TECHNICAL DATASHEET #TDAX140822

CAN ID NFC CONTROLLER

1 CAN Port (SAE J1939)
With Near Field Communication (NFC)
Configurable with Android and Apple iOS Devices and Smartphones
P/N: AX140822

Features

- 12 V, 24 V, or 48 Vdc input power (nominal)
- Can mimic the CAN ID of other controllers
- All parameters are configurable using this application available on the Google Play Store and Apple App Store for a fee.
- Surge, transient, reverse polarity, and input under and over-voltage protection
- 6-pin equivalent TE Deutsch connector
- Compact, IP67

Ordering Part Numbers

CAN ID NFC Controller, SAE J1939, P/N: **AX140822**

Accessories:
E-Write NFC Application is available for Android and iOS devices (see User Interface below). All parameters are configurable using this application available on the Google Play Store and Apple App Store for a fee.

Description

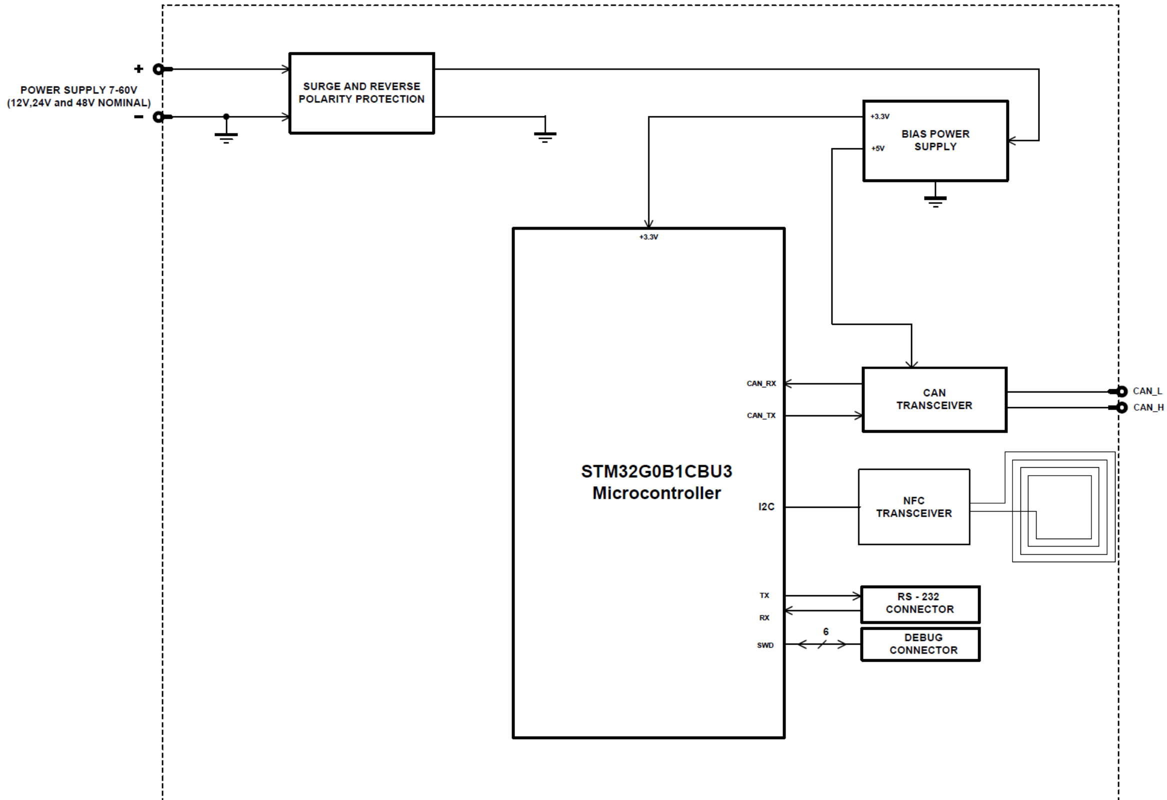
The CAN ID NFC Controller can mimic the CAN ID of another controller enabling users to configure certain parameters of those controllers without powering them on. For example, this feature is especially useful when the unit is installed in a system requiring tuning. In this case, the controller does not need to be isolated from the system and powered externally to perform the tuning. Instead, it can be configured with the system powered off.

