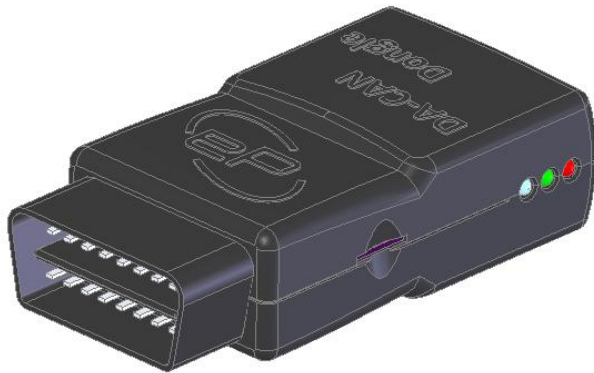


DA-Dongle

CAN, ISO9141 & FEPs Vehicle Interface Network Communications Adaptor



OVERVIEW

The DA-Dongle is a low-cost CAN & ISO9141 vehicle interface communications adaptor that will allow the user to communicate concurrently on three CAN channels (a dual CAN physical interface, plus a Fault Tolerant CAN physical interface), and the ISO9141 serial interface.

The adaptor is compliant (with exclusions) to the current SAE J2534 standards allowing 'pass-thru' communications support for all J2534 related applications communicating over a CAN and ISO9141 physical interface.

Connection to the adaptor is straightforward, with only two physical connections required, a direct connection to the vehicle via a J1962 'diagnostic' connector and the other to a PC or mobile device, via a standard USB (A/B) cable.

The adaptor comes with a J2534 compliant development API to allow rapid and generic production of diagnostic services to support your vehicle development programmes.

FEATURES

An on-board Freescale X-Gate processor takes care of all local processing on the adaptor rather than leave it for the host machine to deal with, freeing up the connection between host and client to maximise data acquisition.

The adaptor has a 'client' self powered USB 2.0 compatible connection allowing connection to a 'host' controlling device such as a desktop, laptop or PDA, using the relevant operating system drivers and cables.

The adaptor has a micro SD (Secure Digital) card slot to allow micro SD cards to be inserted to allow data to be written to or from the card during firmware execution.

The adaptor has a fully populated J1962 interface in which a number of the pins are multiplexed to allow for software configuration of these pins.

Features at a Glance

- Dual CAN physical vehicle interface
- Fault Tolerant CAN physical vehicle interface
- ISO9141 physical vehicle interface
- 16MB on-board memory
- FEPs programming voltage
- Programmable multiplexing of J1962 pins
- 3 Programmable ground lines
- 2 Port digital I/O interface
- PC connection via USB
- Micro SD Card Interface
- Industry standard API (J2534)
- Rugged compact 'direct connection' enclosure

16MB of on-board serial flash memory allows buffering of data for transmission or reception, and to allow data to be stored locally on the device (i.e. flight recording or software download into ECU's).

The adaptor has a number of programmable output drives that are exposed on various J1962 pins, these include a FEPs programming voltage (0v to 24V range), and three separate 1 Amp ground drives that can be used for automotive relay control.

All adaptor firmware upgrades can be undertaken via the host PC USB connection. Firmware upgrades are published and available on the Diagnostic Associates firmware update website. A Windows based PC application is provided to facilitate the firmware update process.

The adaptor has 2 digital I/O signals that are accessed via a 2.5mm phone jack mounted on the side of the device. These signals have appropriate protection to protect for over-current.

The adaptor is equipped with various visual LED aids to indicate network activity, vehicle power and device status, and also includes a piezo sounder to give audible indications.

The adaptor has a wide input voltage range allowing usage on 12V and 24V voltage systems (car & commercial vehicle).

TYPICAL APPLICATION USAGE

- EU5 (Euro5) hardware support
- In-shop vehicle programming
- Flight recorder
- Network monitoring
- Custom diagnostic applications
- End-of-line testing
- ECU diagnostic compliance testing
- ECU programming (car park re-flashing)

SOFTWARE PLATFORM SUPPORT

- Windows XP / Vista
- Windows CE / CE.Net
- Windows Mobile / Pocket PC
- Linux (on request)

THE DELIVERED PACKAGE

When you purchase a DACAN you will receive the following:

- DA-Dongle communications device
- USB A/B cable
- Software containing the J2534 API installation and Firmware updater PC application
- Access to the firmware upgrade website
- 12 months technical support

ADDITIONAL ACCESSORIES / SERVICES

- Ruggedised plastic carry-case
- 2GB SD Card
- Advanced network monitor software
- Proprietary low level communications API
- Development of diagnostic communication services
- Development of diagnostic and configuration application software

FUTURE DEVELOPMENTS

Future upgrades a version of the dongle that will have a WiFi capability allowing remote PC connection.

J1962 MULTIPLEXED PINS

The table below shows how the various functions of the device are connected through the J1962 'diagnostic' connector.

J1962 pin no.	Function											
	FT CAN +ve	125K CAN +ve	500K CAN +ve	K-Line	FT CAN -ve	125K CAN -ve	FEPs Voltage	500K CAN -ve	L-Line	GND 1	GND 2	GND 3
1	S/W	X	X	S/W	X	X	X	X	X	S/W	X	X
2	X	X	X	X	X	X	X	X	X	X	X	X
3	X	S/W	X	S/W	X	X	X	X	X	X	X	X
4	X	X	X	X	X	X	X	X	X	X	X	X
5	X	X	X	X	X	X	X	X	X	X	X	X
6	X	X	S/W	X	X	X	X	X	X	X	X	X
7	X	X	X	S/W	X	X	X	X	X	X	X	X
8	X	X	X	S/W	X	X	X	X	X	X	S/W	X
9	X	X	X	X	S/W	X	X	X	X	X	X	X
10	X	X	X	X	X	X	X	X	X	X	X	X
11	X	X	X	X	X	S/W	X	X	X	X	X	X
12	X	X	X	X	X	X	X	X	X	X	X	S/W
13	X	X	X	X	X	X	S/W	X	X	X	X	X
14	X	X	X	X	X	X	X	S/W	X	X	X	X
15	X	X	X	X	X	X	X	X	S/W	X	X	X
16	X	X	X	X	X	X	X	X	X	X	X	X

TECHNICAL DATA

Dimensions (LxWxH) (Including J1962 connector)	92 x 46 x 26 (mm) 3.6 x 1.8 x 1.0 (in)
Weight	100g / 0.22 lbs
Power Supply	9 to 36 VDC Supplied through J1962
Current Consumption	80 to 110 mA
Operating Temperature	-25°C to +85 °C
PC / PDA Interface	Client USB 2.0 (full speed)
Memory	16MB Serial flash
SAE J2534 Compliant	J2534-2 (with exceptions)
Current Supported Networks	ISO 14229 CAN ISO 15765-2 CAN ISO 15765-4 CAN ISO 11898-3 FT CAN ISO 9141 ISO 14230 (KWP2000)
Other Interfaces	SD Card interface 2 Port digital I/O 3 LED indicators
Cables	USB-A to USB-B cable (0.5m long)
Miscellaneous	Programmable FEPs 3 Programmable 1Amp ground drives Direct connection to vehicle (no J1962 cable) Firmware upgrade via USB Robust, small form factor Piezo Sounder

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