

MARECHAL



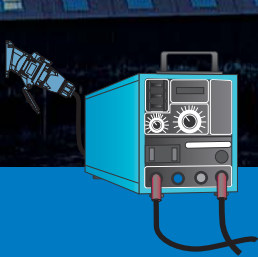
electric



*Switch Rated Electrical
Connectors
for
Industry*

Benefit from Marechal's DECONTACTO switch rated plugs, socket-outlets and ele

Common applications at power generation facilities:



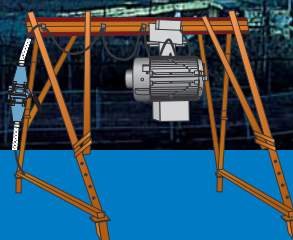
Welding machines



Downtime critical motors



Portable power distribution



Hoist connections



Modular conveyors

Safety and code compliance

Marechal DECONTACTOR™ series products combine the safety and function of a switch with the convenience of a plug and socket-outlet. They are EN 60309-1 compliant for “motor circuit” and distribution switching and offer visible evidence of disconnection. Key features, including silver-nickel butt

contacts, enclosed arc chambers, socket-outlet with safety shutter and high short circuit ratings, ensure user safety and eliminate the potential for exposure to arc flash or live parts.

**DECONTACTOR™ series
electrical connectors...**



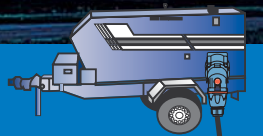
**...throughout
your plant.**



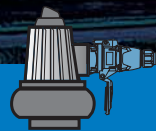
***Marechal installed base includes
nuclear, hydro, fossil fuel and “waste to energy” plants.***



***Mobile
facilities***



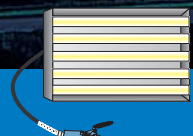
***Portable
generators***



Pumps



***Fans and
cordsets***



***Heat lamps and
portable lighting***

Performance with cost savings

Marechal DECONTACTOR™ series plugs and socket-outlets help power plants enhance safety and performance while also reducing equipment and labour costs. Their switching ability eliminates the expense of interlocks and auxiliary disconnect switches, and their flexible mounting configurations simplify

installation. Decontactors unique combination of safety features and plug and play simplicity allows technicians to quickly and easily make and break electrical connections during equipment replacement. The electrical work can be performed efficiently in the workshop.

What you should know about...

DECONTACTOR™ series switch rated plugs and socket-outlets

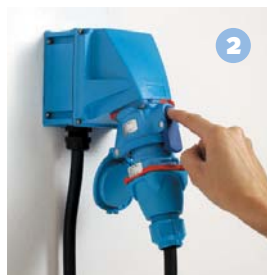


Operation of a DECONTACTOR™

When a DECONTACTOR™ is connected, its 'high safety' technology makes any accident impossible.



A quarter of a turn is enough to separate the plug from the socket-outlet. This is done very safely since the device has been switched off.



Just pressing with the finger on the button will switch off the DECONTACTOR™. The plug then travels back automatically into a parked position.



The plug and socket-outlet are then separated. Thanks to the safety shutter located in front of the socket-outlet, live parts are inaccessible to touch and contact by wires exceeding 1 mm in diameter (IP4X lid open).

Decontactors are industrial plugs and socket-outlets using silver-nickel butt contacts instead of brass pins and sleeves. Moreover, they have an integral switching device allowing the making and breaking of mixed resistive and inductive loads in complete safety, as specified in the international standard, IEC/EN 60309-1, clause 2.8 for industrial plugs and socket-outlets as well as the international standard IEC/EN 60947-3 for switches. A full description is on page 10.

High safety connection

Thanks to its integral switching device (*AC22 /AC23 according to standard EN 60947-3*), the decontactor can safely connect and disconnect devices up to 250 A. Just pressing on the button will separate the decontactor. Thus, the plug is de-energised before it is removed. As it prevents any risk of drawing an electric arc upon removing the plug, this system provides total safety to the user. In the event of a short-circuit, the Marechal DECONTACTOR™ guarantees safe handling: it is the only industrial plug and socket-outlet that has successfully passed short-circuit closing tests.

