



CS  
CCH

Notice 3A - Rev. : 2

**MARECHAL**  
**electric**

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  
e-mail : sales@marechal.fr  
www.marechal-electric.com

A manufacturer of products bearing the  Quality Label

## GENERAL

**CS** single pole connectors are designed for Extra Low Voltage (ELV) welding applications and must be connected and disconnected off-load.

**CCH** connector is designed for battery charger applications.

**!** **CCH** connector is not designed to break under load; it is fitted with one pilot contact, allowing it to be electrically interlocked with a contactor. This contactor must be suitably rated for the load.

**The use of a contactor interlocked with the pilot contact is compulsory.**

**CS** and **CCH** socket-outlet contacts are not protected (IPoX according to IEC/EN 60529 standard).

Consequently:

- **CS** and **CCH** without earth contact must be used at extra low voltage only (< 50 V).
- **CCH** with earth contact and electrical interlock can be used at voltages up to 600 V.

## INSTALLATION

**!** These products must be installed by a qualified electrician.

### Wiring

**WARNING:** Be sure power is off before starting.

**!** Wiring must be performed according to applicable installation standard. Check that the rating is correct for the application. Select conductors with an appropriate cross-section.

### CCH

- Remove socket-outlet rubber boot. Remove the plastic-headed screws that retain the main contacts in the mouldings and slide them out.
- Remove earth contact, if any, to gain access to the pilot contact-fixing screws and remove them as well.
- Unscrew the lugs from the contact (except the pilot contact that has a built-in lug).
- Socket-outlet side: slide rubber boot over conductors.
- Main contacts: strip conductor depending on the length of the lug used (on average: 18 mm). The conductor must reach the bottom of the lug.

**CAUTION:** Make sure the lug supplied corresponds to the conductor size. Pilot contact: strip conductor by 17 mm.

- Lugs supplied can be either soldered or hydraulically crimped, using a die suitable for lug standard (NFC 20-130 or VDE 0220 or other).

**CAUTION:** Hand crimping may not produce an adequate bond. Any play in the fitting may cause an excessive temperature rise which may shorten the lifespan of the device.

- Earth contact: Back out terminal screw far enough for conductor to clear (do not remove it completely). Strip earth conductor by 10 mm and insert it into the terminal. Tighten the screw until hand tight. Pull on wire to make sure it is seated.

### CS

- Unscrew the lugs from the contact. Cut off segments where necessary (CS2 and CS3 only) and insert conductor through handle.
- Check that the size of the lug corresponds to that of the conductor. Lugs supplied can be either soldered or hydraulically crimped using a die suitable for lug standard (NFC 20-130 or VDE 0220 or other).

**CAUTION:** Hand crimping may not produce an adequate bond. Any play in the fitting may cause an excessive temperature rise which may shorten the lifespan of the device.

Screw the lugs onto the contacts at the following torques:

	Torque	Tool required
CS2	34 N.m	13 mm spanner
CS3	39 N.m	21 mm spanner
CS5	39 N.m	17 mm spanner
CCH	40 N.m	13 mm spanner

**NOTE:** Panel-mounting **CS** contacts must be held by a suitable spanner, to avoid transmitting the torque to the moulding.

After securing conductors, ferrules and contacts:

### CCH

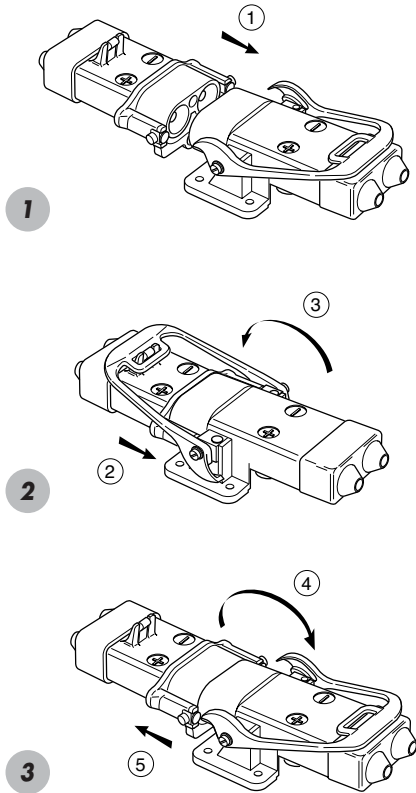
- Slide contacts into the moulding so that screw holes are visible through body screw holes. Screw plastic-headed screws into place. Hand tighten.
- Pilot contacts: insert them fully home into the mouldings and tighten the metal screws. These screws fall into a groove machined in the contact bodies and do not need to be lined up with a tapped hole.
- Slide earth contact into the body with locking screw hole at the bottom. Screw the locking screw until hand tight.
- Slide rubber protective boot over socket-outlet body until snug.

### CS

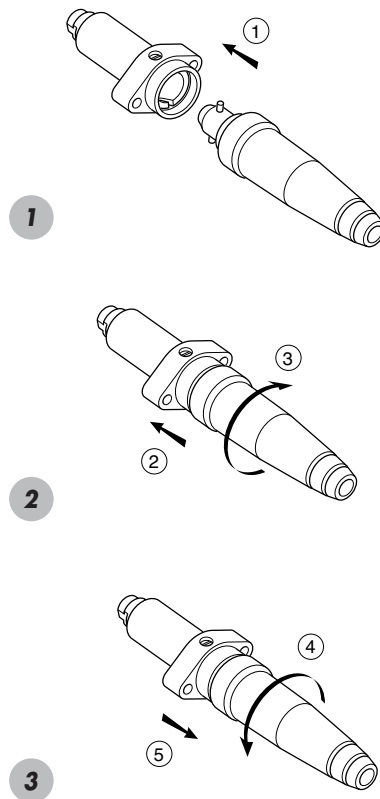
- Slide the neoprene sleeve so that the screw heads fit into the slots provided (CS2 and CS3), or the contact body fits into the groove (CS5). A small amount of wire pulling lubricant may make sliding easier.

## OPERATION

**CCH:** Rotate draw lever towards the back of the socket-outlet. Insert plug until its two side rollers line up with the grooves of the draw lever. Pull on draw lever until it locks on the plug body. To release, pull the draw lever backwards and withdraw the plug.



**CS:** Insert plug into receptacle or inlet into connector and rotate 1/4 turn clockwise until locked. Rotate anticlockwise to disconnect.



## MAINTENANCE

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 damage the silver-nickel tips. Sprays should not be used as they tend to collect dirt.

CCH: it is recommended to test the electrical continuity of the ground circuit on a regular basis.

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

## RESPONSIBILITY

A **Marechal** plug or socket-outlet must only be used with a **Marechal** counterpart. 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 from **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

CS and CCH are products that bear the **Marechal** Quality Label. They have been designed, manufactured and controlled in a strict respect of the state of the art. The CS is designed for Extra Low Voltage applications and does not fall within the scope of the European Low Voltage Directive. When CCH is fitted with an Earth contact,

We,

MARECHAL ELECTRIC S.A.,  
5 avenue de Presles - 94417 Saint-Maurice cedex - France

Declare that the CCH satisfies the measures set in the European Low Voltage Directive 2006/95/CE and in the application decrees of member states.

Saint Maurice  
Sébastien Vasse  
Quality Manager

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



[www.becma.ch](http://www.becma.ch)