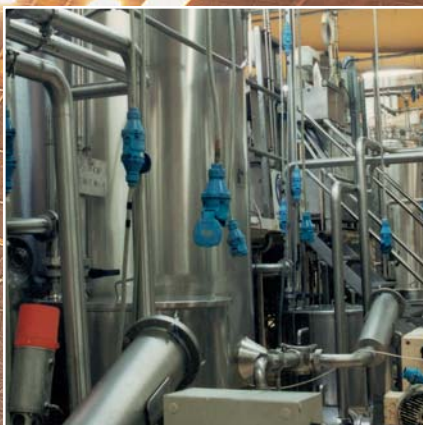


# Products for Section 1



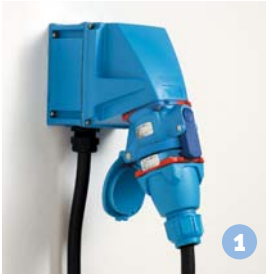
- Utilities, services and maintenance supply
- Production supply
- Motors and pumps supply
- Connection on construction sites
- Large hydroelectric equipment supply
- Lighting and booths supply
- Charging in public places

# standard industrial applications



# DECONTACTOR™ OR PLUG & SOCKET-OUTLET? THE MAIN DIFFERENCES

## Operation of a DECONTACTOR™



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



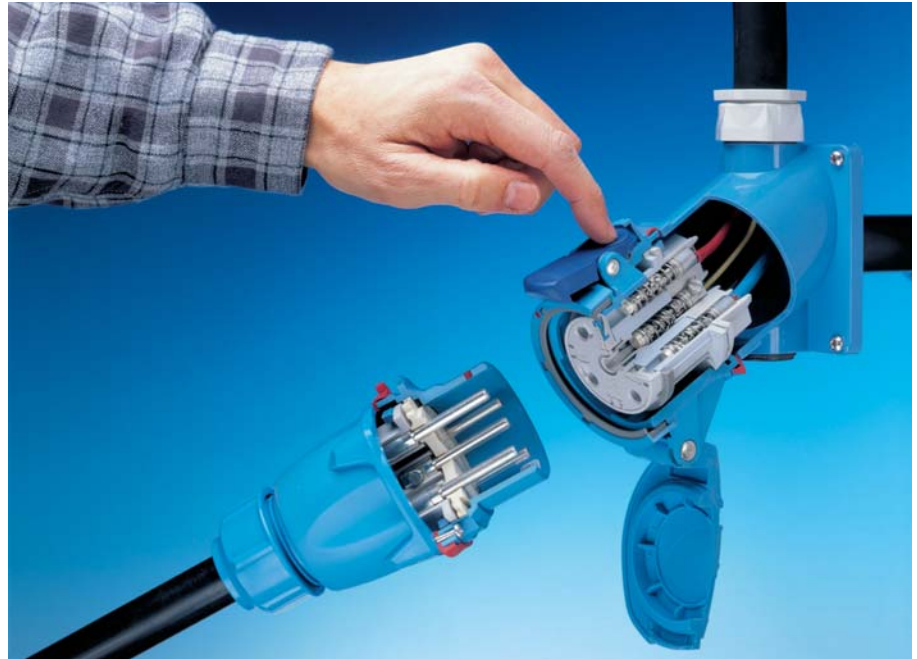
Just pressing with the finger on the button will switch off the DECONTACTOR™. The plug then travels back automatically into a parked position.



A quarter of a turn (to the left for the DS and DSN; to the right for the DN) is enough to separate the plug from the socket-outlet. This is done very safely since the device has been switched off.



The plug and socket-outlet are then separated. Thanks to the safety shutter located in front of the socket-outlet (for the DS and DSN), 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 the silver-butts contacts instead of the brass pins and sleeves. Moreover, they have an integral switching device allowing to make and break 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.**

### 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 250A. Just pressing on the button will switch off the decontactor. Thus, the plug is de-energised before it is removed. As it prevents any risk of drawing an electric arc formation 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 (*Allen Bradley High Current Lab, Wisconsin, U.S.A.*)

Safety has been Marechal engineers' goal from the start: from the locking pawl to the layout of the earth contact, from the safety shutter to the stop button ... each DECONTACTOR™ detail has been designed with optimum safety in mind.

