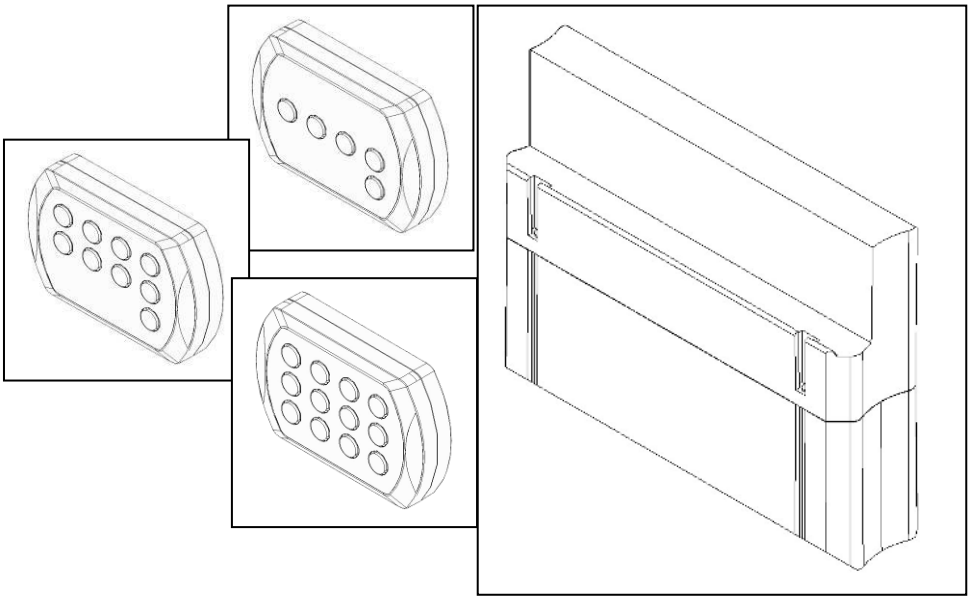
CCS PACKS GENERALITIES



IDENTIFICATION: TM-0684-MLTPX Index C
CODE: 30612-02EN
22/03/2024
ENGLISH

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SAS with a capital of 102. 400 € - APE (NAF) 2790 Z - SIRET 310 999 891 00040

GENERAL WARNINGS

LIMITS OF LIABILITY

The products have been developed taking into account the standards and regulations in force. The information contained in the technical documentation takes into account the state of the art as well as the knowledge and experience gained over many years.

STANDBY-FRANCE is not liable for any damage or consequences resulting from the use of this information :

- Failure to observe the information provided in the product documentation.
- To the non-conforming use of the product
- To the installation and implementation of the products carried out by unqualified personnel
- Changes made on the user's or operator's own authority
- To technical modifications not submitted and approved by STANDBY-FRANCE
- When using spare parts not approved by STANDBY-FRANCE

NOTE: THE GRAPHIC REPRESENTATIONS IN THE DOCUMENT ARE NOT CONTRACTUAL.

RESPONSIBILITIES OF THE INSTALLER

The installation of the equipment on a vehicle is the sole responsibility of the installer.

Only the personnel in charge of the installation are allowed to enter the work area.

The installer defines the means and materials appropriate to the situation in order to deliver a complete installation connected and installed according to the rules of art.

Only informed or qualified personnel are able to carry out all or part of the installation of the equipment.

Informed Personnel: Under the supervision of the installer, a person informed of the task to be performed and the potential hazards associated with it.

Qualified personnel: Under the supervision of the installer, a person who by his knowledge, training and experience is able to carry out the installation, recognising and avoiding the potential dangers of the operation.

Installation must be carried out with the appropriate means of access and work platforms.

Never stare at the lights.

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Wearing the associated PPE is mandatory (safety shoes, helmet, handling gloves).

STANDBY-FRANCE accepts no responsibility for any deficiencies that may occur in the definition of the installation system, any reinforcements, roof drillings, the condition and quality of the installation surfaces, the use of the manufacturer's anchorage points and the definition of the power supply and protection of the system on the vehicle's energy source.

RESPONSIBILITIES OF THE USER AND OPERATOR

STANDBY-FRANCE products are professional equipment that must be used for this purpose only. Their use is subject to the legal obligations in terms of occupational safety to which the operator must comply. This applies to safety and accident prevention regulations as well as environmental protection regulations. The use of such road equipment is subject to compliance with the rules defined by the Road Regulation.

Obligation of the operator :

- Keep up to date with the current regulations on safety at work.
- Carry out a risk analysis of the special working conditions at the place of work
- Adapt user training to regulations, standards and conditions of use
- Regularly check, when using the equipment, that the implementation rules comply with the safety rules and standards in force.
- Ensure that operators have read and understood the equipment user manual.
- Ensure that users are regularly trained in the use and informed of the dangers associated with the operation of the equipment.
- Make the protective equipment associated with the intervention available to personnel and ensure its use.

It is the responsibility of the operator :

- To ensure the curative and preventive maintenance of the equipment
- Ensuring that safety devices are checked regularly

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1. GENERAL

CCS 292 is a dual-voltage (12/24 volts) electronic energy management system used on service vehicles. It allows the centralisation of commands and the protection of all electrical equipment added to the vehicle: light and sound signalling, radio, etc.

Its multiplexed technology facilitates the installation of electrical equipment added to the vehicle, all controls are centralised on a 5, 7 or 12 button box.

The power supply and protection of the equipment is provided by the CCS 292 power pack, which also contains the operating program.

The system is installed in parallel with the original electrical circuit of the vehicle to be equipped, thus preserving the manufacturer's warranty.

Designed according to current automotive standards, CCS Packs are delivered with certified automotive connectors.

The system is available in 3 packages:

- The CCS4 package allows you to control 4 functions.
- The CCS8 package allows you to control 8 functions.
- The CCS11 package allows you to control 11 functions.

!

