

# MINES & QUARRIES



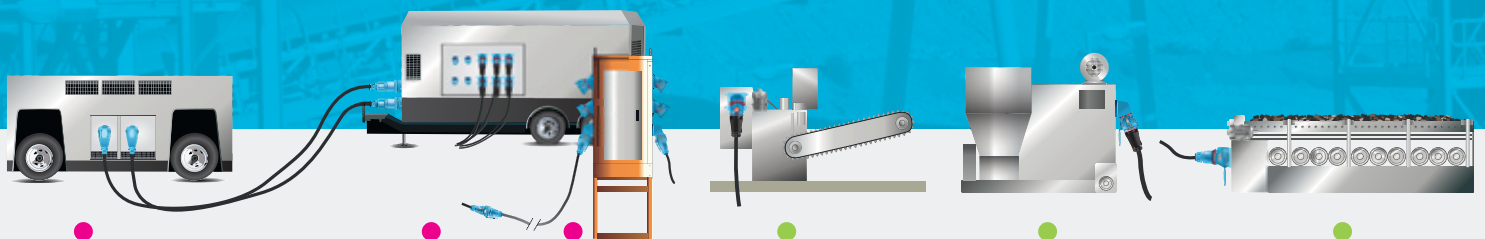
INDUSTRIAL PLUGS, SOCKET-OUTLETS,  
& BOXES



# Connectors designed specifically for your operations

Your electrical plugs and socket-outlets must not only comply with strict quality and safety standards, they must also deliver high performance and flexibility – and be robust enough to withstand daily exposure to harsh conditions like dust, mud, and humidity.

At MARECHAL®, we offer a unique portfolio of DECONTACTOR™ plugs, socket-outlets, and multi-contact connectors that meet the demanding requirements inherent to mine and quarry operations. With our proprietary systems, you can be assured of safe, reliable power connections at every step of your process: power supply, extraction, and processing.



## Power supply

- Generators
- Motor signal and control
- Electrical enclosures and boxes

Because we combine robust materials with a proven butt contact technology, our connectors are sturdy, durable, and innovative.

- Resistant to spikes of up to 8-10 times rated current, for continued operation during motor start-ups
- Built-in load-breaking capacity
- Allow control signals to be transmitted without the risk of corrosion
- IP66/IP67 watertightness
- IK08/IK10 shock resistance

## Extraction

- Saws, cutters, and shearers
- Loaders
- Conveyors

The DECONTACTOR™'s built-in switching system allows for enhanced flexibility and mobility, as well as greater operator safety and easier equipment maintenance.

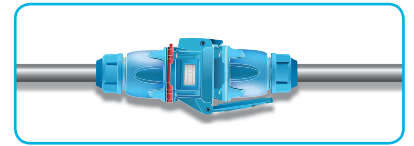
- Fast, safe connection and disconnection from a power supply, even at high currents
- Compliant with all safety regulations
- Keying systems for sealing off and locking out socket-outlets and connectors

## Save time and cut costs with the DECONTACTOR™

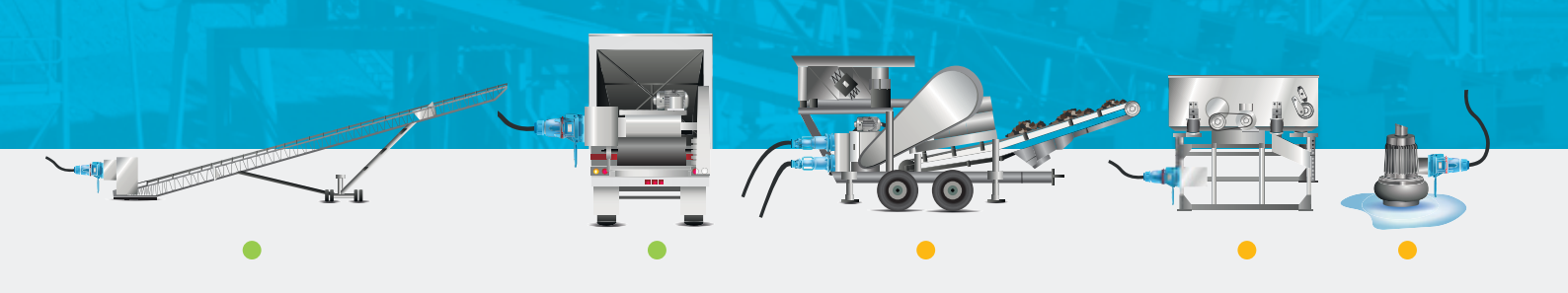
With the DECONTACTOR™ – a proprietary MARECHAL® technology – you can quickly, easily, and above all safely connect and disconnect equipment from a live power supply.

