


TECHNICAL DATASHEET #TDAX070502
ELECTRONIC ASSISTANT® CONFIGURATION KIT
 for Axiomatic SAE J1939 Controllers
P/N: AX070502

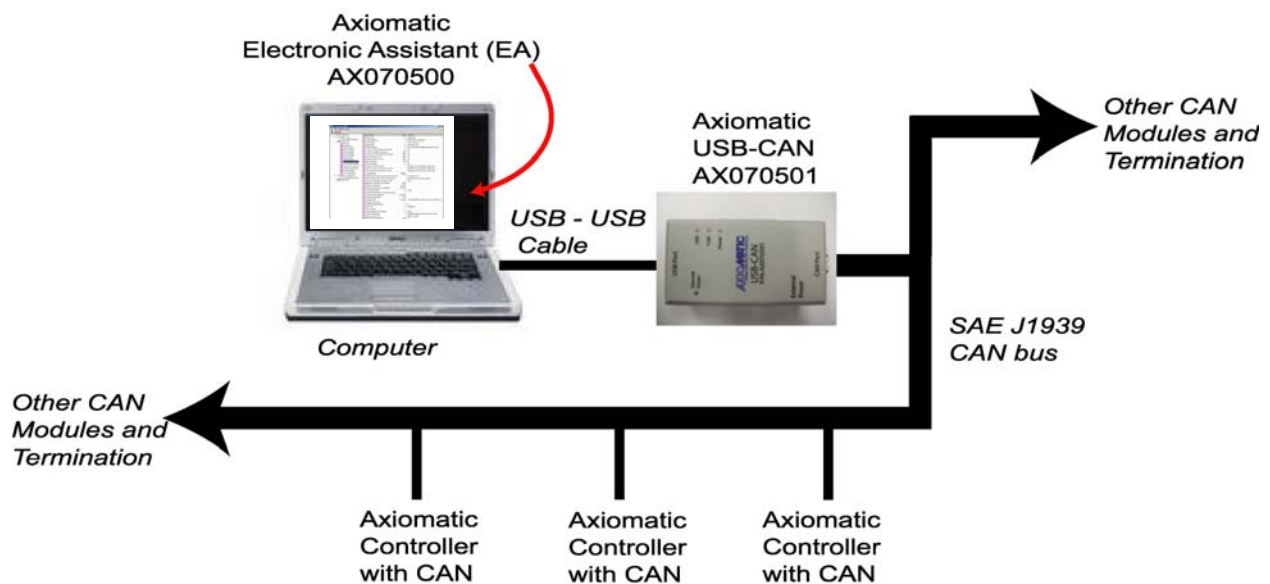
The **Electronic Assistant®**  is a software configuration tool that runs on the *Windows* operating system and is connected to a J1939 bus via an USB to CAN converter, AX070501. Upon being connected to the bus, the EA will find all Electronic Control Units (ECU) on the bus and recognize those manufactured by Axiomatic. Using this tool, a user can quickly configure an Axiomatic ECU for the desired performance over a wide variety of applications.

Axiomatic **CAN Assistant – Scope** software monitors CAN messages in a text format and is able to send single frames to the CAN bus. It is useful for PC-based debugging of J1939, CANopen® or proprietary networked devices.

The **CAN Assistant – Visual** software presents J1939 data in a graphic and user-friendly text format.

The Axiomatic **USB-CAN Converter** includes a Software Development Kit (SDK). The SDK is designed to allow independent software developers and system integrators to use Axiomatic USB-CAN Converter hardware, AX070501, in their own applications.

Set up of an Axiomatic SAE J1939 Controller on a CAN Network:



NOTES:

Network Termination: It is necessary to terminate the network with external termination resistors. The resistors are 120 Ohm, 0.25W minimum, metal film or similar type. They should be placed between CAN_H and CAN_L terminals at both ends of the network.

Ordering Part Number: AX070502

The AX070502 Configuration KIT includes the following.

USB-CAN Converter P/N: AX070501

1 ft. (0.3 m) USB Cable P/N: CBL-USB-AB-MM-1.5

12 in. (30 cm) CAN Cable with female DB-9 P/N: CAB-AX070501

Installation Instructions to download the Electronic Assistant® software; EA & USB-CAN User Manual UMAX07050X; USB-CAN drivers & documentation; CAN Assistant (Scope and Visual) software & documentation; and the SDK Software Development Kit from the Axiomatic website (www.axiomatic.com).

