

Isolated 15-60V to 24V DC-DC Converter

24, 36, or 48 VDC Nominal Input

24 VDC Output, 350 W

P/N: AX080302, AX080302K

Features

- 24, 36, or 48 VDC nominal input
- Wide input voltage range (15 to 60 VDC with some derating of output regulation for input less than 18 VDC)
- 24 VDC, 350 W output
- Isolated
- Typical efficiency of 93 %
- Input inrush current limit
- Reverse battery and over and under-voltage protection
- Short circuit and overcurrent protection
- Thermal protection for over temperature
- -40 to 85 °C (-40 to 185 °F) operating temperature with some derating for different input voltage
- 1x 8-pin TE Deutsch connector
- Designed for EMI/EMC compliance
- Suitable for high vibration, high shock environments
- IP67 protection



Applications

- Power conversion from wide-ranging input to stable 24, 36, or 48 VDC
- Industrial machines for warehouses and factories
- Off-highway and lift equipment

Ordering Part Numbers

(15-60)/24V, 350W, DC/DC Converter, Isolated – P/N: **AX080302**

The AX080302 Converter can be purchased together with the mating wire harness AX070174 under P/N **AX080302K**.

Model with 5-24VDC Enable Signal – P/N: **AX080300**

Accessories:

Mating Wire Harness, 2 m – P/N: **AX070174** (For details, refer to the General Specifications below.)

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/>.

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

Input Specifications

Operating Voltage	24, 36, or 48 VDC nominal 15 to 60 VDC See Figure 1 for input less than 18 VDC.	
Maximum Current	Voltage (V)	Maximum Current (A)
	18	22
	24	16
	36	11
48	9	
Reverse Voltage Protection	Provided	
Undervoltage Shutdown	Turns on 17 VDC typical Turns off 13 VDC typical	
Overvoltage Shutdown	Turns off 65 VDC typical Recovers 61 VDC typical	

Output Specifications

Nameplate Rating (Output Power)	350 VA nominal
Voltage	24 VDC \pm 3 %
Current	15 A continuous
Voltage Ripple	$V_{O(RIPPLE)} \leq 0.1$ Vpp
Turn-On Time	700 ms typical (at full load)
Stability	Stable at all loads (no minimum load requirement)
Transient Response	250 mV with recovery time of 1 ms (25 to 75 % load)
Short Circuit Current	Protection provided Self-recovery 18 A current limit

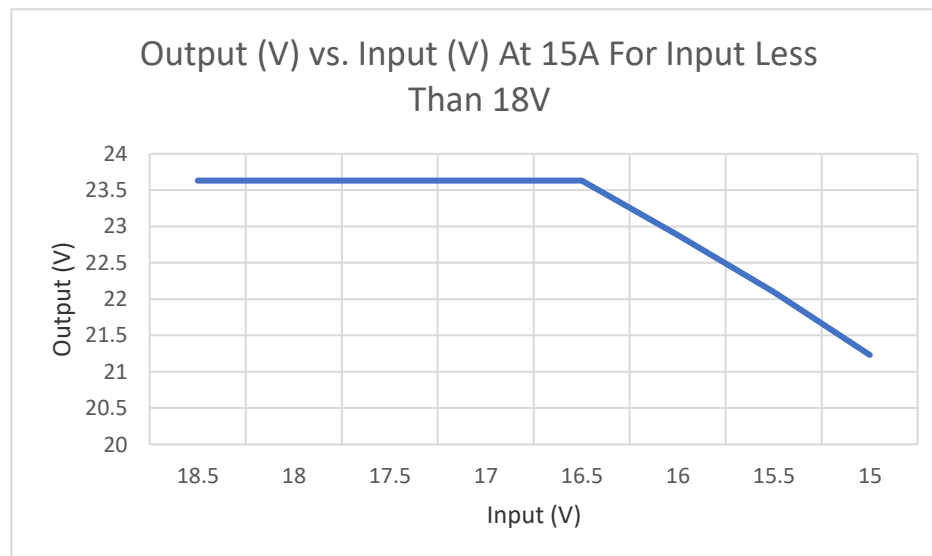


Figure 1 – Output Voltage vs. Input Voltage at 15 A load and input less than 18 V

