

600Vdc High Input Voltage, 3kW, Industrial Quality Step-down DC-DC Regulator BUR 3K-F3W Series

- High input voltage
- Wide DC-input voltage range
- Rugged field-proven topology
- Cooling by internal fans
- Full electronic protection
- N+1 redundancy available
- No galvanic isolation



This rugged, industrial quality step down DC-DC regulator uses field-proven technology to generate the required output power. The design is based on topology that has a proven track record in numerous heavy-duty applications. The unit steps a 400–800Vdc input voltage to 300Vdc, or similar voltage at very high efficiency. The use of the latest silicon carbide semiconductor technology contributes to 97-98% conversion efficiency, allowing low heat dissipation and high power density in the existing F3W enclosure size. Cooling is by two long-life built-in fans on one side of the unit, with additional conduction via base plate to a heat-sinking surface. Applications include generating a stable regulated output voltage from a wide range input voltage, stabilizing the voltage at the end of a long cable, or generating a stable suitable voltage for motor drive units. A fully encapsulated version of this design for operation in extreme environments is also available.

SPECIFICATIONS

<p>Input Voltage 600Vdc nominal 400 - 800Vdc operating range Other input ranges on request</p>	<p>Output Voltage 300Vdc/10A Output return is common with input return</p>	<p>Efficiency 97% at full load depending on input/output configuration</p>	<p>Indicators None</p>
<p>Input Protection Inrush current limiting Varistor Reverse polarity protection by series diode Internal safety fuse Lower voltage than specified minimum input will not damage unit</p>	<p>Redundancy diode Not installed Available as option</p>	<p>Operating Temperature 0 to +55°C cold-plate temperature for full specification</p>	<p>Control Input None on standard version Available as option</p>
<p>Isolation 3000VDC input/output to chassis Input and output returns are common.</p>	<p>Line/Load Regulation ±1% combined from zero load to full load</p>	<p>Temperature Drift 0.03% per °C over operating temperature range</p>	<p>Alarm Outputs None. Available as option</p>
<p>Standards Designed to meet EN62368-1 and corresponding standards</p>	<p>Dynamic Response Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time</p>	<p>Cooling Forced air by two high quality built-in fans</p>	<p>Package/Dimensions (W x H x L) F3W 160 x 70 x 290 mm 6.3" x 2.73" x 11.4" Includes baseplate, excludes terminals Mounting holes are clear</p>
<p>EMI EN55032 Class A with margins</p>	<p>Output Ripple / Noise Better than 300mVrms or 900pp (20MHz BW)</p>	<p>Environmental Protection Ruggedizing Conformal coating Heavy ruggedizing available on request</p>	<p>Weight 2.3 kg (5 lbs)</p>
<p>Switching Frequency 55kHz ±3kHz</p>	<p>Output Overload Protection Thermal shutdown with automatic reset in case of insufficient cooling Current Limit set to: 11A ± 0.8A</p>	<p>Shock/Vibration IEC 61373 Cat 1 A&B</p>	<p>Connections 12-pole barrier type terminal block with 3/8" spacing</p>
	<p>Output Overvoltage Protection Transzorb clamp</p>	<p>Humidity 5-95% non-condensing</p>	<p>RoHS Compliance Compliant</p>
		<p>MTBF 130,000 hours @ 45 °C (fans excluded) Demonstrated MTBF is significantly higher</p>	<p>Warranty Two years subject to application within good engineering practice</p>

ABSOPULSE power supplies are designed and built to customer requirements. The specifications on this data sheet are generic guidelines only and are subject to change

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