

Intermodal • Port Terminal • Shipboard  
Railroad • Industrial • Shore Power

# SAFETY-INTERLOCKED CORD-CONNECTED POWER SOLUTIONS



**ESL**  
POWER SYSTEMS®  
ESLPWR.COM

**S**ince its inception in the early 1990's, ESL has established itself as the industry leader in the design and manufacturing of electrical devices for powering refrigerated ISO containers. With special attention to Safety, Quality, Innovation, Value and Customer Service, ESL sets itself apart from other players in the intermodal industry.

With a wide product offering that includes Safety-interlocked Reefer Outlet Assemblies, Reefer Sharing Units, ERTG Safety-interlocked Disconnect Cabinets, Transformers, Plugs and Connectors and related electrical equipment, ESL is the reliable link in the intermodal "cold" chain.



### **Quick link**

Take a virtual tour of our  
manufacturing facility:

**[eslpwr.com/tour](http://eslpwr.com/tour)**





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# Intermodal Power

ESL's Safety-interlocked Reefer Outlets are designed to provide the operator with a "de-energized" circuit during the insertion and retraction of the male plug, preventing "making or breaking" under load. All ESL products are designed for simplified operation and heightened safety. Molded-case circuit breakers supplied in the modules are available with various trip ratings to allow for branch, overload and short-circuit protection as required.

## ESL's Safety-interlocked Reefer Outlets:

- Prevent "making or breaking" under load (safety-interlocked)
- Function as a manual disconnect
- Provides branch circuit protection
- Modular design - easy to install and maintain
- Fabricated with stainless steel components
- High visibility LED indicating light(s), auxiliary contact(s), bell alarm, plug sensing, contact, and shunt trip
- Factory rebuild program available
- UL/cUL Listed

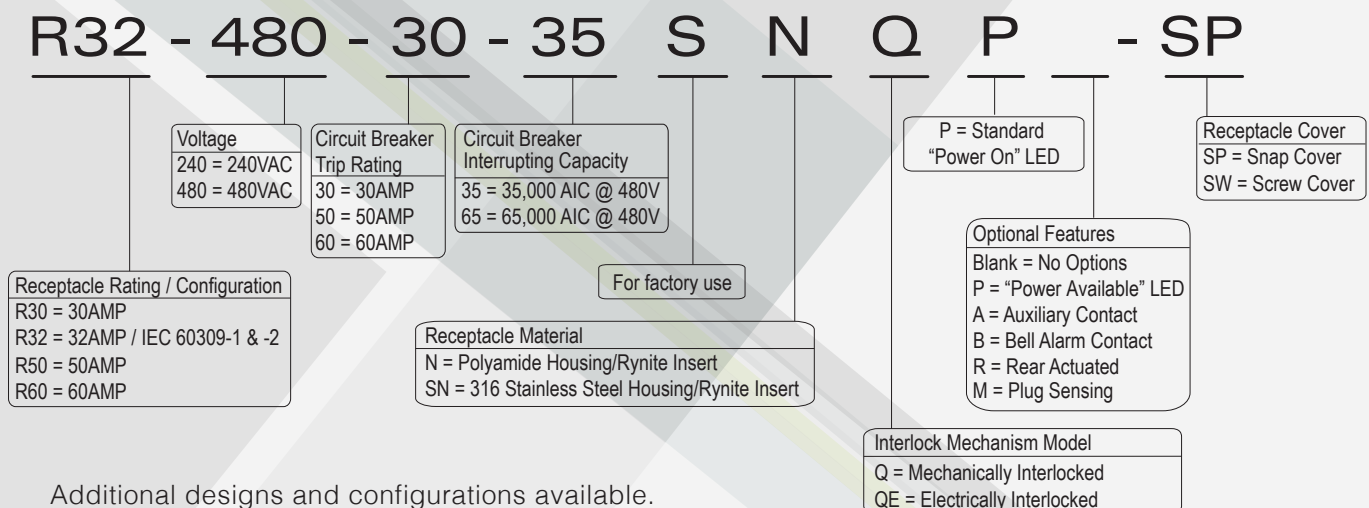


### Quick link

Modular Reefer Outlet  
Demonstration Video:  
[eslpwr.com/  
snq-reefer-module-demo](http://eslpwr.com/snq-reefer-module-demo)



## REEFER OUTLET PRODUCT SELECTION



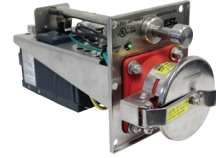
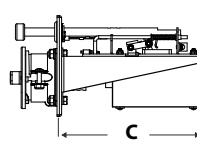
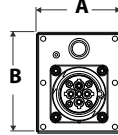
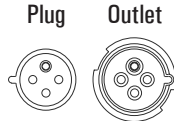


# Safety-Interlocked Reefer Outlets

## STANDARD PRODUCT OFFERINGS

### 32AMP

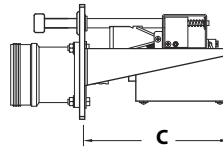
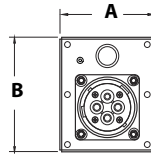
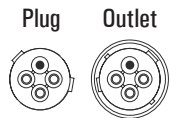
380VAC/50Hz  
480VAC/60Hz



| Catalog No.           | Item No.   | Trip Rating | AIC Rating       | Dim. A | Dim. B | Dim. C | Receptacle Material                        | Interlock  |
|-----------------------|------------|-------------|------------------|--------|--------|--------|--|------------|
| R32-480-30-35SNQP-SP  | 1706-56ANP | 30A         | 35 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Polyamide Housing/<br>Rynite® Insert       | Mechanical |
| R32-480-30-35SSNQP-SP | 1706-60ANP | 30A         | 35 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Stainless Steel Housing/<br>Rynite® Insert | Mechanical |
| R32-480-30-65SNQP-SP  | 1706-59ANP | 30A         | 65 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Polyamide Housing/<br>Rynite® Insert       | Mechanical |
| R32-480-30-65SSNQP-SP | 1706-61ANP | 30A         | 65 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Stainless Steel Housing/<br>Rynite® Insert | Mechanical |

### 60AMP

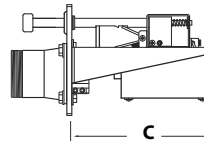
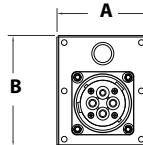
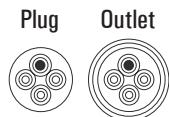
480VAC/60Hz



| Catalog No.          | Item No.   | Trip Rating | AIC Rating       | Dim. A | Dim. B | Dim. C | Receptacle Material            | Interlock  |
|----------------------|------------|-------------|------------------|--------|--------|--------|--------------------------------|------------|
| R60-480-50-35SSQP-SP | 1706-55AP  | 50A         | 35 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Stainless Steel/Rynite® Insert | Mechanical |
| R60-480-30-35SSQP-SP | 1706-75AAP | 30A         | 35 KAIC @ 480VAC | 5"     | 6"     | 8.5"   | Stainless Steel/Rynite® Insert | Mechanical |

### 30AMP

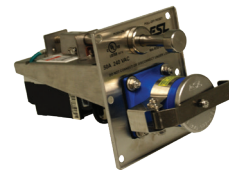
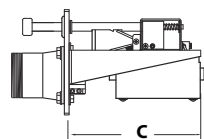
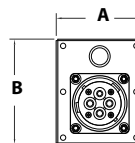
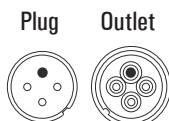
250VAC/60Hz



| Catalog No.         | Item No. | Trip Rating | AIC Rating       | Dim. A | Dim. B | Dim. C | Receptacle Material | Interlock  |
|---------------------|----------|-------------|------------------|--------|--------|--------|---------------------|------------|
| R30-240-50-65SC-SPL | 1700-34A | 50A         | 65 KAIC @ 240VAC | 5"     | 6"     | 7"     | Rynite®             | Mechanical |

### 50AMP

250VAC/60Hz



| Catalog No.         | Item No. | Trip Rating | AIC Rating       | Dim. A | Dim. B | Dim. C | Receptacle Material | Interlock  |
|---------------------|----------|-------------|------------------|--------|--------|--------|---------------------|------------|
| R50-240-50-65SC-SPL | 1700-37A | 50A         | 65 KAIC @ 240VAC | 5"     | 6"     | 7"     | Rynite®             | Mechanical |

Replace "SP" with "SW" for Shipboard Applications.  
Additional designs and configurations available. Contact ESL for details.

