

Isolated 12VDC / 24VDC, 7A Converter

12 Vdc Input
24 Vdc, 170 W Output
P/N: AX081542

Features

- 12Vdc/24Vdc, 170 Watts
- Operates from 6 Vdc to 17 Vdc
- Isolated
- Can connect to -12 Vdc input
- Typical efficiency of 90%
- Input inrush current limit
- Reverse battery protection
- Over & under-voltage protection
- Short circuit and overcurrent protection
- Thermal protection for over temperature
- -40 to 85°C (-40 to 185°F) operating temperature range
- IP67 protection rating
- EMI / EMC compliant
- CE / UKCA marking
- 1 TE Deutsch DT13-4P connector
- Compact: 8.142 in x 5.827 in x 2.490 in (206.62 mm x 148.00 mm x 63.25 mm)
- Suitable for engine cranking and load dump
- Can be used in a current sharing configuration
- Redundancy for parallel application



Applications

- Charging/cranking battery based systems
- Off-highway equipment
- Power generator set control systems
- Oilfield equipment
- Telecom

Ordering Part Numbers

Isolated 12VDC/24VDC, 7A Converter, P/N: **AX081542**

Accessories:

Mating Plug KIT, P/N: **AX070117**

Mating Wire Harness, 2m, P/N: **AX070115**

To purchase the DC/DC converter and the mating wire harness as a KIT, the ordering P/N is **AX081542K**.

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 Approvals/Limitations and 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.

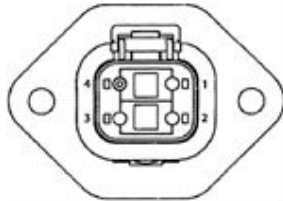
Input

Power Source	12 Vdc nominal
Operating Voltage Range	6 to 17 Vdc provides output Start-up typical: 8.5 V Current derating for input < 7 V (See Figure 1.0)
Maximum Input Current	30 Adc @ 6 Vdc input
Reverse Voltage Protection	Provided
Under-voltage Shutdown	5.5 Vdc typical
Over-voltage Shutdown	18.5 Vdc typical

Output

Nameplate Rating (Output Power)	170 VA nominal
Output Current	7 Adc continuous
Output Voltage	24 Vdc \pm 3%
Output Voltage Ripple	$V_{O(RIPPLE)} \leq 100$ mVpp
Turn-on time (at full load)	900 ms typical
Stability	Stable at all loads (no minimum load requirement)
Transient Response	250mV/2ms (25%-75% Load)
Short Circuit Current	Protection provided Self-recovery 9 A current limit

General Specifications

Approvals	CE / UKCA marking															
Efficiency	90% (See Figure 2.0)															
Isolation	707 Vdc minimum															
Compliance	RoHS															
Weight	4.15 lb. (1.88 kg)															
Operating Temperature	-40 to 85°C (-40 to 185°F)															
Storage Temperature	-50 to 90°C (-58 to 194°F)															
Enclosure	Cast Aluminum enclosure, integral gasket and connector 8.142 in x 5.827 in x 2.490 in (206.62 mm x 148.00 mm x 63.25 mm) L x W x H including integral connectors Refer to the dimensional drawing.															
Protection	IP67															
Vibration	Pending															
Shock	Pending															
Electrical Pinout	<p>4-pin TE Deutsch connector, P/N: DTP13-4P</p> <p>Mating plug kit P/N: AX070117 (includes 1 socket DT06-4S, 1 wedgelock WP4S, and 4 contacts 0462-201-16141)</p> <p>Suitable wire: 10 AWG</p> <table><tr><th>Pin</th><th>Description</th></tr><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></table> 	Pin	Description	1	Input +	2	Input -	3	Output -	4	Output +					
Pin	Description															
1	Input +															
2	Input -															
3	Output -															
4	Output +															
Output Mating Wire Harness	<p>Input harness to mate with connector DTP13-4P, P/N: AX070115 (with 2m (6.5 ft.) of 10 AWG unterminated lead wires.)</p> <p>It has the following wire colors and pin out.</p> <table><tr><th>Pin</th><th>Description</th><th>Color</th></tr><tr><td>1</td><td>Input +</td><td>RED</td></tr><tr><td>2</td><td>Input -</td><td>BLACK</td></tr><tr><td>3</td><td>Output -</td><td>WHITE/BLACK</td></tr><tr><td>4</td><td>Output +</td><td>WHITE/RED</td></tr></table>	Pin	Description	Color	1	Input +	RED	2	Input -	BLACK	3	Output -	WHITE/BLACK	4	Output +	WHITE/RED
Pin	Description	Color														
1	Input +	RED														
2	Input -	BLACK														
3	Output -	WHITE/BLACK														
4	Output +	WHITE/RED														

