

Isolated 24Vdc/12Vdc Converter

10-36Vdc Input
12Vdc, 300W Output
P/N: AX081590

Features:

- 24Vdc/12Vdc, 300 Watts
- Isolated
- Operates from 10Vdc-36Vdc
- Typical efficiency of 90%
- Input inrush current limit
- Thermal protection for over temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- -40 to 50 °C (-40 to 122 °F) operating temperature
- IP67
- 1 Deutsch IPD DT13-4P connector
- Compact: 8.50 x 5.125 x 2.50 inches (215.90 x 130.18 x 63.50 mm)
- EMI/EMC compliant
- CE mark
- Suitable for engine cranking and load dump
- Can be used in a current sharing configuration
- Redundancy for parallel application



Applications: The DC/DC converter is suitable for application on charging/cranking battery based systems.

- ❖ Off-highway Equipment
- ❖ Power generator set control systems
- ❖ Oilfield equipment
- ❖ Telecom

Ordering Part Numbers:

24V/12V, 300W, Isolated DC/DC Converter P/N: **AX081590**

Accessories:

Mating 10 AWG Wire Harness, 2 m: **AX070115**

or Mating Plug Kit: **AX070117**

To purchase the DC/DC Converter and mating wire harness as a KIT (AX081590 converter, AX070103 wire harness), the ordering P/N is **AX081590K**.

Technical Specifications:

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

Input Specifications		Output Specifications	
Power Source	24 Vdc nominal	Nameplate Rating (Output Power)	300 VA nominal
Operating Voltage Range*	10 to 36 Vdc provides output regulated to 2% @ 25 A load	Output Current (DC)	25 A continuous
Maximum Input Current	33ADC @ 10Vdc	Output Voltage	12 Vdc \pm 2%
Engine Cranking & Load Dump	Designed to meet engine cranking and load dump conditions	Output Voltage Ripple	$V_{O(RIPPLE)} \leq 100$ mVpp
Reverse Voltage Protection	Provided	Turn-on time (at full load)	500 ms typical
Under-voltage Shutdown	8 Vdc typical	Stability	Stable at all loads (no minimum load requirement)
Over-voltage Shutdown	38Vdc typical	Transient Response	700 mV/1 ms (25%-75% Load)
		Short Circuit Current	Protection provided Self-recovery 35A current limit

General Specifications

EMI and Environmental Compliance	CE mark for the EMC Directive										
Efficiency	90%										
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 connector Refer to the dimensional drawing, Figure 4.0.										
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; 50 g										
Weight	4.20 lb. (1.9 kg) (Preliminary)										
Temperature Rating	Operating: -40 to 50°C (-40 to 122°F) Storage: -50 to 90°C (-58 to 194°F) <i>When the unit operates below 18V and at maximum load for long periods of time (> 30 seconds), the maximum operating temperature is 75°C. Refer to Figure 3.0.</i>										
Electrical Pinout	<p>Connector: 1 Deutsch IPD DTP15-4P</p> <table border="1" data-bbox="805 1304 1123 1440"> <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: AX070117, is available and is comprised of Deutsch P/N: DTP06-4S, WP4S and four contact sockets 0462-203-12141.</p> <p>Alternatively, a mating wire harness is available as P/N: AX070115, Wire Harness (DTP06-4S Assembly + 2m 10AWG unterminated wires). It has the following wire colours and pin out.</p> <p>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 +										
2	Input -										
3	Output -										
4	Output +										

<p>Installation</p>	<p>Set up</p> <ol style="list-style-type: none"> 1. A maximum 40A fuse is recommended in series with the 24V battery. 2. Use four ¼-20 1 inch or M6 bolts screws to mount the converter. 3. Ground the unit to chassis ground by attaching to the casing a ground strap. 4. Snap the plug connector into the mating receptacle mounted on the converter. 5. Connect the wiring to power and output terminal blocks (provided by customer). 6. Once the load is ready to receive power, turn on the power source to the converter.
---------------------	--

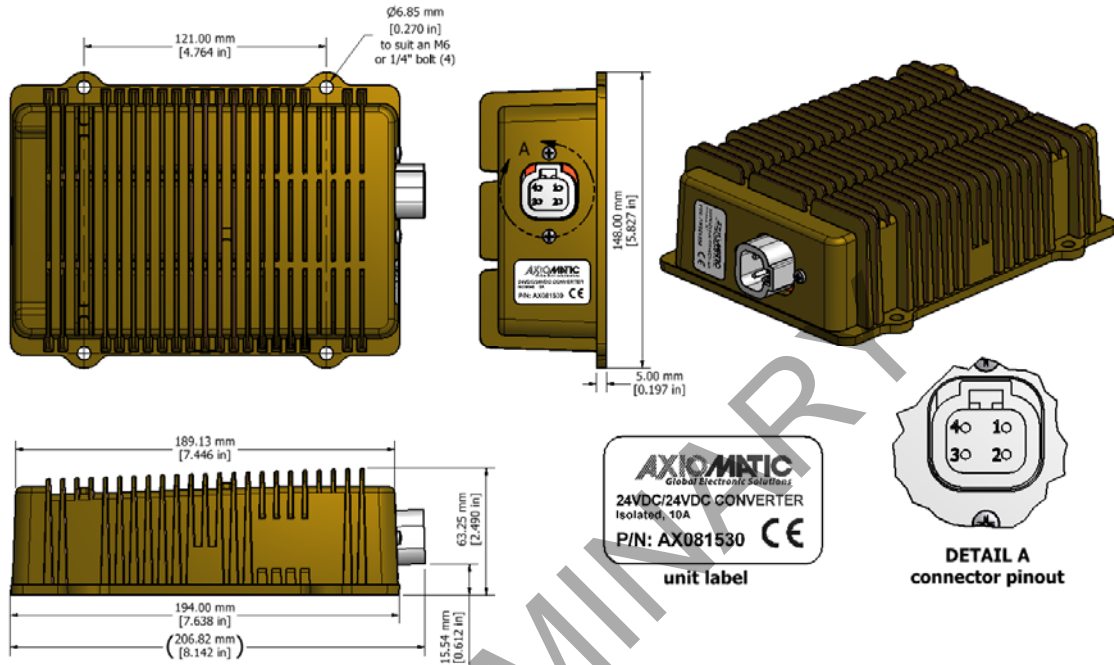


Figure 4. 0. – Dimensional Drawing – Dimensions for AX081590 as the same as shown above.

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 www.axiomatic.com/service.html.

Form: TDAX081590-10/30/20