General Specifications

Efficiency	93 %																											
Isolation	700 VDC minimum, all to chassis 700 VDC minimum, primary to secondary																											
Compliance	Designed to meet the requirements of SAE J1455 and SAE J1113 Designed to meet EN50155																											
Operating Temperature	-40 to 85 °C (-40 to 185 °F) Refer to Figure 2 for temperature derating.																											
Storage Temperature	-50 to 90 °C (-58 to 194 °F)																											
Vibration	MIL-STD-202H, method 204, test condition C 10 g peak (Sine) MILSTD-202H, method 214A, test condition I/B 7.85 Grms (Random)																											
Shock	MIL-STD-202H, method 213B, test condition A 50g peak																											
Protection	IP67																											
Weight	4.06 lb. (1.84 kg)																											
Enclosure	Cast Aluminum housing, integral gasket and connector Refer to the dimensional drawing in Figure 3.																											
Electrical Pinout	1x 8-pin connector (TE Deutsch P/N: DT13-08PA) <table border="1"> <thead> <tr> <th>Pin</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Output +</td> </tr> <tr> <td>2</td> <td>Not Used</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>Not Used</td> </tr> <tr> <td>8</td> <td>Output -</td> </tr> </tbody> </table>	Pin	Description	1	Output +	2	Not Used	3	Input +	4	Input +	5	Input -	6	Input -	7	Not Used	8	Output -									
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Mating Wire Harness	A mating wire harness is available as P/N: AX070174 (comprises TE Deutsch P/Ns: DT06-08SA plug, wedgelock W8S, 6x solid socket contacts 0462-209-16141, 2x sealing plugs, and 8x 2 m 14 AWG wires with unterminated leads). It has the following wire colours and pin out. <table border="1"> <thead> <tr> <th>Pin</th> <th>Wire Color</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>White / Red</td> <td>Output +</td> </tr> <tr> <td>2</td> <td>Not Used</td> <td>Not Used</td> </tr> <tr> <td>3</td> <td>Red</td> <td>Input +</td> </tr> <tr> <td>4</td> <td>Red</td> <td>Input +</td> </tr> <tr> <td>5</td> <td>Black</td> <td>Input -</td> </tr> <tr> <td>6</td> <td>Black</td> <td>Input -</td> </tr> <tr> <td>7</td> <td>Not Used</td> <td>Not Used</td> </tr> <tr> <td>8</td> <td>White / Black</td> <td>Output -</td> </tr> </tbody> </table>	Pin	Wire Color	Description	1	White / Red	Output +	2	Not Used	Not Used	3	Red	Input +	4	Red	Input +	5	Black	Input -	6	Black	Input -	7	Not Used	Not Used	8	White / Black	Output -
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Installation	<ol style="list-style-type: none"> 1. A maximum 25 A fuse is recommended in series with the 24 V battery. 2. Use four ¼-20 1 in. 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. 																											

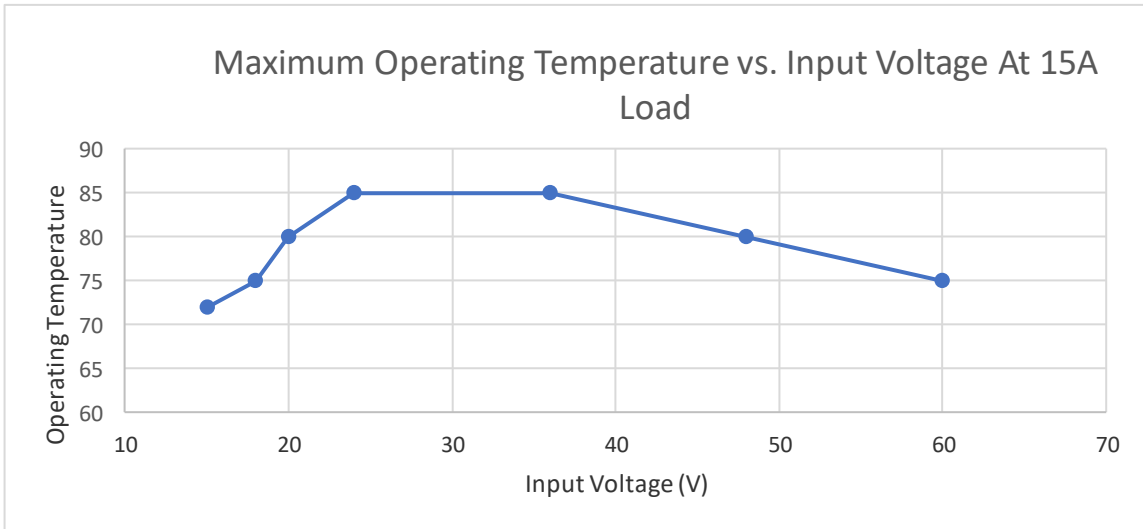


Figure 2 – Operating Temperature vs. Input Voltage at 15 A load and different input voltage

