TECHNICAL DATASHEET #TDAX081500

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 / UKCA marking
- 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**
Mating Plug Kit: **AX070117** *(For details, refer to the General Specifications below)*

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

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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/.

Note: 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)	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 3.0..
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 2.0..
Electrical Pinout	1 Connector (TE Deutsch P/N: DTP13-4P): **Pin #** / **Description** 1 – Input + 2 – Input - 3 – Output - 4 – Output + A mating plug assembly, P/N: **AX070117**, is available and is TE Deutsch P/Ns: DTP06-4S, WP4S and four contact sockets 0462-203-12141. Alternatively, a mating wire harness is available as P/N: **AX070103.** 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+

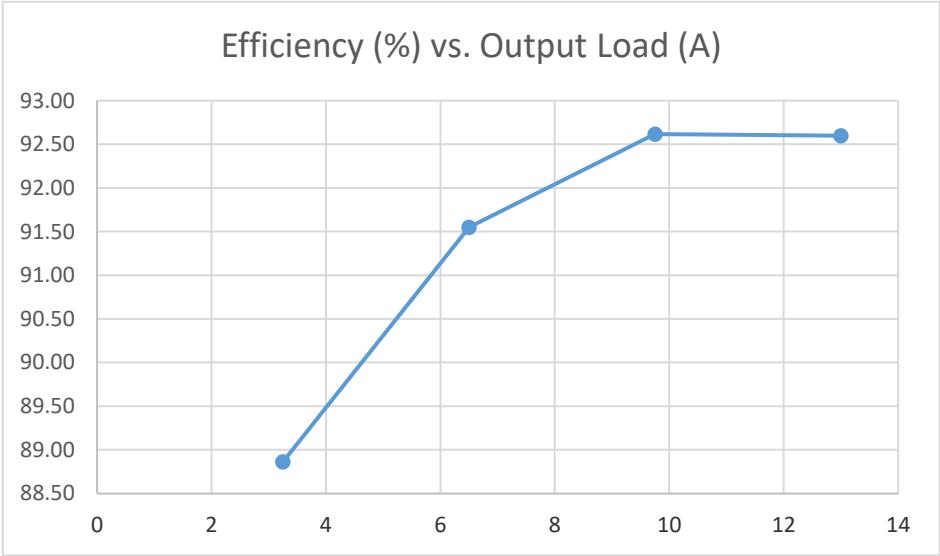

Figure 1.0 - Efficiency vs. Output Current

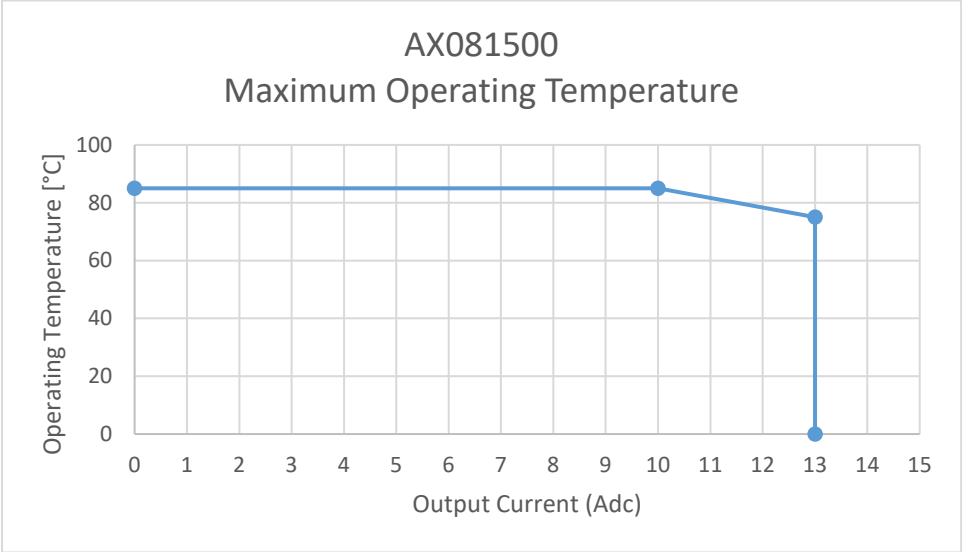

Figure 2.0 – Output Current at Various Operating Temperatures

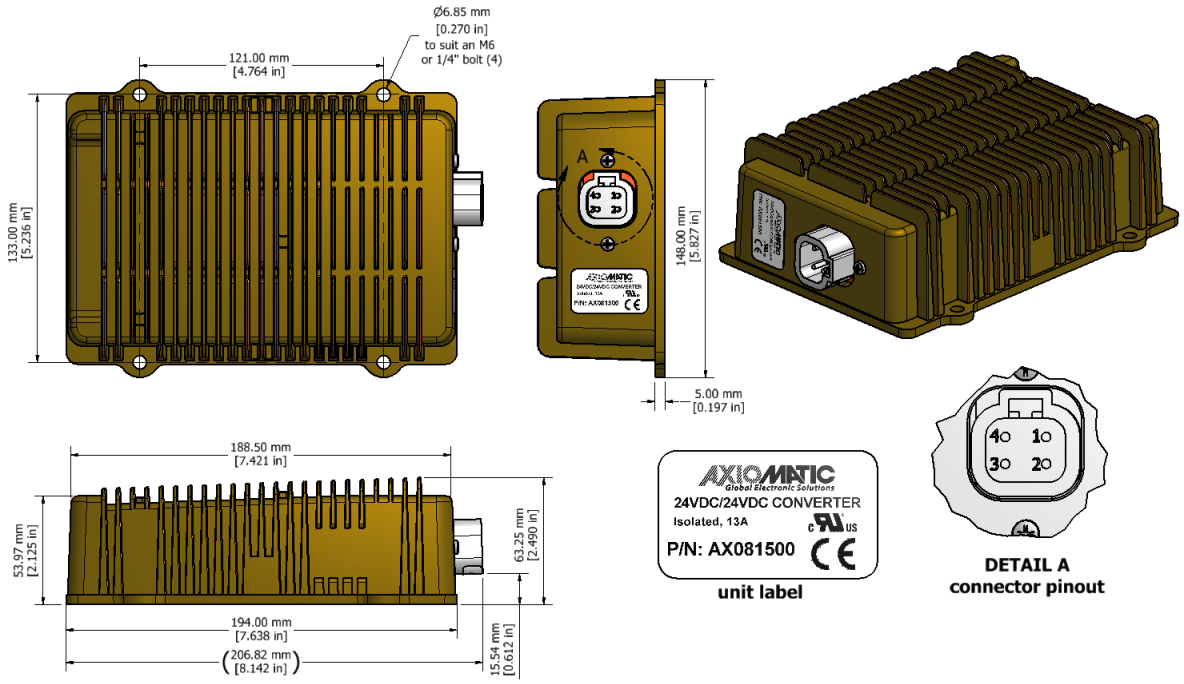

Figure 3.0 - Dimensional Drawing AX081500

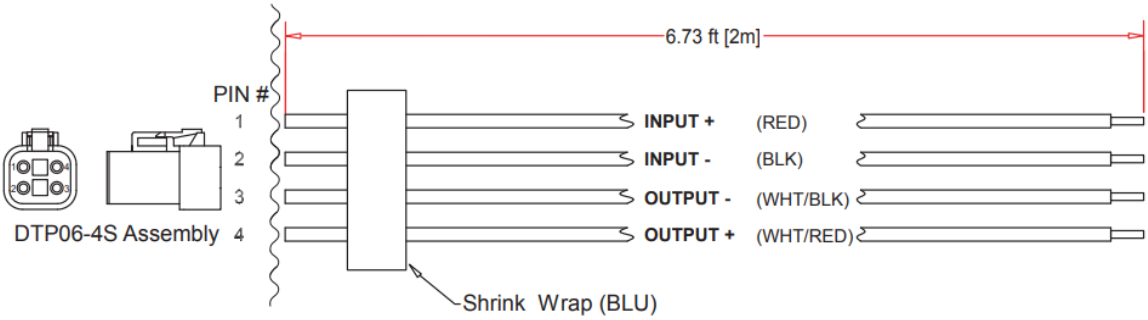

Figure 4.0 - Wire Harness AX070103

Form: TDAX081500-08/27/2026

OUR PRODUCTS

AC/DC Power Supplies
Actuator Controls/Interfaces
Automotive Ethernet Switches
Battery Chargers
CAN Controls, Routers, Repeaters
CAN/WiFi
CAN/Bluetooth (Classic, BLE)
CAN bus Routers
CANopen I/O Modules
Current/Voltage/PWM Converters
DC/DC Power Converters
Engine Temperature Scanners
Ethernet/CAN Converters, Gateways
Ethernet Switches
Fan Drive Controllers
Gateways, CAN/Modbus, RS-232
Gyroscopes, Inclinometers
Hydraulic Valve Controllers
Inclinometers, Triaxial
I/O Controls
LVDT Signal Converters
Machine Controls
Media Converters
Modbus, RS-422, RS-485 Controls
Motor Controls, Inverters
Power Supplies, DC/DC, AC/DC