Technical Specifications:



AX070502, Configuration KIT

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USB-CAN Converter P/N: AX070501

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12 in. (30 cm) CAN Cable with female DB-9 P/N: CAB-AX070501

Installation instructions to download software and user manuals from the Axiomatic website (www.axiomatic.com).

Electronic Assistant®

The Electronic Assistant® (EA) runs on any modern PC with the Microsoft Windows® 2000 operating system or higher. It comes with a royalty-free license for use.

System Requirements:

Operating System: *Windows 2000* or higher including *Windows 64-bit* editions and *Windows 10*

Port: USB 1.1 or 2.0 full speed

Display: VGA (XGA or better with 1024 x 768 recommended)

Setup and Configuration:

Refer to the User Manual UMAX07050X.

To order the EA software at the time of initial purchase, order the KIT AX070502 (see above) which includes the USB-CAN converter.

Electronic Assistant

ECU Setpoint File

ECU Name: DIO128, 12 Inputs 8 Outputs #1
 Setpoint File: C:\Documents and Settings\logush\My Documents\DIO128, 12 Inputs 8 Outputs #1 Setpoints.xml

ECU Identification

ECU J1939 NAME (PGN 60928): 14988120332077208009 - 64-bit ECU Identifier

Field Name	Value	Description
Arbitrary Address Capable	1	Yes
Industry Group	5	Industrial-Process Control-Stationary (Gen-Sets)
Vehicle System Instance	0	-
Vehicle System	0	Non-specific system
Reserved	0	-
Function	128	Supplemental Engine Control Sensing
Function Instance	1	-
ECU Instance	0	#1 - First Instance
Manufacturer Code	162	Axiomatic Technologies Corp.
Identity Number	365001	ECU Serial Number: D0106001

ECU Address: 235 - Supplemental Sensor Processing Unit #1

Software ID (PGN 65242 -SOFT):

Field Number	Value
1	DIO010

ECU Setpoints

Setpoint Group Name: Controller

Setpoint Name	Setpoint Value	Comment
Base PGN	65440	Input PGN for the first ECU Instance

Setpoint Group Name: Network

Setpoint Name	Setpoint Value	Comment
ECU Instance Number	0	#1 - First Instance
Slew Rate	1	1 - Fast, 0 - Slow
ECU Address	235	Supplemental Sensor Processing Unit #1

