Installation Guide
eFlow3NBV - Power Supply/Charger

Overview:

The eFlow3NBV power supply/charger converts a 220VAC (working range 198VAC - 256VAC), 50/60Hz input to a 12VDC or 24VDC @ 2A output.

Specifications:

Input Rating:
- Nominal 220VAC (working range 198VAC - 256VAC), 50/60Hz, 2A.

Output:
- 12VDC or 24VDC selectable output.
- 2A continuous supply current.
- Aux. output rated @ 1A (unswitched).
- Overvoltage protection.
- Filtered and electronically regulated outputs.

Battery Backup:
- Built-in charger for sealed lead acid or gel type batteries.
- Maximum charge current 1.54A.
- Automatic switch over to stand-by battery when AC fails. Transfer to stand-by battery power is instantaneous with no interruption.

Fire Alarm Disconnect:
- Supervised Fire Alarm disconnect (latching or non-latching) 10K EOL resistor. Operates on a normally open (NO) or normally closed (NC) trigger.

Supervision:
- AC fail supervision (form “C” contacts).
- Battery fail and presence supervision (form “C” contacts).
- Low power shutdown. Shuts down DC output terminals if battery voltage drops below 80% of nominal. Prevents deep battery discharge.

Visual Indicators:
- Green AC Power LED indicates 220VAC present.
- AC input and DC output LED indicators.

Additional Features:
- Short circuit and overload protection.

Board Dimensions *(approximate L x W x H)*:
7.5” x 4.6” x 1.75” (190.5 mm x 116.84 mm x 44.45 mm)

Stand-by Specifications:

Battery	Burg. Applications 4 hr. Stand-by/ 15 min. Alarm	Fire Applications 24 hr. Stand-by/ 5 min. Alarm	Access Control Applications Stand-by
7AH	0.4A/2A	N/A	1.5 Hours/2A
12AH	1A/2A	0.3A/2A	3.5 Hours/2A
40AH	2A/2A	1.2A/2A	Over 4 Hours/2A
65AH	2A/2A	1.5A/2A	Over 4 Hours/2A

Installation Instructions:

Wiring methods shall be in accordance with the National Electrical Code/NFPA 70/NFPA 72/ANSI, the Canadian Electrical Code and with all local codes and authorities having jurisdiction. Product is intended for indoor use only.

1. Mount the eFlow3NBV in desired location/enclosure.
2. Set desired DC output voltage by setting SW1 to the appropriate position on the power supply board *(Fig. 1i, pg. 3)*.
3. Connect unswitched AC power (220VAC 50/60Hz) to terminals marked [L, G, N] *(Fig. 1a, pg. 3)*. Use 14 AWG or larger for all power connections. Secure green wire lead to earth ground.
   Keep power-limited wiring separate from non power-limited wiring (220VAC 50/60Hz Input, Battery Wires). Minimum 0.25” spacing must be provided.
   CAUTION: Do not touch exposed metal parts.
   Shut branch circuit power before installing or servicing equipment.
   There are no user serviceable parts inside. Refer installation and servicing to qualified service personnel.
4. Measure output voltage before connecting devices. This helps avoiding potential damage.
5. Connect devices to be powered to terminals marked [– DC +] *(Fig. 1h, pg. 3)*.
   For auxiliary device connection this output will not be affected by Low Power Disconnect or Fire Alarm Interface. Connect device to terminals marked [+ AUX –] *(Fig. 1f, pg. 3)*.

6. For Access Control applications batteries are optional. When batteries are not used, a loss of AC will result in the loss of output voltage. When the use of stand-by batteries is desired, they must be lead acid or gel type. Connect battery to terminals marked [– BAT +] *(Fig. 1g, pg. 3)*. Use two (2) 12VDC batteries connected in series for 24VDC operation (battery leads included). Use batteries - Casil CL1270 (12V/7AH), CL12120 (12V/12AH), CL12400 (12V/40AH), CL12650 (12V/65AH) batteries or UL recognized BAZR2 batteries of an appropriate rating.
7. Connect appropriate signaling notification devices to AC FAIL & BAT FAIL *(Fig. 1b, pg. 3)* supervisory relay outputs.
8. To delay AC reporting for 2 hrs., set SW2 to appropriate dip switch position [AC Delay] *(Fig. 1c, pg. 3)*.
9. To enable or disable Low Output Power Shutdown set SW2 to appropriate dip switch position [Shutdown] *(Fig. 1c, pg. 3)*.
10. A short or NO or NC input triggers FACP [Trigger EOL Shutdown] *(Fig. 1d, pg. 3)*.
11. Place a jumper for non-latching FACP. A momentary short on these terminals resets FACP latching [Trigger EOL Shutdown] *(Fig. 1e, pg. 3)*.

Wiring:

Use 18 AWG or larger for all low voltage power connections.
Note: Take care to keep power-limited circuits separate from non power-limited wiring (220VAC, Battery)

Maintenance:

Unit should be tested at least once a year for the proper operation as follows:
Output Voltage Test: Under normal load conditions, the DC output voltage should be checked for proper voltage level.
Battery Test: Under normal load conditions check that the battery is fully charged, check specified voltage (12VDC @ 13.2 or 24VDC @ 26.4) both at battery terminal and at the board terminals marked [– BAT +] to ensure there is no break in the battery connection wires.
Note: Maximum charging current under discharges is 1.54A.
Note: Expected battery life is 5 years, however it is recommended changing batteries in 4 years or less if needed.