Main advantages

- Switching ability offers visible evidence of disconnection
- Short circuit ratings up to 100kA help ensure user safety in overload conditions
- Safety shutter prevents unintended access to live parts
- Enclosed arc chambers prevent arc flash exposure
- Switch function eliminates the need for expensive interlocks and auxiliary disconnects
- Plug and play simplicity helps reduce equipment replacement time by up to 50%
- Optional pilot contacts allow control and power circuits in one connection

Wide range to cover all the needs

MARECHAL ELECTRIC's range includes decontactors, plugs and socket-outlets, distribution boxes and connectors. Made either of polyester or of metal, they are ideal for standard industrial applications from 10 to 250 A, but also for potentially explosive atmospheres. MARECHAL ELECTRIC also manufacture high current equipment.

Focus on power generation

Typical DECONTACTOR™ ranges used in power generation plants

DS 30 - 250 A 1000 V AC max

The quality standard for the manufacturing industry

- Rugged construction
- IP54/55 (IP67 optional)
- Up to 4 auxiliary contacts
- Polyester or Metal casings
- ≥ 65 kA short circuit rated



DB 30 - 125 A 690 V AC max

Air-break separable motor switches

- High horsepower capacity
- IP 67
- Up to 4 auxiliary contacts
- Zinc aluminum alloy casings
- 100 kA short circuit rated



DSN 20 - 63 A 1000 V AC max

The only industrial plug and socket-outlet with an automatic IP66/67

- Compact, lightweight design
- IP 66/67
- Up to 4 auxiliary contacts
- Polyester casings
- 100 kA short circuit rated

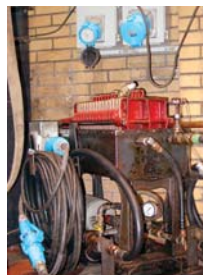
You can find Marechal decontactors on...



Portable equipment connection



Wastewater mixer connection



Portable oil filter pump and cordset



Welding machine



Process pump connections



Power socket-outlets

Other application spotlights: see next page



Application spotlights

DECONTACTOR™ series switch rated plugs & socket-outlets...

Welding machine connections



Decontactors allow welders to safely connect and disconnect welding machines even under overload conditions.

Mobile facilities power supply



Decontactors provide convenient power supply connections and local disconnects for mobile facilities.

Ensure user safety

Significant safety and cost advantages make Decontactors the ideal choice for connecting power to welding machines and other equipment. With their switch ratings, 65 kA or greater short circuit ratings, enclosed arc chambers and dead front construction, they not only allow users to safely make and break resistive and inductive loads under full load, but also eliminate the potential for arc flash exposure and provide protection in dangerous overload situations. The need for expensive interlocks required with other plugs & socket-outlets and the common problem of defeating the interlock with extension cords are eliminated.

Easily meet regulations requirements

Regulations require motors to have readily accessible disconnects. Marechal Decontactors are rated for 'Motor circuit' and distribution switching. With models rated up to 250 A, and with configurations available for wall mounted, equipment mounted, and in-line connections, Decontactors provide the most convenient and cost effective means of meeting regulations for local disconnects.



Decontactors provide an 'inline switch' when used on extension cords

... at power generation plants



Downtime critical equipment



Correct motor rotation can be ensured by pre-testing motors at a test bench with receptacles that match the polarization in the field.

Simplify motor replacements

Motors that are prewired with a Decontactor plug or inlet can be electrically connected simply by plugging them in. Safety features allow technicians to perform motor replacements in the field, eliminating the need to wait for an electrician. Using Marechal Decontactors to connect motors instead of hardwiring can help reduce motor replacement and downtime costs by 50%.