The safety shutter at the front of the socket-outlet (DS/DSN/DXN ranges) remains locked when the plug is pulled out ... With this system, live parts are totally inaccessible by the user, even if the lid is not closed.

In order to eliminate any electrocution hazard, the earth contact is always located in the centre of the Marechal DECONTACTOR™, thereby preventing any accidental connection with a phase contact. When the plug is inserted and withdrawn, the earth contact makes first and breaks last in order to provide continuous earthing, as required for safe handling.

***For any technical information regarding rated currents, please refer to the Technical Manual.***



## Advantages of the Marechal decontactors

- **Integral switching device**
- **Closing on short circuit**
- **High safety usage**
- **Long term reliability**
- **Heavy duty**
- **Number of operations exceeding those stipulated in the standard**
- **Excellent resistance to high temperatures**
- **Significant overload tolerance**
- **Compliance with the French decree of 1988**
- **Compliance with European decrees (see Technical Manual)**



## Competitiveness

Marechal decontactors offer the most cost-effective solution:

- All-in-one socket-outlet and switch.
- The Marechal's modular system allows to connect in one single 3P+N+E-socket-outlet, 3 plugs (1P+N+E; 3P+E; 3P+N+E), thus reducing the number of socket-outlets and the installation costs.
- For in-line connections, no need to wire a pilot wire linked to a contactor or combine a distribution box with a switch.

## Flexibility on production site

Motors connected by means of a Marechal DECONTACTOR™ can be moved quickly and safely, without any constraints or danger.

Simply press the DECONTACTOR™ button any time a maintenance, repair or replacement job is needed. Machine downtime is significantly reduced compared with the 'hard wiring' solution. Basically, the savings can be significant, knowing that stopping a production chain can lead to huge losses.

## The ranges: two categories

- Decontactors for **standard applications**:
  - **DSN** universal decontactors
  - **DS** decontactors for manufacturing industry
  - **DN** heavy-duty decontactors  
(See Selection Guide on pages 16 and 17)
- Decontactors for use in **explosive atmospheres**:
  - **DXN** 'ed' safety ATEX decontactors (See page 102)

No on-site electrician is required any more to unwire and rewire the motor, leading to additional savings. The quick connection of back-up motors using DECONTACTOR™ helps by-pass many redundant installations that were previously required to ensure continuous production in the event of a breakdown.

Though they are mainly used to equip new industrial sites, decontactors are also retro-fitted in existing plants. They can be used whenever partial renewal of the electrical installation is decided.

## Plugs and socket-outlets



Marechal plugs and socket-outlets use the same butt-contact technology as the decontactors, though they do not have an integral switching device.  
(See PN range on page 62)

# DECONTACTORS: SELECTION GUIDE & APPLICATIONS

## The 'Plus' of the DSN (pp. 18 to 29)



- The most compact and waterproof range
- IP66/67 achieved upon connection
- Up to 63 A / 690 V or 45 A / 1000 V
- Polyester casings offering high chemical resistance
- Safety shutter<sup>(1)</sup>
- Breaking capacity AC23
- Also available in 24 and 37 contact versions (5 A per contact)



## Universal applications

**Privileged Market:**  
Food-processing industry

### Typical applications

- utilities, services and maintenance
- machines often cleaned, laboratory equipment
- aggressive environments (*chemicals*)
- small transportable equipment (*cutting machines in slaughterhouses*), small pumps and small motors
- lighting system, booths (*exhibition halls, markets, outdoor events*).

