

TECHNICAL DATASHEET #TDAX080203

## 12Vdc to 24Vdc Converter

192 Watts, Isolated

P/N: AX080203K

- 12Vdc to 24Vdc Converter
- Input operating voltage range from 10 to 18Vdc
- Conditioned output of 24Vdc  $\pm$  0.5%, 192 Watts
- No minimum load requirement
- Switch mode operation delivers high efficiency
- Reverse polarity protection
- Output short circuit protection
- Under and over input voltage protection
- Input and output isolation
- Robust, rugged and highly reliable
- Compact size for ease of mounting in confined spaces
- Connects via a 4-pin plug
- Suitable for moist, high shock and vibration environments
- Operational from -40 to +85°C
- IP65 protection



### Ordering Part Numbers:

Converter with Wire Harness KIT:

**AX080203K** (KIT AX080203 Converter, AX070115 Wire Harness)

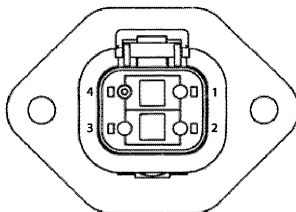
Items can also be ordered individually.

Converter: **AX080203**

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

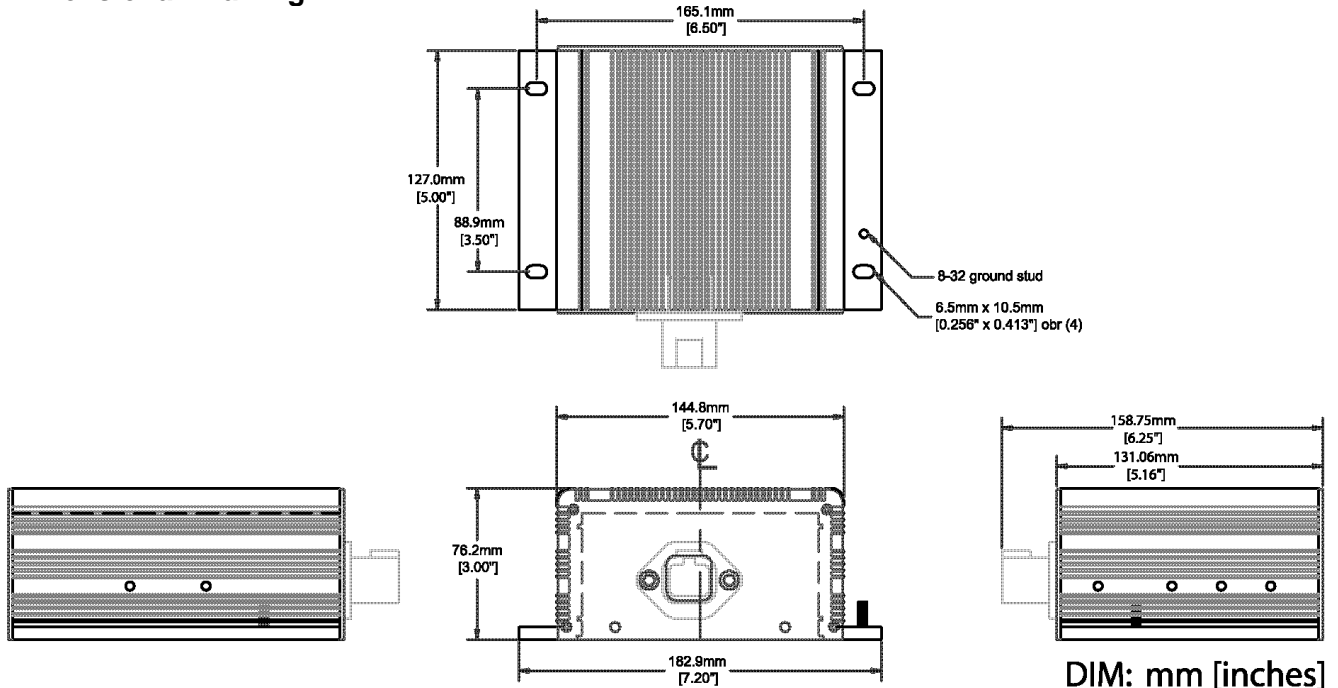
## Technical Specifications:

