TECHNICAL DATASHEET #TDAX130700

CAN-PWM Signal Converter

SAE J1939, 250 kbit/s
Configurable with Axiomatic Electronic Assistant
P/N: AX130700

Converts CAN messages into a PWM signal
for communication with Engine Control Modules

Features

- PWM Signal output to communicate with an engine ECM
- Output is user configurable as frequency, PWM, or digital
- 1x isolated CAN port (SAE J1939, 250 kbit/s) to read engine speed messages or other engine information
- Operational 9 to 36 VDC (12 or 24 VDC)
- Integrated 6-pin connector
- Compact, fully sealed enclosure, IP67
- Meets the surge requirements of SAE J1455
- Designed for EMC compliance
- Configure with Axiomatic Electronic Assistant

Applications

Power Generator Set Control Systems

Ordering Part Numbers

CAN-PWM Signal Converter, SAE J1939, 250 kbit/s - P/N: **AX130700**

Auto-baud-rate detection version - P/N: **AX130700AB**

CANopen® version - P/N: **AX130701**

Accessories:
Mating Plug KIT: **AX070119**
Axiomatic Electronic Assistant KIT - P/N: **AX070506K**

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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/.

Power Input

Power Input	12 or 24 VDC nominal (9 to 36 VDC) The minimum allowable supply voltage for the power pin is 7 VDC.
Quiescent Current Draw	16 mA @ 24 VDC typical
Surge Protection	Meets the surge requirements of SAE J1455
Reverse Polarity Protection	Provided

Output

Output	1x output configurable as PWM, frequency, mixed, or digital PWM, frequency, or mixed output • 1 Hz to 20 kHz • 0-100 % D.C. (user configurable) • 5 or 12 V amplitude • Push/pull output • Maximum load is 50 mA (at 5 V) or 30 mA (at 12 V). • Overcurrent protection (50 mA) Digital output • Digital on/off • 5 or 12 V Amplitude • Maximum load is 50 mA (at 5 V) or 30 mA (at 12 V).
Output Accuracy	PWM: 0.5 % Frequency: 0.1 %
Output Feedback Accuracy	PWM: 0.5 % Frequency: 0.5 %

General Specifications

Microcontroller	STM32F103CBT7, 32-bit, 128 KB flash program memory
Control Logic	The device comes pre-programmed with standard logic.
Response Time	10 ms typical
CAN Port	1x CAN (SAE J1939) 250 kbit/s baud rate
Isolation	300 Vrms isolation for CAN port
User Interface and Software Reflashing	Axiomatic Electronic Assistant KIT - P/N: AX070506K
Protection Rating	IP67
Operating Temperature	-40 to 85°C (-40 to 185°F)
Storage Temperature	-50 to 125°C (-58 to 257°F)
Vibration	MIL-STD-202G, Test 204D and 214A 10 g peak (Sine) 7.86 Grms peak (Random)
Shock	MIL-STD-202G, Test 213B, 50 g
Weight	0.15 lbs. (0.068 kg)
Enclosure	Plastic enclosure, Nylon 6-6 with 30% glass fill Flammability Rating: UL 94V-0 Integral connector Refer to dimensional drawing.
Electrical Connections	6-pin connector (TE Deutsch equivalent P/N: DT04-6P) A mating plug kit is available as Axiomatic P/N: **AX070119**.

Pin	Description
1	Battery +
2	Output +
3	CAN High
4	CAN Low
5	Output -
6	Battery -

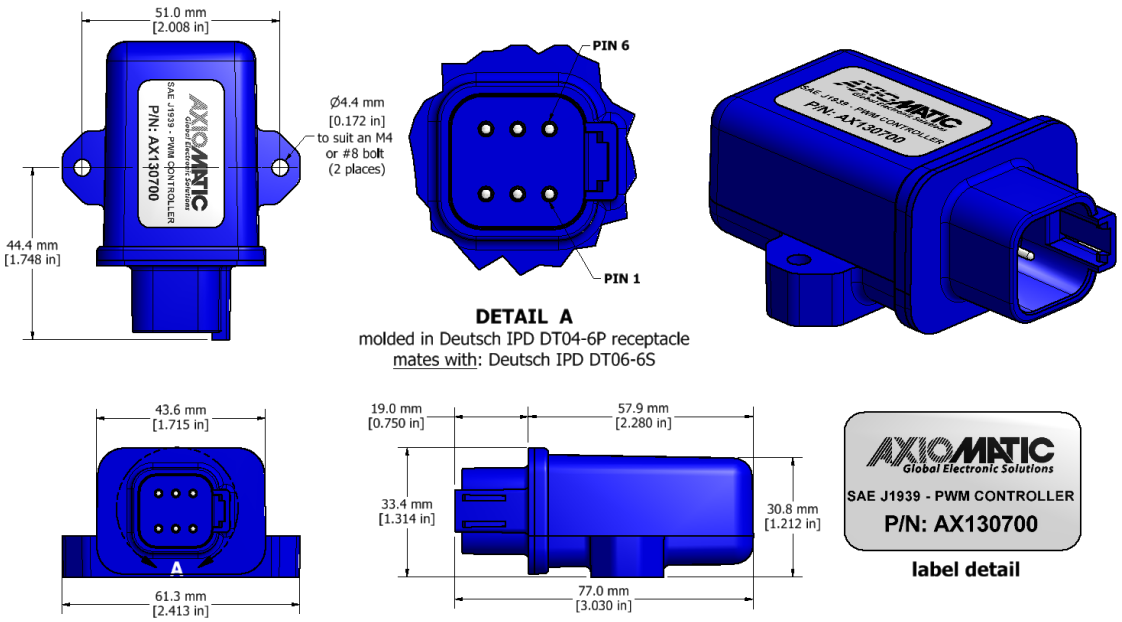

Figure 1.0 – Dimensional Drawing

Form: TDAX130700-01/22/2026