Installation Instructions for the Meanwell DIN-UPS modules

The Meanwell **DR-UPS40** and the new **DUPS20** and **DUPS40** modules are used in conjunction with a Meanwell 24V power supply and a battery. The three components work together to create a DC battery back-up system (or Uninterruptable Power Supply).

These UPS modules provide a nominal 24VDC system with a 2A charging capacity. They are designed to be used with lead acid batteries between 4AH and 12AH. The new 20A and 40A UPS modules allow battery capacities up to 135AH. Note that the new modules allow higher capacity batteries which are protected from OVER-CURRENT DISCHARGE by disconnecting the battery should the module's current limit be exceed for more than 3 seconds.

To create a DC uninterruptable power supply (UPS) you need a Meanwell 24VDC power supply capable of producing enough current to supply your load and to charge the battery. **The power supply must be adjusted to 27.6V output in order to properly charge a 24V battery.** This voltage is connected to the DC terminals of the Meanwell UPS module and the battery is connected to the BAT terminals. See the connections diagram on the next page.

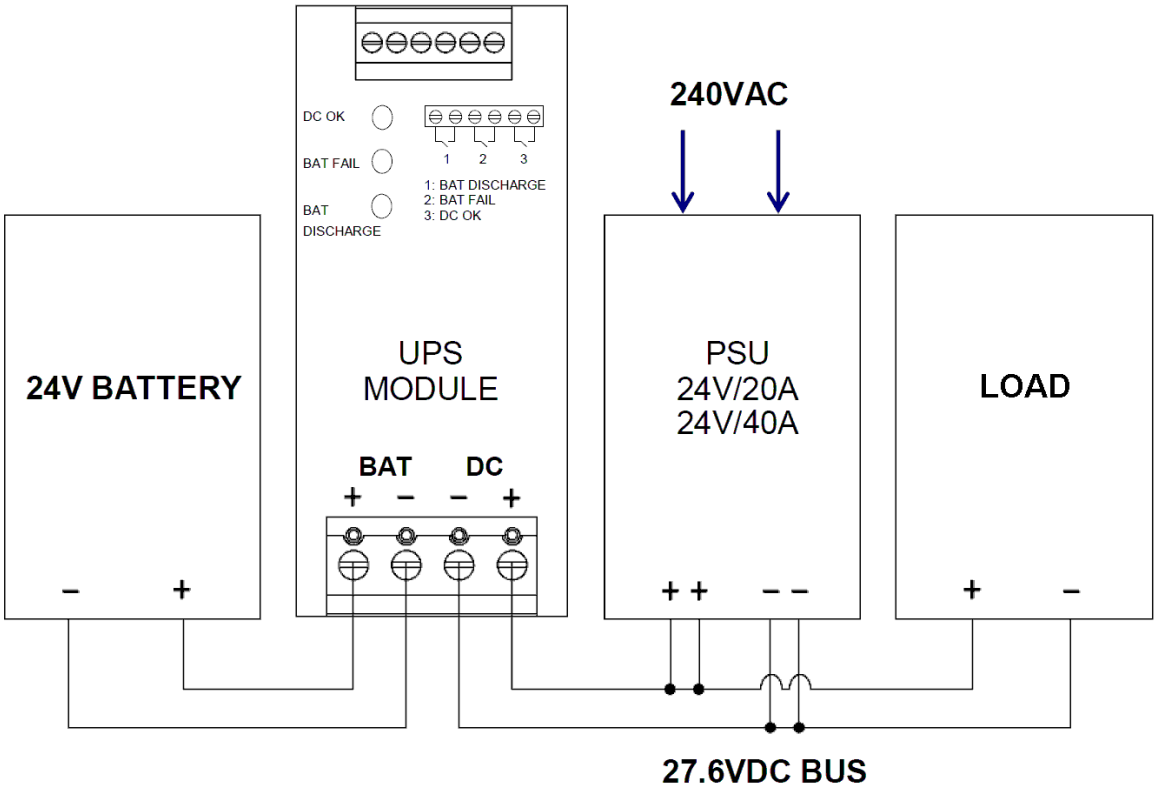
Once all the components are connected, it works as follows. AC power is applied to the power supply. The output of the power supply, adjusted to 27.6V, goes to your load and to the terminals on the UPS module. This voltage powers your load and charges the battery through a 2A current limiting circuit in the UPS module. If the AC mains power fails, the 27.6V power supply output stops feeding the load and the UPS module then switches to the battery to power the load instead.

Once all the connections are made, check that the load has power and that the UPS module has 27.6V between the DC+ and DC- terminals. If the voltage is less, the battery will not fully charge and the battery will not be able to power your load for as long as it should.

NOTE:

1. A power supply with a maximum 20A output should be used with the DUPS20, and maximum 40A with the DUPS40 and DR-UPS40.
2. The 2A charging current requires a battery capable of being charged at the rate of 0.5C for 4AH, 0.3C for 7AH, 0.25C for 9AH, 0.2C for 10AH and 0.1C for 20AH etc.

3. It is recommended that an external fuse or circuit breaker should be installed in series with the battery to limit the maximum discharge current and protect the battery. The UPS module contains one or two automotive blade fuses that are user replaceable on the DR-UPS40 (2x25A) but NOT replaceable on the DUPS20 (30A) and the DUPS40 (2x30A). Only replace fuses with the same type and rating as indicated.
4. Should you require other voltages or a regulated 24V supply*, Meanwell now has highly efficient DC to DC converters with outputs of 12V, 24V and 48V. The DDR metal case series 120W, 240W and 480W are capable of DIN rail mounting and have adjustable output voltages of 9..14V, 24..28V or 48..56V. *or an isolated voltage and limited output current without causing the main PSU voltage to collapse. e.g. use a 240W PSU with a 120W DC-DC converter.



IMPORTANT NOTES:

Always use ALL terminal outputs on the PSU and externally parallel them. NEVER use multiple terminals to connect separately to the UPS module and the LOAD. Multiple terminals have NOT been provided for "convenience" but are required to provide full load output (or LOAD short-circuit) without causing damage to the terminals. An EARTH CONNECTION can be provided via an eye lug connected to one of the screws at the rear or top of the UPS module!

A suitable 24V DIN rail power supply can be found amongst the many Meanwell products with 240VAC, 415VAC or 3 phase operation. See NDR, SDR, TDR, WDR, XDR or XTR series.

www.youtube.com/embed/xkUgq9UIcaU

Video of SDR-240-24 and DR-UPS40 PoE (Power Over Ethernet) CCTV camera system. Note the use of UPS module earth strap and fuses between 12V batteries. Also note the lack of external parallel connections for the PSU outputs and the need for a 5mm (15mm in some cases) ventilation gap between the PSU and UPS units.