938"	JG355			
1.000"	JG36*	JG66	JG106	JG206
1.125"	JG361*			
1.188"		JG67	JG107	JG207
1.313"			JG108	JG208
1.375"		JG69*		
1.500"		JG610*	JG1010	JG2010
1.688"			JG1011	JG2011
1.813"				JG2012
1.875"			JG1013*	
2.000"				JG2014
2.125"				JG2015
2.500"				JG2016*

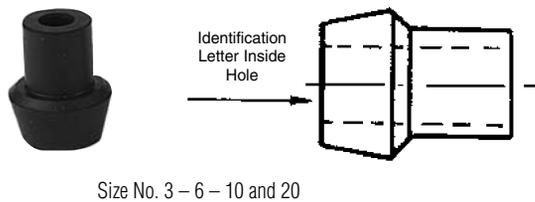
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**Notes:**

Boxed numbers denote standard bushing size supplied.  
 When ordering, select bushing size slightly larger than your cable O.D. for best fit.

**Material** – Neoprene

**Standard Cable Bushings:**



**\* Oversize Cable Bushings:**



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## J-Line Interconnection Systems – Accessories

30-200/270 Amp, (30-200A Load Breaking) Maximum 600 VAC/250 VDC  
Load Breaking Receptacles, Plugs, Connectors & Inlets

### Adapters for Conduit and Fittings

#### For use on J-Line Plugs and Connectors

Adapters are tapped NPT standard pipe thread to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit.



JPA 64 Conduit Adapter  
(replaces cable gland assembly)

### Plug or Connector Sizes

30 Amp Cat. No.	Tapped Hole Size NPT	60 Amp Cat. No.	Tapped Hole Size NPT	100/150 Amp Cat. No.	Tapped Hole Size NPT	200/270 Amp Cat. No.	Tapped Hole Size NPT
<b>JPA31</b>	1/2"	<b>JPA62</b>	3/4"	<b>JPA104</b>	1 1/4"	<b>JPA205</b>	1 1/2"
<b>JPA32</b>	3/4"	<b>JPA63</b>	1"	<b>JPA105</b>	1 1/2"	<b>JPA206</b>	2"
<b>JPA33</b>	1"	<b>JPA64</b>	1 1/4"	<b>JPA106</b>	2"	<b>JPA207</b>	2 1/2"

**Notes:**

**Material** – cast aluminum, corrosion-resistant copper-free alloy, electrostatic epoxy coated. Furnished complete with gasket and screws.

\*JPA65 @ 1 1/2" also available.

To specify standard plugs or connectors equipped with one of the above adapters, add the catalog number of the adapter selected to the catalog number of the plug or connector. Complete list price is the list price of the device plus list price of the adapter.

**Example:** Cat. No. JPS634H with adapter tapped 1-inch would be Cat. No. JPS634H/JPA63.

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### Covers

#### For Connectors & Receptacles

Description	Amperage	Cat. No.
<p>Flap Cover Assembly (Weathertight)</p>	30 60 100/150 200/270	<b>JFC3</b> <b>JFC6</b> <b>JFC10</b> <b>JFC20</b>
<p>Screw Cap and Braid Cable Assembly (Watertight)</p>	30 60 100/150 200/270	<b>JSC3</b> <b>JSC6</b> <b>JSC10</b> <b>JSC20</b>



# Russellstoll®

## Washdown Industrial & Light Marine

### Defined

- Any application where electrical connections need protection from water and/or dust ingress to the contacts or the wiring compartment.
- Cable-to-connector sealing and device locking designs are critical.
- Thermoplastic connectors preferred: or aluminum specified for rough services; (brass in many marine installations).

### Russellstoll Line Selections for Outdoor (and Indoor) Applications

#### DuraGard to 4P4W 20 thru 50A

The toughest design and construction in thermoplastic safety, durability and performance, in UL94-V0 flame rated DuraV material. With DurOring sealed pins, sleeves and interiors, watertight even unmated. A 30 & 50A unique Circuit Breaker Interlock line in DuraV is the best choice for 5 standard voltage polarization options through 600VAC (Interlock to 480VAC).

Rough service users can specify the FS/FD in aluminum or brass for marine duty. In 20 and 30A ratings, many installations can also mate to DuraGard units. Switched or Circuit Breaker Interlocks are also available in brass or aluminum. Our large installed base can be supported with many construction & product options.

#### FS/FD to 3P4W 20 thru 30A

#### Interlocked Outlets 20 thru 50A

USCG Accepted 20-50A convenience Interlocked Receptacles accept FS/FD and DuraGard plugs. Built for rough service installations in aluminum or brass, in Switched or Circuit Breaker formats. Extremely heavy duty designs for maximum durability.

#### IEC (IP67) to 4P5W 20 to 100A

Thermoplastic International standard IEC 309-2 or CEE-17 connector usage is growing; especially in OEM, export and standard performance applications. The "IP67" style is watertight when mated and directly interchangeable with other manufacturers. International designations shadow U.S. amperage ratings: 20/(16), 30/(32), 60/(63) and 100/(125) Amps. IP67 devices have screw collars or flap/screw covers, with catalog number "W" suffixes.



### Typical Application Groups

#### Marine

Lighting Connectors  
Shore to Ship Power  
Low Power Welding  
Power Distribution Panels  
Shipboard Power Outlets  
Barge Power Connection

#### Construction & Agricultural

Generator Set Panels  
Portable Tools & Equipment  
Irrigation Systems Panels  
Portable Lighting & Equipment

#### Food Processing, Brewery/ Beverage, Pulp & Paper, Pharmaceuticals Portable Building Power

Welding Outlets  
Motor Power Connections  
Lighting Systems  
Machinery Interconnections  
Process Control Power Systems

#### OEM's

Export Machinery  
Critical Power Connections  
& Welding Systems  
Transportable Equipment

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**Russellstoll®****DuraGard® Waterproof Connections**

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

**The Next Generation: DuraGard®**

Severe environments and high pressure washdown duty applications require durable, waterproof and safe connections. Russellstoll takes design reliability to new heights with Safety Grade™ standards for truly waterproof connectors. Many watertight specifications cover mated connections only. DuraGard connectors are designed to be watertight *mated* or *unmated*, thus offering the ultimate waterproof connection. DuraGard connectors are also UL94-V0 flame rated for safety and utilize a durable, efficient pin & sleeve contact design that is voltage polarized to meet NEC210-7 and OSHA standards. DuraGard® ... designed for maximum safety, durability and performance.

**DuraGard® Features Make the Performance Difference.****Not just “watertight”; Waterproof for Washdown Duty: DurORing™ Sealing**

- Specifically designed for wet environments with our unique DurORing™ sealing system. Unit is watertight mated or unmated.
- Eliminates need for costly “weather boots” or “adapters”.
- Compact Size.
- “Lockout Ready” plugs have padlock access hole in front. (30/50A).

**Durable, Tough & Flame Safety Rated Housings**

- DuraV™ housing material specially selected for hot or cold washdown duty.
- Flame Safe UL94-V0 rated housings.
- Superior Performance in Corrosive Environments.
- High Visibility yellow housings.

**Safe & Reliable Power Connections: Pin & Sleeve, Voltage Polarized**

- **Long Life:** Round, Self Cleaning, Constant Pressure Pin & Sleeve Contacts, of Solid CDA 360 brass for long reliable electrical life.
- **More Power, Operates Cooler:** large circular electrical contact area allows more current flow with lower temperature rise.
- **Ground Pin Keyed for Voltage Polarization** (O-ring seal)

**Easy To Wire**

- **“No twistoff” Locking Plugs™:** Integral Threaded Screw Collars and Compression type Bushings make wiring a snap.
- **Fast Assembly and Wiring:** “Drop-In” rear loaded interiors use no assembly screws, versus 3-5 or more with other connectors. 30/50A connectors use unique E-Z Tite™ external gland lock screw, also.

**H**

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## DuraGard® Waterproof Connections

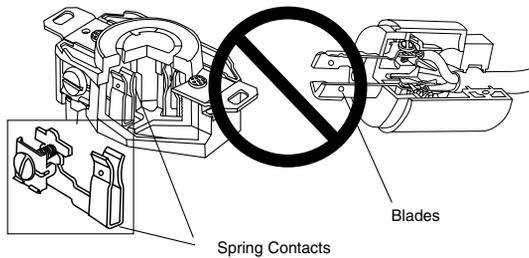
Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### DuraGard® Pin and Sleeve Connections

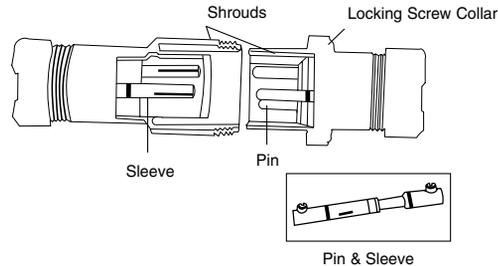
Pin & Sleeve contact devices consist of round male pins which are inserted into tubular female sleeves. Current flows through a large pin-to-sleeve circular contact area. Because current is not restricted through point contact only, higher current flow and cooler operating temperatures are achieved in a compact connection. Wiping action during insertion or withdrawal provides positive self cleaning. Shrouded pins

and sleeves are protected from physical damage or casual access and aid in polarization features of the line. The shroud and screw collar completely lock plugs to receptacles or connectors for a reliable connection. Step on the cord, kick or drop a plug; your connection will remain tight. *Pin & Sleeve devices are the safety standard for high current applications worldwide.*

Bladed Plug & Receptacle



Pin & Sleeve Connector & Plug



Spring blade contact designs offer point contact only, with minimal mechanical support in receptacles. Higher heat is generated in use as contacts loosen with age and dirt accumulation, resulting in failures. Exposed blade contacts can easily be damaged. Contacts are both the electrical *and* mechanical locking method.

Pin & Sleeve design allows higher current flow at cooler temperatures due to large circular contact area. Sleeves act as retainers for the pins making a reliable connection. Shrouded pins & sleeves are protected from damage and inadvertent access. Locking housing screw collars provide for a reliable, long lasting connection, with electrical contacts separate.

### The Water Spray Test



1000 PSI water spray was directly applied at the face of DuraGard receptacles. No damage occurred, and no water penetrated the housing or cord seal. DuraGard plugs, connectors and receptacles are designed to withstand water spray test at 1000 PSI. No extra cost boots or adapters required.



### DuraGard: Designed For the Toughest Washdown Applications



Pulp & Paper



Food Processing



Beverage & Bottling



Pharmaceutical Manufacturing

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# Russellstoll®

## DuraGard® Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### The Ultimate in Waterproof Connection

**20, 30 & 50 Amps, 600 VAC**  
**20 Amp, 250 VDC**

#### Lockout Capable: (30/50A Plugs)

- Access Hole (not seen) For Padlock Hasp.
- Interlock Engagement CDA 360 Solid Brass Pin & Sleeve Contacts.

#### High Reliability, High Performance Connections:

- CDA 360 Solid Brass Pin & Sleeve Contacts.

#### Long Lasting Self Cleaning Connections:

- Full Round Pin & Sleeve Contacts.

#### Fast, Easy, Rear Load Wiring & Assembly:

- Drop-in Assembly Interior.
- Sleeve & Cable Bushing.
- Easy-in pressure screw wiring terminations.

#### Waterproof Cable Sealing:

- Neoprene Compression Bushing Cable Locking System.
- Locking Bushing Nut with External Cable Clamps.
- Bushing sizes available for any cable size.

#### Waterproof Locking Connections:

- Locking Screw Collars with O-ring gaskets.
- Housing mechanical support and pin and sleeve connection.

#### Safety Specified Voltage Connections:

- Safety Ground Makes First, Breaks Last.
- Voltage Polarized to Meet NEC210-7 and OSHA Standards.

#### Durable & UL94-V0 Flame Rated Housings

- DuraV™ high impact body and collars.
- Thermoset Interiors.
- Dead Front Construction.

#### Dry Wiring Compartments:

- DurOring™ Sealing System for each pin & sleeve and interior assembly.

(50 Amp Plug & Connector Shown)

# Russellstoll®

## DuraGard® Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### Engineering Specifications

#### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Max. Working Voltage</b>	6000 volts RMS (minimum creepage and minimum clearance per UL 840)
<b>Circuit Interrupting/Load Breaking</b>	UL listed and CSA certified for circuit interrupting at full rated current.
<b>Temperature Rise</b>	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-pf.
<b>Horsepower</b>	Per NEC 430-151 ratings

#### Performance – Mechanical

<b>Impact Resistance</b>	Per UL 1682 Paragraph 34
<b>Cord Accommodation</b>	Round portable service cords. 10 standard diameters from .405" to 1.00", custom sizes to spec.
<b>Terminal Identification</b>	In accordance with UL1682
<b>Cable Pull Out Force</b>	In accordance with UL1682
<b>Product Identification</b>	Identification label and molded in name
<b>Lockout/Tagout</b>	Lockout/Tagout hole on plug complies with OSHA Reg. 29 CFR 1910.147.



#### Performance – Environmental

<b>Moisture Resistance</b>	Per UL1682 Paragraph 49. Watertight/flap screw cover on receptacle, O-Rings on all pins and sleeves, interiors and plug shell. <b>Watertight even when not engaged.</b>
<b>Flammability Operating</b>	VØ or better per UL94 Maximum Continuous: 95°C / 203°F
<b>Temperatures</b>	Minimum: -40°C / -40°F w/o impact
<b>Chemicals</b>	Resists standard industrial hydrocarbons, acids, bases and solvents.

#### Material

<b>Contact Carrier Interior</b>	Molded arc resistant UL94-V0 phenolic thermoset
<b>Housing, Gland Nuts Screw Collar Rings</b>	DuraV™ UL94-V0, High Impact Thermoplastic
<b>O-Rings</b>	Buna-N (Nitrile)
<b>Contacts: Pins &amp; Sleeves</b>	Brass CDA 360
<b>Hinge Pins (Receptacle)</b>	Stainless Steel
<b>Terminals</b>	Brass CDA 360
<b>Terminal Screws</b>	Stainless Steel
<b>Flap Springs</b>	
<b>Assembly Screws</b>	
<b>Nuts, Hardware</b>	
<b>Gland Friction Washer</b>	20 Amp - Nylon 30 & 50 Amp - Aluminum
<b>Cable Clamp Bushing</b>	Neoprene

#### Approvals



E2630/E47956



LL14096

**Russellstoll®****DuraGard® Waterproof Connections – Ordering Information**

Washdown Duty, Chemical, Outdoor, Industrial &amp; Marine Use Non-Metallic Plugs, Connectors Receptacles &amp; Inlets – 20, 30 &amp; 50 Amp, Maximum 600 VAC/250 VDC

Amps	Voltage Polarization	Safety Polarization (Receptacle)	Catalog Numbers					
			Male Plug	Female Connector	Std. I.D. Bushing: Plug/Conn.*	Female Receptacle	Female Plug	Male Receptacle
2P3W 20A	125 VAC		 □	 □	Standard 0.625 For Optional Sizes See pg. H51	 ◆ 9R23U1W		
	250 VAC		9P23U2	9C23U2		9R23U2W		
	277 VAC		9P23U3	9C23U3		9R23U3W		
	480 VAC		9P23U4	9C23U4		9R23U4W		
	600 VAC		9P23U5	9C23U5		9R23U5W		
	thru 600VAC/250VDC		9P23U0	9C23U0		9R23U0W	□	◆
2P3W 30A	125 VAC		9P33U1	9C33U1	Standard 0.700 For Optional Sizes See pg. H51	9R33U1W	9F33U1	9B33U1F
	250 VAC		9P33U2	9C33U2		9R33U2W	9F33U2	9B33U2F
	277 VAC		9P33U3	9C33U3		9R33U3W	9F33U3	9B33U3F
	480 VAC		9P33U4	9C33U4		9R33U4W	9F33U4	9B33U4F
	600 VAC		9P33U5	9C33U5		9R33U5W	9F33U5	9B33U5F
	thru 600 VAC/250VDC		9P33U0	9C33U0		9R33U0W	9F33U0	9B33U0F
2P3W 50A	125 VAC		9P53U1	9C53U1	Standard 0.925 For Optional Sizes See pg. H51	9R53U1W	9F53U1	9B53U1F
	250 VAC		9P53U2	9C53U2		9R53U2W	9F53U2	9B53U2F
	277 VAC		9P53U3	9C53U3		9R53U3W	9F53U3	9B53U3F
	480 VAC		9P53U4	9C53U4		9R53U4W	9F53U4	9B53U4F
	600 VAC		9P53U5	9C53U5		9R53U5W	9F53U5	9B53U5F
	thru 600 VAC/250VDC		9P53U0	9C53U0		9R53U0W	9F53U0	9B53U0F
3P4W 20A	125/250 VAC		9P24U1	9C24U1	Standard 0.625 For Optional Sizes See pg. H51	9R24U1W		
	250- 3Ø VAC		9P24U2	9C24U2		9R24U2W		
	480 3Ø VAC		9P24U4	9C24U4		9R24U4W		
	600 3Ø VAC		9P24U5	9C24U5		9R24U5W		
	thru 600VAC / 250VDC		9P24U0	9C24U0		9R24U0W		
3P4W 30A	125/250 VAC		9P34U1	9C34U1	Standard 0.750 For Optional Sizes See pg. H51	9R34U1W	9F34U1	9B34U1F
	250 3Ø VAC		9P34U2	9C34U2		9R34U2W	9F34U2	9B34U2F
	480 3Ø VAC		9P34U4	9C34U4		9R34U4W	9F34U4	9B34U4F
	600 3Ø VAC		9P34U5	9C34U5		9R34U5W	9F34U5	9B34U5F
	thru 600 VAC/250VDC		9P34U0	9C34U0		9R34U0W	9F34U0	9B34U0F
3P4W 50A	125/250 VAC		9P54U1	9C54U1	Standard 0.925 For Optional Sizes See pg. H51	9R54U1W	9F54U1	9B54U1F
	250 3Ø VAC		9P54U2	9C54U2		9R54U2W	9F54U2	9B54U2F
	480 3Ø VAC		9P54U4	9C54U4		9R54U4W	9F54U4	9B54U4F
	600 3Ø VAC		9P54U5	9C54U5		9R54U5W	9F54U5	9B54U5F
	thru 600 VAC/250VDC		9P54U0	9C54U0		9R54U0W	9F54U0	9B54U0F

□ Add Suffix - / xxx for bushing I.D. (page 51) or conduit adapter assembled.

◆ "W" suffix is watertight "F" suffix for splashproof spring flap cover.

\* Consult Technical Services.

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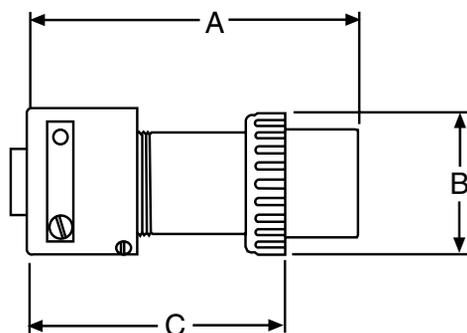
# Russellstoll®

## DuraGard® Waterproof Connections

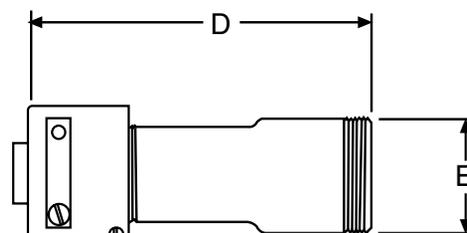
Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### Dimensions

#### Plugs and Female Plugs (30/50A only)



#### Connectors

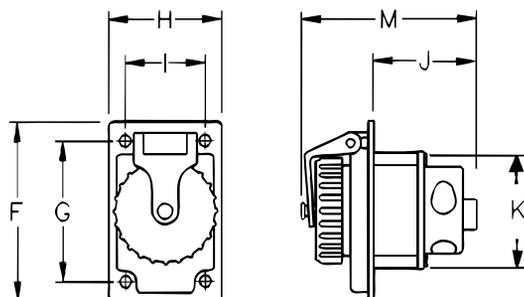


Amps		A*	B	C*	Max AWG	Terminal Ø in./mm
20 Amp	Inches	3.87	2.16	2.75	12	.140/.0055
	mm	98.3	54.9	69.9		
30 Amp	Inches	5.385	2.38	4.16	8	.235/.0092
	mm	136.6	60.5	105.7		
50 Amp	Inches	5.75	2.38	4.16	6	.235/.0092
	mm	146.1	60.5	105.7		

Amps		D	E	Max AWG	Terminal Ø in./mm
20 Amp	Inches	4.75	1.88	12	.140/.0055
	mm	120.7	47.8		
30 Amp	Inches	6.25	2.13	8	.235/.0092
	mm	158.8	54.1		
50 Amp	Inches	6.25	2.13	6	.235/.0092
	mm	158.8	54.1		

\* Note – Dimensions will vary slightly with assembly.

#### Receptacles and Male Receptacles (inlets – 30/50A only)



Screw cover shown. Flap cover also available; no dimensional changes.

Amps		F	G	H	I	J	K	M	Max. AWG	Terminal Ø in/mm
20 Amp	Inches	4.14	3.25	2.66	1.88	1.49	2.26	3.17	12	.140/.0055
	mm	105.2	82.6	67.6	47.8	37.8	57.4	80.5		
30 Amp	Inches	4.14	3.25	2.66	1.88	2.44	2.71	4.12	8	.235/.0092
	mm	105.2	82.6	67.6	47.8	62.0	68.8	104.6		
50 Amp	Inches	4.14	3.25	2.66	1.88	2.44	2.71	4.12	6	.235/.0092
	mm	105.2	82.6	67.6	47.8	62.0	68.8	104.6		

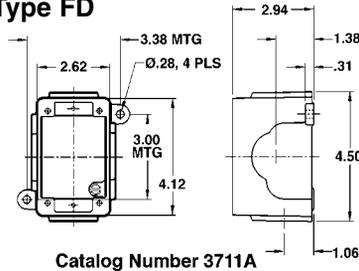
# Russellstoll®

## DuraGard® Waterproof Connections – Accessories

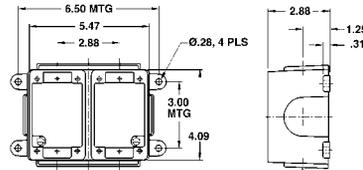
Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### Conduit Boxes (For Surface Mounting)

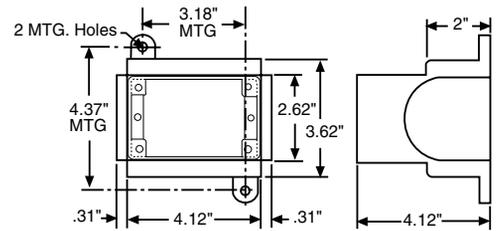
#### Type FD



Catalog Number 3711A



Catalog Number 3712A



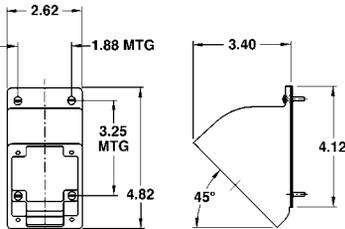
Catalog Number 3781A

	Cast Aluminum	Cast Brass	Use with:
Single	3711A	3731	20A,
Double	3712A	3732	30A
DSFD	3781A	3782	50A

Note: 3/4" NPT Hole Std.

Additional Accessories Are Available. Consult Factory.

### 45° Angle Adapter



Catalog Number 3678A

Cast Aluminum	Cast Brass
3678A	3678B

### Conduit Adapter Kits (Plugs or Connectors)



Size	20 Amp	30 Amp	50 Amp
1/2"	9X2C50	—	—
3/4"	9X2C75	9X3C75	9X5C75
1"	—	9X3C10	9X5C10

Note: \_ Suffix to plugs/connectors for assembly from factory.

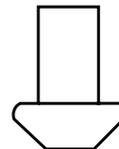
### Screw Cap / Cup Cap



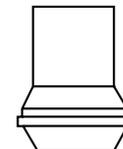
	20 Amp	30 Amp	50 Amp
Screw Cap (Connector)	9X2PSC	9X3PSC	9X5PSC
Cup Cap (Plug)	—	F26874C	F26874C

### Cable Bushings

Max. Cable O.D. (Inches)	20 Amp	30 & 50 Amp
0.375	C16984A	
0.437	C16984B	
0.500	C16984C	
0.545		2000-11
0.562	C16984D	
0.606	B16506	
0.620		2000-03
0.625	B16524	
0.700		2000-04
0.750		2000-01
0.800		2000-06
0.870		2000-02
0.925		2000-12
1.000		2000-05



20 Amp Cable Bushing



30 & 50 Amp Cable Bushing

Material – oil resistant neoprene.

State Catalog number followed by slash/ \_ and bushing code; Example: 9P33U1/1000

(Minimum Limit 85% of O.D. Size for Sealing)

**Russellstoll**<sup>®</sup>**DuraGard<sup>®</sup> Waterproof Connections – Accessories**

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

**Replacement Interiors**

Amps	Voltage Polarization	Catalog Numbers	
		Male Interior Assembly 	Female Interior Assembly 
2P3W 20A	125VAC	9XM23U1	9XF23U1
	250VAC	9XM23U2	9XF23U2
	277VAC	9XM23U3	9XF23U3
	480VAC	9XM23U4	9XF23U4
	600VAC	9XM23U5	9XF23U5
	thru 600VAC / 250VDC	9XM23U0	9XF23U0
2P3W 30A	125VAC	9XM33U1	9XF33U1
	250VAC	9XM33U2	9XF33U2
	277VAC	9XM33U3	9XF33U3
	480VAC	9XM33U4	9XF33U4
	600VAC	9XM33U5	9XF33U5
	thru 600VAC / 250VDC	9XM33U0	9XF33U0
2P3W 50A	125VAC	9XM53U1	9XF53U1
	250VAC	9XM53U2	9XF53U2
	480VAC	9XM53U4	9XF53U4
	600VAC	9XM53U5	9XF53U5
	thru 600VAC / 250VDC	9XM53U0	9XF53U0
3P4W 20A	125VAC	9XM24U1	9XF24U1
	250VAC	9XM24U2	9XF24U2
	480VAC	9XM24U4	9XF24U4
	600VAC	9XM24U5	9XF24U5
	thru 600VAC / 250VDC	9XM24U0	9XF24U0
3P4W 30A	125VAC	9XM34U1	9XF34U1
	250VAC	9XM34U2	9XF34U2
	480VAC	9XM34U4	9XF34U4
	600VAC	9XM34U5	9XF34U5
	thru 600VAC / 250VDC	9XM34U0	9XF34U0
3P4W 50A	125VAC	9XM54U1	9XF54U1
	250VAC	9XM54U2	9XF54U2
	480VAC	9XM54U4	9XF54U4
	600VAC	9XM54U5	9XF54U5
	thru 600VAC / 250VDC	9XM54U0	9XF54U0

# Russellstoll®

## DuraGard® Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### Safety Interlocks

#### Features & Benefits

##### Circuit Breaker Interlocked Outlet.

- 30A & 50A ranges and polarizations to 480VAC.
- 22KA Interrupt Capacity Breaker.
- Easy handle reset after trip.
- Auxiliary switch or other options.

##### User Friendly – Flexible Mounting.

- Variable footprint mounting tabs.
- Compact size fits 8" standard I-Beam webs.
- Conduit entry from top, bottom or side.
- Large red handle with lockout access.

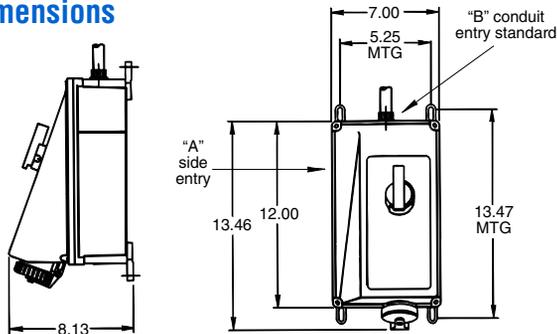
##### Flame Rated & DuraV™ Tough Housing.

- UL94-V0 housing and interior with Stainless Steel components.
- High impact thermoplastic housing.
- NEMA 4X construction.



The *only* non-metallic, 22KAIC, 20, 30, & 50A series circuit breaker interlocked receptacle available today.

#### Dimensions



H  
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### Ordering Information

AMPS	3P4W examples shown: Voltage Polarization	Cat. No.			
		Safety Interlock With Circuit Breaker	Circuit Breaker Trip Rating	Mating Plug	Safety Interlock With Non-Automatic Safety Switch
3P4W 30A	125/250 VAC	◆ <sup>1</sup>			
	250 3Ø VAC	9MT34U1W30B	30A	9P34U1	9MI34U1WNAB
	480 3Ø VAC	9MT34U2W30B	30A	9P34U2	9MI34U2WNAB
	600 3Ø VAC	9MT34U4W30B	30A	9P34U4	9MI34U4WNAB
	Thru 600 VAC/ 3P4W	9MT34U5W30B	30A	9P34U5	9MI34U5WNAB
		9MT34U0W30B	30A	9P34U0	9MI34U0WNAB
3P4W 50A	125/250 VAC	9MT54U1W50B	50A	9P54U1	9MI54U1WNAB
	250 3Ø VAC	9MT54U2W50B	50A	9P54U2	9MI54U2WNAB
	480 3Ø VAC	9MT54U4W50B	50A	9P54U4	9MI54U4WNAB
	600 3Ø VAC	9MT54U5W50B	50A	9P54U5	9MI54U5WNAB
	Thru 600 VAC/ 3P4W	9MT54U0W50B	50A	9P54U0	9MI54U0WNAB

Notes: 1. Change suffix for alternate trip ratings. Example: 9MT54U2W30B - 50 Amp, 3P4W, Safety Interlock with 30 Amp circuit breaker, conduit top entry.

◆ Change "W" to "F" for flap cap access. Example: 9MI34U2F30B - 30 Amp, 3P4W, Safety Interlock with non-automatic safety switch and flap cap.

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# Russellstoll®

## DuraGard® Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial & Marine Use Non-Metallic Plugs, Connectors Receptacles & Inlets – 20, 30 & 50 Amp, Maximum 600 VAC/250 VDC

### Safety Interlocks Engineering Specifications

#### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Max. Working Voltage</b>	480 volts RMS (minimum creepage distance and minimum clearance per UL 840) (using circuit breaker)
<b>Circuit Interrupting/ Load Breaking</b>	UL listed and CSA certified for circuit interrupting at full rated current.
<b>Temperature Rise</b>	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-pf.
<b>Shrouded Contacts</b>	Complies with California Code Title 8, Art. 51,S2510.7(b) for devices exceeding 300 VAC
<b>Horsepower</b>	Exceeds NEC 430-151 ratings (Circuit Breaker)

#### Performance – Mechanical

<b>Impact Resistance</b>	Per UL 1682 Paragraph 34
<b>Wiring Accommodation</b>	Conduit Entries at top, side and bottom. .750" NPT top entry standard
<b>Terminal Identification</b>	In accordance with UL1682
<b>Plug Pull Out Force</b>	In accordance with UL1682
<b>Product Identification</b>	Identification label
<b>Lockout/Tagout</b>	Lockout/Tagout access on switch complies with OSHA Reg. 29 CFR 1910.147

#### Performance – Environmental

<b>Moisture Resistance</b>	Per UL1682 Paragraph 49. Watertight/flap screw cover on receptacle, O-Rings on all pins and sleeves, interiors and plug shell. Watertight even when not engaged. (Screw cover closed / locked)
<b>Flammability Operating</b>	VØ or better per UL94 Maximum Continuous: 95°C / 203°F
<b>Temperatures</b>	Minimum: -40°C / -40°F w/o impact (note: per C/B trip curves at elevated temps.)
<b>Chemicals</b>	Resists standard industrial hydrocarbons, acids, bases and solvents.
<b>UV Resistance</b>	UV stabilized material.

#### Material

<b>Contact Carrier Interior</b>	Molded arc resistant UL94-V0 thermoset material
<b>Housing, Gland Nuts Screw Collar Rings</b>	DuraV™ UL94-V0, High Impact Thermoplastic
<b>O-Rings</b>	Buna-N (Nitrile)
<b>Contacts: Pins &amp; Sleeves</b>	Brass CDA 360
<b>Hinge Pins (Receptacle)</b>	Stainless Steel
<b>Terminals</b>	Brass CDA 360
<b>Terminal Screws Flap Springs Assembly Screws Nuts, Hardware</b>	Stainless Steel

#### Approvals



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## FS/FD™ 10-30A Metallic

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

The FS/FD general purpose interconnection system is designed for lower amperage marine and rough service applications, with rugged die cast aluminum housings and epoxy powder coated finishes. Interlocked receptacles add Branch Circuit protected outlet capability, and base

receptacles fit existing Russellstoll FS, FD and DSFD single and multi-gang back boxes. Its versatility and watertight features make it ideal for marine and light industrial applications.

### Safety

- Circuit-interrupting up to 30A, 250VAC (20A, 600VAC)
- Factory polarized interiors provide for mating of same voltage/same type devices, thru configured ground pins and housing features.
- Shell grounding by means of ground strap integral with ground contact for assured assembly safety.

### Durability

- Constructed of copper-free cast aluminum (Brass construction also available).
- Optional conduit adapters, strain reliefs and cable bushings available. (Modified catalog number construction.)
- Non-metallic versions of most metallic plugs and receptacles also available. (See DuraGard)

### Performance

- Precision-made, self-aligning and self-wiping contacts.
- Devices available in watertight and weathertight versions.
- Solderless binding screw terminals for convenient wiring. (20A, 2P3W devices have set screw pressure terminals)



*FS/FD line also includes NEMA type blade receptacles. See page H62.*

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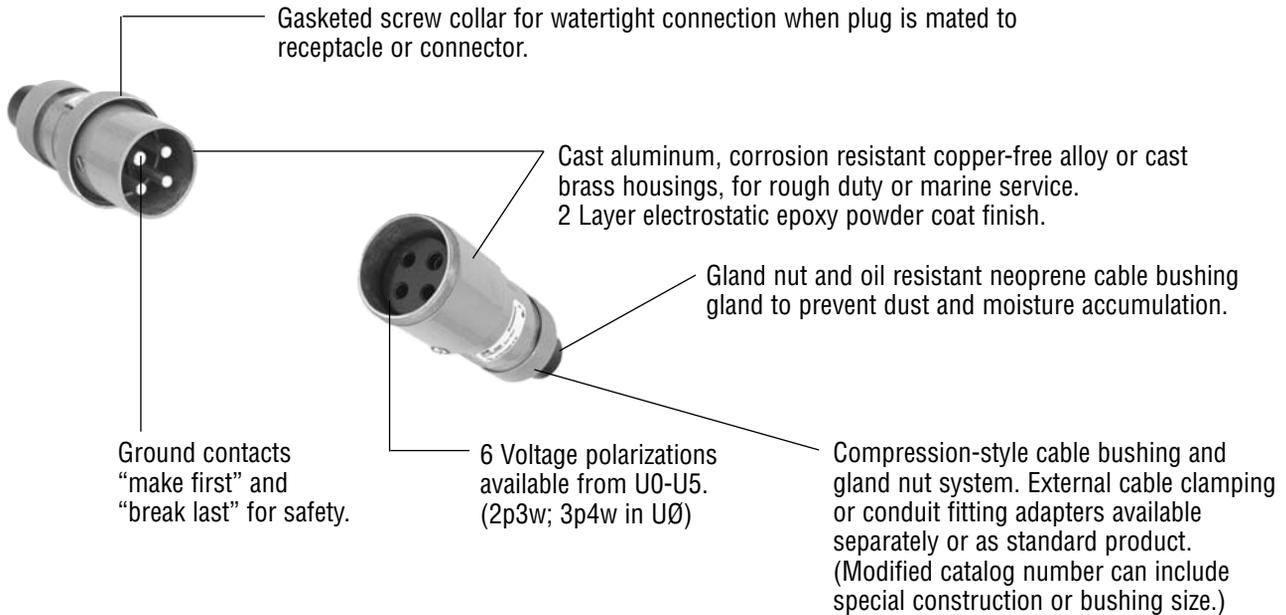
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## FS/FD™ 10-30A Metallic

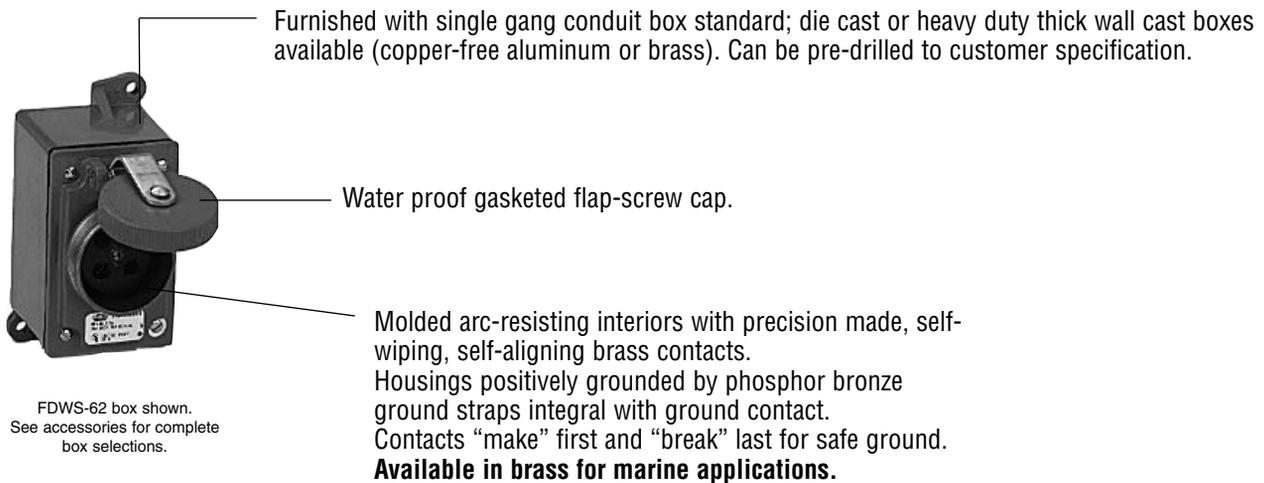
Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### Plug & Connector ( + Reverse Service Female Plug)



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### Receptacle ( + Reverse Service Male Inlet)



# Russellstoll®

## FS/FD™ 10-30A Metallic

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### Engineering Specifications

#### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Max. Working Voltage</b>	600 volts RMS (minimum creepage distance and minimum clearance per UL 840)
<b>Circuit Interrupting/Load Breaking</b>	UL listed and CSA certified for circuit interrupting at full rated current.
<b>Temperature Rise</b>	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-pf.
<b>Shrouded Contacts</b>	Complies with California Code Title 8, Art. 51,S2510.7(b) for devices exceeding 300 VAC
<b>Horsepower</b>	Per NEC 430-151 ratings (non-interrupting)

#### Performance – Mechanical

<b>Impact Resistance</b>	Per UL 1682 Paragraph 34
<b>Cord Accommodation</b>	Round portable service cords per UL standard 62 & CSA C22.2 No. 49.1
<b>Terminal Identification</b>	In accordance with UL1682
<b>Cable Pull Out Force</b>	In accordance with UL1682
<b>Product Identification</b>	Identification label and name per UL 1686



#### Performance – Environmental

<b>Moisture Resistance</b>	Per UL1682 Paragraph 49. Watertight/flap screw cover on receptacle.
<b>Flammability Operating</b>	VØ / 5VA per UL94 Maximum Continuous: 95°C / 203°F
<b>Temperatures</b>	Minimum: -40°C / -40°F w/o impact
<b>Chemicals</b>	Resists standard industrial hydrocarbons, acids, bases and solvents.

