SWITCH-RATED
PLUGS & RECEPTACLES
with exclusive DECONTACTOR™ Technology

SAFETY FIRST

meltric.com

MELTRIC
A COMPANY OF MARECHAL ELECTRIC

MELTRIC® Switch-Rated Plugs & Receptacles

Plug into BLUE

The Switch-Rated Advantage

MELTRIC® Switch-Rated plugs and receptacles are a revolutionary electrical solution that combine safety, functionality, and convenience allowing users to make and break connections under full load. Innovative design integrates the critical features of a disconnect switch into a single plug and receptacle device to provide unmatched protection during overload and short-circuit conditions.

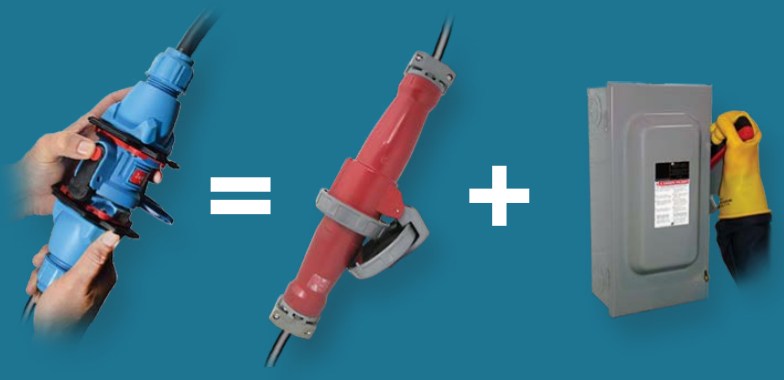
A sophisticated design, incorporating a dead-front mechanism with enclosed arc chambers, guarantees safe operation while making and breaking live connections. This approach provides users protection from exposure to live electrical and eliminates the risk of arc flash.

Motor & Branch Circuit Switching

MELTRIC® Switch-Rated devices are also UL and CSA rated for motor and branch circuit disconnect switching and are an approved NEC/CSA line-of-sight disconnect switch. Models are available with ratings up to:

- 200 A for Branch Circuit Disconnect Switching
- 100 hp for Motor Circuit Disconnect Switching

Switch-Rated plugs and receptacles eliminate expensive and bulky non-fused disconnect switches and interlocks.



Short-Circuit Overload Protection

Our Switch-Rated plugs and receptacles are engineered to deliver short-circuit protection that exceeds industry standards. They are rated to successfully close into and withstand short-circuit currents of up to **100 kA** when used in circuits protected by RK1 fuses.
(See page 19 for more information on ratings.)

MELTRIC® Switch-Rated plugs and receptacles provide safe and convenient plug-and-play connections and can be used as the line-of-sight disconnect switch for most inductive and resistive equipment. They are UL and CSA listed for use as:

a. a motor circuit disconnect switch
b. a branch circuit disconnect switch
c. a plug and receptacle

Our devices eliminate the need for mechanical interlocks and auxiliary, non-fused disconnect switches.

Their dead-front design also simplifies compliance with NFPA 70E and CSA Z462. The plug can only be removed from the receptacle after the load has been disconnected and the safety shutter has closed. This isolates the receptacle contacts and prevents an operator from ever being exposed to arcing or live parts. Removing the plug from the receptacle is an NFPA 70E-defined normal operation that visually verifies the power is OFF eliminating the need to wear cumbersome PPE and perform complex procedures.

Switch-Rated Safety Anywhere a Power Connection is Needed

The modular design and numerous mounting accessories of our Switch-Rated plugs and receptacles make it easy to configure them for use in a wide variety of applications. They can be used as in-line connectors/switches or mounted on wall boxes, distribution panels, or even directly on equipment.

Their modular design makes it simple to install them as line-of-sight disconnects exactly where they are needed. Plus, they eliminate the hassle of finding convenient mounting locations for spacious interlocks and auxiliary disconnect switches required with other connectors.

They make it easy to provide plug-and-play connections for all your mission-critical equipment. The switch ratings and dead-front design of our devices make it easy for mechanics to safely break electrical connections, remove failed motors or other equipment, and quickly install pre-wired replacements.

Built For Thousands of Operations in the Harshest Environments

Our Switch-Rated devices' silver-nickel, butt-style contacts and patented, spring-assisted terminals are performance tested for over 6,000 trouble-free operations with highly consistent electrical connections. Their contacts are backed by a best-in-industry, 5-year warranty.

Critical hardware is made of stainless steel to protect against the effects of corrosion. Reinforced polyester and aluminum alloy casings are used to provide excellent impact resistance as well as environmental protection against UV radiation and most harsh chemicals found in typical industrial applications.

MELTRIC® Switch-Rated Plugs & Receptacles

Very Low Contact Resistance Improves Connection Quality

Spring-Loaded, Butt-Style Contacts Provide for Thousands of Consistent and Reliable Connections

Our Switch-Rated plugs and receptacles use spring-loaded, butt-style contacts similar to those used on contactors and switchgear. Their end-to-end mating provides a stable connection. The spring-loading delivers optimal contact pressure and the integrity of the electrical connection is maintained over thousands of operations.

Butt-style contacts have a designated and controlled contact area permitting the use of higher-quality materials. We use contacts made of 85% silver and 15% nickel. End-to-end mating allows for quick-break (15-millisecond) technology. Our contacts allow you to avoid the problems common with other types of contacts:

- **Spring-loaded, butt-style contacts automatically compensate for manufacturing variations, eliminating contact mating and connection quality problems caused by the dimensional variations of other contact designs.**
- End-to-end mating **eliminates the effects of wear** inherent with sliding contacts.
- Consistent spring pressure **eliminates overheating** caused by poor contact force.

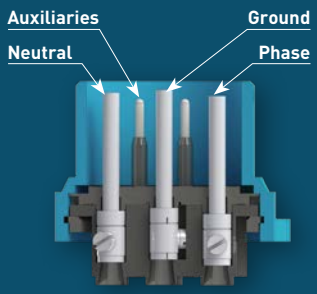
Compression of coil spring ensures a consistent contact force.

The performance and design advantages of spring-loaded, butt-style contacts make them the superior choice for providing consistently safe and reliable connections.

Limitations of Pin-and-Sleeve Style Contacts

- Manufacturing variations can cause too tight or too loose of a fit between the pin and the sleeve.
- Wear from normal use reduces contact force, increasing resistance and heat build-up, possibly leading to overheating and catastrophic equipment failure.
- The design requires the use of cheap and easy-to-machine materials such as brass, which has inferior electrical properties.

