




PN-PNHT/PN7C-PN7CHT
PN12-PN12C
DS24C-DS37C
DSN24C-DSN37C


N° 10A - Rev. : 2



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A manufacturer of products bearing the  Quality Label

GENERAL

All  products comply with international and European safety requirements, and particularly with the "European Low Voltage Directive" 93/68/CEE. They bear the CE marking whenever applicable.

Note : PN plug top/inlet is too small to accommodate the CE identification sticker. It is then supplied separately in the box. This sticker must be affixed either on the accessory attached to the plug top/inlet or as close as possible to the inlet if it is panel mounted.

INSTALLATION


 Products must be installed by a certified electrician.

Assembly

Optimum operating conditions are achieved by installing :


- with the cover hinge at the top (PN series),
 - with the latch at the top (DS and DSN series).
- In damp or dusty environments, it may be advised to install them with the latch on the side, to prevent accumulation of foreign bodies inside the cover.

To prevent water ingress, socket-outlets that are not watertight (IP67) must always face downwards.

 Do not forget the gasket (except for HT products) between the inlet or socket-outlet and its back accessory.

Fixing screws

An appropriate tool must be used for each type of screws. Apply the necessary torque to tighten self-tapping screws.

 Do not over tighten screws supplied with polymeric accessories.

Wiring screws

PN - PNHT - PN7C - PN7CHT : Use a flat screwdriver with a blade of 4 x 0,7 mm. Apply a torque of 0,6 N.m.


Handles

Please refer to the specific instruction sheet.

Color-coded ring

To achieve Ingress Protection, do not forget the colour-coded standard ring between the inlet or socket-outlet and its rear accessory. The two protrusions of the ring must be positioned on the latch side for the socket-outlet and on the catch side for the appliance inlet.


Wiring

 Be sure power is off before starting.

	Max. conductor cross-section (mm ²)	
	Flexible	Rigid/stranded
PN-PNHT	6 (*)	10
PN7C-PN7CHT	4	4
PN12 - PN12C	1,5	1,5
DS24C-DS37C	1,5	1,5
DSN24C-DSN37C	1,5	1,5

(*) Possibility of wiring up to 10² flexible conductors with lugs

- Respect conductor coding and terminal markings,
 - Select conductors with appropriate cross-section,
- Insert cable through handle and gasket, strip conductors to adequate length (see table). Twist strands of each conductor together. Alternatively, place a wiring ferrule onto the conductors.
 - Insert cable through surface box glanding arrangement and gasket, and strip conductors to adequate length (see table).
- For PN - PNHT - PN7C - PN7CHT :
 Back out terminal screws far enough (but not completely) to allow a complete insertion of conductors. Insert conductors fully into their respective terminals and tighten the wiring screws manually with the recommended torque and tool.
 - For PN12 - PN12C / DS24C - DS37C / DSN24C - DSN37C :
 Use tin solder and a 50W iron. Insert the conductor into its terminal, and heat it up for approx. 30 seconds. Whilst heating, apply the soldering wire into the hole at the bottom of the contact, and let it penetrate by capillarity. Let it cool down without any mechanical stress.

 All metal parts must be earthed. An earthing point is provided on all metal accessories, with a screw and a washer.

Note : There is no gasket between the inlet or socket-outlet and its back accessory for HT products (PNHT-PN7CHT).


- Plug and connector** : Assemble handle with screws and gasket, and tighten cable gland. Whilst clamping or anchoring, the portion of cable inside the handle must not be tight. After assembly, the cable sheath must extend into the

handle. For a proper clamping the use of PVC cables is not recommended.

- Socket-outlet and appliance inlet** : Assemble socket-outlet or inlet on adapter or box, using gaskets and screws supplied, and tighten cable gland. Ensure that blanking cap supplied with the surface box for unused entry, if any, is properly tightened



	Stripping length
PN - PNHT - PN7C-PN7CHT	9 mm
PN12 - PN12C - DS - DSN	8 mm

 PN12 has mobile contact terminals on the male (load) side. Care must be taken to provide for a conductor length and arrangement compatible with the terminals movement.

OPERATION

To ensure a safe and reliable operation, the products must be used according to their designed destination, and in particular their assigned ratings, in terms of current, voltage, endurance and IP according to IEC/EN 60309-1.

Plug and socket-outlet must have compatible ratings (pin configuration, voltage, rated current ...) to be connected together. When not in use, the socket-outlet is shielded by a protective lid preventing the entry of dust and moisture. The lid is held in the closed position by a latch (standard on DS/DSN series, optional on PN series). To release the spring open lid, depress the latch. Lid sprung closed must be kept open manually.

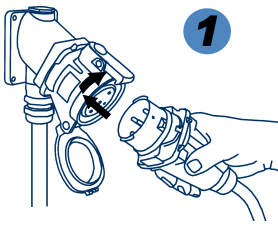
To connect a DS or DSN plug (1), align the plug bayonet and the hollow part of the socket-outlet, push the plug partially, latching catch facing upward, and turn clockwise. Two red dots give a visual indication that facilitates the insertion of the plug. The plug is then in the rest position, circuit open.