#### Material

<b>Contact Carrier Interior</b>	Thermoset
<b>Housing, Gland Nuts Screw Collar Rings</b>	Cast Aluminum or Brass
<b>Contacts: Pins &amp; Sleeves</b>	Brass
<b>Hinge Pins (Receptacle)</b>	Stainless Steel
<b>Terminals</b>	Brass
<b>Terminal Screws</b>	Stainless Steel
<b>Flap Springs</b>	
<b>Assembly Screws</b>	
<b>Nuts, Hardware</b>	
<b>Gland Friction Washer</b>	Brass or Aluminum
<b>Cable Clamp Bushing</b>	Neoprene

#### Approvals



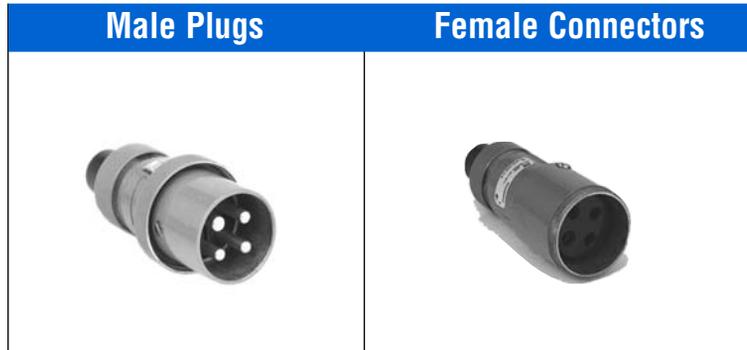
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**Russellstoll**<sup>®</sup>**FS/FD™ 10-30A Metallic – Ordering Information**

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC



\*See also DuraGard section for Thermoplastic families.

Poles Wires	Amperes	Voltage	Polarization (Receptacle)	Aluminum	Cast Brass	Aluminum	Cast Brass
2P3W	15 A	250 V		3720U-2	3720BU-2	3913U-2	3913BU-2
		277 VAC		3720U-3	3720BU-3	3913U-3	3913BU-3
		480 VAC		3720U-4	3720BU-4	3913U-4	3913BU-4
		600 VAC		3720U-5	3720BU-5	3913U-5	3913BU-5
	20 A	250 VAC		3720	3720B	3913	3913B
		125 V		3720U-1	3720BU-1	3913U-1	3913BU-1
	30 A	250 VAC		3750	3750B	3933	3933B
3P4W	10 A	600 VAC		3730	3730B	3914	3914B
	15 A	250 VAC		3730	3730B	3914	3914B
	20 A	600 VAC		3760	3760B	3934	3934B
	30 A	250 VAC		3760	3760B	3934	3934B

**Standard Cable Bushing Hole Diameter**

Prefix	Hole Dia.	Prefix	Hole Dia.	Prefix	Hole Dia.
3720		3730		3750, 3760	
3913	5/8"	3914	1 1/16"	3933, 3934	3/4"
3789		3790		3809, 3810	

For other plug & connector accessories see pages H62 and H63 H61

Plugs can be furnished with adapters to accommodate rigid conduit or standard connectors for armored cable or flexible conduit, see page H61.

**Cable Bushings** – oil-resistant, neoprene cable bushing is regularly furnished with hole sizes listed above. Other hole sizes are available at no extra cost when specified on order. See page H61 for available sizes.

**Screw Caps For Connectors** can be furnished with retained screw cap at extra cost. For Kits order:

9X2PSC	20A Screw Cap
9X3PSC	30A Screw Cap
F26874C	30A Plug Cup Cap

**Russellstoll**<sup>®</sup>**FS/FD™ 10-30A Metallic**

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

Female Receptacles		Reverse Service			
		Female Plugs			
Aluminum with Box **	Cast Brass with Box **	Aluminum	Cast Brass	Aluminum w/Box FDWS-62	Cast Brass w/Box 3731
3743U-2	3763U-2	3789U-2	3789BU-2	3776U-2	3779U-2
3743U-3	3763U-3	3789U-3	3789BU-3	3776U-3	3779U-3
3743U-4	3763U-4	3789U-4	3789BU-4	3776U-4	3779U-4
3743U-5	3763U-5	3789U-5	3789BU-5	3776U-5	3779U-5
3743	3763	3789	3789B	3776	3779
3743U-1	3763U-1	3789U-1	3789BU-1	3776U-1	3779U-1
3753	3773	3809 <sup>1</sup>	3809B <sup>1</sup>	3796 <sup>2</sup>	3799 <sup>3</sup>
3744	3764	3790	3790B	3777	3780
3744	3764	3790	3790B	3777	3780
3754	3774	3810	3810B	3797	3800
3754	3774	3810	3810B	3797	3800

\*\* Receptacles come with the following boxes:

Material	Amperes	Box
Aluminum	10, 15 & 20 30	FSWS-62 FDWS-62
Brass	10, 15 & 20 30	3721 3731

1 Also in plastic. Use 3809P or 9F33UO

2 Also in plastic. Use 3796P – Aluminum back box (use 3797-P for brass)

3 Also in plastic. Use 3799P (Brass J-Box) or 9B33UØF (w/o J-Box)

**Notes:**

- For 20/30A thermoplastic devices, see DuraGard section.
- Mating with DuraGard Line
  - 20A devices will mate and lock across lines.
  - 30A metal male devices cannot mate to DuraGard 30A female devices can be mixed.

*For NEMA style (bladed) Convenience Receptacles, see page H62.*

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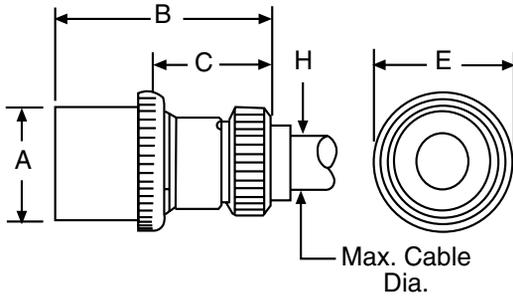
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## FS/FD™ 10-30A Metallic

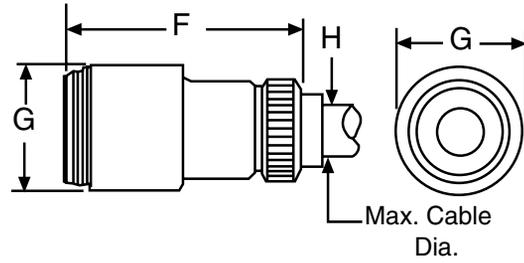
Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### Dimensions

#### Plugs and Female Plugs



#### Connectors



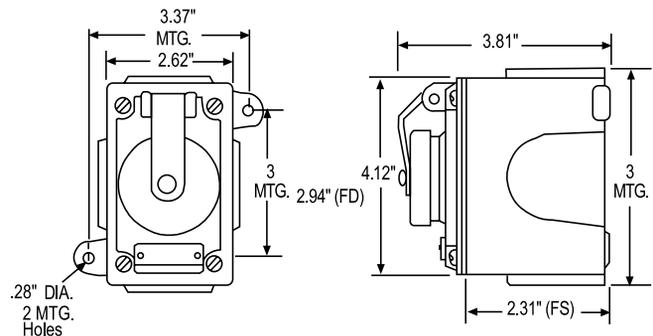
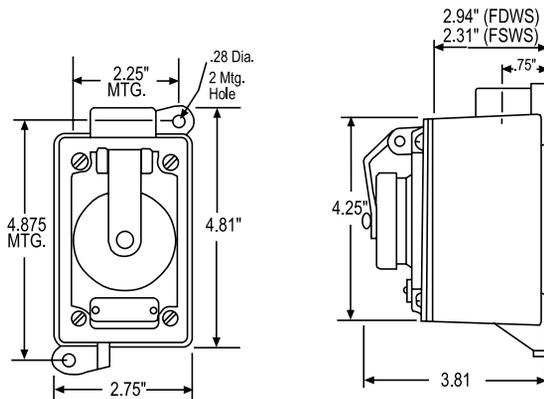
#### Plug, Female Plug & Connector Dimensions

Amps		A	B	C	E	F	G	H
10 Amp	Inches	1.75	3.62	2.25	2.00	4.00	1.87	0.75
	mm	45.65	92.07	57.15	50.80	101.60	47.62	19.050
15 Amp	Inches	1.75	3.62	2.25	2.00	4.00	1.87	0.75
	mm	45.65	92.07	57.15	50.80	101.60	47.62	19.050
20 Amp	Inches	1.75	3.62	2.25	2.00	4.00	1.87	0.75
	mm	45.65	92.07	57.15	50.80	101.60	47.62	19.050
30 Amp	Inches	1.87	3.75	2.25	2.25	4.25	2.25	1.12
	mm	47.62	95.25	57.15	57.15	107.95	57.15	28.57

### Receptacles & Male Receptacles

Standard Die Cast Aluminum Back Box  
(FSWS/FDWS)

Cast Aluminum / Cast Brass Back Box  
(3701-3732 Series)



**Russellstoll®****FS/FD™ 10-30A Metallic**

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

**For Plugs & Connectors – Accessories****Combination Gland Nut and Cable Clamp**

Provides extra clamping protection in hard service applications. Relieves terminals and rubber gland of all cable strain.

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Max. Cable Dia.
Ex: 3913 10-20 Amp	3905	3905B	.62"
Ex: 3934 20/30 Amp	3906	3906B	1.12"

**Notes:**

**Material** – cast aluminum, corrosion-resistant, copper-free alloy, cast brass, epoxy powder coat finish.

**Conduit Adapters**

Adapter tapped with NPT thread to accommodate armored and non-metallic cable or flexible conduit.

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Tapped NPT
Ex: 3913 10 -20 Amp	FSA11	FSA11B	1/2"
	FSA12	FSA12B	3/4"
Ex: 3934 20/30 Amp	FSA21	FSA21B	1/2"
	FSA22	FSA22B	3/4"
	FSA23	FSA23B	1"

Type FSA furnished complete with gasket.

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**Cable Bushings**

Hole Diameter for Cable (inches)	Type 2 10 Amp	Type 3 20 & 30 Amp
.313	SG05	
.375	SG1	JG31
.438	SG15	
.500	SG2	JG32
.531	SG2A	
.563	SG25	JG325
.594	SG2B	
.625	SG3	JG33
.688	SG3A	
.750	SG4	JG34
.875		JG35
1.000		JG36**
1.125		JG361**

**Notes:**

When standard plugs or connectors are required to be furnished with one or more of the above accessories, add the suffix and catalog number of the accessory selected to the catalog number of the plug or connector. Complete list price is the total of the list price of the device plus the list price of the accessory.

EXAMPLES – Using Catalog No. 3934:

Combo. Gland Nut & Cable Clamp	3934-3906
Adapter at 3/4"	3934-FSA22
1/2" Cable Bushing	3934-JG323



Type 2  
Cable Bushing



Type 3  
Cable Bushing

**Material** – oil resistant neoprene.

\*\*Special for large O.D. cable.

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## FS/FD™ 10-30A Metallic

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### Convenience Bladed NEMA Style Receptacles

Designed for **rugged service/commercial interface**, the receptacles below accommodate standard bladed convenience type plugs. They can be furnished in single or

tandem units and in combination with other Russellstoll FS/FD devices. Each **includes** a standard heavy duty cast back box.

### Ordering Information

#### Weathertight (Flap Cap)

#### Watertight (Screw Cap)



2P3W NEMA Rating*	Aluminum Duplex Receptacle	Brass Single Receptacle	Cast Aluminum (FDWS-62)* Duplex Receptacle	Aluminum Single Receptacle	Brass Single Receptacle
15 Amp 125V 5-15	3998G**	3918G	3960G	3910G	3920G
20 Amp 125V 5-20	3998G-20**	3918G-20	3960G-20	3910G-20	3920G-20

**Notes:**

**Finish** – Cast aluminum, corrosion-resistant copper-free alloy, epoxy powder coat finish. Cast brass, national finish.

**Gang Types** – Can be furnished in gang or tandem units in combination with other Russellstoll FS/FD devices. See Accessory reference charts on page H24 for more information.

**Outlets** – Unless otherwise specified, furnished with one 3/4" outlet at B or D. Additional or larger outlets charged extra – see price list. Maximum outlet one inch, four way. Specify size and location. Use symbols as indicated on diagram.



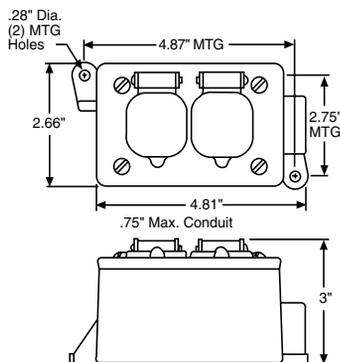
\* Can be furnished with 250 Volt receptacles. Price on application. All the above receptacles accommodate standard convenience-type plugs.

\*\* The aluminum duplex cover assembly will accept many varied electrical and electronic devices. Please contact your local representative or the factory with your requirements.

◆ Furnished with stamped Flap Cover made of heavy gage steel, cadmium plated, with spring-hinged flap.

### Dimensions

#### Duplex Receptacles



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## FS/FD™ 10-30A Metallic – Accessories

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### Conduit Boxes

#### Type FS (shallow) & Type FD (deep)

Aluminum boxes have 6-32 cover mounting holes tapped to accommodate all FS and FD cover assemblies. Brass boxes

have 10-24 cover mounting holes tapped to accommodate all FS and FD cover assemblies.



Single Gang



Two Gang



DSFD

No. of Gangs	Type	Cast Aluminum	Cast Brass	*Overall Dimensions	For Use With:
Single	FS	<b>3701A</b>	<b>3721</b>	4.12" x 2.62" x 2.31"	15-20A
	FD	<b>3711A</b>	<b>3731</b>	4.12" x 2.62" x 2.94"	30A
	DSFD	<b>3781A</b>	<b>3782</b>	4.12" x 3.62" x 4.12"	30A
Two	FS	<b>3702A</b>	<b>3722</b>	4.12" x 5.5" x 2.25"	15-20A
	FD	<b>3712A</b>	<b>3732</b>	4.12" x 5.62" x 2.87"	30A

**Notes:**

When type FD devices (20A) are to be mounted in boxes, type FD boxes should be used. FS boxes will not accommodate FD devices. (30A or 3P4W)

**Mounting** – all the above boxes are for surface mounting. For flush mounting see page H64.

**Boxes** – Cast brass, natural finish. Cast aluminum, corrosion resistant copper-free alloy, epoxy powder coat finish.

\* Dimensions are overall exclusive of conduit pads and mounting lugs.

**Outlets** – unless otherwise specified, furnished with one .75" outlet per gang, top or bottom. Additional outlets charged extra – see price list. Specify size and location.

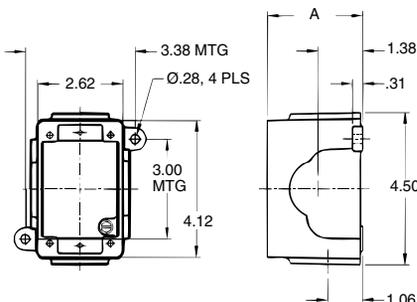
**Maximum Conduit** – FS and FD: 1", one per gang top and bottom and one each side.

**DSFD:** one 1.5" or two .5" top and bottom.

Cast iron available on special order – consult factory.

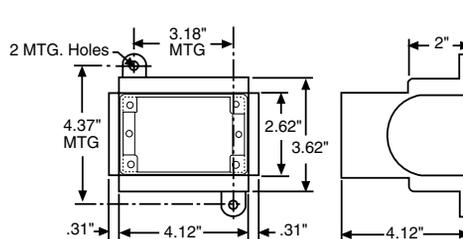
### Dimensions

#### FS/FD

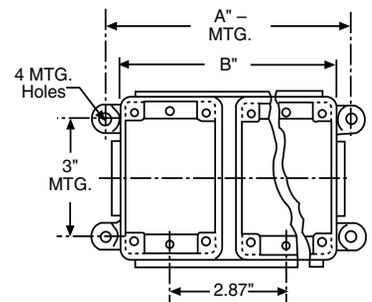


Type	A
FS	2.31
FD	2.94

#### DSFD



#### Multiple Gang



Multiple Gang Dimensions

A		B	
FS	FD	FS	FD
6.50"	6.50"	5.50"	5.62"

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## FS/FD™ 10-30A Metallic – Accessories

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

Adapters and covers to fit boxes on page H64-H65.

### Adapter Flush Frames\*

For mounting to standard wall outlet boxes (2 screw mount).

No. of Gangs	Cast Aluminum	Cast Brass	Overall Dimensions
1	3671A	3681	5" x 3.5"
2	3672A	3682	5" x 6.5"

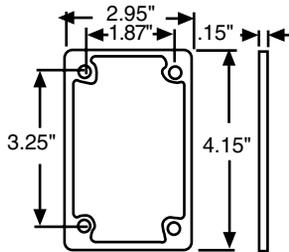


### H

### Blank Cover\*

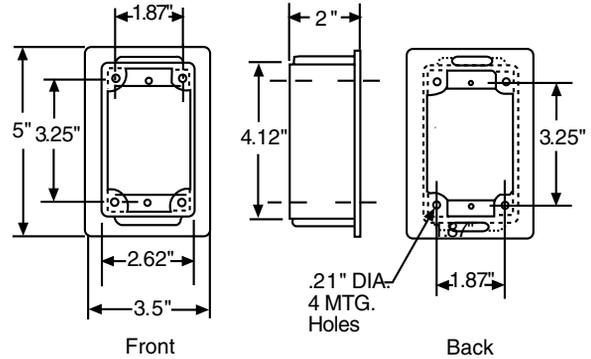
Covers Standard FS/FD box openings.

Cast Aluminum	3677A
Cast Brass	3687



### Flush Wall Mounting Extension\*

Cast Aluminum	3679A
Cast Brass	3679B



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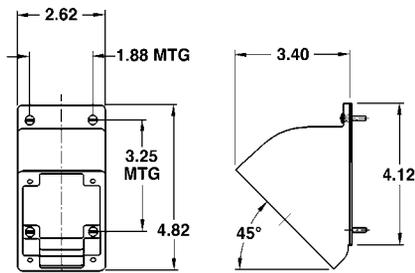
## FS/FD™ 10-30A Metallic – Accessories

Metallic Plugs, Connectors, Receptacles and Reverse Service Female Plugs/Male Inlets.  
10-30A, Maximum 600 VAC/250VDC

### 45° Angle Adapter\*

Mounts to any FS/FD box.

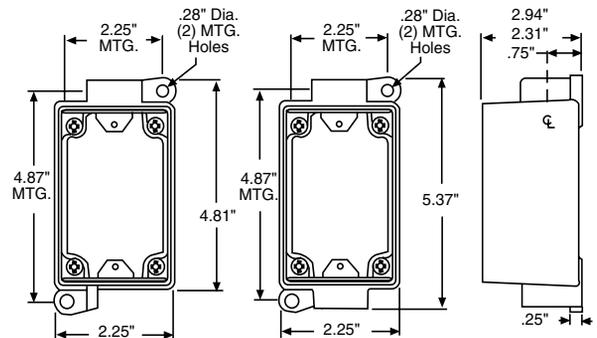
Cast Aluminum	<b>3678A</b>
Cast Brass	<b>3678B</b>



### Type FSWS and FDWS (with mounting shelf for box-mounted devices)

Aluminum Die-Cast Boxes with cover mounting holes tapped for 6-32 screws to accommodate all FS and FD cover assemblies.

Cat. No.	Conduit Entries	
	Top	Bottom
<b>FSWS-62</b>	¾"	NA
<b>FDWS-62</b>	¾"	NA
<b>FDWS-622</b>	¾"	¾"
<b>FDWS-63</b>	1"	NA
<b>FDWS-633</b>	1"	1"



#### Notes:

\* Furnished complete with gasket and screws.

**Materials:** Cast aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish. Cast brass, natural finish.

**Notes:** Boxes – Aluminum die-cast, corrosion-resistant, copper-free alloy, epoxy powder coat finish.

**Outlets** – standard as listed.

**Mounting** – all of the above boxes are for surface mounting.

# Russellstoll®

## Mechanically Interlocked Receptacles

### Marine/Series Industrial – 20 & 30 Amp, 250VAC

Mechanically interlocked FS/FD Interface receptacle outlets, available through 30 Amp 250VAC, provide added electrical safety during in branch circuits.

By design, the plug must be fully inserted into the interlocked receptacle before the switch or circuit breaker can be turned to the “ON” position; and the switch or circuit breaker must be in the “OFF” position before the plug can be withdrawn. This design ensures that when properly installed and operated, the circuit is made and broken by the switch or circuit breaker, not by the connectors.

As with all Russellstoll products, Mechanically Interlocked receptacles were designed with Safety, Durability and Performance in mind.



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### Safety

- Mechanical linkage prevents plug insertion or withdrawal unless switch is in “off” position.
- Circuit breaker protection available on many models.
- Ground contacts make first, break last.

### Durability

- Constructed of copper-free cast aluminum (some types available in brass)
- Sturdy die cast and sand cast housings.

### Performance

- Precision-made, self-aligning and self-wiping contacts.
- Receptacles provided with spring-actuated, self-closing flaps.
- Devices available in watertight and weathertight versions.
- Solderless screw terminals for convenient wiring.

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## Mechanically Interlocked Receptacles – Ordering Information

### Mechanically Interlocked Receptacle with Switch

**Rating:**  
20 Amp/600VAC  
30 Amp/250VAC



Poles/Wires	Aluminum** Receptacle w/Box	FS/FD Plug	Brass Receptacle w/Box	FS/FD Plug	DuraGard Plug	Bushing I.D.
2P3W	<b>F20493C</b>	<b>3750</b>	<b>1593LP</b>	<b>3750B</b>	<b>9P33UØ</b>	5/8"
3P4W	<b>F20493A**</b>	<b>3760</b>	<b>1594LP</b>	<b>3760B</b>	<b>9P34UØ</b>	3/4"

\*\*Flap cover brass version Suffix -B.

### Mechanically Interlocked Receptacle with Circuit Breaker

**Rating:**  
20 Amp/250VAC  
30 Amp/250VAC



Poles/ Wires	Trip Rating	Aluminum Receptacle w/Box	FS/FD Plug	DuraGard Plug	Bushing I.D.
2P3W	20A	<b>F33048B</b>	<b>3750</b>	<b>9P33UØ</b>	5/8"
	30A	<b>F33048C</b>	<b>3760</b>		
3P4W	20A	<b>F33054B</b>	<b>3760</b>	<b>9P34UØ</b>	3/4"
	30A	<b>F33054C</b>	<b>3760</b>		
3P4W	50A	<b>C1479AH</b>	<b>3760</b>	<b>9P34UØ*</b>	7/8"

**Note:** For Panel Mounting or Cover Assemblies only, please contact factory.

\* Consult Technical Services for all 50A Trip applications (30a device, 50A trip) See also DuraGard Interlocks.  
For brass versions, contact Technical Services.

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## Mechanically Interlocked Receptacles

### Specifications

#### Housings:

Cast Brass, Natural Finish.

Cast Aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish.

**Cable Bushings:** Oil resistant neoprene strain-relief cable bushings regularly furnished with hole size as listed for plug. Other hole sizes available if specified on order. See Accessory Reference Section, Bushing Sizes Page H61.

**Outlets:** Unless otherwise specified, boxes are furnished blank.

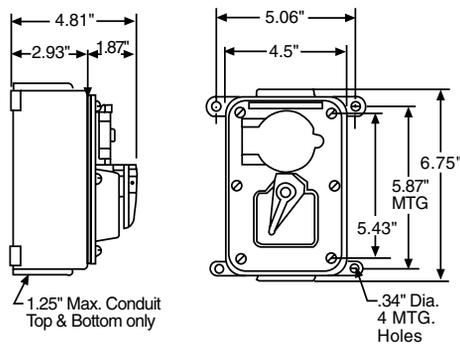
Receptacle Interlocked With Switch – Maximum conduit outlets 1¼" top and bottom. Specify outlets required.

Receptacle Interlocked With Circuit Breaker – Maximum conduit outlet 1¼" at locations V, W, X, Y and Z as per diagram. Specify outlets required, use symbols.

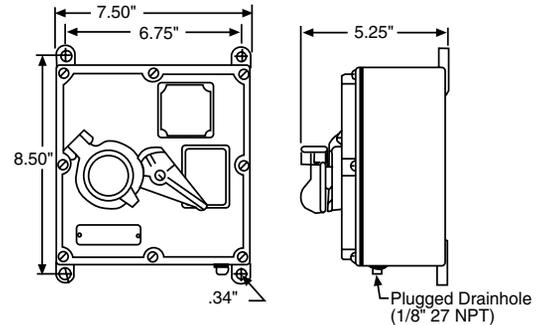
### Dimensions

#### Interlocked with Switch Surface Mount

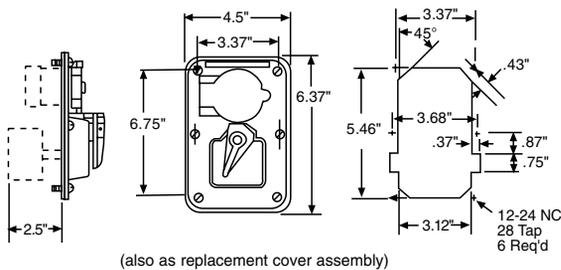
Cat. nos. F18196B&C and F20493A&B



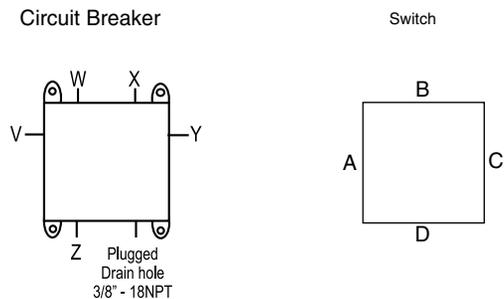
#### Interlocked with Circuit Breaker



#### Machine Panel Mount

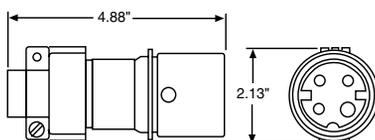


#### Floor Extension Mount

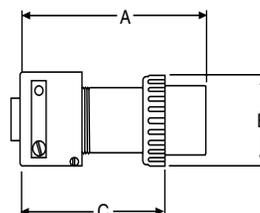


#### Standard Plug

20/30 Amp FS/FD



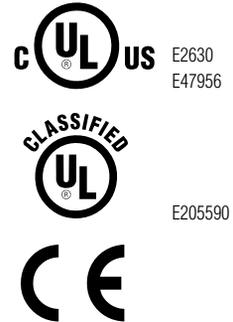
30/50 Amp DuraGard



Amps		A*	B	C*
30 Amp	Inches	5.38	2.38	4.16
	mm	136.6	60.5	105.7
50 Amp	Inches	5.75	2.38	4.16
	mm	146.1	60.5	105.7

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## UniGard™ Pin & Sleeve IEC Connector



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**Beverage  
Plants**



**Construction  
Sites**



**Food  
Processing**



**Marine and  
Shipboard**



**Pulp &  
Paper Mills**



**Chemical  
Plants**

### *Safety, Performance and Durability... In A Snap!*

#### Extensive Product Family

- Safe and reliable, portable electrical connections.
- Wide variety of Plugs, Connectors, Receptacles, Inlets and Mounting Boxes.
- Watertight (IP67) and Splashproof (IP44) versions available.
- 20, 30, 60 and 100 Amp ratings for small, medium or large current loads.

- CULus Listed for North American ratings.
- UL classified to IEC309-1 and IEC309-2 for North American and International ratings.
- Complete interchangeability with all manufacturers' IEC309-1 and IEC309-2 devices.
- Meets IEC309 global configurations for safety in industrial applications.

#### Watertight

- Watertight design and construction meet stringent IP67 internal protection standards.
- Rugged thermoplastic housings resist impact or abuse and provide excellent corrosion resistance.
- Unique Thomas & Betts strain relief grip and sealing system assure superior cable retention and watertight conductor termination.
- Ideal for outdoor, wet, marine and washdown applications.
- Unique 75% faster assembly with EZ Klik™ handle locking, and EZ Tite™ cable grip system.

#### Splashproof

- Suitable for indoor use where splashing liquids and other contaminants may interfere with electrical connections.
- Ideal for most heavy commercial applications and light industrial applications.
- Available in 20 and 30 Amp ratings.

**Thomas & Betts**

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UniGard™ Safety, Performance and Durability

## EZ Klik™ locking mechanism



### Self-Aligning Solid Contacts –

- Self-aligning Nickel plated full-round pins and sleeves for maximum cool contact area.
- Sleeve pressure rings ensure constant surface contact force.
- Nickel plating offers maximum corrosion for any use.

### Screw Collars Stay Put –

Turreted grip allows for easy handling.

### The Easy Way –

EZ Klik™ locking feature on all 20/30A plugs and connectors.

### 75% Faster Cable Builds – EZ TITE™ System

- One-piece cable gland.
- Nylon locking screw prevents loosening.
- EZ hand assembly of cable gland, Grip Tite™ 6-Finger clamp and onion-ring bushing.



### Safe Connections Standard –

Ground contacts make first, break last for safe connections even under load.

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## Combination Flap/Screw Cover –

- Integral neoprene gasket for IP67 Watertight protection.
- Standard flap cover for IP44 Splashproof protection.
- Unique flex hinge design.

## Neoprene Cable Bushing –

- Onion ring design.
- Universal fit capability.

## Solid Neoprene Gasket In Handle

## Grip Tite™ 6-Finger Clamp –

Provides superior cable retention.

## Secure Grip Handle –

- Tapered shoulder (20/30A).
- Ribbed (60/100A).

## Raised Ground Terminal –

Ensures safe connections every time.

## Fast and Easy Wiring –

- Unique, one-way terminal access.
- Clearly marked terminal connections.

## Double Secure Wiring –

- Dual, combination point terminal screws for failsafe connections.



## Standard Interface / World Ready Full International Compliances –

EN60309

UL Classification to IEC309-1 and IEC309-2.  
CULus Listing: UL1682/1686 and CSA C22.2 No. 182.1.

CE conforms to EC Low Voltage Directive.  
North American and Global Voltage

Polarization “clock positions” available in all standard ratings.

## Solid, Safe Voltage Selections –

One-Piece contact carriers with Full-Color IEC standard voltage-phasing Coding ensures correct product application every time.

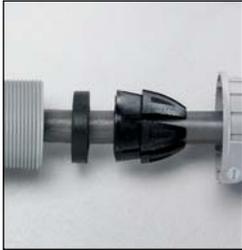
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## The UniGard™ Difference

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Russellstoll®



## Features

### No Tools, No Screws Necessary

- EZ Klik™ locking handle saves 75% on assembly time.
- Unique EZ Klik™ assembly feature on 20 and 30 Amp plugs and connectors makes installation and inspection fast and reliable.
- Captured gaskets in handles seal out water, chemicals and dust.

### Easy Action Single-Wiring Point Access Saves Time Wiring

- All terminal screws face in same direction allowing installer to make safe and secure conductor terminations in 30% less time than other devices.
- Rugged, corrosion free thermoplastic housings are color-coded for safe and reliable connections to all other mating type/polarizations, with raised ground terminal standard.

### Simple Cable Clamping

- Threaded EZ Tite™ cable gland on 20 and 30 Amp devices makes assembly fast and easy.
- One-piece lock screw verifies clamp locking hold, with no external metal contact possible. (20 and 30 Amp devices)

### Unique Fast Assembly

- One-piece EZ Tite™ cable gland with locking screw loads to cable followed by Grip Tite™ 6-Finger cable clamp/grip piece.
- Watertight onion ring bushing fits a wide variety of outside diameters.

### Watertight and Grip Tite™ Safety

- Grip Tite™ flexible 6-finger clamp teeth holds well beyond all agency test pullout forces.
- No internal clamps required.
- Available in all amperages.

### The Performance Connection

- Watertight spring-loaded covers with high-strength flex-hinge screw covers on IP67 devices.
- Flap covers on IP44 splashproof styles.
- Safety, performance and durability for all IEC309 applications worldwide.

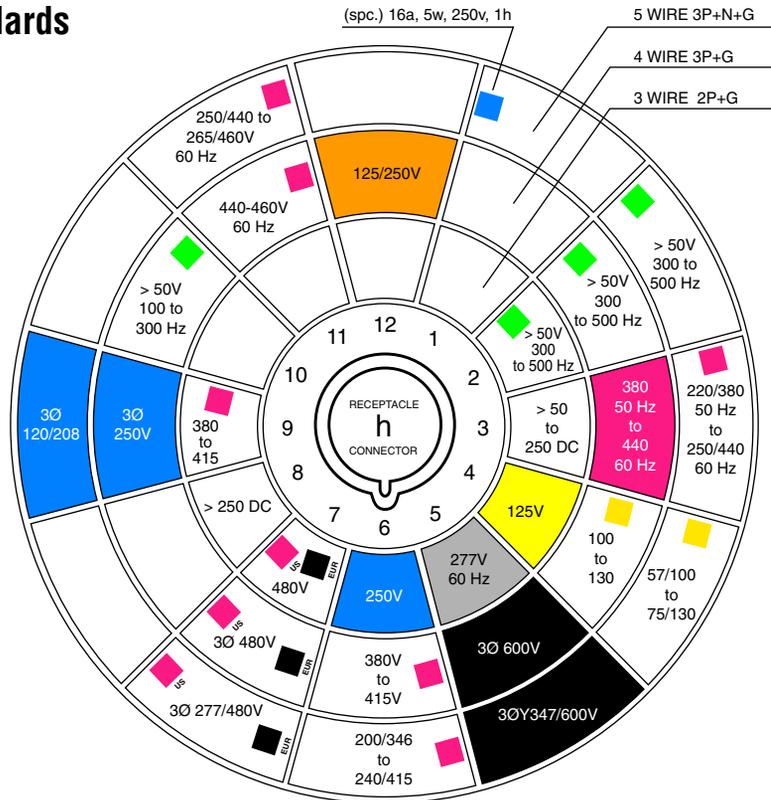
**Thomas & Betts**

### UniGard™ Global Configuration Standards

#### Configuration

It's impossible to mismatch different voltages of the IEC 309-2 Standard Devices.

- **Device size determines amperage.**  
Each voltage grouping is a different size so they are easily distinguishable for compatibility.
- **All IEC 309-2 devices are color-coded.**  
Each voltage grouping has its own distinct color coding for mating compatibility.
- **Every IEC 309-2 mating plug grounding pin is a mirror image of the female device.**  
Devices of differing voltages cannot be mated to one another.
- **The Female receptacles and connectors have a “clock face” voltage polarization.**  
A “keyway” female housing notch is always at 6 o'clock reference position. Ground contact (sleeve) position on this “clockface” establishes voltage polarization. (ie. “7h”= 7 o'clock ground sleeve position) Male pin positions are mirror image.