Contact Mating Sequence



To achieve the desired mating sequence, contacts are set into the plug at different heights.

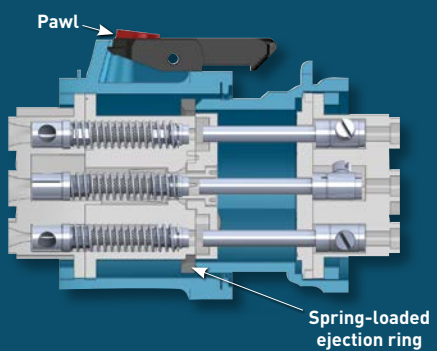
To ensure proper and safe connections, MELTRIC contacts mate in a specific sequence:

1. The ground closes first
2. Then the neutral
3. Then the phases
4. Then any auxiliary contacts, if included

The auxiliary contacts "make last and break first," making them suitable for use as "pilot" contacts.

On opening, the sequence is reversed.

Quick Break



A spring-loaded ejection system ensures a quick break (15 ms) of the contacts.

CONTACT TECHNOLOGY

Silver-Nickel Contact Tip (85% Ag and 15% Ni)

Silver-Nickel Contact Material for Superior Conductivity

We use solid silver-nickel contact surfaces on all of our Switch-Rated plugs and receptacles. The contacts' 85% silver and 15% nickel composition combines the durability of nickel with the excellent conducting properties of silver.

Silver-nickel contacts provide significant advantages over the brass materials used on most other types of plugs and receptacles:

- Silver-nickel **maintains a low contact resistance** and superior electrical properties even after oxidation and tarnishing.
- Silver-nickel **withstands arcing** very well and only welds at extremely high pressure and temperature.
- The hardness of nickel gives the silver-nickel contacts **excellent wear resistance.**
- Silver-nickel performs well and **withstands wet and corrosive environments.**

The combination of silver-nickel contacts with a spring-loaded, butt-style design makes the contacts ideal for repetitive making and breaking of connections under load.

Close-up of Silver-Nickel Contact Tip

Limitations of Brass as a Contact Material

- Brass is not arc resistant, so it is not suitable for repeated making and breaking under load.
- Brass is a soft material and wears rapidly, degrading the operational characteristics of the contact.
- Brass oxidizes easily, preventing it from performing well in wet or corrosive environments.
- The contact resistance of brass increases rapidly due to tarnishing that occurs during normal use.

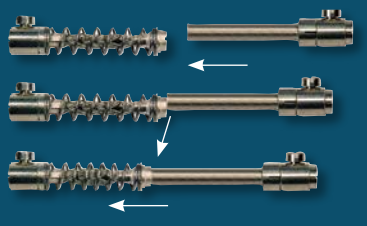
Operating Mechanism

On our Switch-Rated devices, the circuit is safely interrupted by simply depressing the pawl on the receptacle. Doing so releases the energy in the spring-loaded operating mechanism, which instantaneously breaks the circuit and ejects the plug to the OFF position. Contact breaking time is about 15 milliseconds. The quick break mechanism is automatically reloaded when the plug is re-inserted into the receptacle.

In contrast, the disconnection speed of pin and sleeve and twist-type devices depend on the user's motion and strength when removing the plug.

Self-Cleaning Closing Motion

Our contacts close with a self-cleaning, wiping action. When the contacts initially mate, they are slightly offset. While closing the connection, the plug contacts are rotated partially across the receptacle contacts, helping to remove deposits from the contact surface.



MELTRIC contacts are self-cleaning.

MELTRIC® Switch-Rated Plugs & Receptacles

Eliminate Arc Exposure

Enclosed arc chambers, skirted plug casings, and safety shutters on the receptacles, together, create the dead-front design of our Switch-Rated devices. Our dead-front design eliminates exposure to live parts and arc-flash incidents.

Safety Shutter Eliminates Exposure Hazards

DSN and DS Series Switch-Rated devices have safety shutters that close over the receptacle contacts before the plug can be removed. Users have no exposure to arcing, or direct access to live parts, at any time during or after the removal of the plug.

To remove a plug from a receptacle, the plug must be rotated 30° counterclockwise in the OFF position. This rotation of the plug automatically closes and locks the safety shutter, creating an insulating barrier between the plug and receptacle contacts before the plug can be removed.

The safety shutter can only be opened by the insertion and rotation of an electrically compatible plug. Twenty-four different keying arrangements ensure that only electrically compatible plugs can be inserted into a receptacle.

MELTRIC receptacle safety shutters minimize access to live contacts.

Different keying prevents mating of electrically incompatible plugs & receptacles.

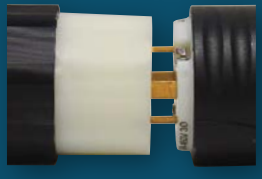
Inlet Front View Position 04
480 V 60 Hz