THIS DOCUMENT IS COMPLETED BY THE PROGRAM SHEET CORRESPONDING TO THE CCS PACK TO BE INSTALLED.

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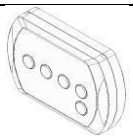
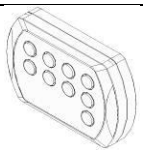
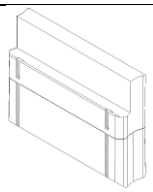
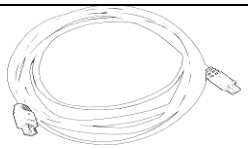
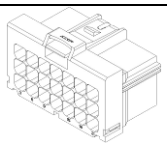
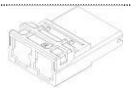
2. COMPOSITION

• 1 control panel (5, 7 or 12 keys)	  
• 1 articulated support and its screws	
• 1 CCS 292 power box and its connector cover	
• 1 x 4.5m 8-channel CAN bus harness	
• 1 x 30A fuse kit	
• 1 set of connectors and their clips	○ MCP 21 channels 
	○ MINIFIT 4-way 
	○ PRONER 2 ways 

To facilitate installation in the vehicle, pre-wired harnesses and a handbrake module are available as options (*see paragraph 7 OPTIONS p.19*)

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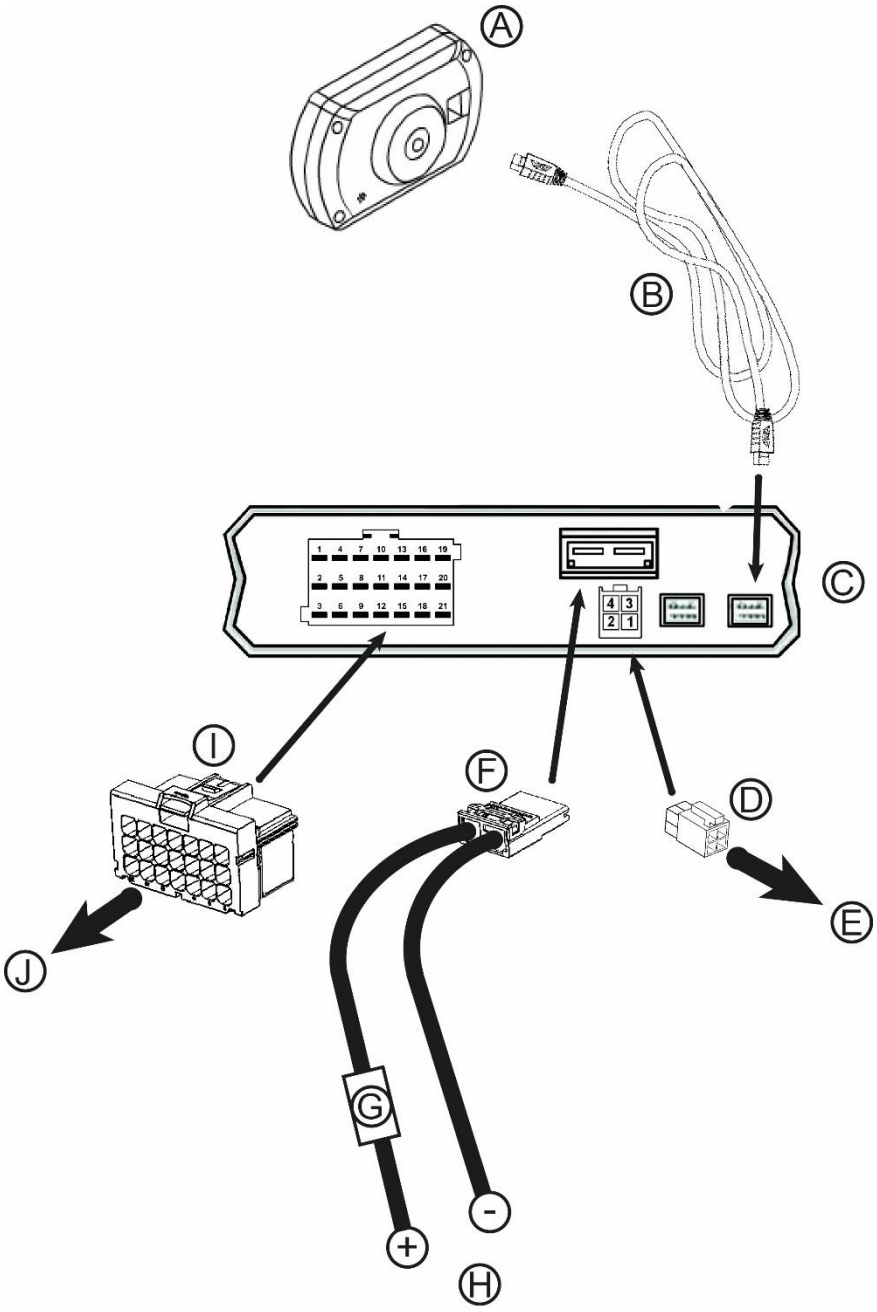
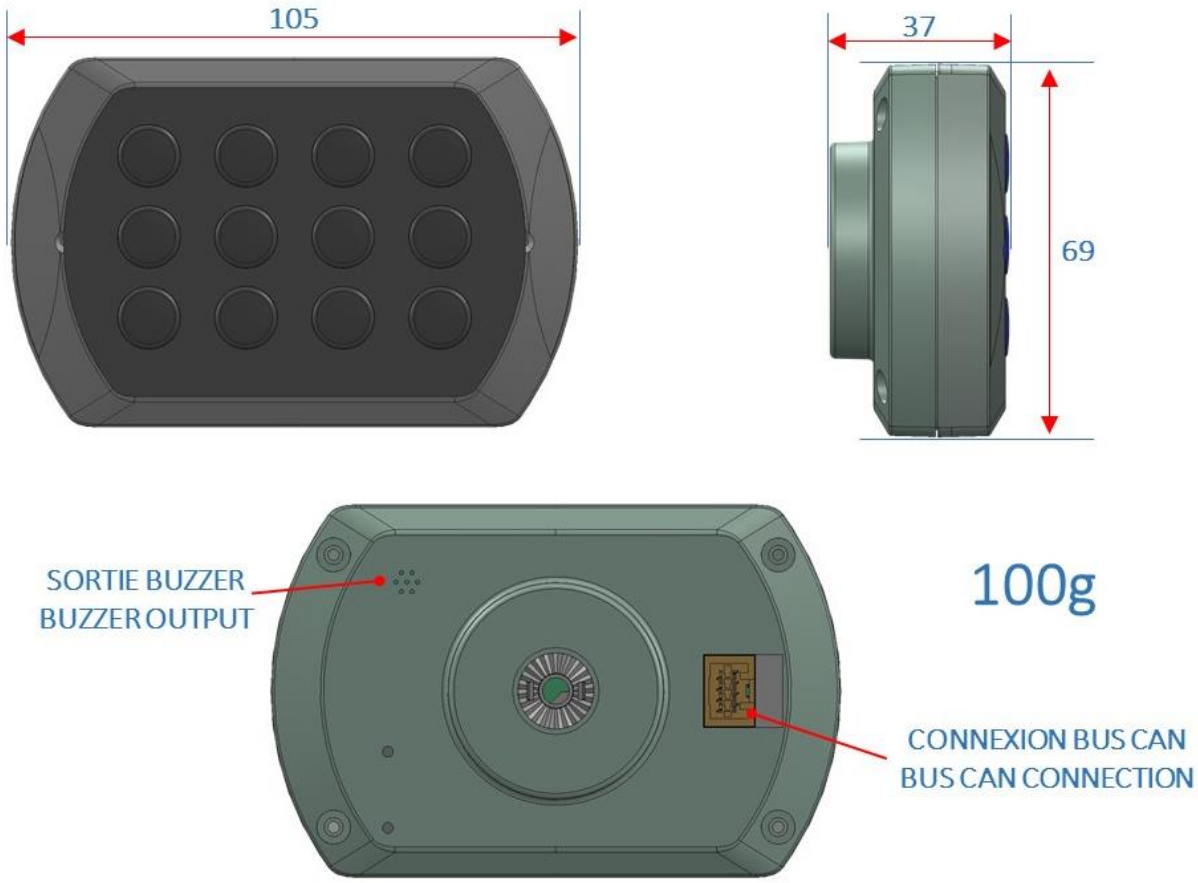
3. GENERAL INTERCONNECTION



