Preliminary
Technical Datasheet #TDAX082210

12V/48V, 350W Isolated DC-DC Converter

10 to 18 VDC Input
48 VDC, 350 W Output
Isolated
P/N: AX082210

Features

- Isolated
- 12 VDC nominal input (10 to 18 VDC range)
- 48 VDC, 350 W output (derated for input <11 VDC)
- Typical efficiency of 91 %
- Input inrush current limit
- Thermal protection for over-temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- Designed for EMI/EMC compliance
- Designed to meet the requirements of SAE J1455 and SAE J1113
- Operates from -40 to 80 °C (-40 to 176 °F)
- Sealed, anodized, IP67-rated enclosure with an 8-pin TE Deutsch connector

Applications:

- Climate control
- Off-highway equipment

Ordering Part Numbers

Isolated 12V/48V, 350W DC-DC Converter, P/N: **AX082210**

Description

AX082210 is an isolated, 12 VDC to 48 VDC converter with 350 W output power. The device converter operates from 10 to 18 VDC with overcurrent, short-circuit, overtemperature, reverse polarity, and over/under voltage protection. The power converter has a regulated output voltage of 48 VDC, 7.3 A with an efficiency of 91 %. The unit is IP67 rated and operates from -40 to 80 °C (-40 to 176 °F).

Axiomatic Technologies Oy
Höytämöntie 6 C
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

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/.

Input Specifications

Operating Voltage	12 VDC (nominal) 10 to 18 VDC (range)
Maximum Current	< 36 A @ 11 VDC, 7.3 A load
Reverse Polarity Protection	Provided
Undervoltage Protection	Shutdown at 7.3 VDC Recovers at 9.3 VDC
Overvoltage Protection	Shutdown at 21 VDC Recovers at 20 VDC

Output Specifications

Nameplate Rating (Power)	350 W (nominal)
Current	7.3 A (continuous)
Voltage	48 VDC ±1.5 % @ 11 to 18 VDC input 43 to 48 VDC @ 10 to 11 VDC input
Ripple Voltage	$V_{O(RIPPLE)}$ < 100 mV_{PP}
Turn-on-Time	450 to 600 ms (0-100% of the entire load) 5050 ms Typical (at full load)
Stability	Stable at all loads (no minimum load requirement)
Transient Response	650 mV/ms (50% to 100 % load)
Short Circuit Current	Protection provided Self-recovery 8.7 A current limit

General Specifications

Efficiency	91 % (See Figure 1)
Isolation	700 VDC minimum (All to chassis) 700 VDC minimum (Primary to secondary)
Compliance	RoHS Designed to meet the requirements of SAE J1455 and SAE J1113
Operating Conditions	-40 to 80 °C (-40 to up to 176 °F) See Figure 2 for derating the high limit of the temperature range
Storage Temperature	-55 to 125 °C (-67 to 257 °F)
Protection	IP67
Enclosure	Cast aluminum enclosure 7.94 in. x 5.83 in. x 2.49 in. (202.6 mm x 148.0 mm x 63.2 mm) L x W x H excludes mating plugs Refer to the dimensional drawing.
Weight	lb. (kg) pending
Electrical Connections	8-pin receptacle (TE Deutsch P/N: DT13-08PA)
Mating Connectors	Mates with TE Deutsch DT06-8SA (all variations)

Pin	Description
1	Output +
2	Input +
3	Input +
4	Input +
5	Input -
6	Input -
7	Input -
8	Output -