# Reefer Outlet Features

## Heavy Duty Stainless Steel Construction

- Withstands marine use and abuse
- Superior corrosion resistance

## Interlock Mechanism

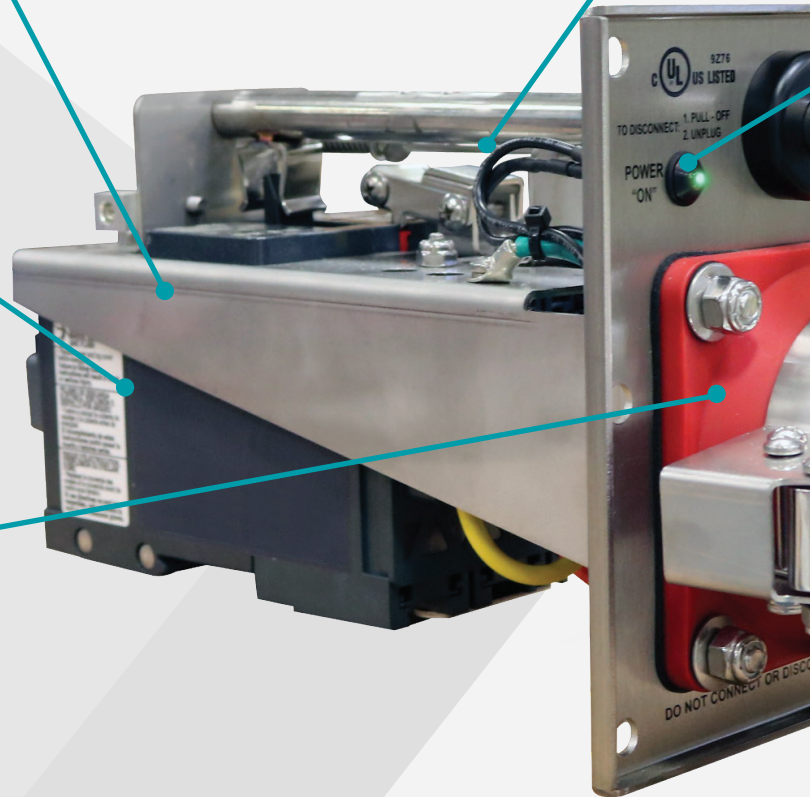
- Prevents "making or breaking" under load
- Maximum operator safety
- Easy plug insertion
- Ground pin actuated

## UL 489 Listed Molded Case Circuit Breaker

- Maximum operator & equipment protection
- Approved for branch circuits
- Various interrupting capacities available

## 2 Receptacle Options (IEC 60309-1 & 2)

- Two-piece Polyamide/Rynite®
- Two-piece 316 Stainless Steel/Rynite®



## TWO-PIECE POLYAMIDE / RYNITE®

O-ring for watertight installation

Sleeve springs maximize contact area between pin & sleeve

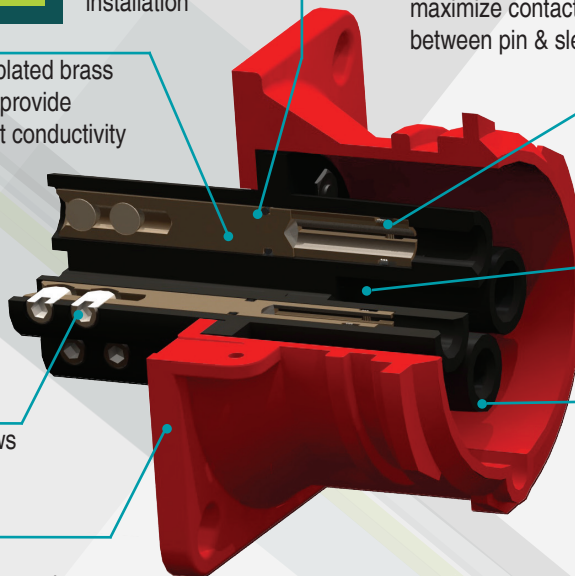
Nickel-plated brass sleeves provide excellent conductivity

High-temperature Rynite® insert

Tubular design minimizes arc tracking

Stainless steel set screws

Polyamide receptacle housing with excellent impact characteristics





### High Visibility LED Indicating Light

- Power On
- Power Available (optional)
- Trip (optional)

### Heavy Duty Actuator Rod

- Manual disconnect
- Superior corrosion resistance
- Withstands marine use and abuse
- Stainless steel rod
- Non-metallic knob & seal holder

### Heavy Duty Stainless Steel “Snap” Cover

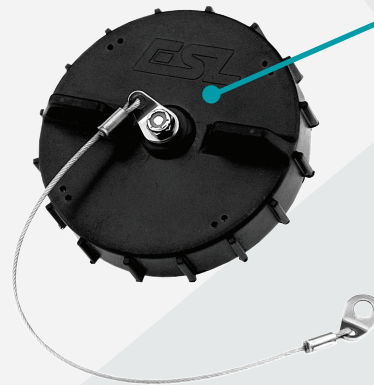
- Strong & corrosion resistant
- Self closing & aligning
- Protects contacts from contamination

### Optional Features:

- Shunt trip
- Bell alarm
- Auxiliary contact
- Electrically interlocked
- Nylon screw cover
- Plug sensing device
- Indicating light(s)

### Nylon Screw Cover (Optional)

- Stainless steel tether
- Interior gasket for a watertight seal



## TWO-PIECE 316 STAINLESS STEEL / RYNITE®

Nickel-plated brass sleeves provide excellent conductivity

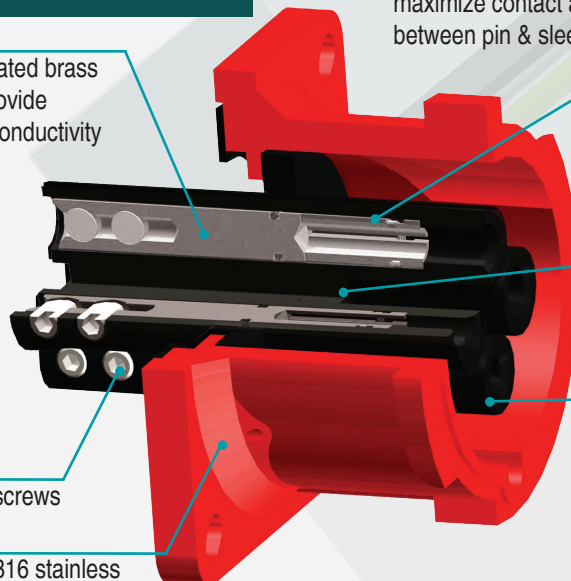
Sleeve springs maximize contact area between pin & sleeve

High-temperature Rynite® insert

Tubular design minimizes arc tracking

Stainless steel set screws

Powder-coated 316 stainless steel receptacle housing



# Port Terminal Solutions



2-Gang Pedestal Mount Reefer Outlet Assembly  
ESL Series: 2217-26

Container port terminals are dynamic and often dangerous environments. ESL offers a full line of Reefer Outlet Assemblies (ROAs) designed specifically for port terminal applications with a focus on safety and quality. ESL's ROAs are fabricated to withstand harsh marine environments while providing operator safety and equipment protection.

Reefer Outlet Assemblies are equipped with Safety-interlocked Reefer Outlets (Power Modules) to provide safe and reliable connections for refrigerated containers. These modules also allow for easy maintenance and minimal downtime.



## Quick link

ROA Resources  
Including Specifications  
for Engineers:  
[eslpwr.com/  
intermodal-reefer](http://eslpwr.com/intermodal-reefer)



2-Gang Pole Mount Assembly  
ESL Series: 2208-98



3-Gang Rack Mount Assembly  
ESL Series: 2222-55

## FEATURES

- Customized assemblies designed to meet specific project requirements
- Type 4X enclosures
- Seam welded powder-coated stainless steel enclosures
- Safety-interlocked reefer outlets are factory-wired to power distribution blocks for easy field installation
- Modular design allows for simple maintenance and significantly reduces downtime
- Complete assembly and individual reefer outlets are UL and cUL Listed



24-Gang Bollard Mount Assembly  
ESL Series: 2208-37B



# Rack Mount Assemblies

Rack mount assemblies allow for quick and easy plug-in of refrigerated containers to power outlets installed on rack structures. These outlet assemblies are secured to the racks using stainless steel tabs. ESL can accommodate various mounting and power requirements needed for reefer racks.



