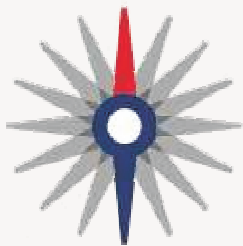


PC220-KT



USER'S MANUAL



AVIDA



ENGLISH

GB

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MAIN PARTS OF THE ELECTRICAL SYSTEM

CONTROL PANEL "PC220-KT" - mains' control, battery test, tank test and clock function.

12V DISTRIBUTION BOX "DS520-AN" - main relays, battery parallel relays (12V - 70A), fridge relays, pump relays, car battery recharging device, ampere meter, protection fuses.

BATTERY CHARGER - supplies charge to batteries.

ELECTRONIC TANK PROBE - it measures the content of the fresh and waste water tanks, visualization in %.

LEISURE BATTERY "B2" - it gives power to all users.

CHASSIS BATTERY "B1" - chassis power.

ENGINE ALTERNATOR - it recharges in parallel both the chassis and the leisure battery.

240V CIRCUIT BREAKER - it switches power and protects all users.

"50A" CHASSIS (B1) AND LEISURE (B2) BATTERY PROTECTION FUSES.

ADVICE AND CHECKS

IMPORTANT: *Maintenance on the electric equipment must be carried out by a qualified technician. Before carrying out maintenance, disconnect the battery and the 240V mains power supply.*

BATTERIES

Read with care the instructions of use and maintenance of the batteries.

The acid kept in the batteries is poisonous and corrosive. Avoid any contact with skin and eyes.

If the battery is completely discharged it needs recharging for up to 10 hours. If discharged for more than 8 weeks it may be damaged.

Check periodically the level of the liquid of the battery (with acid); the GEL battery does not need any maintenance but does require continuous recharging.

Check the correct tightening of the terminal connection binding screw and ensure terminals are clean.

If the leisure battery is removed, isolate the positive pole (in order to avoid a short circuit during an accidental car engine starting).

In case of a prolonged period, all batteries should be disconnected or recharged regularly.

BATTERY CHARGER

The battery charger must be installed in a dry and ventilated place.

The installation of this device must be carried out by a qualified technician.

In case of battery charger's misuse, the guarantee is void and the manufacturer declines all responsibility for damages to people and property.

Do not carry out any maintenance when the battery charger is connected to the 240V mains power supply. Do not cover air vents, the charger requires appropriate ventilation.

Before disconnecting the battery charger from 240V mains power supply, turn the circuit breaker off.

TANK PROBES

Never leave water in the tanks for a prolonged period of time, in order to avoid fouling, especially in the waste water tank.

240V CIRCUIT BREAKER

IMPORTANT: *maintenance on the electric equipment must be carried out by a qualified technician. Before carrying out maintenance, disconnect the battery and the 240V mains power supply.*

Before taking off the cover, check that the 240V mains power supply is disconnected.

In order to avoid damage to the circuit breaker, check that the connections are tightened correctly.

In order to turn the power off to the whole 240V system, please ensure that the 240V main circuit breaker is in the (OFF) position.

Connect and disconnect the external 240V power supply only when the main switch is off.

If the circuit breaker trips, ensure to find the problem before turning the power back on.