Inlet Front View Position 14
600 V 60 Hz

Other Plugs and Receptacles Allow Access to Live Parts

Pin-and-Sleeve Receptacle

Twist-Type Receptacle



Twist-type with exposed contacts while still conducting

SMART, SIMPLE, & SAFE DEAD-FRONT DESIGN

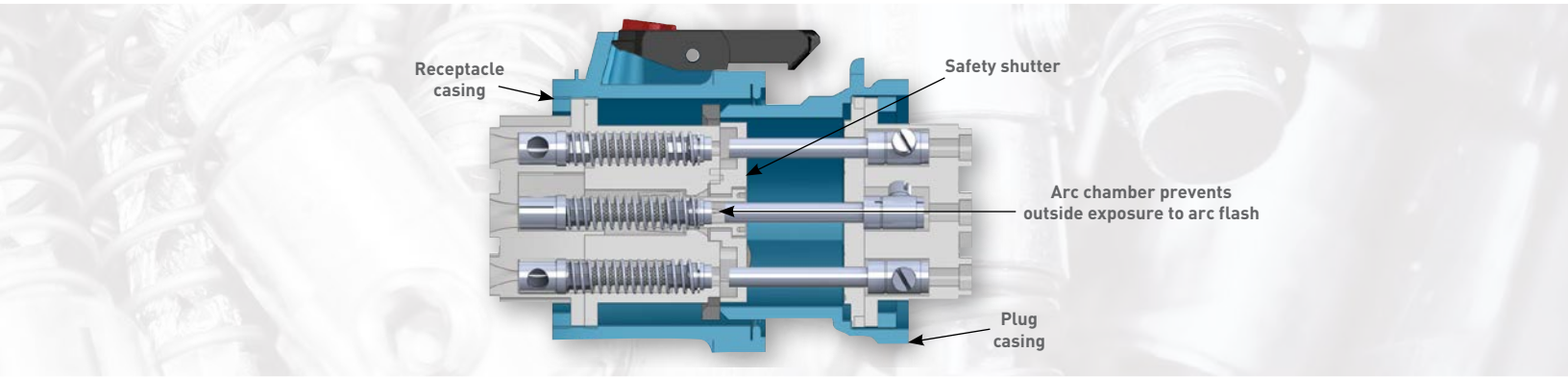
It's Impossible to Draw an Arc

Drawing an arc during plug removal is an inherent hazard with traditional pin and sleeve and twist-type devices. By contrast, our Switch-Rated devices isolate the making and breaking of the contacts in an enclosed arc chamber. The plug contacts are de-energized and isolated from live parts, within the enclosed arc chamber, before the plug can be physically removed.

When the receptacle's OFF button is pushed, its spring-loaded operating mechanism instantly opens the contacts to break the circuit and ejects the plug to its OFF position. The quick (15 milliseconds) breaking of the contacts minimizes arcing; any arcing that does occur is safely contained within the arc chamber.

In the OFF position, the plug contacts are dead and separated from live parts by a safe distance. Isolated and inaccessible to users, all contacts are fully contained within an enclosure formed by the plug's skirted casing and the receptacle's casing.

The rotation of the plug and closing of the safety shutter during plug removal ensures that potential arc paths are blocked before the plug can be removed. **There is no possibility of drawing an arc.**



Drawing an Arc is Possible with Pin-and-Sleeve Devices

Don't let this happen to you!

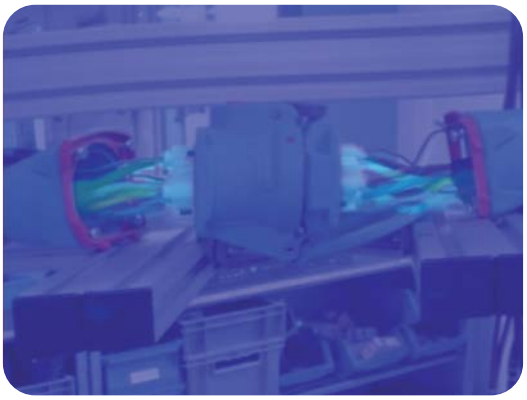
Energy Efficient Technology

Stop Wasting Money on Energy Lost to Heat

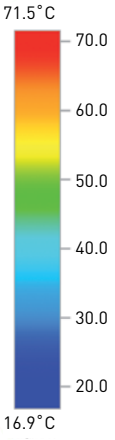
Energy Savings = Total Lifetime Cost Reduction

DECONTACTOR™ TECHNOLOGY OPTIMIZES ENERGY TRANSFER

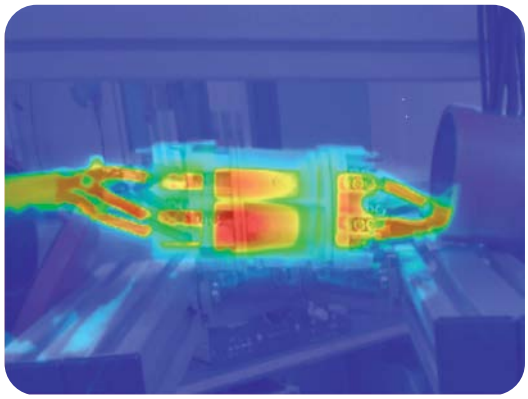
MELTRIC®



Heat Regulation = Long Lifespan



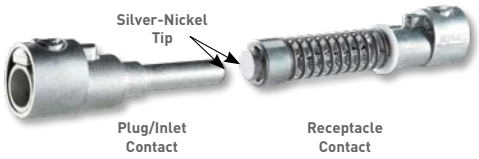
PIN-AND-SLEEVE COMPETITOR

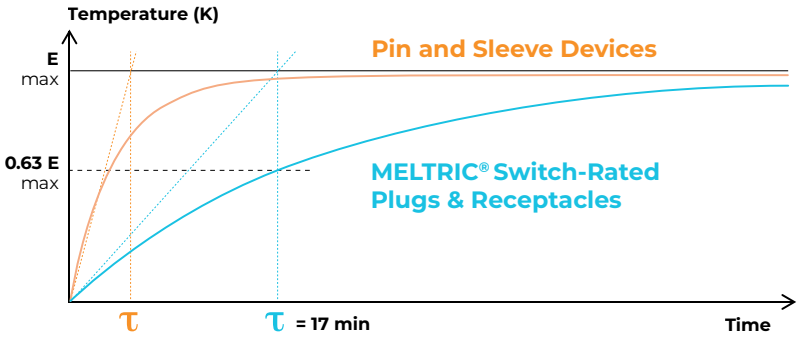


Heat Loss = Short Lifespan

Regulating Device Temperature = Longer Circuit Lifespan

MELTRIC devices gradually reach temperature equilibrium and absorb temporary overloads without excessive heating. Unique silver-nickel contact material lowers resistance ensuring optimal energy transfer during working lifespan.