The AX140822 can transmit up to five CAN messages and four signal outputs. Its flexible circuit design gives the user a wide range of configurable options. The control algorithms allow the user to program the controller for a wide range of applications without the need for customer software. All function blocks on the CAN ID NFC Controller are fully customizable and can be configured with user defined values.

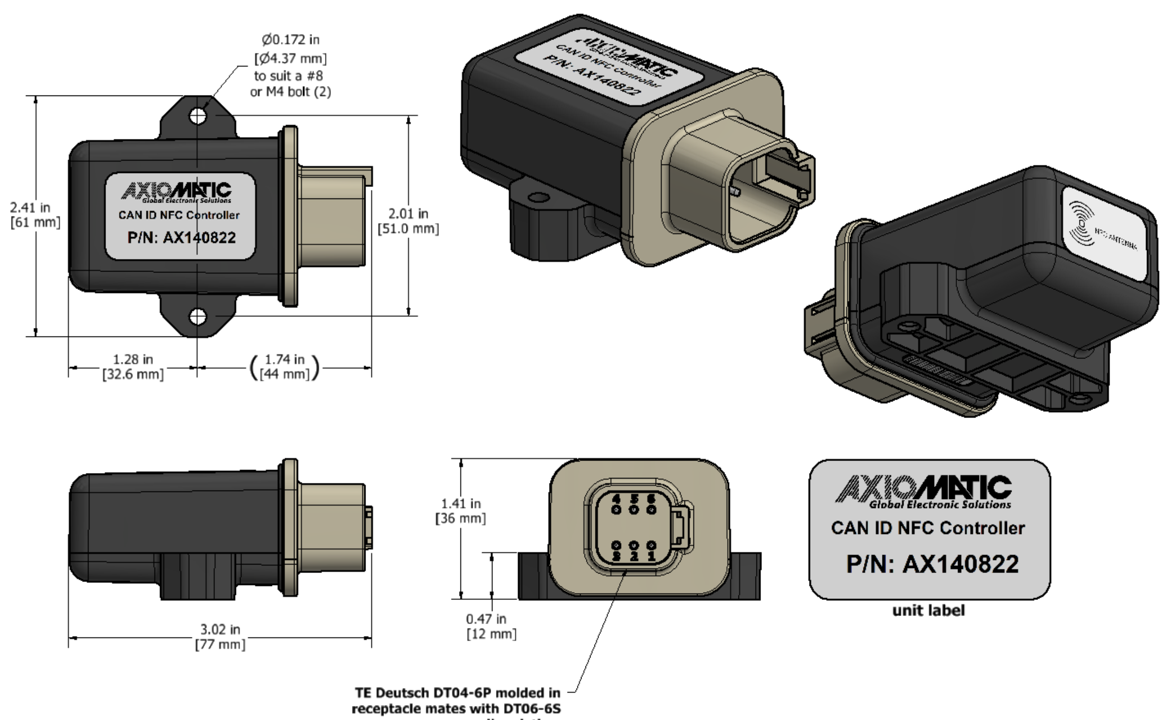
All parameters are configurable using the Axiomatic E-Write NFC configuration application available on the Google Play Store and Apple App Store. It allows the user to configure the module as well as to assign each of the AX140822 controllers a unique alias to easily distinguish between the controllers within a large system.

The ECU Address and NAME of the controller can be customized as the controller identity in a CAN network. Additionally, the output CAN messages can be configured to send user defined constant values from the twenty available options.

Block Diagram



Dimensional Drawing



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/.