Marechal's switch rated plugs and receptacles utilize motor starter contact technology, allowing users to safely make and break motor loads.

Hoist Connections



Decontactors used as in-line disconnects facilitate quick and safe servicing of hoist equipment.

Ensure arc flash protection

Decontactors provide arc flash protection by eliminating the potential for exposure to live parts and arcing. The contacts are completely enclosed during load-making and breaking, ensuring that any associated arcing is safely isolated in internal arc chambers. The plug can only be removed if the device has been switched 'off' and the plug contacts are dead. The safety shutter on the receptacle automatically closes when the plug is removed, maintaining a dead front and preventing access to live parts. Thus, at no time during the operation of the device will the user have unintended access to live contacts or arcing.



Application spotlights

DECONTACTOR™ series switch rated plugs & socket-outlets...

Portable lighting connections



Marechal plugs and socket-outlets ensure worker safety when connecting heat lamps or other lighting loads, even in damp conditions.

Pump connections



Float pumps or dewatering pumps can be safely and quickly disconnected and reconnected with Decontactors.

Withstand harsh environments

In addition to their superior electrical properties, Decontactors spring-loaded, silver-nickel butt contacts are more durable and withstand harsh environments better than the brass contacts used on pin & sleeve devices. Decontactor contacts close with a self-cleaning wiping action, their heavy duty coil springs maintain optimal contact pressure and the silver-nickel material offers excellent wear resistance, providing more reliable performance in dirty environments. Unlike brass, silver-nickel maintains its electrical properties after oxidation and withstands many common corrosive environments.



MATERIAL	CONTACT RESISTANCE	
	New	Oxidized
SILVER-NICKEL	23 $\mu\Omega$	60 $\mu\Omega$
BRASS	370 $\mu\Omega$	1400 $\mu\Omega$

Marechal's silver-nickel butt contacts are 20 times more conductive than brass.

Simplify health & safety compliance

The 'Standard for Electrical Safety in the Working place' requires the establishment of an electrically safe work condition before work tasks can be performed. Decontactors make this simple. Dead front construction eliminates potential exposure to arcing and unintended access to live parts, and the removal of the plug from the receptacle provides verification of de-energization. Thus, electrical connections can be made and broken without the need to establish flash hazard boundaries, perform voltage testing, or 'suit-up' to meet requirements for energized electrical work.



Decontactor inlets/plugs include lockout provisions. Socket-outlets are available with an optional lockout latch.

... at power generation plants



Portable power distribution



A mobile diesel generator supplies power via Marechal plugs & socket-outlets during outage conditions.

Retrofit applications



Modular construction made it simple for this power plant to convert their existing pin and sleeve socket-outlets to Decontactors.

Protect against the elements

Marechal's Decontactor series plugs and socket-outlets are available with ingress protection ratings up to IP66/67. DS and DSN series Decontactors achieve their ratings simply by mating the plug with the receptacle. There is no need to turn or tighten additional fittings as is required to enable protection on many other plugs & socket-outlets. The ratings can also be maintained when the plugs & socket-outlets are disconnected: by closing and latching the lid on the receptacle, or by installing an optional cap on the plug.

