

## USB-MUXDIAG-II

USB interface – CAN HS/LS, Diag on Can,  
LIN/ISO9141 networks

The USB-MUXDIAG-II interface is a product from the EXXOtest® “Communication Networks Expertise” range of hardware and software solutions.

It allows to interface a PC (or pocket PC) with CAN HS/LS, LIN/ISO9141 and Diag On CAN communication networks through a USB bus.

### Available channels:

- 2 CAN high speed channels (ISO 11898 standard), 1 of both channels can be commuted from the PC software in low speed – fault tolerant channel. Both of them implement the Diag On CAN protocol (ISO 15765-2)
- 2 ISO9141 or LIN channels with 510 Ohms « Pull-up » resistors.
- 2 LIN or ISO9141 channels with 1Kohms or 30Kohms « Pull-up » resistors.
- 2 analog or digital inputs (1 of both for power supply supervision input)



### Main characteristics

<b>Description</b>	USB interface . 2 CAN channels . 2 LIN / ISO9141 channels . 2 ISO9141 / LIN channels
<b>Protocol controllers</b>	. CAN : 1 x TWINCAN . LIN / ISO9141 : 2 x UART
<b>Line interfaces</b>	. CAN high speed : 2 x TJA1040 . CAN low speed : 1 x TJA1054 . LIN : 2 x MC33661 (Master or slave)
<b>Inputs</b>	1 Analog or Digital 0-16.75V input 1 Analog or Digital power supply supervision input
<b>Timebase</b>	100 µsec clock
<b>Connector</b>	1 x J1962 (16 pins OBD male)
<b>PC Interface</b>	USB 2.0 bus
<b>Size</b>	140 x 58 x 23 mm
<b>Power supply</b>	External 6-36V (vehicle) or USB
<b>Storage Temp.</b>	-40 to +85°C
<b>Working Temp..</b>	0 to +70°C
<b>Insulation</b>	No



Pin	Name
1	ANA INPUT
3	CAN HS1_H
4	GND
5	GND
6	CAN HS2_H
7	K Line / LIN 1
8	CAN HS1_L
9	CAN LS1_H
10	CAN LS1_L
11	K Line / LIN 2
12	LIN / K Line 3
13	LIN / K Line 4
14	CAN HS2_L
15	L Line 1
16	VBAT

### CAN channel characteristics:

Protocol controller: TWINCAN (CAN 2.0B standard)

- Standard identifier 11 bits ; extended 29 bits
- Spy mode (no acknowledgment or error frame)
- Reading of counters of internal errors and detailed information in case of bus error

High speed line interface: PHILIPS TJA1040

- Baud rate up to 1 Mbit/sec
- Transmission in differential mode

Low speed line interface: PHILIPS TJA1054 (Fault tolerant CAN transceiver)

- Baud rate up to 125 kbit/s
- Detection and treatment of degraded modes

### ISO9141 channel characteristics:

- ISO 9141 or ISO14230 standard
- Baud rate of 9600, 10400, 62500 and 125000 bauds

### LIN channel characteristics:

- LIN specification Rev 1.2, 1.3, 2.0
- Baud rate of 2400, 9600, 19200 and 20833 bauds
- Pull-up resistor configuration in master mode (1Kohms) or slave mode (30 Kohms) to be applied through software.

### Software libraries:

DLL-MUX-xxx: software library enabling simple and fast interfacing with a PC application using Windows 95, to Vista(32) operating systems with CAN HS/LS/SW, LIN, ISO9141, Diag On CAN networks. The functions available in this library enable the user to make his application transparent with regard to the protocol

controllers and line interfaces resident on the board.

- Network configuration and transmission / reception functions.
- Access to several networks and boards simultaneously (identification of board position on the USB bus)
- Possibility under certain conditions to date stamp messages transmitting over the network.
- Calculation of bus load, statistic counters, application timer, downgraded modes...

More details on the features of the functions and the different networks supported, onto the DLLMUX-xxx technical data sheet.

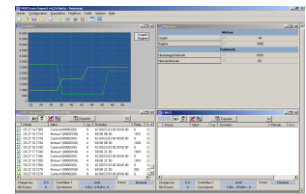
### COMPATIBLE SOFTWARES :

MUXTRACE-EXPERT : Buses analyser and emulator for protocols CAN HS/LS/SW, LIN/ISO9141, VAN & Diag On CAN

### Additional tools and accessories

#### Softwares:

**MUXTRACE Expert** : Buses analyser and emulator for protocols : CAN HS/LS/SW, LIN/ISO9141, VAN & Diag On CAN



#### Cables / adapters :

**AMUX-C4C-DB9** : 2 m twisted cable with DB25 to 4 x SubD9 (CAN channels)



**AMUX-2C2L** : 4 SUBD9 (2 CAN and 2 LIN) adapter to a 16 pins female connector J1962 (OBD-II)

**AMUX-YOBD** : 16 pins male connector to 2 x 16 pins female connectors adapter J1962 (OBD-II)



**Documents and downloads : [www.exxotest.com](http://www.exxotest.com)**