TECHNICAL DATASHEET #TDAX082920

# 8V Power Supply

## P/N: AX082920


## Features:

- 12Vdc or 24Vdc to 8Vdc, 8W Converter
- Non-isolated
- Operates from 9Vdc-36Vdc
- Typical efficiency of 92%@12Vdc input or 89%@24Vdc input
- Thermal protection for over temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- Protected against 120Vdc load dump
- -40 to 70°C (-40 to 158°F) operating temperature
- Compact, ultrasonic welded enclosure
- 4-pin TE Deutsch type connector
- IP67
- EMI/EMC compliant

**Applications:** The Power Supply is suitable for application on vehicles.

- ❖ Off-highway Equipment
- ❖ Fire trucks and municipal vehicles

## Ordering Part Numbers:

| |
|---|
| 24V/8V, 1A Converter, SAE J1939 P/N: **AX082920** |
| Accessories:<br>**AX070106** Mating Plug Kit : 1 DT06-4S, 1W4S, 4 0462-201-16141 |

Axiomatic Technologies Oy
Höytämöntie 6
33880 LEMPÄÄLÄ, Finland
Tel. +358 103 375 750
salesfinland@axiomatic.com
www.axiomatic.fi

Axiomatic Technologies Corporation
1445 Courtneypark Dr. E.
Mississauga, ON Canada L5T 2E3
Tel. 1 905 602 9270
sales@axiomatic.com
www.axiomatic.com

# Technical Specifications:

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

| Input Specifications | | Output Specifications | |
|---|---|---|---|
| Power Source | 12/24 Vdc nominal | Nameplate Rating (Output Power) | 8 VA nominal |
| Operating Voltage Range | 9 to 36Vdc provides output 10V regulated to 2% @ 1A load | Output Current (DC) | 1 A continuous |
| Maximum Input Current | 0.8 ADC @ 12Vdc | Output Voltage | 8 Vdc $\pm$ 0.2V |
| Engine Load Dump | Designed to meet load dump conditions up to 120Vdc | Output Voltage Ripple | $V_{O(RIPPLE)} \leq$ 50 mVpp |
| Reverse Voltage Protection | Provided | Turn-on time (at full load) | 100 ms typical |
| Under-voltage Shutdown | 5 Vdc typical | Stability | Stable at all loads (no minimum load requirement) |
| Over-voltage Shutdown | 40 Vdc typical | Transient Response | 700 mV/1 ms (25%-75% Load) |
| | | Short Circuit Current | Protection provided Self-recovery 1.3A current limit |

## General Specifications

| | |
|---|---|
| Operating Temperature | -40 to 70 °C (-40 to 158 °F) |
| Efficiency | 92% @ 12Vdc input, typical; 89% @24Vdc input, typical |
| Weight | 0.15 lb. (0.06 kg) |
| Vibration (Pending) | MIL-STD-202G, Method 204D test condition C (Sine)<br>and Method 214A, test condition B (Random)<br>10 g peak (Sine)<br>7.68 Grms peak (Random) |
| Shock (Pending) | MIL- STD-202G, Method 213B, test condition A<br>50g (half sine pulse, 9ms long, 8 per axis) |
| Enclosure | Molded Enclosure, integral connector<br>Nylon 6/6, 30% glass, Ultrasonically welded<br>3.47 x 2.75 x 1.31 inches (88.2 x 70.0 x 33.3 mm)<br>L x W x H including integral connector<br>Refer to the dimensional drawing. |
| Electrical Connections | Integral 4 pin receptacle (TE Deutsch P/N: DT04-04P style)<br>18 AWG wire is recommended for use with contacts 0462-201-16141.<br><br>A mating plug kit is available. Ordering P/N: **AX070106** Mating Plug Kit : 1 DT06-4S, 1W4S, 4 0462-201-16141 |
| Mounting | Mounting holes are sized for #8 or M4 bolts. The bolt length will be determined by the end-user's mounting plate thickness. The mounting flange of the controller is 0.43 inches (11 mm) thick. It should be mounted with connectors facing left or right to reduce likelihood of moisture entry. All field wiring should be suitable for the operating temperature range. 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). |

| PIN # | FUNCTION |
|---|---|
| 1 | V Output + |
| 2 | V In + |
| 3 | V In - |
| 4 | V Output - |
| | V In - & V Output -, internal connected |

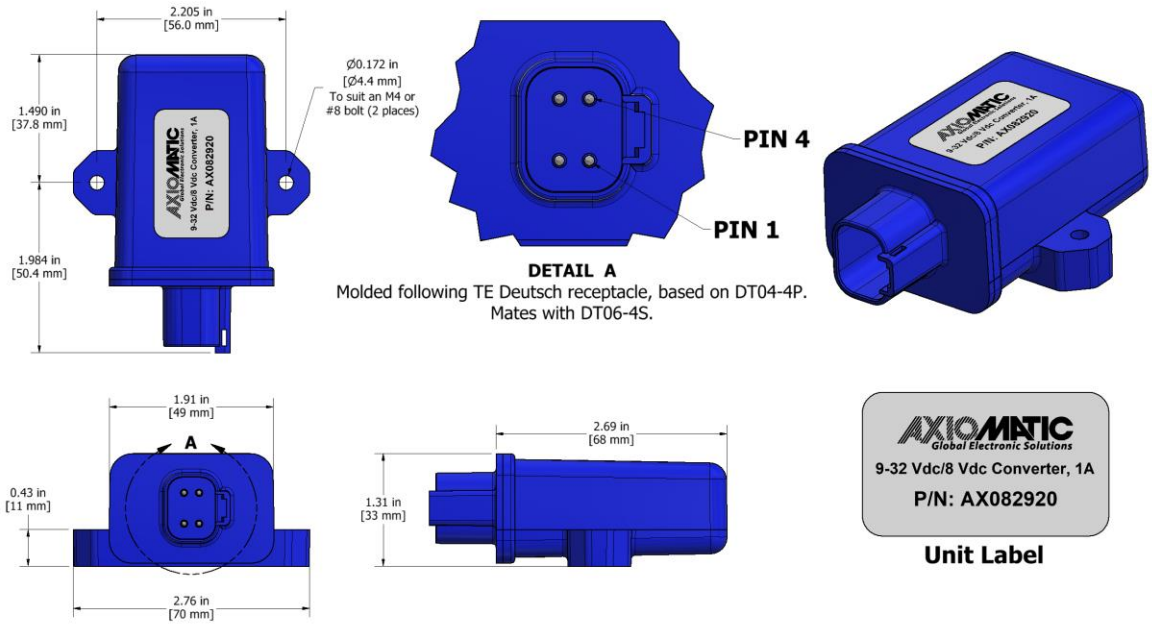


*Figure 1.0 – Dimensional Drawing*

*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 Limitations & Return Materials Process as described on [https://www.axiomatic.com/service/](https://www.axiomatic.com/service/).*

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