Industrial Interlocked Receptacles Overview

Industrial interlocked receptacles are available in 30 through 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 safely 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-mounted female)
2. Receptacle (panel-mounted female)
3. Plug (attachment)
4. Female connector
5. Male Inlet with angle adapter
6. Male inlet with straight adapter

Other installations: generator power sources, custom control circuits, multiple voltage service — contact Technical Services.
Mounting Options

Industrial Wall-Mount Interlocks
- Indoor service NEMA 3R
- Fused protection
- 30-100A models, 600V
- Heavy Service Ever-Lok® 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 and 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 and 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
MaxGard Fused-Disconnect** Interlocked Receptacle with Disconnect Switch

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

MaxGard™ 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 galvanneal 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

### Ordering Information

**Maximum 600VAC or 250VDC**

<table>
<thead>
<tr>
<th>POLES/WIRES</th>
<th>VOLTAGE</th>
<th>FUSED DISCONNECT** INTERLOCKED RECEPTACLE</th>
<th>MATING MAXGARD PLUG</th>
<th>STD. BUSHING ID</th>
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</thead>
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<td>30 Amp</td>
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<td>DFRF35040</td>
<td>DS504MP000</td>
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</table>

**Conduit Hubs**

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<th>STD. NPT THREAD OUTLET</th>
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<td>2½&quot;</td>
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<tr>
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<td>2½&quot;</td>
</tr>
<tr>
<td>100</td>
<td>2½&quot;</td>
<td>2½&quot;</td>
</tr>
</tbody>
</table>

Specifications on pages 48-49.

**Control Contacts** (position 9) use “K” example: DFRF1207K.
Always use liquidtight fittings to limit condensation entry.

### Dimensions

<table>
<thead>
<tr>
<th>AMP</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
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</thead>
<tbody>
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<td>9½&quot;</td>
<td>⅛&quot;</td>
<td>25½&quot;</td>
<td>25&quot;</td>
<td>22½&quot;</td>
<td>30&quot;</td>
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<tr>
<td>60</td>
<td>9½&quot;</td>
<td>⅛&quot;</td>
<td>25⅛&quot;</td>
<td>25&quot;</td>
<td>22½&quot;</td>
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<tr>
<td>100</td>
<td>9½&quot;</td>
<td>⅛&quot;</td>
<td>25⅛&quot;</td>
<td>25&quot;</td>
<td>22½&quot;</td>
<td>30&quot;</td>
</tr>
</tbody>
</table>
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 136-142 for full Heavy Service Ever-Lok line.

Features
- Heavy steel galvaneel with baked enamel finish
- NEMA 3R/12 construction
- Standard 600V class R fuses
- Listed components

GE Switchgear

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<th>CAT. NO.</th>
<th>MATING PLUG</th>
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</thead>
<tbody>
<tr>
<td>TH6302JKS</td>
<td>8418 or T213941</td>
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† F27194 Automotive, 480VAC label.

NOTE:
Mating Plugs sold separately.
Other styles available.

Square D (Mechanism)

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<tbody>
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<td>8418 or T213941</td>
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</tbody>
</table>

† F27194 Automotive, 480VAC label.

NOTES:
Mating Plugs sold separately.
Other styles available.

Also available: Many options for mounting, configuration or interfaces.
Combination Interlocked Transformer Disconnect Automotive/Heavy Industrial I-Beam Web Mount

60 Amp, 480VAC plus 120 or 240VAC convenience outlets to specification 3P4W (100A also available)

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 120VAC, 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

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 MaxGard®)
- Convenience outlet types (including NEMA bladed styles) and protection

Ordering Information

- Many other configurations available

---

### Specifications

Electrical and Safety Features:

- Fused 480VAC 60A 3P4W Receptacle + Fused Dual 120VAC 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

---

<table>
<thead>
<tr>
<th>CAT. NO.</th>
<th>480VAC 60A RECEPTACLE</th>
<th>MATING PLUG</th>
<th>120VAC 20A RECEPTACLE</th>
<th>MATING PLUG</th>
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<tbody>
<tr>
<td>ERSFH8414F8B</td>
<td>8414Spl.</td>
<td>8418 or F27194†</td>
<td>8003N (x2)</td>
<td>8593CTN†</td>
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<tr>
<td>ERSFH8414FDC</td>
<td>8414Spl.</td>
<td>8418 or F27194†</td>
<td>8003U-1 (x2)</td>
<td>8013U-1*</td>
</tr>
</tbody>
</table>

* Other styles available.
† F27194 Automotive 480VAC label.

**NOTE:**
Mating Plugs sold separately. 100A also available — consult your Thomas & Betts representative.
Dimensions

- Mains Disconnect
- Door Handle
- Convenience Outlets to Spec
- Breaker/GFCI Protection to Spec
- 60A Outlet

Wiring Diagram

- Circuit Breaker GFCI
- Two Receptacles 120 Volt
- Transformer
- Fuse Holder
- Receptacle 480 Volt
- Fused Switch
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, 480VAC/250VDC, 3P4W
Circuit Breaker Interlocked Receptacle Option

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, ⅛ 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

Dimensions

**Mechanically Interlocked Switch**

1¼” NPT Top Entry Std./Other Sizes Available

**Mating Plug**

60A, 3P4W, 8418 or F27194

---

**Features and Benefits (continued)**

† Automotive 480VAC.
‡ 70A Trip version F26313 and other variations also available.

**NOTE:**
CFCSRA13-60 replaces previous Cat. #FCNSRA13-60. Mating Plugs sold separately.

**INTERLOCK MATING PLUG**

<table>
<thead>
<tr>
<th>INTERLOCK CAT. NO.</th>
<th>MATING TYPE</th>
<th>PLUG</th>
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<tbody>
<tr>
<td>CFCSRA13-60</td>
<td>Switched only</td>
<td>8418 or F27194†</td>
</tr>
<tr>
<td>F32753‡</td>
<td>Circuit breaker</td>
<td>8418 or F27194†</td>
</tr>
</tbody>
</table>

*17” dim. for F32753 unit*
Interlocked Switch (30A, 480VAC)
Automotive/Heavy Industrial I-Beam Web Mount
Interlocked Switch (FS/FD™ Interface)

30 Amp, 480VAC, 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, enabling 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
• Deadfront 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

Dimensions

Interlocked Switch

<table>
<thead>
<tr>
<th>CAT. NO.</th>
<th>MATING PLUG</th>
</tr>
</thead>
<tbody>
<tr>
<td>F34331</td>
<td>F34332</td>
</tr>
</tbody>
</table>

Mating plugs sold separately.

Control Circuit and Industrial Interlock
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 deadfront 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 ability to electrical interlock function
- Standard conduit openings through top or side

**Boldface** figures are for voltage assignment; for different ratings, see page 50.

### Conduit Hubs: (at B or E)

<table>
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<tr>
<th>Amp</th>
<th>POLES/ WIRES</th>
<th>VOLTAGE</th>
<th>MECHANICALLY INTERLOCKED RECEPTACLE</th>
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</table>

**Control Contacts** (position 12) use “K” example: DBRF6104060KD

**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. NA0 (repl. "DBRF" with "DSRF")**

For additional full line and polarization options, see MaxGard section on pages 6–53.

### Dimensions

<table>
<thead>
<tr>
<th>Amp</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
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<td>6/16&quot;</td>
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**UL** and **ULC**