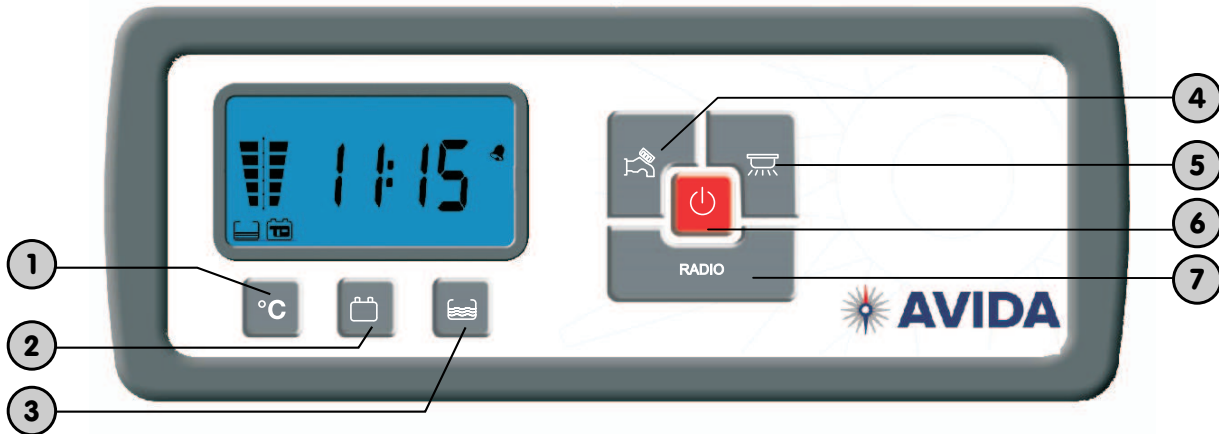
FUSES

Replace the fuses after finding out the real cause of the damage only.

When the fuses are replaced inspect the value of the amperage established.

CONTROL PANEL “PC220-KT”

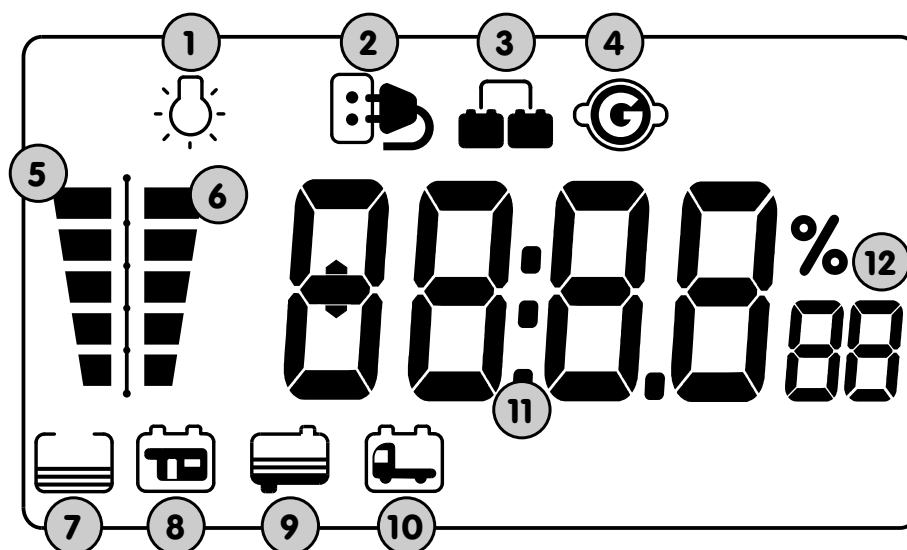
DESCRIPTIONS



- 1) “TEMP/PROG” button to check both internal and external temperature and for system setting (see SETTING).
- 2) Button for control of chassis and leisure batteries voltage (in Volt), load and recharge current (in Ampere) for the leisure battery and for the parameters’ setting (see SETTING).
- 3) Button for the control of fresh and waste water tank (in %), for the information on the programmable parameters’ setting (see SETTING).
- 4) Button to switch the water pump on and off.
- 5) Button to switch the light circuit on and off.
- 6) On/off main button (to turn on/off press for 2 seconds): (see minimal voltage control), at the start-up the display carries out a functioning test and shows all symbols (including unused symbols).
If the relevant LED is green the control panel is on, if it is red an alarm is on (batteries, tanks, etc.).
- 7) Button for in dash multimedia system to run from leisure batteries (saves power from chassis batteries, ensure ignition is in OFF position)(if fitted).

NOTE: The digital clock power is supplied from the leisure battery (B2).
Should B2 be disconnected, the clock will keep working, without visualization, for approx 2 weeks.