A. CONTROL BOX
B. CAN BUS HARNESS
C. POWER MODULE CCS 292
D. 4-WAY CONNECTOR
E. CONNECTIONS TO INPUTS (DEPENDING ON THE PROGRAMME)
F. 2-WAY POWER SUPPLY CONNECTOR OF THE POWER PACK
G. FUSIBLE
H. VEHICLE BATTERY
I. 21-PIN CONNECTOR
J. CONNECTIONS TO EQUIPMENT (DIFFERENT FOR EACH PROGRAMME)

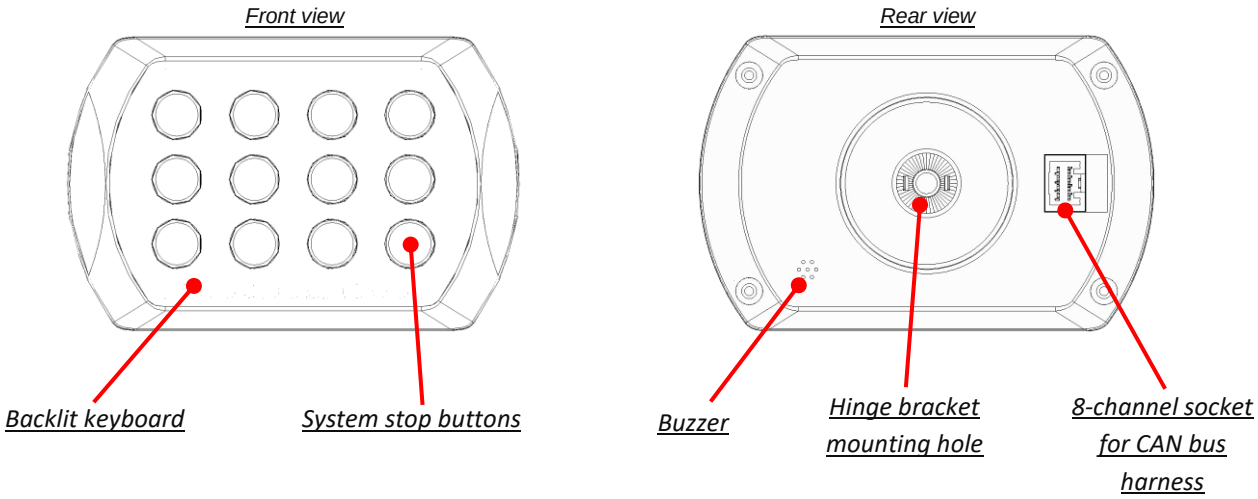
4. FEATURES

4.1. Control box



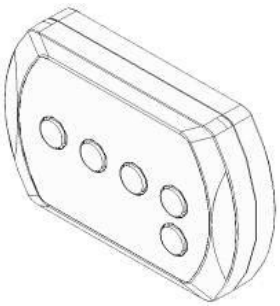
- 12 V POWER SUPPLY VIA CAN BUS
- MINIMUM CONSUMPTION 40 mA
- MAXIMUM CONSUMPTION: 160 mA
- OPERATING TEMPERATURE -40°C to +85°C
- R10 APPROVAL NO. "E2*10R03*11026
- CISPR25 (2008) : CLASS 5 IN RADIATED; CLASS 5 IN CONDUCTED
- IP42 ACCORDING TO NF EN 60529
- IK08 ACCORDING TO NF EN 50102

ALL MODELS

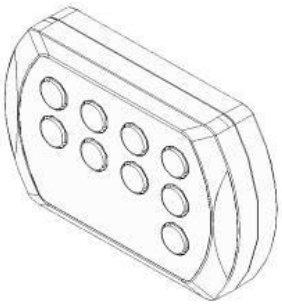


Available versions

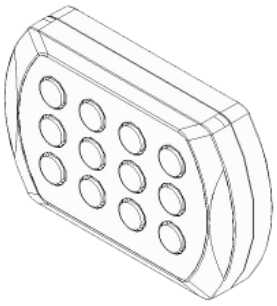
The CCS4 Pack includes a BC4T (4 Button Control Box + System Stop Button).



