

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:

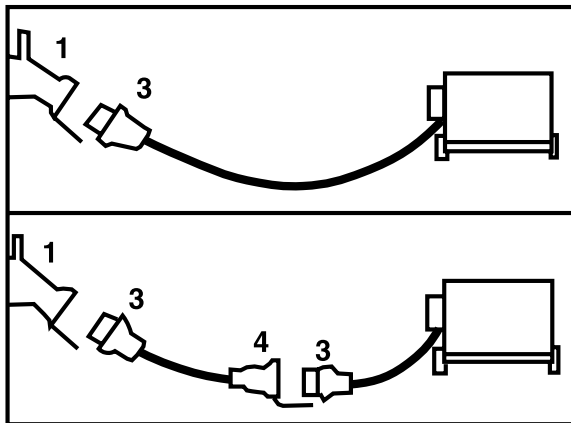
- Plugs cannot be inserted unless power is safely turned off.
- Plugs cannot be removed until power is turned off.
- Specialty designs may also automatically disengage power if plug is removed while power is on, either mechanically or electrically.

Applications

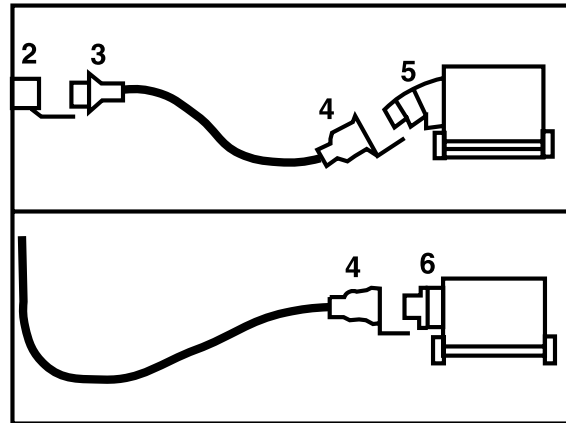
Applications where these units are most commonly used are:

- 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.

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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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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.**

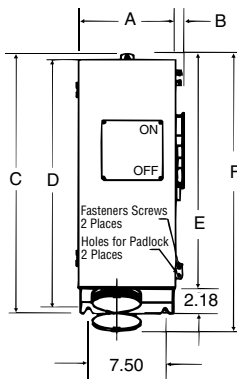
Conduit Hubs

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
30 Amp	2P3W	125		DFRF3 1070 ▼	DS3 107 MP000	⅞"
	2P3W	250		DFRF3 2070	DS3 207 MP000	⅞"
	3P4W	3Ø250		DFRF3 3070	DS3 307 MP000	1"
	3P4W	3Ø480		DFRF3 4040	DS3 404 MP000	1"
60 Amp	4P5W	277/480		DFRF3 5040	DS3 504 MP000	1⅜"
	2P3W	250		DFRF6 2070	DS6 207 MP000	1⅜"
	3P4W	125/250		DFRF6 3070	DS6 307 MP000	1⅜"
	3P4W	3Ø480		DFRF6 4040	DS6 404 MP000	1⅝"
100 Amp	4P5W	277/480		DFRF6 5040	DS6 504 MP000	1½"
	2P3W	250		DFRF1 2070	DS1 207 MP000	1⅞"
	3P4W	125/250		DFRF1 3070	DS1 307 MP000	1⅞"
	3P4W	3Ø480		DFRF1 4040	DS1 404 MP000	1⅞"
	4P5W	277/480		DFRF1 5040	DS1 504 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"



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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)

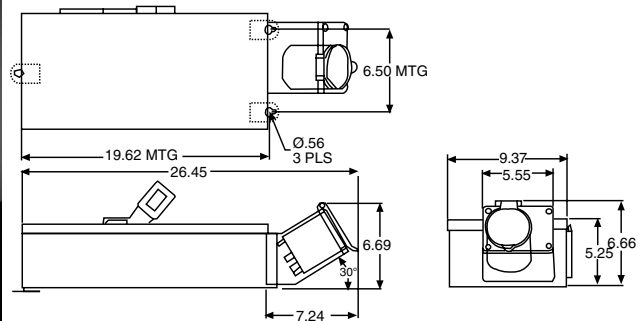
Cat. No.	Mating Plug
ESDFH8414F00	8418 or F27194†

(Mating Plugs sold separately)

*other styles available

† F27194 Automotive 480VAC Label

Also available: Many options for mounting, configuration or interfaces.



