

ELECTROMAGNETIC COMPATIBILITY

SOCKET OUTLETS RANGES
FROM 16 A TO 400 A 1000 V



EMC



WHAT IS EMC?

ElectroMagnetic Compatibility (EMC) is the ability of a product to operate satisfactorily in its electromagnetic environment without introducing electromagnetic interference itself. But what does this mean concretely for the industrial sector? Here are some explanations.

WHERE DO THESE INTERFERENCE COME FROM?

Disruptions can have many causes:

- Natural factors, such as lightning,
- Devices designed to transmit/receive waves, such as mobile phones, radars, radio, television, etc.
- Devices that generate emissions, such as engines, digital circuits, etc.

WHAT ARE THE CONSEQUENCES?

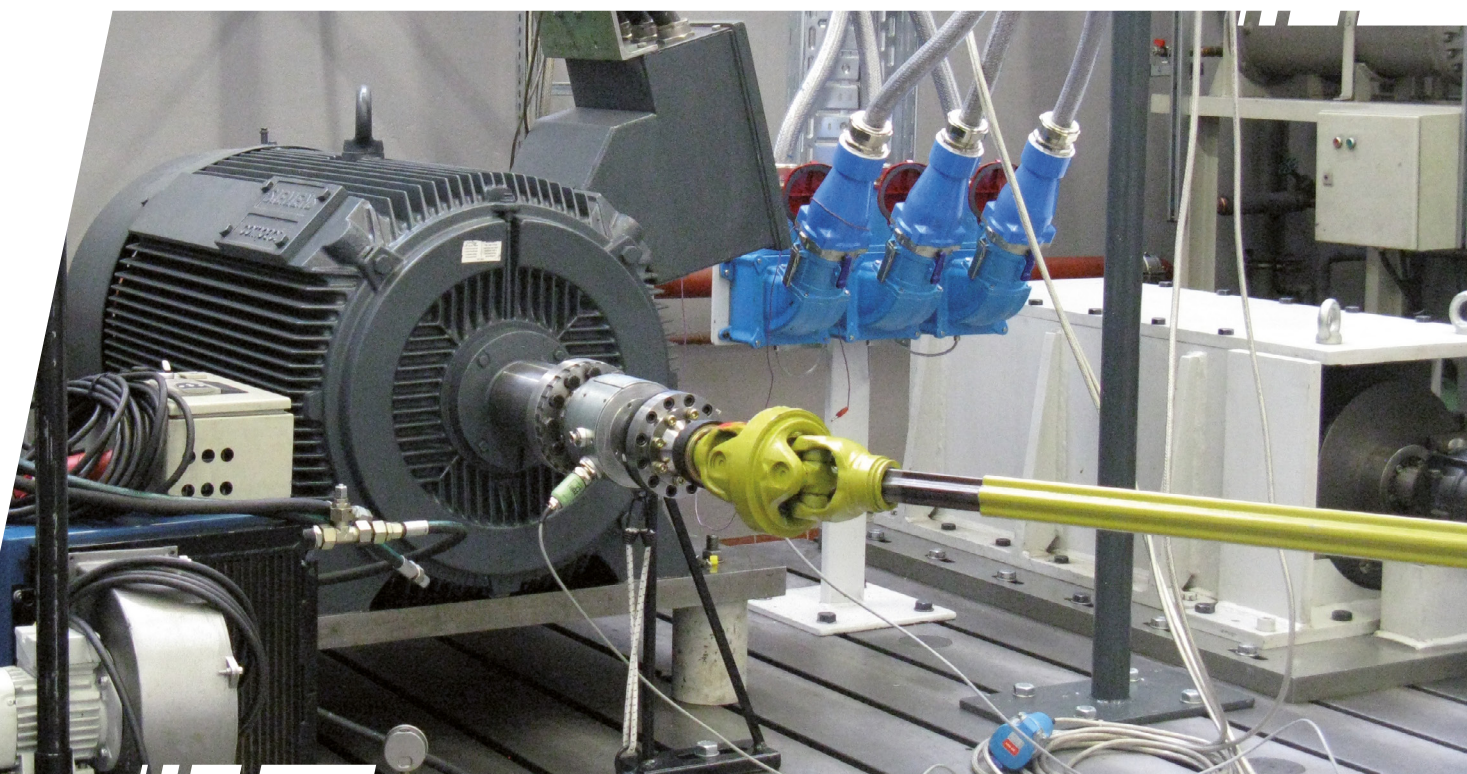
Electromagnetic waves can **disturb a signal**, causing the electrical installation, a robot or machine to malfunction or transmit an incomplete or erroneous message (data, ignition order, etc.) or even **completely block an industrial manufacturing process**.