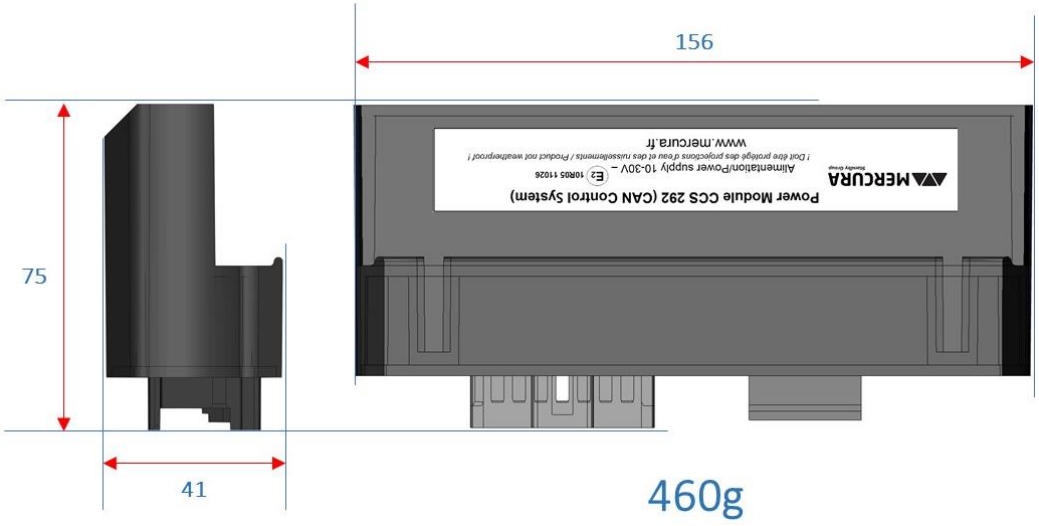
The CCS8 Pack includes a BC8T (8 Button Control Box + System Stop button).



The CCS12 Pack includes a BC11T (11 Button Control Box + System Stop button).



4.2. Power box 292



Supply voltage: 10.5V to 30V

Outputs

- 2 x 15A outputs at the "+battery", one of which is reversible
- 1 x 6A output to the "+battery".
- 8 x 3A outputs to the "+battery".
- 2 x 100mA outputs to ground
- 1 x 11.7V / 1A power supply for control unit via bus line

Inputs

- 1 logic input to "+battery" or ground with system wake-up function
- 1 logic input to ground without system alarm
- 1 internal battery voltage measurement (100mV to 30V)
- 1 day/night cell entrance

Consumption

- Product off: less than 500µA
- Active on load: 30A maximum

Operating temperature: -40°C to +85°C (+85°C to 30A).

Condensation resistant but connectors not waterproof. Must be installed away from water splashes and run-off.

Vibration: No effect on the operation of the product

EMC

- European Directive 2009/19/EC n°e2 03 11026
- Marking "E" Regulation R10 No. E2 10R03 11026

CISPR25 (2008) class 5

Electrical: ISO 7637 -2 class A

Sealing

- IP54 according to NF EN 60529 (Block mounted upright, connectors downwards)
- IK08 according to NF EN 50102

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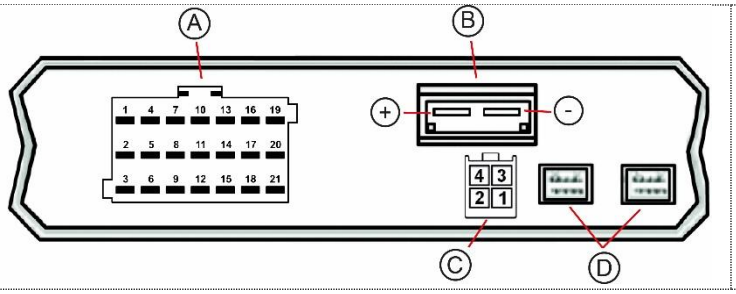
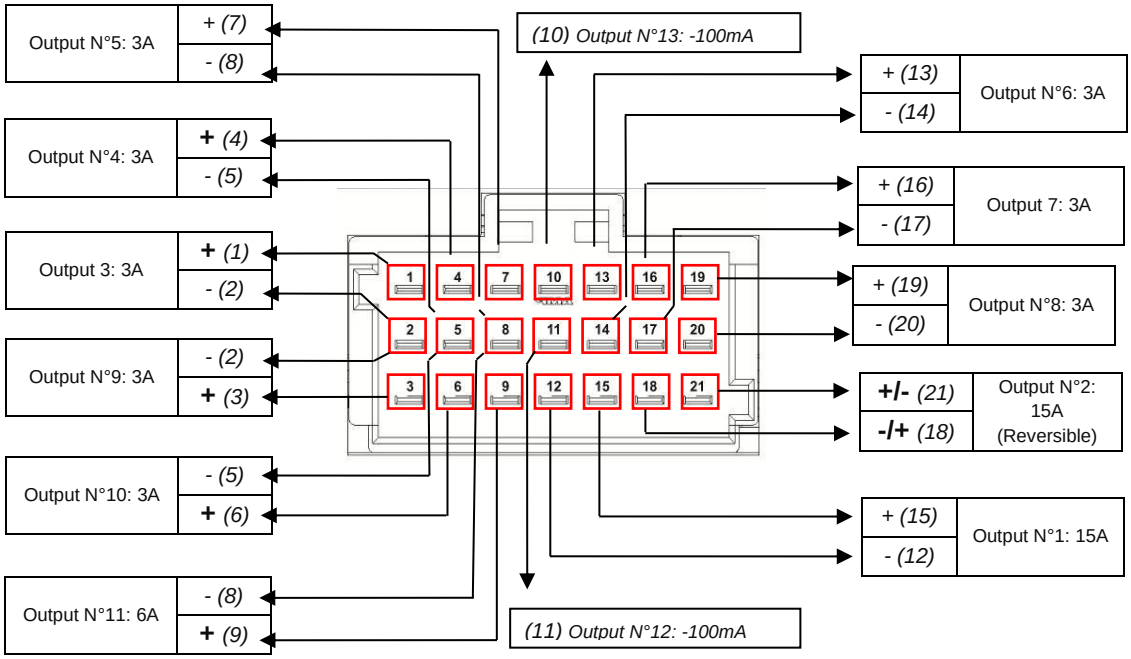
4.2.1. Block 292 connectors (not programmed and with all options)