This means you can hook up and remove machines on load, thereby:

- Shortening maintenance and repair time and minimising downtime
- Facilitating both preventive and corrective maintenance
- Reducing your costs



DECONTACTOR™ = Plug + Socket-Outlet + Switch



### Processing

- Crushers and grinders
- Sieves and screens
- Pumps

The silver-nickel tips butt contacts and high-power single-pole connectors, coupled with our proven DECONTACTOR™ technology, ensure that your connections are safe, reliable, and easy to handle.

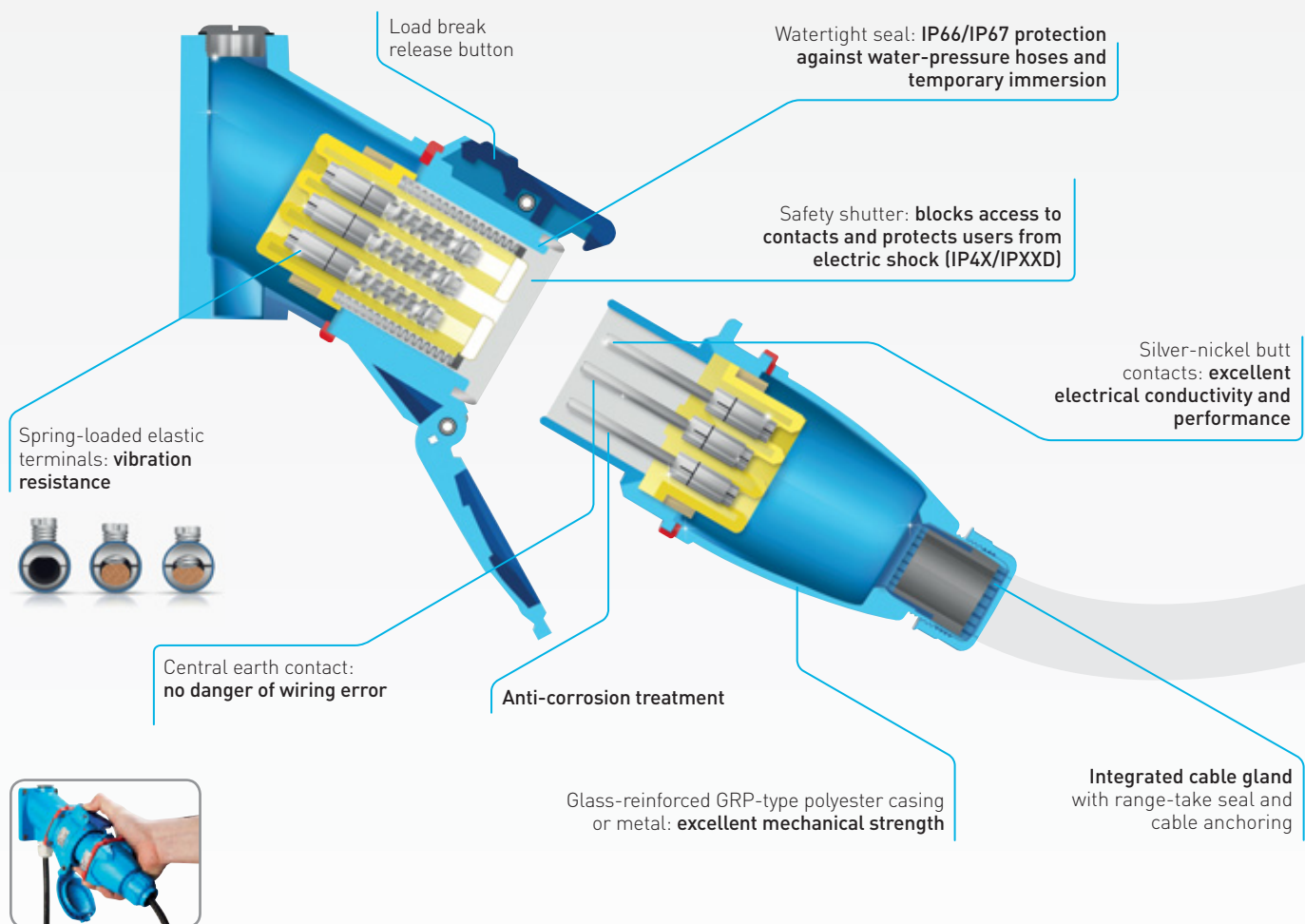
- Can support currents from 1 A to 700 A and voltages of up to 1,000 V, while remaining easy to connect and disconnect
- Excellent conductivity and reliability, even in harsh conditions
- Visible load breaking switches directly on the motor (in compliance with the EU Machinery Directive)