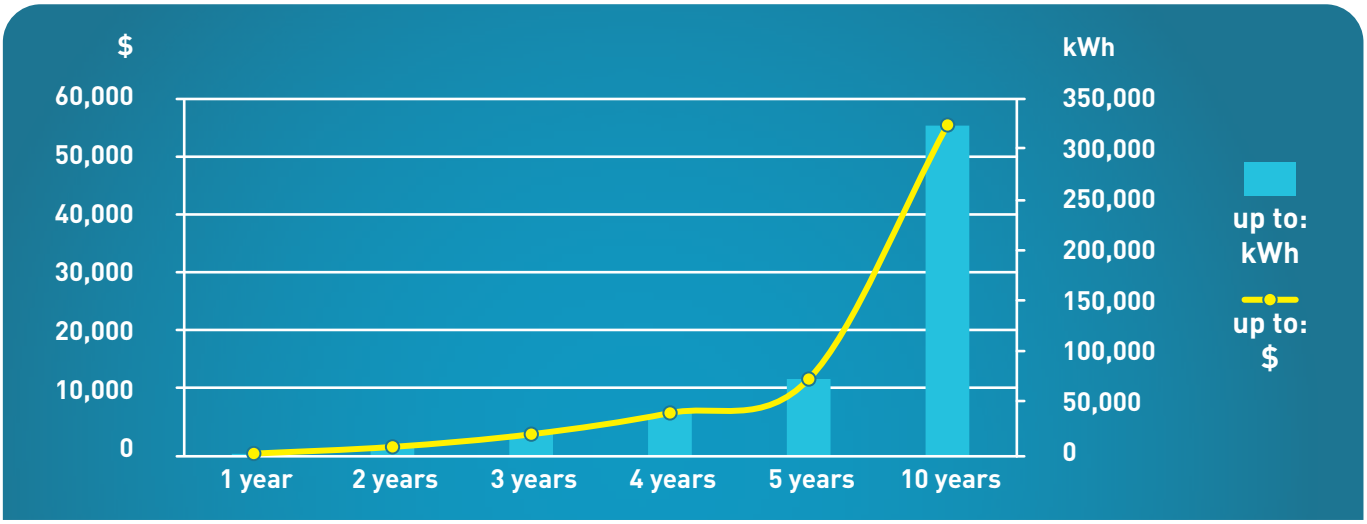




Premium silver-nickel used in butt-style contacts ensure an extremely low contact resistance thus reducing errant heat production.

MELTRIC HEAT MITIGATION

Make Connections 30x More Efficient in 10 Years
THAN A PIN AND SLEEVE



Based on laboratory tests comparing the performance of MELTRIC spring contacts and traditional pin and sleeve contacts. 250 devices total - 100x 20A, 70x 30A, 50x 60A, 30x 150A. 24/7/365 at $0.1626/kWh.

Use considerations	Continuous rated current	5 years savings	10 years savings
NON STOP 365 DAYS/YEAR	20 A	79 kWh	357 kWh
	30 A	110 kWh	471 kWh
	60 A	441 kWh	1,885 kWh
	100 A	555 kWh	2,375 kWh
	150 A	1,015 kWh	4,342 kWh
UP TO 4,805 kWh SAVED!	200 A	1,123 kWh	4,805 kWh

Based on a single device used at listed amperage over 365 days/year.

LOWER OVERALL COSTS

After **5 YRS** **MELTRIC** provides up to **5X** more energy efficiency

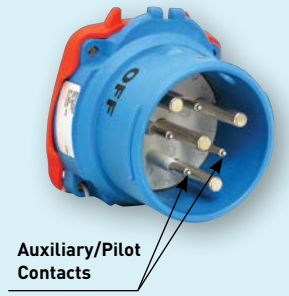
After **10 YRS** **MELTRIC** provides up to **30X** more energy efficiency

MELTRIC® Switch-Rated Plugs & Receptacles

Unique MELTRIC Features Improve Usability, Safety & Functionality

Easy Control, Monitor, & Communicate

Most of our Switch-Rated plugs and receptacles are available with optional auxiliary/pilot contacts that allow users the convenience and flexibility of controlling auxiliary equipment, monitoring process parameters, and/or communicating alarms without the need for secondary connectors. The larger Switch-Rated models are available with up to 6 auxiliary contacts.



Simple Lock Together & Lockout/Tagout

All Switch-Rated devices include provisions on the plug that allow users to perform lockout/tagout by simply inserting a lock through an existing hole on the device. The user only needs to provide the lock – no additional mechanisms are required.

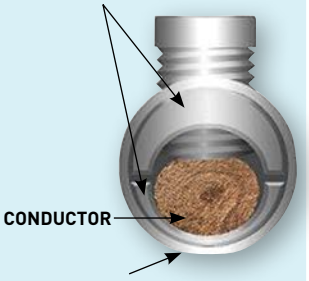
Simple lockout provisions for the receptacle are also provided as an option on the DSN and DS Series. The lockout provision on DSN and DS Series receptacles can also be used to lock the plug and receptacle together to prevent unauthorized disconnection.

Eliminate Faulty Connections

On traditional plugs and receptacles, the loosening of terminal screws is a common cause of failure. Our devices have patented, spring-assisted terminals that provide more permanent and secure conductor connections.

As the terminal screw is tightened, pressure is generated against the conductor and causes the split-terminal body to expand and elliptically deform the spring ring around the terminal. Since the spring ring wants to return to its original circular shape, it exerts a constant pressure against the terminal conductor, pushing them together. This constant spring pressure on the screw and conductor helps to compensate for strand settlement and conductor yield while providing superior resistance to the effects of vibration, shock, and thermal cycling.

The split terminal causes the spring ring to deform from a circle to an ellipse as the terminal screw is tightened.



The spring ring, trying to return to its original circle shape, pushes the conductor and terminal screw tightly together.

Reduce Downtime - Field Repairable Modularity

With their robust construction and reliable operation, the need to replace worn MELTRIC parts is unusual. If a repair is needed, parts are readily available and reasonably priced. The modular construction of Switch-Rated plugs and receptacles makes field replacement of many components easy.

UNPRECEDENTED PERFORMANCE

Exceeding Testing Requirements

To attain their UL/CSA switch ratings, our Switch-Rated plugs and receptacles must pass electrical and mechanical endurance tests, horsepower/locked-rotor overload tests, and short-circuit make and withstand tests that far exceed the testing required of ordinary plugs and receptacles. The tests performed to achieve the devices' switch-ratings are the same electrical performance tests required of manual motor controllers and enclosed disconnect switches (UL 508 and UL 98 or CSA 22.2 No. 14 and 4 type devices).

The chart below compares the tests passed by MELTRIC devices to achieve their Switch-Rated Plug and Receptacle listings to the tests required for a standard pin and sleeve plug and receptacle listing.

