

24Vdc/24Vdc, 500W Isolated Converter

13 to 36 Vdc Input
24Vdc, 500W Output

P/N: AX081200

Features

- 24Vdc/24Vdc, 500 Watts
- Operates from 13 Vdc to 36 Vdc
- Isolated
- Typical efficiency of 91%
- Can be used in a current sharing configuration
- Redundancy for parallel application
- Input inrush current limit
- Reverse battery, over-voltage, and under-voltage protection on input
- Short circuit protection on output
- Thermal protection for over temperature
- -40 to 70 °C (-40 to 158 °F)
- IP67 protection rating
- 8-pin TE Deutsch input connector and 4-pin TE Deutsch output connector
- Designed for EMI/EMC compliance



Applications

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

Ordering Part Numbers:

24Vdc/24Vdc, 500W, Isolated DC/DC Converter, P/N: **AX081200**

The converter is also available in a kit under P/N: **AX081200K** (includes AX081200 Converter, AX070539 wire harness, and AX070538 wire harness).

Accessories:

Mating Wire Harness for Input Connector, P/N: **AX070539**

Mating Wire Harness for Output Connector, P/N: **AX070538**

Mating Plug Kit for Input Connector, P/N: **AX070112**

Mating Plug Kit for Output Connector, P/N: **AX070117**

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

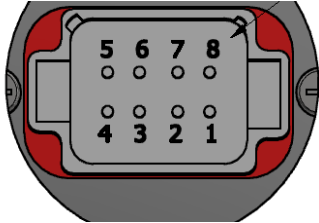

Power Source	24 Vdc nominal
Operating Voltage Range	13 to 36 Vdc provides output regulated to 3% @ 21 A load
Maximum Input Current	43 Adc @ 13 Vdc
Reverse Voltage Protection	Provided
Under-voltage Shutdown	11.5 Vdc typical
Over-voltage Shutdown	39 Vdc typical