MAIN VISUALIZATIONS



- 1) It shows that the minimal voltage device is switched on.
- 2) It displays that the 240V battery charger is on.
- 3) It displays the batteries' paralleling when engine is on.
- 4) It indicates that the engine is on.
- 5) Fresh water tank status display.
- 6) "B2" leisure battery status display.
- 7) It shows the fresh water tank test, the blinking indicates the empty tank alarm.
- 8) It shows the leisure battery (B2) test, the blinking indicates the discharged battery alarm
- 9) It shows the waste water tank test, the blinking light indicates that the waste water tank is full
- 10) It shows the car battery (B1) test, the blinking indicates the discharged battery alarm.
- 11) Digital display of the clock and of the required test.
- 12) It shows the unit of measure and display kind.

FUNCTIONS

CHASSIS BATTERY ALARM (B1)

When the chassis battery voltage drops down to 12V, the Motor Battery Discharge alarm goes on and the symbol ref. 10 starts blinking. Alarm goes off when the voltage gets over 12.5V.

CHASSIS BATTERY RECHARGE (B1)

With battery charger: an electronic device allows the recharge (max 2A) of chassis battery (B1). Priority is given to leisure battery (B2) charge.

LEISURE BATTERY ALARM (B2)

When leisure battery voltage drops down to 11.5V the Leisure Battery Reserve alarm goes automatically on, the symbol ref. 8 starts blinking and you hear a short beep.

When the leisure battery voltage drops down to 10.5V, the Leisure Battery Discharge alarm goes automatically on, the symbol ref. 8 starts blinking and you hear two short beeps. Alarms go off when the voltage gets over 12.5V.

FUNCTIONS

LEISURE BATTERY CHARGE (B2)

- a) Through engine alternator: through separate relays when engine is on. The ignition electronically controls the relays: parallel, fridge, awning light, etc.
- b) Through 240V mains power through battery charger.
- c) Through solar panel: through solar charge regulator.

MINIMUM VOLTAGE CONTROL (BATTERY PROTECTION)

The electronic battery protection device cuts off the 12V fuses when leisure battery reaches 10V and disables: pump, lights, Multimedia and stove.

Symbol ref. 1 is the visual alarm signal.

It is possible to reactivate all fuses for one minute by pressing the on/off button (ref. 06 on control panel).

The control panel automatically turns off with a voltage lower than 9.5V.

Fuses are automatically reactivated when voltage is greater than 13.5V.

This device doesn't control the functions: fridge, step and the auxiliary exit DIR.

ELECTRONIC BATTERY SEPARATOR

An electronic device controlled by the ignition switches on the batteries parallel when the chassis battery voltage is over 13.5V and switches off when engine is off or voltage is lower than 12.2V. This device operates only if the B2 leisure battery is connected.

This device controls the relays of the fuses depending from exit simulating +OUT D+ (3 way function fridge, awning light, antenna motion, etc.).

DIGITAL CLOCK

To set clock see "SETTING".

AMPERE METER

The amperemeter is inside the DS520-AN module.

- It measures the current of the leisure battery, users' consumption and recharge through battery charger, engine alternator and solar panels.
- Measurement range is: -40A ÷ +40A.
- Measurement is carried out as difference between charging and discharging currents: a positive value indicates a charging current, a negative value indicates a discharging current.

To measure the charging of a sole source (battery charger, alternator or solar panels), turn off all items and other charging sources.

To measure the consumption of a sole user, disconnect all charging sources and turn off all unused items.

BROKEN FUSE ALARM

Under each fuse is positioned a red LED.

The lighting of the LED signals that the fuse is broken and it is necessary to replace it with another fuse with the same value. The alarm is activated only when the control panel is on and the user related to the fuse is switched on.