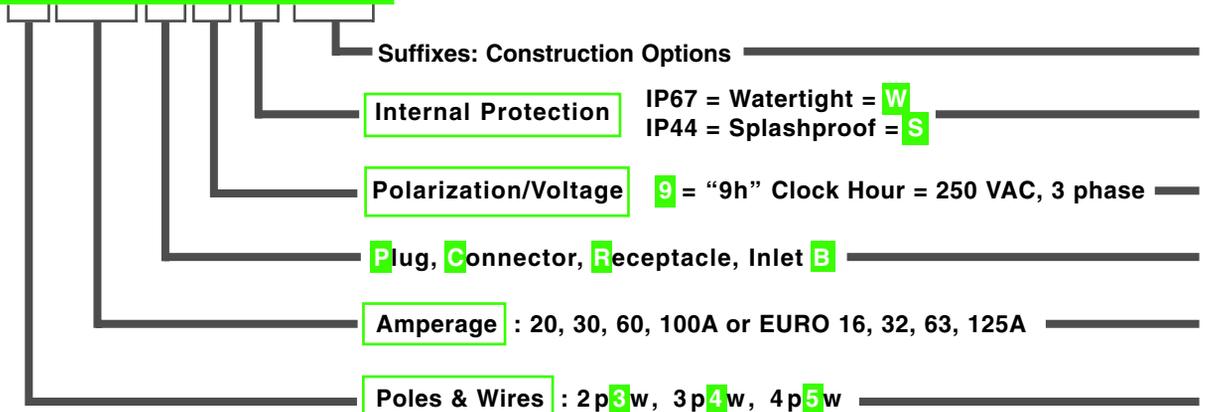


Rated Voltage	Color	Usage (N. Amer., R. O.W. Euro)
110-130V	Yellow	No. Amer. and Euro.
208-250V	Blue	N. Amer. and Euro.
380-415V	Red	Euro.
500V +	Black	N. Amer. and Euro.
277/480V	Red	N. Amer.
277V	Gray	N. Amer.
125/250V	Orange	N. Amer.
250/440V	Red	Latin America
50-600V, 300/400Hz	Green	Euro. and N. Amer.
50-250VDC	White	Euro. and N. Amer.

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#### Catalog Numbering System

**RS 430P9W**



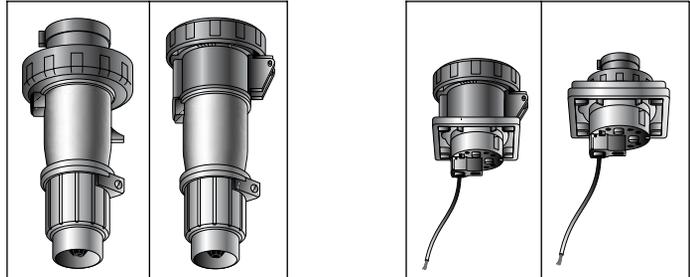
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## UniGard™ Watertight and Splashproof Pin and Sleeve Devices IP67 and IP44

# 20 Amp



IP67 Shown



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WATERTIGHT IP67

Poles & Wires	Configuration			Voltage/ Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle*	Inlet*
	Receptacle/ Connector	Plug/ Inlet	Clock Hour						
2P3W			4h	125	RS320P4W	RS320C4W	.57-.71	RS320R4W	RS320B4W
2P3W			6h	250	RS320P6W	RS320C6W	.57-.71	RS320R6W	RS320B6W
2P3W			5h	277	RS320P5W	RS320C5W	.57-.71	RS320R5W	RS320B5W
2P3W			7h	480	RS320P7W	RS320C7W	.57-.71	RS320R7W	RS320B7W
3P4W			12h	125/250	RS420P12W	RS420C12W	.57-.71	RS420R12W	RS420B12W
3P4W			9h	3Ø250	RS420P9W	RS420C9W	.57-.71	RS420R9W	RS420B9W
3P4W			7h	3Ø480	RS420P7W	RS420C7W	.57-.71	RS420R7W	RS420B7W
3P4W			5h	3Ø600	RS420P5W	RS420C5W	.57-.71	RS420R5W	RS420B5W
4P5W			9h	3ØY120/208	RS520P9W	RS520C9W	.57-.71	RS520R9W	RS520B9W
4P5W			7h	3ØY277/480	RS520P7W	RS520C7W	.57-.71	RS520R7W	RS520B7W
4P5W			5h	3ØY347/600	RS520P5W	RS520C5W	.57-.71	RS520R5W	RS520B5W

IP44 Construction: No screw collars on male devices; female devices have flap covers only.

Poles & Wires	Configuration			Voltage/ Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle*	Inlet*
	Receptacle/ Connector	Plug/ Inlet	Clock Hour						
2P3W			4h	125	RS320P4S	RS320C4S	.57-.71	RS320R4S	RS320B4S
2P3W			6h	250	RS320P6S	RS320C6S	.57-.71	RS320R6S	RS320B6S
2P3W			5h	277	RS320P5S	RS320C5S	.57-.71	RS320R5S	RS320B5S
3P4W			12h	125/250	RS420P12S	RS420C12S	.57-.71	RS420R12S	RS420B12S
3P4W			9h	3ph.250	RS420P9S	RS420C9S	.57-.71	RS420R9S	RS420B9S
4P5W			9h	3ph.120/208	RS520P9S	RS520C9S	.57-.71	RS520R9S	RS520B9S

\*See Page H81 for back box/mounting options.

UL Listing E2630, E47956  
UL Classification E205590

### Liquidtight Conduit Adapter Kit

2LTK4C50	20A 3 & 4PW 1/2" NPT
3LTK4C75	20A 5W 3/4" NPT

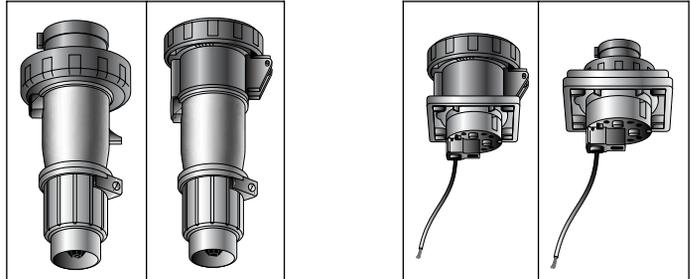
# Russellstoll®

## UniGard™ Watertight and Splashproof Pin and Sleeve Devices IP67 and IP44

# 30 Amp



IP67 Shown



	Poles & Wires	Configuration			Voltage/ Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle*	Inlet*
		Receptacle/ Connector	Plug/ Inlet	Clock Hour						
<b>WATERTIGHT IP67</b>	2P3W			4h	125	RS330P4W	RS330C4W	.675-.91	RS330R4W	RS330B4W
	2P3W			6h	250	RS330P6W	RS330C6W	.675-.91	RS330R6W	RS330B6W
	2P3W			7h	480	RS330P7W	RS330C7W	.675-.91	RS330R7W	RS330B7W
	3P4W			12h	125/250	RS430P12W	RS430C12W	.675-.91	RS430R12W	RS430B12W
	3P4W			9h	3Ø250	RS430P9W	RS430C9W	.675-.91	RS430R9W	RS430B9W
	3P4W			7h	3Ø480	RS430P7W	RS430C7W	.675-.91	RS430R7W	RS430B7W
	3P4W			5h	3Ø600	RS430P5W	RS430C5W	.675-.91	RS430R5W	RS430B5W
	4P5W			9h	3ØY120/208	RS530P9W	RS530C9W	.675-.91	RS530R9W	RS530B9W
	4P5W			7h	3ØY277/480	RS530P7W	RS530C7W	.675-.91	RS530R7W	RS530B7W
	4P5W			5h	3ØY347/600	RS530P5W	RS530C5W	.675-.91	RS530R5W	RS530B5W

IP44 Construction: No screw collars on male devices; female devices have flap covers only.

<b>SPLASHPROOF IP44</b>	2P3W			4h	125	RS330P4S	RS330C4S	.675-.91	RS330R4S	RS330B4S
	2P3W			6h	250	RS330P6S	RS330C6S	.675-.91	RS330R6S	RS330B6S
	2P3W			5h	277	RS330P5S	RS330C5S	.675-.91	RS330R5S	RS330B5S
	3P4W			12h	125/250	RS430P12S	RS430C12S	.675-.91	RS430R12S	RS430B12S
	3P4W			9h	3ph.250	RS430P9S	RS430C9S	.675-.91	RS430R9S	RS430B9S
	4P5W			9h	3ph.120/208	RS530P9S	RS530C9S	.675-.91	RS530R9S	RS530B9S

\*See Page H81 for back box/mounting options.

UL Listing E2630, E47956  
UL Classification E205590

### Liquidtight Conduit Adapter Kit

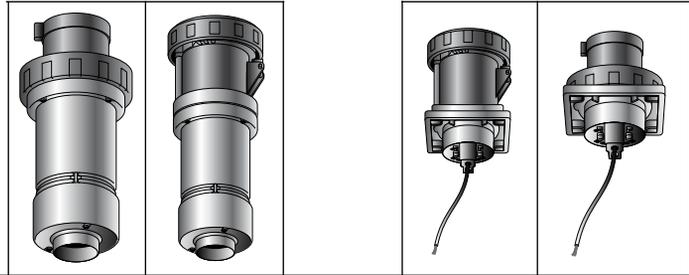
3LTK4C50	30A 3 & 4W 1/2" NPT
3LTK4C10	30A 3 & 4W 1" NPT
3LTK4C75	30A 3 & 4W 3/4" NPT
3LTK5C75	30A 5W 3/4" NPT
3LTK5C10	30A 5W 1" NPT

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## UniGard™ Watertight Pin and Sleeve Devices IP67

# 60 Amp



Poles & Wires	Configuration			Voltage/ Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle*	Inlet*
	Receptacle/ Connector	Plug/ Inlet	Clock Hour						
2P3W			4h	125	RS360P4W	RS360C4W	.937-1.375	RS360R4W	RS360B4W
2P3W			6h	250	RS360P6W	RS360C6W	.937-1.375	RS360R6W	RS360B6W
2P3W			5h	277	RS360P5W	RS360C5W	.937-1.375	RS360R5W	RS360B5W
2P3W			7h	480	RS360P7W	RS360C7W	.937-1.375	RS360R7W	RS360B7W
2P3W			3h	250DC	RS360P3W	RS360C3W	.937-1.375	RS360R3W	RS360B3W
3P4W			12h	125/250	RS460P12W	RS460C12W	.937-1.375	RS460R12W	RS460B12W
3P4W			9h	3Ø250	RS460P9W	RS460C9W	.937-1.375	RS460R9W	RS460B9W
3P4W			7h	3Ø480	RS460P7W	RS460C7W	.937-1.375	RS460R7W	RS460B7W
3P4W			5h	3Ø600	RS460P5W	RS460C5W	.937-1.375	RS460R5W	RS460B5W
4P5W			9h	3ØY120/208	RS560P9W	RS560C9W	.937-1.375	RS560R9W	RS560B9W
4P5W			7h	3ØY277/480	RS560P7W	RS560C7W	.937-1.375	RS560R7W	RS560B7W
4P5W			5h	3ØY347/600	RS560P5W	RS560C5W	.937-1.375	RS560R5W	RS560B5W

\*See Page H81 for back box/mounting options.

UL Listing E2630, E47956  
UL Classification E205590

### Liquidtight Conduit Adapter Kit\*

6LTK5C75	60A 5W ¾" NPT
6LTK5C10	60A 5W 1" NPT

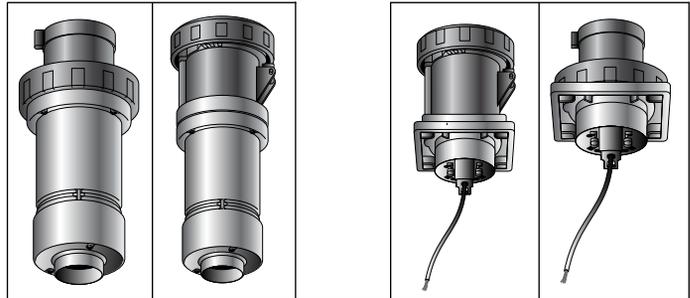
\*Additional sizes available on request.

Note: All UniGard 60 & 100 Amp devices ship standard with IEC 309-1 configuration "pilot" pin/sleeves used for auxillary contact service.

Special construction without these pilot contacts is available.  
(Add "XC" to end of cat. no.)

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WATERTIGHT IP67

**Russellstoll**<sup>®</sup>**UniGard™ Watertight Pin and Sleeve Devices IP67****100 Amp**

	Poles & Wires	Configuration			Voltage/ Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle*	Inlet*
		Receptacle/ Connector	Plug/ Inlet	Clock Hour						
<b>WATERTIGHT IP67</b>	2P3W**			6h	250	RS3100P6W	RS3100C6W	1.2650- 1.790	RS3100R6W	RS3100B6W
	2P3W**			7h	480	RS3100P7W	RS3100C7W	1.2650- 1.790	RS3100R7W	RS3100B7W
	3P4W			12h	125/250	RS4100P12W	RS4100C12W	1.2650- 1.790	RS4100R12W	RS4100B12W
	3P4W			9h	3Ø250	RS4100P9W	RS4100C9W	1.2650- 1.790	RS4100R9W	RS4100B9W
	3P4W			7h	3Ø480	RS4100P7W	RS4100C7W	1.2650- 1.790	RS4100R7W	RS4100B7W
	3P4W			5h	3Ø600	RS4100P5W	RS4100C5W	1.2650- 1.790	RS4100R5W	RS4100B5W
	4P5W			9h	3ØY120/208	RS5100P9W	RS5100C9W	1.2650- 1.790	RS5100R9W	RS5100B9W
	4P5W			7h	3ØY277/480	RS5100P7W	RS5100C7W	1.2650- 1.790	RS5100R7W	RS5100B7W
	4P5W			5h	3ØY347/600	RS5100P5W	RS5100C5W	1.2650- 1.790	RS5100R5W	RS5100B5W

\*See Page H81 for back box/mounting options.

\*\*Alternate vendor supplied item; construction features will vary from specs in this catalog. Full IEC approval and mating guaranteed. Contact Technical Services for inlet/receptacle mounting components.

UL Listing E2630, E47956  
UL Classification E205590

#### Liquidtight Conduit Adapter Kit

<b>10LTK5C10</b> ▼	100A 4W, 5W 1" NPT
<b>10LTK5C125</b> ▼	100A 4W, 5W 1.25" NPT
<b>10LTK5C150</b> ▼	100A 4W, 5W 1.50" NPT

Note: All UniGard 60 & 100 Amp devices ship standard with IEC 309-1 configuration "pilot" pin/sleeves used for auxillary contact service.

Special construction without these pilot contacts is available.  
(Add "XC" to end of cat. no.)

▼ For 4 wire and 5 wire plugs and connectors only, contact Technical Services for 3 wire plug and connector conduit adapters. 100A 3 wire plugs and connectors use PG48 backhandle thread.

**Thomas & Betts**

**Russellstoll®****North American Amperages – UniGard™ Series Specifications****Performance - Electrical**

Dielectric Voltage Withstand	3000 Volts for 1 minute (fixed devices) 2200 Volts for 1 minute (portable devices)
Maximum Working Voltage	600VAC/250 VDC (minimum creepage and clearances per UL 840)
Current Interrupting/Load Breaking	Tested to 150% of full rated current for circuit interrupting
Temperature Rise	Maximum 30°C rise at full rated current after 50 cycles overload at 150% rated load at 0.75-pf
Endurance with Load Per IEC309-1 Clause 21	20 Amp: 5000 cycles; Load only 30 Amp: 1000 cycles - Alternating load 60 Amp: 1000 cycles - Alternating load 100 Amp: 250 cycles - Alternating load

**Performance - Mechanical**

Cold (-25°C) Impact Resistance	Per UL 1682 Section 34 and IEC 309-1 Clause 24
Cable O.D. Accommodation	Round portable service cord from 0.57" O.D. through 1.79" O.D.
Terminal Identification	In accordance with UL 1682 standards and IEC390-1: as L1-L2-L3-N-G
Cable Pull-Out Force	Per UL 1682 Section 33 and IEC309-1 Clause 23
Product Identification	Molded-in product trademark(s) and UL approved product label

**Performance - Environmental**

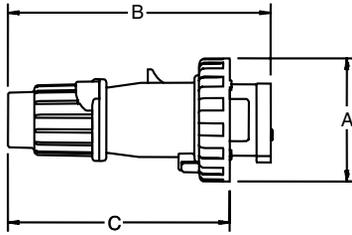
Moisture Resistance	Per IEC309-1; Watertight flap/screw cover on IP67 devices or splashproof flap cover on IP44 devices
Flammability	All components V1 or better per UL94, V0 product ratings available
Operating Temperatures	Maximum Continuous 90°C/194°F, Minimum -25°C/-13°F
Chemical Resistance	Resists standard industrial hydrocarbons, acids, bases and solvents
Corrosion Resistance	All metallic components stainless steel or nickel plated brass Sleeve pressure rings of zinc plated steel

**Materials**

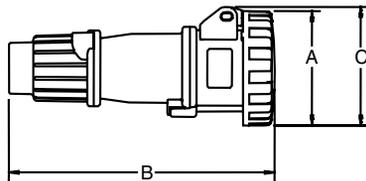
Housing	Valox®
Contact Carriers	Valox®
Cable Gland Nut	Valox®
Cable Bushing	Solid neoprene, onion ring type
O-Ring, Seals & Gaskets	Solid neoprene
Pins & Sleeves	Nickel plated brass
Sleeve Force Ring	Zinc plated steel
Terminal Screws	Nickel plated steel
Flap/Screw Cover Springs	Stainless steel
EZ Clik™ Spring	Stainless steel
Mounting Flanges	Valox®
Cast Enclosures/Adapters	2 Layer electrostatic epoxy coated, copper-free aluminum enclosures (Valox® Euro style NM also available)

(Valox® is a trademark of GE)

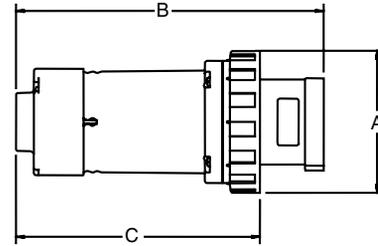


**Russellstoll**<sup>®</sup>**UniGard™ Series IP67 Dimensions****Plug IP67 16/20A and 30/32A**

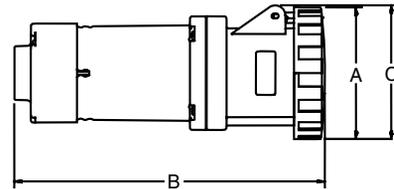
Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>16/20A 2P3W</b>	2.87	73	6.20	157	5.23	133	.570-.710	14-18
<b>16/20A 3P4W</b>	3.17	81	6.47	164	5.51	140	.570-.710	14-18
<b>16/20A 4P5W</b>	3.48	88	7.02	178	6.06	154	.570-.710	14-18
<b>30/32A 2P3W</b>	3.66	93	7.37	187	6.13	156	.675-.910	17-23
<b>30/32A 3P4W</b>	3.66	93	7.37	187	6.13	156	.675-.910	17-23
<b>30/32A 4P5W</b>	3.96	101	8.15	207	6.91	176	.675-.910	17-23

**Connector IP67 16/20A and 30/32A**

Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>16/20A 2P3W</b>	2.87	73	6.75	171	2.97	75	.570-.710	14-18
<b>16/20A 3P4W</b>	3.17	81	7.04	179	3.28	83	.570-.710	14-18
<b>16/20A 4P5W</b>	3.48	88	7.62	194	3.75	95	.570-.710	14-18
<b>30/32A 2P3W</b>	3.66	93	8.04	204	4.04	103	.675-.910	17-23
<b>30/32A 3P4W</b>	3.66	93	8.04	204	4.04	103	.675-.910	17-23
<b>30/32A 4P5W</b>	3.96	101	8.83	224	4.03	102	.675-.910	17-23

**Plug IP67 60/63A and 100/125A**

Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>60/63A 2P3W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>60/63A 3P4W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>60/63A 4P5W</b>	4.41	112	9.68	246	7.67	195	.937-1.375	24-35
<b>100/125A 3P4W</b>	5.06	129	12.16	309	9.83	250	1.265-1.790	32-45
<b>100/125A 4P5W</b>	5.06	129	12.16	309	9.83	250	1.265-1.790	32-45

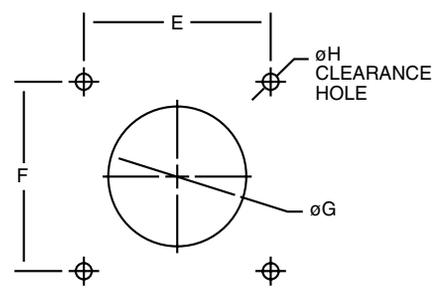
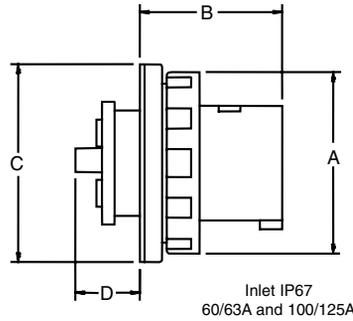
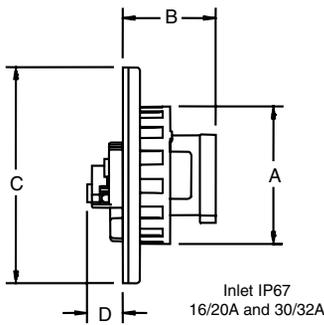
**Connector IP67 60/63A and 100/125A**

Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
<b>60/63A 2P3W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>60/63A 3P4W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>60/63A 4P5W</b>	4.41	112	10.52	267	4.47	114	.937-1.375	24-35
<b>100/125A 3P4W</b>	5.06	129	12.80	325	5.06	129	1.265-1.790	32-45
<b>100/125A 4P5W</b>	5.06	129	12.80	325	5.06	129	1.265-1.790	32-45

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Russellstoll<sup>®</sup>**Thomas & Betts**

## UniGard™ Series IP67 Dimensions

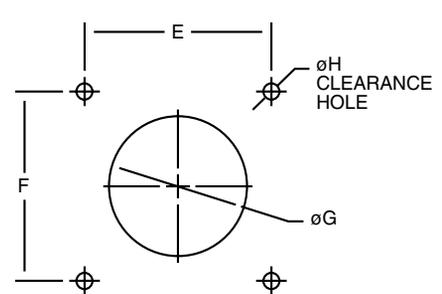
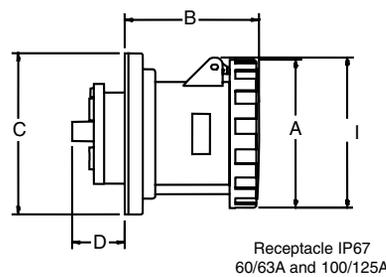
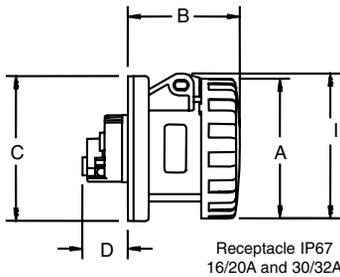


### Inlet IP67 16/20A and 30/32A

Cat. No.	A		B		C		D		E		F		G		H	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.87	73	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	3.0	76	.282	7.2
16/20A 3P4W	3.17	81	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	3.03	77	.282	7.2
16/20A 4P5W	3.48	88	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	3.5	89	.282	7.2
30/32A 2P3W	3.66	93	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	3.5	89	.282	7.2
30/32A 3P4W	3.66	93	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	3.5	89	.282	7.2
30/32A 4P5W	3.96	101	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	3.75	95	.282	7.2

### Inlet IP67 60/63A and 100/125A

Cat. No.	A		B		C		D		E		F		G		H	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
60/63A 2P3W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2
60/63A 3P4W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2
60/63A 4P5W	4.41	112	3.44	87	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2
100/125A 3P4W	5.06	129	3.88	99	5.50	140	1.94	49	4.87	124	4.87	124	4.5	114	.282	7.2
100/125A 4P5W	5.06	129	3.88	99	5.50	140	1.94	49	4.87	124	4.87	124	4.5	114	.282	7.2



### Receptacle IP67 16/20A and 30/32A

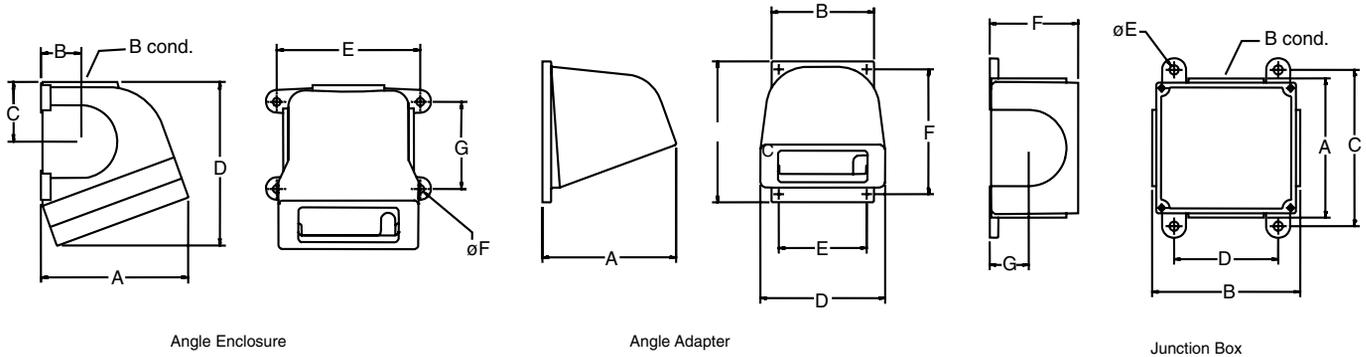
Cat. No.	A		B		C		D		E		F		G		H		I	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.87	73	2.32	59	2.97	.76	.94	24	2.36	60	2.36	60	2.56	65	.219	5.5	2.97	75
16/20A 3P4W	3.17	81	2.34	60	2.97	.76	.94	24	2.36	60	2.36	60	2.56	65	.219	5.5	3.28	83
16/20A 4P5W	3.48	88	2.37	60	2.97	.76	.94	24	2.36	60	2.36	60	2.56	65	.219	5.5	3.75	95
30/32A 2P3W	3.66	93	2.79	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.56	65	.219	5.5	4.04	103
30/32A 3P4W	3.66	93	2.79	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.56	65	.219	5.5	4.04	103
30/32A 4P5W	3.96	101	2.81	71	2.97	.76	1.52	39	2.36	60	2.36	60	2.56	65	.219	5.5	4.03	102

### Receptacle IP67 60/63A and 100/125A

Cat. No.	A		B		C		D		E		F		G		H		I	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
60/63A 2P3W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2	4.47	114
60/63A 3P4W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2	4.47	114
60/63A 4P5W	4.41	112	4.16	106	4.50	114	1.68	43	3.87	98	3.87	98	3.5	89	.282	7.2	4.47	114
100/125A 3P4W	5.06	129	4.52	115	5.50	140	1.94	49	4.87	124	4.87	124	4.5	114	.282	7.2	5.06	129
100/125A 4P5W	5.06	129	4.52	115	5.50	140	1.94	49	4.87	124	4.87	124	4.5	114	.282	7.2	5.06	129

# Russellstoll®

## UniGard™ Series Dimensions



### 20° Angle Enclosures\*

Cat. No.	Conduit Size	Use	A		B		C		D		E		F		G	
			inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	Inches	mm
BE3-B75	¾"	20A & 30A Devices	3.34	85	.97	25	1.12	28	4.12	105	4.00	102	.25	6	2.38	60
BE3-B100	1"	20A & 30A Devices	3.34	85	.97	25	1.12	28	4.12	105	4.00	102	.25	6	2.38	60
AE6-B125	1¼"	60A Devices	5.13	130	1.41	36	2.05	52	5.62	143	5.00	127	.28	7	3.00	76
AE6-B150	1½"	60A Devices	5.13	130	1.41	36	2.05	52	5.62	143	5.00	127	.28	7	3.00	76
AE10-B150	1½"	100A Devices	7.05	179	1.81	46	2.68	68	6.88	175	5.50	140	.34	9	4.00	102
AE10-B200	2"	100A Devices	7.05	179	1.81	46	2.68	68	6.88	175	5.50	140	.34	9	4.00	102

\* For use where there is no existing T&B Russellstoll JB series junction box installed. For 20/30A inlets, use 60A size.

### 20° Angle Adapters\*

Cat. No.	Use	A		B		C		D		E		F	
		inches	mm										
AA3	20A & 30A Devices	3.17	81	3.00	76	4.25	108	3.00	76	2.50	64	3.75	95
AA6L	60A Devices	5.23	133	4.00	102	5.43	138	4.88	124	3.44	87	4.81	122
AA10L	100A Devices	7.36	187	5.50	140	5.50	140	6.00	152	4.87	124	4.87	124

\* To be used with JB series junction boxes or panel mount. For 20/30A inlets, use 60A size.

### Rectangular Junction Boxes\*

Cat. No.	Conduit Size	Use	A		B		C		D		E		F		G	
			inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	Inches	mm
JB3-B75	¾"	20A & 30A Devices	2.94	75	4.19	106	3.69	94	2.69	68	.25	6	2.38	60	1.25	32
JB3-B100	1"	20A & 30A Devices	2.94	75	4.19	106	3.69	94	2.69	68	.25	6	2.38	60	1.25	32
JB6-B125	1¼"	60A Devices	4.00	102	5.63	143	4.94	125	3.81	97	.34	9	3.00	76	1.50	38
JB6-B150	1½"	60A Devices	4.00	102	5.63	143	4.94	125	3.81	97	.34	9	3.00	76	1.50	38
JB10-B150	1½"	100A Devices	5.50	140	5.50	140	4.25	108	6.75	171	.34	9	3.75	95	2.00	51
JB10-B200	2"	100A Devices	5.50	140	5.50	140	4.25	108	6.75	171	.34	9	3.75	95	2.00	51

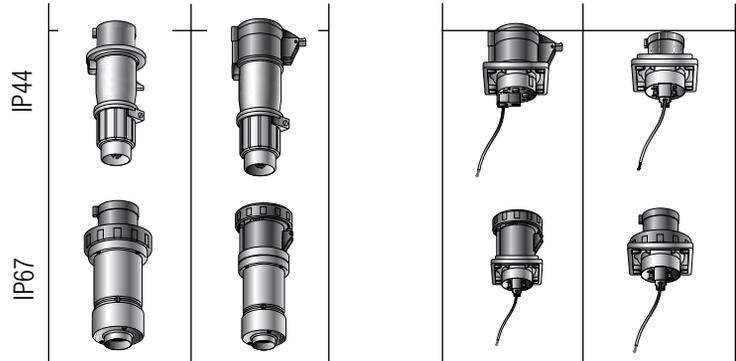
\* Unless otherwise specified, junction boxes are furnished with one conduit size at location B. To be used with AA series angle adapters. For 20/30A inlets, use 60A size.

# Russellstoll®

## UniGard™ International Amperages

### International Ratings

Common polarizations shown – other ratings are available – contact Technical Services. for 16A or 32A IP67 watertight ratings (-W suffix) substitute -W instead of -S in catalog number. ex. RS316P4W}



	Poles & Wires	Configuration			Voltage/Color Coding	Plug	Connector	Cable O.D. Range Inches	Receptacle	Inlet
		Receptacle/Connector	Plug/Inlet	Clock Hour						
16 Amp IP44	2P3W			4h	110V	RS316P4S	RS316C4S	.57-.71	RS316R4S	RS316B4S
	2P3W			6h	250V	RS316P6S	RS316C6S	.57-.71	RS316R6S	RS316B6S
	3P4W			6h	380-415V	RS416P6S	RS416C6S	.57-.71	RS416R6S	RS416B6S
	4P5W			6h	220-240/380-415V	RS516P6S	RS516C6S	.57-.71	RS516R6S	RS516B6S

See Page H74 for Conduit Adapter Options

32 Amp IP44	2P3W			4h	110V	RS332P4S	RS332C4S	.675-.91	RS332R4S	RS332B4S
	2P3W			6h	250V	RS332P6S	RS332C6S	.675-.91	RS332R6S	RS332B6S
	3P4W			6h	380-415V	RS432P6S	RS432C6S	.675-.91	RS432R6S	RS432B6S
	3P4W			3h	380-440V	Special Application – Contact Technical Services				
	4P5W			6h	220-240/380-415V	RS532P6S	RS532C6S	.675-.91	RS532R6S	RS532B6S

See Page H75 for Conduit Adapter Options

63 Amp IP67	2P3W			6h	250V	RS363P6W	RS363C6W	.937-1.375	RS363R6W	RS363B6W
	3P4W			6h	380-415V	RS463P6W	RS463C6W	.937-1.375	RS463R6W	RS463B6W
	4P5W			6h	220-240/380-415V	RS563P6W	RS563C6W	.937-1.375	RS563R6W	RS563B6W

See Page H76 for Conduit Adapter Options

125 Amp IP67	2P3W**			6h	250V	RS3125P6W	RS3125C6W	1.265-1.790	RS3125R6W	RS3125B6W
	3P4W			6h	380-415V	RS4125P6W	RS4125C6W	1.265-1.790	RS4125R6W	RS4125B6W
	4P5W			6h	220-240/380-415V	RS5125P6W	RS5125C6W	1.265-1.790	RS5125R6W	RS5125B6W

\*See Page H81 for back box/mounting options.

Euro color is “red ■”; devices supplied in North America will use “blue ■” color (mating is not affected.)

\*\*Alternate vendor supplied item; construction features will vary from specs in this catalog. Full IEC approval and mating guaranteed.

Contact Technical Services for inlet/receptacle mounting components.

UL Classification E205590

Note: All UniGard 63 & 125 Amp devices ship standard with IEC 309-1 configuration “pilot” pin/sleeves used for auxillary contact service.

Special construction without these pilot contacts is available.

(Add “XC” to end of cat. no.)



