

## 24VDC to 24VDC, 50W, Isolated Power Converter

P/N: AX083140

### Features

- 24 VDC to 24 VDC, 50 W converter
- Isolated
- Operates from 8 to 36 VDC
- Typical efficiency of 88 % @ 24 VDC input
- Thermal protection for over temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- Protected against **load dump**
- -40 to 70 °C (-40 to 158 °F) operating temperature
- Compact, IP67-rated enclosure
- Integrated 4-pin TE Deutsch connector
- Designed for EMI/EMC compliance

### Applications

This Converter is suitable for application on vehicles.

- Off-highway equipment
- Mining equipment
- Agriculture equipment
- Fire trucks and municipal vehicles

### Ordering Part Numbers

24VDC/24VDC, 50 W, Isolated Converter - P/N: **AX083140**

Accessories:

Mating Plug Kit: **AX070106**

## Technical Specifications

Specifications are indicative and subject to change. Actual performance will vary depending on the application and operating conditions. Users should satisfy themselves that the product is suitable for use in the intended application. All our products carry a limited warranty against defects in material and workmanship. Please refer to our Warranty, Application Limitations & Return Materials Process as described on <https://www.axiomatic.com/service/>.

Typical at nominal input voltage and 25 °C unless otherwise specified.

### Input Specifications

Power Source	24 VDC nominal
Operating Voltage Range	8 to 36 VDC provides output (Minimum 10 V required for start-up)
Maximum Current	6.85 ADC @ 9 VDC
Load Dump	Up to TBD VDC
Reverse Voltage Protection	Provided
Undervoltage Shutdown	8 VDC typical
Overvoltage Shutdown	37.5 VDC typical

### Output Specifications

Nameplate Rating (Output Power)	50 W nominal
Output Voltage	24 Vdc ± 0.3 %
Output Ripple Voltage	$V_{O(RIPPLE)} \leq 0.5 \%$
Output Current	2.08 ADC continuous
Turn-On Time (at Full Load)	0.175 s (typical)
Stability	Stable at all loads (no minimum load requirement)
Transient Response	450 mV/ms (25 to 75 % load)
Short Circuit Protection	Provided 3.3 A current limit Self-recovery

### General Specifications

Isolation	600 VDC Input to output										
Efficiency	88% @ 24 VDC input (typical)										
Operating Temperature	-40 to 70 °C (-40 to 158 °F)										
Storage Temperature	-40 to 70 °C (-40 to 158 °F)										
Compliance	RoHS										
Protection Rating	IP67										
Enclosure	Cast Aluminum, anodized 4.64 in. x 3.54 in. x 1.41 in. (117.9 mm x 90.0 mm x 35.8 mm) L x W x H including integral connector Refer to the dimensional drawing.										
Weight	1.27 lb. (0.577 kg) preliminary										
Electrical Connections	Integral 4-pin receptacle (TE Deutsch P/N: DT04-04P) 18 AWG wire is recommended for use with contacts 0462-201-16141. <table border="1" data-bbox="553 1465 946 1598"> <thead> <tr> <th>Pin</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output +</td> </tr> <tr> <td>2</td> <td>Output -</td> </tr> <tr> <td>3</td> <td>Input -</td> </tr> <tr> <td>4</td> <td>Input +</td> </tr> </tbody> </table>	Pin	Description	1	Output +	2	Output -	3	Input -	4	Input +
Pin	Description										
1	Output +										
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Mating Plug Kit	Axiomatic P/N: <b>AX070106</b> (includes 1x Plug DT06-4S, 1x Wedgelock W4S, 4x Contacts 0462-201-16141)										
Mounting	Mounting holes are sized for #10 or M5 bolts. The bolt length will be determined by the end-user's mounting plate thickness. The mounting flange of the controller is 0.47 in (12 mm) thick. It should be mounted with connectors facing left or right to reduce likelihood of moisture entry. All field wiring should be suitable for the operating temperature range. Install the unit with appropriate space available for servicing and for adequate wire harness access (6 in. or 15 cm) and strain relief (12 in. or 30 cm).										

### Dimensional Drawing

Form: TDAX083140-11/21/2025