Installation	<ol style="list-style-type: none"> 1. A 25 A fuse is recommended in series with the input source. 2. Use four 1/4-20 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.
--------------	---

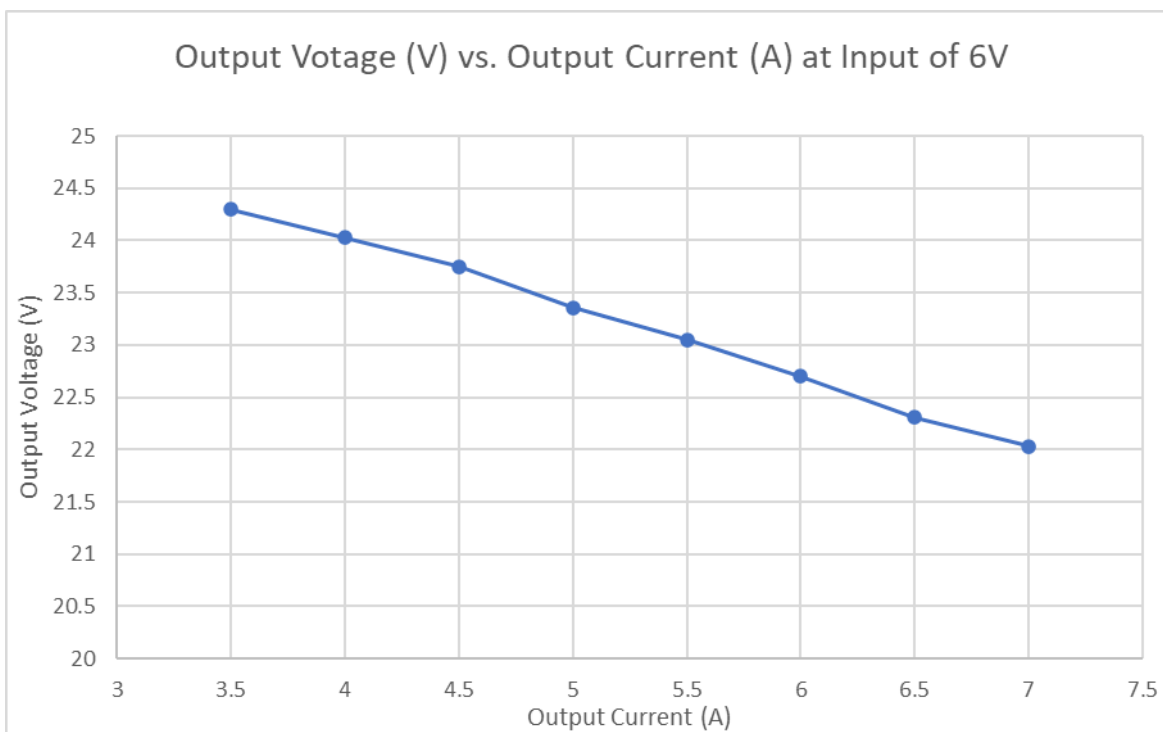


Figure 1.0 Output Voltage vs. Output Current for Input at 6V

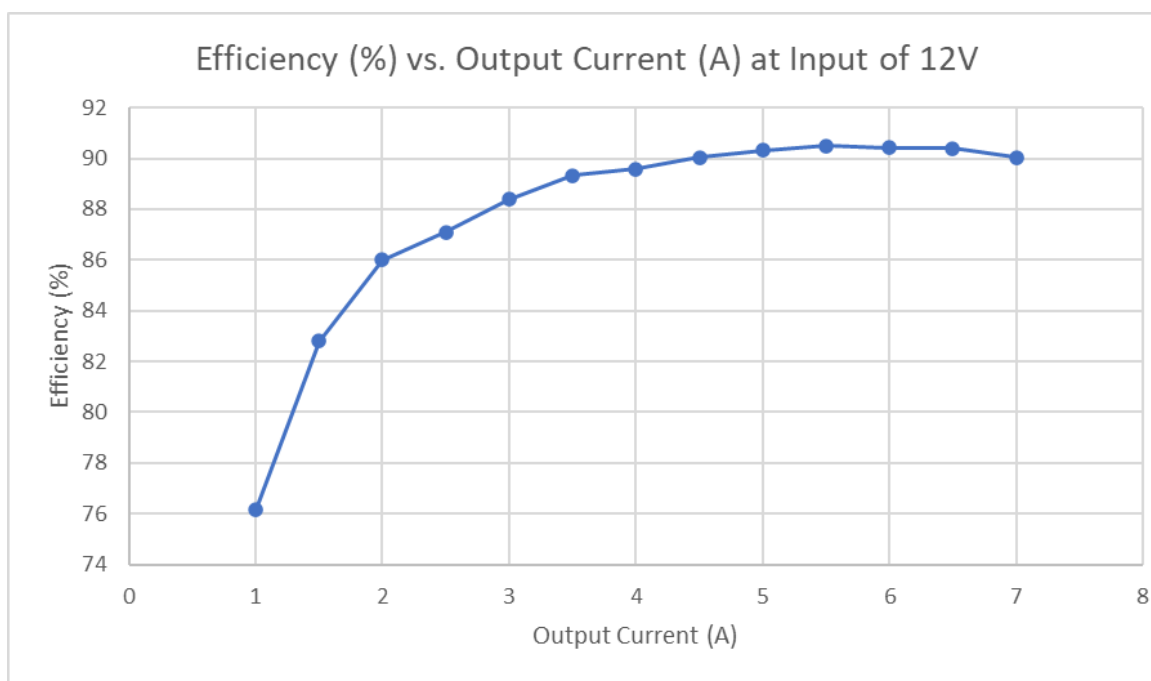