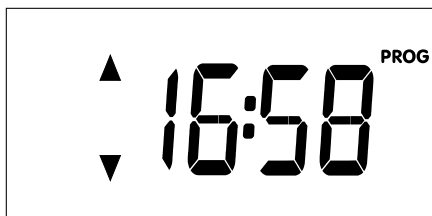
NOTE: before replacing the fuse find out the problem that determined the intervention of the protection (blown fuse) and fix it, it may be necessary to have a qualified technician assist.

USER'S SETTING

- ♦ To enter the set mode, press the "PROG" button (ref.1) for more than 2 seconds from the main clock screen.
- ♦ Select, by pushing the arrow keys ref. 2 and 3, the setting menu you want to operate and then confirm by pushing the "PROG" button ref. 1;
 - by selecting "TIME" you operate the menu to set only the parameters clock.
 - by selecting "FULL" you operate the menu to set all parameters.
- ♦ By using the arrow keys ref. 2 and 3 you can modify the setting of the parameters.
- ♦ Confirm the setting by pushing the "PROG" button (ref. 1), you then go automatically to next parameter.
- ♦ Press the "PROG" button (ref. 1) more than once to save the settings and exit the setting mode.
- ♦ To exit without saving wait 20 seconds without pressing any key.

"TIME"

CLOCK

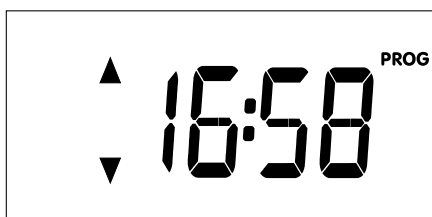


Clock setting

- HOURS (blinking)
- MINUTES (blinking)

"FULL"

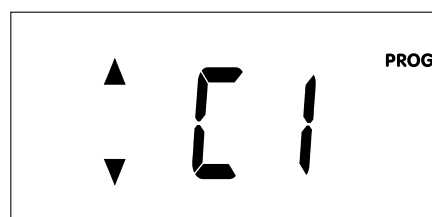
CLOCK



Clock setting

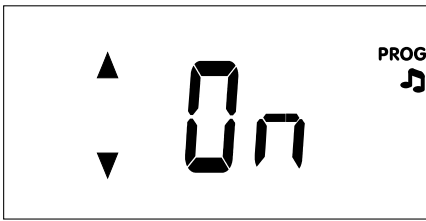
- HOURS (blinking)
- MINUTES (blinking)

BACKLIGHT COLOUR



Backlight colour selection

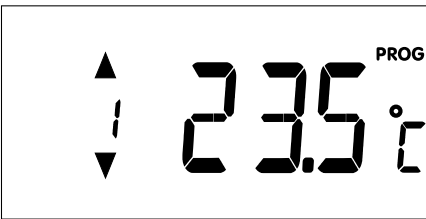
ACOUSTIC ALARMS



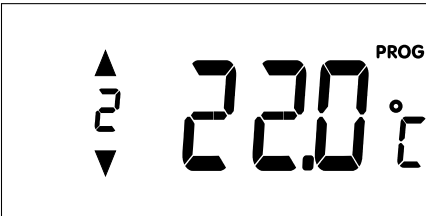
Activation/Deactivation of acoustic alarms

- ON (activation)
- OFF (deactivation)

TEMPERATURES

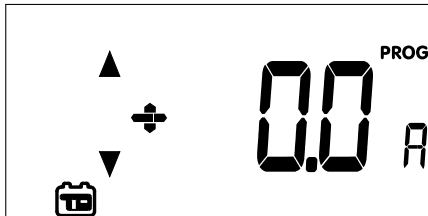


Setting internal temperature, step 0.5°C



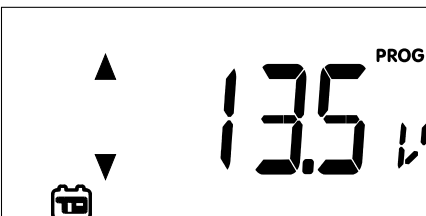
Setting external temperature, step 0.5°C

CALIBRATION AMPEREMETER



Calibration of « 0 » in amperemeter (A).