As a result, these disruptions can impact the proper functioning and productivity of a plant as well as the **safety of the site**.

HOW TO PROTECT YOURSELF FROM ELECTRO-MAGNETIC POLLUTION?

By ensuring the continuity of the shielded cable and thus the non-disruption of signals, using EMC products.

Our range of electrical socket outlets **DECONTACTOR™ EMC** (industrial socket + integrated switch), up to 400 A and 1000 V, is designed for this purpose: to avoid as much as possible accidental production shutdowns due to electromagnetic disturbances.



MAIN ADVANTAGES

The MARECHAL® solutions are made up of a DECONTACTOR™ EMC socket outlets range, specifically designed to this end, up to 400 A and 1000 V. They are thought to avoid as much as possible accidental shutdowns due to electromagnetic interference.

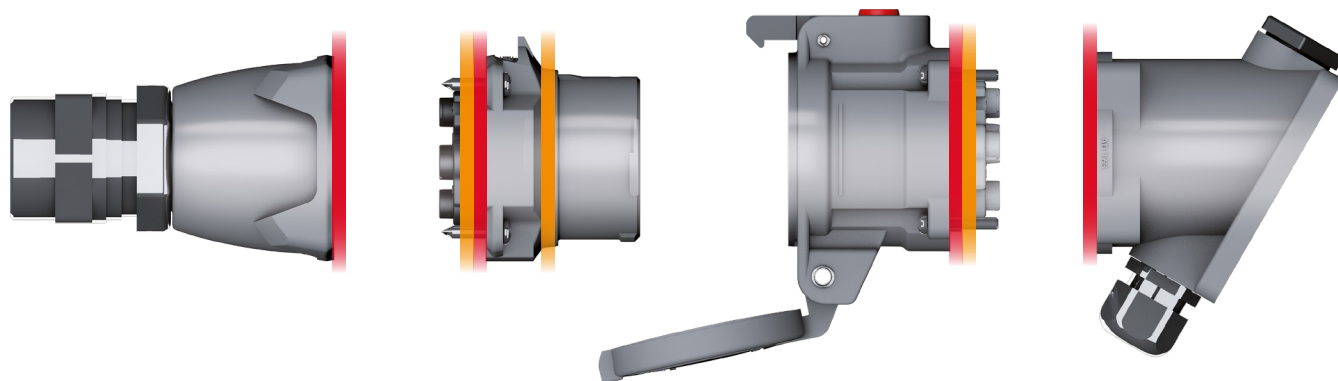
COMPLETE EMC PROTECTION & AUTOMATIC IP55

- Boxes and installation accessories in metal.
- All the mounting surfaces ensure **optimal electrical conductivity**.
- Special seals in metallic material in order to ensure an **IP55 protection (waterproofness)** as well as **optimal EMC performances**. The IP protection degree is obtained automatically when connecting the plug or shutting the lid. No other operation is necessary.
- On request, the plugs and socket outlets can be supplied with armoured cable glands.

POWER AND CONTROL

The **DECONTACTOR™ EMC** auxiliary contacts allow the process control such as connection control, motor thermal control, programmable logic controller (PLC), signal transmission, etc.