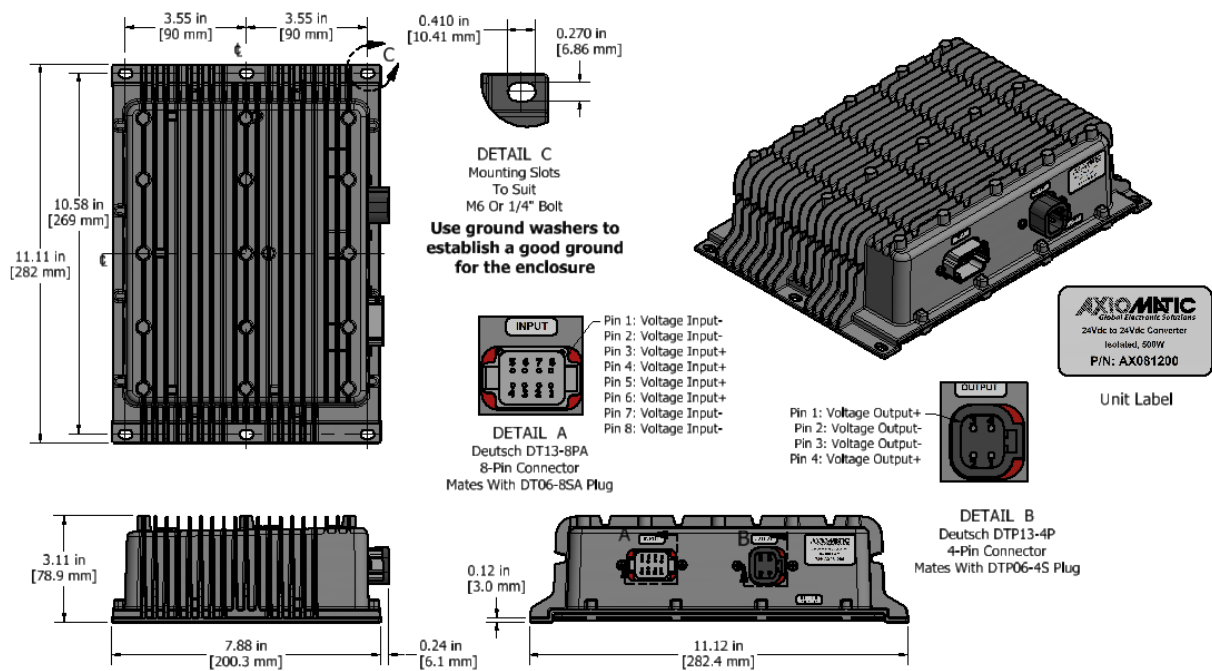
Output

Nameplate Rating (Output Power)	500 VA nominal
Output Current	21 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	700 mV/1 ms (25%-75% Load)
Short Circuit Current	Protection provided Self-recovery 25 A current limit (typical)

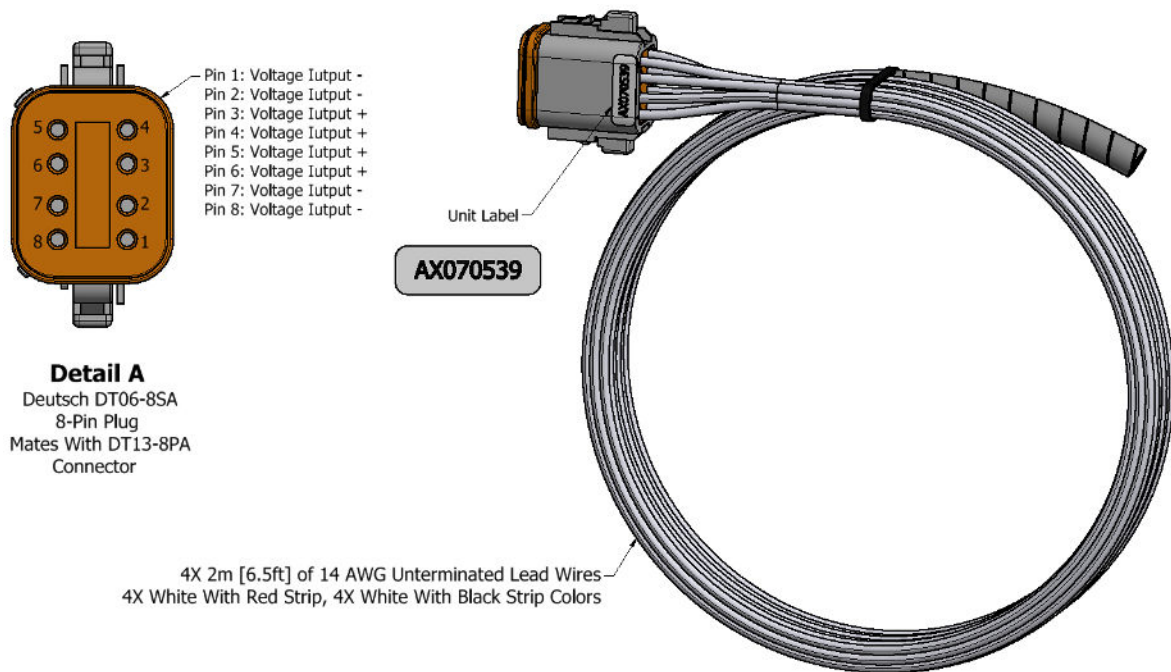
General Specifications

Efficiency	91%
Isolation	700 Vdc
Enclosure	Anodized Cast Aluminum enclosure, integral gasket and connector 8.12 in x 11.12 in x 3.11 in (206.4 mm x 282.4 mm x 78.9 mm) L x W x H including integral connectors Refer to the dimensional drawing.
Compliance	RoHS
Protection	IP67
Weight	3.78 kg (8.34 lbs.)
Operating Temperature	-40 to 70°C (-40 to 158°F)
Storage Temperature	-50 to 90°C (-58 to 194°F)

