Converting a Magnetic speed sensor signal into SAE J1939 CAN Messages for communication with control systems

**Features:**
- 1 Magnetic Pick-up type input for interface with a sensor
- 1 CAN port (SAE J1939)
- Operational 8…60 Vdc (12 Vdc, 24 Vdc or 48 Vdc)
- Integrated Deutsch IPD 6-pin connector
- Compact, fully sealed enclosure, IP67
- Meets the surge requirements of DIN EN 13309
- CE marking
- Configure with Axiomatic Electronic Assistant

**Applications:**
- Power Generator Set control systems
- Machine engine control systems

**Ordering Part Numbers:**

<table>
<thead>
<tr>
<th>Description</th>
<th>P/N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magnetic Pick-up / CAN Converter, 250 kbps SAE J1939</td>
<td>AX031500</td>
</tr>
<tr>
<td>Magnetic Pick-up / CAN Converter, 500 kbps SAE J1939</td>
<td>AX031500-01</td>
</tr>
<tr>
<td>Magnetic Pick-up / CAN Converter, 1 Mbps SAE J1939</td>
<td>AX031500-02</td>
</tr>
</tbody>
</table>

Configuration Tool: Electronic Assistant P/N: AX070502

Accessories:
Mating Plug KIT: AX070119

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 www.axiomatic.com/service.html.
Technical Specifications:  Typical at nominal input voltage and 25 degrees C unless otherwise specified

**Power**
- Power Supply Input - Nominal: 12 V, 24 V or 48 Vdc nominal; 8…60 Vdc
- The minimum allowable supply voltage for the power pin is 7 Vdc.
- Surge Protection: Meets the surge requirements of DIN EN13309
- Reverse Polarity Protection: Provided

**Input**
- 1 Magnetic Pick-up type input
- Frequency Range: 0.5 Hz to 20 kHz
- Amplitude: 100 mVAC to 100VAC (RMS)

**General Specifications**
- **Memory**: STM32F103CBT7, 32-bit, 128 Kbytes Flash Program Memory
- **CAN Port**:
  - 1 CAN (SAE J1939)
  - Model AX031500 baud rate: 250 kbps
  - Model AX031500-01 baud rate: 500 kbps
  - Model AX031500-02 baud rate: 1 Mbps
  - 1. Model AX031501 (CANopen®)
- **Control Logic**: The Converter comes pre-programmed with standard logic. Configurable CAN messages via Electronic Assistant®
- **Sampling Time**: The input is tied to a 16-bit timer.
- **Quiescent Current Draw**: 9.1 mA @ 24Vdc; 16 mA @ 12Vdc Typical
- **Operating Conditions**: -40 to 85°C (-40 to 185°F)
- **Weight**: 0.10 lb. (0.045 kg)
- **Protection Rating**: IP67
- **EMC Compliance**: CE marking
- **Vibration**: MIL-STD-202G, Test 204D and 214A (Sine and Random)
  - 10 g peak (Sine); 7.86 Grms peak (Random)
- **Shock**: MIL-STD-202G, Test 213B, 50 g
- **Enclosure and Dimensions**: Plastic Enclosure, Nylon 6-6 with 30% glass fill, Integral Deutsch IPD connector
  - Refer to Figure 1.0 - dimensional drawing.
- **Electrical Connections**: 6 pin Deutsch IPD connector P/N: DT04-6P
  - A mating plug kit is available as Axiomatic P/N: AX070119.

**CAN and I/O Connector**

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Description</th>
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<tbody>
<tr>
<td>1</td>
<td>BATT+</td>
</tr>
<tr>
<td>2</td>
<td>Input +</td>
</tr>
<tr>
<td>3</td>
<td>CAN_H</td>
</tr>
<tr>
<td>4</td>
<td>CAN_L</td>
</tr>
<tr>
<td>5</td>
<td>Input GND</td>
</tr>
<tr>
<td>6</td>
<td>BATT-</td>
</tr>
</tbody>
</table>

**User Interface and S/W Reflashing**: Axiomatic Electronic Assistant AX070502

*Figure 1.0 – Dimensional Drawing*  
*Form: TDAX031500-01/28/20*