PWM Signal Converters/Isolators
Resolver Signal Conditioners
SAE J1939 I/O Modules
Service Tools
Signal Conditioners, Converters
Strain Gauge CAN Controls
Surge Suppressors

OUR COMPANY

Axiomatic provides electronic machine control components to the off-highway, commercial vehicle, electric vehicle, power generator set, material handling, renewable energy and industrial OEM markets. ***We innovate with engineered and off-the-shelf machine controls that add value for our customers.***

QUALITY DESIGN AND MANUFACTURING

We have an ISO9001 registered R&D, electronics design and manufacturing facility in Canada.

Sales offices are in Canada, USA, Australia and Finland.

COMPLIANCE

Product compliance details can be found in the product literature and/or on axiomatic.com. Any inquiries should be sent to sales@axiomatic.com.

SAFE USE

All products should be serviced by Axiomatic. Do not open the product and perform the service yourself.

This product can expose you to chemicals which are known in the State of California, USA to cause cancer and reproductive harm. For more information go to www.P65Warnings.ca.gov.

TECHNICAL SUPPORT

Contact technical support by emailing support@axiomatic.com.

WARRANTY, APPLICATION APPROVALS/LIMITATIONS

Axiomatic Technologies Corporation reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. 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 at https://www.axiomatic.com/service/.

SERVICE

All products to be returned to Axiomatic require a Return Materials Authorization Number (RMA#) from rma@axiomatic.com. Please provide the following information when requesting an RMA number:

- Serial number, part number, Runtime hours, description of problem
- Wiring set up diagram, application and other comments as needed

DISPOSAL

Axiomatic products are electronic waste. Please follow your local environmental waste and recycling laws, regulations and policies for safe disposal or recycling of electronic waste.

CONTACTS

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