Performance Testing Comparison

Test	MELTRIC Switch-Rated Plugs and Receptacles	Pin and Sleeve Plugs and Receptacles	
	UL Subject 2682 (used for both UL & CSA listings)	UL 1682 & CSA 22.2 No. 182.1	
	Motor Circuit/Branch Circuit Switching	Current Interrupting	Non-Current Interrupting
Temperature Rise	< 30°	< 30°	< 30°
Voltage Withstand	3,000 VAC for 1 Minute	3,000 VAC for 1 minute	3,000 VAC for 1 minute
Overload	50 Operations @ 150% of Rated Current (p.f. = .75 - .80)	50 Operations @ 150% of Rated Current (p.f. = .75 - .80)	3 Operations @ 150% of Rated Current (p.f. = .75 - .80)
Mechanical Endurance (Plus Required Electrical Operations)+	6000 Operations	15-20 A = 5000 Opns 21-63 A = 2000 Opns 64-250 A = 500 Opns	15-20 A = 5000 Opns 21-63 A = 2000 Opns 64-250 A = 250 Opns
Electrical Endurance (with Load)	6000 Operations @ Rated Current & Voltage (p.f.=.40-.50)	15-20 A = 5000 Opns 21-63 A = 1000 Opns[1] 64-250 A = 250 Opns[1] @ Rated Current & Voltage (p.f. = .75-.80)	–
Overload - Locked Rotor (Horsepower Rated Devices and Electrical Endurance)	50 Operations @ 600% of Full Load Amperage (p.f. = .40 - .50) + 6,000 Operations @ Rated horsepower FLA (p.f. = .75 - .80)	50 Operations @600 % of Full Load Amperage (p.f.=.40-.50)	–
Short Circuit Withstand	≥ 10 kA* (600 V and ≤ .50 power factor)	≥ 10 kA* (600 V and ≤ .50 power factor)	–
Short Circuit Closing	≥ 10 kA* (600 V and ≤ .50 power factor)	–	–

\+ Testing not required by Standard. MELTRIC conducted test for product performance verification.

1 Testing alternates between mechanical & electrical operations. This reduces the severity of the electrical test by allowing additional cooling time during electrical testing.

* DS200 tested at 10 kA. See page 19 for specific ratings and associated fusing for each model.

MELTRIC® Switch-Rated Plugs & Receptacles

2x Faster Changeouts


Switch-Rated DS and DSN Series at work at a major airbase.

Superior User Safety

Using MELTRIC devices to connect equipment helps protect users from electrical hazards that are common with hardwired connections and other types of connectors.

Switch-Rated plugs and receptacles:

- Provide the safety of a disconnect switch wherever users must make or break connections.
- Eliminate potential exposure to live parts and arcing that exists with other plugs and receptacles.
- Provide protection against overloads and short circuit currents of up to 100 kA with RK1 fusing.
- Provide a consistently reliable connection that does not degrade with use.

Simplify Compliance to NFPA 70E®/CSA Z462

Using MELTRIC Switch-Rated plugs and receptacles wherever electrical connections must be made or broken can greatly simplify compliance with NFPA 70E Article 130 requirements:

- Switch ratings ensure the safe disconnection of the load; interlocks and auxiliary disconnects are not required since MELTRIC Switch-Rated devices comply with NEC line-of-sight requirements.
- A safety shutter on the receptacle prevents worker exposure to live parts — connecting or disconnecting a MELTRIC device is considered a normal operation and would not require arc flash PPE.
- Removal of the plug from the receptacle provides visual verification of de-energization; the need for voltage testing is eliminated.
- Lockout/tagout is quick and easy since all MELTRIC devices have integral locking provisions.
- MELTRIC devices allow qualified persons to safely make/break electrical connections; specially trained electrical personnel may not be required on-site.

PROVIDING BENEFITS THROUGHOUT YOUR FACILITY

Reduce Equipment Changeout Downtime by 50%

Replacement motors and equipment that are pre-wired with our Switch-Rated devices offer many benefits. They can be installed with plug-and-play simplicity. They reduce changeout downtime by 50%, allowing mission-critical processes to get back in operation faster.

- The need for hard-wiring during downtime is eliminated because mechanics can safely make and break electrical connections with the plug-and-play simplicity of our Switch-Rated devices.
- There is no need to bring electricians to the site after hours; their work to pre-wire replacements can be performed during normal working periods.
- Advance verification of phasing on pre-wired replacement motors avoids problems and delays due to improper rotation.
- Integral auxiliary contacts can eliminate the need to install additional contacts to make & break secondary connections on control circuits.

Reduce Equipment & Operating Costs

Using our Switch-Rated devices to connect motors and other equipment helps improve your bottom line by reducing equipment, installation, and operating costs:

- Improved safety reduces accidents, injuries, and related costs.
- Faster changeouts reduce lost production during downtime.
- Plug-and-play simplicity improves maintenance personnel utilization by allowing electrical work to be performed more quickly and conveniently back at the electrical shop.
- Switch ratings eliminate the need for expensive and spacious interlocks.
- Numerous configurations and mounting options help simplify the location and installation of line-of-sight disconnects.
- Reliable butt-contacts, robust construction, and long operating lives reduce replacement costs.

MELTRIC® Switch-Rated Plugs & Receptacles

Motor Connection Advantages

Safely Make/Break Connections, Even During Overloads

Our Switch-Rated plugs and receptacles are designed and rated to make and break motor loads in complete safety while providing users with significant protection in the event of overloads or short circuits. Special protective equipment and training are not required to make and break connections.

Approved as a Line-of-Sight Disconnect

Our Switch-Rated devices are an approved line-of-sight disconnect switch for meeting the requirements in NEC Sections 430.102 – 430.109, and they are rated by UL & CSA for "Motor Circuit Disconnect Switching" and "Branch Circuit Disconnect Switching." Sections 430.102 – 430.109 of the National Electric Code require approved disconnecting means to be located in a readily accessible location within sight of the motor and driven equipment.

A Variety of Mounting Options

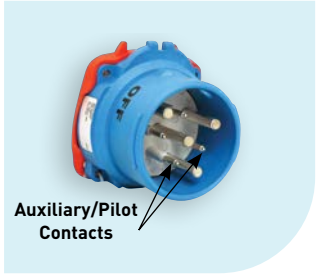
Our plugs and receptacles are available with numerous handles, mounting angles, wall boxes, and other accessories. They may be used as in-line connectors or may be mounted on walls, panels, equipment, or even directly on the motor. Since our devices function as line-of-sight disconnect switches, their compact form factor and numerous mounting options give you more flexibility in locating them where they are easily visible and convenient to use.

Reduce Improper Motor Rotation with Pre-Wired Replacements

Replacement motors that are pre-wired and tested with appropriately phased receptacles at your maintenance shop will automatically provide the desired direction of rotation when connected (plugged in) on site. Pre-wiring and testing eliminates the need to jog the motor and avoids additional downtime and production problems resulting from improper rotation.

