DETAILS ABOUT THE STRUCTURE OF THE AS D2NA SYSTEM

Description of the system

This introductory document describes the structure of the AS D2NA system; please refer to the following chapters of this manual for details about the types of connectors and wire size specifications.

The AS D2NA system mainly comprises 5 devices, a power unit model AL310X, and two distributors one for the distribution and protection of the floor services, model PH300S2-T and one for the distribution and protection of the ceiling services, model PH300S2-C; the system also includes a display and control panel model CNLCD-99/00 and an actuator node model NSA10.

Connections of the devices

Because of the technology on which the AS D2NA system is based, the devices which form part of it can be located in any position, as no maintenance operations are needed and there is decidedly less wiring than with conventional systems.
The wiring that leads from the distributors is all of the "star" type, composed of point-point connections, namely without "Tees" or secondary branches.
The distributors, in particular, can be set in a central position in relation to the loads connected, thereby shortening the distances of the connections.
Fig. 1 shows the overall view of the whole AS D2NA system.

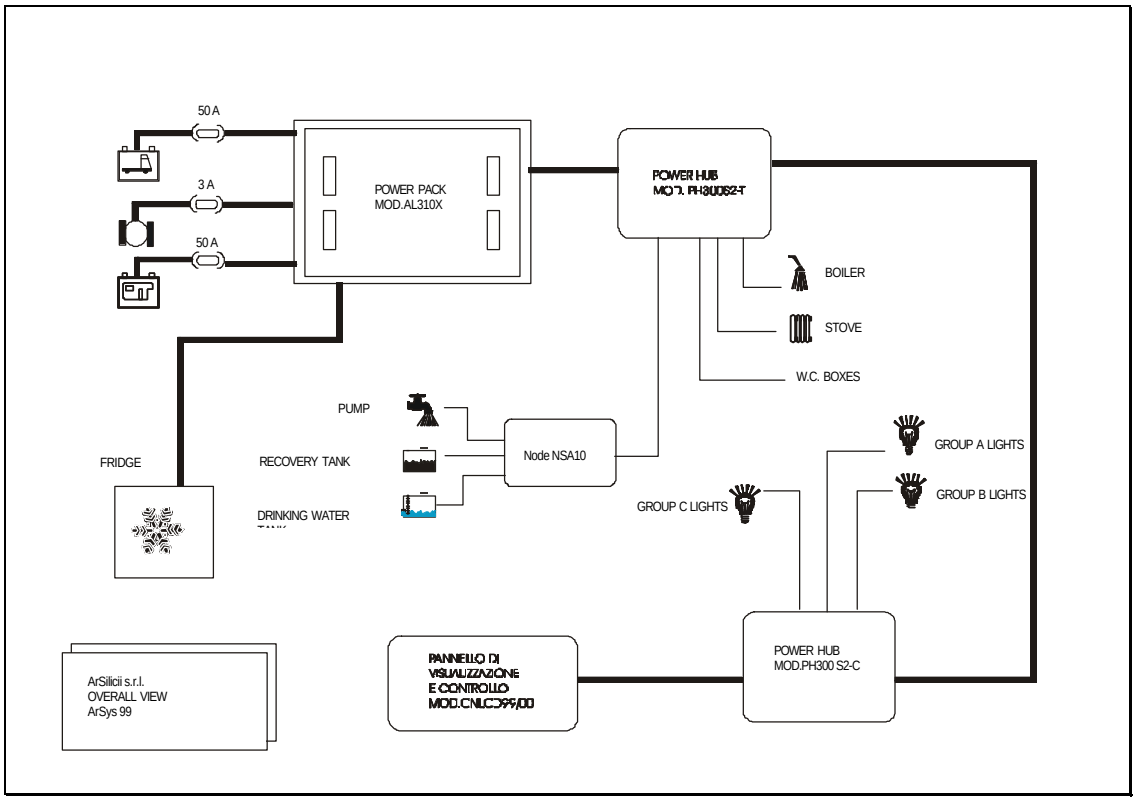

Fig. 1"Overall view of system "

