VISION AIR TRONICS

Next Level Safety

PRODUCT BRIEF

5000W POWER COMBINER

VISIONAIRtronics GmbH
Grabengasse 29
7142 Illmitz, Austria

T +43-2167-90618 00
E info@vat.aero
W **www.vat.aero**

VISION AIR TRONICS

5000W PC
PRODUCT BRIEF

The Ideal Diode Power Combiner takes two power sources and combines them into one, creating redundancy without sacrificing efficiency.

A power diode may drop a volt or more when carrying 80 Amps. This may not sound like a lot, but at 80 Amps this equates to 80W which is a lot of power to get rid of as heat. The Ideal Diode Power Combiner typically drops less than 100mV at the same current, equating to less than 8W.

FEATURES

FEATURES

- 65 VDC, 80 Amps (5000W max.)
- Inputs reverse polarity protected and tolerant of transients up to +100V.
- Řobust mechanical enclosure
- Potted PCB for Ingress Protection
- Weight: est. 290g
- Dimensions: 92.5 x 86 x 22

OPERATION

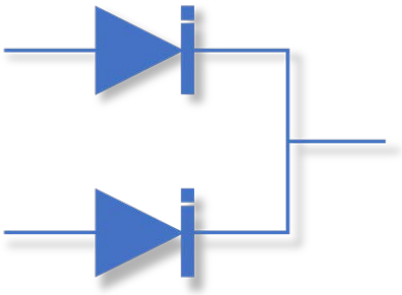
The Ideal Diode Power Combiner works just like a pair of diodes with their cathodes connected together: power enters at the anodes and exits at the cathode. There is, however, a key difference to be aware of.

Unlike diodes – which do not need a ground connection to work correctly – the Ideal Diode Power Combiner must have a ground connection because it contains active devices. A ground terminal is provided for both of the input terminals and also for the output terminal. These are all connected together internally. At least one ground terminal must be connected.

Use with ESCs
One possible application for this device is to power an ESC (Electronic Speed Controller) from a pair of batteries. Be aware that regenerative braking only works if there is a path for regenerated current to make its way back into the batteries, and any sort of diode – real or ideal – in the way will prevent this. Regenerative braking must be turned off in this situation or damage will occur.

DIAGRAM

This is a greatly simplified diagram showing only the main power pathways. Diodes shown are symbolic;



Internal Architecture

SPECIFICATIONS

SPECIFICATIONS IN BRIEF

Electrical

Voltage	Operational: +12 to +65 VDC; Absolute max.: -65 to +66 VDC
Current	80 Amps continuous
Forward power handling	5000 Watts continuous
Forward voltage drop	200mV maximum
Quiescent current consumption	8mA typical

Miscellaneous

Dimensions	92.5 x 86 x 22 mm
Operating temperature range	-40°C to +85°C
Weight	290 g
Mounting	4 x M3 threads
Connections	6x M5 threaded studs