Monitor Motor Temperature Using Built-In Auxiliary Contacts

Optional integral auxiliary contacts can be used to communicate motor temperatures back to a control center so preventative maintenance can be performed before motor failure occurs.



APPLICATION SPOTLIGHT
The Ideal Motor Plug

Plug-and-Play Simplicity Allows Quick Changeouts

Using our Switch-Rated plugs and receptacles to connect motors instead of hard-wiring can help reduce equipment changeout downtime by as much as 50%. When replacement motors are pre-wired with MELTRIC inlets or plugs, a mechanic can safely perform the electrical connections by simply unplugging the old motor and plugging in the new one.

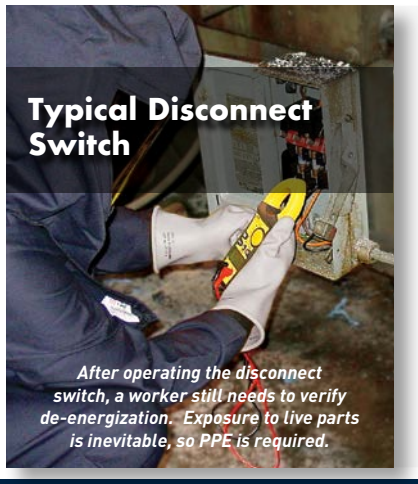
- No waiting for an electrician to perform field wiring.
- No "suiting-up" or extraordinary electrical precautions.
- No need to field test (jog the motor) to ensure proper rotation.

Mechanics can quickly and safely make and break electrical connections, without special PPE.

1. Switch receptacle to 'off' position
2. Remove plug from receptacle
3. Apply lockout/tagout
4. Remove old/install new motor
5. Remove lockout/tagout
6. Insert plug into receptacle

Process Complete

- **Changeout downtime is reduced by up to 50%.**
- **Equipment and installation costs are reduced** by eliminating the need for interlocks and safety switches.
- **Maintenance efficiency is improved** by allowing mechanics to perform changeouts. **Pre-wiring can be done at a convenient time** in the electrical shop helping to ensure proper motor rotation.



After operating the disconnect switch, a worker still needs to verify de-energization. Exposure to live parts is inevitable, so PPE is required.

1. Switch disconnect to 'off' position
2. Apply lockout/tagout
3. Perform Shock/Arc Flash Risk Assessment
4. Obtain permit for energized electrical work
5. Suit up with appropriate PPE
6. Remove the disconnect switch cover
7. Voltage test to verify de-energization
8. Disconnect motor from hard-wiring
9. Remove old/install new motor
10. Connect new motor to hard wiring
11. Remove lockout/tagout
12. Turn disconnect to the 'ON' position
13. Remove and store PPE

ISSUES

MELTRIC receptacles can be added to existing disconnects. Users can then verify blade separation and de-energization without needing PPE.

MELTRIC® APPLICATIONS
with Switch-Rated Plugs & Receptacles

Industries

Oil & Gas

Plug-and-play connections with a wide-array of hazardous ratings create a safe environment ideal for oil, gas, and petrochem.

Data Centers

Unique silver-nickel contact technology improves PUE, mitigates heat, and provides ideal power management.

Mining & Aggregate

MELTRIC devices are IP66/IP67 rated to withstand rough treatment and impervious to dust, debris, and moisture to endure harsh environments.

Aerospace & Aviation

MELTRIC eliminates the need for Haz-Loc equipment by placing connections above 18 inches, simplifying NEC 513 compliance.

Food & Beverage

MELTRIC Switch-Rated devices are hygienic and washdown ready with Type 4X/IP69/IP69K ratings.

Shipyards

MELTRIC Switch-Rated devices are automatically watertight and resist corrosion in extreme environmental conditions.

Wastewater

Prewire with ease and reduce reliance on electricians enabling qualified technicians to easily disconnect pumps, motors, and mixers for replacement or servicing.

Steel & Aluminum

MELTRIC Switch-Rated contacts close (mate) with a self-cleaning, wiping action - so they maintain high conductivity even in dusty and dirty environments.

Applications

Electrification

Transitioning to electric power is simple with built-in safety features that deliver immediate code compliance.

HVAC

Fool-proof NFPA 70E and NEC line-of-sight disconnection allows for safe disconnect, repair, and replacement.

Shore Power

Silver-nickel contacts offer superior corrosion resistance compared to brass pin and sleeve contacts.

Conveyors & Stackers

MELTRIC devices are modular allowing you to build the exact electrical connection needed for your unique system.

Portable Equipment

Rugged construction withstands trying environments to provide power where you need it, when you need it.

Welding

Safely disconnect welding equipment and other inductive loads at the push of a button with integrated lockout/tagout on the device.

Motors/Pumps

Designed with simple plug-and-play operation and ability to prewire, eliminating the need to jog a motor. MELTRIC decreases pump and motor changeout downtime.

Power Distribution

Provide safe power connections for carnival, construction site, concert, railway maintenance, and other temporary events or work sites.

MELTRIC® Switch-Rated
DSN & DS Series

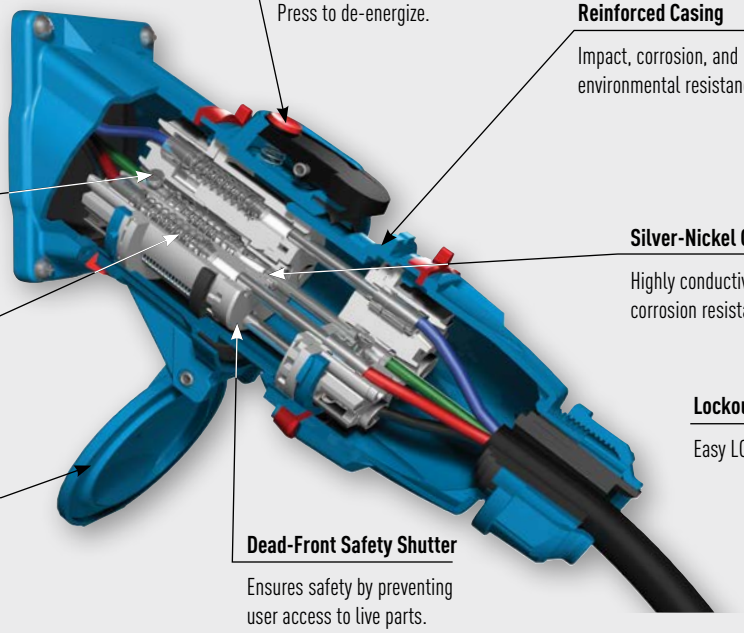
Features

Our Switch-Rated DSN and DS Series devices are based on a similar design concept. Together, they provide a range of Switch-Rated plugs and receptacles that allow users to safely and easily make and break connections under full load in applications up to 200 A and 100 hp. In conjunction with their automatic watertightness, their wide range of available ratings make them ideal choices for most industrial applications.