**Russellstoll®****International Amperages – UniGard™ Series Specifications****Performance - Electrical**

Dielectric Voltage Withstand	3000 Volts for 1 minute per IEC309-1, Clause 19
Maximum Working Voltage	690VAC/250 VDC (minimum creepage and clearances per IEC)
Current Interrupting/Load Breaking	Tested to 125% rated current at 110% rated voltage per IEC309-1 clause 20.
Temperature Rise	Maximum 50°C rise at rated current per IEC309-1 Clause 22, Table 8
Endurance with Load Per IEC309-1 Clause 21	16 Amp: 5000 cycles; Load only 32 Amp: 1000 cycles - Alternating load 63 Amp: 1000 cycles - Alternating load 100 Amp: 250 cycles - Alternating load

**Performance - Mechanical**

Cold (-25°C) Impact Resistance	Per IEC309-1 Clause 24; (-25°C) with 75cm drop
Cable O.D. Accommodation	Round portable service cords from 14.5mm O.D. through 50mm O.D.
Terminal Identification	In accordance with IEC309-1 standards; as L1-L2-L3-N-G
Cable Pull-Out Force	In accordance with IEC309-1, Clause 23
Product Identification	Molded-in product Trademark(s) and CE Mark on packaging

**Performance - Environmental**

Moisture Resistance	Per 309-1; Watertight flap/screw cover on IP67 devices or flap cover on IP44 devices
Flammability	Per IEC 695-2-1; Housing glow wire tested to 650°C; Contact carrier insert tested to 850°C
Operating Temperatures	Maximum Continuous 90°C/194°F, Minimum -25°C/-13°F with impact
Chemical Resistance	Resists standard industrial hydrocarbons, acids, bases and solvents
Corrosion Resistance	All metallic components stainless steel or nickel plated brass Sleeve pressure rings of zinc plated steel
UV Resistance	External Thermoplastic components are UV stabilized IP67 Series 2 is suitable for outdoor use

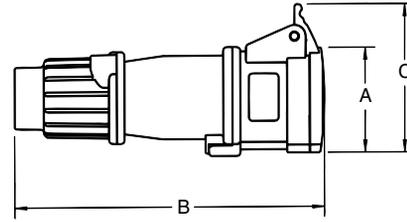
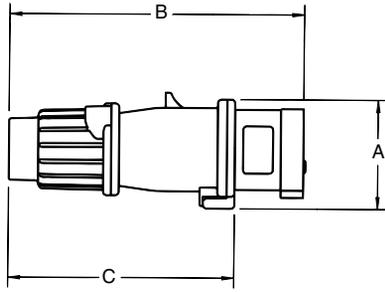
**Materials**

Housing	Valox®
Contact Carriers	Valox®
Cable Gland Nut	Valox®
Cable Bushing	Solid neoprene, onion ring type
O-Ring, Seals & Gaskets	Solid neoprene
Pins & Sleeves	Nickel plated brass
Sleeve Force Ring	Zinc plated steel
Terminal Screws	Nickel plated steel
Flap/Screw Cover Springs	Stainless steel
EZ Klik™ Spring	Stainless steel
Mounting Flanges	Valox®
Cast Enclosures/Adapters	2 Layer Electrostatic epoxy coated, copper-free aluminum enclosures (Valox® Euro style NM available)



E205590





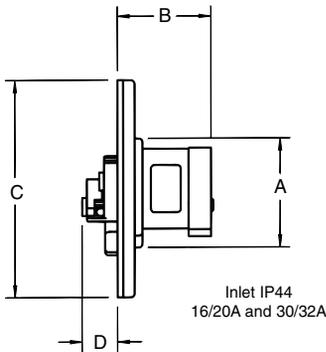
### Plug IP44

Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.26	58	6.20	157	4.76	121	.570-.710	14-18
16/20A 3P4W	2.52	64	6.47	164	5.04	128	.570-.710	14-18
16/20A 4P5W	2.85	73	7.02	178	5.58	142	.570-.710	14-18
30/32A 2P3W	2.85	73	7.37	187	5.58	142	.675-.910	17-23
30/32A 3P4W	2.85	73	7.37	187	5.58	142	.675-.910	17-23
30/32A 4P5W	3.13	80	8.15	207	6.36	162	.675-.910	17-23

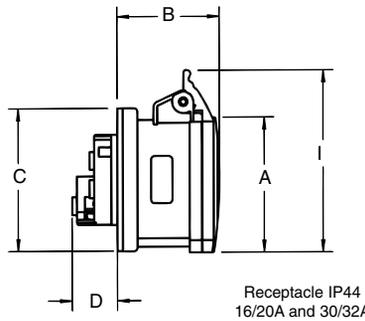
### Connector IP44

Cat. No.	A		B		C		Cord Grip Range	
	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.18	55	6.53	166	3.07	78	.570-.710	14-18
16/20A 3P4W	2.43	62	6.83	173	3.33	85	.570-.710	14-18
16/20A 4P5W	2.81	71	7.41	188	3.79	96	.570-.710	14-18
30/32A 2P3W	2.81	71	7.81	198	3.79	96	.675-.910	17-23
30/32A 3P4W	2.81	71	7.81	198	3.79	96	.675-.910	17-23
30/32A 4P5W	3.09	79	8.62	219	4.17	106	.675-.910	17-23

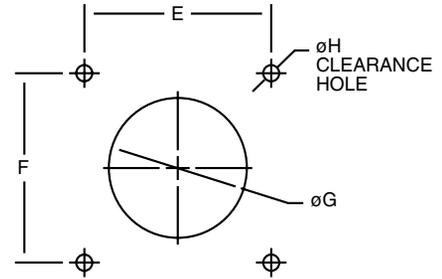
Russellstoll®



Inlet IP44  
16/20A and 30/32A



Receptacle IP44  
16/20A and 30/32A



### Inlet IP44

Cat. No.	A		B		C		D		E		F		G		H	
	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm	inches	mm
16/20A 2P3W	2.26	58	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
16/20A 3P4W	2.52	64	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
16/20A 4P5W	2.85	73	1.96	50	4.50	114	.75	19	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 2P3W	2.85	73	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 3P4W	2.85	73	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2
30/32A 4P5W	3.13	80	2.32	59	4.50	114	1.32	34	3.87	98	3.87	98	2.38	60	.282	7.2

### Receptacle IP44

Cat. No.	A		B		C		D		E		F		G		H		I	
	inches	mm	inches	mm														
16/20A 2P3W	2.18	55	2.11	54	2.97	76	0.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	3.07	78
16/20A 3P4W	2.43	62	2.13	54	2.97	76	0.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	3.33	85
16/20A 4P5W	2.81	71	2.17	55	2.97	76	0.94	24	2.36	60	2.36	60	2.38	60	.219	5.5	3.79	96
30/32A 2P3W	2.81	71	2.56	65	2.97	76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	3.79	96
30/32A 3P4W	2.81	71	2.56	65	2.97	76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	3.79	96
30/32A 4P5W	3.09	79	2.60	66	2.97	76	1.52	39	2.36	60	2.36	60	2.38	60	.219	5.5	4.17	106

# Russellstoll®

## UniGard™ IEC 309 Safety Interlock



### Watertight – IP67

- “W” suffixes (UL Type 4X construction).
- Rugged thermoplastic housings resist impact or abuse and provide excellent corrosion resistance.
- Rugged VØ-5VA Flameproof Housings.
- Ideal for outdoor, wet, marine and washdown applications.
- Unique industry-first circuit breaker interlock.
- US: 20, 30, 60, &100 Amp sizes.
- International: 16, 32, 63, 125 Amp sizes.

### Splashproof – IP44

- “S” suffixes (NEMA 3R construction).
- Suitable for indoor use where splashing liquids and other contaminants may interfere with electrical connections.
- Ideal for most heavy commercial applications and light industrial applications.
- US 20 & 30 & 60A ratings.
- International 16, 32 and 63A ratings.



E211951  
E47955



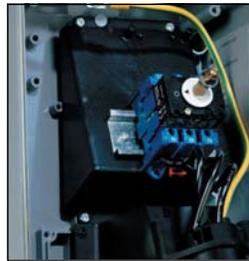
### New IEC 309 Safety Interlock – The UniGard™ Difference

### The Only True Circuit Breaker Interlocked IEC 309 Receptacle – (Outlet)

- Circuit breaker integrated interlock mechanism.
- UL489 listed 22KAIC protection.
- Alternate trip ratings available.
- Auxiliary switch option.

OR

### Switched-only Version



- Rugged UL listed switch.
- Proven performance components.
- Thru 600 VAC. 4p5w + auxiliary contacts capable.



### Protection and Safety in Power Delivery

- Red vertical **ON** indication.
- Lock on **and** Lock off positions.
- Branch circuit load and operation protection, or switched-only version (shown).



### Mount It Anywhere

- Swivel 3 or 4 point feet variable footprint for flexible mounting.
- Fits in web of 8" I-Beams.



### Wire It Up, Sideways or Down

- Top, side, and bottom entry.
- Industry standard entry sizes.

**Top & Bottom**

20/30 Amp

**Top**

60/100 Amp

**Side Entry**

All

**Thomas & Betts**

# Russellstoll®

## UniGard™ IEC 309 Safety Interlock

Integral UL489 22KAIC  
Circuit Breaker OR  
Switched Interlocked  
Receptacle



Top or Side  
Conduit Entry

Gasketed UL Type-  
4X Construction

Auxiliary  
Switch  
and/or  
Trip Frame  
Ratings  
Available

Sturdy Bright Red EZ  
Handle (Vertical - on)  
Lock-off & Lock-on  
Positions

UL94 V0-5VA  
Flame Rated  
Housing &  
External  
Components

Bottom Conduit Entry –  
Optional 30/60A  
Location

Voltage &  
Polarization  
Labeled and  
Color Coded

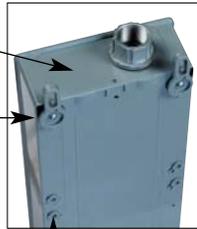
5 Mounting  
Points for  
3 or 4 Tab  
Mounting

Adjustable Feet  
fit any existing  
mounting!

External  
DIN Rail  
Hard-Points

IP67 Color Coded  
Flap Screw Cap  
IP44 splashproof  
also available

Accepts UniGard™  
Plugs and all  
Approved  
IEC 309 lines



Russellstoll®

# Russellstoll®

## UniGard™ IEC 309 Safety Interlock

### New Russellstoll® UniGard™ IEC 309 Circuit Breaker Interlocked Receptacle

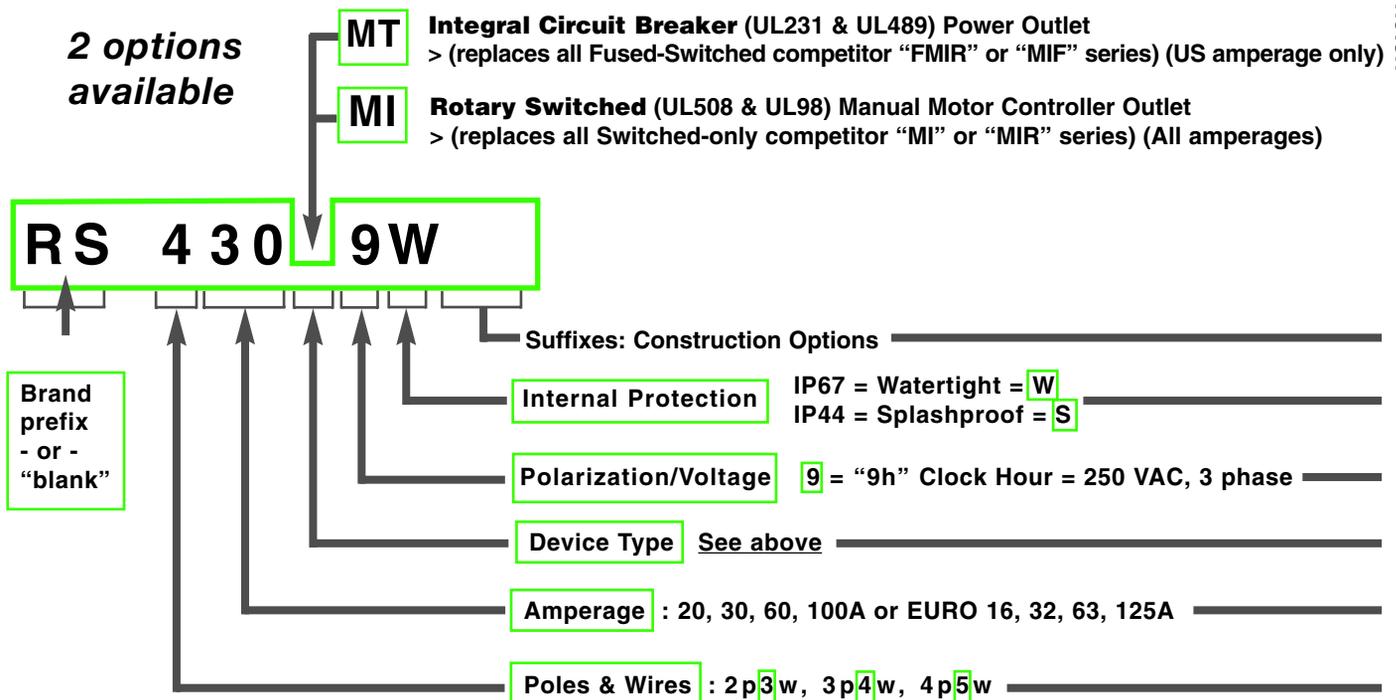
16/20A, 30/32A, 60/63A and 100/125A International and U.S. Ratings

IN ALL STANDARD VOLTAGE POLARIZATIONS:

Range	Color Code	Usage (N. Amer., R.O.W. Euro)	2p3w	3p4w	4p5w
110-130V	Yellow	No. Amer. / Euro.	4h	4h	-
208-250V	Blue	N. Amer. / Euro.	6h	9h	9h
380-415V	Red	Euro.	9h	6h/3h (spec)	6h
500V +	Black	N. Amer. / Euro.	-	5h	5h
277/480V	Red	N. Amer. (black-Euro)	7h	7h	7h
277V	Gray	N. Amer.	5h	-	-
125/250V	Orange	N. Amer.	-	12h	-
250/440V	Red	Latin America / N. Amer	-	11h	11h/3h
to 600V, to 400Hz	Green	N. Amer. / Euro.	2h	2h	2h

Contact T&B for other special polarizations.

### Specifications for Any New or Replacement Project



# Russellstoll®

## UniGard™ IEC 309 Safety Interlock

### Specifications: IEC 309 Interlocked Receptacles – North American Standards

#### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Maximum Working Voltage</b>	480 Volts RMS (circuit breaker version) 600 Volts RMS (switch version)
<b>Current Interrupting</b>	Certified for current interrupting at full rated current and voltage.
<b>Short-circuit Current Rating Operations</b>	10,000 RMS symmetrical amperes Mechanical: 10,000 cycles Electrical: 6,000 cycles
<b>HP Ratings (switch version) Circuit Breaker UL Listed Interrupting Rating</b>	Complies with NEC 430-151 ratings. 22,000 AIC

#### Performance – Mechanical

<b>Cold (-35°C) Impact Resistance</b>	In accordance with UL 746C.
<b>Wiring Accommodations</b>	Suitable for metallic conduit. Conduit entry locations at enclosure top and bottom (60A & 100A top only).
<b>Terminal Identification</b>	In accordance with UL, CSA and IEC309 conventions.
<b>Product Identification</b>	Identification, ratings and color-code in accordance with UL, CSA and IEC309 requirements.
<b>Lockout/Tagout</b>	ON and OFF lockout/tagout capability at switch handle. Complies w/ OSHA Reg. 29CFR 1910.147
<b>Mounting</b>	External adjustable feet.

#### Performance – Environmental

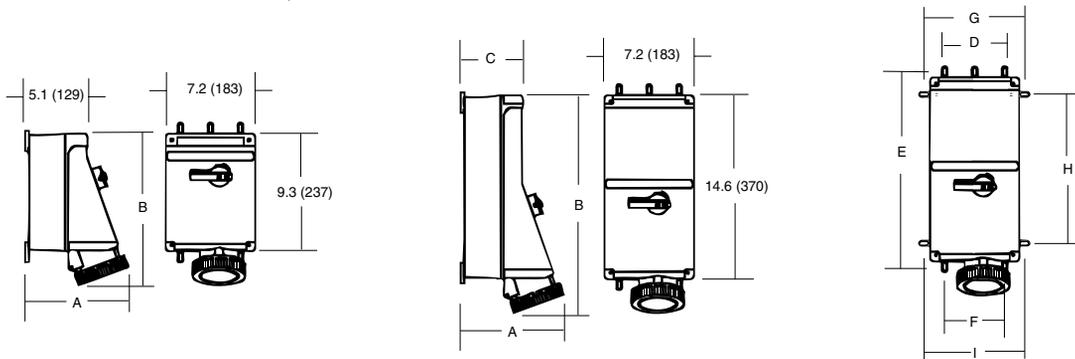
<b>Moisture Resistance</b>	Screw cap version: #UL type 4X, IP67 Flap cap version: IP44
<b>Flammability</b>	UL94-5VA & V0 classifications
<b>Operating Temperatures</b>	Maximum Continuous: 60°C (140°F) Minimum Continuous: -40°C (-40°F)
<b>UV Resistance</b>	UV stabilized material
<b>Chemicals</b>	Resists most standard industrial hydrocarbons, acids, bases and solvents.

#### Materials

<b>Enclosure (all exterior components)</b>	UL94-5VA/V0, UV stabilized, impact modified Valox.
<b>Contact Carrier</b>	Molded arc resistant UL94-V0 thermoplastic.
<b>Gaskets</b>	Neoprene or EPDM
<b>Contacts (sleeves)</b>	Nickel plated brass
<b>Hardware (screws &amp; springs)</b>	Steel with zinc-plated blue chromate or nickel plating.

#### Approvals & Compliances

UL 508 & UL98 (switch version), UL 231 & UL489 (circuit breaker version), UL 1682  
CSA C22.2 No. 14, 182.1  
IEC309-1, -2



OVERALL DIMENSIONS (inches - mm)

OVERALL DIMENSIONS (inches - mm)

MOUNTING DIMENSIONS (inches - mm)

16/20A, 30/32A & 60/63A SWITCH VERSIONS							30A & 60A BREAKER AND 100A/125A SWITCH & BREAKER VERSIONS				
DIM.	16/20A		30/32A		60/63A		30A		60A		100/125A
	IP44	IP67	IP44	IP67	IP44	IP67	IP44	IP67	IP44	IP67	IP67
A	7.5 - 140	8.0 - 203	7.7 - 196	8.2 - 208	8.0 - 203	8.5 - 216	7.7 - 196	8.2 - 208	8.0 - 203	8.5 - 216	9.8 - 249
B	10.8 - 273	10.9 - 277	11.2 - 284	11.4 - 289	11.9 - 302	12.2 - 309	16.4 - 417	16.5 - 418	17.0 - 432	17.4 - 443	17.7 - 450
C	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.1 - 129	5.6 - 149

DIM.	16/20A 30/32A 60/63A SWITCH	30A 60A BREAKER	100/125A SWITCH 100A BREAKER
D	5.5 - 140	5.5 - 140	5.5 - 140
E	10.0 - 254	15.2 - 387	15.2 - 387
F	5.5 - 140	5.5 - 140	6.0 - 152
G	8.0 - 203	8.0 - 203	8.0 - 203
H	7.5 - 191	12.8 - 324	12.8 - 324
I	8.0 - 203	8.0 - 203	8.5 - 215

\* 3-pt. and 4-pt. mounting positions available. 100A versions have 4-pt. mounting position only.  
\* Adjustable mounting feet, vertical or horizontal.  
\* slotted through holes for easier alignment.

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## DuraTite™ Overview and Product Comparison

### Defined

- Any application where electrical connections need protection from water and/or dust ingress to the contacts or the wiring compartment.
- Less credit cable sealing, but easier to use device locking designs are employed.
- Metal connectors are usually preferred, with thermoplastic options increasing. Thermoplastic devices must withstand normal industrial handling.

### Russellstoll Line Selections for Indoor Applications

#### DuraTite™ to 3P4W 20 & 30A

A New Thermoplastic option to 20/30A Standard Ever-Lok Plugs and Connectors. 20 and 30A plugs will mate directly to Standard Ever-Lok receptacles, with a new EZTab locking feature. For new installations, specify Ever-Lok receptacles, with DuraTite plugs and connectors. Clamp or conduit options complete a flexible value option for new and existing installations.

#### Ever-Lok® Standard & Midget Series to 3P4W 15 thru 50A

Steel self-locking housings make the Standard and Midget Ever-Loks famous for their endurance in punishing factory installations. Clamp, bushing or hub fitting cable entries are offered for both, with Standard Ever-Lok available at 20, 30 and 50A over the 15A Midget Ever-Lok. Standard voltage polarizations are maintained in these lines through 480VAC.

#### Heavy Service Ever-Lok to 4P4W 30 thru 100A

The standard in portable welding installations, from 30 to 100A. Rugged aluminum housings and self-locking upon insertion, HSE series products are ideal for indoor factory use. With unique "handle" designs, a simple 1/8 turn counter-clockwise releases plug for withdrawal. Switched/fused or circuit breaker interlocks in several configurations are also offered. (see Automotive/Industrial Interlock section).

#### IEC (IP44) to 4P5W 20 thru 100A

Thermoplastic International Standard 309-2 or CEE-17 type connector lines usage is growing in OEM, export and standard performance applications. The IP44 indoor use style is "splashproof" when mated and directly interchangeable with other manufacturers. International designations shadow U.S. ratings: 20/16, 30/32, 60/63 and 100/125. IP44 devices have NO locking features except flap covers, with catalog numbers "S" or "SW" suffixes.



### Typical Application Groups

#### General Industrial

Lighting Connections  
Indoor Welding Stations  
Machinery/Tool Connections  
Power Distribution Panels  
Convenience Power  
Battery Charging Equipment

#### Construction

Generator Set Panels  
Portable Tools & Equipment  
Limited Life Installations  
Portable Lighting Equipment

#### Instrumentation

Portable Equipment  
Critical Power Connections  
Motor Power Connections  
Critical Robotics Power  
Test Equipment  
Laboratory/Test Stations

#### OEM's

Export Machinery  
Critical Power Connections  
International Indoor Usage  
Transportable Equipment

# Russellstoll®

## DuraTite™ Overview

### Non-Metallic Self-Locking Plugs, Connectors & Receptacles



#### Industrial Specification Grade Redefined

From our industry standard Ever-Lok series of plugs, connectors and receptacles, Russellstoll has developed DuraTite™, the first non-metallic, self-locking pin and sleeve power interconnection system. In 20 and 30 amp ranges, DuraTite™ mates with existing 15-30A Ever-Lok receptacles already in use.

#### Industrial “Safety Grade” Construction

20 and 30 Amp plugs and connectors (600 VAC Max.)

Indoor industrial and heavy duty use.

Durable, Tough & Flame Safety Rated Housings

- **DuraV™** housing material specially selected for hot or cold washdown duty.
- **Flame Safe** UL94-V0 rated housings.
- **Superior Performance** in Corrosive Environments.
- **High Visibility** yellow housings.

#### Safe & Reliable Power Connections: Pin & Sleeve, Voltage Polarized

- **Long Life:** Round, Self Cleaning, Constant Pressure Pin & Sleeve Contacts, of Solid CDA 360 brass for long reliable electrical life.
- **More Power, Operates Cooler:** large circular electrical contact area allows more current flow with lower temperature rise.
- **Ground Pin Keyed for Voltage Polarization** (O-ring seal).
- **Voltage Polarized for Safe Connection** (U-ground) (pins shown with optional O-ring seals).

#### Easy To Wire

- **“No twistoff” Locking Plugs:** Integral Threaded Screw Collars and Compression type Bushings make wiring a snap.
- **Fast Assembly and Wiring:** “Drop-In” rear loaded interiors use no assembly screws, versus 3-5 or more with other connectors. 30/50A connectors use unique E-Z Tite™ external gland lock screw, also.
- **Set Screw Terminals:** Are quick and easy to wire, with complete wire capture in deep pin/sleeve barrels.



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## DuraTite™ Ordering Information

@250V Amps	Voltage	Face Recep/ Conn.	Cat. Nos.						
			Plug		Connector		Std. I.D. Bushing: Plug/ Conn.*	Receptacle- EverLok	
			 DuraTite	 Ever-Lok	 DuraTite	 Ever-Lok			
2P3W 20A	125 VAC		5P23U1LD	8013U1 8153U1 8593U1	5C23U1LD	8023U1 8093U1 8683U1	.625	8003U1	8083U1
	250 VAC		5P23U2LD	8013U2 8153U2 8593U2	5C23U2LD	8023U2 8093U2 8683U2	.625	8003U2	8083U2
			5P23U3LD	8013U3 8153U3 8593U3	5C23U3LD	8023U3 8093U3 8683U3	.625	8003U3	8083U3
	480		5P23U4LD	8013U4 8153U4 8593U4	5C23U4LD	8023U4 8093U4 8683U4	.625	8003U4	8083U4
	600		5P23U5LD	801345 8153U5 8593U5	5C23U5LD	8023U5 8093U5 8683U5	.625	8003U5	8083U5
	thru 600 (all)		5P23U0LD	8013 8153 8593	5C23U0LD	8023 8093 8683	.625	8003N	8083N
2P3W 30A	125 VAC		5P33U1LD	—	5C33U1LD	—	.700	N.A.	N.A.
	250 VAC		5P33U2LD	—	5C33U2LD	—	.700	N.A.	N.A.
	277 VAC		5P33U3LD	—	5C33U3LD	—	.700	N.A.	N.A.
	480 VAC		5P33U4LD	—	5C33U4LD	—	.700	N.A.	N.A.
	600 VAC		5P33U5LD	—	5C33U5LD	—	.700	N.A.	N.A.
	thru 600 (all)		5P33U0LD	8015 8155 8656	5C33U0LD	8025 8095 8646	.700	8005N	8030N
3P4W 20A (10A, 600V)	125/250 VAC		5P24U1LD	—	5C24U1LD	—	.625	N.A.	N.A.
	250- 3ø VAC		5P24U2LD	—	5C24U2LD	—	.625	N.A.	N.A.
	480 3ø VAC		5P24U4LD	—	5C24U4LD	—	.625	N.A.	N.A.
	347/600V		5P24U5LD	—	5C24U5LD	—	.625	N.A.	N.A.
	thru 600 (all)		5P24U0LD	8018 8158 8594	5C24U0LD	8028 8098 8684	.625	8008	8084
3P4W 30A (20A, 600V)	125/250 VAC		5P34U1LD	—	5C34U1LD	—	.750	N.A.	N.A.
	250 3ø VAC		5P34U2LD	—	5C34U2LD	—	.750	N.A.	N.A.
	480 3ø VAC		5P34U4LD	—	5C34U4LD	—	.750	N.A.	N.A.
	347/600V		5P34U5LD	—	5C34U5LD	—	.750	N.A.	N.A.
	thru 600 (all)		5P34U0LD	8014 8154 8597 8657	5C34U0LD	8024 8094 8687 8647	.750	8004	8031

**Notes:**

DuraTite plugs and connectors will mate but not lock to metal plugs and connectors referenced above. DuraTite will lock to existing metal receptacles, from Standard EverLok line.

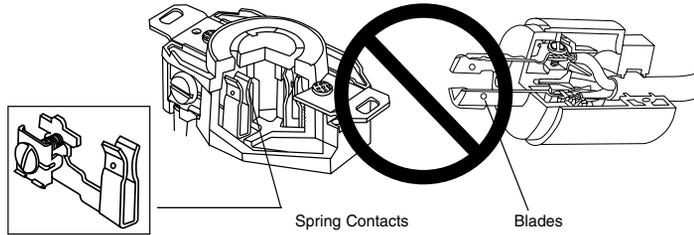
**Option:** O-Ring sealed interiors also available— change suffix to “LW”

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## DuraTite™ Specifications

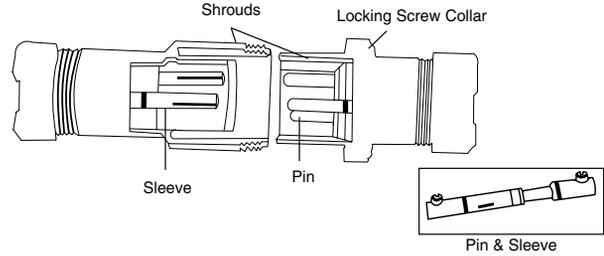
### Specifications

#### Bladed Plug & Receptacle



Spring blade contact designs offer point contact only, with minimal mechanical support in receptacles. Higher heat is generated in use as contacts loosen with age and dirt accumulation, resulting in failures. Exposed blade contacts can easily be damaged.

#### Pin & Sleeve Connector & Plug



Pin & Sleeve design allows higher current flow at cooler temperatures due to the large circular contact area. Sleeves act as retainers for the pins making a reliable connection. Shrouded pins & sleeves are protected from damage and casual access. Locking screw collars provide for a reliable, long lasting connection.

H

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#### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Max. Working Voltage</b>	6000 volts RMS (minimum creepage and minimum clearance per UL 840)
<b>Circuit Interrupting/ Load Breaking</b>	UL listed and CSA certified for circuit interrupting at full rated current.
<b>Temperature Rise</b>	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-PF.
<b>Horsepower</b>	Per NEC 430-151 ratings

#### Performance – Mechanical

<b>Impact Resistance</b>	Per UL 1682 Paragraph 34
<b>Cord Accommodation</b>	Round portable service cords. 10 standard diameters from .405" to 1.00", custom sizes to spec
<b>Terminal Identification</b>	In accordance with UL1682
<b>Cable Pull Out Force</b>	In accordance with UL1682
<b>Product Identification</b>	Identification label and molded in name

#### Performance – Environmental

<b>Moisture Resistance</b>	Per UL1682 Paragraph 49. Flap cover on receptacle, O-Rings optional on all pins, sleeves, and interiors. Watertight interiors with optional O-rings. Meets requirements for NEMA 3R/12 & IP44.
<b>Flammability Operating</b>	V0 or better per UL94 Maximum Continuous: 95°C / 203°F
<b>Temperatures Chemicals</b>	Minimum: -40°C / -40°F w/o impact Resists standard industrial hydrocarbons, acids, bases and solvents.

#### Material

<b>Contact Carrier Interior</b>	Molded arc resistant UL94-V0 phenolic thermoset
<b>Housing, Gland Nuts</b>	DuraV™ UL94-V0, High Impact
<b>Screw Collar Rings</b>	Thermoplastic
<b>O-Rings</b>	Buna-N (Nitrile)
<b>Contacts: Pins &amp; Sleeves</b>	Brass CDA 360
<b>Terminals</b>	Brass CDA 360
<b>All Hardware</b>	Stainless Steel
<b>Gland Friction Washer</b>	20 Amp - Nylon 30 & 50 Amp - Aluminum
<b>Cable Clamp Bushing</b>	Neoprene

#### Approvals

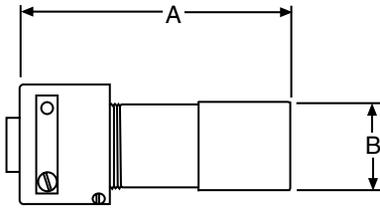


**Thomas & Betts**

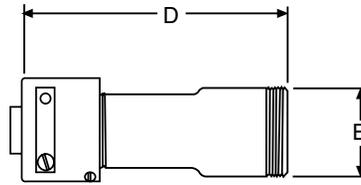
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## DuraTite™ Dimensions and Accessories

### Plugs



### Connectors



### Receptacles

DuraTite mates and locks to standard EverLok (see page H89).

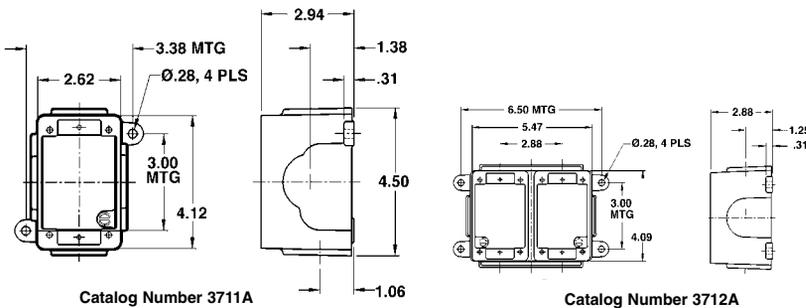
Amps		A*	B	C*
20 Amp	Inches	3.87	2.16	2.75
	mm	98.3	54.9	69.9
30 Amp	Inches	5.38	2.38	4.16
	mm	136.6	60.5	105.7

\* Note – Dimensions will vary slightly with assembly.

### Accessories

Additional Boxes and Accessories Available: EverLok Section

### Conduit Boxes (For Surface Mounting)



Catalog Number 3711A

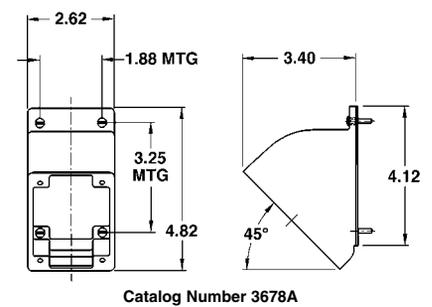
Catalog Number 3712A

	Cast Aluminum	Cast Brass
Single	3711A	3731
Double	3712A	3732

Note: 3/4" NPT Hole Std.

Additional Accessories Are Available. Consult Factory.

### 45° Angle Adapter



Catalog Number 3678A

Cast Aluminum	Cast Brass
3678A	3678B

# Russellstoll®

## Ever-Lok® Locking Connections – Overview

Standard: 10-50 Amp, Maximum 600 VAC or 250 VDC

Heavy Service: 30-100 Amp Maximum 480 VAC or 250 VDC

Midget: 10-20 Amp Maximum 250 VAC or 250 VDC

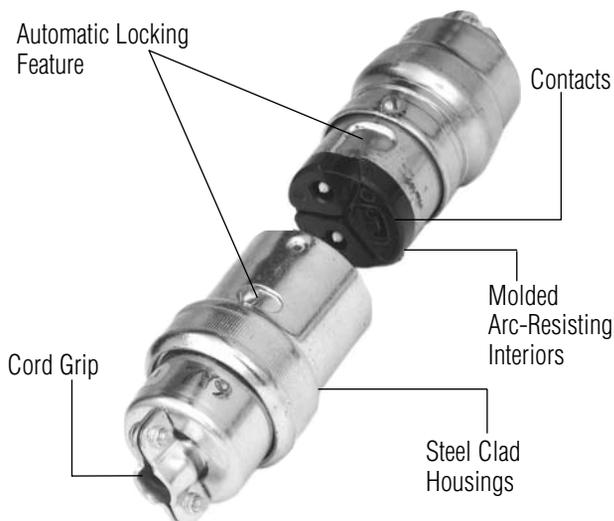


When an Ever-Lok connection is made, it is a mechanical attachment which will not pull apart unless it is unlocked by hand.

To install, line up the tabs and plug it straight in. External buttons or ribs lock with the mating internal

housing automatically. When an Ever-Lok plugs in, it stays in. Locked housings do the work so Ever-Lok contacts can carry the load! A firm grip and short 1/8 counter-clockwise reverse twist release locking for easy removal.

### Design Features



- 1. Automatic Locking** – Automatic locking feature mechanically attaches the plug casing to the receptacle or connector, and eliminates strain on electrical contacts.
- 2. Positive Grounding** – Casings are positively grounded by means of phosphor bronze ground straps integral with ground contacts. Equipment grounding is secured by separate set of contacts which “make” first and “break” last as required by UL.

- 3. Dust-Proof** – On clamp type plugs and connectors a washer is provided in each cap to be forced over the cord. This serves as a shield to prevent metal particles, dust, etc., from entering the interiors of plugs and connectors.

Bushing type plugs and connectors are furnished with a gland nut and neoprene cable bushing gland to exclude dust and moisture. A formed glide washer is also provided to facilitate tightening of the gland nut.

Receptacle covers are sealed to boxes by gaskets and have hinged flaps which are gasket-lined and equipped with strong springs to keep them closed and dust-tight.

- 4. Steel-Clad** – Plugs and connectors are plated steel. Plugs have encased locking spring in machine assembled non-separable housings.
- 5. Cord Grip** – Plugs and connectors are provided with adjustable cord grips, preventing strains on connections.
- 6. Contacts** – Contacts are precision made, self-wiping and self-aligning brass and nickel plated brass.
- 7. Unit Assembly** – Contacts and terminals are permanently assembled in arc-resisting composition body permitting removal of interior as a unit for wiring. All connections are entirely enclosed, thus avoiding accidental short circuits and tampering by inexperienced personnel.
- 8. Handles Lined** – Shell handles have a HDPE liner to contain stray wire ends.
- 9. Interiors** – All interiors are molded arc-resisting composition.

**Thomas & Betts**

### Standard Service Female Receptacles



	250 VAC Rating	Rating	Female Receptacle Only w/Flap Cover <sup>^</sup>	Receptacle with Box FSWS-62 <sup>*</sup>	2-Gang <sup>‡</sup>
2P3W	15 Amp	20 Amp, 125VAC	For Replacement	For Replacement	For Replacement
		15 Amp, 250VAC	Only	Only	Only
		10 Amp, 600VAC	8003N	8083N	8128N
		20 Amp, 125V	8003U1	8083U1	8128U1
		15 Amp, 250V	8003U2	8083U2	8128U2
		15 Amp, 277VAC	8003U3	8083U3	8128U3
		15 Amp, 480VAC	8003U4	8083U4	8128U4
		15 Amp, 600VAC	8003U5	8083U5	8128U5
30 Amp	30 Amp, 250V	For Replacement	For Replacement	For Replacement	
	20 Amp, 600VAC	Only 8005N	Only 8030N	Only 8131N	
3P4W	15 Amp	20 Amp, 125V	8008	8084	8129
		10 Amp, 250V			
		15 Amp, 250VAC			
		10 Amp, 600VAC			
	30 Amp	20 Amp, 600VAC	8004	w/FD box	w/FD box
		30 Amp, 250V		8031	8132
50 Amp	50 Amp, 250VAC	8304	w/FD box	w/FD box	
	30 Amp, 250V		8331	8334	
	30 Amp, 600VAC				

**Notes:**

- <sup>^</sup> For FS, FD, FSWS, FDWS and similar conduit fittings.
  - <sup>\*</sup> Receptacle with box and cover
  - <sup>\*\*</sup> Provided with FDWS62 Box
  - <sup>‡</sup> Two gang receptacles can also be provided in mixed configurations including NEMA bladed, etc. Consult Technical Services.
- Male Inlets (Reversed Contacts Service): use receptacle mountings but accept standard female connector.
- Horse Power Ratings
- ½ Hp, 1 phase, 230VAC
  - 1 Hp, 3 phase, 115VAC

**Note:** Standard EverLok receptacles also accept DuraTite™ plugs.

# Russellstoll®

## Ever-Lok® Locking Connections – Standard Ordering Information

Reverse Service Male Receptacles*		Plugs & Connectors
		
<b>Male Inlet</b>	<b>Male Inlet With Box**</b>	<b>Mating Plugs &amp; Connectors</b>
For Replacement Only	For Replacement Only	<b>See Pages H98 &amp; H99 for offering</b>
8143	8143D	
8143U1	8143U1D	
8143U2	8143U2D	
8143U3	8143U3D	
Consult Factory	Consult Factory	
Consult Factory	Consult Factory	
8146	Consult Factory	
8144	8144D	
8147	8147D	
8374	8374	

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**Specifications:**

**Receptacle Housing** – Plated steel. Receptacle with cover only; furnished with 6-32 mounting screws. For mounting on switch box or outlet box, use adapter plate 8091A see page H104.

**Back Boxes** – Cast aluminum, epoxy powder coat finish. Flap and screw caps aluminum, corrosion-resistant copper-free alloy or steel, CAD plated.

**Plug** – All cable entry styles of plugs with equivalent ratings fit above receptacles.

**Conduit Boxes** – Type FSWS-62 or FDWS-62 standard, cast aluminum. Additional boxes available, see page H103.

**Gang Type** – Can be furnished in gang or tandem units and in combination with other FS and FD devices. See page H103.

**Outlets** – Unless otherwise specified, furnished with one 3/4" outlet. Additional outlets charged extra, specific size and location. Consult Technical Services.