3-Gang Rack Mount Assembly  
ESL Series: 2220-87C



3-Gang Rack Mount Assembly  
ESL Series: 2214-23B



4-Gang Rack Mount Assembly  
ESL Series: 2216-87-1



1-Gang Rack Mount Assembly  
ESL Series: 2263-22ENDW



3-Gang Rack Mount Assembly  
with Main Breaker  
ESL Series: 2223-27PR



6-Gang Rack Mount Assembly  
ESL Series: 2208-68NH



# Rack Mount Assemblies



2-Gang Rack Mount Assembly  
ESL Series: 2207-90-3L



10-Gang Rack Mount Assembly  
ESL Series: 2223-61B



2-Gang Rack Mount ROA  
ESL Series: 2274-04ANW



1-Gang Rack Mount ROA  
ESL Series: 2263-22ENDW



4-Gang Rack Mount Assembly  
ESL Series: 2219-82L



3-Gang Rack Mount Assembly  
ESL Series: 2214-23N

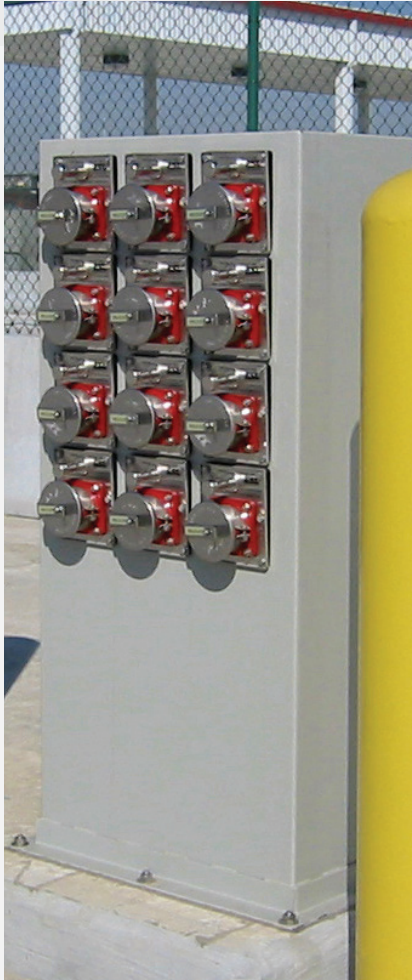


2-Gang Rack Mount Assembly  
ESL Series: 2222-56A



# Pedestal Mount Assemblies

When Reefer Outlet Assemblies cannot be mounted to a rack or pole, ESL's pedestal mount assemblies ensure that electrical connections are up off the ground and at a convenient height for quick plug-in capabilities.



12-Gang Pedestal Mount Assembly  
ESL Series: 2208-70A



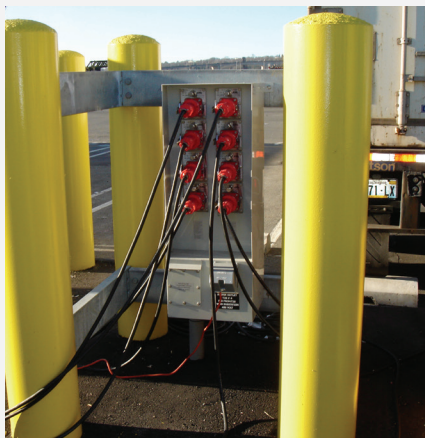
2-Gang Pedestal Mount Assembly  
ESL Series: 2220-78



20-Gang Pedestal Mount Assembly  
ESL Series: 2218-84A



2-Gang Pedestal Mount Assembly  
ESL Series: 2209-26



8-Gang Bollard Mount Assembly  
with GFCI Receptacles  
ESL Series: 2216-58



16-Gang Free Standing Assembly  
ESL Series: 2217-56B



5-Gang Pedestal Mount ROA  
ESL Series: 2209-69



# Bunker Mount Assemblies



4-Gang Bunker Mount Assembly  
ESL Series: 2217-02

For wheeled terminals, ESL's bunker mount assemblies provide a connection point for chassis-mounted refrigerated ISO containers to plug into.

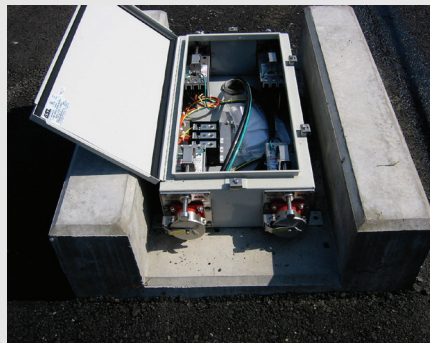


## Quick link

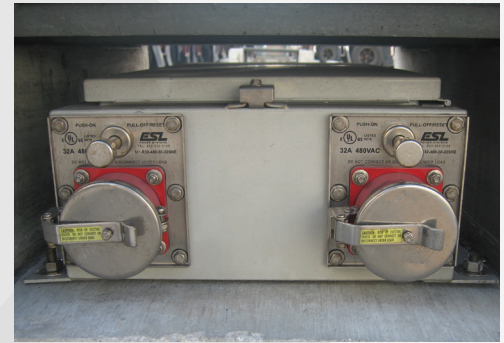
Intermodal Infographic:  
[blog.eslpwr.com/  
intermodal-infographic](http://blog.eslpwr.com/intermodal-infographic)



2-Gang Bunker Mount Assembly  
ESL Series: 2223-72A



4-Gang Bunker Mount Assembly  
ESL Series: 2223-72



2-Gang Bunker Mount Assembly  
ESL Series: 2220-78F



4-Gang Bunker Mount Assembly  
ESL Series: 2207-88



6-Gang Bunker Mount Assembly  
ESL Series: 2209-10B



# Power Pack Reefer Outlet Assemblies

Power packs are containerized diesel generator sets that are widely used in the intermodal industry to power multiple refrigerated containers when permanent reefer outlets are not available. Power packs offer flexibility by providing reefer outlet capacity when and where needed without the expense of a permanent installation.

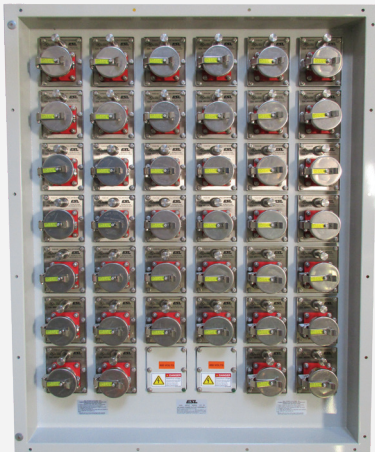
ESL designs and manufactures custom power pack reefer outlet assemblies that can be supplied in various configurations, minimizing labor and installation for power pack manufacturers. ESL power pack panels are manufactured using safety-interlocked reefer outlets pre-wired to power distribution blocks. Optional features such as voltmeter, ammeter, and output cam connectors are available and can be incorporated in power pack panels.



8-Gang Power Pack Assembly  
ESL Series: 2202-75E



8-Gang Power Pack Assembly  
ESL Series: 2202-75RL



40-Gang Power Pack Assembly  
ESL Series: 2207-40G



30-Gang Power Pack Assembly  
ESL Series: 2221-56EA



20-Gang Power Pack Assembly  
ESL Series: 2207-53B



8-Gang Power Pack Assembly  
ESL Series: 2202-75D



# Rear Actuated Assemblies

ESL's Rear Actuated Safety-interlocked Power Modules (Reefer Outlets) share all of the key features with the standard ESL Safety-interlocked Power Modules.

As an additional safety attribute, these modules are designed with the ON/OFF actuator rod and the receptacle on opposite sides of the enclosure assembly. This allows the operator to be away from the plug and receptacle connection at the time the unit is energized.

ESL offers custom-designed stainless steel enclosures to house these modules in pole, rack, or pedestal style assemblies.

## FEATURES

- Actuator rod and receptacle are located on opposite sides of the enclosure assembly to protect operator in case of an unexpected explosion/flashover caused by a defective or wet plug
- Electrically-interlocked to prevent “making or breaking” electrical contacts under load
- High visibility indicator light(s)
- Modular design simplifies maintenance and minimizes downtime
- Interlocked circuit breaker with auxiliary contact available
- Stainless steel, spring-actuated snap-cover protects receptacle contacts from dust and water when not in use
- 14 GA stainless steel Type 4X enclosures (powder-coated after fabrication)
- Complete assembly & Rear Actuated Power Module are UL & cUL Listed



2-Gang Rack Mount Rear Actuated Assembly  
ESL Series: 2221-14L



4-Gang Rear Actuated Assembly  
ESL Series: 2217-04R-C  
(Front View)



4-Gang Rear Actuated Assembly  
ESL Series: 2217-04R-C  
(Side View)



1-Gang Rear Actuated Assembly  
ESL Series: 2223-05

# Rear Actuated Assemblies



3-Gang Rack Mount Rear Actuated Assembly  
ESL Series: 2221-39L4



2-Gang Rack Mount Rear Actuated Reefer Outlet Assembly  
ESL Series: 2221-14L

## Stainless Steel Actuator Rod

- Reverse placement for safety
- Superior corrosion resistance
- Withstands marine use and abuse

## Heavy Duty Stainless Steel Construction

- Withstands marine use and abuse
- Superior corrosion resistance

## UL 489 Listed Circuit Breaker

- Maximum operator & equipment protection
- Approved for branch circuits
- Various interrupting capacities available

## Electrical Interlock

- Maximum operator safety
- Easy plug insertion
- Ground pin actuated

## Angled Receptacle Gasket

- Provides enhanced watertight protection

## High Visibility Indicator Light

- Power On
- Power Available (optional)
- Trip (optional)

## Multiple Receptacle Options

- Two-piece Polyamide/Rynite®
- Two-piece 316 Stainless Steel/Rynite®



## Heavy Duty Stainless Steel “Snap” Cover

- Strong & corrosion resistant
- Self closing & aligning
- Protects contacts from contamination



# Portable Distribution Trees

When terminals are over capacity or when moving refrigerated ISO containers to accommodate power requirements is inconvenient, ESL's portable reefer outlet assemblies provide terminal operators with optimal flexibility. Portable Distribution Trees can be customized to meet unique requirements by adding cam-style receptacles for line-side power, wheels, fork pockets, or lifting handles for maneuverability.



