

## Isolated 24VDC/24VDC Converter

18-36Vdc Input  
24Vdc Output, 312W  
P/N: AX081500

Isolated 24 Vdc for battery powered electronic control systems on vehicles and in other harsh operating environments

### Features:

- 24Vdc/24Vdc, 312 Watts
- Isolated
- Typical efficiency of 93%
- Input inrush current limit
- Thermal protection for over temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- -40 to 85 °C (-40 to 185 °F) operating temperature
- IP67
- 1 connector (equivalent TE Deutsch P/N: DTP13-4P).
- Compact: 8.50 x 5.125 x 2.50 inches (215.90 x 130.18 x 63.50 mm)
- Can be used in a current sharing configuration
- Redundancy for parallel application
- EMI/EMC compliant
- CE mark
- SAE J1455 and SAE J1113 compliant
- cURus recognized (UL60950/CAN CSA 22.2 No. 60950) under UL File E0209455
- CB Test Certificate# CA-10269-UL



**Applications:** The DC/DC converter is suitable for rugged applications.

### Ordering Part Numbers:

24V/24V, 312W, Isolated DC/DC Converter P/N: **AX081500**

#### Accessories:

Mating Wire Harness, 2 m: **AX070103**  
or Mating Plug Kit: **AX070117**

To purchase the DC/DC Converter and mating wire harness as a KIT (AX081500 converter, AX070103 wire harness), the ordering P/N is **AX081500K**.

## 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 Approvals/Limitations and Return Materials Process as described on <https://www.axiomatic.com/service/>.

Input Specifications		Output Specifications	
Power Source	24 Vdc nominal	Nameplate Rating (Output Power)	240 VA nominal (312VA nominal over -40 to 75°C)
Operating Voltage Range	18 to 36 Vdc	Output Current (DC)	10 A continuous (13A continuous over -40 to 75°C)
Maximum Input Current	20ADC @ 18Vdc	Output Voltage	24 Vdc ± 4%
Reverse Voltage Protection	Provided	Output Voltage Ripple	$V_{O(RIPPLE)} \leq 100$ mVpp
Under-voltage Shutdown	16.8 Vdc typical	Turn-on time (at full load)	700 ms typical
Over-voltage Shutdown	37.8 Vdc typical	Stability	Stable at all loads (no minimum load requirement)
		Transient Response	250 mV/1 ms (25%-75% Load)
		Short Circuit Current	Protection provided Self-recovery 16A current limit

## General Specifications

Approvals	cURus recognized (UL60950/CAN CSA 22.2 No. 60950) under UL File E0209455 CB Test Certificate# CA-10269-UL										
EMI and Environmental Compliance	Designed to meet the requirements of SAE J1455 and SAE J1113 CE mark for the EMC Directive										
Efficiency	93% Refer to Figure 1.0.										
Isolation	707 Vdc minimum										
Enclosure	Cast Aluminum housing, integral gasket and connector 8.14 x 5.83 x 2.50 inches (206.82 x 148.00 x 63.25 mm) L x W x H including integral connectors Refer to the dimensional drawing, Figure 2.0..										
Protection	IP67										
Vibration	MIL-STD-202G, Test 204D and 214A (Sine and Random) 10 g peak (Sine) 7.86 Grms peak (Random)										
Shock	MIL-STD-202G, Test 213B 50g										
Weight	4.20 lb. (1.9 kg)										
Temperature Rating	Operating: -40 to 85°C (-40 to 185°F) Storage: -50 to 90°C (-58 to 194°F) Refer to the output current vs. operating temperature chart, Figure 3.0..										
Electrical Pinout	<p>1 Connector (equivalent TE Deutsch P/N: DTP13-4P):</p> <table border="1" data-bbox="816 1472 1114 1633"> <thead> <tr> <th>Pin #</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Input +</td> </tr> <tr> <td>2</td> <td>Input -</td> </tr> <tr> <td>3</td> <td>Output -</td> </tr> <tr> <td>4</td> <td>Output +</td> </tr> </tbody> </table> <p>A mating plug assembly, P/N: <b>AX070117</b>, is available and is equivalent to the TE Deutsch P/Ns: DTP06-4S, WP4S and four contact sockets 0462-203-12141.</p> <p>Alternatively, a mating wire harness is available as P/N: <b>AX070103</b>. It has the following wire colours and pin out. Pin# 1 Red Batt+ Pin# 2 Black Batt- Pin# 3 White/Black Output- Pin# 4 White/Red Output+</p>	Pin #	Description	1	Input +	2	Input -	3	Output -	4	Output +
Pin #	Description										
1	Input +										
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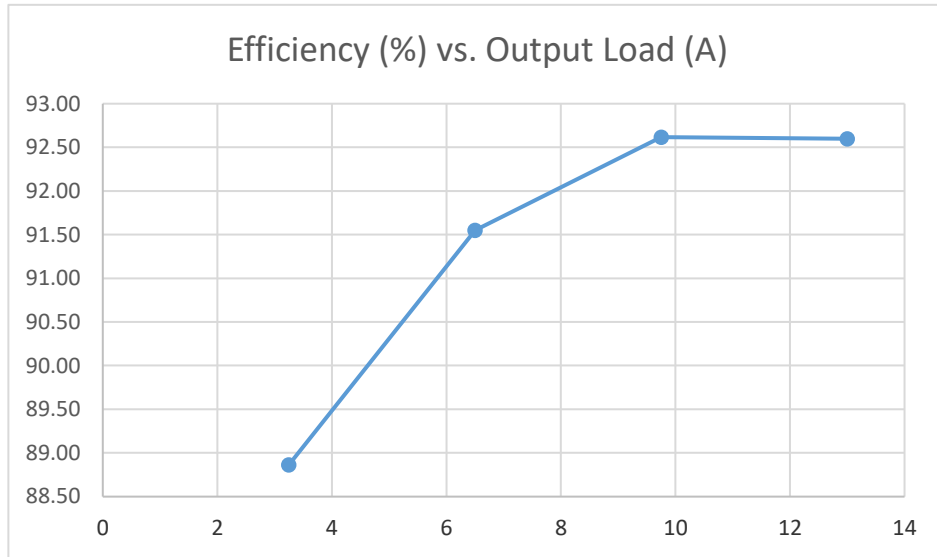