A. MCP 21 point sub-base for equipment bundle
B. Power harness sub-base
C. 4-channel socket for logic inputs
D. 8-channel CAN header

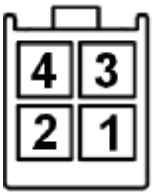
The outputs are grouped on the 21-pin sub-base



NOTE

Pin 2 is common to outputs #3 (pin 1) and #9 (pin 3).
Pin 5 is common to outputs #4 (pin 4) and #10 (pin 6).
Pin 8 is common to outputs #5 (pin 7) and #11 (pin 9).

The 2 inputs are grouped together on the 4-way subbase.



Pin 1: Logic input 2 is an input to the "-BATTERY" which does not wake up the system. A handbrake information can be connected to it.
Pin 2: Logic input 1 can be a "+BATTERY" or "-BATTERY" input. Depending on the program, a foot switch and/or a horn input, a charge indicator, etc. can be connected to this input. This input wakes up the system.

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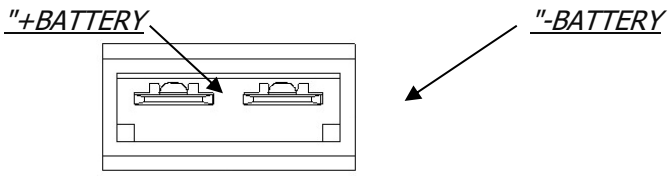
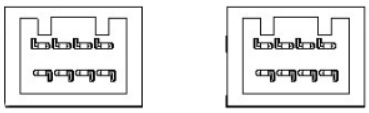
Pins 3 and 4: Not used.

Power supply base



Multiplexed link

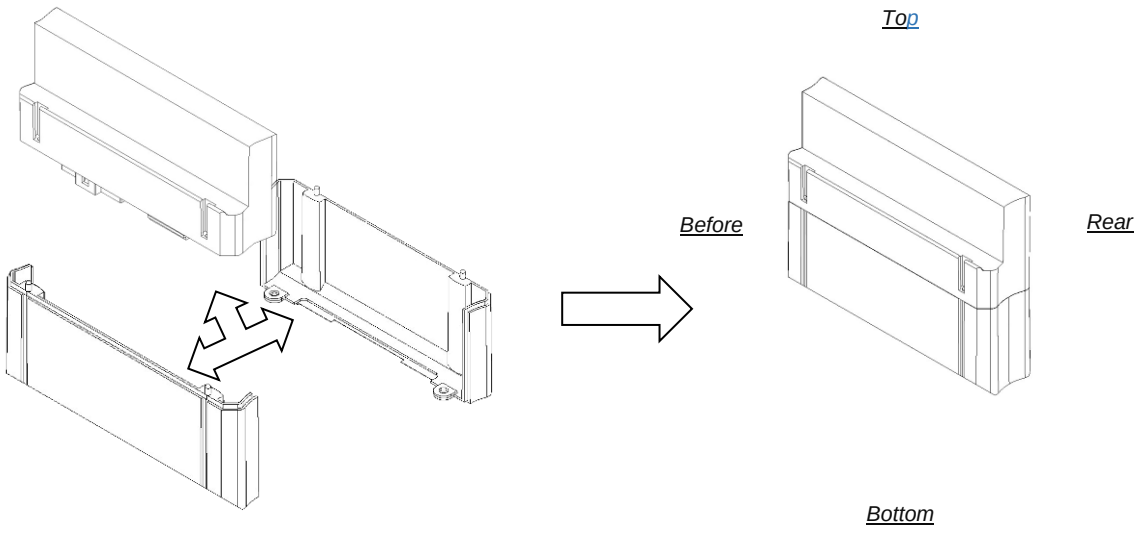


The 292 module has two 8-channel sockets where the 8-channel bus harness connecting it to the control unit can be connected. In addition to the multiplexed information, this connection provides the power supply for the control unit: 11.7V / 1A.

If a connector cover is installed, the connection to the left-hand socket should be preferred in order to respect the curvature of the bus bundle.

The connector cover

Once installed, the harnesses and connectors are protected by a removable 2-part connector cover.



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5. INSTALLATION PRINCIPLES

The installation of this product is crucial to its proper functioning and longevity. The safety of the users depends on it. This operation must therefore be carried out according to the rules of the trade, having taken note of the product's particularities described in this technical documentation.

The modules are not waterproof and must therefore be installed inside the vehicle.

Beforehand, it is imperative to identify several points to facilitate the installation of the system.

The wiring must be carried out in accordance with the corresponding connector assignment sheet for the chosen CCS PACK programme.

