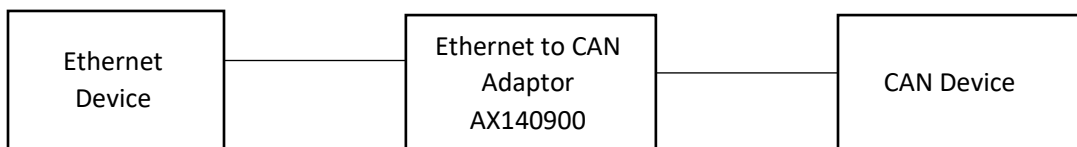


AN413 – Configuring Ethernet to CAN Converter

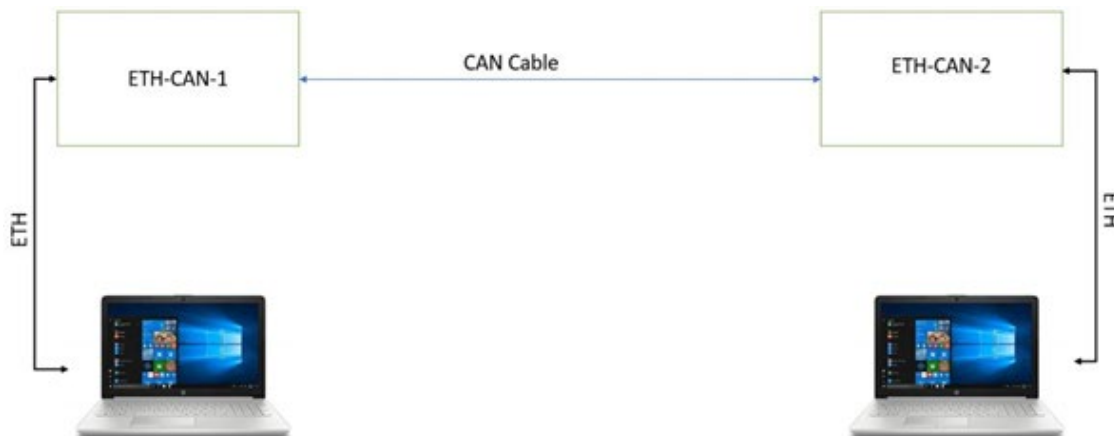
Introduction

This application note will discuss how to configure the Ethernet to CAN Converter, AX140900, when using one or two of these in a system. Some integrations will require a conversion of one type of connection to another. One example is when the Ethernet connection (UDP TCP IP Datagrams) is needed to configure the system and the system is connected to a CAN bus.

Wiring for Single Unit Set up:



Wiring for Connecting Two Axiomatic Converters:



*Where ETH-CAN-1 and ETH-CAN-2 both represent AX140900.

Suggested Cable Connections:

Axiomatic Cable – AX070532 CAN Cable, AX070531 Ethernet Cable. Both cables come with the AX140900 when ordered as a kit (Part Number AX140900K).

Ethernet Connector – M12 Socket, 8-pin, A-coded, female connector.

Wiring Pin Out and Setup

Ethernet Connector:

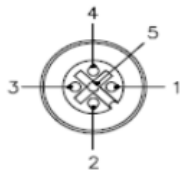
PIN#	Description
1	BATT + (9-36V)
2	BATT – (GND)
3	BATT – (GND)
4	ETH_TX -
5	ETH_RX +
6	ETH_TX +
7	BATT + (9-36V)
8	ETH_RX -

* The unit is powered only on the Ethernet side.

On the Ethernet connector, it is necessary to make the power connections to one set BATT+/BATT- pins. Pins 1 and 2 can be used to power the module, while pins 3 and 7 could be left open or used to branch power over to another device in the system.

CAN Connector:

PIN #	Description
1	CAN_SHIELD
2	POUT + (Switch Output)
3	POUT – (GND)
4	CAN_H
5	CAN_L



The POUT+ signal is a Power Supply output and POUT- is its GND return. This can be used to power devices on the CAN network. The same power supply that is connected to the Ethernet connector is passed through the converter to the CAN connector. A semiconductor switch internal to the module delivers power to the POUT+ pin, allowing it to be turned ON/OFF by configuration options via the module's web server.

Multiple Nodes

Multiple nodes communicate with each other on the Ethernet using network sockets and the client/server concept. If different ports on different nodes are used, there will be no communication between the nodes. CAN filters can be set up to block certain messages from passing from one node to another.

SEND and RECEIVE Programs

To make a change to the 'Client' settings on each AX140900 unit, setting the 'Auto Connect to Remote' options to 'No'. Verify through the web server to check the CAN ID Filter and Mask settings on both modules. These settings can be accessed through the configuration options on the left-hand side of the web server menu.

AXIOMATIC Ethernet to CAN Converter
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CONVERTER SETTINGS

Save Settings Discard Changes Set Defaults

ETHERNET

Server

Device IP Address: 192.168.0.34 **Send**

Device Port: 4000

Device Port Type: ☒ UDP ☐ TCP

Web Server Port: 80

Device Subnet Mask: 255.255.255.0

Device Default Gateway: 192.168.0.1

Client

Auto Connect to Remote: No ▼

Remote IP Address: 192.168.0.35

Remote Port: 4000

CAN

Switched Power Out: Off ▼

Baud Rate: 250 ▼ kbit/s

Loopback Messages: No ▼

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CONVERTER SETTINGS

Save Settings Discard Changes Set Defaults

ETHERNET

Server

Device IP Address: 192.168.0.35 **Recieve**

Device Port: 4000

Device Port Type: ☒ UDP ☐ TCP

Web Server Port: 80

Device Subnet Mask: 255.255.255.0

Device Default Gateway: 192.168.0.1

Client

Auto Connect to Remote: No ▼

Remote IP Address: 192.168.0.35

Remote Port: 4000

CAN

Switched Power Out: Off ▼

Baud Rate: 250 ▼ kbit/s

Loopback Messages: No ▼

There is some timeout that will occur if the RECEIVE program waits too long to see a CAN frame. Be sure to activate the frame quickly in the SEND program once the RECEIVE program is ready.

Version	Date	Authors	Comments
1.00	March 24, 2020	Gustavo Del Valle / Sue Thomas	Initial Release
1.01	July 6, 2023	Kiril Mojsov	Legacy Updates & Marketing Review