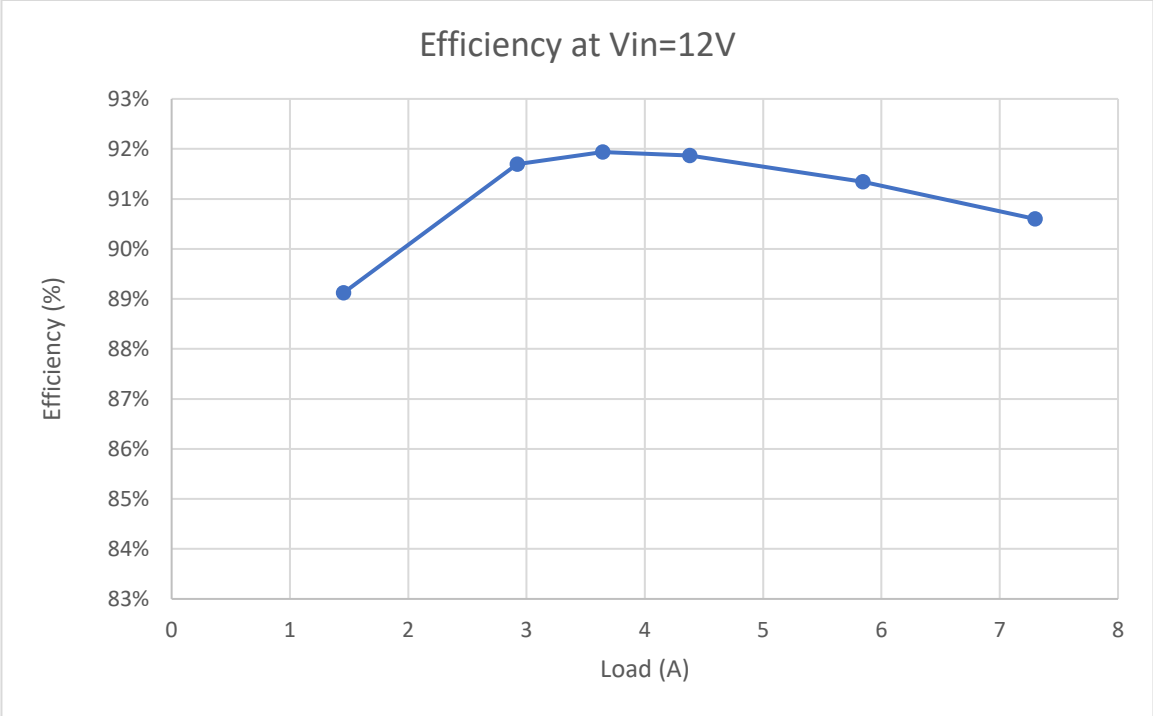

Figure 1 – Efficiency at 12 V Input

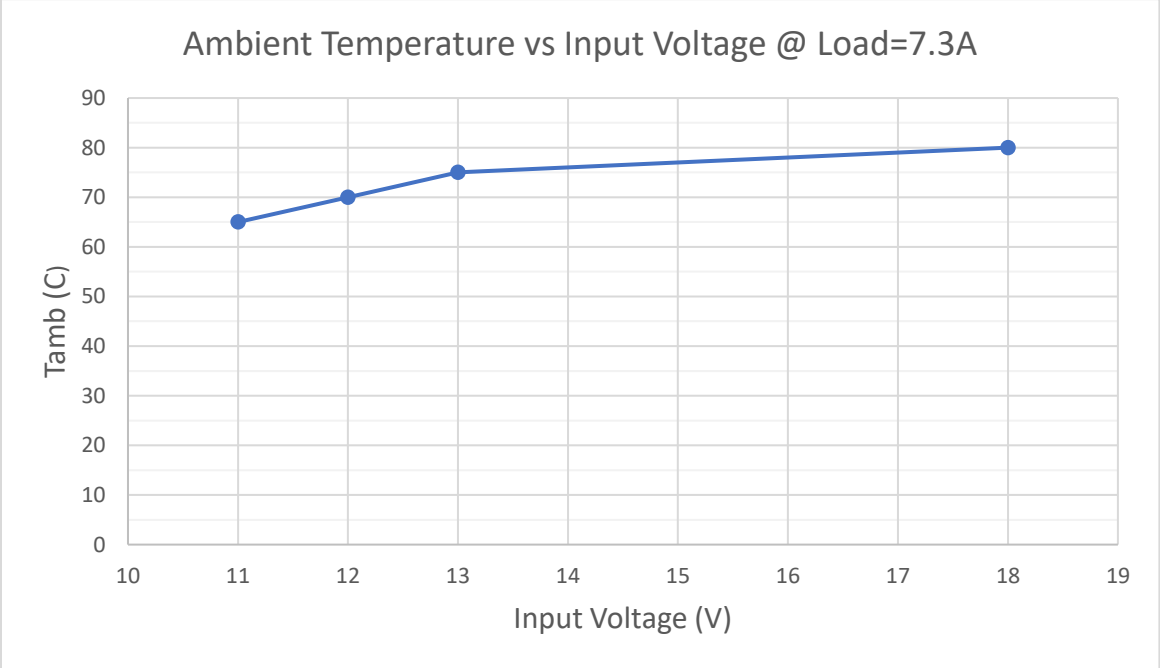

Figure 2 – Ambient Temperature vs. Input Voltage

Dimensional Drawing

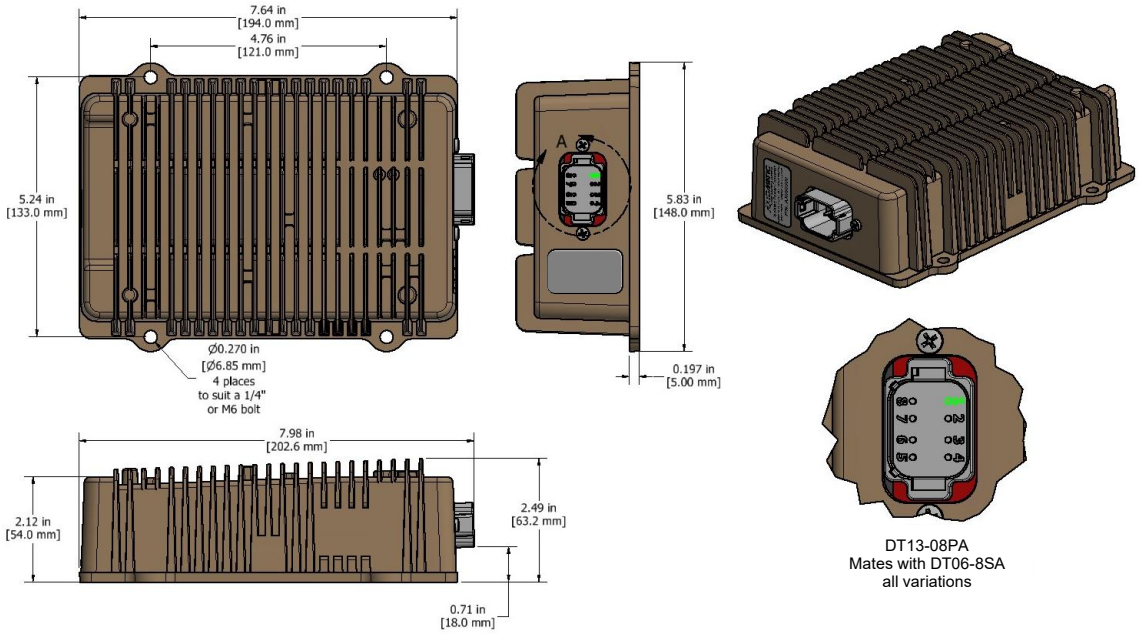

Figure 3 – Dimensional Drawing (with label pending)

Form: TDAX082210 – 05/07/2026