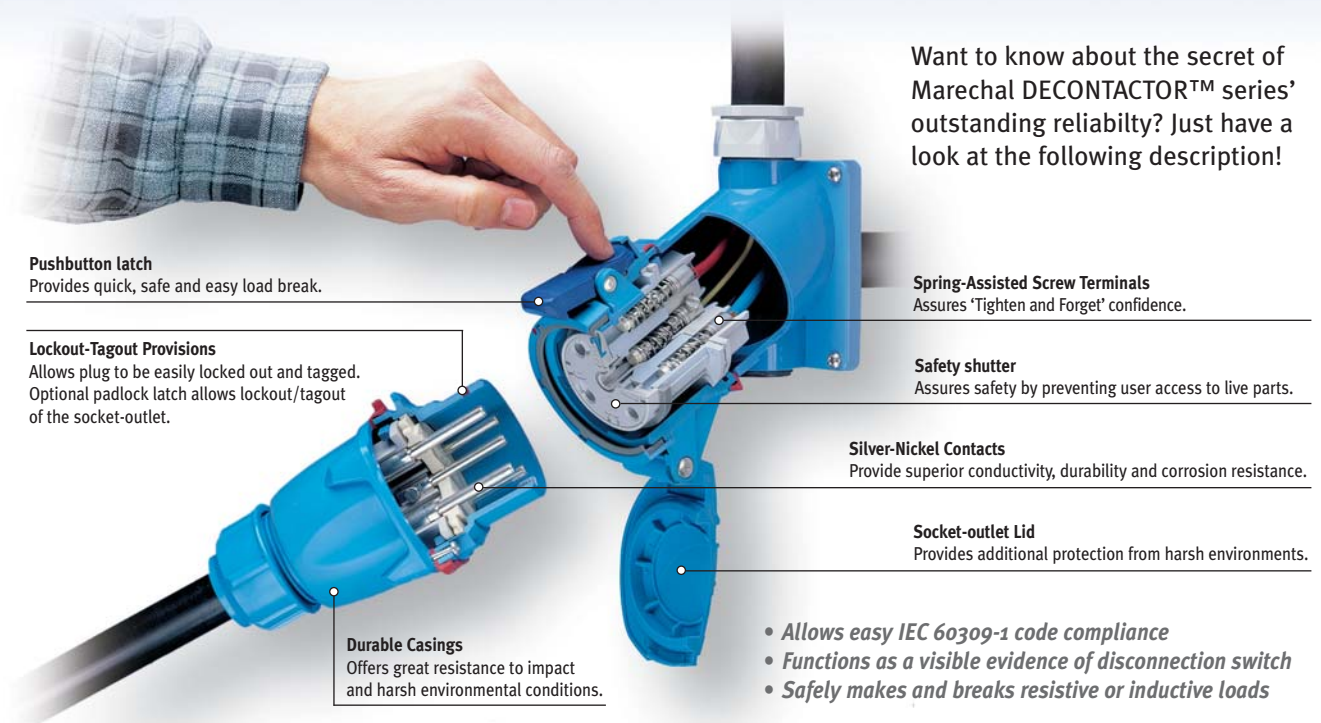
Minimize upgrade costs

With Marechal Decontactors, power generation facilities can upgrade existing pin & sleeve connections to improve safety and comply with requirements easily and with minimal expense. Their switch ratings eliminate the need for expensive interlocks and auxiliary disconnect switches, and allows Decontactor socket-outlets or inlets to be easily installed on existing junction boxes, eliminating the need for costly rewiring.

Product specifications

Durability, safety & code compliance

At the heart of Marechal's technology



Safety & code compliance: Marechal vs the competition

Motor hard-wired to a switch disconnect	Motor connected with a Marechal motor plug	Motor connected with a Competitive plug & receptacle
<p>Disconnect may be difficult to install in 'line of sight' from the motor</p> <p>18"</p> <p>Qualified worker w/PPE*</p>	<ul style="list-style-type: none"> • Cord connection allows easy 'line of sight' area • Dead front eliminates access to live parts, so there is no need for PPE* • Ability to safely make & break under load eliminates the need for interlocks • ≥ 65 kA short circuit make & withstand rating ensures safety during reenergization 	<ul style="list-style-type: none"> • Expensive mechanical interlocks are required since these plugs & receptacles cannot safely make & break under load • The interlock must be mounted on a fixed surface- this may make 'line of sight' location more difficult
Motor change-out process	Motor change-out process	Motor change-out process
<ol style="list-style-type: none"> 1. Electrician opens disconnect switch 2. Determine PPE* requirements and obtain 3. Remove disconnect cover 4. Voltmeter test to verify deenergization 5. Apply lockout/tagout 6. Disconnect motor from hard-wiring 7. Mechanic removes old/installs new motor 8. Electrician connects motor to hard-wiring 	<ol style="list-style-type: none"> 1. Mechanic removes plug from socket-outlet 2. Apply lockout/tagout as required 3. Mechanic removes old/installs new motor 4. Mechanic inserts plug into socket-outlet <p>Marechal makes it safe & easy</p>	<ol style="list-style-type: none"> 1. Open interlock switch 2. Determine PPE* requirements & obtain 3. Remove interlock cover 4. Voltmeter test to verify deenergization 5. Remove plug 6. Apply lockout/tagout as required 7. Remove old/install new motor 8. Insert plug into socket-outlet