10-Gang Portable Distribution Tree with Cam-style Inlets  
ESL Series: 2282-21FWY



15-Gang Portable Distribution Tree  
with Cam-style Inlets  
ESL Series: 2214-34



20-Gang Portable Distribution Tree  
ESL Series: 2220-95B



30-Gang Portable Distribution Tree  
with Cam-style Inlets  
ESL Series: 2221-19



20-Gang Portable Distribution Tree  
ESL Series: 2220-95B



# Portable Distribution Trees



20-Gang Portable Distribution Tree  
ESL Series: 2280-95FNW



20-Gang Portable Distribution Tree with Cam-style Inlets  
ESL Series: 2280-95FW



30-Gang Portable Distribution Tree with Cam-style Inlets  
ESL Series: 2281-19CW



6-Gang Portable Assembly with Cam-style Inlets  
ESL Series: 2219-41



30-Gang Portable Distribution Tree with Cam-style Inlets  
ESL Series: 2281-19CY





# Non-Modular

ESL's non-modular reefer outlets (sockets) provide a safe and simple connection for refrigerated ISO containers. Non-modular reefer outlets are built to accommodate the most common power requirements, ranging from 32A to 60A and up to 480VAC.



1-Gang Interlocked Assembly with Molded Case Circuit Breaker  
ESL Series: 4900-13



2-Gang Interlocked Assembly with Molded Case Circuit Breakers  
ESL Series: 4900-14



3-Gang Interlocked Assembly with Molded Case Circuit Breakers  
ESL Series: 4900-XX



1-Gang Switched Assembly without Circuit Breaker  
ESL Series: 4900-11



2-Gang Interlocked Assembly with Molded Case Circuit Breakers  
ESL Series: 4900-14



1-Gang Switched Assembly without Circuit Breaker  
ESL Series: 4900-11

## FEATURES

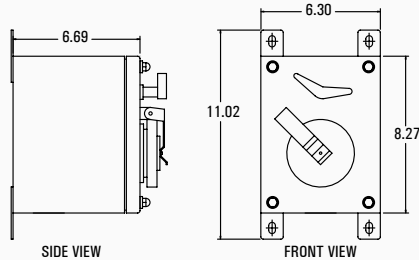
- Receptacles: 3h per IEC 60309-1 & -2
- Safety-interlocked with a rotary switch or molded case circuit breaker
- Powder-coated 304 stainless steel enclosures
- Fitted with a threaded flap cover and hinged for IP56 rating
- Non-UL Listed

# Non-Modular

## 1-Gang Switched Assembly without Breaker



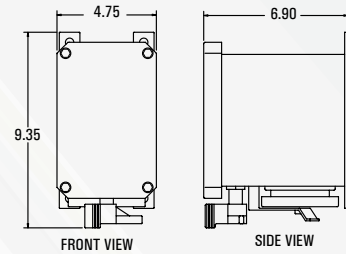
Cat. No. N1-R32-480-FRT-FP-490011



## 1-Gang Switched Assembly without Breaker



Cat. No. N1-R32-480-FP-490009

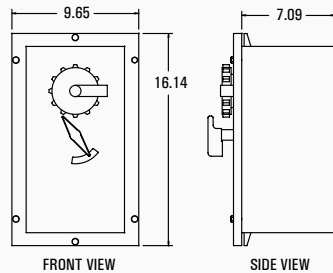


| Voltage                        | Current | Config. | Body & Cover                           | Switch           | Protection | Standard           |
|--------------------------------|---------|---------|--|------------------|------------|--------------------|
| 380VAC/50Hz<br>440-480VAC/60Hz | 32AMP   | 3P 4W   | 304 Stainless Steel<br>(Powder Coated) | Rotary<br>Switch | IP56       | IEC 60309-1 & 2 3h |

## 1-Gang Interlocked with Molded Case Circuit Breaker



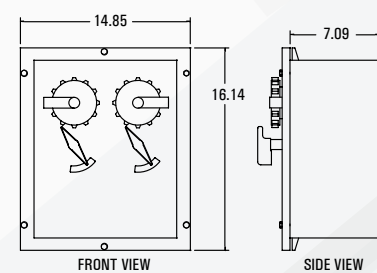
Cat. No. N1-480-32-30-10K-490013



## 2-Gang Interlocked with Molded Case Circuit Breakers



Cat. No. N2-480-32-30-10K-490014

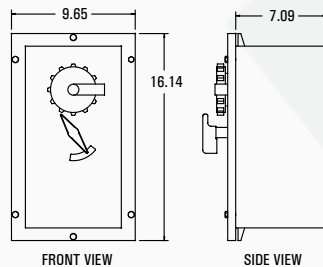


| Voltage                        | Current | Config. | Body & Cover                           | Switch                         | Protection | Standard           |
|--------------------------------|---------|---------|--|--------------------------------|------------|--------------------|
| 380VAC/50Hz<br>440-480VAC/60Hz | 32AMP   | 3P 4W   | 304 Stainless Steel<br>(Powder Coated) | Molded Case<br>Circuit Breaker | IP56       | IEC 60309-1 & 2 3h |

## 1-Gang Interlocked with Molded Case Circuit Breaker



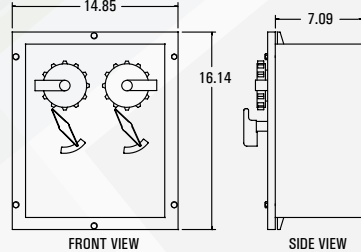
Cat. No. N1-480-60-30-10K-490010



## 2-Gang Interlocked with Molded Case Circuit Breakers



Cat. No. N2-480-60-30-10K-490008



| Voltage                        | Current | Config. | Body & Cover                           | Switch                         | Protection | Standard   |
|--------------------------------|---------|---------|--|--------------------------------|------------|------------|
| 380VAC/50Hz<br>440-480VAC/60Hz | 60AMP   | 3P 4W   | 304 Stainless Steel<br>(Powder Coated) | Molded Case<br>Circuit Breaker | IP56       | ISO1496/II |

Note: All dimensions are in inches. Non-UL Listed.  
Additional designs and configurations available. Contact ESL for details.



# ERTG Disconnect (MV/LV)

ESL's ERTG Safety-interlocked Cabinet provides safe power cord connections for Electrified Rubber Tire Gantries (ERTGs) at container terminals as well as for other medium or low-voltage cord-connected applications.

For container terminals, this unique, patented design allows multiple MV ERTG cabinets to be daisy-chained, reducing the number of costly medium-voltage circuit breakers required upstream in the switchgear.

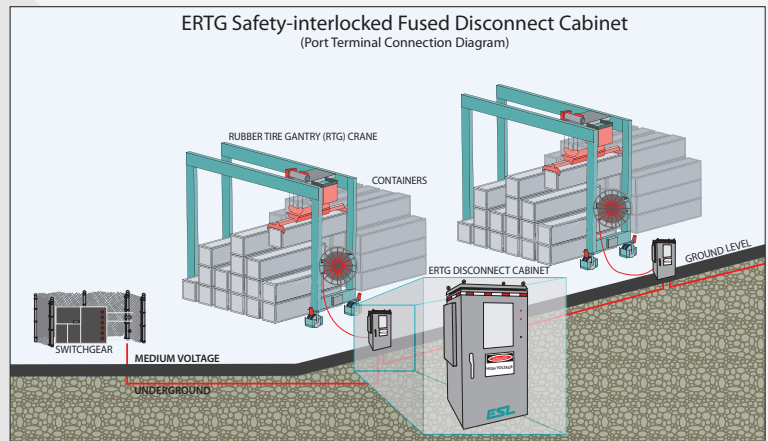
## FEATURES

- Interlocked air insulated load break medium-voltage switch or low-voltage molded case circuit breaker
- Safety-interlocked 7.2kV marine grade receptacle
- Internal grounding switch (MV)
- Compact footprint
- Redundant electrical safety-interlock
- Mechanical fuse tripping (MV)
- Electrically interlocked door



### Quick link

ERTG Disconnect Cabinet  
Demo Video:  
[eslpwr.com/ertg-demo](http://eslpwr.com/ertg-demo)



ERTG Disconnect Cabinet  
1000V 700A 50/60Hz  
ESL Series: 5101-36E



ERTG Disconnect Cabinet  
3300V 125A 50Hz  
ESL Series: 5100-46B



Back View



Front View

# Medium Voltage Connections Boxes

Many automated container terminals rely on Rail Mounted Gantry cranes (RMGs) powered from medium voltage systems. ESL custom designs and manufactures durable medium voltage connection boxes for RMGs. ESL's connection boxes are powder coated stainless steel which reduces corrosion and increases longevity in harsh marine environments. ESL can furnish connection boxes with most common options such as push pull connectors, dead-break elbows, fuses, and fiber optic boxes.



