

# POWER SUPPLY BACKUPS FOR GAS SAFETY SYSTEMS

## ALI - ALP - ACC Eng.



- **Consist of:**
  - 1 stabilised backup for powering the system & for charging the accumulator.,
  - 1 rechargeable backup accumulator.



### 1. APPLICATION

These power supply backups are used for powering at low voltage (12 V DC) gas safety systems and so ensuring their operation even in the event of mains power failure.

The device comprises:

- 1 stabilised power supply to provide power to all the components of the gas safety system and also to keep the backup accumulator charged.
- 1 backup accumulator which, under normal operating conditions, must be kept constantly charged by the backup. In the event of mains failure the backup ensures that the system continues to function. An accumulator must be chosen with sufficient capacity to provide power during the whole period when there is no mains power supply is lacking.

### 2. MODELS: STABLISED POWER BACKUPS

Models	ALI 310	ALP 114	ALP 120
Power supply	230 V ~ ± 10%	230 V ~ ± 10%	230 V ~ ± 10%
Nominal output voltage	13.8 V –	13.5 V –	13.5 V –
Total output current	3 A	9 A	12 A
Output current to load <b>(Pt *)</b>	2.25 A <b>(30 VA)</b>	6.75 A <b>(90 VA)</b>	9 A <b>(120 VA)</b>
Output current to accumulator	0.75 A	2.25 A	3 A
Accumulator current applicable	15 A/h max.	40 A/h max.	120 A/h max.
Accumulator power applicable <b>(Pe max.*)</b>	<b>180 VA max.</b>	<b>480 VA max.</b>	<b>1400 VA max.</b>
Operating temperature	5...40 °C	0...40 °C	0...40 °C
Storage temperature	-10...60 °C	-20...80 °C	-20...80 °C
Dimensions L x P x H	130 x 100 x 38 mm	200 x 260 x 110 mm	185 x 290 x 130 mm
Weight	0.460 Kg	6.7 Kg	8 Kg

\* Important datum for selecting components (see section 4).

### 3. MODELS: ACCUMULATORS (RE-CHARGEABLE BATTERIES)

Code	Voltage V –	Power VA <b>(Pe *)</b>	Capacity ampere per hour Ah	Dimensions L x P x H mm	Peso Kg
<b>ACC 019</b>	12	25	2.3	178 X 34 X 65	0.9
<b>ACC 060</b>	12	77	7.0	151 X 64.5 X 97.5	2.5
<b>ACC 150</b>	12	180	17	181 X 76 X 167	6
<b>ACC 240</b>	12	260	24	175 X 166 X 125	8.1
<b>ACC 400</b>	12	480	40	197 X 165 X 170	14

\* Important datum for selecting components (see section 4).

**4. CHOICE OF COMPONENTS**

**4.1 Choice of the backup power supply**

Calculate the total power consumption (**Pt**) in VA by the system to be powered, by adding up all the consumptions of the single components of this system: detectors (**Pr**), sensors (**Ps**) (only for SRS sensors: the SGC, SGR and SGS sensors are already taken into account in the consumption of the detectors which power them), valves (Pv), external alarms (**Pa**):

$$Pt = Pr + Ps + Pv + Pa$$

The power supplied by the backup must be greater than or equal to **Pt**.

**4.2 Choice of the accumulator**

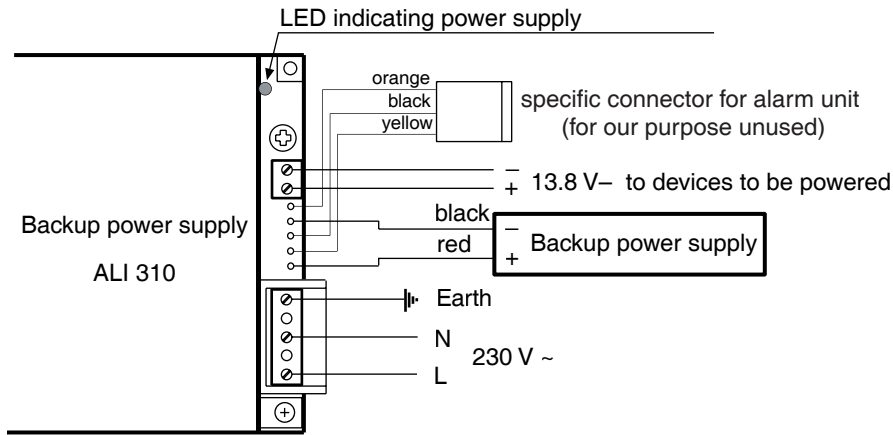
Decide for how many hours (h) the system has to operate without mains power supply. The accumulator must have a load capacity (**Pe**) equal to the power absorbed by the system (**Pt**) multiplied by the number of hours (**h**) established.:

$$Pe = Pt \times h$$

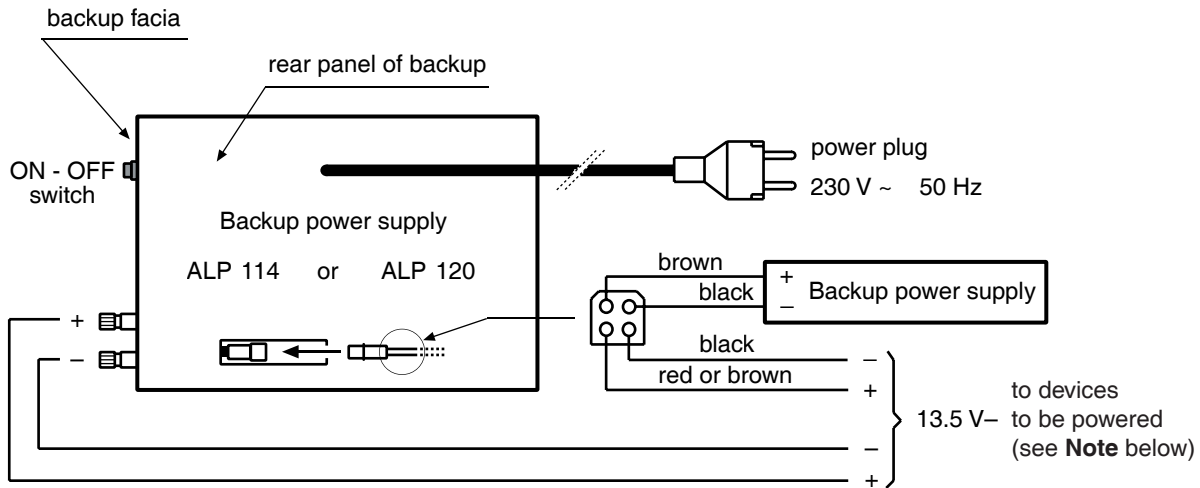
The load capacity of the accumulator must not be less than **Pe**. If a single accumulator is not sufficient, use several accumulators in parallel.

**5. ELECTRICAL CONNECTIONS**

**5.1 Connections backup ALI 310**



**5.2 Connections backups ALP 114 & ALP 120**



NB: the 13.5 V- power supply for the devices can be taken, depending on which is most convenient, either from the two bushes on the facia or from the connecting cable of the backup battery.

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