The EMC option is a special realisation that allows to **reduce the power (in dB) of their inherent emission of electromagnetic waves**. The electromagnetic compatibility (EMC) trials are carried out on our products according to the IEC 62153-4-5 : 2016 norm. In a frequency range between 30 MHz and 1000 MHz, the EMC option offers a reduction between 30 dB and 70 dB of electromagnetic emissions.



OPTIMAL TRANSMISSION OF POWER

The socket-outlets resist to corrosion and chemical agents. The silver-nickel butt contact tips with springs ensure a permanent contact pressure and an optimal conductivity even after years of intensive use. Our specifically designed cable terminals provide our socket-outlets with optimal resistance to vibrations (especially preventing cable loosening) and temperature variations as well as outstanding cable anchoring.

- All the external surfaces of the devices are not treated so as to ensure optimal electrical conductivity.
- The conductive sealings are made of either metallic fibers, Monel wires silicone or graphite-loaded wires silicone, ensuring excellent EMC performances..

16 A

UP TO 12 PIN



**PN7c
PN12c**



EMC



IP55



METAL



IK09



-40°C
+60°C



1-4 mm² flexible
1-6 mm² stranded

SOCKET-OUTLET female
PN7c (16 A)



INLET male
PN7c (16 A)



50 V AC	7P (16 A)	09P4070EMC	09P8070EMC
480 V AC	6P+E (16 A)	09P4061EMC	09P8061EMC

SOCKET-OUTLET female
PN12c (16 A)



INLET male
PN12c (16 A)



480 V AC	12 contacts	09A4001EMC	09A8001EMC
	Bag of 13 contacts	01AA213	01AA113

For all other configurations, options and accessories, contact us or see our online catalog on marechal.com

30 A

COMPACT PLUGS & SOCKETS



PN



EMC



IP55



METAL



IK09



-40°C
+60°C

SOCKET-OUTLET female
PN (30 A)



INLET male
PN (30 A)



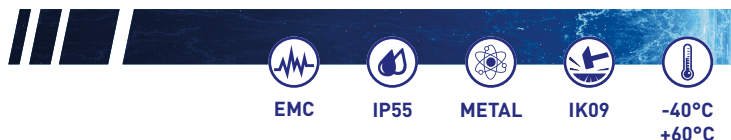
20-24 V AC	2P	09N408AEMC	09N808AEMC
220-250 V AC	1P+N+E	09N4015EMC	09N8015EMC
380-440 V AC	3P+E	09N4013EMC	09N8013EMC
220-250 V AC 380-440 V AC	3P+N+E	09N4017EMC	09N8017EMC
480-500 V AC	3P+E	09N4093EMC	09N8093EMC
480-500 V AC	3P+N+E	09N4097EMC	09N8097EMC



1-6 mm² flexible
1.5-10 mm² stranded

30 A

MULTI-CONTACT CONNECTORS UP TO 9 CONTACTS



SOCKET-OUTLET female
DN9C (30 A)

INLET male
DN9C (30 A)



50 V AC	9P	1914090EMC	1918090EMC
415 V AC	8P+E	1914081EMC	1918081EMC



1-6 mm² flexible
1.5-10 mm² stranded



The DN9C can also be used as a
DECONTACTOR™

For all other configurations, options and accessories, contact us or see our online catalog on marechal.com

90 A

DECONTACTOR™ INDUSTRIAL SOCKET WITH INTEGRATED SWITCH



SOCKET-OUTLET female
DS6 (90 A)

INLET male
DS6 (90 A)