Input Power Supply

Input Power Supply	12/ 24/ 48 VDC nominal (7 to 60 VDC range)
Quiescent Current Draw	12 mA @ 12 V, 7.2 mA @ 24 V
Protections	Reverse polarity protection up to -400 V Transient and surge protection up to 202 V Undervoltage protection (Hardware shutdown at 6 V) Overvoltage protection (Hardware shutdown at 63 V)

General Specifications

<table>
<tr><td>Microcontroller</td><td>STM32G0B1CBU3</td></tr>
<tr><td>Control Logic</td><td>Standard logic is provided</td></tr>
<tr><td>CAN Port</td><td>1 CAN (SAE J1939)
250 kbit/s, 500 kbit/s, 667 kbit/s, and 1 Mbit/s (Auto-baud-rate detection)</td></tr>
<tr><td>NFC Communications</td><td>Near Field Communication
Full-duplex
Data rate: 106 kbit/s
Complies with ISO1443 (RF protocol), ISO13239, and ISO7816
Protected and secure configuration</td></tr>
<tr><td>User Interface</td><td>E-WRITE NFC Application is available for a fee from Google Play for Android devices (https://play.google.com/store/apps/details?id=com.axiomatic.ewritenfc).
E-WRITE NFC Application can be downloaded for a fee from Apple’s App Store for iOS devices (https://apps.apple.com/us/app/e-write-nfc/id6473560354).</td></tr>
<tr><td>Operating Temperature</td><td>-40 °C to 85 °C (-40 °F to 185°F)</td></tr>
<tr><td>Storage Temperature</td><td>-50 °C to 125 °C (-58 °F to 257 °F)</td></tr>
<tr><td>Compliance</td><td>RoHS</td></tr>
<tr><td>Protection</td><td>IP67</td></tr>
<tr><td>Weight</td><td>0.043 kg (0.095 lb.)</td></tr>
<tr><td>Enclosure and Dimensions</td><td>Plastic Enclosure, Nylon 6-6 with 30% glass fill
Laser welded
77 mm x 61.3 mm x 35.8 mm (3.02 in x 2.41 in x 1.41 in)
Dimensions are inclusive of the integral connector
Refer to dimensional drawing.</td></tr>
<tr><td>Electrical Connections</td><td>6-pin equivalent TE Deutsch connector P/N: DT04-6P
<table>
<tr><th>Pin</th><th>Description</th></tr>
<tr><td>1</td><td>Battery +</td></tr>
<tr><td>2</td><td>CAN_P</td></tr>
<tr><td>3</td><td>CAN_N</td></tr>
<tr><td>4</td><td>Not used</td></tr>
<tr><td>5</td><td>Not used</td></tr>
<tr><td>6</td><td>Battery -</td></tr>
</table></td></tr>
<tr><td>Mating Plug Kit</td><td>A mating plug kit is available as Axiomatic P/N: AX070119 (includes 1 Plug DT06-6S, 6 Contacts 0462-201-16141, and 1 Wedgelock W6S)</td></tr>
<tr><td>Mating Cables</td><td>Not supplied</td></tr>
<tr><td>Installation</td><td>Mounting holes sized for #8 or M4 bolts. The bolt length will be determined by the end-user’s mounting plate thickness. The mounting flange of the controller is 0.17 in (4.4 mm) thick.

If the module is mounted without an enclosure, it should be mounted to reduce the likelihood of moisture entry. Install the unit with appropriate space available for servicing and for adequate wire harness access (6 in or 15 cm) and strain relief (12 in or 30 cm). 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.

All field wiring should be suitable for the operating temperature range of the module.</td></tr>
<tr><td>Network Termination</td><td>It is necessary to terminate the network with external termination resistors. The resistors are 120 Ω, 0.25 W minimum, metal film or similar type. They should be placed between CAN_H and CAN_L terminals at both ends of the network.</td></tr>
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