**Contacts** – "N" suffix indicates nickel plated neutral, used on 2p3w non-polarized devices.

# Russellstoll®

## Ever-Lok® Locking Connections – Standard Ordering Information

**New!** DuraTite™ line offers thermoplastic performance and EverLok interface. See page H89.

Russellstoll®

### Male Plugs

									
250 VAC Rating	Rating	Clamp Type	Max Cable Dia.	Bushing Type	Cable Bushing Hole Dia.	Hub Type*	Conduit Size		
2P3W	15 Amp	20 Amp, 12Z5VAC 15 Amp, 250VAC 10 Amp, 600VAC	<b>8013N</b>	½"	<b>8153N</b>	5/8"	<b>8593N</b> <b>8593CTN**</b>	½"	
		20 Amp, 125V	<b>8013U1</b>	½"	<b>8153U1</b>	5/8"	<b>8593U1</b> <b>8593U1CT*</b>	½"	
		15 Amp, 250VAC	<b>8013U2</b>	½"	<b>8153U2</b>	5/8"	<b>8593U2</b>	½"	
		15 Amp, 277VAC	<b>8013U3</b>	½"	<b>8153U3</b>	5/8"	<b>8593U3</b>	½"	
		15 Amp, 480VAC	<b>8013U4</b>	½"	<b>8153U4</b>	5/8"	<b>Consult Factory</b>		
		15 Amp, 600VAC	<b>8013U5</b>	½"	<b>8153U5</b>	5/8"	<b>Consult Factory</b>		
		30 Amp	30 Amp, 250V 20 Amp, 600VAC	<b>8015</b>	5/8"	<b>8155</b>	5/8"	<b>8656</b>	¾"
	3P4W	15 Amp	20 Amp, 125V 10 Amp, 250V 15 Amp, 250VAC 10 Amp, 600VAC	<b>8018</b>	½"	<b>8158</b>	1/16"	<b>8594</b>	½"
		30 Amp	20 Amp, 600VAC 30 Amp, 250V	<b>8014</b>	5/8"	<b>8154</b>	3/4"	<b>8597</b> <b>8657</b>	½" ¾"
		50 Amp	50 Amp, 250VAC 30 Amp, 250V 30 Amp, 600VAC	<b>8314-S</b> <b>8314</b>	¾" 1 1/8"	<b>8354</b>	1"	<b>8396</b> <b>8397</b>	½" ¾"

**Notes for Plugs and Connectors:**

**Cable Bushing** – oil resistant, neoprene cable bushing regularly furnished with hole size as listed. Other hole sizes available at no extra cost, when specified on order. See page H123 for available sizes. Bushing type plugs and connectors can be furnished with adapters to accommodate rigid conduit or standard connectors for armored and nonmetallic cable or flexible conduit. See page H123.

**N** in catalog number refers to Nickel plated Neutral Pin, replace. Ex: 8013 with 8013N.

**Note:** Special construction options for EverLok plugs include control "Dummy Plugs" for press lockout function. Consult Technical Services. (8158-F22863)

\* Hub with clamp added at size.

\*\* Accommodates rigid conduit or standard connectors for armored and nonmetallic cable or flexible conduit.

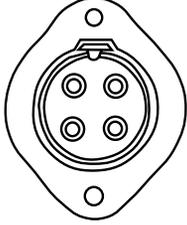
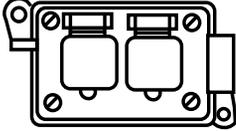
**Russellstoll**<sup>®</sup>**Ever-Lok<sup>®</sup> Locking Connections – Standard Ordering Information**

**New!** DuraTite™ line offers thermoplastic performance and Everlok interface. See page H91.

**Female Connectors**

Female Connectors					
					
Clamp Type	Max. Cable Dia.	Bushing Type	Cable Bushing Hole Dia. *	Hub Type**	Conduit Size
8023N	1/2"	8093N	5/8"	8683N/8683CTN*	1/2"
8023U1	1/2"	8093U1	5/8"	8683U1/8683U1CT*	1/2"
8023U2	1/2"	8093U2	5/8"	8683U2	1/2"
8023U3	1/2"	8093U3	5/8"	8683U3	1/2"
Consult Factory		Consult Factory		Consult Factory	
Consult Factory		Consult Factory		Consult Factory	
8025	5/8"	8095	5/8"	8646	3/4"
8028	1/2"	8098	1 1/16"	8684	1/2"
8024	5/8"	8094	3/4"	8687/8687CT*	1/2"
				8647	3/4"
8324S	3/4"	8394	1"	8386	1/2"
				8387	3/4"

**H**Russellstoll<sup>®</sup>**Thomas & Betts**

Standard Service Female Receptacles							
							
		Single Receptacle		Flanged Panel Mount Recp.	Duplex Receptacle		
	Rating	Receptacle Only	with Back Box		Receptacles Only	with Back Box	
2P 3W	10 Amp, 250VDC 20 Amp 250VAC*;	<b>8703</b>	<b>8753</b>	<b>8943</b>	<b>8733</b>	<b>8773</b>	
	20 Amp 125VAC	<b>8703U1</b>	<b>8753U1</b>	<b>8943U1</b>	<b>8733U1</b>	<b>8773U1</b>	
	15 Amp 250VAC	<b>8703U2</b>	<b>8753U2</b>	<b>8943U1</b>	<b>8733U2</b>	<b>8773U2</b>	
3P 4W	10 Amp 125VDC 20 Amp 250VAC**	<b>8704</b>	<b>8754</b>	<b>8944</b>	<b>8734</b>	<b>8774</b>	
4P 5W	10 Amp 125VDC 20 Amp 250VAC**	<b>8705</b>	<b>8755</b>	<b>8945</b>	<b>8735</b>	<b>8775</b>	

**Notes:**

- \* ½ HP., 1 Phase - 230VAC
- \*\* ½ HP., 1 Phase - 230VAC
- 1 H.P., 3 Phase - 115VAC

**Specifications:**

**Receptacle Housing** – Heavy gauge steel, plated.

**Back Boxes** – Type FSWS-62 standard, cast aluminum. Additional boxes available, see page H103.

**Gang Type** – can be furnished in gang or tandem units and in combination with other FS and FD devices. See page H103.

**Outlets** – Standard, one ¾" top or bottom, additional outlets, see boxes listed on pages 103, charged extra.

**Plug and Connector Housings** – Steel, plated.

**Cable Diameter:**

**Clamp Type** – .500" max. cable diameter.

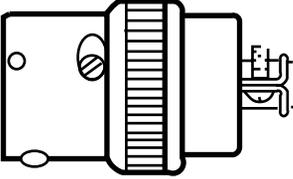
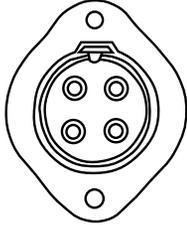
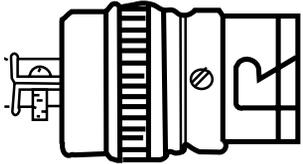
**Bushing Type:**

- 2P3W – .563" diameter standard
- 3P4W – .281" diameter standard
- 4P5W – .594" diameter standard

**Cable Bushing** – Oil resistant, neoprene cable bushing regularly furnished with hole size as listed. Other hole sizes available at no extra cost, when specified on order. See page H123 for available sizes.

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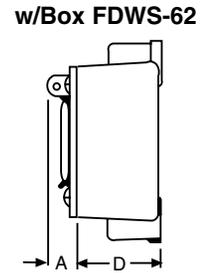
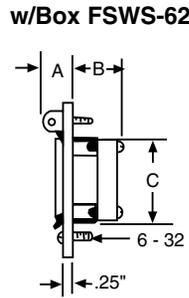
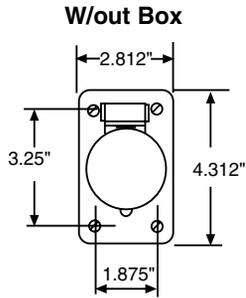
## Ever-Lok® Locking Connections – Midget Ordering Information

Standard Service Plugs & Connectors		Reverse Service		
				
Clamp Type^ Male Plug	Clamp Type^ Female Connector	Male Flanged Panel Mount	Clamp Type^ Female Plug	Clamp Type^ Male Connector
8713	8723	8943R	8713R	8723R
8713U1	8723U1	8943U1R	8713U1R	8723U1R
8713U2	8723U2	8943U2R	8713U2R	8723U2R
8714	8724	8944R	8714R	8724R
8715	8725	8945R	8715R	8725R

^ Plugs and connectors are also available as bushing or hub type similar to those in Standard Everlok. Please consult factory for ordering information.

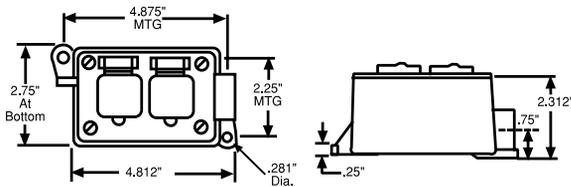
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### Female Receptacles & Reverse Service

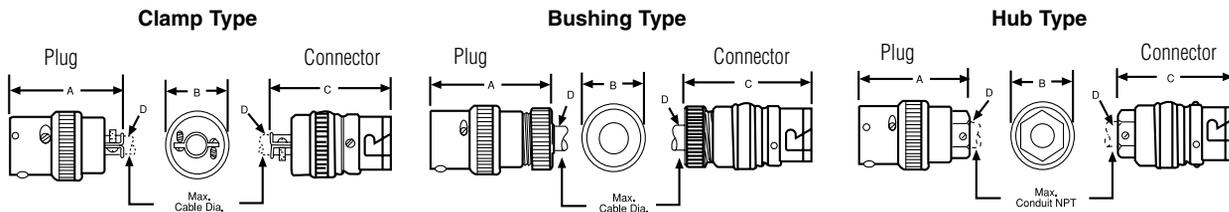


Size	Standard Service				Reverse Service			
	A	B	C	D	A	B	C	D
<b>Standard</b>								
10 Amp								
15 Amp	.875"	1.375"	2.375"	2.313"	.875"	2.000"	1.750"	2.937"
20 Amp								
30 Amp	.875"	1.500"	2.875"	2.937"	.875"	1.500"	2.875"	2.937"
50 Amp	1.470"	1.875"	2.125"	2.937"	1.470"	1.875"	2.125"	2.937"
<b>Midget</b>	.687"	1.810"	1.280"	NA	.687"	1.810"	1.280"	NA

#### Midget Duplex



### Plugs & Connectors



Size	Clamp Type				Bushing Type				Hub Type			
	A	B	C	D	A	B	C	D	A	B	C	D
<b>Standard</b>												
15 - 20 A	3.125"	1.750"	3.187"	0.500"	3.250"	1.750"	3.375"	0.750"	3.125"	1.750"	3.187"	0.500"
30 Amp	3.437"	2.125"	4.250"	0.625"	3.750"	2.125"	4.500"	1.125"	3.500"	2.125"	4.250"	0.750"
50 Amp	4.750"	2.125"	4.750"	1.125"	4.875"	2.125"	4.875"	1.125"	4.500"	2.125"	4.625"	0.750"
<b>Midget</b>	2.875"	1.440"	2.875"	0.500"	3.000"	1.440"	3.000"	0.625"	2.875"	1.440"	2.875"	0.500"

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## Ever-Lok® Locking Connections – Accessories

### Mounting options for Midget and Standard Everlok

#### Type FS (shallow) & Type FD (deep)

Aluminum boxes have 6-32 cover mounting holes tapped to accommodate all FS and FD cover assemblies.  
Brass boxes have 10-24 cover mounting holes tapped to accommodate all FS and FD cover assemblies.



Single Gang



Two Gang



DSFD

No. of Gangs	Type	Cast Aluminum	Cast Brass	*Overall Dimensions
Single	FS	<b>3701A</b>	<b>3721</b>	4.12" x 2.62" x 2.31"
	FD	<b>3711A</b>	<b>3731</b>	4.12" x 2.62" x 2.94"
	DSFD	<b>3781A</b>	<b>3782</b>	4.12" x 3.62" x 4.12"
Two	FS	<b>3702A</b>	<b>3722</b>	4.12" x 5.5" x 2.25"
	FD	<b>3712A</b>	<b>3732</b>	4.12" x 5.62" x 2.87"

#### Notes:

When type FD devices are to be mounted in boxes, type FD boxes should be used. FS boxes will not accommodate FD devices.

**Mounting** – all the above boxes are for surface mounting. For flush mounting see page H104.

**Boxes** – Cast brass, natural finish. Cast aluminum, corrosion resistant copper-free alloy, epoxy powder coat finish.

\* Dimensions are overall exclusive of conduit pads and mounting lugs.

**Conduit Entries** – unless otherwise specified, furnished with one .75" outlet per gang, top or bottom. Additional conduit entries available – see price list. Specify size and location.

**Maximum Conduit** – FS and FD: 1", one per gang top and bottom and one each side.

**DSFD:** one 1.5" or two .5" top and bottom.

Cast iron available on special order – consult factory.

#### Type FSWS and FDWS (with mounting shelf for box-mounted devices)

Aluminum Die-Cast Boxes with cover mounting holes tapped for 6-32 screws to accommodate all FS and FD cover assemblies.

Cat. No.	Conduit Entries	
	Top	Bottom
<b>FSWS-62</b>	¾"	NA
<b>FDWS-62</b>	¾"	NA
<b>FDWS-622</b>	¾"	¾"
<b>FDWS-63</b>	1"	NA
<b>FDWS-633</b>	1"	1"



#### Notes:

**Boxes** – Aluminum die-cast, corrosion-resistant, copper-free alloy, epoxy powder coat finish.

**Conduit Entries** – standard as listed.

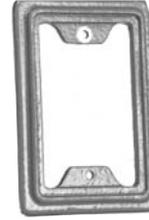
**Mounting** – all of the above boxes are for surface mounting.

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## Ever-Lok® Locking Connections – Accessories

### Adapter Flush Frames\*

No. of Gangs	Cast Aluminum	Cast Brass	Overall Dimensions
1	<b>3671A</b>	<b>3681</b>	5" x 3.5"
2	<b>3672A</b>	<b>3682</b>	5" x 6.5"



### Blank Cover\*

Covers Standard FS/FD box openings:

Cast Aluminum	<b>3677A</b>
Cast Brass	<b>3687</b>



### Flush Wall Mounting Extension\*

Cast Aluminum	<b>3679A</b>
Cast Brass	<b>3679B</b>



### 45° Angle Adapter\*

Mounts to any FS/FD box.

Cast Aluminum	<b>3678A</b>
Cast Brass	<b>3678B</b>



### Adapter Sub-Plate

The addition of this adapter sub-plate will permit the use of Ever-Lok conduit box-type receptacles in switch boxes or outlet boxes with raised covers, as listed. Used on standard (deep) stamped metal conduit boxes. Adapts two hole to four hole patterns.

Cast Aluminum	<b>8091A</b>
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\* Furnished complete with gasket and screws.

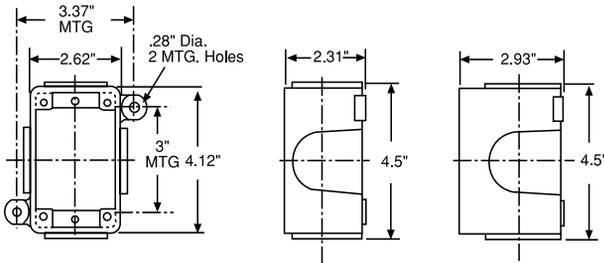
**Materials:** Cast aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish. Cast brass, natural finish.

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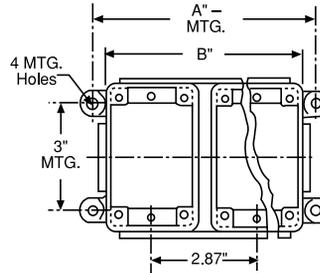
## Ever-Lok® Locking Connections – Accessories

### Type FS & FD

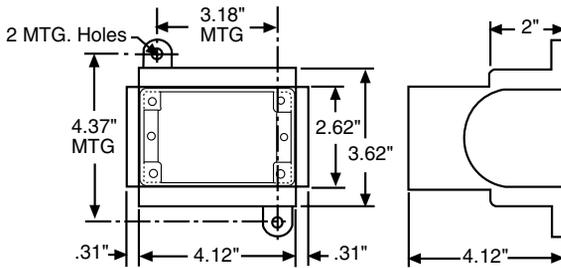
#### Single Gang



#### Multiple Gang



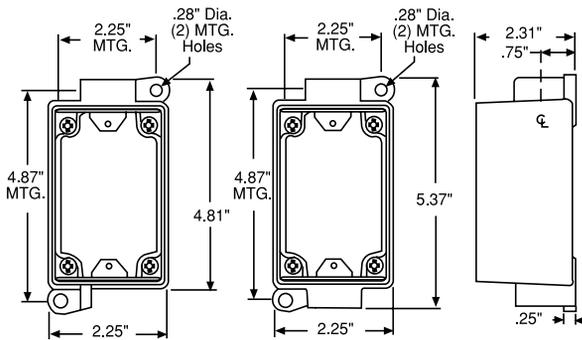
#### DSFD



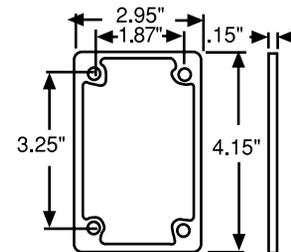
#### Multiple Gang Dimensions

	A		B	
	FS	FD	FS	FD
2-Gang	6.50"	6.50"	5.50"	5.62"
3-Gang	11.25"	9.37"	10.37"	8.50"
4-Gang	14.12"	12.25"	13.25"	11.37"

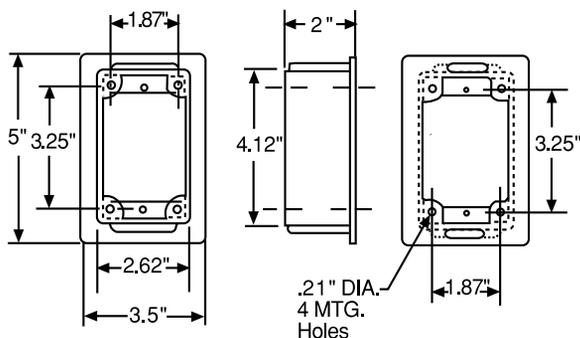
#### Type FSWS & FDWS



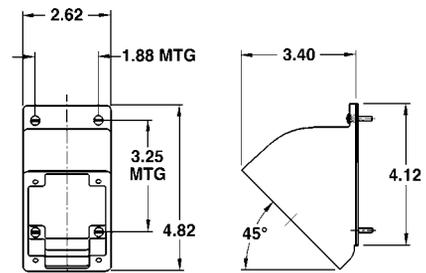
#### Blank Cover



#### Flush Mounting Extension



#### 45° Angle Adapter



# Russellstoll®

## Ever-Lok® Locking Connections – Accessories

### Combination Gland Nut and Cable Clamp



Provides extra clamping protection in hard service applications. Relieves terminals and rubber gland of all cable strain.

### Conduit Adapters



Adapter tapped with NPT thread to accommodate armored and non-metallic cable or flexible conduit.

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Max. Cable Dia.
10 Amp	<b>3905</b>	<b>3905B</b>	.62"
20 Amp	<b>3906</b>	<b>3906B</b>	1.12"
30 Amp			

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Tapped Hole NPT
15 Amp	<b>FSA11</b>	<b>FSA11B</b>	.5"
	<b>FSA12</b>	<b>FSA12B</b>	.75"
30 Amp	<b>FSA21</b>	<b>FSA21B</b>	.5"
50 Amp	<b>FSA22</b>	<b>FSA22B</b>	.75"
	<b>FSA23</b>	<b>FSA23B</b>	1"

**Notes:**

**Material** – cast aluminum, corrosion-resistant, copper-free alloy, cast brass, epoxy powder coat finish and cast brass.

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### Cable Bushings

Hole Diameter for Cable	Size 1 Midget Everlok	Size 2 STD. 15 AMP	Size 3 20, 30 & 50 Amp
.250"	MG0		
.313"		SG05	
.375"		SG1	JG31
.438"	MG15	SG15	
.500"	MG2	SG2	JG32
.531"		SG2A	
.563"	MG25	SG25	JG325
.594"	MG2B	SB2B	
.625"		SG3	JG33
.688"		SG3A	
.750"		SG4	JG34
.875"			JG35
1.000"			JG36*
1.125"			JG361**



Size 2 Cable Bushing



Size 3 Cable Bushing

**Material** – oil resistant neoprene.

Size 3 Cable Bushing:

\*Style for Maximum Cable only.

\*\*Special minimum wall style.

**Notes:**

Bushing Specials available at time of order.

When standard plugs or connectors are required to be furnished with one or more of the above accessories, add the suffix and catalog number of the accessory selected to the catalog number of the plug or connector. Complete list price is the total of the list price of the device plus the list price of the accessory.

EXAMPLE — Catalog No. SKP3G with adapter tapped 3/8" would be Catalog No. SKP3G/JG31.

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## Heavy Service Ever-Lok® – Overview

### Heavy Duty Automatic Locking Receptacles, Plugs & Connectors

30-100 Amp, 480VAC / 250VDC

Heavy Service EverLok components **stay** plugged-in so your portable equipment stays on. The industrial **standard** for portable welders and other industrial equipment locks in place automatically at insertion – no screw collars to bother with. With its contoured handle, an easy counter-clockwise twist releases the plug for withdrawal, even under full-rated load / circuit-interrupting conditions.

Simple and rugged, the Heavy Service EverLok self-locking system sets the standard for easy access in facilities, welding and industrial equipment use. All standard receptacle configurations are available, as well as reversed contacts – service options.

### Design Features



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## Heavy Service Ever-Lok® – Ordering Information

		Plugs	Connectors	Receptacles	
					
<b>Configuration</b>				<b>HSF Series Basic Receptacle</b>	<b>HSA Series*</b>
<b>30 Amp</b>	2P, 3W 3P, 4W	<b>8407</b> <b>8408</b>	<b>8443</b> <b>8444</b>	<b>HSF8403</b> <b>HSF8404</b>	<b>8403</b> <b>8404</b>
<b>60 Amp</b>	2P, 3W 3P, 4W	<b>8417</b> <b>8418†</b>	<b>8453</b> <b>8454</b>	<b>HSF8413</b> <b>HSF8414</b>	<b>8413</b> <b>8414</b>
<b>100 Amp</b>	3P, 4W	<b>8428-72</b>	<b>8464-72</b>	<b>HSF8424-72</b>	<b>8424-72</b>

**Note:**  
Reverse service available by adding "R" suffix to catalog number. Solder lugs on 100 amp only.

**Connectors** – can be furnished with conduit adapters to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit. See page H112.

\* Can be furnished with 45° angle adapter when specified on order. Add suffix -45 to catalog number.  
Flap Covers are standard on all receptacles.

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### Std. Cable Bushing (see page H106 for other bushings)

Current Rating	Bushing	Max. AWG Size
30	7/8"	#8, -7 strand or flexible
60	1 3/16"	#4, -7 strand or flexible
100	1 1/2"	#2, -7 strand or flexible

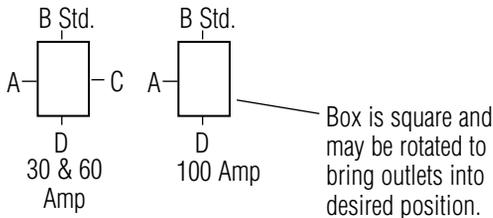
### Conduit Size

Current Rating	Std. Size	Max. Size
30	1"	1 1/4"
60	1"	1"
100	2"	2"

Cable Conduit Adapters: see page H112.

†Note: 8418 or F27194 Automotive 480VAC Version Plug.

### Outlet Location: Standard Series



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## Heavy Service Ever-Lok® – Receptacle Mounting Options

### Receptacle Mounting Options

Progressive Assembly

Mounting Style		To Order Use:	Current Rating 30 Amp	60 Amp	100 Amp
Standard Series <b>HSA</b> 		Receptacle +	Basic Receptacle* +	Basic Receptacle* +	Basic Receptacle* +
		Vertical or Square Mount Box +	JB3 1" Std. Conduit Size +	JB6 1½" Std. Conduit Size +	JB10 2" Std. Conduit Size +
		Angle Adapter	JAA3 (20°) or JAA3-45 (45°)	JAA6-AB6 (20°) or JAA6-45 (45°)	JAA10 (20°) or JAA10-45 (45°)
Series <b>HSR</b> Straight 		Receptacle +	Basic Receptacle* +	Basic Receptacle* +	Basic Receptacle* +
		Vertical Mount Box +	JB3 1" Std. Conduit Size +	JB6 1½" Std. Conduit Size +	JB10 2" Std. Conduit Size +
		Straight Adapter	JRA3	JRA6-AB6	JRA10
Series <b>HSB</b> 		Receptacle +	Basic Receptacle* +	Basic Receptacle* +	Basic Receptacle* +
		30° Angle Adapter	JAAB3	JAAB6	JAAB10
Series <b>HSE</b> 		Receptacle +	Basic Receptacle* +	Basic Receptacle* +	N/A
		Angle Enclosure	JE3 1" Std. Conduit Size	JE6 1½" Std. Conduit Size	
Series <b>HSH</b> Horizontal 		Receptacle +	Basic Receptacle* +		
		Horizontal Mount Box +	JB3 1" Std. Conduit Size +	N/A	N/A
		Angle Adapter	JHA3 (20°)		

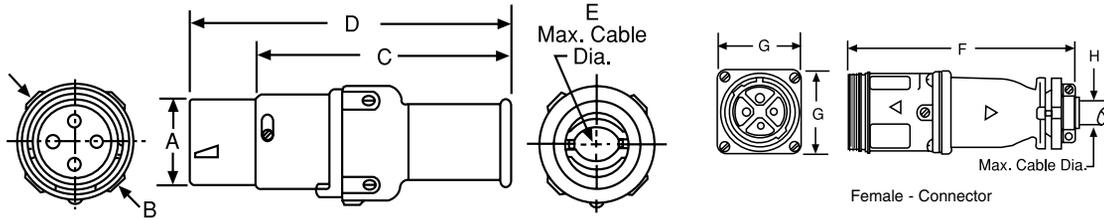
\* Select appropriate receptacle by rating, configuration and voltage on Page H108.

**Ordering:** Order individual pairs or use series letters followed by receptacle I.D. (ref. HSA series number). Example: HSB8414.  
(For HSA use receptacle catalog numbers only.)

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## Heavy Service Ever-Lok® – Dimensions

### Plugs and Connectors



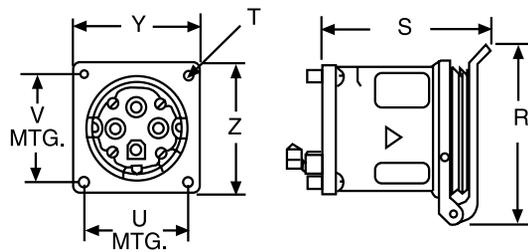
Dimensions for 2, 3 or 4 wire Weathertight Units

Amp	A	B	C*	D	E	F	G	H
30	2"	3"	5.625"	7"	1"	7.625"	2.750"	1.125"
60	2.625"	3.750"	7.687"	9.750"	1.500"	9.625"	3.500"	1.500"
100	2.625"	3.750"	7.687"	11"	1.50"	10.875"	4"	1.875"

\* Length of plug exposed when engaged in receptacle or connector.

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### Basic Receptacles



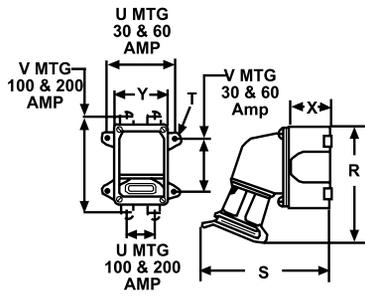
Dimensions for 3 or 4 wire Units

Amp	Y	V	U	T	S	R	Panel Opening
30	2.750"	2.250"	2.250"	0.213"	3.250"	7.000"	2.250" D
60	3.500"	2.875"	2.875"	0.281"	4.625"	8.875"	2.875" D
100	4"	3.375"	3.375"	0.281"	5.875"	10.500"	3"

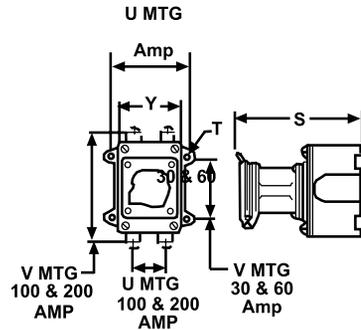
# Russellstoll®

## Heavy Service Ever-Lok® – Dimensions

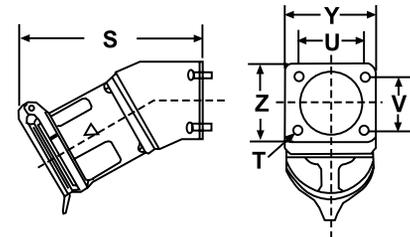
### Standard Series HSA



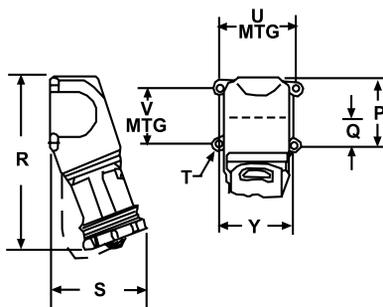
### Series HSR



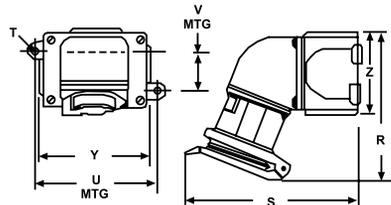
### Series HSB



### Series HSE



### Series HSH



Amp	Series	Z	Y	X	V	U	T	Q	P	S	R	Panel Opening
30	HSA(20°)	4.500"	3.000"	2.375"	2.687"	3.687"	.250"	–	–	7.375"	7	–
	HSA(45°)	4.500"	3.000"	2.375"	2.687"	3.687"	.250"	–	–	7.875"	6.625"	–
	HSR	4.500"	3.000"	2.375"	2.687"	3.687"	.250"	–	–	6.750"	–	–
	HSB	3.125"	3.125"	–	2.250"	2.250"	.213"	–	–	6.250"	–	2.250"
	HSE	–	3.50"	–	–	4.000"	.250"	1.250"	2.375"	5.250"	7.250"	–
	HSH	3.937"	4.500"	2.375"	3.687"	2.687"	.250"	–	–	7.250"	6.125"	–
60	HSA(20°)	5.625"	4.000"	3.000"	3.812"	4.937"	.343"	–	–	9.250"	8.875"	–
	HSA(45°)	5.625"	4.000"	3.000"	3.812"	4.937"	.343"	–	–	9.875"	8.250"	–
	HSR	5.625"	4.000"	3.000"	3.812"	4.937"	.343"	–	–	8.375"	–	–
	HSB	3.187"	3.625"	–	2.187"	2.625"	.281"	–	–	9.250"	–	2.500"
	HSE	–	4.250"	–	3.125"	4.500"	.281"	1.562"	3.687"	6.750"	9.750"	–
100	HSA(20°)	5.500"	5.500"	3.750"	6.750"	4.250"	.343"	–	–	10.750"	10.500"	–
	HSA(45°)	5.500"	5.500"	3.750"	6.750"	4.250"	.343"	–	–	11.750"	9.500"	–
	HSR	5.500"	5.500"	3.750"	6.750"	4.250"	.373"	–	–	12.250"	–	–
	HSB	3.187"	3.625"	–	2.187"	2.625"	.281"	–	–	9.250"	–	2.500"

Note: U = horizontal mounting hole centers; V = vertical mounting hole centers

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## Heavy Service Ever-Lok® – Accessories

### Replacement Interiors

For Receptacles, Connectors, Plugs & Male Inlets

	Female Interiors: Receptacles & Connectors			Male Interiors: Plugs		
Poles/Wires	30 Amp	60 Amp	100 Amp	30 Amp	60 Amp	100 Amp
2P, 3P	ARU323	ARU623	—	APU323	APU623	—
3P, 4W	ARU334	ARU634	ARU134-6	APU334	APU634	APU134-6

**Notes:**

**Interiors** – arc-resisting composition with machined, full floating, self-aligning contacts. Solder lug interior will not interchange with mechanical lug. If you have solder lugs, reorder solder lugs.

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### Accessories

Adapters are tapped NPT standard pipe thread to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit.



JPA 64  
Conduit  
Adapter

### Plug or Connector Sizes

30 Amp Cat. No.	Tapped Hole Size NPT	60 Amp Cat. No.	Tapped Hole Size NPT	100 Amp Cat. No.	Tapped Hole Size NPT
JPA31	½"	JPA62	¾"	JPA104	1¼"
JPA32	¾"	JPA63	1"	JPA105	1½"
JPA33	1"	JPA64	1¼"	JPA106	2"

**Notes:**

**Material** – cast aluminum, corrosion-resistant copper-free alloy, electrostatic epoxy coated. Furnished complete with gasket and screws.

**To specify standard plugs or connectors equipped with one of the above adapters**, add the catalog number of the adapter selected to the catalog number of the plug or connector. Complete list price is the list price of the device plus list price of the adapter.

**Example:** Cat. No. 8443 with adapter tapped 1-inch would be Cat. No. 8443/JPA33

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## Heavy Service Ever-Lok® – Accessories

### Cable Bushings

Boxed catalog numbers are standard bushing sizes. To order non-standard bushing, specify as follows:  
example 8418/JG65

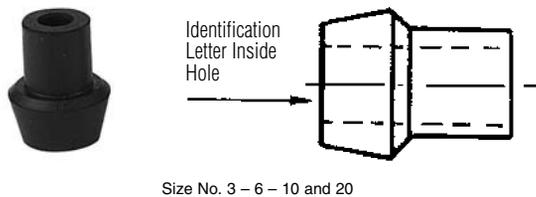
Hole Diameter for Cable	30 Amp	60 Amp	100 Amp
.375"	<b>JG31</b>		
.500"	<b>JG32</b>		
.563"	<b>JG325</b>		
.594"	<b>JG32B</b>		
.625"	<b>JG33</b>	<b>JG63</b>	
.750"	<b>JG34</b>	<b>JG64</b>	<b>JG104</b>
.781"	<b>JG341</b>		
.875"	<b>JG35</b>	<b>JG65</b>	<b>JG105</b>
.937"	<b>JG355</b>		
1.000"	<b>JG38*</b>	<b>JG66</b>	<b>JG106</b>
1.125"	<b>JG361*</b>		
1.188"		<b>JG67</b>	<b>JG107</b>
1.313"			<b>JG108</b>
1.375"		<b>JG69*</b>	
1.500"		<b>JG610*</b>	<b>JG1010</b>
1.687"			<b>JG1011</b>
1.813"			
1.875"			<b>JG1013*</b>
2.000"			
2.125"			
2.250"			
2.500"			

**Notes:**

When ordering, select bushing size slightly larger than your cable O.D. for best fit.

**Material** – Neoprene

**Standard Cable Bushings:**



**\* Oversize Cable Bushings:**



H  
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## Control Circuits Connectors – Overview

### Defined

- Any application where electrical connections need protection from water and/or dust ingress to the contacts or the wiring compartment.
- Cable or conduit sealing and device locking designs are critical.
- Metal connectors are usually preferred for long service life.

### Russellstoll Line Selections for Indoor Applications

#### SK/SKW Multi-Pin Control Circuit to 11P12W 20A

The toughest multi-circuit, screw-termination circular connector system; as SK indoor self locking or SKW outdoor collar locking; load breaking at 20 amps. Solid brass (silverplated) contacts ensure long life and interiors can be rebuilt. All pin-counts are available from 3P4W thru 11P12W, gasketed interiors in SKW.

#### Interlocks thru 4P5W 30 thru 400A

A broad offering of performance interlocks in sheet steel, cast aluminum or brass. Automotive/Industrial welding units include 60 & 100A versions, both Heavy Service Ever-Lok and MaxGuard lines. Switched, fused and circuit breaker versions are available, as well as switchgear selections. Custom enclosures wall-mount or column-mount in standard 8" I-Beam webs.

#### Switches 125 / 250VAC 10, 20 & 30A

SPST and SPDT Tumbler Switches are offered in industrial and hazardous duty styles. Heavy duty Cu-free aluminum housings (brass available) around selected common ratings. Switches carry AC-only ratings (see Hazardous Duty section for explosion proof switches).



### Typical Application Groups

#### General IndustrialMarine

Lighting Systems  
Shore to Ship Power  
Welding Stations  
Portable Distribution Centers  
Shipboard Power Outlets  
Telephone Shore-Ship

#### Government, Municipal & Utilities

Portable Building Power  
Army Corps of Engineers  
Utilities Panels  
Emergency Power Systems  
Sewage Pumping Stations  
Lighting & Controls

#### Construction & Agriculture

Generator Sets & Systems  
Portable Tools & Equipment  
Irrigation System Panels  
Portable Lighting & Equipment

#### Industrial & OEM

Factory Power Outlets  
HVACR Controls  
Machine Tool Controls  
Amusement Park Systems

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## Control Circuits Connectors – Type SK & SKW Overview

20 Amp, 250 Volts AC or DC, 600 Volts AC Max. Rating  
Load-Breaking Multi-Circuit Receptacles, Plugs, Connectors and Inlets

### Features and Benefits



#### Type SK

Type SK Multi-Circuit Receptacles, Plugs Inlets and Connectors are designed for indoor or NEMA 1 Automatic Press, Tool Control and Welder applications requiring rugged, shock-resistant devices capable of safely interrupting rated currents under load.

