# **SRWY30 SERIES**

# DC/DC Converters 30W for railway and industrial converters

SNAPTEC.com.au

- Rugged, field-proven design
- Full encapsulation
- Wide temperature range
- Full electronic protection
- EN50155 input ranges



This fully encapsulated, railway quality power converter utilizes field-proven technology to generate the required output power. It is a mature design with a track record in numerous applications. The unit is entirely potted with a thermally conductive MIL-grade silicon rubber compound which provides protection from moisture and other contaminants, as well as immunity to shock and vibration. Cooling is by conduction via a base plate to a heatsinking surface. Full electronic protection, low component count, large design headroom and the exclusive use of components with established reliability contribute to a high MTBF. The unit meets the requirements of EN50155 for electronic equipment used on railway rolling stock. It is manufactured under strict quality control. Customized versions are also available.

# **SPECIFICATIONS**

#### **Standard Input Voltages**

24Vdc (14.4 - 34V) 36Vdc (22 - 51V) 48Vdc (29 - 67V) 72Vdc (43 - 101V) 96Vdc (58 - 135V) 110Vdc (66 - 154V) Other inputs upon request

#### Input Protection

Inrush current limiting Varistor Reverse polarity protection Internal safety fuse Lower voltage than specified minimum input will not damage unit

# Isolation 1500Vdc input to chassis 3000Vdc input to output 1500Vdc output to chassis

# Standards

Designed to meet EN60950-1 and EN50155

# Immunity

Meets criteria of EN50155 and EN50121-3-2 according to the following standards: EN 61000-4-2 (ESD) EN61000-4-3 (RF Immunity) EN61000-4-4 (Fast Transients) EN50155 (Surge) EN61000-4-6 (Conducted Imm.) EN50155 (Voltage Variations)

# **EMI** EN50121-3-2

Switching Frequency 100kHz ± 5kHz

# Output Voltage

Any voltage in the 5V to 110V range Output is floating, either terminal can be grounded Other outputs upon request

#### Redundancy Diode None

Line/Load Regulation ±1% combined from zero load to full load

# Dynamic Response

Max 5% voltage deviation for 10% to 50% load step, with better than 1msec recovery time

# **Output Ripple/Noise**

Less than 1% peak-to-peak or 0.2% RMS of the output voltage (20MHz BW)

#### Output Overload Protection Rectangular current limiting with hiccup type short-circuit protection

Output Overvoltage Protection Transzorb installed across the output Efficiency 80 to 90% at full load depending on input/output configuration

**Operating Temperature Range** -40 to +70°C cold-plate temperature for full specification

# Temperature Drift

0.03% per °C over operating temperature range

# Cooling

Conduction cooling via base plate to customer chassis or heat-sink

# **Environmental Protection**

Full encapsulation with thermally conductive silicon potting compound with UL94V-0 flammability rating Meets environmental criteria as requested in MIL-810 C, D

#### Shock/Vibration IEC 61373 Cat 1 A&B

Humidity 5 – 95% non-condensing Contact factory for higher rating

# MTBF

150,000 hours @ 45 °C Demonstrated MTBF is significantly higher

# Indicators None Optional 'ON' LED adapter available

Control Input None

#### Alarm Output None

# Package/Dimensions (W x H x L)

P30: 56 x 56 x 147mm (2.2" x 2.2" x 5.8") Includes terminal block and flanges. Mounting holes are clear

# Weight

0.5 kg (1.1 lb)

# Connections

5-pole barrier-type terminal block with 3/8" spacing Cover can be provided upon request

**RoHS Compliance** 

Compliant

# **Terminal Block Pin-out**

OUTPUT		GND	INPUT	
+	1	ή	+	-
1	2	3	4	5