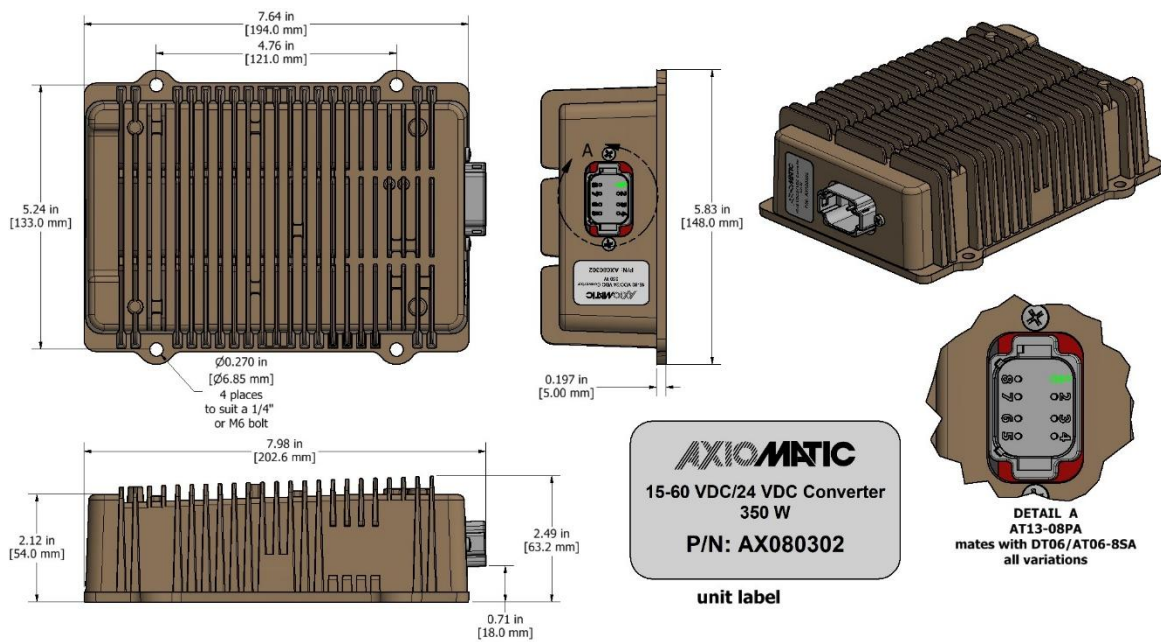


Figure 3 – AX080302 Dimensional Drawing

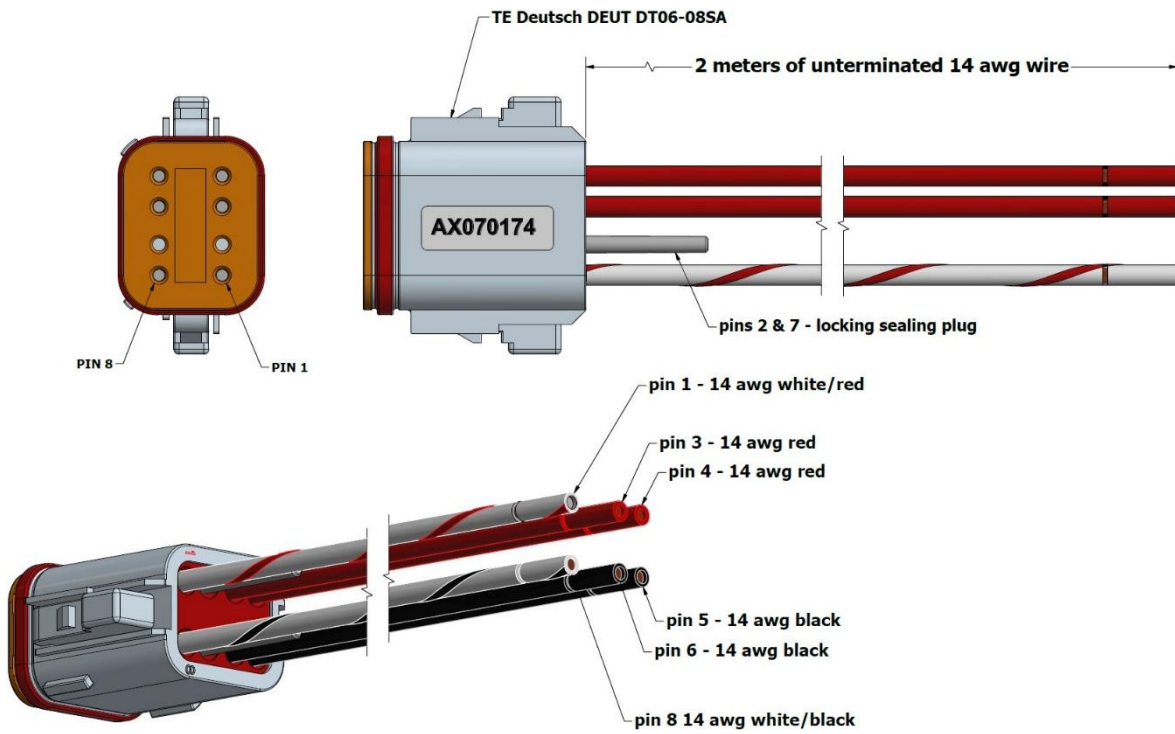


Figure 4 – AX070174 Wire Harness Drawing

Form: TDAX080302-03/23/2026