Receptacles and connectors have neoprene gasket mounts and positive grounding path through separate contact. Equipment grounding contacts make first and break last. Wiring space is generous. Listed ratings are for interrupting currents under load.

The time-tested Ever-Lok automatic locking feature provides positive connections under the most severe conditions of shock and vibration. Yet, a twist of the wrist instantly disengages the plug when required.

#### Type SKW

Type SKW Multi-Circuit Receptacles, Plugs Inlets and Connectors are designed for outdoor NEMA 4, rough service and critical environment Machinery, HVACR systems, Servo Control and other automatic/controlled functions requiring rugged, shock-resistant devices capable of safely breaking rated loads. These watertight & oil-tight devices are equipment grounded with ground contacts that make first and break last. Wiring space is generous. Listed ratings are for full load interrupting currents.

Both series feature simple set-screw wiring termination in a circular connector with up to 11 pole 12 wire circuit capability. A wide selection of cable bushings can be specified upon ordering at no additional charge. Conduit adapters are also available for shielded or construction usage for both SK and SKW series.

**Note:** More than 12 circuits, miniature connectors or rectangular format. Ask about T&B Pos-E-Kon Line.

**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Type SK Ordering Information and Specifications**

Indoor, NEMA1, 20 Amp Load Breaking  
250 Volts DC, 600 Volts AC (Max Rating)

	Standard Service		Reverse Service		Connector	
						
Poles/Wires	Female Receptacle Style SKR	Male Plug Style SKP	Male Receptacle Style SKRR	Connector*/Female Plug Style SKCU	Female Connector Style SKC	Cable Bushing Hole ID
2P3W	SKR3G	SKP3G	SKRR3G	SKCU3G	SKC3G	5/8"
3P4W	SKR4G	SKP4G	SKRR4G	SKCU4G	SKC4G	5/8"
4P5W	SKR5G	SKP5G	SKRR5G	SKCU5G	SKC5G	3/4"
5P6W	SKR6G	SKP6G	SKRR6G	SKCU6G	SKC6G	3/4"
6P7W	SKR7G	SKP7G	SKRR7G	SKCU7G	SKC7G	3/4"
7P8W	SKR8G	SKP8G	SKRR8G	SKCU8G	SKC8G	7/8"
8P9W	SKR9G	SKP9G	SKRR9G	SKCU9G	SKC9G	7/8"
9P10W	SKR10G	SKP10G	SKRR10G	SKCU10G	SKC10G	1"
10P11W	SKR11G	SKP11G	SKRR11G	SKCU11G	SKC11G	1"
11P12W	SKR12XG	SKP12XG	SKRR12XG	SKCU12XG	SKC12XG	1"

\* **Connectors** – Both SKCU and SKC connectors will mate with standard service SKP plugs. SKC devices offer external shroud protection for female contacts. Both devices will lock with plug.

**Note: Conduit Fittings:** Plugs and connectors can be furnished with adapters to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit. See page H123. **Special Construction:** Press Control Lockout Dummy, Cat. #SKPD-

## Specifications

**Receptacle Housing** – Furnished with neoprene gasket and 6-32 mounting screws.

Type SKWR – Cast aluminum, corrosion-resistant copper free alloy.

Style SKR - heavy gauge steel, plated

## Plug Housing

Type SKP – Steel, zinc plated with heavy cast aluminum alloy cable clamp and cable bushing.

Type SKWP – Cast aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish. Furnished with heavy cast cable clamp and cable bushing.

**Connector Housing** – Cast aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish. Furnished with heavy cast cable clamp and cable bushing.

**Conduit Boxes** – cast boxes for above receptacles are listed on page H120. Type SK receptacles require FD series or DSFD box. Can be furnished with single gang outlet box at additional cost. When required, add suffix catalog number of box to catalog number of receptacle.

**Cable Bushing** – oil resistant, neoprene strain relief cable bushing regularly furnished with hole size as listed. Other hole sizes available at no extra cost if specified on order. See page H123 for additional sizes.

**Interiors** – contacts are removable and have pressure type terminals for 12 AWG wire maximum conductors.

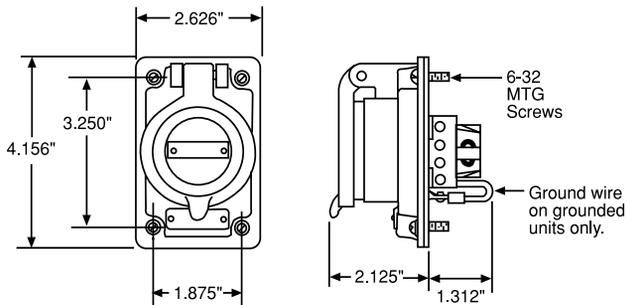
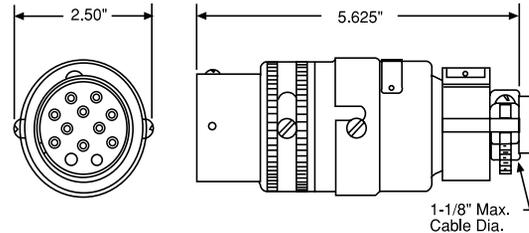
**Insulating Bodies** – arc and impact-resisting mold composition.

**Contacts** – silver plated with fully insulated pressure screw-type terminals.

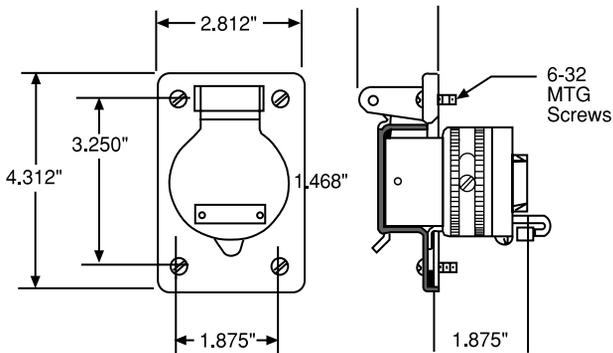
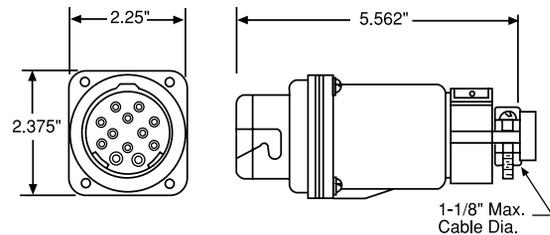
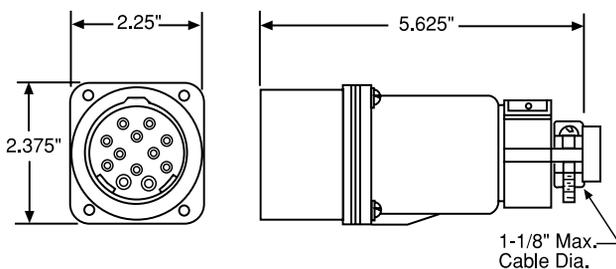
**Repair Kits** – Pins/Sleeves Repair – components for rebuild of 2-4 interiors

Male Devices Cat. No. SKX12MS

Female Devices Cat. No. SKX12FA

**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Type SK Dimensions****Standard Service****Female Receptacle – Style SKR****Male Plug – Style SKP**

Note: All require FD or DSFD series box mounting.

**Reverse Service****Male Receptacle – Style SKRR****Female Plug – Style SKCU (Non-shrouded connection)****Connector****Female Connector – Style SKC (shrouded style)**

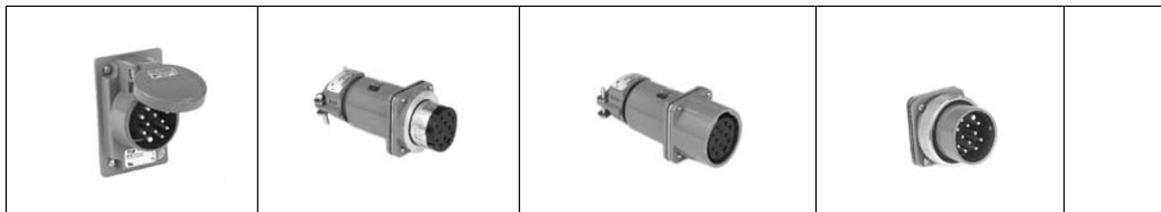
**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Type SKW Ordering Information and Specifications****Ordering Information**

Outdoor, NEMA 4 (with screw cap)

20 Amp Load Breaking

600 Volts AC Max

250 Volts DC



Poles/Wires	Female Receptacle Style SKWR	Male Plug Style SKWP	Female Connector Style SKWC	Male Motor Plug Style SKWM	Cable Bushing Hole ID
2P3W	SKWR3G	SKWP3G	SKWC3G	SKWM3G	5/8"
3P4W	SKWR4G	SKWP4G	SKWC4G	SKWM4G	5/8"
4P5W	SKWR5G	SKWP5G	SKWC5G	SKWM5G	3/4"
5P6W	SKWR6G	SKWP6G	SKWC6G	SKWM6G	3/4"
6P7W	SKWR7G	SKWP7G	SKWC7G	SKWM7G	3/4"
7P8W	SKWR8G	SKWP8G	SKWC8G	SKWM8G	7/8"
8P9W	SKWR9G	SKWP9G	SKWC9G	SKWM9G	7/8"
9P10W	SKWR10G	SKWP10G	SKWC10G	SKWM10G	1"
10P11W	SKWR11G	SKWP11G	SKWC11G	SKWM11G	1"
11P12W	SKWR12XG	SKWP12XG	SKWC12XG	SKWM12XG	1 1/8"

**Note:**

\* SKWM Male Inlet accommodates SKWC Connector (Female) Plugs and connectors can be furnished with adapters to accommodate rigid conduit or standard connectors for armored and non-metallic cable or flexible conduit. See page H123.

**Specifications**

**Receptacle Housing** – Type SKWR – Cast aluminum, corrosion-resistant copper free alloy. Furnished with neoprene gasket and stainless steel 6-32 mounting screws.

**Plug & Connector Housing** – Heavy cast aluminum, corrosion-resistant copper-free alloy, epoxy powder coat finish. Furnished with heavy cast cable clamp and cable bushing.

**Conduit Boxes** – cast boxes for above receptacles are on page H120. Can be furnished with single gang outlet box at additional cost. When so required, suffix catalog number of box to catalog number of receptacle.

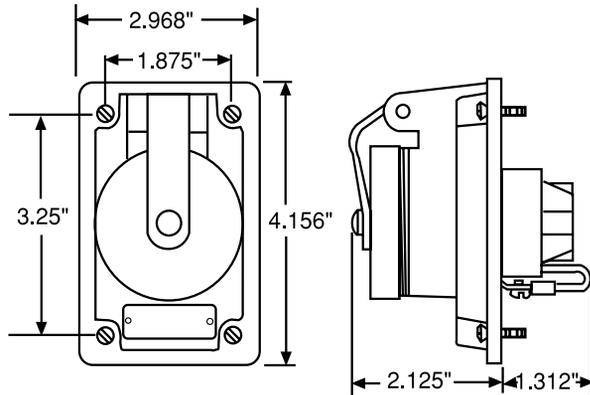
**Cable Bushing** – oil resistant, neoprene strain relief cable bushing regularly furnished with hole size as listed. Other hole sizes available at no extra cost if specified on order. See page H123 for additional sizes.

**Protective Caps** – Waterproof caps complete with mounting cable.

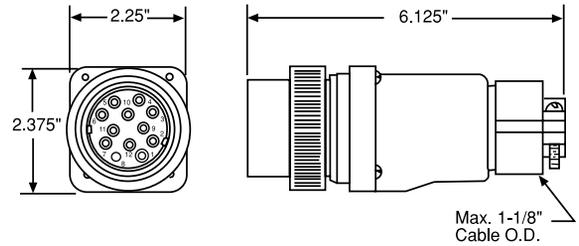
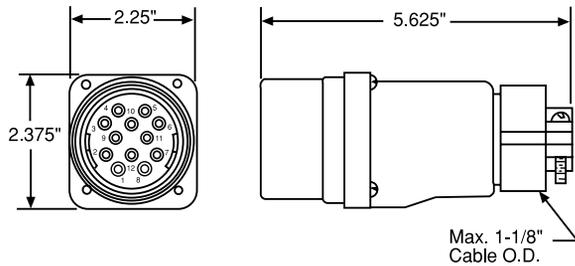
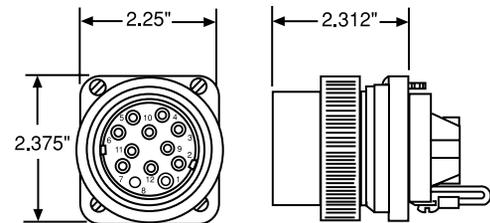
Male Devices Cat. No. F26874C (Cup Cap)  
Female Devices Cat. No. F04077 (Screw Cap)

**Repair Kits** – Pins/Sleeves Repair – components for rebuild of 2-4 interiors

Male Devices Cat. No. SKX12MW  
Female Devices Cat. No. SKX12FA

**Russellstoll®****Control Circuits Connectors – Type SKW Dimensions****Receptacle****Style SKWR**

Note: All require FD or DSFD series box mounting.

**Plug****Style SKWP****Connector****Style SKWC****Motor Plug****Style SKWM****H**

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**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Accessories****Mounting options for Midget & Standard Everlok****Type FS (shallow) & Type FD (deep)**

Aluminum boxes have 6-32 cover mounting holes tapped to accommodate all FS and FD cover assemblies.

Brass boxes have 10-24 cover mounting holes tapped to accommodate all FS and FD cover assemblies.



Single Gang



Two Gang



DSFD

No. of Gangs	Type	Cast Aluminum	Cast Brass	*Overall Dimensions
Single	FS	3701A	3721	4.12" x 2.62" x 2.31"
	FD	3711A	3731	4.12" x 2.62" x 2.94"
	DSFD	3781A	3782	4.12" x 3.62" x 4.12"
Two	FS	3702A	3722	4.12" x 5.5" x 2.25"
	FD	3712A	3732	4.12" x 5.62" x 2.87"

**Notes:**

When type FD devices are to be mounted in boxes, type FD boxes should be used. FS boxes will not accommodate FD devices.

**Mounting** – all the above boxes are for surface mounting. For flush mounting see page H121.

**Boxes** – Cast brass, natural finish. Cast aluminum, corrosion resistant copper-free alloy, epoxy powder coat finish.

\* Dimensions are overall exclusive of conduit pads and mounting lugs.

**Outlets** – unless otherwise specified, furnished with one .75" outlet per gang, top or bottom. Additional outlets charged extra – see price list. Specify size and location.

**Maximum Conduit** – FS and FD: 1", one per gang top and bottom and one each side.

**DSFD:** one 1.5" or two .5" top and bottom.

Cast iron available on special order – consult factory.

**Type FSWS and FDWS (with mounting shelf for box-mounted devices)**

Aluminum Die-Cast Boxes with cover mounting holes tapped for 6-32 screws to accommodate all FS and FD cover assemblies.

Cat. No.	Standard Outlets	
	Top	Bottom
FSWS-62	¾"	NA
FDWS-62	¾"	NA
FDWS-622	¾"	¾"
FDWS-63	1"	NA
FDWS-633	1"	1"

**Notes:**

**Boxes** – Aluminum die-cast, corrosion-resistant, copper-free alloy, epoxy powder coat finish.

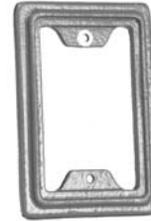
**Outlets** – standard as listed.

**Mounting** – all of the above boxes are for surface mounting.

**Thomas & Betts**

**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Accessories****Adapter Flush Frames\***

No. of Gangs	Cast Aluminum	Cast Brass	Overall Dimensions
1	<b>3671A</b>	<b>3681</b>	5" x 3.5"
2	<b>3672A</b>	<b>3682</b>	5" x 6.5"

**Blank Cover\***

Covers Standard FS/FD box openings

Cast Aluminum	<b>3677A</b>
Cast Brass	<b>3687</b>

**Flush Wall Mounting Extension\***

Cast Aluminum	<b>3679A</b>
Cast Brass	<b>3679B</b>

**45° Angle Adapter\***

Mounts to any FS/FD box.

Cast Aluminum	<b>3678A</b>
Cast Brass	<b>3678B</b>

**Adapter Sub-Plate**

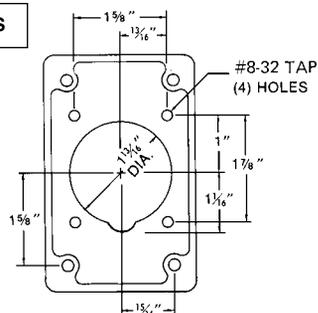
The addition of this adapter sub-plate will permit the use of Ever-Lok conduit box-type receptacles in switch boxes or outlet boxes with raised covers, as listed. Used on standard (deep) stamped metal conduit boxes. Adapts two hole to four hole patterns.

Cast Aluminum	<b>8091A</b>
---------------	--------------

**SKWM Mount Adapter Plate**

Used to mount SKWM to FS/FD standard series boxes.

Aluminum	<b>SKWMFS</b>
----------	---------------



\* Furnished complete with gasket and screws.

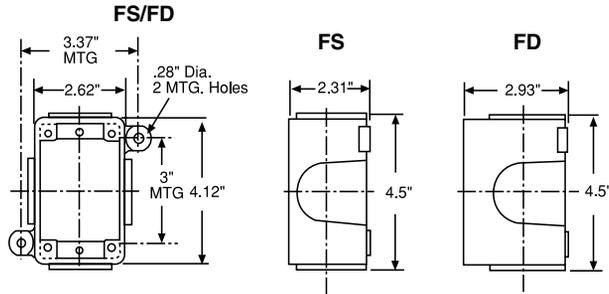
**Materials:** Cast aluminum, corrosion-resistant, copper-free alloy, epoxy powder coat finish. Cast brass, natural finish.

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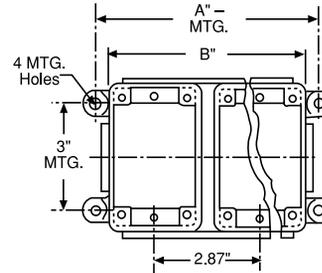
## Control Circuits Connectors – Accessories

### Type FS & FD

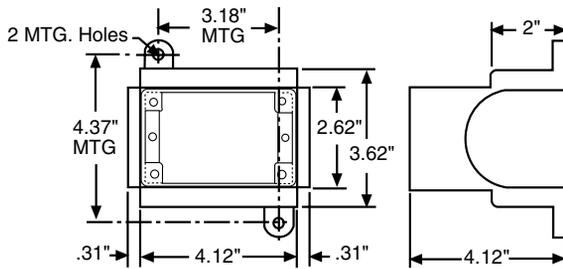
#### Single Gang



#### Multiple Gang



#### DSFD

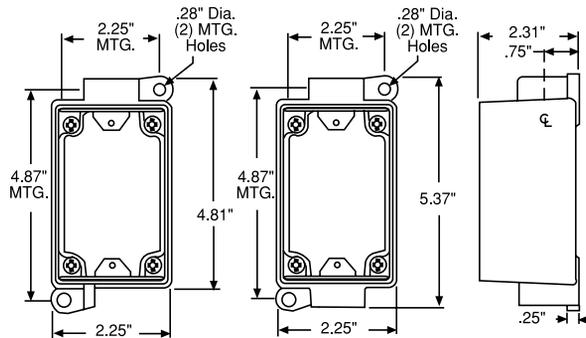


#### Multiple Gang Dimensions

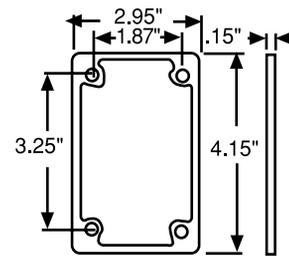
	A		B	
	FS	FD	FS	FD
2-Gang	6.50"	6.50"	5.50"	5.62"

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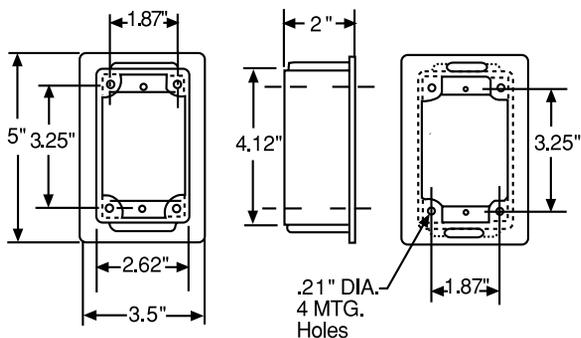
### Type FSWS & FDWS



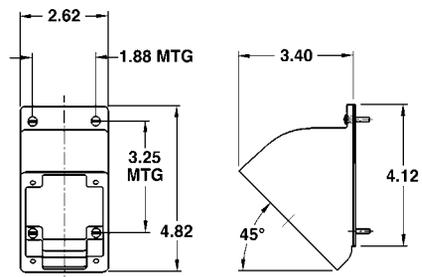
### Blank Cover



### Flush Mounting Extension



### 45° Angle Adapter



**Russellstoll**<sup>®</sup>**Control Circuits Connectors – Accessories****Combination Gland Nut and Cable Clamp**

Provides extra clamping protection in hard service applications. Relieves terminals and rubber gland of all cable strain.

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Max Cable Dia.
20 Amp & SKW	<b>3906</b>	<b>3906B</b>	1 $\frac{1}{8}$ "

**Notes:**

**Material** – cast aluminum, corrosion-resistant, copper-free alloy, cast brass, epoxy powder coat finish or cast brass, natural finish.

**Adapters for Conduit**

Adapter tapped with NPT thread to accommodate armored and non-metallic cable or flexible conduit.

Plug or Connector Size	Cast Aluminum Cat. No.	Cast Brass Cat. No.	Tapped Hole NPSM
20 Amp & All SKW	<b>FSA21</b> <b>FSA22</b> <b>FSA23</b>	<b>FSA21B</b> <b>FSA22B</b> <b>FSA23B</b>	1 $\frac{1}{2}$ " 3 $\frac{1}{4}$ " 1"

**H**Russellstoll<sup>®</sup>**Cable Bushings**

Hole Diameter for Cable	Size 3 20 Amp
.375"	<b>JG31</b>
.500"	<b>JG32</b>
.563"	<b>JG325</b>
.625"	<b>JG33</b>
.750"	<b>JG34</b>
.875"	<b>JG35</b>
1.000"	<b>JG36*</b>
1.125"	<b>JG361**</b>



Size 3  
Cable Bushing

**Material** – oil resistant neoprene.

Size 3 Cable Bushing:

\*Style for Maximum Cable only.

\*\*Special minimum wall style.

**Notes:**

When standard plugs or connectors are required to be furnished with one or more of the above accessories, add the suffix and catalog number of the accessory selected by a "I" to the catalog number of the plug or connector. Complete list price is the total of the list price of the device plus the list price of the accessory.

EXAMPLE – Catalog No. SKP9G with with 1" bushing would be Catalog No. "SKP9G/JG36."

# Russellstoll®

## Heavy Duty Tumbler Switches

General use heavy duty switches are applied to control a variety of lighting, power and machinery branch circuit loads. They can be used with any Russellstoll industrial receptacle for maximum control system flexibility.

### Ordering Information

#### Watertight



### 1-2 HP Rated

Switch	125/250 VAC Rating		Cast Aluminum	Cast Brass
	Hp	Amps		
Single Pole / Single Throw	1.5/2.0	15	3705S7	3725S7
	1.0/2.0	20	3705S27	3725S27
	2.0/2.0	30	3705S37	3725S37
Double Pole / Single Throw	1.5/2.0	15	3706D7	3726D7
	1.0/2.0	20	3706D27	3726D27
	2.0/2.0*	30	3706D37	3726D37

#### Notes:

Switches rated 15 or 20 Amp, 277 volts, A.C. and with other than listed ratings can be furnished. Prices and information on application. AC only.

\* Also rated 1 Hp, 460VAC or 2Hp to 600VAC.

Boxes Available in cast aluminum, cat. no. 3701A and cast brass cat. no. 3721.

### Specifications

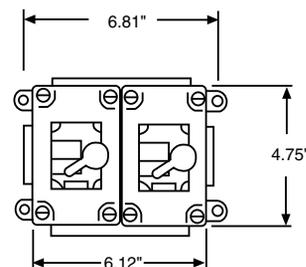
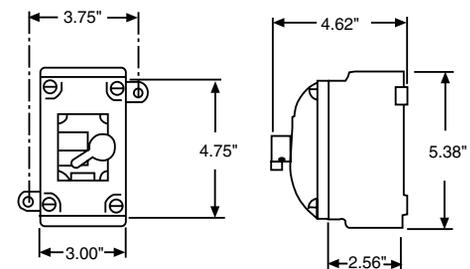
**Enclosures** – Corrosion resisting baked enamel finish. Cast brass, natural finish.

**Gang Types** – Can be furnished in 2 gang aluminum or tandem units and in combination with other Russellstoll FS and FD devices. Contact Technical Services.

**Outlets** – Unless otherwise specified, furnished with one ¾" outlet per gang, top or bottom. Additional or larger outlets charged extra – see price list. Maximum conduit 1": single gang – top and bottom only, multiple gang – one per gang top and bottom and one each side. Specify size and location.

**Flush Mounting** – Adapters for flush mounting are listed on page H121.

### Dimensions



**Thomas & Betts**

# Russellstoll®

## Industrial Interlocked Receptacles – Overview



Industrial Interlocked Receptacles are available in 30 thru 400 Amp. Switched receptacles have mechanical linkages for added safety. Safety features include:

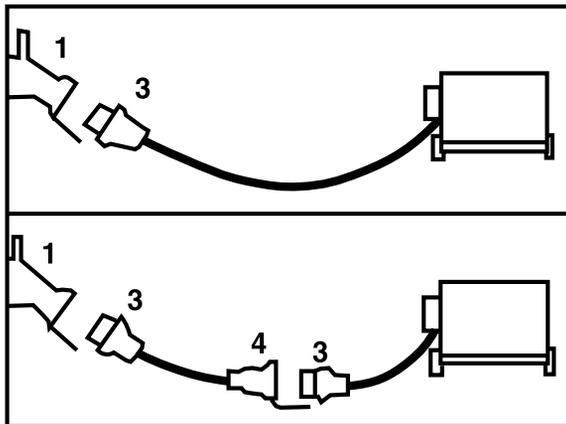
- Plugs cannot be inserted unless power is safely turned off.
- Plugs cannot be removed until power is turned off.
- Specialty designs may also automatically disengage power if plug is removed while power is on, either mechanically or electrically.

### Applications

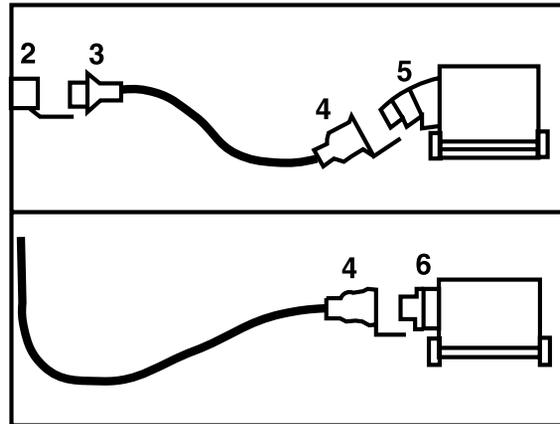
Applications where these units are most commonly used are:

- Welding stations in automotive and heavy industry.
- Temporary and portable power distribution for construction.
- Marine shore to ship power.
- Industrial machinery installation.
- Portable power distribution, vehicle and gen set power for aerospace.
- Custom systems in all industries.

### Sample Installation: Fixed Power Source (Wall) To Remote/Portable Location



1. Receptacle (wall mtg.) (female)
2. Receptacle (panel mtg.) (female)
3. Plug (attachment)



4. Female Connector
5. Male Inlet w/Angle Adapter
6. Male Inlet w/Straight Adapter

Other Installations: Generator Power Sources, Custom Control Circuits, Multiple Voltage Service – Contact Technical Services.

# Russellstoll®

## Industrial Interlocked Receptacles – Overview

### The Most In Mounting Options



#### *Industrial Wall Mount Interlocks*

---

- Indoor service NEMA 3R.
- Fused protection.
- 30-100A Models, 600V.
- Heavy Service EverLok® or MaxGard® interfaces.



#### *Automotive / Heavy Industrial I-Beam Web Mount*

---

- Indoor service NEMA 12/3R.
- Fused or circuit breaker protection.
- 30-100A Models, 600V.
- Stepdown transformer-disconnect designs with convenience outlets.
- Cast aluminum & sheet steel housing versions.
- Mounts inside web of standard 8" I-beam column.
- Interfaces with Heavy Service Ever-Lok, MaxGard, Standard Ever-Lok and FS/ FD.



#### *Marine / Heavy Industrial & Custom*

---

- Outdoor service NEMA – 3R to 4X.
- Switched or circuit breaker protection.
- 30-400A Models, 600V.
- Cast aluminum or cast brass.
- Mounting to customer specifications.
- Interfaces with MaxGard, FS/FD and more.

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# Russellstoll®

## Industrial Interlocked Receptacles – Overview

### MaxGard Fused-Disconnect\*\* Interlocked Receptacle with Disconnect Switch

Available in 30, 60 and 100 amp sizes, all polarizations.



MaxGard's Fused-Disconnect Interlocked Receptacle with safety switch, meets UL, NEC and major automotive specifications. This unit is the maximum in:

#### Safety

- Door safety switch, with three external lockout points.
- Safety fuse pulls for standard class R fuses.
- Backup door safety latch.

#### Durability

- Heavy .060 steel galvaneel with baked enamel, NEMA 3R/12 construction.
- Clear shield for test probes.

#### Performance

- Standard 600V cartridge fuse clips and spacing.
- Fully interlocked MaxGard receptacle.
- Angled front receptacle for easier access.

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## Ordering Information

Maximum 600 VAC  
or 250 VDC

#### Notes:

\*\* Non-fused version available: Specify  
DNRF \_\_\_\_\_ . (Non-U/L)

Standard polarizations shown. **Boldface** figures  
are for voltage assignment; **for different ratings  
see page H20.**

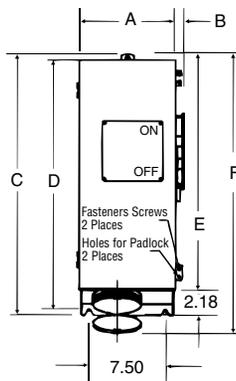
#### Conduit Hubs

Amp	Std. NPT thread outlet	Max
30	1½"	2½"
60	2"	2½"
100	2"	2½"

Specifications on page H14.

	Poles Wires		Voltage	Fused Disconnect** Interlocked Receptacle NEMA 12/3R Cat. No.	Mating MaxGard Plug Cat. No.	Std. Bushing ID
<b>30 Amp</b>	2P3W	125		DFRF3 <b>1070</b> ▼	DS3 <b>107</b> MP000	⅞"
	2P3W	250		DFRF3 <b>2070</b>	DS3 <b>207</b> MP000	⅞"
	3P4W	3Ø250		DFRF3 <b>3070</b>	DS3 <b>307</b> MP000	1"
	3P4W	3Ø480		DFRF3 <b>4040</b>	DS3 <b>404</b> MP000	1"
<b>60 Amp</b>	4P5W	277/480		DFRF3 <b>5040</b>	DS3 <b>504</b> MP000	1⅜"
	2P3W	250		DFRF6 <b>2070</b>	DS6 <b>207</b> MP000	1⅜"
	3P4W	125/250		DFRF6 <b>3070</b>	DS6 <b>307</b> MP000	1⅜"
	3P4W	3Ø480		DFRF6 <b>4040</b>	DS6 <b>404</b> MP000	1⅝"
<b>100 Amp</b>	4P5W	277/480		DFRF6 <b>5040</b>	DS6 <b>504</b> MP000	1½"
	2P3W	250		DFRF1 <b>2070</b>	DS1 <b>207</b> MP000	1⅞"
	3P4W	125/250		DFRF1 <b>3070</b>	DS1 <b>307</b> MP000	1⅞"
	3P4W	3Ø480		DFRF1 <b>4040</b>	DS1 <b>404</b> MP000	1⅞"
	4P5W	277/480		DFRF1 <b>5040</b>	DS1 <b>504</b> MP000	2"

▼ **Control Contacts** (position 9) use "K" example: DFRF1207K  
Always use liquid-tight fittings to limit condensation entry.



## Dimensions

Amp	A	B	C	D	E	F
30	9½"	¾"	25¾"	25"	22¾"	30"
60	9½"	¾"	25¾"	25"	22¾"	30"
100	9½"	¾"	25¾"	25"	22¾"	30"



E5239

# Thomas & Betts

# Russellstoll®

## Industrial Interlocked Receptacles – Fused-Disconnect Interlocked Receptacle/Safety Switch

Heavy Service Ever-Lok 60 Amps

Standard fused/non-fused disconnect interlocked receptacle and safety switch is specified by major automotive manufacturers for welding disconnects and other applications. The Heavy Service Ever-Lok system features 'one-handed' insertion, locking and removal with your choice of switchgear!

### Benefits

- Specified switchgear: GE or Square D.
- Door safety switch with external lockout access.
- Backup door safety latch.
- Push-in plug locking: no screw collars needed.
- Full interlocked outlet protection and functions.
- Angled front receptacle in compact one handed interlock.

### Options (Custom Capabilities)

- Other Russellstoll product interfaces.
  - 30, 60, 100 or 200 amp installations.
  - Specialty enclosures for your application.
  - Circuit breaker interlocked mechanisms.
- \* See pages H107-H113 for full Heavy Service Ever-Lok line

### Features

- Heavy steel galvaneel with baked enamel finish.
- NEMA 3R/12 construction.
- Standard 600V class, Type R fuses.
- Listed components.

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### Ordering Information

#### GE Switchgear

Cat. No.	Mating Plug
TH3362JRS	8418 or F27194†

(Mating Plugs sold separately)

\*other styles available

† F27194 Automotive 480VAC Label

#### Square D (mechanism)

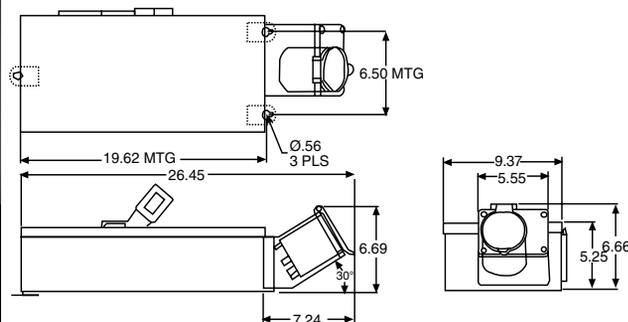
Cat. No.	Mating Plug
ESDFH8414F00	8418 or F27194†

(Mating Plugs sold separately)

\*other styles available

† F27194 Automotive 480VAC Label

**Also available:** Many options for mounting, configuration or interfaces.



# Russellstoll®

## Industrial Interlocked Receptacles – Combination Interlocked Transformer Disconnect Automotive/Heavy Industrial I-Beam Web Mount Combination Interlocked Transformer Disconnect

60 Amp, 480 VAC plus 120 or 240 VAC convenience outlets to spec.  
3P4W (100A also available)



**ERSFH8414FBB**  
**ERSFH8414FDC\***

\*A number of convenience outlet types, including NEMA bladed styles can be supplied.

### Benefits

Transformer Disconnects offer a combination of voltage outlets from a single facility 480V 3Ø service drop. Standard configurations include a fused, interlocked 480VAC, 60A 3Ø receptacle outlet and separately protected 120/240 VAC, 15-20A convenience outlets. Custom configurations are available to meet your application requirements.

- **Quickest** way to expand or build a single voltage factory or facility, with voltage combinations available at every power drop.
- **Safest** way to operate: with fuses and breaker protection for each receptacle. 60A plug cannot be inserted or removed unless power is “off”.
- **Most cost effective** way of providing power and convenience outlets in one location; wall mount or column mount in standard 8" I-beam pillars.

### Specifications

#### Electrical & Safety Features:

- Fused 480VAC 60A 3P4W Receptacle + Fused Dual 125 VAC 20A 2P3W Outlets 20A Combination breaker/GFCI convenience outlets on door.
- Heavy Duty (8 hour rated) 2KVA 480VAC-120VAC (fused primary) transformer 4KVA option available.

#### Mechanical and Safety Features:

- **Three Point, Two-way Interlock Function:**
  - Blade type disconnect handle interlocked with door handle.
  - Main disconnect uses steel rod arm interlock to 480VAC outlet.
- **High strength** 3-point door hinge design.
- Standard 8" I-Beam web vertical mounting or conventional wall mount.
- **Easy access** angled front 480VAC receptacle position.
- **Heavy duty** 14 gauge steel NEMA 3R/12 welded enclosure with gasketed door Electrostatic epoxy powder coat gray finish.
- **Dual lockout** locations on main switch handle and door handle.