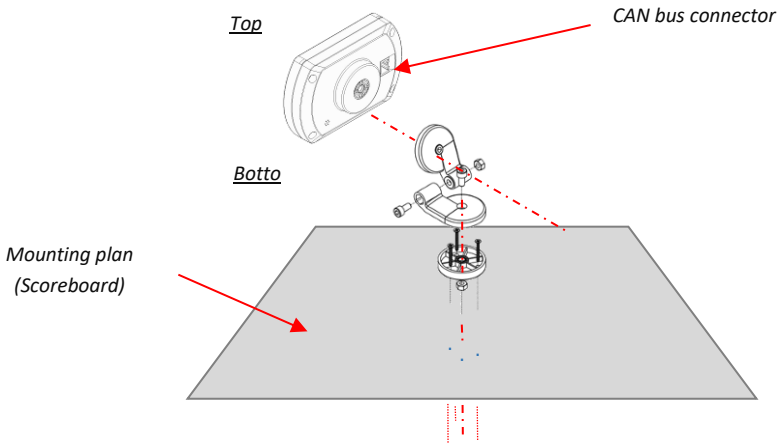
5.1. Position of the elements

Prerequisites

- Identify the location of the equipment to be controlled on the vehicle.
- Identify the location of the control box in the passenger compartment. It must be easily accessible by the user. The location should be protected from heating outlets and direct sunlight.
- Identify the location of the power box in the passenger compartment. It must be sufficiently ventilated and protected from any possible tearing of the harnesses connected to it.
- Identify the path of the beams.
- Clear the identified locations.

1.1. Installation of the control box

- Install the control module and its hinged bracket in the chosen location.



5.2. Connections

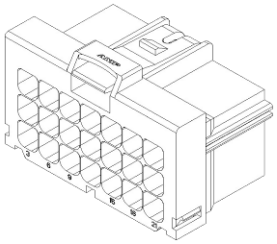
CCS packs are supplied with connector kits. Wiring must be carried out manually using crimping pliers dedicated to the type of terminals and wire diameters used.

NOTE: No wire should be soldered

Connections to the equipment must be made in accordance with the **connector assignment diagram** related to the program and the hardware configuration to be installed, which is supplied **with this document.**

21-way output connector

The diameter of the wires must be between 1mm² and 2.5mm² depending on the power delivered by the outputs.



Output 1 (pins 12 and 15) and output 2 (pins 21 and 18) deliver up to 15A and should be wired with 2.5mm² wires.

Output 11 (pins 8 and 9) delivering 6A must be wired with 2 mm² wires.

The other outputs must be wired with 1mm² wires.

ATTENTION!

Pins 2, 5 and 8 are common grounds. They receive 2 wires.

Pin 2 receives the ground of output 3 in 1mm² and the ground of output 9 in 1mm².

Pin 5 receives the ground of output 4 in 1mm² and the ground of output 10 in 1mm².

Pin 8 receives the ground of output 5 in 1mm² and output 11 in 2mm².

Wire the 2, 4 and 21 way connectors to the harnesses according to the wire diameter: Pay particular attention to the length of the wires.

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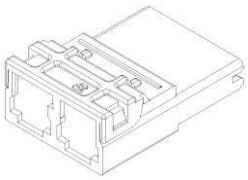
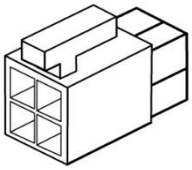
2-way power connector

The diameter of the 2 wires must be 6mm².



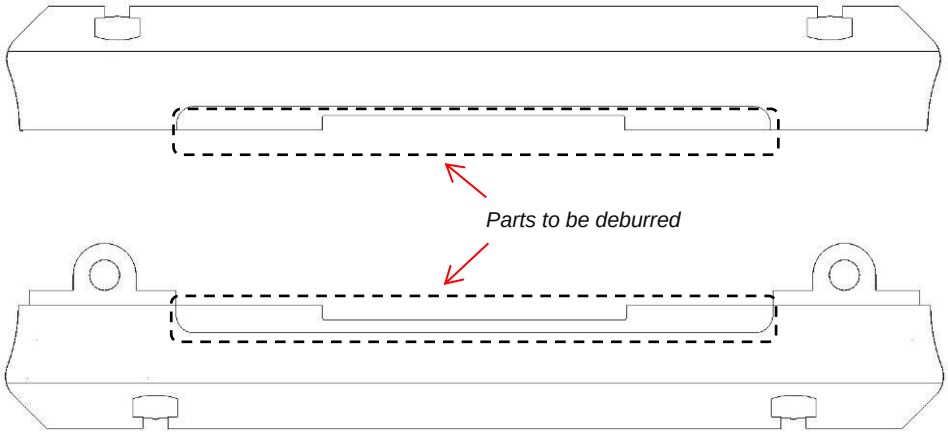
4-way input connector

The diameter of the two wires must be 0.5mm².

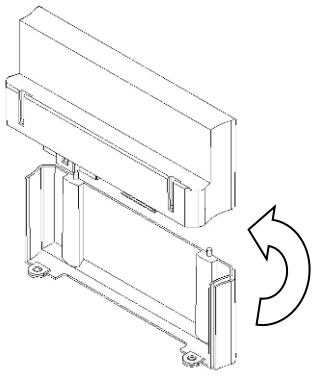


1.2. Installation of the CCS292 power box

- Deburr the wire pass opening of the 2 parts of the power module connector cover.



- Assemble the rear part of the connector cover to the power block.