### The right industrial connector for your mining equipment needs:

- Massive rock mining
- Alluvial mining
- Underground and open pit mining

# The DECONTACTOR™, a MARECHAL® exclusive

The DECONTACTOR™ is a plug and socket-outlet system with an integrated power switch, allowing you connect and disconnect motors in absolute safety – with plug-and-play-like simplicity. This proprietary technology also makes equipment maintenance fast and safe. With our exceptionally robust system, you can be sure that your industrial electrical connections deliver long-lasting performance and comply with the latest regulations (like IEC EN 60947-3 for switches, IEC EN 60309-1 and the EU Low Voltage Directive).



## DECONTACTOR™ technology: proven safety

- A socket-outlet with a built-in switch, all in a single, compact unit
- Just press the button once to cut the current and eliminate the risk of electric shock; the plugs then eject automatically, disconnecting the appliance
- Personnel safety is guaranteed at all times

## Reliable, long-lasting electrical connections

MARECHAL® connectors are fitted with spring-loaded contacts providing continuous, durable connections. The silver-nickel tipped contacts deliver exceptional connection quality and superior resistance to humidity and corrosion – even after years of use.



## Mechanical lock-outs for enhanced user safety

An optional lock-out system can prevent current from unexpectedly reaching equipment while maintenance is being performed, and can be seamlessly incorporated into your seal-off procedures. After safely unplugging the DECONTACTOR™, you can mechanically seal off the two separated parts.



## IP66/IP67 sealing

IP66/IP67 sealing is automatic as soon as the plug is inserted or once the socket lid is closed manually.



## Wastewater treatment

Mines and quarries need to pump a lot of water, for equipment cleaning and as part of wastewater and surface runoff treatment processes. With our DECONTACTOR™ plugs and socket-outlets, you can easily hook up and remove pumps on the fly – without having to wait for a maintenance technician. The connections are IP66/IP67 watertight, meaning they are automatically protected against any accidental contact with water.



## DSN / DS

### DECONTACTOR™

20 A / 30 A / 32 A / 50 A / 63 A /  
90 A / 150 A / 250 A

The DSN/DS range spans currents from 20 A to 250 A, making it our largest and most complete DECONTACTOR™ range.

Socket-outlets and connectors are available in glass-reinforced polyester for currents from 20 A to 90 A and in metal for currents above 50 A, and offer a large array of options like keying systems and auxiliary contacts.



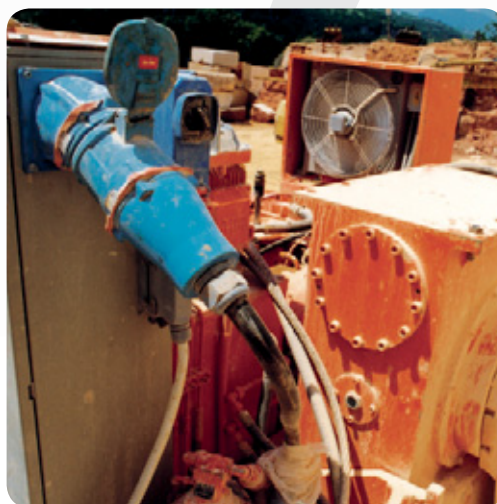
## DN

### DECONTACTOR™

20 A / 30 A / 50 A / 90 A / 150 A

The metal casing on this range is designed for industries where robust connectors are crucial.

DN DECONTACTOR™ can accommodate a wide range of cable diameters, making them perfect for the long cables used in mining and tunnel digging.





## MULTICONCONTACT Crimp mounting CONNECTORS

5 to 37 contacts; 5 A to 30 A

Low currents: 4 mA to 20 mA, 16 A

Our multicontact connectors can hook up equipment to a power supply and transmit data. The silver-nickel alloy used for the butt contacts provides exceptional conductivity and longevity (can withstand several thousands of operations).

The casing is available in glass-reinforced polyester or metal to ensure excellent resistance – even in harsh conditions. And because the contacts are crimped, the connectors can be mounted and demounted quickly and easily, giving you a robust, cost-effective system.