220-250 V AC	1P+N+E	3964015EMC	3968015EMC
380-440 V AC	3P+E	3964013EMC	3968013EMC
220-250 V AC 380-440 V AC	3P+N+E	3964017EMC	3968017EMC
660-690 V AC	3P+E	3964193EMC	3968193EMC
380-400 V AC 660-690 V AC	3P+N+E	3964197EMC	3968197EMC
1 000 V AC	3P+E	3964223EMC	3968223EMC
Auxiliaries 5 A/500 V AC	+ 2 contacts	Ref. + 972	Ref. + 972
Auxiliaries 5 A/500 V AC	+ 4 contacts	Ref. + 264	Ref. + 264



10-25 mm² flexible
10-35 mm² stranded

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150 A

DS9

DECONTACTOR™

INDUSTRIAL SOCKET WITH INTEGRATED SWITCH



EMC



IP55



METAL



IK10



-40°C
+60°C



AC-22
AC-23

SOCKET-OUTLET female
DS9 (150 A)



INLET male
DS9 (150 A)



220-250 V AC	1P+N+E	3994015EMC	3998015EMC
380-440 V AC	3P+E	3994013EMC	3998013EMC
220-250 V AC 380-440 V AC	3P+N+E	3994017EMC	3998017EMC
660-690 V AC	3P+E	3994193EMC	3998193EMC
380-400 V AC 660-690 V AC	3P+N+E	3994197EMC	3998197EMC
1 000 V AC	3P+E	3994223EMC	3998223EMC
Auxiliaries 10 A/400 V AC	+ 2 contacts	Ref. + 262	Ref. + 262
Auxiliaries 10 A/400 V AC	+ 4 contacts	Ref. + 264	Ref. + 264
Auxiliaries 10 A/400 V AC	+ 6 contacts	Ref. + 976	Ref. + 976



25-70 mm² flexible
25-95 mm² stranded

For all other configurations, options and accessories, contact us or see our online catalog on marechal.com

250 A

DS2

DECONTACTOR™

INDUSTRIAL SOCKET WITH INTEGRATED SWITCH



EMC



IP55



METAL



IK10



-40°C
+60°C



AC-22
AC-23

SOCKET-OUTLET female
DS2 (250 A)



INLET male
DS2 (250 A)



380-440 V AC	3P+E	3924013EMC	3928013EMC
220-250 V AC 380-440 V AC	3P+N+E	3924017EMC	3928017EMC
660-690 V AC	3P+E	3924193EMC	3928193EMC
380-400 V AC 660-690 V AC	3P+N+E	3924197EMC	3928197EMC
1 000 V AC	3P+E	3924223EMC	3928223EMC
Auxiliaries 5 A/400 V AC	3P+N+E + 2 contacts	Ref. + 972	Ref. + 972
Auxiliaries 5 A/400 V AC	3P+E + 4 contacts	Ref. + 174	Ref. + 174
Auxiliaries 5 A/400 V AC	3P+E + 6 contacts	Ref. + 976	Ref. + 976



70-95 mm² flexible
70-120 mm² stranded

For all other configurations, options and accessories, contact us or see our online catalog on marechal.com

400 A

COMPACT HEAVY-DUTY PLUGS & SOCKETS



DS4



EMC



IP55



METAL



IK10



-40°C
+60°C

SOCKET-OUTLET female
DS4 (400 A)



INLET male
DS4 (400 A)



95-150 mm² flexible
95-185 mm² stranded

380-440 V AC	3P+E+ 2pil.	3944013EMC	3948013EMC
660-690 V AC	3P+E+ 2pil.	3944193EMC	3948193EMC
1 000 V AC	3P+E+ 2pil.	3944223EMC	3948223EMC

For all other configurations, options and accessories, contact us or see our online catalog on marechal.com

REGULATIONS

THE REGULATIONS REGARDING EMC HAS BEEN DEVELOPPED FROM EUROPEAN DIRECTIVES EXPLAINING THAT:

