

120W, Corona-free, 20kV Isolation Voltage, Dual Output DC-DC Converter

DIO 122 Series



- 20kVac isolation input/output, output/chassis
- Corona free at 12kVac
- Rugged, industrial quality
- Convection cooled - no fan
- Dual output – 60W each
- Full electronic protection

This series of dual-output DC-DC converters was developed for very high operating isolation voltage. Typical applications are high power gate drives, medical equipment, transportation and similar areas. The unit is designed and tested for corona (partial discharge) extinction at a minimum of 12kVac and Hi-POT tested for 20kVrms isolation. The typical operating voltage potential between primary and secondary is 6.5 – 10kVac, with the same isolation provided between the two outputs. Both outputs are highly regulated and have individual current limiting and short circuit protection. Isolation design features include encapsulating the output regulators in two separate insulation chambers, and the use of transformers engineered with ABSOPULSE's field-proven proprietary technology.

SPECIFICATIONS

<p>Input Voltage 24Vdc (22 – 29V) 48Vdc (44 – 56V) 125Vdc (110 – 140) Consult factory for other inputs</p>	<p>Output Voltages Two independent outputs: Any voltage in the range of 12V to 24V and up to 3A on each output. Consult factory for other voltages</p>	<p>Efficiency Min 80% at full load</p>	<p>Indicators Green "Output ON" LED in each chamber</p>
<p>Input Protection Inrush current limiting Varistor Reverse polarity protection by crowbar diode Internal safety fuse Lower voltage than the specified minimum will not damage the unit</p>	<p>Redundancy diode None Available as option</p>	<p>Operating Temperature 0°C to 50°C for full specification without derating</p>	<p>Control Input None</p>
<p>Isolation 1.5kVdc input to chassis, 20kVac input to output, 20kVac output to chassis 20kVac output 1 to output 2 Corona extinction 12kVac minimum for the transformer</p>	<p>Line/Load Regulation ±1% combined from zero load to full load including output separation diode</p>	<p>Temperature Drift 0.03% per °C over operating temperature range</p>	<p>Alarm Output None</p>
<p>Standards Designed to meet EN60950-1 and related UL & CSA standards</p>	<p>Dynamic Response Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p>	<p>Cooling By convection</p>	<p>Package Dimensions Open board: 102 x 305mm (4" x 12") Component height: 70mm (2.75")</p>
<p>EMI EN 55032 Class A with margins</p>	<p>Output Ripple/Noise Better than 200mV peak to peak or 40mVrms (20MHZ BW)</p>	<p>Environmental Protection Basic ruggedizing and partial encapsulation in the chambers with thermally conductive silicon potting compound with UL94V-0 flammability rating.</p>	<p>Weight 1.1kg (2.4lb)</p>
<p>Switching Frequency: 100kHz ±5kHz 50kHz ±5kHz (for 24V input)</p>	<p>Overload Protection Rectangular current limiting with short circuit protection. Current Limit set to: 3.5A ±0.4A</p>	<p>Shock/Vibration IEC61371 Cat 1 A&B</p>	<p>Connections <u>Input:</u> 3-pole barrier-type terminal block with 3/8" spacing <u>Outputs:</u> 2-pole barrier type terminal block inside the chamber</p>
	<p>Output Over-voltage Protection 30V transzorb on output</p>	<p>Humidity 5 - 95% non-condensing</p>	<p>RoHS Compliance Compliant</p>
		<p>MTBF 150,000 hours at 45°C per internal module Demonstrated MTBF is significantly higher.</p>	<p>Warranty Two years subject to application within good engineering practice</p>

Please note that ABSOPULSE power supplies are designed and built to customer specifications. The specifications on this data sheet are generic and will vary depending on input/output configuration and other customer requirements. Generic specifications are subject to change

Designer and manufacturer of quality converters, inverters, UPS systems, complete rack mount systems and DC-input fluorescent lamp inverters since 1982. Custom or standard. ABSOPULSE is a BABT-approved Facility



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