Figure 1.0 - Efficiency vs. Output Current

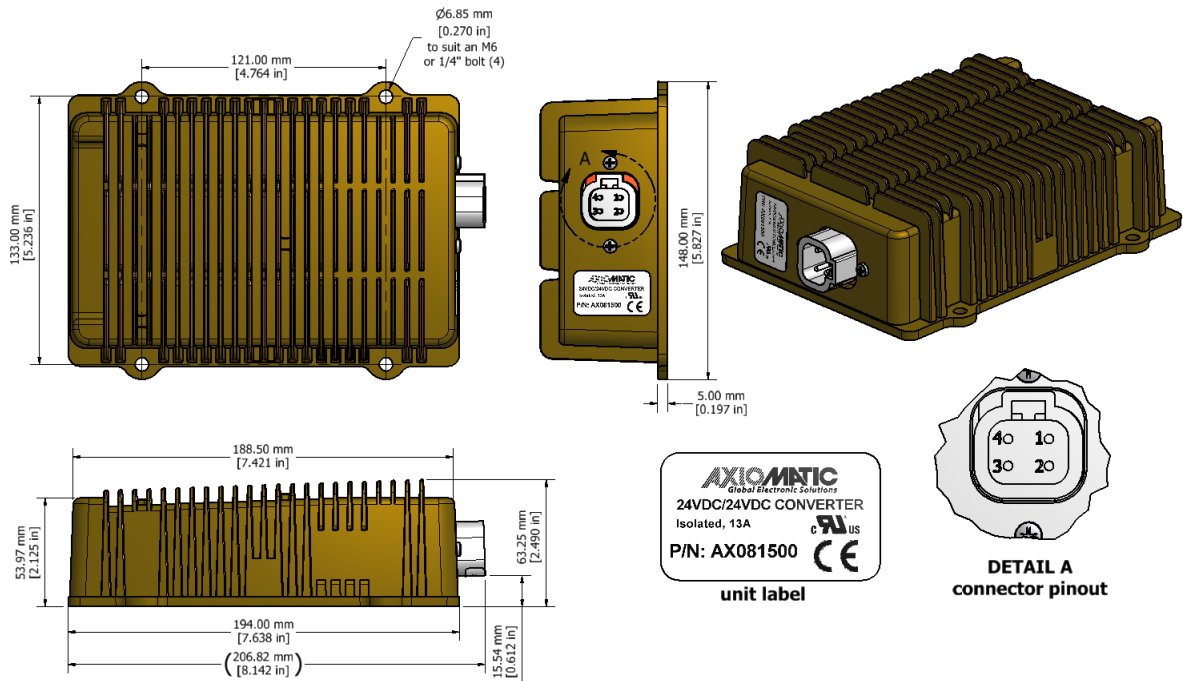
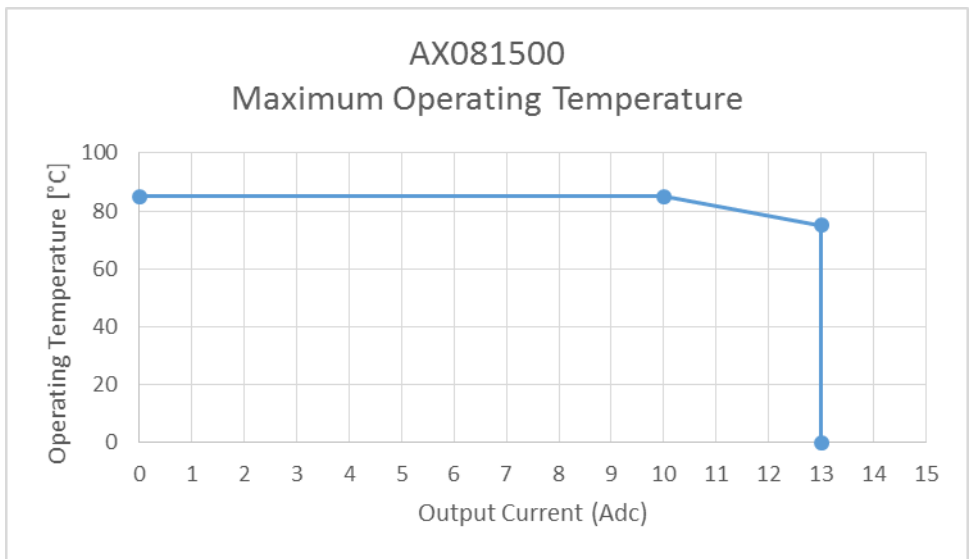


Figure 2.0 – Dimensional Drawing



*Figure 3.0 – Output Current at Various Operating Temperatures*

Note: All specifications are typical at nominal input voltage and 25 degrees C unless otherwise specified.

Form: TDAX081500-06/21/23