## The 'Plus' of the DS (pp. 30 to 45)



- The broadest and most complete range
- Up to 250 A / 400 V or 150 A / 1000 V
- Wide range of optional features (*self-ejection, stop button, auxiliary contacts*)
- Polyester casings from 30 to 150 A offering high resistance to chemicals
- Robust metal casings from 90 to 250 A
- Safety shutter<sup>(1)</sup>
- Withstands high overloads
- Also available in 24 and 37 contact versions (5 A per contact)



**Privileged Market:**  
Manufacturing industry

### Typical applications

- utilities, services and maintenance
- spotlights
- assemblies for construction sites (*civil engineering, shipbuilding*)
- pumps and medium-range motors
- all special applications (*self-ejection for vehicles, star-delta starting, auxiliary contacts*)

## The 'Plus' of the DN (pp. 46 to 61)



- An extremely robust and heavy-duty range (*impacts, heat, chemical agents, high number of operations, ...*)
- Up to 150 A / 400 V
- Robust metal casings from 20 to 150 A
- Easy to use
- Withstands high overloads
- Also available in 9 and 20 contact versions (16 to 25 A per contact)

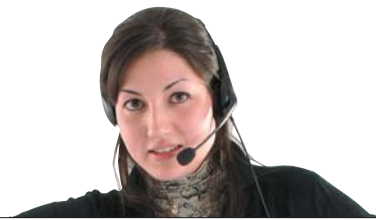


**Privileged Market:**  
Heavy industry

### Typical applications

- utilities, services and maintenance
- generating sets
- electro-magnets
- welding units
- crucible connections, steel mills
- stone sawing machines, cutting machines
- quarry machines

(1) the safety shutter covers the live contacts when the lid is open



## Selection Guide

- 1 - Do you know the rated features (current, voltage) of your application?** The following table will help you choose the best-suited DECONTACTOR™.

IEC/EN 60309-1	Maximum operating voltage (AC)			
	400V	500V	690V	1000V
Rated current				
20A		<b>DN8 DSN1</b>		
30A		<b>DN1</b>	<b>DS1</b>	
32A			<b>DSN3</b>	<b>DS3</b>
45A				<b>DSN6</b>
50A		<b>DN3</b>	<b>DS3</b>	
63A			<b>DSN6</b>	<b>DS6</b>
90A		<b>DN6</b>	<b>DS6</b>	<b>DS9</b>
125A			<b>DS9</b>	
150A	<b>DN9 DS9</b>			<b>DS2</b>
200A			<b>DS2</b>	
250A	<b>DS2</b>			

- 2 - What is the load breaking capacity of your DECONTACTOR™?**

IEC/EN 60947-3	Load breaking capacity AC22			AC23
	400V	500V	690V	400V
Operating current				
10A		<b>DN8</b>		
16A		<b>DN1</b>	<b>DS1</b>	
20A	<b>DN8</b>	<b>DSN1</b>		<b>DSN1</b>
30A	<b>DN1</b>	<b>DS1</b>		<b>DS1</b>
32A		<b>DN3</b>	<b>DSN3 DS3</b>	<b>DSN3</b>
50A	<b>DN3</b>			<b>DS3</b>
63A		<b>DN6</b>	<b>DSN6 DS6</b>	<b>DSN6</b>
90A	<b>DN6</b>		<b>DS9</b>	<b>DS6</b>
125A			<b>DS2</b>	
150A	<b>DN9 DS9</b>			
250A	<b>DS2</b>			

- 3 - Are you going to use your DECONTACTOR™ in extreme weather conditions and environments?**

Check its watertightness and impact resistance ...

Watertightness	Current	Impact resistance	
		IK08 *	IK09 **
IP54/55	20A	<b>DN8</b>	<b>DN8</b>
	30A	<b>DS1</b>	<b>DN1</b>
	50A	<b>DS3</b>	<b>DN3</b>
	90A	<b>DS6</b>	<b>DS6 DN6</b>
	150A	<b>DS9</b>	<b>DS9 DN9</b>
250A		<b>DS2</b>	
IP66/67	20A	<b>DSN1</b>	
	32A	<b>DSN3</b>	
	63A	<b>DSN6</b>	
	150A		<b>DS9</b>
	250A		<b>DS2</b>

\* Polyester casing \*\* Metal casing

- 4 - Do you need a DECONTACTOR™ with a keying system allowing a large number of different currents (voltage, frequency, AC current, DC current)?**

Number of Keying positions	DECONTACTOR™
24	<b>DSN DS</b> (except <b>DS2</b> )
16	<b>DN</b> (except <b>DN9</b> )
12	<b>DS2</b>
4	<b>DN9</b>