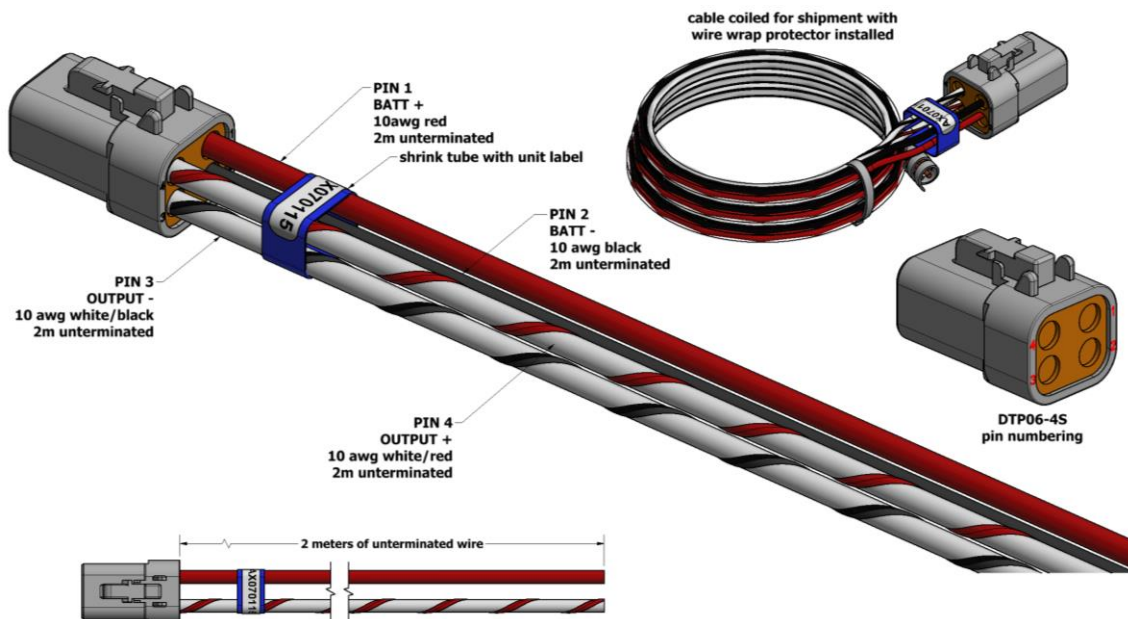
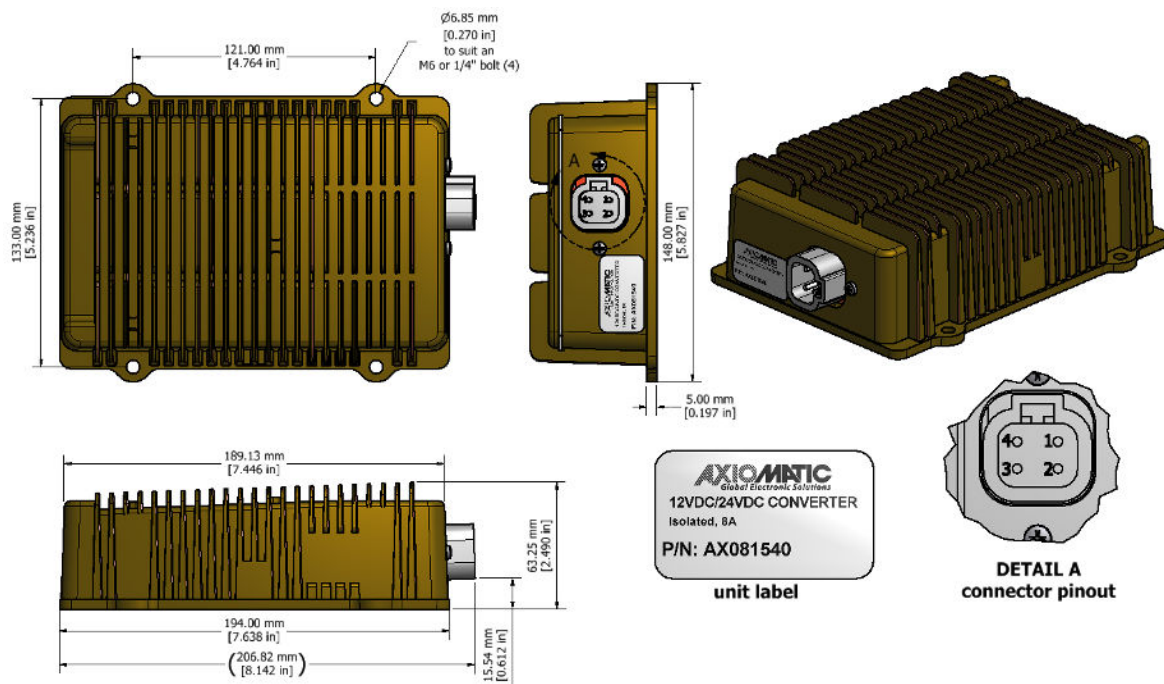


Figure 2.0 Efficiency vs. Output Current



Form: TDAX081542-03/11/2024