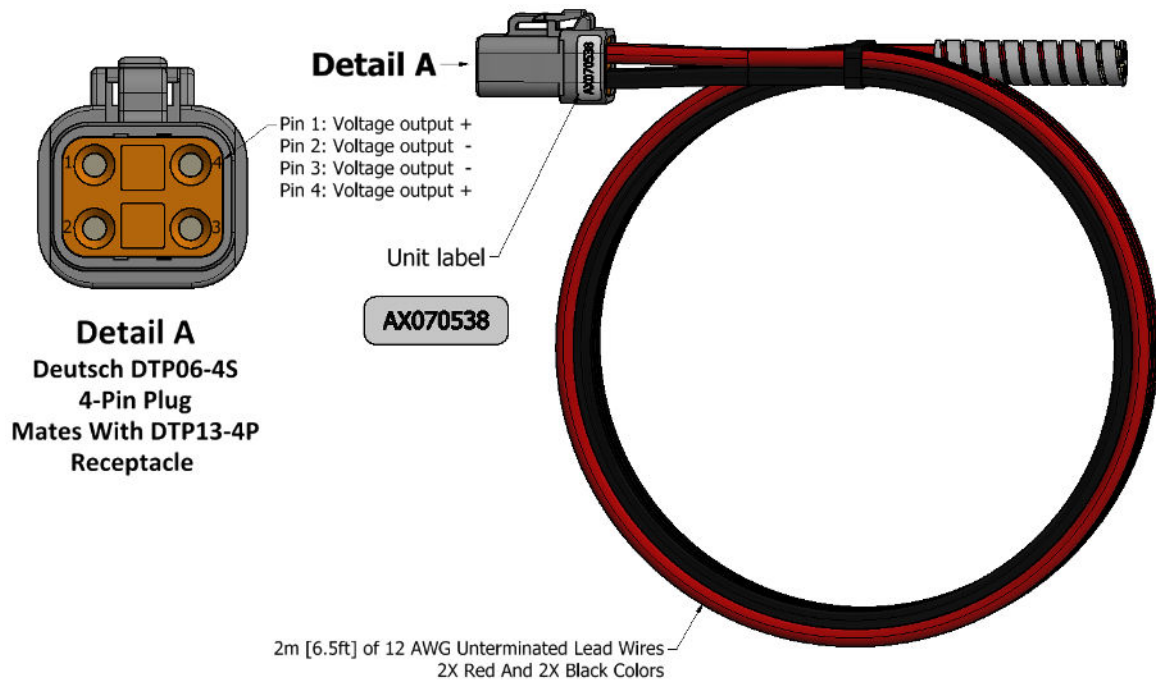
Electrical Pinout	<p><u>Input:</u> 8-pin TE Deutsch connector, P/N: DT13-8PA Mating Plug Kit P/N: AX070112 (includes 1 Socket DT06-08SA, 1 Wedglock W8S, 8 Contacts 0462-201-16141 and 6 Sealing Plugs 114017) Suitable wire: 14 AWG</p> <table><tr><th>Pin</th><th>Description</th></tr><tr><td>1</td><td>Voltage Input -</td></tr><tr><td>2</td><td>Voltage Input -</td></tr><tr><td>3</td><td>Voltage Input +</td></tr><tr><td>4</td><td>Voltage Input +</td></tr><tr><td>5</td><td>Voltage Input +</td></tr><tr><td>6</td><td>Voltage Input +</td></tr><tr><td>7</td><td>Voltage Input -</td></tr><tr><td>8</td><td>Voltage Input -</td></tr></table>  <p><u>Output:</u> 4-pin TE Deutsch connector, P/N: DTP13-4P Mating Plug Kit P/N: AX070117 (includes 1 Socket DT06-4S, 1 Wedglock WP4S, and 4 Contacts 0462-202-12141) Suitable wire: 12 AWG</p> <table><tr><th>Pin</th><th>Description</th></tr><tr><td>1</td><td>Voltage Output +</td></tr><tr><td>2</td><td>Voltage Output -</td></tr><tr><td>3</td><td>Voltage Output -</td></tr><tr><td>4</td><td>Voltage Output +</td></tr></table> 	Pin	Description	1	Voltage Input -	2	Voltage Input -	3	Voltage Input +	4	Voltage Input +	5	Voltage Input +	6	Voltage Input +	7	Voltage Input -	8	Voltage Input -	Pin	Description	1	Voltage Output +	2	Voltage Output -	3	Voltage Output -	4	Voltage Output +
Pin	Description																												
1	Voltage Input -																												
2	Voltage Input -																												
3	Voltage Input +																												
4	Voltage Input +																												
5	Voltage Input +																												
6	Voltage Input +																												
7	Voltage Input -																												
8	Voltage Input -																												
Pin	Description																												
1	Voltage Output +																												
2	Voltage Output -																												
3	Voltage Output -																												
4	Voltage Output +																												