VOLTMETERS SETTING

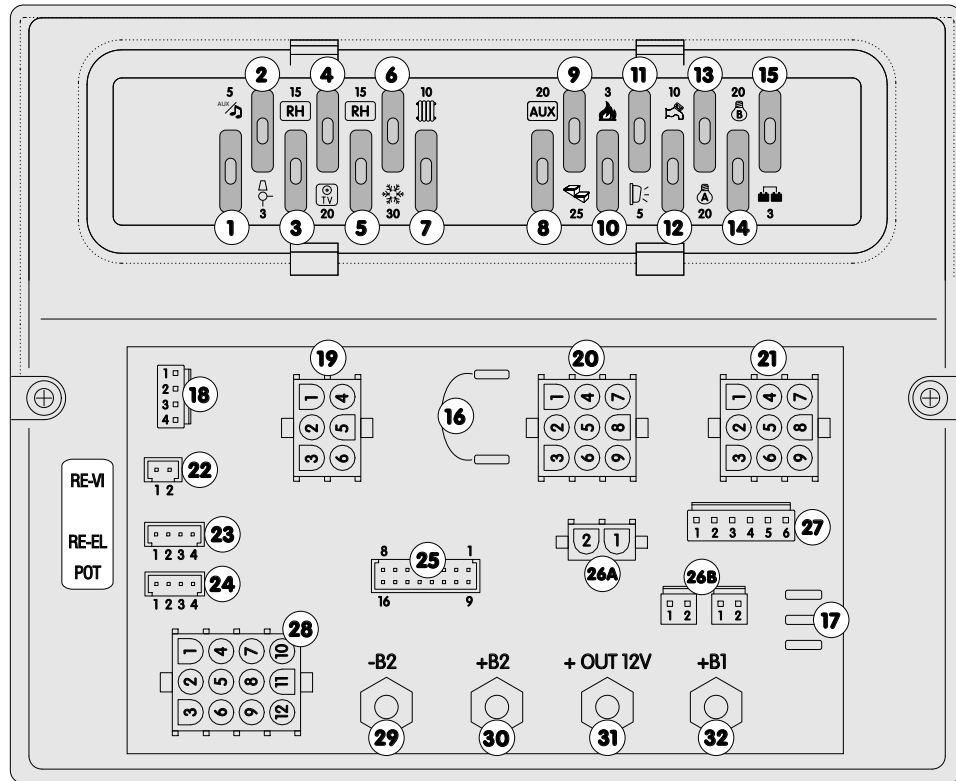


Setting of the leisure battery "B2" voltmeter.
Max. value +/- 0.5V, step 0.1V.



Setting of the car battery "B1" voltmeter.
Max. value +/- 0.5V, step 0.1V.

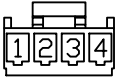
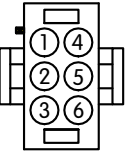
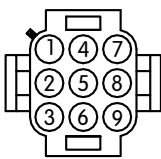
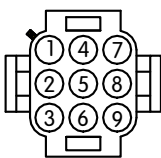



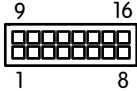

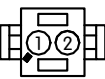


DISTRIBUTION BOX “DS520-AN”



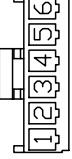
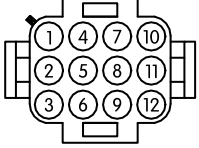




