

Isolated 15/60V to 24Vdc Converter

24V, 36V or 48Vdc Nominal Input

Enable Input

24Vdc Output, 350W

P/N: AX080300

Features:

- 24V, 36V or 48Vdc nominal input
- Wide input voltage range (15V to 60V with some derating of output regulation for input less than 18V)
- 24Vdc, 350 Watts output
- Isolated
- Enable signal
- 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 with some derating for different input voltage
- 1 8-pin connector
- EMI/EMC compliant
- Suitable for high vibration, high shock environments
- IP67 protection



Applications:

- Power conversion from wide-ranging input to stable 24V, 36V or 48Vdc
- Industrial Machines for warehouses, factories
- Off-highway, Lift Equipment

Ordering Part Numbers:

(15-60)/24V, 350W, Isolated DC/DC Converter

- With 5V-24Vdc Enable, Isolated P/N: **AX080300**

Accessories:

AX070148 – 2 m mating wire harness

Technical Specifications:

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

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	24Vdc or 36Vdc or 48Vdc nominal	Nameplate Rating (Output Power)	350 VA nominal
Operating Voltage Range	15V to 60Vdc See Figure 1.0 for input less than 18V.	Output Current (DC)	15 A continuous
Maximum Input Current	9ADC @ 48Vdc 11ADC @ 36Vdc 16ADC @ 24Vdc 22ADC @ 18Vdc	Output Voltage	24 Vdc \pm 3%
Reverse Voltage Protection	Provided	Output Voltage Ripple	$V_{O(RIPPLE)} \leq 100$ mVpp
Under-voltage Shutdown	Turn on 17Vdc typical Turn off 13Vdc typical	Turn-on time (at full load)	700 ms typical
Over-voltage Shutdown	Turn off 65Vdc typical Recover 61Vdc typical	Stability	Stable at all loads (no minimum load requirement)
Enable Input	Isolated to primary and secondary Working Range: 5V to 24V, High to Turn On the Unit. Current requirement is 2 mA typically.	Transient Response	250 mV/1 ms (25%-75% Load)
		Short Circuit Current	Protection provided Self-recovery 18A current limit

General Specifications

EMI and Environmental Compliance	Designed to meet the requirements of SAE J1455 and SAE J1113 Designed to meet EN50155
Efficiency	93%
Isolation	700 Vdc minimum, All To Chasis 700 Vdc minimum, Primary To Secondary
Enclosure	Cast Aluminum housing, integral gasket and connector 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) 7.85 Grms peak (Random)
Shock	MIL-STD-202G, Test 213B 50g
Weight	4.15 lb. (1.88 kg)
Temperature Rating	Operating: -40 to 85°C (-40 to 185°F) Refer to Figure 2.0 for temperature derating. Storage: -50 to 90°C (-58 to 194°F)

Electrical Pinout	<p>1 8-pin Connector (Equivalent TE Deutsch P/N: DT13-08PA)</p> <table border="1" data-bbox="818 233 1114 499"> <thead> <tr> <th>Pin #</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output +</td> </tr> <tr> <td>2</td> <td>Enable +</td> </tr> <tr> <td>3</td> <td>Input +</td> </tr> <tr> <td>4</td> <td>Input +</td> </tr> <tr> <td>5</td> <td>Input -</td> </tr> <tr> <td>6</td> <td>Input -</td> </tr> <tr> <td>7</td> <td>Enable -</td> </tr> <tr> <td>8</td> <td>Output -</td> </tr> </tbody> </table>	Pin #	Description	1	Output +	2	Enable +	3	Input +	4	Input +	5	Input -	6	Input -	7	Enable -	8	Output -
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3	Input +																		
4	Input +																		
5	Input -																		
6	Input -																		
7	Enable -																		
8	Output -																		
Mating Wire Harness	<p>A mating wire harness is available as P/N: AX070148. It is equivalent to the TE Deutsch P/Ns: DT06-08SA plug, wedgelock W8S, 8 0462-209-16141 solid socket contacts, and has 8 2 m wires with unterminated leads.</p> <p>It has the following 14AWG wire colours and pin out.</p> <p>Pin# 1 White/Red Output+ Pin# 2 Blue Enable + Pin# 3 & 4 Red Input + Pin# 5 & 6 Black Input - Pin# 7 Green Enable - Pin# 8 White/Black Output -</p>																		

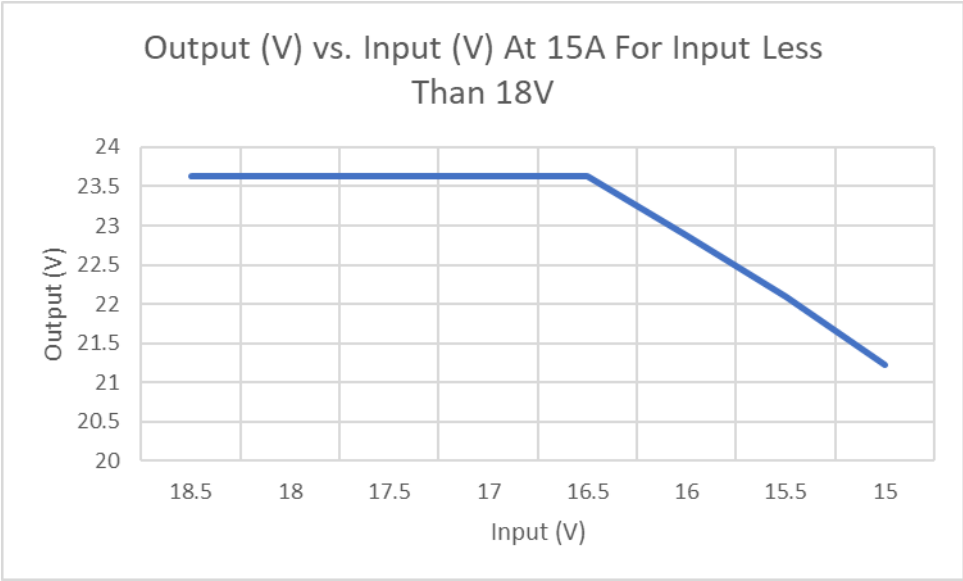


Figure 1.0 – Output Voltage vs. Input Voltage at 15A Load and Input less than 18V