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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
ERSFH8414FBB ERSFH8414FDC	8414Spl. 8414Spl.	8418 or F27194† 8418 or F27194†	8003N (x2) 8003U-1 (x2)	8593CTN* 8013U-1*

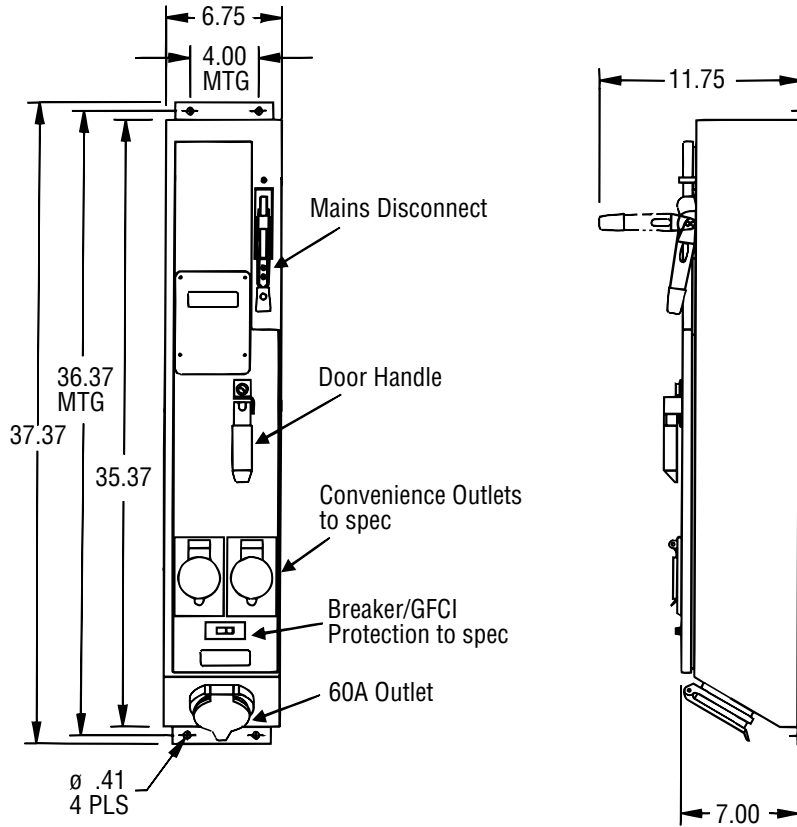
(Mating Plugs sold separately)
†F27194 Automotive 480VAC Label

*Other styles available
100A also available - consult factory

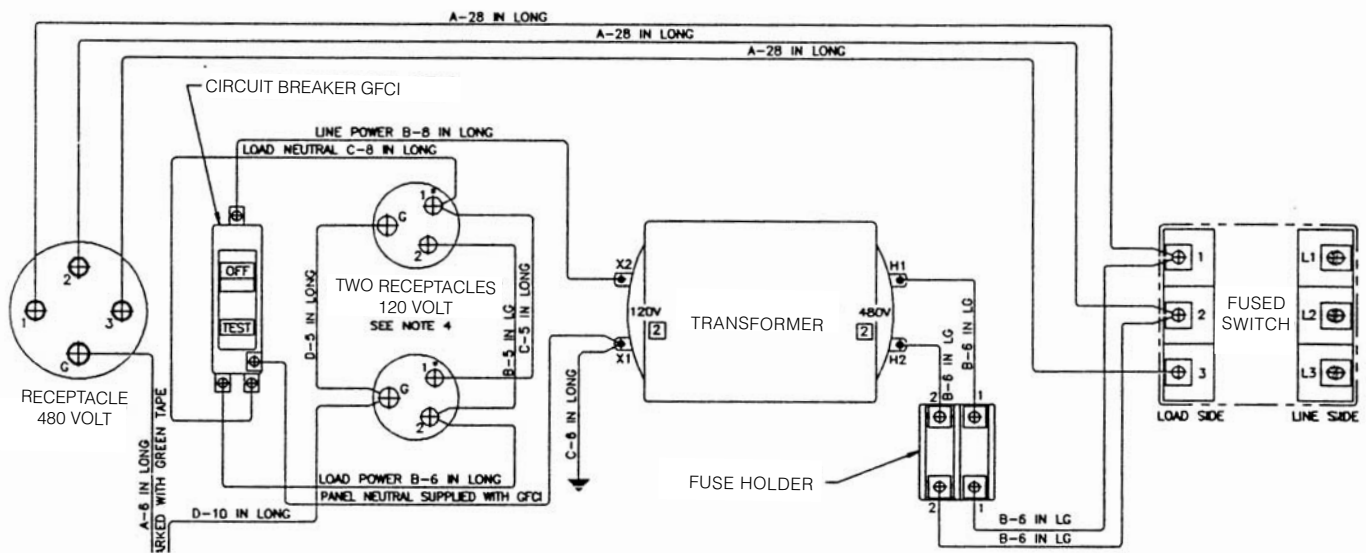
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Industrial Interlocked Receptacles