PROTECTION FUSES

- 1) 5A fuse for the in dash Multimedia system (from the leisure batteries).
- 2) 3A Spare.
- 3) 15A fuse for the RH auxiliary roof fans etc (if fitted).
- 4) 20A fuse for TV sockets and TV antenna (if fitted).
- 5) 15A fuse for the RH auxiliary range hood and 2nd water pump switch (if fitted).
- 6) 30A fuse for 12V fridge element (when connected through bridge 16 it turns off automatically when engine is off).
- 7) 10A fuse for Heater/Hot Water System (HWS).
- 8) 20A fuse for the AUX (i.e. Gas detector, radio memory etc), it is connected directly to the leisure battery (constant supply) (B2).
- 9) 25A fuse for the motorized step (if fitted), it is connected directly to the leisure battery (B2).
- 10) 3A fuse for spark ignitions for the fridge, oven & stove, it is connected directly to the leisure battery (B2).
- 11) 5A fuse for awning light and slide out switch, turns automatically off when engine is on.
- 12) 10A fuse for the water pump.
- 13) 20A fuse for lights circuit “A”.
- 14) 20A fuse for lights circuit “B”.
- 15) 3A fuse from ignition to protect the OUT D+ simulated exit.
- 16) AES fridge connection; It is a bridge, which excludes the 3 way function fridge and is used to connect the AES fridge directly to the B2.
- 17) Output + for the control of the auxiliary relays (e.g. motorized step, AES fridge, electric water discharge valve, electric antenna motor, etc.) which works only when the engine is started.