Input Mating Wire Harness	<p>Input harness to mate with connector DT13-8PA, P/N: AX070539 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>Voltage Input -</td><td>WHITE/BLACK</td></tr><tr><td>2</td><td>Voltage Input -</td><td>WHITE/BLACK</td></tr><tr><td>3</td><td>Voltage Input +</td><td>WHITE/RED</td></tr><tr><td>4</td><td>Voltage Input +</td><td>WHITE/RED</td></tr><tr><td>5</td><td>Voltage Input +</td><td>WHITE/RED</td></tr><tr><td>6</td><td>Voltage Input +</td><td>WHITE/RED</td></tr><tr><td>7</td><td>Voltage Input -</td><td>WHITE/BLACK</td></tr><tr><td>8</td><td>Voltage Input -</td><td>WHITE/BLACK</td></tr></table>	Pin	Description	Color	1	Voltage Input -	WHITE/BLACK	2	Voltage Input -	WHITE/BLACK	3	Voltage Input +	WHITE/RED	4	Voltage Input +	WHITE/RED	5	Voltage Input +	WHITE/RED	6	Voltage Input +	WHITE/RED	7	Voltage Input -	WHITE/BLACK	8	Voltage Input -	WHITE/BLACK	
Pin	Description	Color																											
1	Voltage Input -	WHITE/BLACK																											
2	Voltage Input -	WHITE/BLACK																											
3	Voltage Input +	WHITE/RED																											
4	Voltage Input +	WHITE/RED																											
5	Voltage Input +	WHITE/RED																											
6	Voltage Input +	WHITE/RED																											
7	Voltage Input -	WHITE/BLACK																											
8	Voltage Input -	WHITE/BLACK																											
Output Mating Wire Harness	<p>Input harness to mate with connector DTP13-4P, P/N: AX070538 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>Voltage Output +</td><td>RED</td></tr><tr><td>2</td><td>Voltage Output -</td><td>BLACK</td></tr><tr><td>3</td><td>Voltage Output -</td><td>BLACK</td></tr><tr><td>4</td><td>Voltage Output +</td><td>RED</td></tr></table>	Pin	Description	Color	1	Voltage Output +	RED	2	Voltage Output -	BLACK	3	Voltage Output -	BLACK	4	Voltage Output +	RED													
Pin	Description	Color																											
1	Voltage Output +	RED																											
2	Voltage Output -	BLACK																											
3	Voltage Output -	BLACK																											
4	Voltage Output +	RED																											
Installation	<ol style="list-style-type: none">1. A 50A fuse is recommended in series with the input source.2. Use four ¼ 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.																												



Dimensional Drawing of AX081200



Drawing of Wire Harness AX070539



Drawing of Wire Harness AX070538

Form: TDAX081200-04/16/2025