The more compact DSN Series provides Type 4X/IP69/IP69K protection needed for washdown applications.

The larger DS series provides larger wiring capacity and higher horsepower ratings per amp.

DECONTACTOR™ Technology



OFF Button
Press to de-energize.

Reinforced Casing
Impact, corrosion, and environmental resistance.

Spring-Assisted Screw Terminals
Exclusive design ensures "tighten and forget" confidence.

Silver-Nickel Contact Material
Highly conductive, durable, and corrosion resistance.

Spring-Loaded, Butt-Style Contacts
Ensure superior performance.

Lockout/Tagout Provisions
Easy LOTO.

Watertight Lid
Type 4X/IP69/IP69K

Dead-Front Safety Shutter
Ensures safety by preventing user access to live parts.

Watertight Every Time You Connect

On many pin-and-sleeve devices, an additional sealing ring must be tightened in order to achieve rated watertightness. Users frequently fail to tighten the sealing ring, resulting in leakage.

DSN and DS Series devices have a "foolproof" design that eliminates the sealing ring. DSN models are automatically Type 4X/IP69/IP69K when connected. DS20 and DS30 models achieve their 3R ratings by simply mating the plug to the receptacle. After the removal of the plug, rated watertightness is achieved for the receptacle, by simply closing the lid. Here are some guidelines for best ways to operate a MELTRIC device in washdown environments:

- **Avoid the Rest Position:** When an operator depresses the pawl on a MELTRIC device, the plug is ejected from the receptacle due to the spring-loaded action of the integral switching mechanism. At this point, the plug is in the "rest" position, which means the plug is electrically separated from the receptacle and the load is disconnected from electrical power. If the plug is left in the rest position and a washdown operation commences, there is no means to prevent water from entering the resting plug and receptacle. So, avoid leaving the MELTRIC device in the rest position during washdowns.

- **Close the Lid and Cap the Plug:** To maintain the watertightness rating, it is recommended that an operator should remove the plug from the receptacle, close the lid fully, and insert protective caps on the plug. MELTRIC protective caps provide a watertight seal and the best protection when the plug is not in use. Padlockable plug caps are also available to prevent water leakage through the lockout hole.

- **Condensation Prevention:** Washdowns with hot water in production facilities that typically have cold ambient temperatures, such as dairies, may cause the formation of condensation within MELTRIC devices. For these environments, users should take all actions necessary to keep the device dry.

Operating Instructions

1

When the plug and receptacle are latched together, the circuit is connected.

2

Pressing the pawl breaks the connection and opens the circuit. The plug is ejected to its rest position. The contacts are now de-energized.

3

Rotating the 'dead' plug 30° counterclockwise closes the safety shutter and frees the plug to be withdrawn from the receptacle.

4

The plug and the receptacle are separated. The receptacle's safety shutter prevents access to input power and live parts.

To reconnect, insert plug into receptacle, rotate 30° clockwise, and continue to insert until latched.

DSN & DS

MOST RECOMMENDED MELTRIC DEVICE SERIES

DSN

- 20 – 150 A, 600 VAC
- .75 – 75 hp
- Type 4X/IP69/IP69K or IP66/IP67
- Configurable with up to 6 auxiliary contacts
- Compact and lightweight
- Available in fiberglass reinforced thermoplastic poly or aluminum alloy casings – both materials resist shock, chemicals, and UV rays

DS

- 20 – 200 A, 600 VAC
- .75 – 100 hp
- Type 3R or 4X/IP69/IP69K
- Configurable with up to 6 auxiliary contacts
- Larger wiring capacity, rugged durability
- Available in fiberglass reinforced thermoplastic poly or aluminum alloy casings – both materials resist shock, chemicals, and UV rays

Ratings & Listings

General Ratings

Product	Amperage	Voltage	Frequency	Horsepower	Short-Circuit (make & Withstand)	Environmental	Temperature
DSN	20 – 150 A	600 VAC	60 – 400 Hz	.75 to 75 hp	100 kA**	Type 4X/IP69/IP69K	min -40°F/ max 140°F
DS	20 – 200 A	600 VAC	60 – 400 Hz	.75 to 100 hp	10 kA to 100 kA**	Type 3R or 4X/IP69/IP69K*	min -40°F/ max 140°F

* DS20 and DS30 are 3R, with Type 4X available as an option.

** DS20, 30, 60, and all DSNs are rated 100 kA. DS100 is rated 65 kA and DS200 is rated 10 kA. Testing was performed with RK1 current limiting fuses sized at 400% of the highest full load motor ampacity associated with the device's hp rating. DSN150 is 100 kA Close & Withstand with 225 A RK1 non-time delay Mersen fuses (or 10 kA with 400 A fuses).

Listings

Category	UL	CSA	IEC	NOM
Plugs and Receptacles	UL 1682	C22.2 No. 182.1	60309-1	NOM-003-SCFI-2014
Branch Circuit Disconnect Switching (AC only)	UL Subject 2682 (Performance tested to UL 98)	UL Subject 2682 (Performance tested to C22.2 No. 4)	60947-3 (AC22 or AC23)	
Motor Circuit Disconnect Switching (AC only)	UL Subject 2682 (Performance tested to UL 508)	UL Subject 2682 (Performance tested to C22.2 No. 14)		