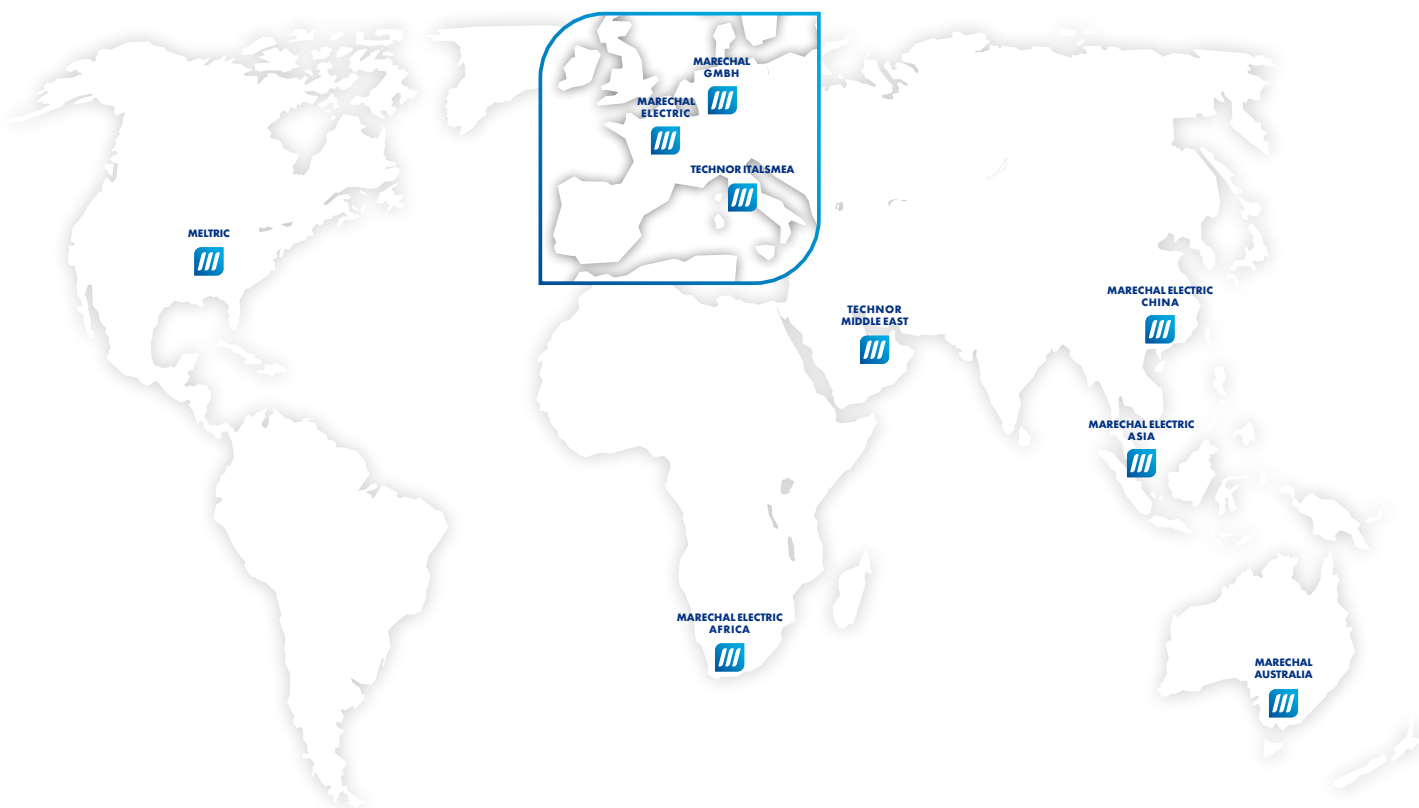
- The electromagnetic interferences generated must be limited to a level allowing radio devices, telecommunications and other devices to work in compliance with their scope of use.
- The devices must have some intrinsic immunity level against electromagnetic interferences allowing them to work in compliance with their scope of use.

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All construction sites with armoured cable don't require EMC plugs. Contact us for more information.



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