125A 24KV Fused Junction Box  
ESL Series: 5101-41B



125A 24KV Fused Junction Box  
ESL Series: 5101-41B



15KV Junction Box, Medium Voltage  
with Dead-Break Elbows  
ESL Series: 5100-58A



15KV Junction Box, Medium Voltage  
ESL Series: 5100-58



# Unit Substations

In addition to stepping down electrical voltage, ESL's unit substations provide users with the benefits of load side power distribution capabilities.

## FEATURES

- 304 stainless steel Type 3R enclosure
- 480VAC primary to 120/240V single phase
- 480VAC primary to 208Y/120V three phase
- Breaker protection on primary side & secondary side
- Optional Safety-interlocked Power Modules or GFCI receptacles
- Ideal for port terminals, shipyards, marinas and other outdoor marine applications



Unit Substation  
ESL Series: 6100-36

## Single Phase

| Catalog Number       | kVA  | Primary Volt. | Secondary Volt. | Primary Current | Secondary Current | Height | Width | Depth | Max. Available Distribution |
|----------------------|------|---------------|-----------------|-----------------|-------------------|--------|-------|-------|-----------------------------|
| LPXR1-25-480-240/120 | 25   | 480VAC        | 240/120VAC      | 52A             | 104A              | 31"    | 49"   | 27"   | (24) 1" Breaker Spaces      |
| LPXR1-37-480-240/120 | 37.5 | 480VAC        | 240/120VAC      | 78A             | 156A              | 31"    | 49"   | 27"   | (24) 1" Breaker Spaces      |
| LPXR1-50-480-240/120 | 50   | 480VAC        | 240/120VAC      | 104A            | 208A              | 31"    | 49"   | 27"   | (24) 1" Breaker Spaces      |
| LPXR1-75-480-240/120 | 75   | 480VAC        | 240/120VAC      | 156A            | 313A              | 38"    | 51"   | 27"   | (30) 1" Breaker Spaces      |

## Three Phase

| Catalog Number        | kVA   | Primary Volt. | Secondary Volt. | Primary Current | Secondary Current | Height | Width | Depth | Max. Available Distribution |
|-----------------------|-------|---------------|-----------------|-----------------|-------------------|--------|-------|-------|-----------------------------|
| LPXR3-30-480-240/120  | 30    | 480VAC        | 208Y/120VAC     | 36A             | 83A               | 31"    | 49"   | 27"   | (24) 1" Breaker Spaces      |
| LPXR3-45-480-240/120  | 45    | 480VAC        | 208Y/120VAC     | 54A             | 125A              | 38"    | 51"   | 27"   | (30) 1" Breaker Spaces      |
| LPXR3-75-480-240/120  | 75    | 480VAC        | 208Y/120VAC     | 90A             | 208A              | 38"    | 51"   | 27"   | (30) 1" Breaker Spaces      |
| LPXR3-112-480-240/120 | 112.5 | 480VAC        | 208Y/120VAC     | 135A            | 312A              | 40"    | 59"   | 30"   | (42) 1" Breaker Spaces      |

Additional designs and configurations available. Contact ESL for details.

# Shipboard Solutions

ESL's shipboard reefer outlets (sockets) are made to withstand harsh marine environments. In addition to features of the standard ESL reefer outlet, the shipboard reefer outlet comes equipped with an IP67 screw cover to ensure a watertight seal.



12-Gang Shipboard Assembly  
ESL Series: 2222-90D

## FEATURES

- Non-metallic IP67 screw cover with coated stainless steel tether
- Mechanically interlocked to prevent “making or breaking” under load
- Circuit breaker rated 35KAIC @ 480VAC (up to 65KAIC)
- Stainless steel frame & interlock mechanism, impact resistant non-metallic socket, nickel plated brass contacts, stainless steel hardware
- CE, GL, UL & cUL Listed assemblies



4-Gang Shipboard Assembly  
ESL Series: 2214-92



1-Gang Shipboard Assembly  
ESL Series: 2200-47C-1



2-Gang Shipboard Assembly  
ESL Series: 2221-09A



8-Gang Shipboard Assembly  
ESL Series: 2214-03A



# Reefer Sharing Units



Reefer Sharing Unit with Hanger Bracket  
ESL Series: 2213-04SA

## PORTABLE RSU

ESL's Portable RSU houses two reefer outlets in one compact, lightweight assembly. Portable RSUs are designed with a hanger bracket for shipboard applications or with a utility handle commonly used in port terminal applications.

## MODULAR RSU

Modular (or multi-gang) RSUs are ganged together in a Type 4X stainless steel enclosure and custom designed to meet a variety of different power requirements and dimensions.



Reefer Sharing Unit with Utility Handle  
ESL Series: 2213-14SA



20-Gang Modular RSU Assembly  
ESL Series: 3500-19D



20-Gang Modular RSU Assembly  
ESL Series: 3500-02

# Reefer Sharing Units

## FEATURES

- Electrical safety-interlock prevents “making or breaking” under load
- “Smart Sharing” system senses when only one reefer is plugged in to a module
- Two female receptacles for easy plug in
- High visibility LED lights show which receptacle is energized
- Type 4X stainless steel enclosures
- Safety-interlocked Modular RSUs are factory-wired to power distribution blocks for easy field installation
- Modular design allows for simple maintenance and significantly reduces downtime



### Quick link

RSU Demonstration Video:  
[eslpwr.com/  
reefer-sharing-unit-demo-video](http://eslpwr.com/reefer-sharing-unit-demo-video)



10-Gang Modular RSU Assembly  
ESL Series: 3500-16



10-Gang Modular RSU Assembly  
ESL Series: 3500-07B



10-Gang Modular RSU Assembly  
ESL Series: 3500-16C



20-Gang Modular RSU Assembly  
ESL Series: 3500-19D



# Railroad Solutions



2-Gang Rail Assembly  
ESL Series: 2214-04

ESL reefer outlets (sockets) are designed to handle the transportation challenges associated with railroad cargo transport. Taking into account the constant vibrations and extreme climatic conditions, ESL's engineers have enhanced our safety-interlocked reefer outlets to offer ideal receptacle material and mechanism options for this application. ESL can design a solution to fit specific needs and ensure cargo stays powered.

## FEATURES

- Heavy duty stainless steel Type 4X enclosures resist corrosion and abuse
- Safety-interlock mechanism designed to reduce nuisance tripping
- Stainless steel receptacle housing for durability in extreme cold (optional)
- Modular design allows for ease of maintenance
- High visibility indicating light
- Complete assembly and individual reefer outlets are UL and cUL Listed



8-Gang Flush Mount Panel Assembly  
ESL Series:



2-Gang Rail Assembly  
ESL Series: 2214-04



2-Gang Pole Mount Assemblies  
ESL Series: 2207-21

# Integrated Reefer Power Metering

The growing interest in measuring power consumption of reefer containers has been fueled by the fact newer containers consume significantly less power than older units. Average energy consumption reduction calls for a change in power charges; however the process of cooling a hot reefer needs to be addressed as well. Understanding the baseline carbon footprint in a port terminal can help measure and improve terminal energy efficiency overall. ESL's Power Reefer Metering capabilities incorporate the safety of an ESL Reefer Outlet Assembly with the ability to measure actual power consumption with revenue grade accuracy and cost per reefer in real-time.

## PEDESTAL MOUNT



6-Gang Pedestal Mount Reefer Outlet Assembly  
ESL Series: 2222-77



16/15-Gang Pedestal Mount  
Reefer Outlet Assembly  
ESL Series: 2223-25A



6-Gang Pedestal Mount  
with Hour Meters  
ESL Series: 2222-75

## PORTABLE



32A 480VAC Portable Reefer Multi-Metering Assembly  
ESL Series: 2222-46

## RACK MOUNTS



3-Gang Rack Mount with Energy Meters  
ESL Series: 2223-07N



# Reefer Plugs & Connectors

In addition to providing operators with a heightened level of safety and simplified installation, ESL's complete line of refrigerated container plugs and connectors are designed to withstand tough marine environments and ensure a watertight seal.