To close the circuit (2), push the plug fully home until it is held in place by the latch.

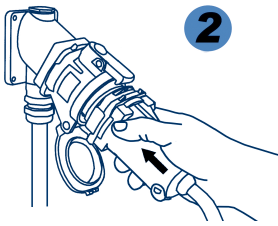
To release the plug (3), simply depress the latch, which breaks the circuit, then twist and withdraw the plug (4). The socket-outlet lid must then be shut.

For the PN (1), the plug is positioned in the socket-outlet by pushing then twisting anticlockwise, in much the same way as inserting an electric light bulb. The circuit is closed (2).

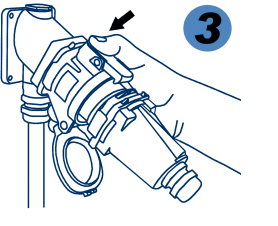
To release (3), simply depress the latch, if any, and to remove, twist clockwise and withdraw the plug (4). The socket-outlet lid must then be shut.



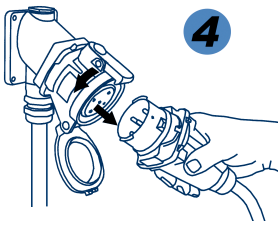
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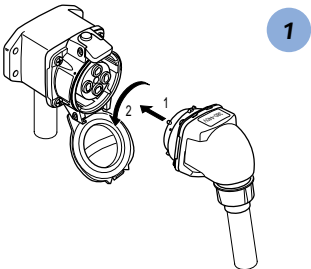
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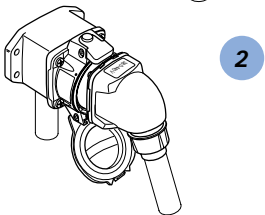
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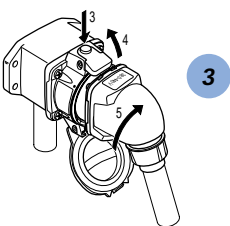
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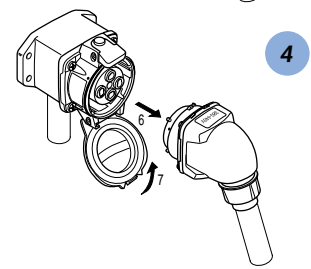
1



2



3



4

SOCKET-OUTLET LOCKING (OPTIONAL)

The single padlocking option requires a padlock which fits tightly in the locking hole of the latch, either 6 mm or 8 mm, depending on the option chosen. The triple padlocking option (available on the DS and DSN series only) is achieved by inserting the 12 mm shaft into the hole provided in the locking latch. Up to three padlocks of any suitable size can then be put on the locking shaft (up to 8 mm maximum). Triangular screw locking : plug inserted or lid closed, turn the screw with a triangular key until it reaches the bottom. **Do not over tighten.**

⚠ Locking off the socket-outlet does not guarantee a lock-out of the energised equipment.

PLUG LOCKOUT (OPTIONAL)

For DS and DSN only. To deny its access to any socket-outlet, place a padlock or a safety lock-out through the hole provided in the plug skirt.

MAINTENANCE

From time to time, the fastening screws should be checked for tightness. Care should be taken that the weight of the cable is taken by the glanding arrangement and not the terminals themselves.

Contact surfaces may be checked for cleanliness. Any deposit of dust can be rubbed off with a clean cloth. Under no circumstances should the contact surfaces be filed as this will remove the silver-nickel tip and reduce the effectiveness of the contact. Sprays should not be used, as they tend to collect dirt.

Depending on prevailing conditions, the pitting of plug and socket-outlet contacts should be regularly monitored.

IP gaskets between plug and socket-outlet bodies should be inspected periodically. Check regularly the electrical continuity of the ground circuit.

⚠ Any repair or service must be achieved with **Marechal** genuine parts only.

RESPONSIBILITY

⚠ A **Marechal** plug or socket-outlet must only be used with a **Marechal** socket-outlet or plug. MARECHAL ELECTRIC S.A.'s responsibility cannot be engaged in case **Marechal** products would be associated with socket-outlets, inlets or spare parts other than **Marechal**.

MARECHAL ELECTRIC S.A.'s responsibility is strictly limited to the obligations expressly agreed in its general sales conditions.

Any penalty or indemnity provided herein will be considered as lump damages, redeeming from any other sanctions.

DECLARATION OF CONFORMITY

These products bear the **Marechal** Quality Label. They have been designed, manufactured and controlled in a strict respect of the relevant international and European standards, laws, directives, and particularly of the "European Low Voltage Directive" 93/68/CEE. They bear the CE marking whenever applicable.

Note : The CE marking does not apply to spare parts and components supplied separately.

Whenever the PN, DS or DSN is in the scope of the 93/68/CEE Directive:

We,

MARECHAL Electric S.A.,
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Declare that the PN/DS/DSN satisfies the measures set in the Low Voltage Directive 93/68/CEE and in the application decrees of member states.

Saint Maurice
Manuel DACOSTA
Quality Manager

MARECHAL ELECTRIC S.A. is a member of the international association, BECMA :the Butt-contact Electrical Connectors Manufacturers' Association