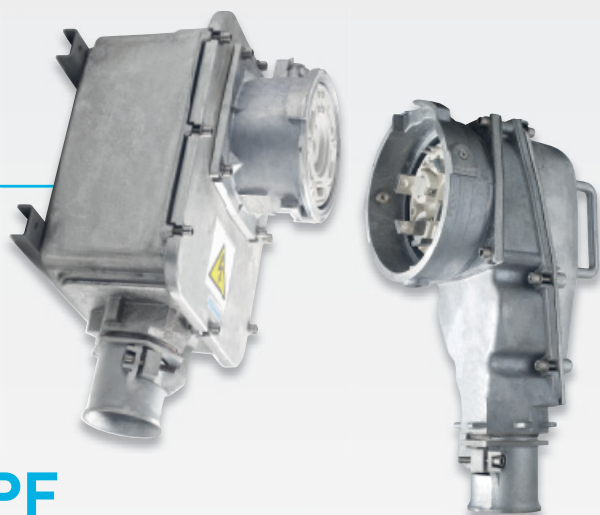
## DS4

### HIGH-CURRENT CONNECTORS

Up to 400 A and 1,000 V

Our DS4 range offers compact plug and socket-outlet systems for connections up to 400 A and 1,000 V. The sturdy metal box means that the system will continue to work reliably even in harsh conditions. DS4 connectors come standard with two pilot contacts that can be used to electrically lock out the system and a steel insertion mechanism – making them suitable for digging and tunnelling equipment, cranes, generators, quarries, and electrical enclosures.





**PF**

## HIGH-CURRENT PLUGS AND SOCKET-OUTLETS

315 A / 400 A / 500 A / 600 A - 1,000 V

Our PF range can accommodate up to six auxiliaries and two pilots, is IP66/IP67 watertight (standard), and has an electromechanical lock-out system, for maximum safety and water protection.

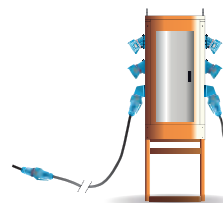
The metal casing offers IK10 shock resistance and is well-suited to connections for heavy equipment and generators for mining and tunnel-digging operations.



INFO +

### Electrical enclosures

Mining and quarry equipment is often located far from a power supply, so high-capacity extension cables are usually needed.



## CS1000 / SP

### SINGLE-POLE POWER CONNECTORS

Up to 700 A and 1,000 V

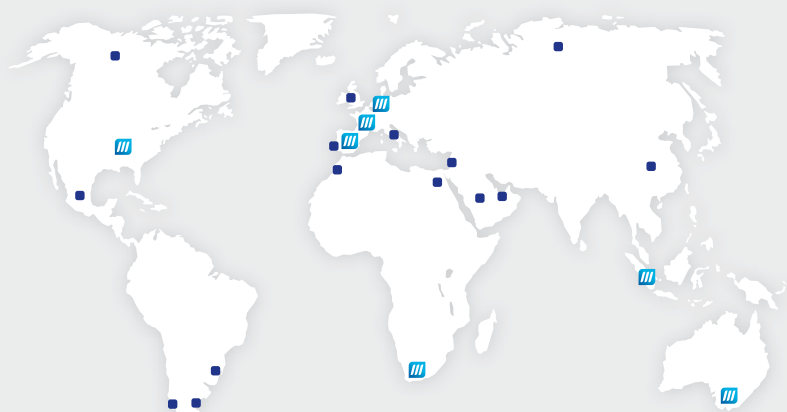
Thanks to a unique butt contact mechanism, our CS1000 and SP single-pole connectors can be used with currents of 400 A or 700 A and voltages of 1,000 V AC or 1,500 V DC.

They are IP66/IP67 watertight and have a mechanical lock-out system and keying ring (on the CS1000) or an electromechanical lock-out system with a pilot circuit for each contactor (on the SP), preventing accidental disconnections.





**MARECHAL** ELECTRIC GROUP



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## Mining & quarry industry customers

### South Africa

- Kumba Sishen - Iron-ore
- Hotazel - Manganese mine
- Black Rock - Manganese mine
- Koffiefontein - Diamond mine
- RPM - Platinum mine
- AngloGold Ashanti - Gold mine

### Zambia

- KCM - Copper mine
- Mopani - Copper mine

### France

- Les Ardoisières - Ardoise quarry
- Salins du midi - Salt producer
- Carrières Plo - Granite quarries
- ROCAMAT - Natural stone quarries
- SETP - Comblanchien quarries
- PRORoch - Dressed stone quarries
- Carrières de Provence - Limestone quarries
- Tunnel du Violay - Tunnel digging
- Tunnel du Perthuis - Tunnel digging

### Spain

- Cobre las Cruces - Copper extraction site

### Morocco

- Groupe Managem - Silver and other metal mines

### Chile

- Escondida - Copper mine

### Thailand

- Chatree North Gold Mine