32A 480VAC Male Plug  
ESL Series: 1800-03P1A



32A 480VAC Male Plug  
ESL Series: 1800-03P1A



60A 480VAC CF Connector  
ESL Series: 1910-03S

ESL's reefer plugs and connectors are available in a variety of configurations to accommodate the industry's most common power requirements.

## FEATURES

- Heavy-duty design for harsh marine environments
- Watertight seal
- Universal grommet
- High resistance to chemicals & impact
- UL & cUL Listed

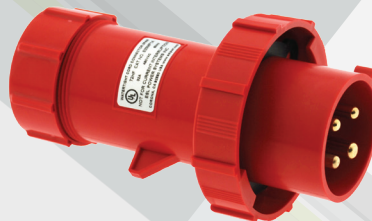


### Quick link

How to Wire Reefer  
Plugs & Connectors Video:  
[eslpwr.com/watertight-plug-install](http://eslpwr.com/watertight-plug-install)



CF Connector  
ESL Series: 1910-01



32A 480VAC Male Plug  
ESL Series: 1800-03P1A

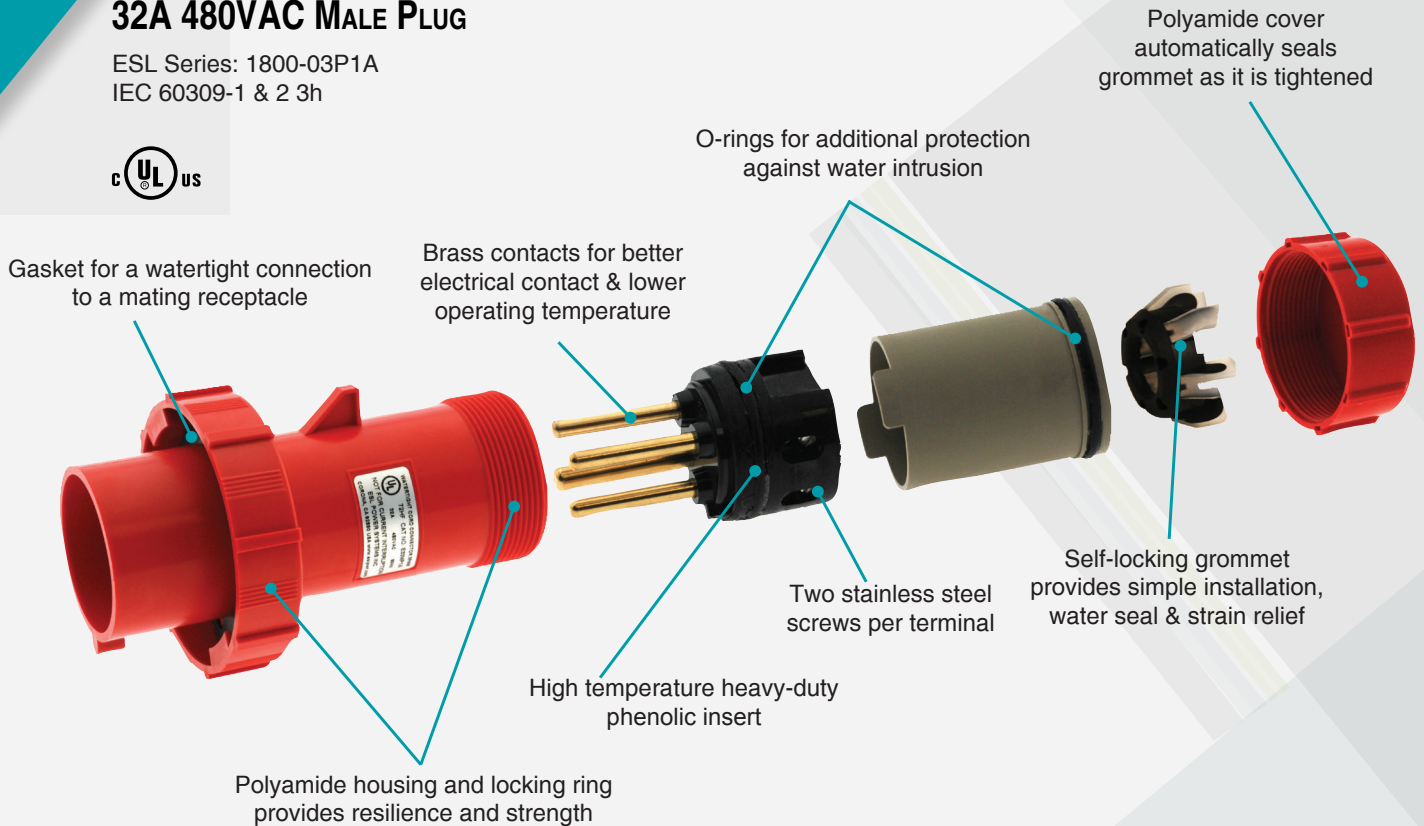


32A 480VAC Female Connector  
ESL Series: 1900-01PA

# Reefer Plugs & Connectors

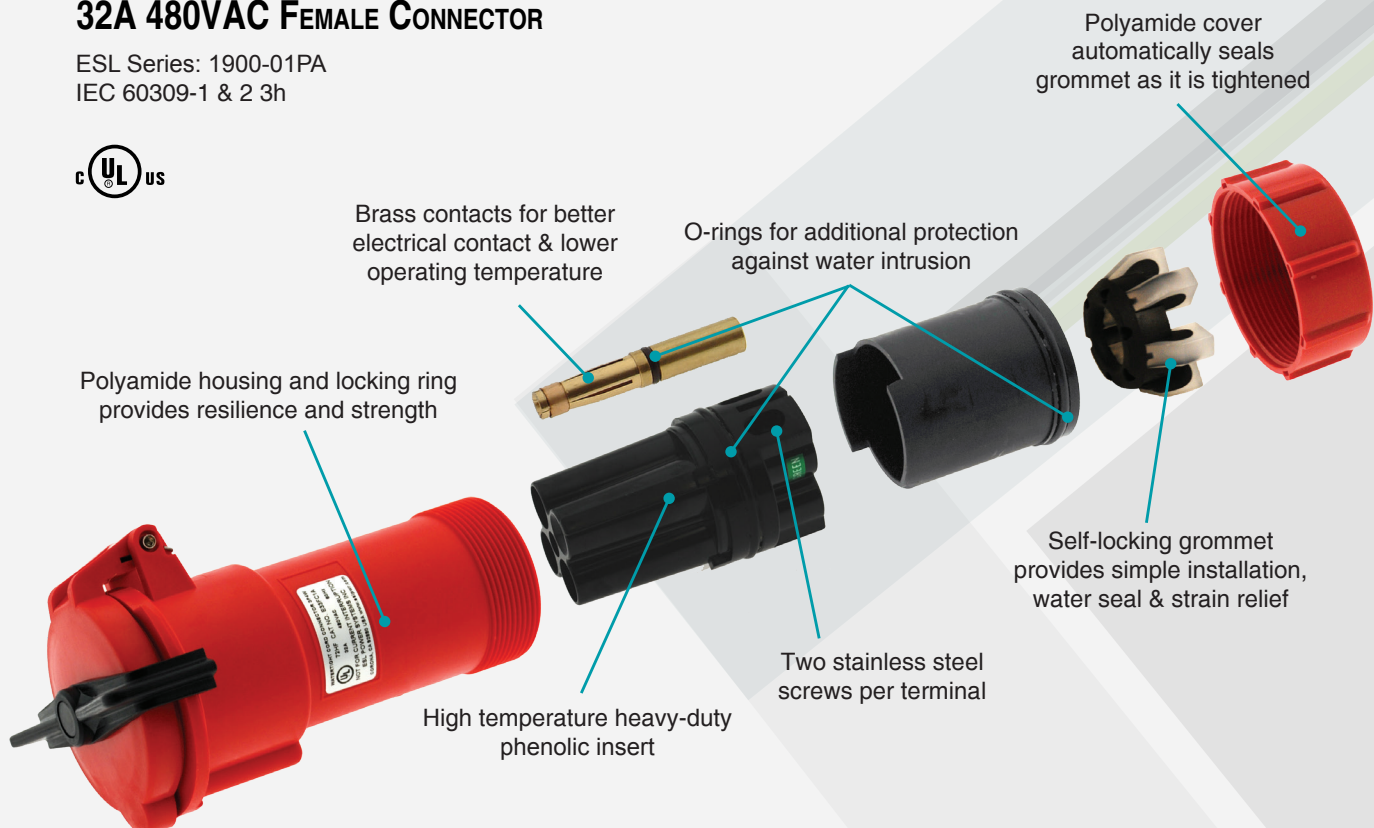
## 32A 480VAC MALE PLUG

ESL Series: 1800-03P1A  
IEC 60309-1 & 2 3h



## 32A 480VAC FEMALE CONNECTOR

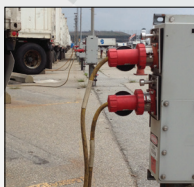
ESL Series: 1900-01PA  
IEC 60309-1 & 2 3h