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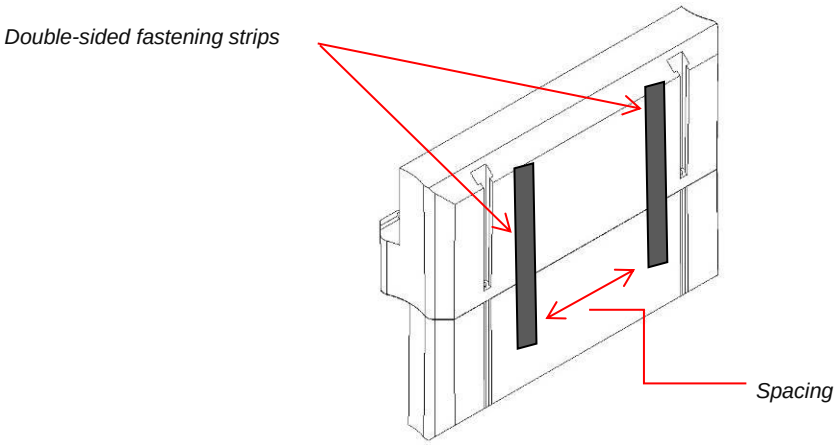
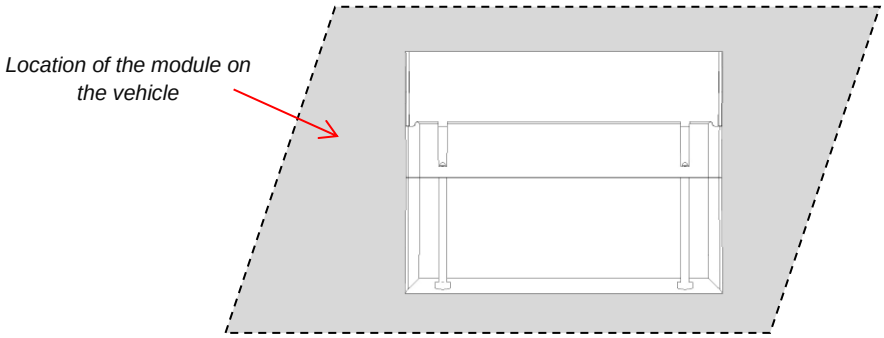
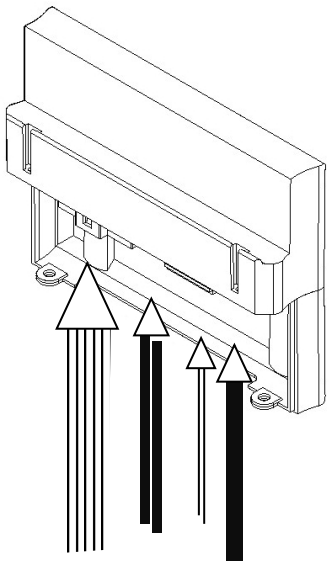
- Place the 2 double-sided fastening strips at the back of the assembly to secure the 2 parts together.



- Undo the adhesive on the back of the 2 strips.
- Place the box on the wall, pressing firmly so that the adhesive with the connectors is preferably facing downwards.



- Connect the connectors of the different harnesses.



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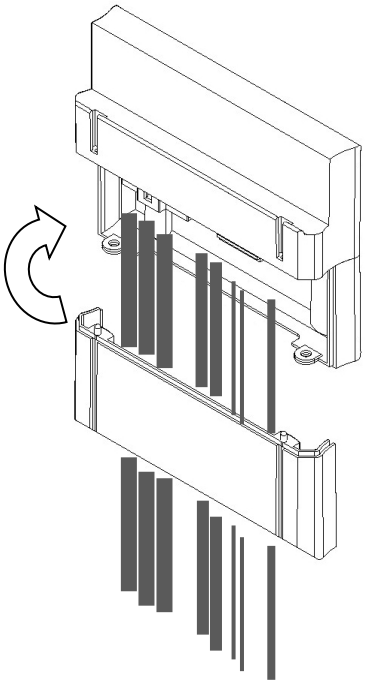
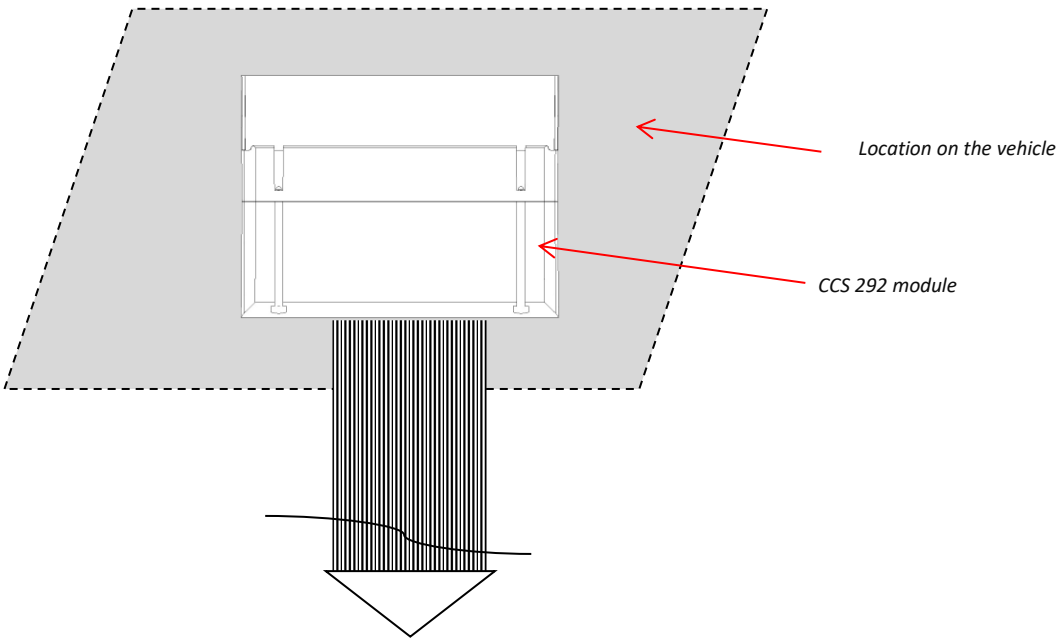
- Close the second cover.



- Place the module and press firmly to connect the fastening strips.