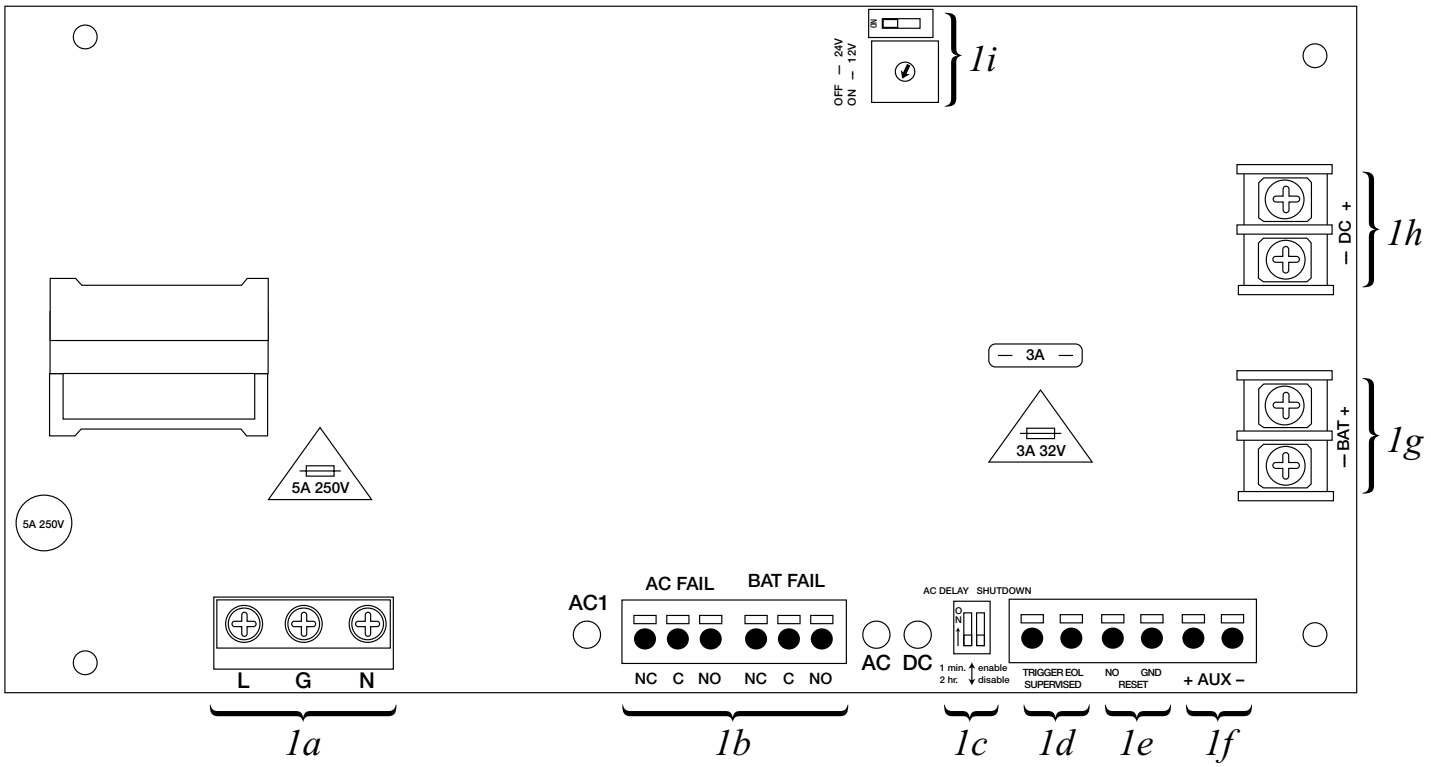
LED Diagnostics:

Green (DC)	Green (AC/AC1)	Power Supply Status
ON	ON	Normal operating condition.
ON	OFF	Loss of AC. Stand-by battery supplying power.
OFF	ON	No DC output.
OFF	OFF	Loss of AC. Discharged or no stand-by battery. No DC output.

Terminal Identification:

Terminal Legend	Function/Description
L, G, N	Connect 220VAC 50/60Hz to these terminals: L to hot, N to neutral, G to ground (non power-limited) *(Fig. 1a, pg. 3)*.
– DC +	12VDC or 24VDC @ 2A continuous output (Power-Limited output) *(Fig. 1h, pg. 3)*.
Trigger EOL Supervised	Fire Alarm Interface trigger input from a short or FACP. Trigger inputs can be normally open, normally closed from an FACP output circuit (Power-Limited input) *(Fig. 1d, pg. 3)*.
NO, GND RESET	FACP interface latching or non-latching (Power-Limited) *(Fig. 1c, pg. 3)*.
+ AUX –	Auxiliary Power-Limited output rated @ 1A (unswitched) (Power-Limited output) *(Fig. 1f, pg. 3)*.
AC Fail NC, C, NO	Indicates loss of AC power, e.g. connect to audible device or alarm panel. Relay normally energized when AC power is present. Contact rating 1A @ 30VDC (Power-Limited) *(Fig. 1b, pg. 3)*.
Bat Fail NC, C, NO	Indicates low battery condition, e.g. connect to alarm panel. Relay normally energized when DC power is present. Contact rating 1A @ 30VDC. A removed battery is reported within 5 minutes. Battery reconnection is reported within 1 minute (Power-Limited) *(Fig. 1b, pg. 3)*.
– BAT +	Stand-by battery connections. Maximum charge current 1.5A (non power-limited) *(Fig. 1g, pg. 3)*.

Fig. 1 - eFlow3NBV configuration



Notes: