TECHNICAL DATASHEET #TDAX140180

CAN-Repeater with Galvanic Isolation

P/N: AX140180

Features:

- Acts as a gateway or interface between CAN buses
- Isolated CAN Repeater

Applications:

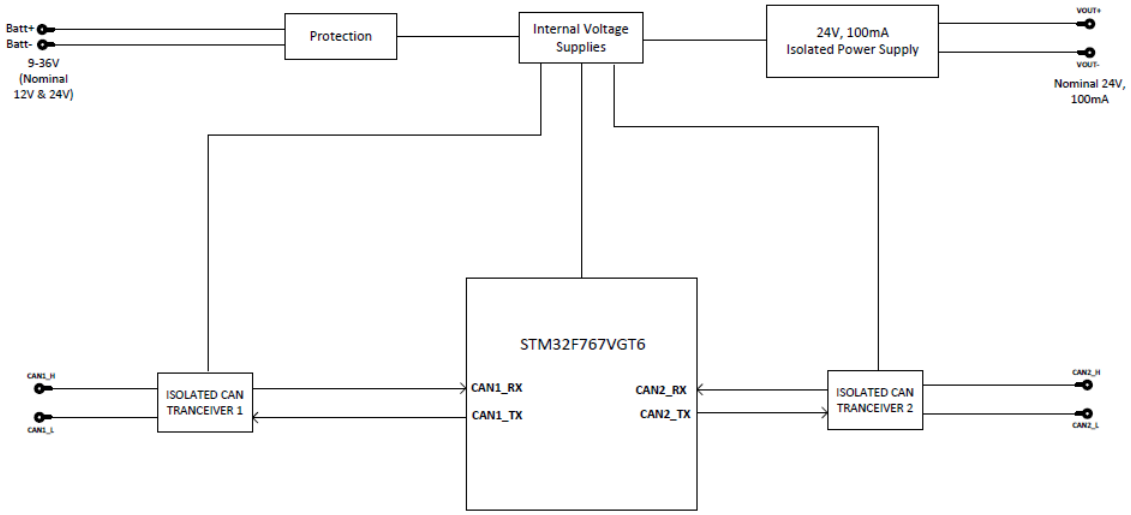
- Railway Equipment
- Mobile (Off-Highway) Equipment

Ordering Part Numbers

CAN-Repeater with Galvanic Isolation - P/N: **AX140180**

Accessories:
Electronic Assistant – P/N: **AX070502** or **AX070505K**
Mating Plug Kit – P/N: **AX070106**

Block Diagram:



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Technical Specifications:

Typical at nominal input voltage and 25 degrees C unless otherwise specified. 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/.

Power

Power Supply Input	12 V or 24 Vdc nominal 9…36 Vdc
Protections	Reverse polarity up to -50 V. Undervoltage hardware shutdown is at 6 V. Overvoltage hardware shutdown is at 45V.
Output Supply Voltage	Isolated power supply, 24V nominal (9…36 Vdc)
Current Output	100 mA
Voltage Isolation	500 Vdc

General Specifications

Memory	STM32F767 32-bit, 1024 Kbytes Flash Program Memory
CAN Port 1	Port 1: High Speed, ISO 11898-2 compatible, 1 Mbps, SAE J1939 (for configuration) Isolated
CAN Port 2	Port 2: Protocol - CAN 2.0A and B protocol (Data frames and remote frames with standard and extended ID's are supported). Isolated Baud rate (kBit/s): 1000, 666.6, 500, 250, 10, 83.3 (3), 50, 20, 10 baud rates (user selectable)
Isolation	500 Vdc CAN ports and power ports are isolated from each other.
Quiescent Current Draw	80mA @12V 43mA @24V
Operating Conditions	-40 to 85°C (-40 to 185°F)
Storage Temperature	-55 to 85°C (-67 to 185°F)
Weight	0.84 lb (0.38 kg)
Protection Rating	IP67
Compliance	Compliant to EN50155 For EN45545-2 compliance, check if a flammable part is located near the installation to meet dropping rules.
Enclosure and Dimensions	Aluminum enclosure, anodized Gasket Refer to Figure 1.
Cables	The connector body is PA66 30% glass fill, UL94 V0. The overmold portion is TPU, UL94. For proper installation in railway applications, check flammability rating of parts nearby.

Electrical Connections	Input Connector (receptacle/male): 4-pin overmolded CONEC connector P/N: 55-00844, equivalent to TE DT04-4P Mates with DT06-4S Refer to Figure 1.0 for pinout. Output Connector (plug/female): 4-pin overmolded CONEC connector P/N: 55-00838, equivalent to TE DT06-4S Mates with DT04-4P Refer to Figure 1.0 for pinout.
Mating Plug Kit	DT06-4P input plug connector mates with DT06-4S (Mating Plug Kit P/N: AX070106). DT06-4S output plug connector mates with DT04-4P (Mating Plug Kit not supplied).
Mounting	Mounting holes are sized for #10 or M5 bolts. The bolt length will be determined by the end-user's mounting plate thickness. The mounting flange of the controller is 0.16 inches (4 mm) thick. If the module is mounted without an enclosure, it should be mounted vertically with connectors facing left or right to reduce likelihood of moisture entry. The CAN wiring is considered intrinsically safe. The power wires are not considered intrinsically safe and so in hazardous locations, they need to be located in conduit or conduit trays at all times. The module must be mounted in an enclosure in hazardous locations for this purpose. No wire or cable harness should exceed 30 meters in length. The power input wiring should be limited to 10 meters. 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).
User Interface – SAE J1939 models	**For SAE J1939 models, parameters are configurable using the Electronic Assistant.** Axiomatic Electronic Assistant P/N: AX070502 or AX070505K The Electronic Assistant for *Windows* operating systems comes with a royalty-free license for use on multiple computers. It requires an Axiomatic USB-CAN converter to link the device's CAN port to a *Windows*-based PC.

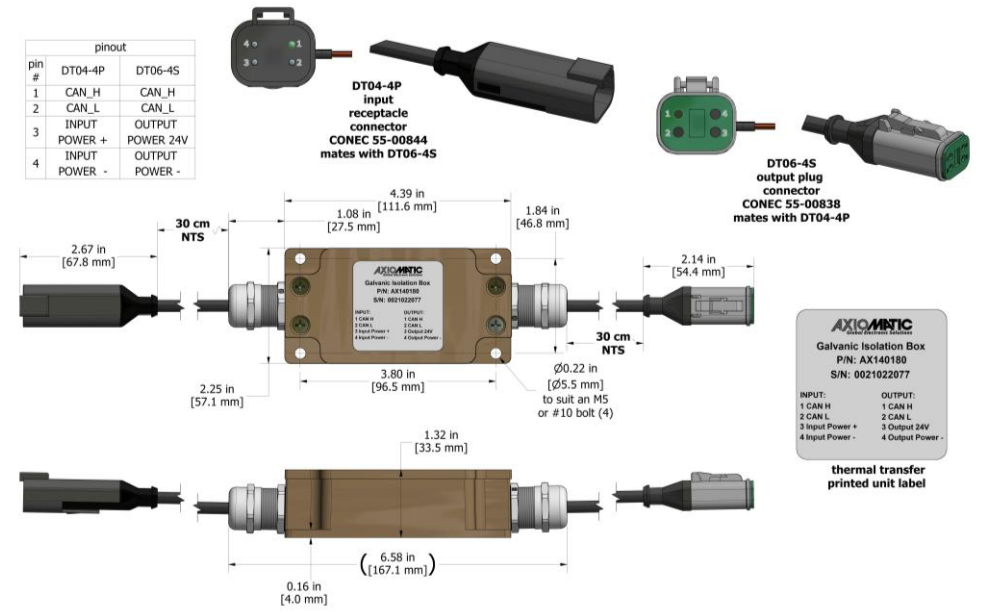

Figure 1.0 – Dimensional Drawing

Form: TDAX140180 – 07/30/2025