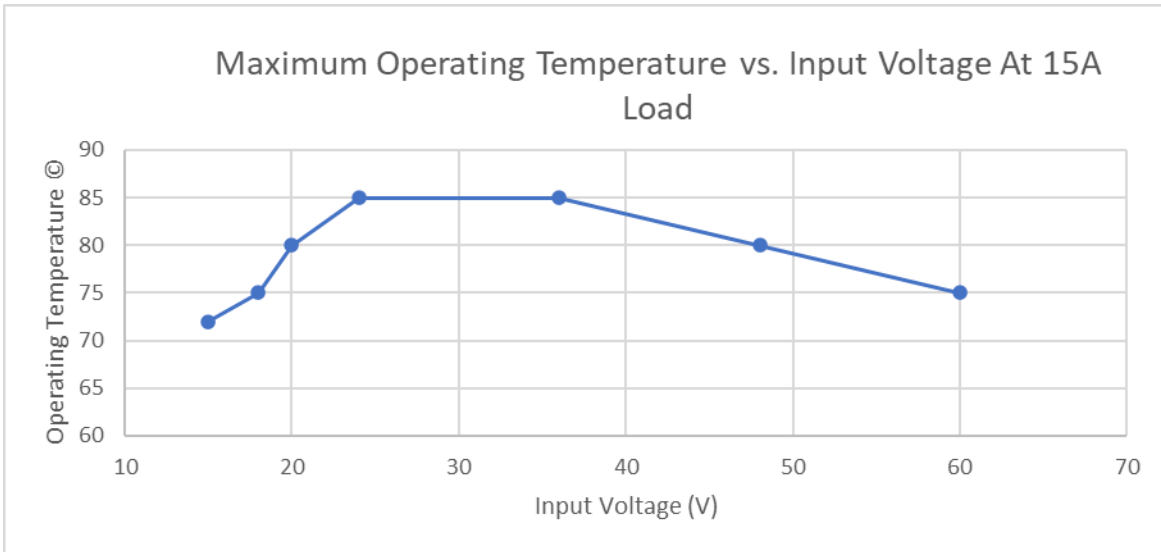


Figure 2.0 – Operating Temperature vs. Input Voltage at 15A Load and Different Input Voltage

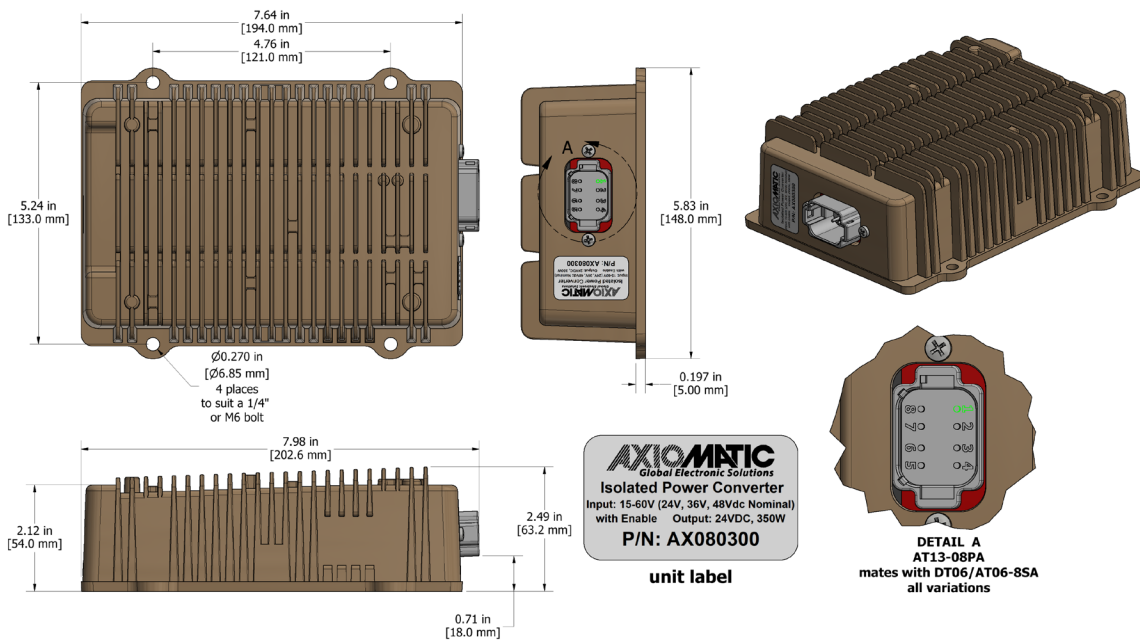


Figure 3.0 – Dimensional Drawing

Form: TDAX080300-06/22/23