### Optional Construction Features:

- Stepdown transformer 2KVA/4KVA and secondary.
- 30/60A outlet (Heavy Service Ever-Lok, Angle Type or 30A MaxGuard).
- Convenience outlet styles, types and protection.

### Ordering Information

(many other configurations available)

Cat. No.	480VAC 60A Receptacle	Mating Plug	120VAC 20A Receptacle	Mating Plug
<b>ERSFH8414FBB</b> <b>ERSFH8414FDC</b>	8414Spl. 8414Spl.	8418 or F27194† 8418 or F27194†	8003N (x2) 8003U-1 (x2)	8593CTN* 8013U-1*

(Mating Plugs sold separately)  
†F27194 Automotive 480VAC Label

\*Other styles available  
100A also available - consult factory



# Russellstoll®

## Industrial Interlocked Receptacles –

Ever-Lok® Mechanically Interlocked Receptacle and Switch

Automotive/Heavy Industrial I-Beam Web Mount

Heavy Service Ever-Lok® Mechanically Interlocked Receptacles and Switch

60 Amp, 480 VAC/250VDC, 3P4W

Circuit Breaker Interlocked Receptacle Option



Note: CFCRA13-60 replaces previous Cat. #FCSRA13-60.



### Features and Benefits

Mechanically interlocked between the receptacle and the switch. Designed so that when the plug is fully inserted the switch interlock is automatically released, permitting the switch to be turned on. The plug cannot be removed from the receptacle until the switch is manually turned off.

- Switch: 60 Amp, 480VAC, 3 pole, quick "make" and quick "break".
- Housings: heavy cast aluminum corrosion-resistant copper-free alloy with gray electrostatic epoxy powder coat finish. Furnished with oil-resistant gaskets.

- Handle lock-out feature.
- Circuit-breaker interlocked version available in standard and high AIC models.
- One-handed insertion or removal: unique auto-locking collar engages upon insertion, 1/8" counter-clockwise turn disengages for removal.
- Simple and rugged full interlock safety. Plug cannot be inserted or withdrawn while power is on.
- Fits in standard 8" I-beam web or wall mounting.

### Ordering Information

Interlock Cat. No.	Mating Type	Plug
<b>CFCRA13-60</b>	Switched Only	8418 or F27194†
<b>F32753‡</b>	Circuit-Breaker	8418 or F27194†

(Mating Plugs sold separately)

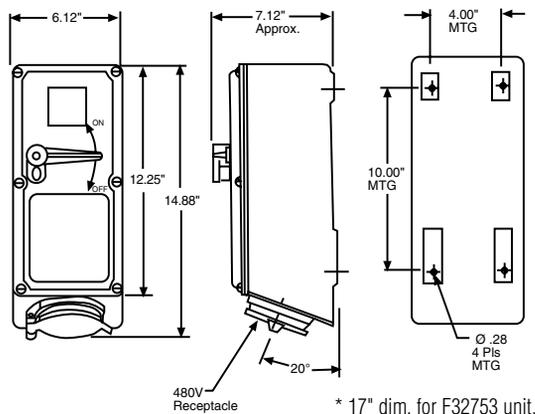
† Automotive 480VAC

‡70A Trip version F26313 and other variations also available.

### Dimensions

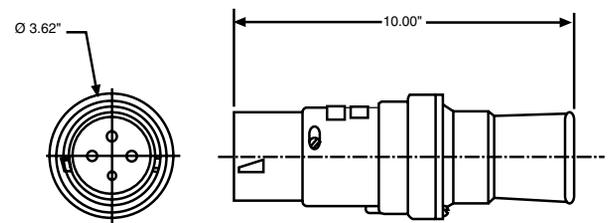
#### Mechanically Interlocked Switch

1 1/4" NPT Top Entry Std. / other sizes available.



#### Mating Plug

60A, 3P4W, 8418 or F27194



**Thomas & Betts**

**Russellstoll®****Industrial Interlocked Receptacles – Interlocked Switch (30A, 480VAC)**

Automotive/Heavy Industrial I-Beam Web Mount

Interlocked Switch (FS/FD Interface)

30 Amp, 480 VAC

3P4W (other polarizations available)

**Features and Benefits**

The FS/FD Interlocked Switch is made of heavy duty cast aluminum. The mechanical interlock functions when the plug is fully engaged allowing the switch to be operated. Basic interlock design has many variations including screw cover, brass and circuit breaker versions.

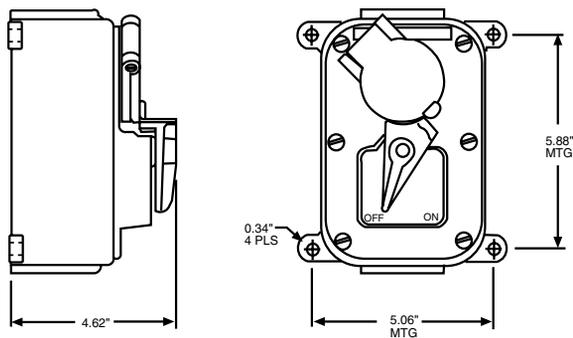
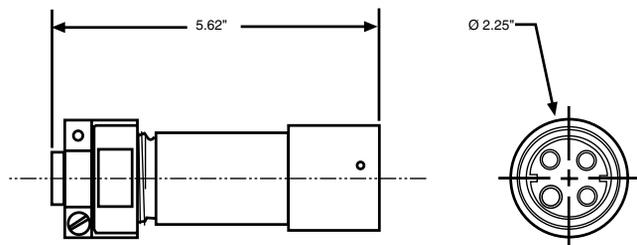
- Male plug cannot be plugged or unplugged under load.

- Dead-front female receptacle for safety.
- Weathertight receptacle made of cast aluminum, corrosion resistant copper-free alloy, gray electrostatic epoxy powder coat finish.
- Compact size for limited space applications.
- Available with UL style steel back boxes to user specifications.

**Ordering Information**

Cat. No.	Mating Plug
<b>F34331</b>	F34332

(Mating Plugs sold separately)

**Dimensions****Interlocked Switch****Mating Plug**

# Russellstoll®

## Industrial Interlocked Receptacles –

### Heavy Duty Industrial/Marine Interlocked Receptacle (MaxGard)®

Available in 30, 60, 100, 200 and 400 amp sizes, all polarizations.



MaxGard® NEMA 4x interlocks are ideal for demanding non-hazardous areas where dust, dirt, moisture and corrosion might be a problem—such as shipyards, food processing facilities, manufacturing operations or similar areas.

### Safety

- Gated dead-front waterproof receptacle.
- Standard, high AIC or NA/switch circuit breaker.
- Protective screw cap for watertight protection.

### Durability

- Thick wall cast copper-free aluminum housing with epoxy powder coat finish.
- Heavy duty sliding bar interlock mechanism.

### Performance

- Heavy on/off handle adds mechanical to electrical interlock function.
- Standard conduit openings through top or side.

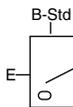
## Ordering Information

### Maximum 600 VAC/250 VDC

**Boldface** figures are for voltage assignment; for different ratings see page H20.

### Conduit Hubs: ( at B or E)

Amp	Std. NPT thread outlet	Max
30	1½"	2½"
60	1½"	2½"
100	2"	2½"



▼ **Control Contacts** (position 12) use "K" example: DBRF6104060K0

**Shunt Trip Breaker** (position 13) add "Z" to above: DBRF6104060KZ

**Breaker Trip Ratings** (positions 9, 10, 11) 30 amp use 030; 50 amp use 050; 60 amp use 060

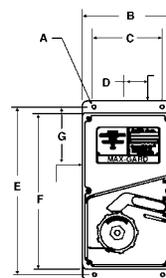
**Non-Auto Sw.** NAO (repl. " DBRF" with "DSRF")

For additional full line and polarization options, see MaxGard section pages H9-H29.

	Poles Wires	Voltage	Mechanically Interlocked Receptacle NEMA 4x	Mating MaxGard Plug	Std. Bushing ID
			Cat. No.	Cat. No.	
<b>30 Amp</b>	2P3W	125	DBRF3 <b>107</b> 03000	DS3 <b>107</b> MP000	¾"
	2P3W	250	DBRF3 <b>207</b> 03000	DS3 <b>207</b> MP000	¾"
	3P4W	3Ø250	DBRF3 <b>307</b> 03000	DS3 <b>307</b> MP000	1"
	3P4W	3Ø480	DBRF3 <b>404</b> 03000	DS3 <b>404</b> MP000	1"
	4P5W	277/480	DBRF3 <b>504</b> 03000	DS3 <b>504</b> MP000	1¾"
<b>60 Amp</b>	2P3W	250	DBRF6 <b>207</b> 06000	DS6 <b>207</b> MP000	1¾"
	3P4W	125/250	DBRF6 <b>307</b> 06000	DS6 <b>307</b> MP000	1¾"
	3P4W	3Ø480	DBRF6 <b>404</b> 06000	DS6 <b>404</b> MP000	1¾"
	4P5W	277/480	DBRF6 <b>504</b> 06000	DS6 <b>504</b> MP000	1½"
<b>100 Amp</b>	2P3W	250	DBRF <b>1207</b> 10000	DS <b>1207</b> MP000	1½"
	3P4W	125/250	DBRF <b>1307</b> 10000	DS <b>1307</b> MP000	1¾"
	3P4W	3Ø480	DBRF <b>1404</b> 10000	DS <b>1404</b> MP000	1¾"
	4P5W	277/480	DBRF <b>1504</b> 10000	DS <b>1504</b> MP000	2"
<b>200 Amp</b>	3P4W	277/480	DBRF <b>2307</b> 20000	DS <b>2307</b> MP000	1½"
	3P4W	3Ø480	DBRF <b>2404</b> 20000	DS <b>2404</b> MP000	2¼"
<b>400 Amp</b>	4P5W	277/480	DBRF <b>2504</b> 20000	DS <b>2504</b> MP000	2½"
	3P4W	277/480	DBRF <b>4307</b> 40000	DS <b>4307</b> MP000	3"
<b>400 Amp</b>	3P4W	3Ø480	DBRF <b>4404</b> 40000	DS <b>4404</b> MP000	3"
	4P5W	277/480	DBRF <b>4504</b> 40000	DS <b>4504</b> MP000	3¼"

## Dimensions

Amp	A	B	C	D	E	F	G
30	¾"	8¾"	6½"	1½"	16¼"	15½"	3½"
60	¾"	8¾"	6½"	1½"	16¼"	15½"	3½"
100	¾"	8¾"	6½"	1½"	16¼"	15½"	3½"
200	¾"	12¼"	9"	2½"	26¼"	24¾"	5"
400	¾"	15½"	12"	3"	30½"	29"	6"



**Thomas & Betts**

**Russellstoll®****Industrial Interlocked Receptacles – Portable Power Distribution Centers (Custom)**

20-1200 AMP, 120-600VAC

**Benefits: Power Convenience and Control**

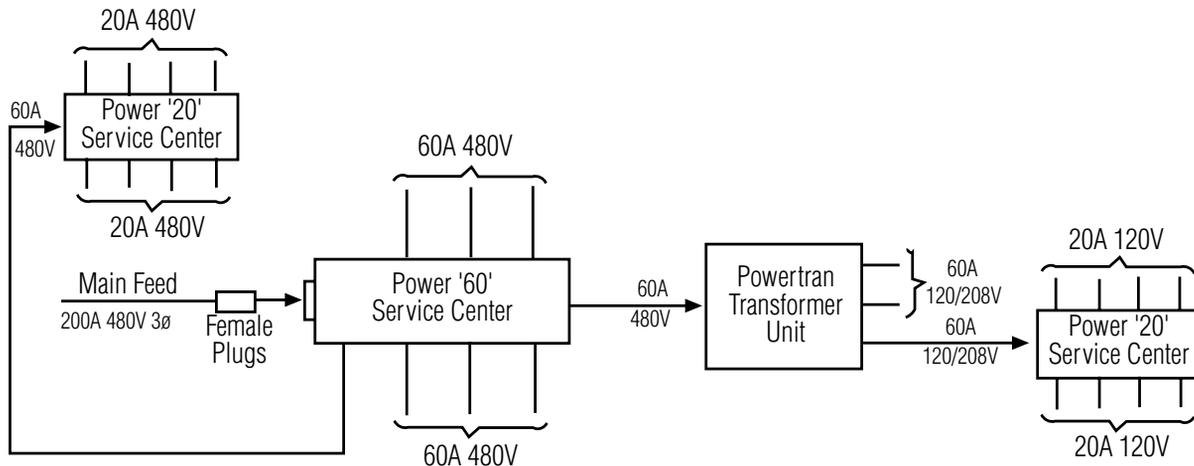
- Customer-specified custom power distribution.
- Many Russellstoll interface combinations.
- Designed-in safety features.
- Indoor and outdoor (to NEMA 4) construction.
- Built in accordance with applicable UL, CSA and NEC standards.

**Options**

- Amperage and voltages, inputs and outputs.
- Receptacles and/or interlocks used.
- Supply type and protection.
- Distribution or step-down transformers.
- Indoor/outdoor construction, materials & finishes.
- Auxiliary controls and functions.

**Applications**

- Portable welding power distribution.
- Shore power distribution.
- Combination voltage systems.
- Power and convenience combined.

**Typical Schematic Diagram****Thomas & Betts**

# Russellstoll®

## Industrial Interlocked Receptacles – Portable Power Distribution Centers (Custom)

Heavy Duty Industrial/Marine

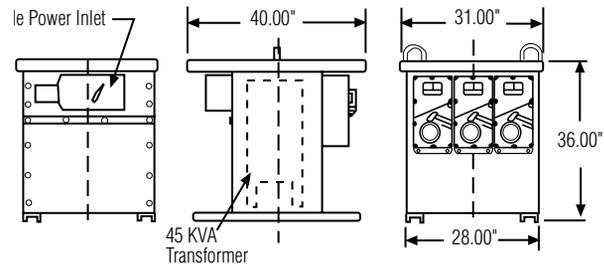
Typical Portable Power Distribution Projects

### Powertran Case

**Input Range:** 60 Amps, Reverse Service, Normally 3P4W, 480VAC, Protect by 3-Pole Switch.

**Transformer:** Normally 45KVA, 480 VAC primary, 12/208 VAC, secondary, 3 phase.

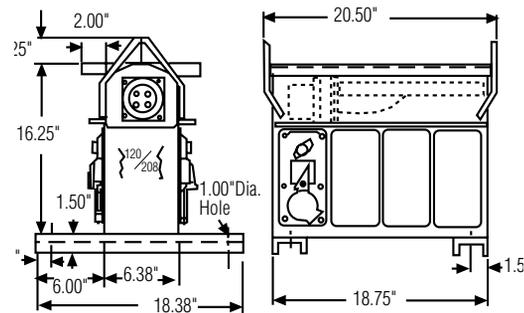
**Output Range:** Three Gang, 30 Amps, Normally 4P5W, 120/208 VAC interlocked with circuit breaker.



### Power 20 Case

**Input Range:** 60 Amps, 3P4W, 480VAC or 60 Amps, 4P5W, 120/208VAC.

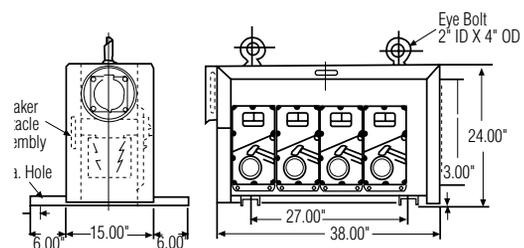
**Output Range:** Up to eight gang, 20 Amps, 3P4W, 480VAC or 20 Amps, 2P3W, 120/208VAC Interlocked with circuit breakers or fused switches.



### Power 60 Case

**Input Range:** 200 Amps, Reverse Service, Normally 3P4W, 480VAC Input may be protected by circuit breaker.

**Output Range:** Up to eight gang, 30, 60, or 100 Amps, Normally 3P4W, 480VAC, interlocked with circuit breaker or switch.



# Russellstoll®

## Hazardous Duty Plugs, Receptacles and Interlocks



### Hazardous Duty Applications

Russellstoll Hazardous Duty Plugs, Receptacles and Interlocks are designed to support a variety of installation needs throughout 20, 30, 60 and 100A ranges; where Division 1, Class 1 NEC guidelines require the utmost in safety.

Unique among others, the Russellstoll MaxGard also offers true O-ring sealed waterproof design protection in addition to standard threaded flame-path construction employed elsewhere. In rough service, washdown and outdoor applications, MaxGard performance goes beyond normal XP ratings.

With coming increases in harmonized designations for classifications between NFPA/NEC and IEC (International) hazardous area standards, a quick reference classification chart is provided below. In all cases, the customer must determine and approve proper area classification standards and degree of harmonized standards acceptance.



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Hazardous Materials Environment	U.S. NEC Stds	Euro IEC Stds.
Gas or Vapor	Div. 1, Class I	Zone 0 & 1
	Div. 2, Class I	Zone 2
Dust	Div. 1, Class II	Zone 10
	Div. 2, Class II	Zone 11
Fibers/Flyings	Div. 1, Class III	Zone 10
	Div. 2, Class III	Zone 11
<b>Group Applications</b>	<b>NEC Art. 500 Class I: Groups</b>	<b>NEC Art. 505 Zones 0, 1 &amp; 2</b>
Div. 1 & 2, Class I	A: Acetylene	IIC
	B: Hydrogen	IIB
	C: Ethylene	IIB
	D: Propane	IIA

The above charts are presented for quick reference only and should only be used in conjunction with noted Articles. Further definition of harmonized standards will be supported by Russellstoll through appropriate specification efforts whenever practical.

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## Hazardous Duty Plugs, Receptacles and Interlocks

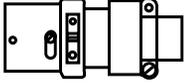
### Interlocked Switch and Receptacles

Explosion-Proof: Class I, Groups C and D  
 Dust Ignition-Proof: Class II, Groups G

These receptacles are for use in general Div. 1 classified industrial installations such as chemical plants, oil refineries, bulk stations, distilleries, solvent areas, mills, etc. A higher degree of safety is afforded by interlocking the plug with the switch, making it impossible to insert or withdraw plug under load.

When the polarized plug is inserted into the receptacle and the plug shell is turned clockwise, it turns the switch to the "on" position and vice-versa.

### Ordering Information

<b>20 Amp, 575VAC</b> <b>30 Amp, 250VAC</b>				
	<b>Description</b>	<b>Flap Cover</b>	<b>Screw Cover</b>	<b>Plug</b>
2P 3W 1 H.P. 220/575VAC	<b>4240FC/ F16081A</b>	<b>4240SC</b>	<b>4241</b>	5/8"
3P 4W 2 H.P. 110/575 VAC	<b>4242FC</b>	<b>4242SC</b>	<b>4243</b>	3/4"

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### Specifications

**Receptacle Housings** – cast aluminum; electrostatic epoxy powder coated finish.

**Plugs** – steel, cadmium plated. Furnished with aluminum alloy cable clamp and neoprene cable bushing.

**Outlets** – standard 3/4" top, additional or larger outlets available. Maximum 1-inch four way. See diagram, use symbols when ordering.

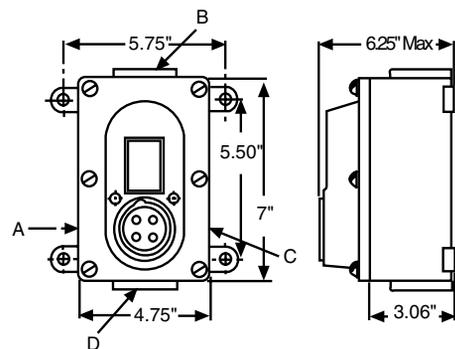
**Cable Bushing** – oil resistant, neoprene strain relief cable bushing regularly furnished with hole I.D. size as listed. Other hole sizes available consult Technical Services for catalog number.

**Two Gang style** – Consult Technical Services.

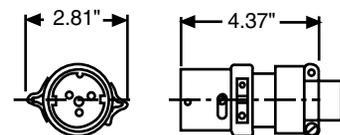
**Approvals:**  E10919



### Dimensions



For 2 gang unit, width 9 3/8"  
 Mounting Lugs – C. TO C. 10 1/2" W X 5 1/2" H



# Russellstoll®

## Hazardous Duty Plugs, Receptacles and Interlocks

### Explosion-Proof Waterproof Circuit Breaker Interlocked Receptacle

Available in 30, 60 and 100 AMP sizes, all polarizations. Division 1, Class I & II

Heavy duty XP cast aluminum housing, electrostatic epoxy coat finish.

Standard, high AIC and NA (switched only) breakers available.

Threaded access (cover not shown) with "O" ring for XP and waterproof integrity.

Gated dead-front safety.

Drain Plug.

Factory sealed receptacle interior. Accepts standard XP rated MaxGard plugs.

UL and CSA listed for hazardous locations.

Class I, Division 1, Groups B, C and D  
Class II, Division 1, Groups F and G  
UL File E10919  
NEMA 7, 8, 9  
CSA  
D.O.T. shipboard used above deck "green water"  
NEMA 4X  
USCG approved.

**MaxGard DBRE and DSRE series interlocks are the only devices certified both explosion proof and waterproof, along with optional control contacts, fully UL listed.**

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### Explosion-Proof Waterproof Non-Interlocked Receptacle

Available in 30A 480VAC max., all polarizations.

Heavy duty XP cast aluminum housing, electrostatic epoxy coat finish.

Threaded access with (cover not shown) "O" ring for XP and waterproof integrity.

Gated dead-front for safety.

All standard polarizations available to 480VAC.

Factory sealed receptacle interior. Accepts standard XP rated MaxGard plugs.

- **Factory Sealed Interior (no filled conduits).**
- **Easy low cost installation.**

UL and CSA listed for hazardous locations.

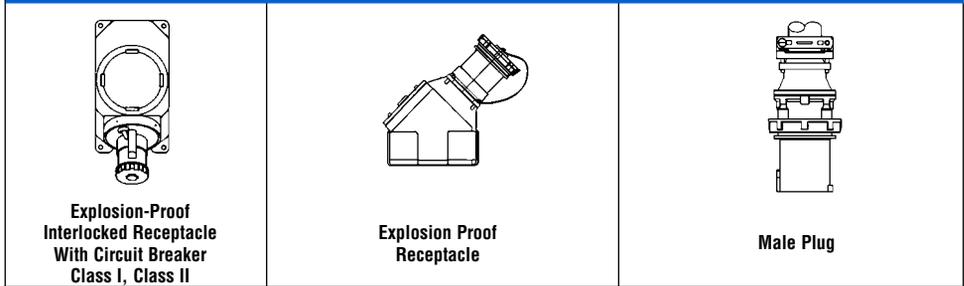
Class I, Division 1, C and D  
Class II, Division 1, Groups F and G  
UL File E10919  
NEMA 7, 8, 9  
CSA  
D.O.T. shipboard used above deck "green water"  
NEMA 4X  
USCG approved.

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## Hazardous Duty Plugs, Receptacles and Interlocks

Maximum  
600 VAC or  
250 VDC

### Ordering Information



Poles Wires	Voltage (VAC)	Cat. No.	Cat. No.	Cat. No.	Std. Bushing I.D.*
<b>30 Amp</b>					
2P3W	125	DBRE3 <b>107</b> 03000	DSE3 <b>107</b> FR0	DS3 <b>107</b> MP000	7/8"
2P3W	250	DBRE3 <b>207</b> 03000	DSE3 <b>207</b> FR0	DS3 <b>207</b> MP000	7/8"
3P4W	3Ø250	DBRE3 <b>307</b> 03000	DSE3 <b>307</b> FR0	DS3 <b>307</b> MP000	1"
3P4W	3Ø480	DBRE3 <b>404</b> 03000	DSE3 <b>404</b> FR0	DS3 <b>404</b> MP000	1"
4P5W	277/480	DBRE3 <b>504</b> 03000	DSE3 <b>504</b> FR0	DS3 <b>504</b> MP000	1 1/16"
<b>60 Amp</b>					
2P3W	250	DBRE6 <b>207</b> 06000	—	DS6 <b>207</b> MP000	1 1/16"
3P4W	3Ø250	DBRE6 <b>307</b> 06000	—	DS6 <b>307</b> MP000	1 5/16"
3P4W	3Ø480	DBRE6 <b>404</b> 06000	—	DS6 <b>404</b> MP000	1 5/16"
4P5W	277/480	DBRE6 <b>504</b> 06000	—	DS6 <b>504</b> MP000	1 1/2"
<b>100 Amp</b>					
2P3W	250	DBRE <b>1207</b> 10000	—	DS <b>1207</b> MP000	1 1/16"
3P4W	3Ø250	DBRE <b>1307</b> 10000	—	DS <b>1307</b> MP000	1 3/16"
3P4W	3Ø480	DBRE <b>1404</b> 10000	—	DS <b>1404</b> MP000	1 3/16"
4P5W	277/480	DBRE <b>1504</b> 10000	—	DS <b>1504</b> MP000	2"

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\* Non-fused version available. Replace DFRF with DNRF.

**Boldface** figures are for voltage assignment; for different ratings see following pages.

☞ \* **Notes to Catalog Numbers: Suffixes**

**▼Control Contacts**

(position 12)  
use "K" example:  
DBRF6104060K0

**Breaker Trip Ratings**

(positions 9, 10, 11)  
30 amp use 030  
50 amp 050  
60 amp 060

**Shunt Trip Breaker**

(position 13)  
add "Z" to above:  
DBRF6104060KZ

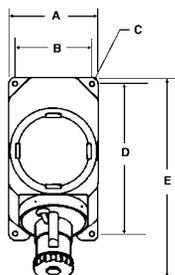
**Non-Auto Sw. NAO**

(repl. "DBRE" with  
"DSRE")

For specification information and additional bushing sizes see MaxGard section, pages H9-H29.

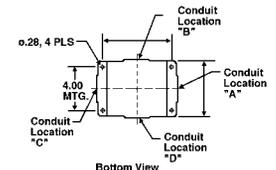
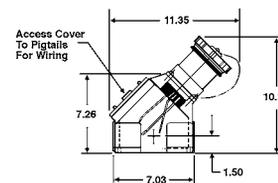
### Dimensions

#### Explosion-Proof Interlocked Receptacle



Amp	A	B	C	D	E
30	8 3/4"	7 1/2"	1/2"	14 3/4"	20"
60	8 3/4"	7 1/2"	1/2"	14 3/4"	20"
100	8 3/4"	7 1/2"	1/2"	14 3/4"	20"

#### Explosion-Proof Receptacle



# Russellstoll®

## Hazardous Duty Plugs, Receptacles and Interlocks

### Delayed Action Receptacles

Explosion Proof: Div. 1, Class 1, Groups C and D

Circuit breaking receptacles, plugs and connectors assure complete circuit breaking under full rated loads. Equipment grounding is provided by means of a separate pole which makes contact before and breaks contact after the circuit poles. The delayed action operation sequence is as follows:

Insert plug, turn left, push in to make electrical contact then turn right to prevent accidental disconnection. To withdraw plug, the reverse procedure is followed which allows time for extinction of the arc and cooling before the plug can be completely withdrawn.

### Ordering Information

		Receptacles		Connector <sup>^</sup>	Plug	
						
Ratings	Poles/Wires	Surface Mount**		Flush Mount	Bushing	Cable Hole Dia.
		Straight	Angled			
<b>Type EFS</b>						
20 Amp	2P, 3W	<b>4462</b>	<b>4464FC</b>	<b>4445</b>	<b>4803</b>	<b>4466</b> 9/16"
125VAC or 250VAC	3P, 4W	<b>4463</b>	<b>4465FC</b>	<b>4446</b>	<b>4804</b>	<b>4467</b> 19/32"
<b>Type DA</b>						
30 Amp+	2P, 3W	<b>RA4233BC</b>	<b>4233BC</b>	—	—	<b>4237BC</b> 5/8"
250VAC or 480VAC	3P, 4W	<b>RA4234BC</b>	<b>4234BC</b>	—	—	<b>4238BC</b> 3/4"
60 Amp*	2P, 3W	<b>RA4263BC</b>	<b>4263BC</b>	—	—	<b>4267BC</b> 1 1/4"
480VAC	3P, 4W	<b>RA4264BC</b>	<b>4264BC</b>	—	—	<b>4268BC</b> 1 1/4"

**Notes:**

\*Also available for use at 30 Amp, 480VAC

\*\*Can be furnished with flap or screw cap covers. When so required, add suffix "FC" for flap or suffix "SC" for screw cap to above catalog number. Price on application.

▼ Furnished with plaster gage plate. Requires wall depth of 4-inches minimum.

<sup>^</sup> Portable-service receptacles (connectors) Not UL listed.

+ 30 Amp Iron Bodied Plug Family for replacement use only. Not UL listed. (60 Amp carries full listing)

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# Russellstoll®

## Delayed Action Receptacles (EFS and DA)

### Specifications

**Receptacle Housings** – EFS – Cast copper free aluminum; DA – cast iron, corrosion resisting baked enamel finish.

**Plug Housings** – 20 Amp – steel, cadmium plated; 30 Amp – cast iron; 60 Amp – steel and aluminum, natural finish. Plugs are furnished with aluminum alloy cable clamp and neoprene cable bushing.

**Connectors** – Cast aluminum, natural finish. Furnished with aluminum cable clamp and neoprene cable bushing.

**Flush Plates** – Brass, polished chromium finish.

**Outlets** – Furnished with one outlet top or bottom as follows. 20 Amp – ¾"; 30 Amp – 1", 60 Amp – 1½". Additional or larger outlets charged extra. Maximum conduit sizes, four ways as follows:

20 Amp – 1", 30 Amp – 1½"; 60 Amp – 2". Single gang-top and bottom only, two gang – one per gang top and bottom and one on each side. Specify size and location.

**Cable Bushing** – oil resistant, neoprene strain relief cable bushing regularly furnished with hole size as listed. Other hole sizes available at no extra cost if specified on order. See page H144.

**Surface Gang Units** – EFS available and can be furnished in 2 gang units or in combination with other like devices.

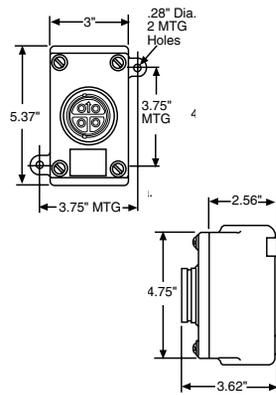
**Approvals** – (20 & 60 Amp)



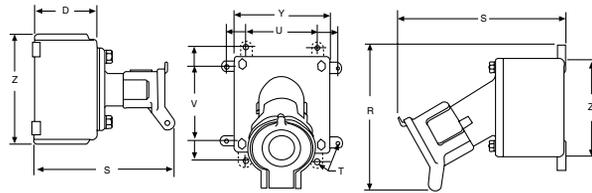
### Dimensions

#### Surface Mount Receptacles

Type EFS (20 Amp) Straight



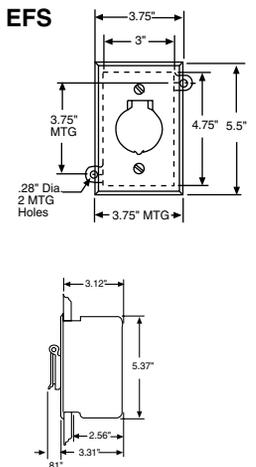
Type DA (30 & 60 Amp) Straight



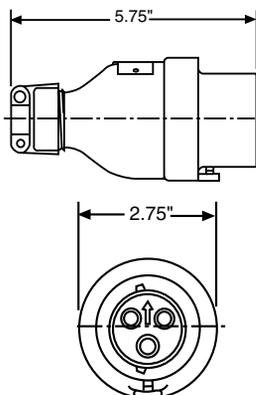
Amp		D	R	S	T	U	V	Y	Z
20	Angle	2.56"	—	6.12"	.28"	3.75"	3.75"	3"	5.37"
30	Straight	3.87"	—	8.62"	.34"	6.12"	5"	5.25"	6.75"
	Angle	3.06"	7.37"	8.37"	.28"	3.50"	5.50"	4.75"	4.75"
60	Straight	3.87"	—	9.25"	.34"	6.12"	5"	5.25"	6.75"
	Angle	3.87"	9"	9.25"	.34"	6.12"	5"	5.25"	6.75"

#### Flush Mount Receptacles

Type EFS

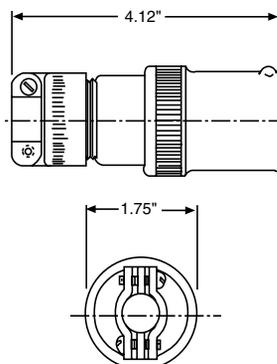


#### Connector

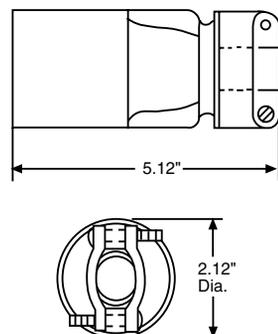


#### Plug

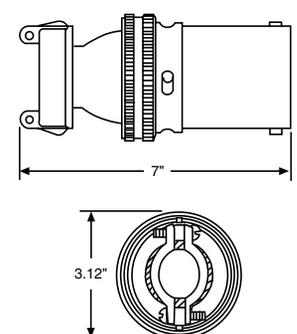
20 Amp Plug



30 Amp Plug



60 Amp Plug



# Russellstoll®

## Delayed Action Receptacles (EFS and DA)

### Accessories

#### Cable Bushings

For Explosion Proof Plugs & Connectors

To order non-standard bushing, add cable bushing number to end of catalog number. This is furnished at no additional cost at time of order. For 60 A devices, see J-line 60A chart on page H41.

Hole Diameter for Cable	Cat. No.	Hole Diameter for Cable	20A Cat. No.
.312"	<b>SG05</b>	.563"	<b>SG25</b>
.375"	<b>SG1</b>	.594"	<b>SG2B</b>
.438"	<b>SG15</b>	.625"	<b>SG3</b>
.500"	<b>SG2</b>	.687"	<b>SG3A</b>
.531"	<b>SG2A</b>	.750"	<b>SG4</b>



**Material** – Oil Resistant Neoprene.

**Note:** Cable outside diameter should be at or slightly less than bushing I.D. Bushings can compress approx. 10% at installation.

To Order add suffix as examples: 4466/SG3

H

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#### Flap Cover Assembly

For 20 Amp Delayed Action Circuit Receptacles

Part No.	Finish	Used on Cat. No.
<b>F19054C</b>	Chrome Plated	<b>4445</b>
<b>F19054D</b>	Natural Finish	<b>4464</b>

#### Combination Gland Nut and Cable Clamp

For 20 Amp Delayed Action Circuit Plugs

Provides extra clamping protection in hard service applications.

Part No.	Used on Cat. No.
<b>F24853C</b>	<b>4466</b>
<b>F24853D</b>	<b>4467</b>



**Material** – Cast aluminum alloy, natural finish

# Russellstoll® Switches

Explosion Proof: Div. 1, Class 1, Groups C and D  
Dust-Tight: Class II, Groups E, F and G

In hazardous locations, these switches are applied to control a variety of lighting, power and machinery branch circuit loads. They can also be used with Russellstoll hazardous locations receptacles for maximum control system flexibility.

## Ordering Information

**EFS Series**  
**20 Amp, 575VAC**  
**30 Amp, 250VAC**



Switch	Rating Hp	Amps	Explosion Proof & Dust Tight	2 Gang
Single Pole / Single Throw	1.5/2.0	15	<b>4411S7</b>	<b>4421S7</b>
	1.0/2.0	20	<b>4411S27</b>	<b>4421S27</b>
	2.0/2.0	30	<b>4411S3</b>	<b>4421S37</b>
Double Pole / Single Throw	1.5/2.0	15	<b>4412D7</b>	<b>4422D7</b>
	1.0/2.0	20	<b>4412D27</b>	<b>4422D27</b>
	2.0/2.0*	30	<b>4412D37</b>	<b>4422D37</b>

**Notes:**

Switches with other than listed ratings can be furnished. Prices and information on application.

\* 1 Hp, 460VAC, 2 HP, 115 or 230VAC, 250 or 600VAC rating also applies to 30A switch. Brass construction also available - consult Technical Services.

## Specifications

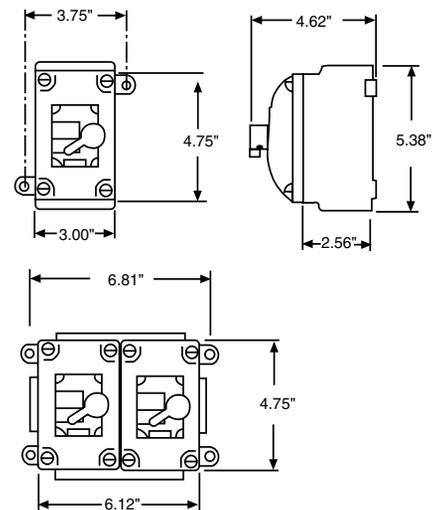
**Enclosures** – Cast copper-free aluminum, epoxy powder coated finish. Can be furnished with lock-type cover to permit locking in either “on” or “off” position. When so required, add suffix “L” to catalog number. See price list.