# Reefer Plugs & Connectors

| Clocking Config.  | Male Plug  | Female Connector   | CF Connector  |
|---|--|--|---|
| <b>32A 480VAC</b><br>Plug      Connector<br><br>IEC 60309-1 & 2 3h | <br>ESL Series: 1800-03P1A<br>32A 480VAC 3P4W<br>Watertight & UL/cUL Listed | <br>ESL Series: 1900-01PA<br>32A 480VAC 3P4W<br>Watertight & UL/cUL Listed | <br>ESL Series: 1910-01<br>32A 480VAC 3P4W<br>Stainless Steel Back<br>Housing with Cord Grip   |
| <b>60A 480VAC</b><br>Plug      Connector<br>                       | <br>ESL Series: 1800-05PA<br>60A 480VAC 3P4W<br>Watertight & UL/cUL Listed  | <br>ESL Series: 1900-03P<br>60A 480VAC 3P4W<br>Watertight & UL/cUL Listed   | <br>ESL Series: 1910-07<br>60A 480VAC 3P4W<br>Stainless Steel Back<br>Housing with Cord Grip   |
| <b>60A 240VAC</b><br>Plug      Connector<br><br>ISO 1496-2       | <br>ESL Series: 1800-04PA<br>60A 240VAC 3P4W<br>Watertight & UL/cUL Listed | <br>ESL Series: 1900-02P<br>60A 240VAC 3P4W<br>Watertight & UL/cUL Listed  | <br>ESL Series: 1910-08<br>60A 240VAC 3P4W<br>Stainless Steel Back<br>Housing with Cord Grip  |
| <b>50A 240VAC</b><br>Plug      Connector<br>                     | <br>ESL Series: 1800-06P<br>50A 240VAC 3P4W<br>Watertight & UL/cUL Listed | <br>ESL Series: 1900-04P<br>50A 240VAC 3P4W<br>Cord Connector            | <br>ESL Series: 1910-02<br>50A 240VAC 3P4W<br>Stainless Steel Back<br>Housing with Cord Grip |
| <b>30A 240VAC</b><br>Plug      Connector<br>                     | <br>ESL Series: 1800-07P<br>30A 240VAC 3P4W<br>Watertight & UL/cUL Listed | <br>ESL Series: 1900-05P<br>30A 240VAC 3P4W<br>Cord Connector            | <br>ESL Series: 1910-05<br>30A 240VAC 3P4W<br>Stainless Steel Back<br>Housing with Cord Grip |



# Reefer Plug Testers



32A 480VAC Reefer Plug Test Unit  
ESL Series: 2220-29H



32A 480VAC Phase Rotation Tester  
ESL Series: 1476-08



32A 480VAC CF Reefer Plug Test Unit  
ESL Series: 2220-29B



32A 480VAC Reefer Plug Test Unit  
ESL Series: 2220-29E

By testing continuity and insulation resistance, ESL's reefer plug testers can detect potential short circuits, incorrectly wired plugs, and potentially unsafe cable. In addition, ESL manufactures reefer phase rotation testers and reefer plug test adaptors with test ports for portable Fluke-style multi-meters.



# Reefer Cable

## Reefer Cable

Suitable for outdoor use

| Item No.       | Rating | Color  | # of Conductors | AWG Size | Description         | Conductor Colors         |
|----------------|--------|--------|-----------------|----------|---------------------|--------------------------|
| 0911-10-4Y     | 600VAC | Yellow | 4               | 10       | 1000 ft. 10/4 SEOOW | Black, White, Red, Green |
| 0911-11-4Y     | 600VAC | Yellow | 4               | 11       | 1000 ft. 11/4 SEOOW | Black, White, Red, Green |
| 0911-10-4YSOOW | 600VAC | Yellow | 4               | 10       | 1000 ft. 10/4 SOOW  | Black, White, Red, Green |
| 0911-10-4SOOW  | 600VAC | Black  | 4               | 10       | 1000 ft. 10/4 SOOW  | Black, White, Red, Green |

## SEOOW Cable

### Conductors:

- Fully annealed stranded bare copper

### Jacket:

- Thermoplastic Elastomer (TPE)

### Insulation:

- Temperature range: -50°C to +105°C

### Features:

- Lightweight
- Oil-resistant
- Very good flexibility
- Excellent molding characteristics
- Water-resistant\*
- UL Listed and c(UL) Listed for indoor or outdoor use

## SEOOW & SOOW Industry Approvals

- UL Flexible Cord - UL 62
- CSA Flexible Cord - C22.2-49
- MSHA Approved
- RoHS Compliant

\* Suitable for immersion in water if properly sealed and terminated.

## SOOW Cable

### Conductors:

- Fully annealed stranded bare copper

### Jacket:

- Rubber

### Insulation:

- Premium-grade, color-coded 90°C EPDM

### Features:

- Excellent resistance to oil and moisture
- Good tensile strength, elongation and aging characteristics
- High flexibility
- Excellent abrasion resistance
- Water-resistant\*
- UL Listed and CSA Certified for indoor and outdoor use
- Ozone-, sunlight (UV)- and weather-resistant



Type SEOOW Flexible Yellow Cable  
ESL Series: 0911-10-4YR

# Extension Cords & Splice Kits

ESL offers a wide range of extension cords with various plug and connector configurations as well as cable types and lengths. A variety of cable splice kits are also available to repair damaged reefer cables.

## Extension Cords\*

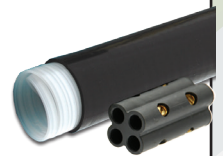
Connects a reefer container plug to an electrical outlet



| Cat. No.      | Item No.    | Rating     | Configuration | Color  | Cable             |
|---------------|-------------|------------|---------------|--------|-------------------|
| EC-32-480-30Y | 0905-03Y    | 32A 480VAC | 3P4W          | Yellow | 30 ft. 10/4 SEOOW |
| EC-32-480-60Y | 0905-02Y    | 32A 480VAC | 3P4W          | Yellow | 60 ft. 10/4 SEOOW |
| EC-32-480-90Y | 0905-04Y    | 32A 480VAC | 3P4W          | Yellow | 90 ft. 10/4 SEOOW |
| EC-32-480-30  | 0905-01A-30 | 32A 480VAC | 3P4W          | Black  | 30 ft. 10/4 SOOW  |
| EC-32-480-60  | 0905-01A-60 | 32A 480VAC | 3P4W          | Black  | 60 ft. 10/4 SOOW  |
| EC-32-480-90  | 0905-01A-90 | 32A 480VAC | 3P4W          | Black  | 90 ft. 10/4 SOOW  |

## Cable Splice Kits\*

Kits allow for quick repair of damaged cables in the field  
4 Conductor  
12-8 AWG



| Cat. No.       | Item No.  | Connector Type                                | Contact Carrier | Description                  |
|----------------|-----------|---|-----------------|------------------------------|
| SK-RS-BSM      | 4501-01   | Brass Sleeves with Set Screws                 | Sanoprene®      | Rip Shrink "Cold" Splice Kit |
| SK-RS-BCE      | 4501-02   | Butt Connectors                               | Rubber          | Rip Shrink "Cold" Splice Kit |
| SK-HS-BSM      | 4502-01   | Brass Sleeves with Set Screws                 | Sanoprene®      | Hot Shrink Splice Kit        |
| SK-HS-BCE      | 4502-02   | Butt Connectors                               | Rubber          | Hot Shrink Splice Kit        |
| SK-RS-BSM-SS   | 4501-01SS | Brass Sleeves with Stainless Steel Set Screws | Sanoprene®      | Rip Shrink "Cold" Splice Kit |
| SK-RS-BSM-1-SS | 4501-04SS | Brass Sleeves with Stainless Steel Set Screws | Sanoprene®      | Rip Shrink "Cold" Splice Kit |
| SK-RS-BC-1208  | 4501-10   | Butt Connectors                               | Rubber          | Rip Shrink "Cold" Splice Kit |
| SK-HS-BSM-SS   | 4502-01SS | Brass Sleeves with Stainless Steel Set Screws | Sanoprene®      | Hot Shrink Splice Kit        |

\*Additional lengths, and configurations available. Contact ESL for details.



# Y-Splitters & Cord Converters

ESL's Cord Converters provide the ability to connect differing plug and receptacle configurations with the same voltage at port terminals and ships.

