

# PDS Design Solutions LTD

## 50 Watt Encapsulated DC/DC-converter SI50W1

- Output power 50W max. PCB Or Chassis Mounting Options.
- Input/output galvanically isolated PCB Pin Or Faston Connections
- $\pi$ -filtering at input
- Overload and overtemperature protected
- Copper case
- For high ambient temperatures (125°C) and long life
- Wide input range
- [According to EN 50155 For Railway Applications.](#)

### Standard Models (Other Input / Output Versions Available)

Input Range	According to EN50155 For Rail Applications			
Input Order Code	2	4	5	7
Input Voltage DC	12V (9~18)	24V (18~36)	48V (36~60)	110V (83~130)
Output	Isolated			
Output Power Rating	Max. 50 W			
Output Order Code	1	2	3	4
Output Voltage (Standard Options)	5V	12V	15V	24V
Output Current	8A	4A	3A	2,1A
Accuracy	Typ.1%			

Output Limit With 12V input voltage max. 75% output power

### Specification

(after warm-up-time at 25°C)

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- Output Voltage Accuracy At 50% Load	typ. 1%
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- Regulation	typ. 0,4%(max.1,0%)
- Load Variation 10-90% static	typ. 0,5%(max.2,0 %)
- Input Voltage Variation	100 $\mu$ s (max. 500 $\mu$ s)
- Recovery Time	
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- Efficiency At Full Load & Nominal Input Input / Output 24 Volts	typ. 89%
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- Reflected Output Ripple	1% pp.max.
- Input Ripple	1% pp max.
- Storage Temperature Range	-40°C...+125°C
- Operating Temperature	-40°C...+125°C
- Derating Above 85°C	2,5% / °C
- Temperature Coefficient	0,01 %°K
- Humidity	100 % RH
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- Switching Frequency	ca./approx. 150kHz
- Isolation Input / Output	1000 VDC / 1 min.
- Isolation Capacity Input / Output	typ.100 pF *

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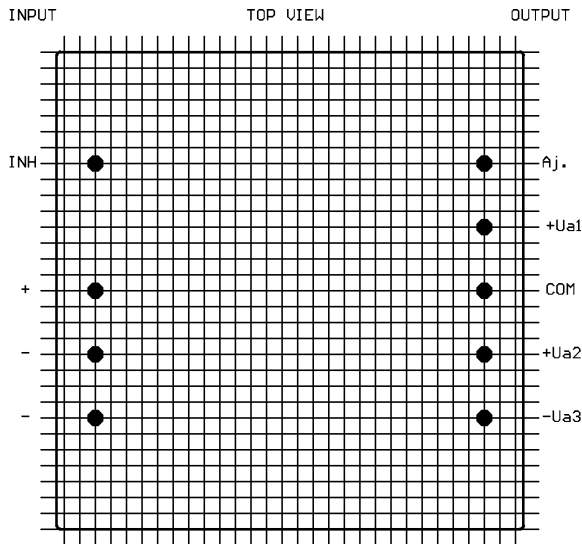
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# PDS DATA SHEET.

- Output Adjustment Range	-20% - +5%
- Output Short-Circuit Protected	By Switch Off
- Overvoltage Protection	Standard
- For 5V Output	- ca./approx. 6
- For 12V Output	- ca./approx. 16V
- For 15V Output	- ca./approx. 19V
- For 24V Output	- ca./approx. 27V
- Environmental Protection Rating	- IP68

### Pin-Out



PCB Mount Version Shown.

Example Part Number  
SI50W 1 - 4 2

Unit type  
Number of outputs (1)  
Input voltage (24V)  
Output voltage (12V)

**Dimension:**  
**76mm x 76mm x 17,3mm**  
Additional Mounting Plate Option Available.  
Pin Diameter approx.: 1,3mm  
Faston Connector Option Available.

**Connections :**  
INH - Inhibit Open = On, Link to Input -VE to Inhibit  
Aj = Output Adjust, Link Pot across from Output to Com  
With centre connection to Aj pin, (typ 1-5K pot)  
+Ua1 = Output 1 +Ve  
+Ua2 & -Ua3 ~ For Single output versions pins are present but not electrically connected.

**Notes**  
Other input/output voltages or special modules on request.  
Higher output currents on request.  
Higher break down voltage (input/output) on request.  
The units are available with earth-pin on request.  
Subject to technical changes. E&OE.