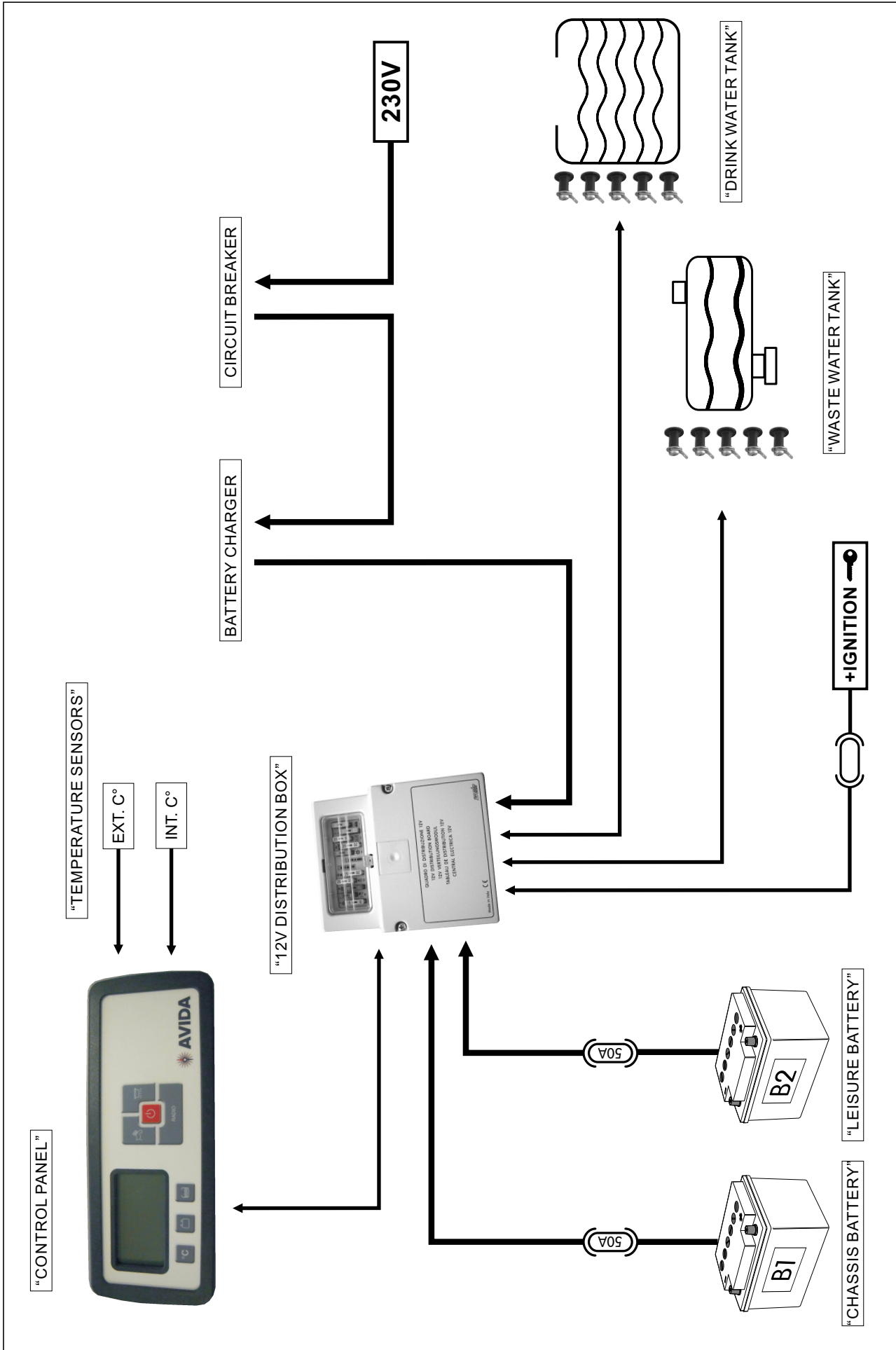
CONNECTIONS

18	WHITE 	NOT CONNECTED	
19	WHITE 	USERS 1) + exit RH, it depends on the main button ON/OFF. 2) + exit spare, it depends on the main button ON/OFF. 3) + exit Multimedia, it depends on the Multimedia button. 4-5) + exit TV sockets, it depends on the main button ON/OFF. 6) + exit RH, it depends on the main button ON/OFF.	FUSE 3 2 1 4 6
20	RED 	USERS 1) + exit AUX (direct "B2"). 2-3) + exit 3 way function fridge / AES. 4) + exit electric step (direct "B2"). 5-6-8-9) + exit gas users (fridge, kitchen, etc ...) (direct "B2").	FUSE 8 6 9 10
21	WHITE 	USERS 1) + exit heater/HWS, it depends on the main button ON/OFF. 2) + exit water pump, it depends on the pump button. 3) + exit awning light 4-5-6) + exit lights circuit "A", it depends on the light button. 7-8-9) + exit lights circuit "B", it depends on the light button.	FUSE 7 12 11 13 14
22	BLACK 	WASTE WATER TANK PROBE WITH SCREWS (RE-VI) To connect to the waste water tank probe with screws or to the electronic waste water tank probe. NB: Do not connect both types of tank probes!	
23	BLACK 		
24	BLACK 	DRINK WATER TANK To connect to the drink water electronic probe.	
25	BLACK 		CONTROL PANEL To connect to the 16 poles connector of the control panel.
26A	WHITE 	SIGNALS (OPTION "A") 1) + input signal contact key engine starting. 2) + input signal "S" net coming from the battery charger.	
26B	RED 	SIGNALS (OPTION "B") 1) N.C. 2) + input signal contact key engine starting.	
	WHITE 	1) + input signal "S" net coming from the battery charger. 2) N.C.	

CONNECTIONS

27	<p>WHITE</p> 	<p>AWNING LIGHT</p> <ol style="list-style-type: none"> 1) Earth 2) + exit awning light direct B2 3) + exit awning light 5-6) OUT D+
28	<p>WHITE</p> 	<p>EARTH</p> <p>To connect to the mains' earth.</p>
29	<p>-B2</p> 	<p>EARTH</p> <p>To connect to the negative pole of the services battery or to the chassis of the vehicle.</p>
30	<p>+B2</p> 	<p>SERVICES BATTERY</p> <p>To connect to the negative pole of the services battery or to the chassis of the vehicle.</p>
31	<p>+OUT 12V</p> 	<p>EXIT 12V</p> <p>To connect to the positive pole (battery charger, solar regulator).</p>
32	<p>+B1</p> 	<p>CHASSIS BATTERY</p> <p>To connect to the positive pole of the chassis battery.</p>

WIRING DIAGRAM "PC220-KT"



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CE



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