## Converter Cords



| Cat. No.       | Item No.   | Plug Rating | Connector Rating | Configuration | Cable           |
|----------------|------------|-------------|------------------|---------------|-----------------|
| CC32-480-60-1F | 0914-00-1F | 32A 480VAC  | 60A 480VAC       | 3P4W          | 1ft. 10/4 SEOOW |
| CC32-480-60-3F | 0914-00-3F | 32A 480VAC  | 60A 480VAC       | 3P4W          | 3ft. 10/4 SEOOW |
| CC60-480-32-1F | 0914-01-1F | 60A 480VAC  | 32A 480VAC       | 3P4W          | 1ft. 10/4 SEOOW |
| CC60-480-32-3F | 0914-01-3F | 60A 480VAC  | 32A 480VAC       | 3P4W          | 3ft. 10/4 SEOOW |
| CC32-480-60-5F | 0914-00-5F | 32A 480VAC  | 60A 480VAC       | 3P4W          | 5ft. 10/4 SEOOW |
| CC60-240-30-1F | 0914-04-1F | 60A 240VAC  | 30A 240VAC       | 3P4W          | 1ft. 8/4 SEOOW  |

Y-Splitters connect two reefers to one outlet providing additional outlet capacity on a temporary basis. ESL offers multiple Y-Splitter cord configurations. Note: Operators must ensure the total load does not exceed connector rating at any time. Loads must be connected first and then the power source can be connected and energized.

## Y-Splitters



| Cat. No.     | Item No.   | Plug Rating | Connector Rating | Configuration | Cable           |
|--------------|------------|-------------|------------------|---------------|-----------------|
| YA-32-480-36 | 0904-02-36 | 32A 480VAC  | 32A 480VAC       | 3P4W          | 36ft. 10/4 SOOW |
| YA-60-480-24 | 0904-02-38 | 60A 480VAC  | 60A 480VAC       | 3P4W          | 24ft. 8/4 SOOW  |
| YA-60-480-36 | 0904-02-37 | 60A 480VAC  | 32A 480VAC       | 3P4W          | 36ft. 8/4 SOOW  |



60A 480VAC Y-Splitter Cord  
ESL Series: 0904-02-38



32A 480VAC Y-Splitter Cord  
ESL Series: 0904-02-36

# Reefer Transformers



Non-interlocked  
45KVA 480:240 Transformer  
ESL Series: 5100-82

ESL's Reefer Transformers enable operators to increase or decrease the electrical voltage to match the load requirements without investing in additional infrastructure.

## FEATURES

- Safety-interlocked power module, equipped with UL/cUL Listed circuit breaker protects operator and equipment
- Powder-coated stainless steel Type 4X enclosure resists corrosion & abuse
- Handles, wheels and latching points allow maximum flexibility for shipboard or port terminal



Safety-interlocked  
15KVA 240:480 Step-up Transformer  
ESL Series: 2203-97-01A



Transformer  
ESL Series: 3900-04



3KVA 480:120 GFI Portable Transformer  
ESL Series: 2203-97A



Safety-interlocked  
15KVA Step-down Transformer  
ESL Series: 2203-98-03



Safety-interlocked  
15KVA 480:240 Dual Voltage Transformer  
ESL Series: 2219-37A



Non-interlocked 15KVA Step-up Transformer  
ESL Series: 2206-06E



# Industrial Power



800A Power Distribution Station  
ESL Series: 2208-44

Industrial products are made to withstand harsh environments while maintaining the highest level of safety. ESL's industrial power distribution units are safety-interlocked and custom manufactured to accommodate various voltages, amperages, sizes and capabilities.

Industrial power solutions include:

- Power Distribution Stations
- Portable Welding Power Units
- Portable AC-DC Converter Assemblies
- Spider Boxes
- Safety-interlocked Single & Multi-gang Assemblies

ESL manufactures power modules using receptacles from major manufacturers such as Cooper Crouse-Hinds®, Russellstoll®, Appleton®, Meltric®, Hubbell® and others.



Safety-interlocked Power Distribution Assembly  
ESL Series: 2221-59A-1



200A Single-Gang Assembly  
ESL Series: 2219-23



16-Gang Marine Power Distribution Unit  
ESL Series: 5101-61



800A Electric Utility Station  
ESL Series: 2214-05

Cooper Crouse-Hinds®, Russellstoll®, Appleton®, Meltric®, and Hubbell® are registered trademarks of their respective companies.

# Shore Power

ESL manufactures safety-interlocked cord connected power solutions for military vessels and is known as best-in-class builders of Ship-to-Shore Power Mounds. Working with customers globally, ESL builds custom engineered solutions for military applications such as:

- Navy/NATO Ships & Bases
- USCG Ships & Bases
- Container Ships & Ports Barges

ESL's MIL-C-24368 shore power plugs and receptacles have NAVSEA qualification approval and are listed under QPL-24368. ESL builds the most durable MIL-C-24368 plugs and receptacles on the market; we are the only manufacturer using passivated 316SS castings and all 316SS hardware. This reduces corrosion and increases longevity in harsh marine environments and demanding use.



Shore Power Mound  
ESL Series: 5200-23



Multi-Gang Shore Power & Communication  
ESL Series: 5200-47-ST2



Cable Adapter  
ESL Series: 0921-18-6\*



2-Gang Shore Power Box  
ESL Series: 2220-55



2-Gang Shore Power  
Pedestal Connection Box  
ESL Series: 2206-79E2



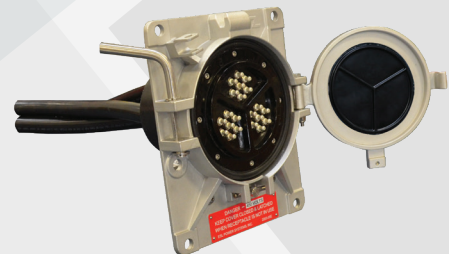
4-Gang Submarine Hook-up Box  
ESL Series: 5200-01B



MIL-C 24368/1  
Shore Power Cable Reel  
ESL Series: 0920-02



500A 500VAC  
MIL-C 24368/1 Plug  
ESL Series: 1803-00E



500A 500VAC MIL-C 24368/2  
Receptacle with 400 MCM Cable  
ESL Series: 2008-02A



# Truck-Trailer Shore Power

ESL's truck-trailer shore power solution provides utility power to docked refrigerated trucks, eliminating emissions while truck is loading/unloading. When refrigerated trucks are connected to shore power, they are "clean" and consume no fuel. ESL truck-trailer shore power is widely used in distribution centers, warehouses and truck stops.



30A 480VAC  
eTRUconnect V2 Docking Station  
PS Series with Truck-trailer Retrofit Kit



Single Gang Shore Power Outlet  
50A 240VAC  
ESL Series: 2223-73B



50A 208VAC  
eTRUconnect Power Station  
MC Series



30A 480VAC  
eTRUconnect V2 Docking Station  
PS Series - Item #: 6002-001-L



50A 208VAC  
eTRUconnect Power Station  
MC Series with GFCI Receptacle - Item #: 2223-73GA



30A 480VAC  
Truck-trailer Retrofit Kit  
Item #: 2012-05CXX



# Emergency Power

## StormSwitch™

(Manual Transfer Switch)

UL/cUL 1008 Listed up to 3000A

StormSwitch™ is a UL/cUL 1008 Listed manual transfer switch that provides an economical commercial solution for businesses that want to be prepared for emergency power loss. Equipped with safety-interlocked circuit breakers and color-coded cam-style receptacles, ESL's StormSwitch ensures a safe and simple hook-up to a portable power generator during a power outage



400A StormSwitch™  
ESL Series: 3040-10V



200A StormSwitch™  
ESL Series: 3032-01S

## TripleSwitch™

(3-Way Manual Transfer Switch)

UL/cUL 1008 Listed up to 3000A

ESL's UL/cUL 1008 Listed 3-way manual transfer switch is a dual purpose solution to service those facilities that utilize an automatic transfer switch and a permanent generator. The TripleSwitch™ provides three interlocked breakers to isolate the permanent standby generator circuit from the ATS during load bank testing. The TripleSwitch™ also provides a means to quickly connect a portable backup generator to the ATS while the permanent generator is offline.



400A TripleSwitch™  
ESL Series: 3140-10V



## Quick link

Specifications &  
Informational Videos:  
[eslpwr.com/  
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## TempTap™

(Generator Tap Box)

UL/cUL 1008 Listed up to 3200A

ESL's UL/cUL 1008 Listed generator tap boxes provide end users with a safe and simple solution to connect a portable generator to a grid-tied facility. Once installed by a licensed electrician, connection to a portable generator is easy with color-coded cam-style receptacles.



3200A TempTap™  
ESL Series: 3632-02





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