CE ratings available upon request

PRODUCT Selection Guide

MELTRIC® SWITCH-RATED Models & Ratings

	DSN Series					DS Series				
Key Features	Compact, Type 4X					High Amperage, Metal or Poly Casings				
Model	20	30	60	100	150	20	30	60	100	200
Branch Circuit Disconnect Switch Ratings (A.C. only)										
Amperage	20 A	30 A	60 A	100 A	150 A	20 A	30 A	60 A	100 A	200 A
Max VAC	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V
Motor Circuit Disconnect Switch Ratings - Horsepower (A.C. only)										
120 V 1Ø	.75 hp	2 hp	2 hp	5 hp	7.5 hp	.75 hp	1.5 hp	3 hp	3 hp	–
240 V 1Ø	2 hp	3 hp	3 hp	10 hp	20 hp	1.5 hp	3 hp	5 hp	7.5 hp	–
208 V 3Ø	3 hp	5 hp	7.5 hp	20 hp	30 hp	3 hp	5 hp	10 hp	10 hp	40 hp
240 V 3Ø	3 hp	5 hp	7.5 hp	20 hp	30 hp	5 hp	5 hp	10 hp	10 hp	40 hp
480 V 3Ø	7.5 hp	15 hp	20 hp	50 hp	75 hp	7.5 hp	15 hp	25 hp	30 hp	100 hp
600 V 3Ø	7.5 hp	15 hp	20 hp	50 hp	75 hp	10 hp	15 hp	25 hp	–	100 hp
Short Circuit Closing & Withstand Ratings (A.C. only)										
S.C. Rating	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	65 kA
Fuse Type	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1
Fuse Size	35 A	125 A	110 A	250 A	225 A	80 A	125 A	250 A	175 A	500 A
Casing Materials										
Standard	Poly	Poly	Poly	Poly/Metal	Poly/Metal	Poly	Poly	Poly/Metal	Poly/Metal	Metal
Environmental Ratings										
Type	4X	4X	4X	4X	4X	3R+	3R+	4X	4X	4X
IP	69/69K	69/69K	69/69K	69/69K	69/69K	–	–	69/69K	69/69K	69/69K
Temp. Max	140˚F	140˚F	140˚F	140˚F	140˚F	140˚F	140˚F	140˚F	140˚F	140˚F
Temp. Min	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F	-40˚F
Optional Auxiliary Contacts										
Max Number	2*	2	4	4	6	2	4	4	6	6
A@120 VAC	.60 A	6 A	6 A	6 A	1.5 A	6 A	6 A	6 A	1.5 A	1.5 A
A@240 VAC	.30 A	3 A	3 A	3 A	.75 A	3 A	3 A	3 A	.75 A	.75 A
A@480 VAC	–	1.5 A	1.5 A	1.5 A	.37 A	1.5 A	1.5 A	1.5 A	.37 A	.37 A
A@600 VAC	–	1.2 A	1.2 A	1.2 A	.30 A	1.2 A	1.2 A	1.2 A	.3 A	.3 A
Wiring Terminal Capacities - AWG THHN										
Phase – Max	12	8	4	2	2/0	8	4	2	2/0	4/0
Phase – Min	14	14	14	10	4	14	14	10	4	4
Aux – Max	18	14	14	14	14	14	14	14	14	14

+ Type 4X is available as an option

* Unlike other DSN and DS products, the DSN20 pilots are only on the receptacle side and create a continuity loop that is completed when a plug is connected to the receptacle

MELTRIC® Standard Accessories

For Installation & Operational Flexibility

Handle Options for All Applications

We carry a large variety of handles to suit your needs. These include poly, metal with or without NPT, poly or metal with cord grips, and poly handle with clamp and bushing. Santoprene™ handles are also available if a rubber handle is preferred.

Poly Handle

Handle with NPT

Handle w/Cord Grip

Optional Cord Grip with Wire Mesh

Poly Handle w/Clamp & Bushing

Santoprene™ Handle

Pawl Options: Larger & Lockable

A mushroom pawl with a larger and easier to actuate stop button is available for applications where emergency disconnections may be required. Padlock pawls include a .32" diameter hole through the pawl to permit the insertion of a padlock, allowing users to lock the receptacle lid closed or lock the plug and receptacle in the connected state.

Locking device not included

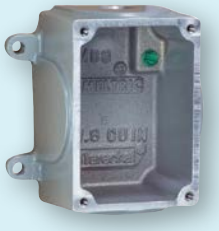
Mushroom Pawl

Padlockable Pawl

Angles & Boxes
for the Perfect Orientation

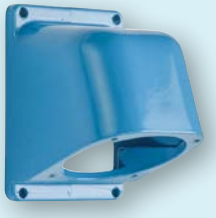
We offer a variety of poly and metal angles and adapters to help you locate and position your devices in the most effective orientation for your application. We also offer a range of metal and poly junction boxes to support all sizes of our Switch-Rated devices, and adapter plates to allow devices to be mounted on existing boxes.

Nylon
Conduit Entry



Metal
Junction Box

30°
Metal Angle



70°
Metal Angle

Adapter
Plate

Finger Drawplates & Drawbars
for Easier Closure

Optional finger drawplates are recommended for easier closure of DSN and DS devices when used as cord-to-cord connectors up to 100 A. An easy-closing mechanism is a standard feature on models DSN150, DS100, and DS200.

Finger Drawplates

Easy-Closing
Mechanism

Electrical Connection Solutions for Your Industrial Applications

Explore the complete line of MELTRIC plugs, receptacles, and accessories providing solutions for a broad range of electrical connection applications.

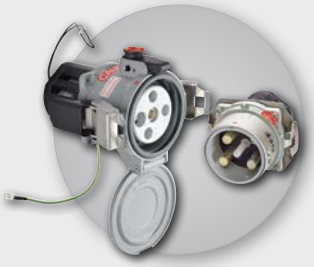
- Standard Duty up to 400 A
- Multipin devices available with 4-37 contacts
- Hazardous Location devices for Class I & II Div 2 and Zone 1/21 & 2/22 environments
- High Temperature devices, up to 30 A, 465°F
- High Amperage devices, up to 600 A
- RETTBOX® S Electromagnetic Self-Ejection
- Power Distribution—Rubber Boxes, Panel Assemblies, Custom Configurations, Receptacle/Wall Box Combinations, and more

Standard Duty

Multipin

Hazardous Location

High Temp



High Amperage

RETTBOX® S

Power Distribution

Our friendly engineering and customer service teams are available Monday - Friday, 7 a.m. - 5 p.m. (Central Time)

Phone: 414-433-2700
Email: mail@meltric.com

MELTRIC excels with the industry's leading delivery times.

Request a free product to try before you buy.

FREE PRODUCT OFFER

Plug into BLUE

meltric.com
4765 W. Oakwood Park Drive • Franklin, WI 53132
414-433-2700 • mail@meltric.com

MELTRIC
A COMPANY OF MARECHAL ELECTRIC