Dimensions



Wiring Diagram



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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
CFCRA13-60	Switched Only	8418 or F27194†
F32753‡	Circuit-Breaker	8418 or F27194†

(Mating Plugs sold separately)

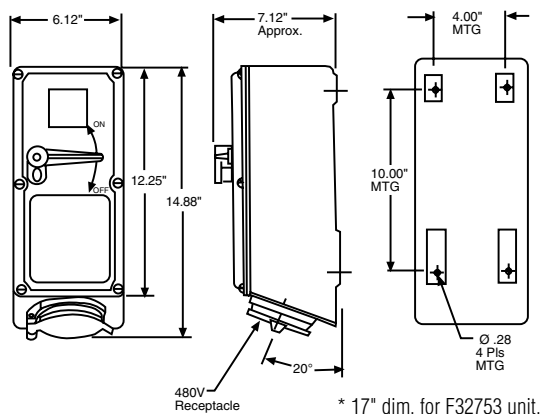
† Automotive 480VAC

‡70A Trip version F26313 and other variations also available.

Dimensions

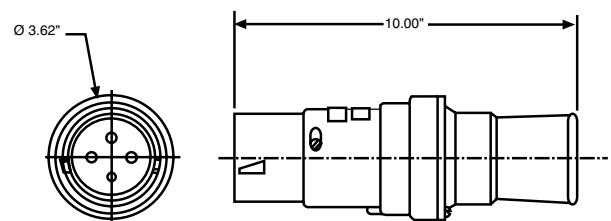
Mechanically Interlocked Switch

1 1/4" NPT Top Entry Std. / other sizes available.



Mating Plug

60A, 3P4W, 8418 or F27194



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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.

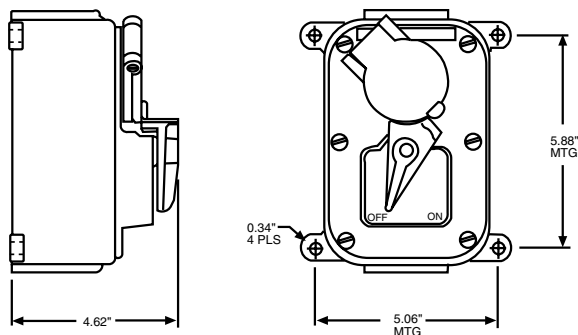
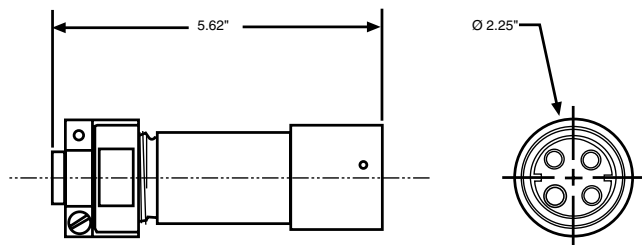
- Male plug cannot be plugged or unplugged under load.

- 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
F34331	F34332

(Mating Plugs sold separately)

Dimensions**Interlocked Switch****Mating Plug**

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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.

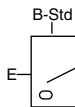
Ordering Information

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

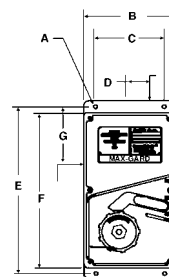
Non-Auto Sw. NAO (repl. "DBRF" with "DSRF")

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.	
30 Amp	2P3W		125	DBRF3 107 03000	DS3 107 MP000	¾"
	2P3W		250	DBRF3 207 03000	DS3 207 MP000	¾"
	3P4W		3Ø250	DBRF3 307 03000	DS3 307 MP000	1"
	3P4W		3Ø480	DBRF3 404 03000	DS3 404 MP000	1"
	4P5W		277/480	DBRF3 504 03000	DS3 504 MP000	1¾"
60 Amp	2P3W		250	DBRF6 207 06000	DS6 207 MP000	1¾"
	3P4W		125/250	DBRF6 307 06000	DS6 307 MP000	1¾"
	3P4W		3Ø480	DBRF6 404 06000	DS6 404 MP000	1¾"
	4P5W		277/480	DBRF6 504 06000	DS6 504 MP000	1½"
100 Amp	2P3W		250	DBRF 1207 10000	DS 1207 MP000	1 11/16"
	3P4W		125/250	DBRF 1307 10000	DS 1307 MP000	1 13/16"
	3P4W		3Ø480	DBRF 1404 10000	DS 1404 MP000	1 13/16"
	4P5W		277/480	DBRF 1504 10000	DS 1504 MP000	2"
200 Amp	3P4W		277/480	DBRF 2307 20000	DS 2307 MP000	1¼"
	3P4W		3Ø480	DBRF 2404 20000	DS 2404 MP000	2 1/4"
400 Amp	4P5W		277/480	DBRF 2504 20000	DS 2504 MP000	2 1/2"
	3P4W		277/480	DBRF 4307 40000	DS 4307 MP000	3"
400 Amp	3P4W		3Ø480	DBRF 4404 40000	DS 4404 MP000	3"
	4P5W		277/480	DBRF 4504 40000	DS 4504 MP000	3 1/4"