Input Specifications		Output Specifications	
Power Source - nominal	12 Vdc	Nameplate Rating (Output Power)	192 Watts nominal
Operating Voltage Range	10 - 18Vdc continuous	Output Current	8A continuous (nominal)
Maximum Input Current	25 Adc	Output Voltage	24Vdc $\pm$ 0.5%
Reverse Voltage Protection	Provided	Output Voltage Ripple	V(RIPPLE) $\leq$ 250 mVpp
Over-voltage Shutdown	24Vdc	Turn-on Time (with full load)	250 msec max/5% of final value
Under-voltage Shutdown	9.75Vdc	Turn-on Overshoot	None
		Stability	Stable at all loads (no minimum load requirement)
		Transient Response	200mV/1.5ms (No Load to Full Load) 100mV/1ms (50% - 100% Load)

General Specifications	
Isolation	Isolated from input, output and chassis ground 500V between primary and secondary
Efficiency	86% typical
Quiescent Current	100 mA @ 12Vdc
Operating Temperature	-40 to 85°C (-40 to 185°F)
Storage Temperature	-50 to 85°C (-58 to 185°F)
Humidity	0-99% relative humidity (non-condensing)
Protection rating	IP65
Weight	5.84 lbs. (2.65 kg)
Electrical Connections	<div style="display: flex; align-items: flex-start;"> <div style="flex: 1;">  </div> <div style="flex: 2; padding-left: 20px;"> <p><u>Connector Pin out:</u>  Pin 1: Input+  Pin 2: Input-  Pin 3: Output-  Pin 4: Output+</p> <p>4 pin Deutsch connector  P/N: DTP04-4P-L012</p> </div> </div> <p><b>A mating plug assembly, P/N AX070115</b> is available and is comprised of Deutsch P/N: DTP06-4S, WP4S and four contact sockets 0462-203-12141 with 2m (6.5 ft.) of 10 AWG unterminated lead wires.</p> <p><b>P/N: AX070115</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>

Grounding	<p>Protective Earth (PE) must be connected to the grounding stud to reduce the risk of electric shock. The conductor providing the connection should have a ring lug and wire larger than or equal to 4 mm<sup>2</sup> (12 AWG). The ring lug should be placed between the nut and a star washer. (To secure the ground strap, use an 8-32 “K-LOK” locknut, stainless steel, 3/8” O.D.)</p> <p>All chassis grounding should go to a single ground point designated for the machine and all related equipment.</p> <p>The ground strap that provides a low impedance path for EMI should be a ½ inch wide, flat, hollow braid, no more than 12 inches long with a suitable sized ring lug for the module’s grounding lug. It may be used in place of the PE grounding conductor and would then perform both PE and EMI grounding functions.</p>
Mounting	<p>Mounting ledges include holes sized for ¼ inch or M6 bolts. The bolt length will be determined by the end-user’s mounting plate thickness. Typically ¾ inch (20 mm) is adequate.</p> <p>If the module is mounted without an enclosure, it should be mounted vertically with connectors facing left and right to reduce likelihood of moisture entry.</p> <p>All field wiring should be suitable for the operating temperature range of the module.</p> <p>Install the unit with appropriate space available for servicing and for adequate wire harness access (6 inches or 15 cm) and strain relief (12 inches or 30 cm).</p>
Dimensions	<p>Aluminum enclosure with encapsulation  7.20 x 6.25 x 3.00 inches  182.90 x 158.75 x 76.20 mm  (W x L x H excluding mating connectors)</p>

### Dimensional Drawing



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](http://www.axiomatic.com/service.html).

Form: TDAX080203-04/09/14 ©2014 Axiomatic Technologies Corporation