Figure 1.0 Setpoint file

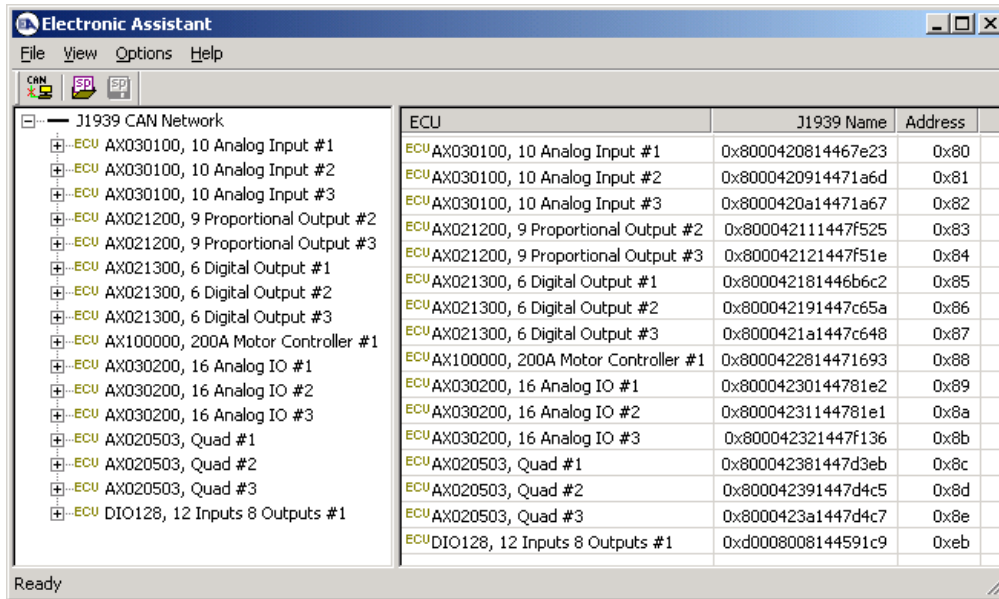


Figure 2.0 Axiomatic ECU's networked

Specifications: AX070501, USB-CAN Converter

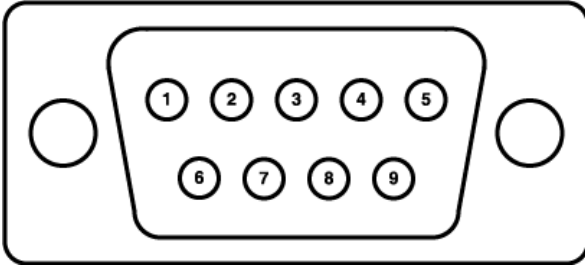
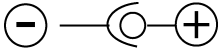
CAN Interface	Differential, Electrically isolated, 1 Mbit/s										
Connections	<p>USB socket: USB 1.1 or 2.0 full speed CAN: 9 pole DSUB male (DB-9)</p>  <table border="1" data-bbox="649 1207 1230 1339"> <thead> <tr> <th>Pin #</th> <th>Signal</th> </tr> </thead> <tbody> <tr><td>7</td><td>CAN_H</td></tr> <tr><td>2</td><td>CAN_L</td></tr> <tr><td>3</td><td>CAN_GND</td></tr> <tr><td>5</td><td>SHIELD</td></tr> </tbody> </table>	Pin #	Signal	7	CAN_H	2	CAN_L	3	CAN_GND	5	SHIELD
Pin #	Signal										
7	CAN_H										
2	CAN_L										
3	CAN_GND										
5	SHIELD										
Supply Voltage	<p>By default, the unit should be powered directly from the USB port (5V). External power is only needed if the USB hub on the PC side is not able to provide up to 200 mA current to support functionality of the converter OR if the user does NOT want to draw power from the USB port in a battery powered computer configuration (i.e. a laptop). <i>Optional External Power:</i> 12VDC, 200 mA or higher from a standard power plug, 2.5 mm diameter, positive polarity</p> 										
LED Indicators	<p>USB – red/green CAN – red/green Power – red/green External Power – green <i>Refer to User Manual UMAX07050X for details.</i></p>										
Microcontroller	ST Micro ARM 7 family										
Dimensions	ABS enclosure Rose & Bopla P/N EG1250F 4.92 x 2.64 x 2.01 inches 125 x 67 x 51 mm (L x W x H excluding DB-9 connector)										
Weight	0.4 lbs. (0.18 kg)										
Operating Temperature	-40 to 85 degrees C (-40 to 185 degrees F)										

Figure 3: AX070501 DB-9 Pin out

Rating	IP40
CAB-AX070501, Cable	<p>Unterminated cable with female DB-9, 12 inches (30 cm) This is a temporary cable for initial configuration and is not suitable for use during machine operation. <u>Pin out:</u> Red (or Green): CAN Lo White (or Yellow): CAN Hi Black: CAN GND</p>
CBL-USB-AB-MM-1.5, Cable	Standard USB Male A to Male B Cable, 1 ft. (0.3m)
Software and Documentation AX070501IN	<p>The following software and documentation can be downloaded from the Axiomatic website – www.axiomatic.com. Contact sales@axiomatic.com for the appropriate password.</p> <p>Electronic Assistant® software & documentation (UMAX07050X) USB-CAN drivers & documentation Operating System: <i>Windows 2000, Windows XP, Windows Server 2003, 64-bit Editions of Windows XP and Windows Server 2003.</i></p> <p>CAN Assistant – Scope software (P/N: AX070501SCO) & documentation (UMAX070501SCO) This software monitors CAN messages in a text format.</p> <p>CAN Assistant – Visual software (P/N: AX070501VIS) & documentation (UMAX070501VIS) This software graphs CAN messages in real time.</p> <p>Software Development Kit (SDK) (P/N: AX070501SDK) & documentation (UMAX070501SDK) <i>Windows operating system starting from Windows 2000 and Microsoft Visual C++.NET for s/w development (Contact Axiomatic if you wish to use the converter with other programming languages and software design tools.)</i></p>

Note: CANopen® is a registered community trade mark of CAN in Automation e.V.
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. Form: TDAX070502-03/02/18