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5.3. The distribution cluster

Each line of the distribution harness connecting the power box to the electrical equipment to be controlled must be protected from damage. They must also be adjusted so as to leave a functional clearance for possible manipulations.

In this chapter, it is imperative to connect the equipment according to their assignment on the connectors. It is therefore imperative to refer to the **connector assignment diagram** linked to the program and the hardware configuration to be installed**.**

IMPORTANT: the power supply of the equipment is provided by the power box. The ground of the equipment must imperatively return to the 0V terminal which is defined on the 21 points harness. Under no circumstances should the bodywork be used as a ground.

In addition, each line is protected by the electronic system, so there is no need for an additional fuse.

5.4. The communication bus

The beam should be long enough. Its path between the power block and the control box must be optimised so that it is not impeded by interfering elements and is not damaged.

5.5. Battery power harness

- Remove the fuse from the fuse holder.
- Install the fuse holder as close as possible to the battery.
- Route the power supply harness from the power module to the battery area. The harness must be long enough, depending on the case, to be adjusted in length while leaving a functional clearance at the connector. It must be protected and its routing must not interfere with other components.
- Connect the power line (red wire of the power harness) to one of the terminals of the fuse holder.
- Connect the other terminal of the fuse holder to the positive terminal of the battery.
- Connect the black wire of the power supply harness to the negative terminal of the battery.
- Install the fuse in the fuse holder.
- Carry out the tests

6. GENERAL OPERATION

6.1. On / Off

Power is turned on by pressing and holding any key on the 12-key control panel or by pressing the "Off" key:

When the system is activated, the "Off" button lights up.

The system is switched off manually by pressing the same button, a beep is heard and the button flashes slowly until the system is switched off.

The system can be switched off automatically after a pre-programmed delay or when the vehicle voltage drops below 11.5 volts (12 volt and 24 volt vehicles). In this case, the "Off" button flashes and a beep from the buzzer is heard before the system is switched off.

ATTENTION!

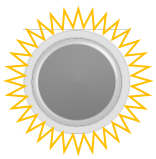
There is no automatic shutdown when the vehicle engine is running. Engine running detection is done by measuring the voltage level via the power connector of the CCS 292.

Function detection MOTOR RUNNING / MOTOR OFF

This function, based on the voltage threshold measurement, allows the vehicle to be differentiated as engine running or engine stopped. On a 12 volt vehicle, the engine running threshold is above 13.7 volts and the engine stopped threshold is below 13.5 volts. On a 24 volt vehicle, the engine running threshold is above 27.4 volts and the engine stopped threshold is below 27 volts.

6.2. Equipment control

The equipment controlled by the system is activated by its associated button on the control boxes. When the equipment is activated, the button lights up:



A further press switches off the button and the controlled output.

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6.3. Malfunctions

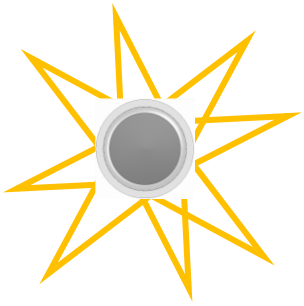
The power outputs are protected against "short circuit" or "reverse current" faults.

A detected fault causes the line to be made safe, i.e. the power supply to the line is cut off. The voltage on a secured line is no longer 12 volts or 24 volts but 0 volts.

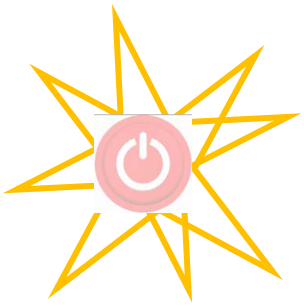
Note that the alarm is different depending on whether the fault occurs on a controlled output or on a permanent output.

On a controlled output

3 beeps followed by 5 beeps sound; the key of the faulty equipment line flashes rapidly in series of 3 flashes together with the red "SYSTEM STOP" key which flashes rapidly and continuously.



And



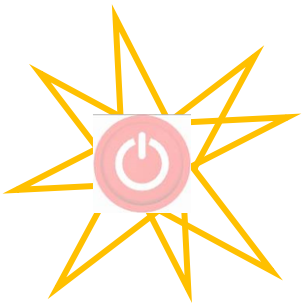
To acknowledge the alarm, it is necessary to press the key. The equipment switches off.

Pressing the button again activates the output. If the fault persists, a new alarm is triggered.

NOTE: When the alarm is effective, the affected power line is secured.

On a permanent output

5 rapid beeps will sound and the "Off" button will flash rapidly.



To acknowledge the alarm, it is necessary to press the key. The system switches off.

Pressing again activates the system. If the fault persists, a new alarm is triggered.

Prohibition of operation

If a function cannot be controlled because the activation conditions are not met, pressing the associated button does not switch it on and 2 beeps are heard.

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Battery alarm

The red low battery warning light is located at the bottom of the 12-button control panel.

The banner lights up and flashes when the battery voltage reaches 11.8 volts on 12-volt vehicles and 23.6 volts on 24-volt vehicles. Audible beeps accompany the visual alarm.

When the voltage reaches the critical low battery threshold of 11.5 volts on 12-volt and 24-volt vehicles, the system automatically shuts down to preserve the battery's starting potential.

ATTENTION!
The system is fully dual voltage. Detection of 24-volt operation occurs automatically when the supply voltage exceeds 16 volts during the initialisation sequence at power-up.

7. OPTIONS

In order to facilitate the installation of CCS Packs, cabling options are available.

CAN BUS 0.7m	25677
CAN BUS 3m	23857
CAN BUS 4.5m	23858
CAN BUS 6m	23859
CAN BUS 10m	23860

Proner 6 mm² 2-way power supply cable 6m	07435
Proner 6 mm² 2-way power supply 10m	10288

21-point silk-screened beam 6m	25985

Handbrake module kit	20570

*****The handbrake module kit may be required when the CCS Packs programs require a "handbrake" input. It allows information to be retrieved from the handbrake switch without disturbing the dashboard light.

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