Can be furnished in two gang units and in combination with other Russellstoll explosion proof receptacles.

**Outlets** – Unless otherwise specified, furnished and one ¼" outlet per gang, top or bottom. Maximum conduit 1": single gang – top and bottom only, multiple gang – one per gang top and bottom and one each side. Specify size and location.

**Approvals** –  844 Standard  
E10765

## Dimensions



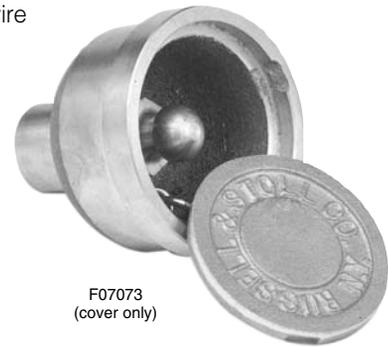
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## Static Ground Receptacle

### Aerospace / Industrial Static Ground Devices

Static grounding receptacles are used in Airport and Aerospace installations worldwide during fueling, testing and maintenance procedures. Normal mounting is concrete / tarmac floor inset, threaded onto copper ground rod.

Heavy Brass construction cup includes optional cover and receptacles contact pin. Accommodates a wide variety of single contact (copper on steel wire) static ground wire clamps in service.



F07073  
(cover only)

### Ordering Information

Description	Cat. No.
Ground cup w/ cover*	<b>GCC1</b>
Ground cup with out cover*	<b>GC1</b>
Replacement contact tip**	<b>F06146</b>

\* Hub is tapped for 3/4" -10  
 \*\* Hub is tapped for 1/2" - 13

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## Safe Ground Indicator System (GSUL)

Class I, Groups C and D NEMA 7  
 Class II, Groups E, F and G NEMA 9



### Instant signal for safe ground

Ground indicators are designed for grounding tank vehicles, carriers, drums or similar applications for dissipating ever-present static electricity. The establishment of a safe ground is indicated by the two parallel connected green signal lights. Two lights are used for continuity. In case one lamp burns out visual indication of safe groundings will be maintained.

### Intrinsically safe circuitry

GSUL devices have an Intrinsically Safe (low energy) Ground Sensing Circuit, which does not have sufficient electrical energy to cause ignition in classified Hazardous Locations.

In use, the sensing Circuit extends through the grounding clamp and its connection to the Ground Indicator, the metal portion of the vehicle between the jaw terminals of the clamp and earth ground electrode.

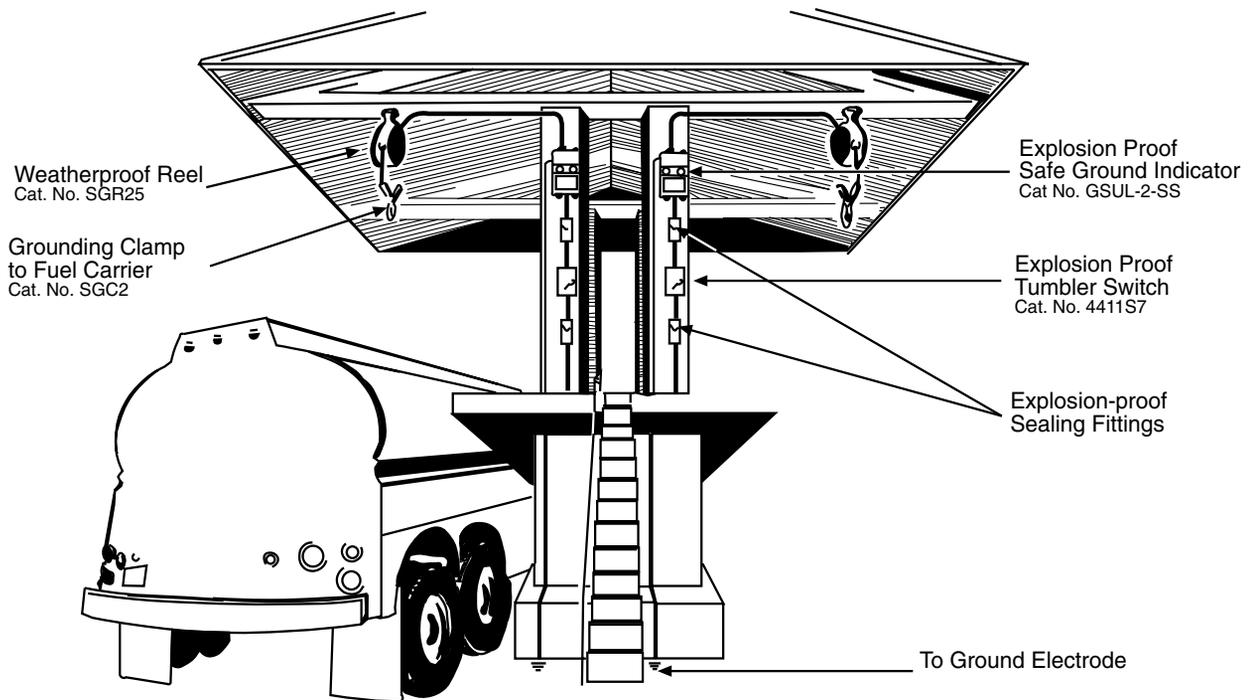
### Pumps will not operate until a safe ground is established

A control relay is included for interlocked control of pump motor at the loading platform. The electronic control circuit will be de-energized while the green lights are off. Attaching the clamps to the tank will close the interlocking contact and energize the control circuits to the motors.

### Applications

Volatile or classified areas such as:  
 Tank Farms      PetroChem  
 Cosmetics      Grain Mills  
 Vehicular or Rail Transport

## Typical Installation



Loading Rack Illustration suggests a typical installation which includes an Explosion Proof Switch: Explosion-Proof Sealing Fittings: Weathertight Reel; and the GSUL-2-SS Safe Ground Indicator with special 2 wire grounding clamp.

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## Safe Ground Indicator System (GSUL)



Unit shown with covers removed

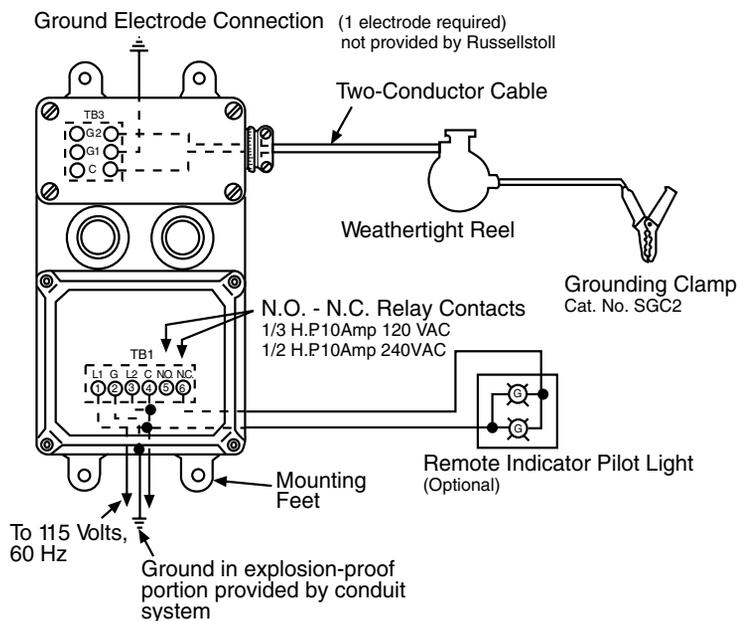
### GSUL Safe Operating Features

- The Green Lights glow when a Safe Ground is established. Lamp life is approximately 20,000 hours.
- Intrinsically safe ... simplified circuitry.
- Furnished with two redundant parallel indicating pilot lights mounted on the enclosures. The unit may be ordered without the lights where remote visual indication is desired.
- Unit is furnished with an integral, intrinsically safe wiring compartment provided with an approved strain relief fitting for connection of cable from the grounding clamp.
- The actuating and control circuits are solid state units mounted on a removable printed circuit board.
- Components are well protected against moisture.
- A Control Relay is provided for interlocked control of Pump Motor at a loading rack.
- A special Grounding Clamp is available for use with the Ground indicator Unit, order SGC2.
- New grounding clamp (Cat. SGC2, replaces old cat. # GSUC) provides dual isolated tip contacts in a very heavy duty cast aluminum handle design.



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### Basic Installation

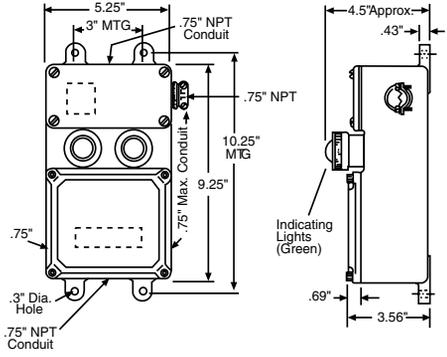
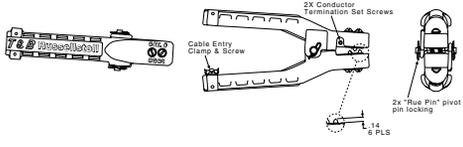
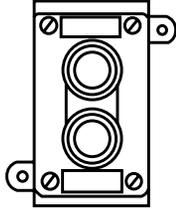
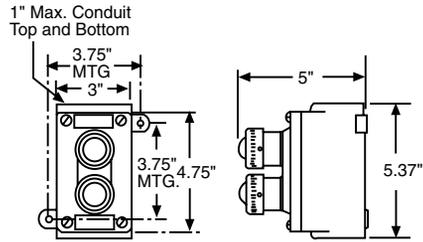
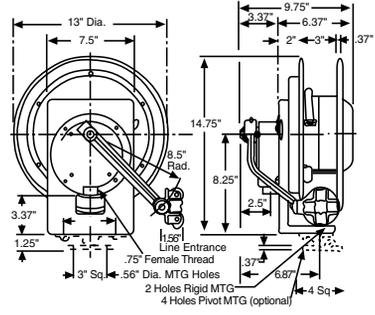


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## Safe Ground Indicator System (GSUL)

### Ordering Information

Safe Ground Indicators are designed to operate on 110-120 VAC, 50/60 Hz circuits, with grounding being made through use of a 2-conductor #12 AWG Type SO cable.

Catalog No.	Description	Dimensions
 <p><b>GSUL-2-SS*</b></p>	<p>Safe Ground Indicator with Indicator Lights (*furnished with lamps) (120V supply)  <b>New: 240V version available GSUL2SS-240</b>                      Contact Technical Services</p>	
 <p><b>SGC2</b></p>	<p>Grounding Clamp (Replaces GSUC)</p>	
 <p><b>P12G2</b></p>	<p>Remote Indicator Light – Surface mounting duplex pilot light with two green lens. Explosionproof.   <b>Consult Customer Service for Availability and Delivery.</b></p>	
 <p><b>SGR25** SGR50 SGR75</b></p>	<p>Weathertight Reel – Retracting Reel with 25 ft. of 2 conductor #12 AWG type SO cable.                      Note: 50 foot and 75 foot versions available.                      (Replaces AR253)</p>	

**Notes:**

- \* Ground clamps must be ordered separately. Ground Indicators complete with Control Relay. When unit is required without control relay add suffix "X" to catalog number.
- Outlets** – Regularly furnished tapped 3/4" NPT as per diagram on opposite page.
- Enclosures** – Cast copper free aluminum, epoxy powder coated.
- \*\* Relay contacts are rated 1/3 H.P., 10 Amps, 120VAC; 1/2 H.P., 10 Amps, 240VAC.

### Spare Parts

Description	Cat. No.
Printed Circuit Board	<b>C13662</b>
Control Relay**	<b>F30674</b>
Lamp for GSUL-2-SS	<b>310993</b>
Ground Clamp Repair Kit	<b>GX2TK</b>

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## Computer System Interconnections – Overview

### Defined

- Any application where electrical connections must be protected from humidity, water, condensation and/or dust ingress to the wiring compartment and contacts.
- Cable-to-connector sealing and device locking designs are critical.
- Thermoplastic connectors preferred: some with aluminum conduit grounded shell.
- Connection integrity needs are absolute; Data Center systems cannot go down.
- Underfloor Data Center applications and wall mount installations.

### Russellstoll Line Selections for Outdoor (and Indoor) Applications

#### DuraGard to 4P4W 20 thru 50A

The toughest construction in thermoplastic safety, durability and performance by design, in UL94-V0 flame rated DuraV material. With DurOring sealed pins, sleeves and interiors watertight even unmated. A 30 & 50A unique circuit breaker interlock line in DuraV is the best choice in all standard voltage polarization options through 600VAC (Interlock to 480VAC)

#### Angle Type to 3P4W 60A use

The original 60A main power computer system connector, Angle Type plugs are also available in specialty UL94-V0 material. (Alum. Connectors) As part of the MRO usage 30-200A Angle Type Line, the 60A connector is still commonly used today. Other lines such as MaxGard should be used for changeout when possible.

#### SpecGrade to 4P4W 20 & 30A

Otherwise similar to the DuraGard, Spec Grade refers to blue Lexan plugs only made to the same original FS/FD design standards as DuraGard, in UL94-5VA flame rated material. Spec Grade features DurOring sealed pins, sleeves and interiors, watertight even unmated. Spec Grade devices have been superseded by DuraGard ratings for OEM use.

#### MaxGard 30A to 4P5W

For DP/Computer System Applications, a special MaxGard polarization reflects DP installations. Special thermoplastic housing and back handle are supplied for these applications. Use wherever 4P5W installations are required.

#### FS/FD to 3P4W 15 thru 30A

The original 15/20/30A computer system connectors, the FS/FD line in aluminum continues in MRO usage. Many installations can also mate directly or convert to DuraGard units. Our large installed base can be supported with any construction and product options. Convert to DuraGard when possible.

#### IEC: IP67 to 4P5W 20 to 100A

Thermoplastic International standard 309-2 or CEE-17 type connector lines usage is growing, especially in OEM, export, and standard performance applications. The IP67 style is watertight when mated and directly interchangeable with other manufacturers. International designations shadow U.S. ratings: 20/16, 30/32, 60/63 and 100/125. IP67 devices have screw collars or flap/screw covers, with catalog number "W" suffixes.



### Typical Application Groups

Telephony Equipment  
Switching Rack Systems  
Power Distribution Units  
Test & Laboratory Equipment

Mainframes from 30-270A  
Peripherals  
Data Storage Devices  
Military or Critical Power Supplies

**Thomas & Betts**

# Russellstoll®

## Computer System Plugs, Connectors and Receptacles

Over 30 years ago, Russellstoll offered the first pin and sleeve connectors that met the demanding needs of the Data Processing industry and we've been leading the way ever since.

The expanding technology of the Computer System Industry is creating more sophisticated applications which require a safe, reliable connection that exceeds the tough demands of today's applications. Russellstoll's commitment to excellence offers you that and more... Safety, Durability, Reliability and

Performance on our complete line of plugs, receptacles and connectors.

Pin & Sleeve power connections are chosen for Computer Systems interconnections because of the absolute performance required in today's mainframe and peripheral installation. Pin & Sleeve connections have been proven to be 1- times more reliable in service than any bladed device. Data centers stay in service, because Russellstoll stays connected.

### Quick Selection Chart

				
SERIES*	FS/FD	Spec Grade	DuraGard®	Spec Grade
Available Ranges (Amp)	20 & 30	20 & 30	20, 30 & 50	30 (IEC)
Safety Grade™ UL Flame rated High-Temp Thermoplastic	UL94-V0 Aluminum	UL94-5VA	UL94-V0	UL94-V0
Easy-to-Wire Rear loaded interiors		✓	✓	✓
Single Rated Safety Voltage Polarizations	20A	20A 30A	20A 30A 50A	30A (9h – IEC)
Waterproof O-Ring Seal (pins, sleeves & interiors)		✓	✓	✓
2nd Internal Ground Lug (cable shielding alt.)		✓	(optional)	
External Cable Clamp	✓		✓	✓
External Gland Nut Lock			✓	✓

\* 60A devices are specially designed versions of Russellstoll Angle Type (7328DP)



E2630



LR14096

**TüV** For TÜV listed devices, contact Technical Services.

**Thomas & Betts**

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## Computer System Plugs, Connectors and Receptacles – Ordering Information

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			Plugs				Connectors		Receptacles		
											
	Voltage	Plug Safety Polarization	Std. Cable** Bushing	FS/FD• Aluminum	Spec Grade UL94-5VA	See Bushing Chart DuraGard® UL94-V0*	FS/FD Aluminum	DuraGard® UL94-V0*	FS/FD• Aluminum	DuraGard® UL94-V0*	
2P/3W	15/20 Amp	Up To 600 VAC/250VDC		0.625" 0.455" 0.405"	3720	3720DP (0.375) 3720DP/0455 3720DP/0405	9P23U0	3913	9C23U0	3743	9R23U0W▼
		125VAC		0.625" 0.455" 0.405"	3720U1	3720DPU1 (0.375) 3720DPU1/0455 3720DPU1/0405	9P23U1	3913U1	9C23U1	3743U1	9R23U1W▼
		250 VAC		0.625" 0.455" 0.405"	3720U2	3720DPU2 (0.375) 3720DPU2/0455 3720DPU2/0405	9P23U2	3913U2	9C23U2	3743U2	9R23U2W▼
	30 Amp	Up To 600 VAC		0.760" 0.700" 0.625"	3750	3750DP	9P33U0	3933■	9C33U0■	3753■	9R33U0W▼■
	50 Amp	Up To 600 VAC		1.000" 0.925" 0.750"	–	–	9P53U0	–	9C53U0	–	9R53U0W●
3P/4W	20 Amp	Up To 600 VAC/250 VDC		0.688" 0.625" 0.606"	3730	– 3730DP/0625 3730DP	9P24U0 –	3914 –	– 9C24U0 –	3744	9R24U0W▼
	30 Amp	Up To 600 VAC		1.100" 1.000" 0.875" 0.760"	3760	3760DPG/1100 3760PDG/1000 3760PDG/0875 3760DPG0760	– 9P34U0◆	– 3934■	– 9C34U0◆■	3754■	9R34U0W▼■
	50 Amp	Up To 600 VAC/250 VDC		1.000" 0.925" 0.750"	–	–	9P54U0	–	9C54U0	–	9R54U0*▼
<b>Special MaxGard®</b>											
3P/4W	60 Amp	Up To 600 VAC	 Angle Type	1.375" 1.188" 1.020" 0.750"	7328-78^	– – – –	7328DP/1375 – 7328DP† 7328DP/0750	7428-78^	– – – –	–	SCF7324-78
<b>Special Angle Type</b>											
4P/5W	30 Amp	3ØY 120/208 VAC	 MaxGard	0.775"	–	–	DS3516MPDP+	DS3516FP+	–	DS3516FR+	–

**Note:** All 20A devices are compatible. 30A FS/FD receptacles and connectors will accept all styles of mating plugs.

\* For a more complete listing of UL 94-V0 rated devices, consult DuraGard information on Pages H44-H54.

\*\* Consult Factory for additional cable bushing sizes not listed.

† 7328 DP series thermoplastic can replace 7328 metallic.

● 30A FS/FD Aluminum plugs may not directly exchange with DuraGard plugs. FS/FD metal mating devices must be used.

◆ Standard 0.750 Bushing.

■ DuraGard receptacles and connectors 30/50A will accept only DuraGard or Spec Grade. FS/FD Aluminum 30A plugs must be used with FS/FD metal connectors or receptacles..

^ Angle Type Line

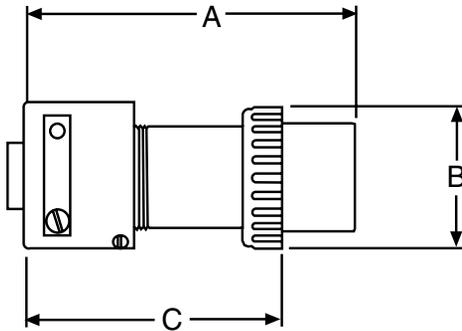
+ MaxGard Line for further information see pages H9-H29.

▼ Requires 3711A conduit FD box or 3781A DSFD Box (50A).

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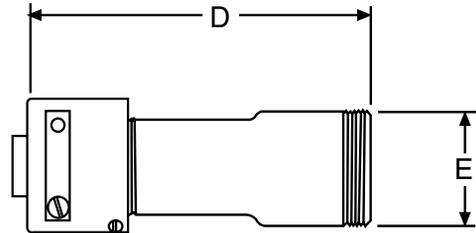
## Computer System Plugs, Connectors and Receptacles – Dimensions

### Plugs



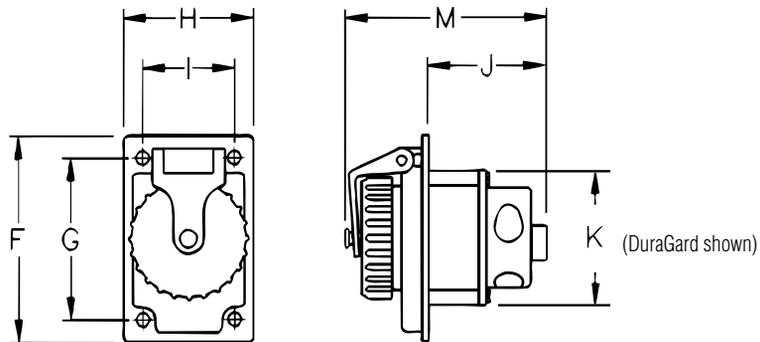
		A	B	C
FS/FD	20 Amp	3 <sup>5</sup> / <sub>8</sub> "	2"	2 <sup>1</sup> / <sub>4</sub> "
	30 Amp	3 <sup>3</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>8</sub> "
Angle Type DP (Thermoplastic)	60 Amp	8"	2 <sup>1</sup> / <sub>2</sub> "	3 <sup>3</sup> / <sub>4</sub> "
Spec Grade DuraGard®	20 Amp	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>8</sub> "
	30 AMP	5"	2 <sup>3</sup> / <sub>8</sub> "	3 <sup>5</sup> / <sub>8</sub> "
	50 AMP	5 <sup>1</sup> / <sub>4</sub> "	2 <sup>3</sup> / <sub>8</sub> "	3 <sup>5</sup> / <sub>8</sub> "

### Connectors



		D	E
FS/FD	20 Amp	4"	1 <sup>7</sup> / <sub>8</sub> "
	30 Amp	4 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>8</sub> "
Angle Type (Metallic)	60 Amp	9 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "
Spec Grade DuraGard®	20 Amp	4 <sup>1</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "
	30 AMP	5 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>8</sub> "
	50 AMP	5 <sup>5</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>8</sub> "

### Receptacles



		F	G	H	I	J	K	M
FS/FD	20 AMP	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>4</sub> "	2 <sup>1</sup> / <sub>2</sub> "
	30 AMP	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>3</sup> / <sub>8</sub> "	2 <sup>3</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "
Angle Type (Metallic)	60 Amp	3 1/2"	2 <sup>7</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>2</sub> "	2 <sup>7</sup> / <sub>8</sub> "		2 <sup>1</sup> / <sub>2</sub> "	6"
DuraGard®	20 Amp	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	1 <sup>1</sup> / <sub>2</sub> "	2"	3 <sup>3</sup> / <sub>8</sub> "
	30 Amp	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub> "	2 <sup>3</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>8</sub> "
	50 Amp	4 <sup>1</sup> / <sub>8</sub> "	3 <sup>1</sup> / <sub>4</sub> "	2 <sup>5</sup> / <sub>8</sub> "	1 <sup>7</sup> / <sub>8</sub> "	2 <sup>1</sup> / <sub>2</sub> "	2 <sup>3</sup> / <sub>4</sub> "	4 <sup>1</sup> / <sub>8</sub> "

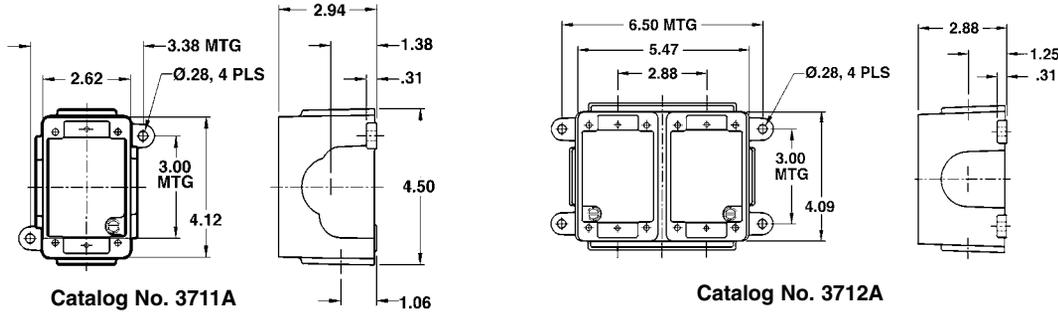
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## Computer System Plugs, Connectors and Receptacles – Accessories

All conduit boxes/Angle Adapters are copper free, cast aluminum, epoxy powder coat finish.

### Conduit Boxes (For Surface Mounting)



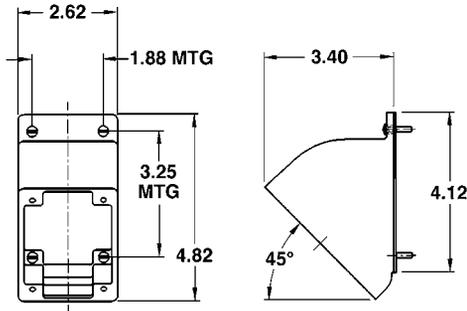
Catalog No. 3711A

Catalog No. 3712A

Receptacle size	Cat. No.	
	Single Gang	Double Gang
20, 30 & 50 Amp	<b>3711A</b>	<b>3712A</b>
60 Amp*	<b>JB6-1</b>	
50 Amp	<b>3781A</b>	<b>3782</b>

\* Various mounting options available.  
4" deep (not shown)

### Angle Adapter



Catalog Number 3678A

Receptacle size	Cat. No.	
	45 Degree	20 Degree
20, 30 & 50 Amp	<b>3678A</b>	—
60 Amp*	<b>JAA6-45</b>	<b>JAA6-AB6</b>

Mounts to conduit boxes to angle receptacle downward, for easier access, no moisture retention on surfaces and better plug-cable drop bend relief.

\* Various mounting options available.

### Conduit Adapter

Kit includes gland nuts for plugs or connectors.



Plug/ Connector Size	Tapped Hole Size	Cat. No.		
		FS/FD	Spec Grade	DuraGard®
20 Amp	1/2"	<b>FSA11</b>	—	<b>9X2C50</b>
	3/4"	<b>FSA12</b>	—	<b>9X2C75</b>
30 Amp	1/2"	<b>FSA21</b>	—	<b>9X3C50</b>
	3/4"	<b>FSA22</b>	—	<b>9X3C75</b>
	1"	<b>FSA23</b>	—	—
50 Amp	3/4"	—	—	<b>9X5C75</b>
	1"	—	—	<b>9X5C10</b>
60 Amp Angle Type	3/4"	<b>JPA62</b>	—	—
	1"	<b>JPA63</b>	—	—
	1 1/4"	<b>JPA64</b>	—	—
	1 1/2"	<b>JPA65</b>	—	—

**Russellstoll®****Computer System Plugs, Connectors and Receptacles – Accessories****Plug/Connector Replacement Items**

	Spec Grade	DuraGard	Spec Grade	DuraGard	
Item Color	Blue	Yellow	Blue	Yellow	Black
Plug/Connector Amperage	20A	20A	30A	30A	50A
Gland Nut	C17077C	C17077A	C17076CX	C17076AX	C17076BX
Nylon Locking Screw	N/A	NA	B16983	B16983	B16983
Bushing, Clamp, Nut, and Screw Kit (Inc. Nylon Locking Screw – 30/50A)	B17019CPR	B17019APR	B17018CPR	B17018APR	B17018BPR
Bushings	To Spec	To Spec	To Spec	To Spec	To Spec
Glide Washer	863-8	863-8	500RS	500RS	500RS
Gland Nut Assembly	B17019CR	B17019AR	B17018CR	B17018AR	B17018BR

Note: Minimum purchase quantities apply.

**H**

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**Replacement Interiors**

Note: For replacement bushings, see DuraGard Section, pg. H51.

		Cat. No.	
		Male Interior Assembly	Female Interior Assembly
			
Amperage	Voltage Polarization		
2P3W 20	125 VAC	<b>9XM23U1</b>	<b>9XF23U1</b>
	250 VAC	<b>9XM23U2</b>	<b>9XF23U2</b>
	Thru 600VAC/250 VDC	<b>9XM23U0</b>	<b>9XF23U0</b>
2P3W 30	Thru 600VAC/250VDC	<b>9XM33U0</b>	<b>9XF33U0</b>
	Thru 600VAC/250VDC	<b>9XM53U0</b>	<b>9XF53U0</b>
3P4W 20	Thru 600VAC/250VDC	<b>9XM24U0</b>	<b>9XF24U0</b>
	Thru 600VAC/250VDC	<b>9XM34U0</b>	<b>9XF34U0</b>
3P4W 50	Thru 600VAC/250VDC	<b>9XM54U0</b>	<b>9XF54U0</b>

Interiors with ground straps are specials.

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## Computer System Plugs, Connectors and Receptacles – Specifications

### Performance – Electrical

<b>Dielectric Voltage Withstand</b>	3,000 Volts
<b>Max. Working Voltage</b>	6000 volts RMS minimum (creepage distance and minimum clearance per UL 840)
<b>Circuit Interrupting/ Load Breaking</b>	UL listed and CSA certified for circuit interrupting at full rated current.
<b>Temperature Rise</b>	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-PF.
<b>Shrouded Contacts</b>	Complies with California Code Title 8, Art. 51, S2510.7(b) for devices exceeding 300 VAC
<b>Horsepower</b>	Per NEC 430-151 ratings

### Performance – Mechanical

<b>Impact Resistance</b>	Per UL 1682 Paragraph 34
<b>Cord Accommodation</b>	Round portable service cords per UL Std. 62 & CSA C22.2 No. 49.1
<b>Terminal Identification</b>	In accordance with UL1682
<b>Cable Pull Out Force</b>	In accordance with UL1682
<b>Product Identification</b>	Identification label and molded in name
<b>Lockout/Tagout</b>	Lockout/Tagout hole in 30/50A DuraGard® plug complies with OSHA Reg. 29 CFR 1910.147 (V0 30 & 50A plugs only)

### Performance – Environmental

<b>Moisture Resistance</b>	Per UL1682 Paragraph 49. Watertight flap screw cover on receptacle, O-Rings on all V0/5VA pins and sleeves (excludes 60A)
<b>Flammability</b>	V0 / 5A per UL94 (DuraV also 5VA in some apps.)

### Operating Temperatures

	V0*	5VA	Metal*
Maximum Continuous	95°C (230°F)	130°C (266°F)	130°C (266°F)
Minimum W/o Impact	-40°C (-40°F)	-29°C (-20°F)	-40°C (-40°F)

### Chemicals

Resists standard industrial hydrocarbons, acids, bases and solvents. (DuraV & Metal)

### Approvals



Conforms to NEMA 4, 4X & 6. (DuraGard and Spec Grade) Contact Technical Services.

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## Materials

	FS/FD	Spec Grade	DuraGard® Safety Grade™
<b>Contact Carrier Interior</b>	Thermoset / Thermoplastic (20A & 30A)	Arc resistant UL94-V0 phenolic Thermoset	Arc resistant UL94-V0 phenolic Thermoset
<b>Housing, Gland Nuts</b>	Cast Aluminum	Lexan® UL94-5VA,	DuraV™ UL94-V0,
<b>Screw Collar Rings</b>	–	High Impact Thermoplastic	High Impact Thermoplastic
<b>O-Rings</b>	–	Buna-N (Nitrile)	Buna-N (Nitrile)
<b>Contacts: Pins &amp; Sleeves</b>	Brass	Brass CDA 360	Brass CDA 360
<b>Hinge Pins (Receptacle)</b>	Stainless Steel	–	Stainless Steel
<b>Terminals</b>	Brass	Stainless Steel	Stainless Steel
<b>All Hardware</b>	Stainless Steel	Stainless Steel	Stainless Steel
<b>Gland Glide Washer (or Internal Cable Grip)</b>	Brass	–	20 Amp - Nylon 30 & 50 Amp - Aluminum
	–	Nylon	
<b>Cable Clamp Bushing</b>	Neoprene	Neoprene	Neoprene

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**Thomas & Betts**

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## Computer System Plugs, Connectors and Receptacles – Data Center Installation



### Custom Products:

#### Interlocked Branch Distribution Centers

Utilize an existing higher amperage service and split it into multiple lower current service outlets. The outlets are individually interlocked with circuit breaker protection. Branch Distribution Centers are UL & CSA listed and can be configured for many inlet/outlet combinations.

Standard Dual Configuration:

- 60A Male Inlet
- 2 - 30 A Individually Interlocked Female Outlets, each Circuit Breaker Protected.
- Heavy duty NEMA 4 welded, gasketed enclosure.

### Benefits

- **Saves rewiring costs** in a facility when installing small-sized, lower current machines using existing electrical service.
- **Quickest** and most cost effective way to expand or reconfigure a single service with multiple service outlet combinations possible at every power drop.
- **Safest** way to operate: UL Listed 22kA interrupt capacity interlocked circuit breaker protection for each branch outlet receptacle, in a NEMA 4 enclosure.

### Applications

- **Data Processing:** CPU / Disk Arrays / Peripherals new smaller multiple units.
- **Industrial / Manufacturing Lines:** reorganization, process reconfiguration.
- **Portable Power:** Machinery, Tools, Test and Diagnostic equipment.

### Electrical and Safety Features

- One: 250VAC 3p4w 60A male inlet feeding Two: 250VAC 3p4w 30a IEC 309-2 (9h Blue) female receptacle outlets, each protected by 22kA IC circuit breaker; each mechanically Interlocked.

- Power is manually energized only after plug is inserted; externally visible trip indicator handles on each Interlock.
- Automatic Shut Off when plug is removed before contacts disengage; ground sleeves Make first, Break last.
- Patented "Trip-Free" Safety Mechanism where outlets are not powered unless plug is inserted.
- Full NEMA rated UL 489 listed 22kA Circuit Breakers, available to 480V at 30 Amps. 60 Amp and other options available.

### Mechanical and Safety Features

- All internal wiring is complete: a Drop-In, Plug-In specified device.
- DP Underfloor (Horizontal) installation standard; vertical or other mounting conventions optional.
- Electrostatic epoxy powder coat gray finish over 14 gauge steel NEMA 4 welded enclosure with gasketed access cover.
- Screw cover protects outlet receptacles (flap cap option).
- Long life stainless steel & nylon external hardware, copper-free aluminum castings, O-ring seals (to device spec) & brass electrical contacts.

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## Computer System Plugs, Connectors and Receptacles – Data Center Installation

### Ordering Information

Cat. No.	Inlet Side		Outlet Side*	
	250VAC, 60A Male Inlet	Mating Connector	250VAC, 30a Outlet Receptacle	Mating Plug
ER206M39	7528 Spl.	7428-78	RS430MM9W (x2)	RS430P9WV0

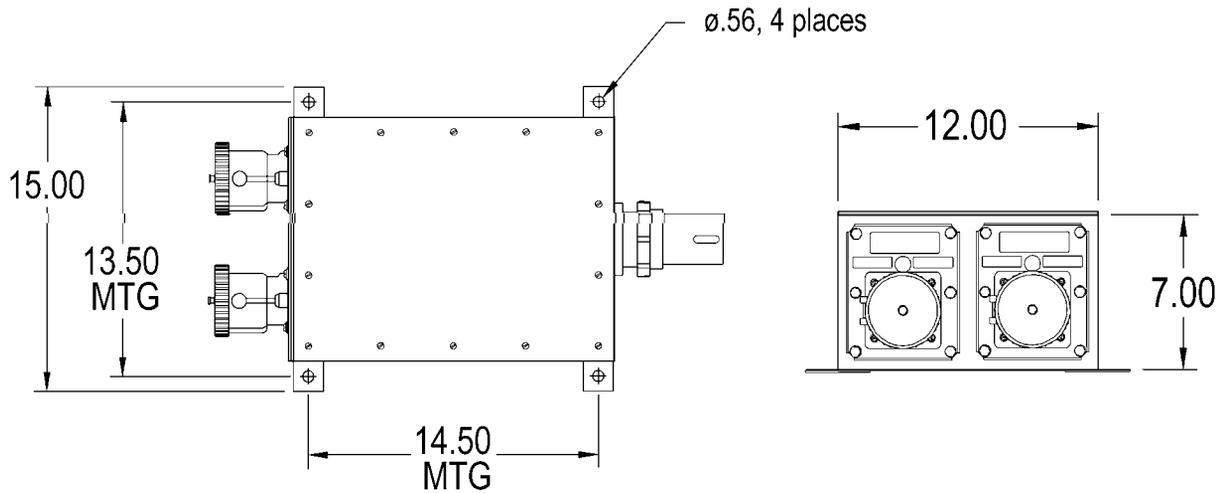
(External mating Plugs & Connectors sold separately)

Other Configurations available. Consult factory or your Russellstoll Representative

\* IEC 309-2 configuration, 9h, 3P4W

### Outline Dimensions

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### Schematic Diagram