* PPE: Personal Protective Equipment which could refer to flame retardant clothing, gloves, or a complete hood with flash suit.

With a view to meeting the specific needs of some users, MARECHAL ELECTRIC has published a series of documentation dedicated to specific activities. They are available on request and can be downloaded from the web site www.marechal-electric.com

'SP4 Power connector' documentation

A single pole power connector max 700A 1000VAC / 1500VDC with integrated electromechanical interlocking

'ATEX products selection guide' documentation

An ATEX selection guide from 16A to 200A - 750VAC

'Products for tunnel applications' documentation

MARECHAL ELECTRIC has already equipped more than 700 km of underground roads or railways.

'Self-ejecting systems' documentation

Self-ejecting systems avoid the rupturing of an electric circuit when a mobile apparatus is moved without first disconnecting the electrical supply.

Catalogue

All products manufactured by MARECHAL ELECTRIC

CD-ROM

This CD-ROM contains the whole e-catalogue as well as many useful documents in a digital format: the PDF version of the catalogue, the product dimensions (printer-friendly version), the technical manual.



To receive any documentation, please fill this form and fax it to +33 (0)1 45 11 60 60 (for UK: 0870 760 1066)

Name:
 First name:
 Title:
 Company:
 Address:

 Post Code:
 Application:
 Phone: Fax:
 E-mail:

I wish to receive, free of charge and without any commitment on my part:

- ☐ ... copies of the catalogue in English
- ☐ ... copies of the catalogue in French
- ☐ ... copies of the catalogue in Italian
- ☐ ... copies of the catalogue in Dutch
- ☐ ... copies of the **SP4 POWER CONNECTORS** documentation
- ☐ ... copies of the **PRODUCTS FOR USE IN EXPLOSIVE ATMOSPHERES** documentation
- ☐ ... copies of the **PRODUCTS FOR TUNNEL APPLICATIONS** documentation
- ☐ ... copies of the **SELF-EJECTING SYSTEMS** documentation
- ☐ Please send me your **CD-ROM** including catalogues + technical manuals

MARECHAL



electric

Head office

MARECHAL ELECTRIC S.A.
5, avenue de Presles
F-94417 Saint-Maurice Cedex - FRANCE
Tel+ 33 (0) 1 45 11 60 00
Fax+ 33 (0) 1 45 11 60 60
www.marechal-electric.com
or www.marechal.fr
e-mail : sales@marechal.fr

Sales network in Europe

Belgium
Tel. 0800 40 347
Fax 0800 40 348
sales@marechal.fr

Italy
Tel. + 39 (0) 29 574 9328
Fax + 39 (0) 29 574 4147
marechal@marechal.191.it

The Netherlands
Tel. + 31 (0) 72 562 2137
Fax + 31 (0) 72 562 2303
sales@marechalelectric.nl

United Kingdom
MARECHAL ELECTRIC
Tel. 0870 600 3091
Fax 0870 760 1066
sales@marechal.co.uk
www.marechal-electric.com

For other countries, please contact MARECHAL ELECTRIC S.A.
www.marechal-electric.com



www.becma.ch

Anplapow200704