

PRODUCT BRIEF

900W Power Distribution Unit

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The VISIONAIRtronics 900W Power Distribution Unit converts unregulated battery voltage down to a set of regulated outputs suitable for distribution within small to medium-sized UAVs.

Three main outputs are provided, each of which may be user-configured for voltage. The avionics and servo power supplies are fully duplicated internally to maximise system reliability through redundancy.

The 900W PDU has dual battery inputs with automatic lossless switchover between the two. An umbilical input ensures that batteries are not depleted during pre-flight checks prior to take-off.



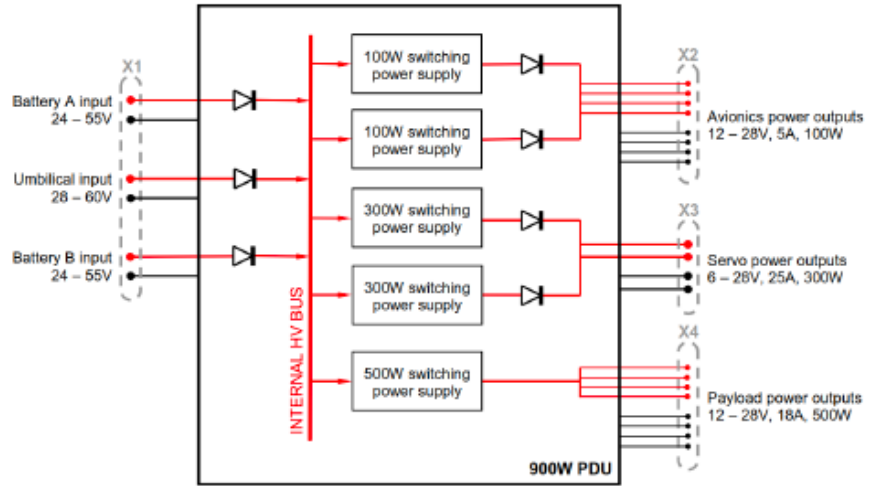
FEATURES

- Four independent power supply systems:
 - Output 1: 12 – 28V
 - Output 2: 6 - 28V
 - Output 3: 12 - 28V
 - Low-power: 5V
- Avionics, Servo and Payload outputs are user-configurable for voltage.
- Output 1, Output 2 and low-power output have 100% redundancy
- (i.e. the outputs are the result of combining two identical and independent power supplies, each of which is capable of supplying 100% of rated load).
- Two battery inputs. Battery voltage may range from 24 to 60 VDC. Supported battery types include:
 - LiPo: 10 – 14S
 - LiS: 15 – 20S
 - LiFe: 10 – 14S
- Umbilical input: 28 – 60 VDC.
- RS232 and CAN monitoring interfaces provide extensive reporting of voltages, currents and internal temperature.
- IP67
- Weight: 1.6kg
- Dimensions: 235x193x54.5 mm



BLOCK DIAGRAM

This is a greatly simplified diagram showing only the main power pathways. Diodes shown are symbolic; diode functionality is implemented using FETs configured as “ideal diodes”.



Internal Architecture

SPECIFICATIONS IN BRIEF

Electrical

Battery inputs	24 to 55 VDC
Umbilical input	28 to 60 VDC
Output 1	12 to 28 VDC, 5 Amps continuous, 100 Watts max., redundant
Output 2	6 to 28 VDC, 25 Amps continuous, 300 Watts max., redundant
Output 3	12 to 28 VDC, 18 Amps continuous, 500 Watts max.

Miscellaneous

Environmental protection class	IP67
Operating temperature range	-40°C to + 55°C
Altitude rating	10,000m
Cooling	Thermostatically controlled redundant fan outputs
Enclosure	Lightweight custom-machined aluminium
Connectors	MIL-DTL-38999
Communications protocols	RS232 (57600 8N1), CAN (1Mb/S, user selectable)