Batteries and Alternator – Power Unit Connection

The services battery is connected to the power unit by a cable with two large dia. wires (+12 and GROUND) and through a fuse with adequate cut-off power (50 A), in series with the wire

connected to the battery positive terminal. Connection to the power unit is with the special connector. The battery negative terminal is connected to the vehicle frame next to the battery itself.
The engine battery and engine on signal (D+) are connected to the power unit by a cable with three wires (+12, GROUND, D+). On the wire connected to the battery positive terminal (+12) a fuse with adequate cut-off power (50 A) is necessary. The third wire, associated with the engine on signal (D+), must also have a suitable protection fuse in series with the connector itself (2 A). The battery negative terminal, should be connected to the vehicle frame, if it is not already.
The Schuko plug through which the power unit is connected to the 220V mains, should be connected at the output to the differential switch that protects it and with the characteristic grounding.
If the AL310X power unit is connected to the outside 220V mains it is a completely autonomous source of energy and is therefore capable of delivering power even if the batteries are not present or are damaged, or even if the fuses towards the batteries have blown. This feature guarantees further sturdiness for the user.

Power Unit – Fridge Connection

The point – point connection of the power unit, model AL310X with the Fridge is to be made using a cable with 3 adequately-sized wires (+12, +12D+ and GROUND).

Power Unit – Floor Power Hub Connection

The point – point connection of the power unit, model AL310X with the Floor Power Hub model PH300S2-T is to be made using a cable with 4 adequately-sized wires, two of which for power (+12 and GROUND) and two for signal (BUS_A and BUS_B).

Floor Power Hub – Floor Services Connection

The connections (all point – point) of the Floor Power Hub, model PH300S2-T with the various floor services are made with a four-wire cable, two for power (+12 and GROUND) and two for signal (BUS_A and BUS_B).
Making a wiring completely with cables with four connectors (Smart Ready), it is possible to install *intelligent services*, also at a later time, and exploit all the potential of the AS D2NA system.

Node NSA10 Pump and Level Sensors Connection

This type of connection is the one that exploits the potential of the AS D2NA system. In fact the loads or sensors are connected directly to the node NSA10 which may be located near them and exploit the potential of the control panel for displaying the status of the items connected and their cutting in.

Floor Power Hub – Ceiling Power Hub Connection

The point – point connection of the Floor Power Hub model PH300S2-T with the Ceiling Power Hub model PH300S2-C is to be made using a cable with 4 adequately sized wires, two for power (+12 and GROUND) and two for signal (BUS_A and BUS_B); the connection is made through the special connectors.

Ceiling Power Hub – Ceiling Services Connection

For the connections of the ceiling services to the Ceiling Power Hub model PH300S2-C (all point-point connection) the same considerations apply as for the connection of the Floor Power Hub with the floor services. When the system is installed, Ceiling Power Hub connections with the ceiling

services are provided with four wires (Smart Ready); it is therefore possible also at a later time to connect *intelligent services* and fully exploit the potential of the AS D2NA system [1].

Ceiling Power Hub – Display and Control Panel Connection

The connection (point – point) of the Ceiling Power Hub model PH300S2-C with the display and control panel model CNLCD-99/00 should also be made with a cable with 4 wires, 2 for power (+12 and GROUND) and two for signal (BUS_A and BUS_B) headed with the special connectors.

Advice for maintenance

- Never do any work on the system without firstly disconnecting the 220V mains, the solar panels and the batteries.
- Check the acid level of the batteries at regular intervals.
- During prolonged parking and stowage of the vehicle, in the lack of external power sources (220V mains or solar panels) it is advisable to disconnect the positive terminal of both the engine battery and services battery.
- Any repairs on the electric system should only be carried out by skilled personnel.

[1] Example: insert a dioxide sensor that works not only as stand -alone device but integrated directly with the AS D2NA therefore automatically with the statuses that can be displayed and set also by the control panel without having to lay any wire between the sensor and control unit.