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"



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Russellstoll®**Industrial Interlocked Receptacles – Portable Power Distribution Centers (Custom)**

20-1200 AMP, 120-600VAC

**Benefits: Power Convenience and Control**

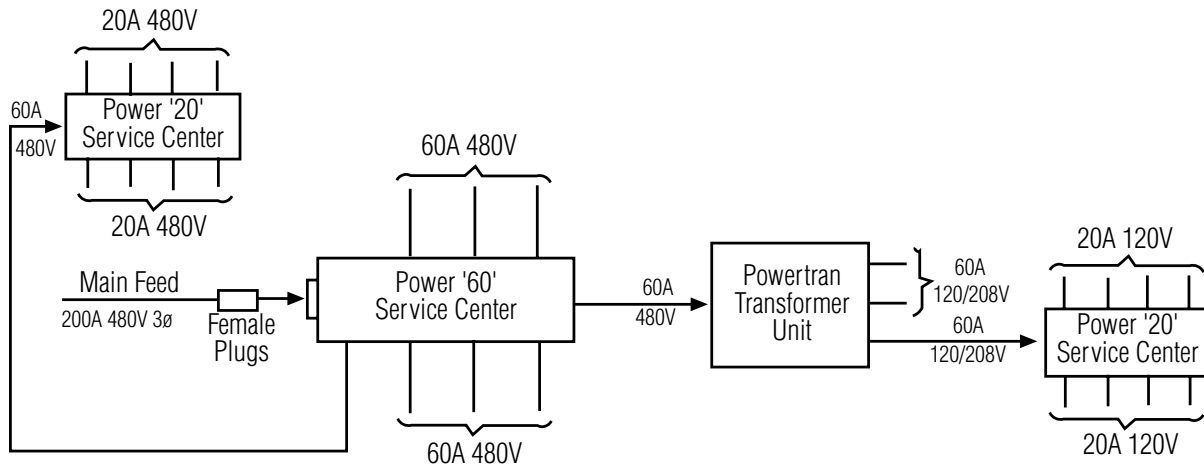
- Customer-specified custom power distribution.
- Many Russellstoll interface combinations.
- Designed-in safety features.
- Indoor and outdoor (to NEMA 4) construction.
- Built in accordance with applicable UL, CSA and NEC standards.

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**

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Industrial Interlocked Receptacles – Portable Power Distribution Centers (Custom)

Heavy Duty Industrial/Marine

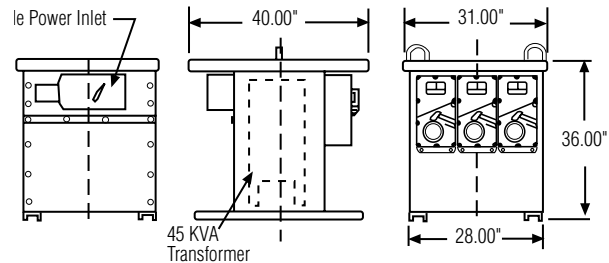
Typical Portable Power Distribution Projects

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.

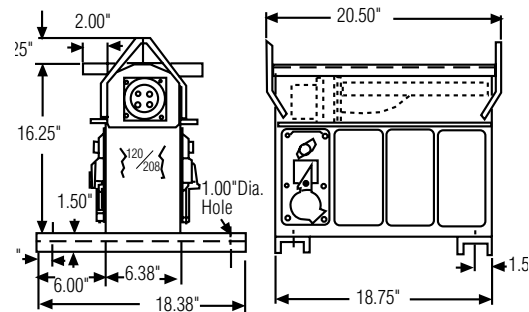
Output Range: Three Gang, 30 Amps, Normally 4P5W, 120/208 VAC interlocked with circuit breaker.



Power 20 Case

Input Range: 60 Amps, 3P4W, 480VAC or 60 Amps, 4P5W, 120/208VAC.

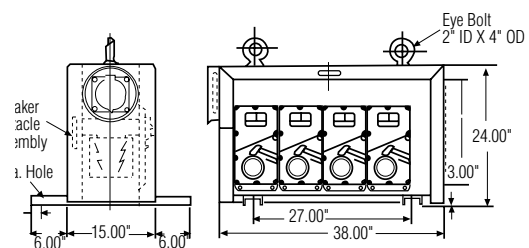
Output Range: Up to eight gang, 20 Amps, 3P4W, 480VAC or 20 Amps, 2P3W, 120/208VAC Interlocked with circuit breakers or fused switches.



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.



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