

# LAWICEL CAN232

## Low cost Tool for CAN connectivity

### Dimensions:

- ◆ 68mm Long
- ◆ 31mm Wide
- ◆ 16mm Thick

Plugs into RS232 port for use on virtually any PC or Embedded Operating system.



### CAN232

The LAWICEL CAN232 is a low cost and easy to use dongle, that could be used together with any O/S without drivers since it is an RS232 to CAN gateway. Simply connect it to any PC running DOS, WINDOWS 95/98/ME, NT4/2000 or Linux and talk with the unit in standard ASCII format.

It could also be used together with embedded computers that needs a simple CAN connectivity without changing the existing hardware. The Can232 handles both the 11bit ID format as well as the 29bit ID format, built in FIFO queues, extended info/error information and simple power up through a few commands.

The CAN232 is only 68mm long, 31mm wide and 16mm thick using the latest technology of small SMD parts on both sides of the board, the power behind is an Atmel AVR and the Philips SJA1000 CAN controller and that makes it very flexible in the way of handling small bursts of CAN frames at a high bus speed.

The CAN232 can be customized with your needs as a CAN to RS232 unit (i.e covert existing RS232 products to CAN that are too expensive to replace or to extend an RS232 network longer than the normal length is for RS232 etc.)

### Installation

The RS232 side of the dongle (DB9 female) is inserted directly into a PC's COM serial port or via a cable to the Host system (such as an embedded system etc) The CAN side of the dongle (DB9 male) has the same pinout as the standard CAN in Automation (CiA) DS102 profile and the CAN232 dongle must be powered via the CAN side with 8 to 12VDC.

The dongle is ESD protected so reversing the power will not damage the CAN232, instead the power supply will be short-circuited to protect the CAN232 dongle. The CAN232 dongle needs about 40-100mA depending on how much the CAN network is loaded (i.e numbers of nodes etc).

### Order Code:

CAN232

## Testing CAN232

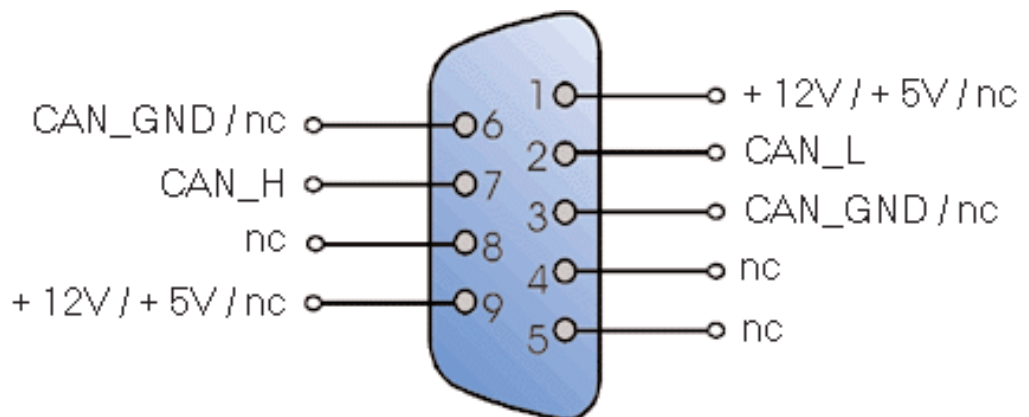
Install it to a PC's COM port and power it up according to instructions.  
The CAN232 is set to accept all frames, so no need to set filters etc for testing

## CAN232 Limitations

There are limitations on how many frames the CAN232 can send & receive. We have now tested it by shooting 500 frames per second with standard 11bit ID's and 8 databytes using 115,200baud RS232 and no single frame was lost during a whole day. Another test was done shooting 1000 frames per second with standard 11bit ID's and 2 databytes and same result, not a single lost frame.

The CAN232 has software CAN FIFO queues for both sending and reception. These FIFO's can handle each 8 frames (standard or extended). The CAN232 has only a small RS232 buffer, so it can only handle one command at a time, meaning before sending the next command to it, you must wait for an answer.  
The latest version has a 32 byte receive FIFO buffer and Auto-polling of the CAN frames so they can automatically be sent to the RS232.

## DB9 Pin-outs



Pin assignement according to CiA recommendations DS102-1.  
The CAN232 is powered with +Vin at pin 9 and GND at pin 3.

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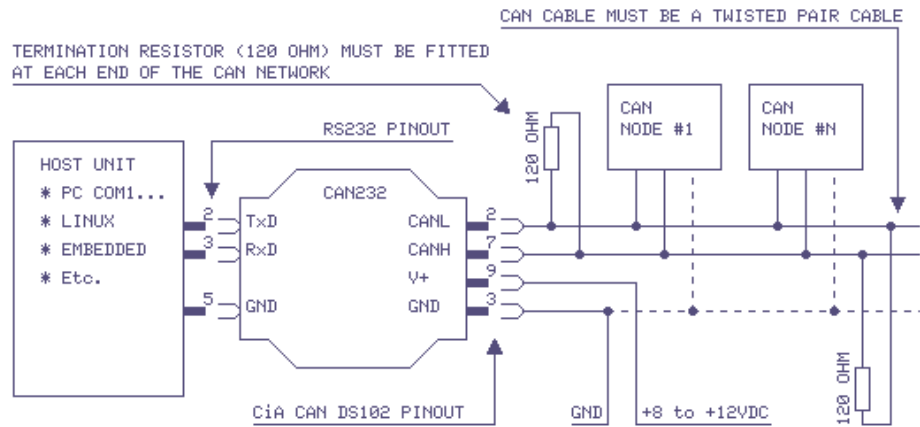
**Order Code:**

CAN232

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## How to Connect the Module



## Driver Design Guide

The CAN232 doesn't need a driver. Most commercial development tools provide an RS232 driver (such as Visual Basic, Delphi etc) it is simple to write a simple program to talk to the CAN232 unit. The best way is to make a thread that handles all the communication to the CAN232 and puts all messages in FIFO queues or mailboxes depending on your application.

FREE Delphi, Visual Basic and C++ monitor programs are available, including source code.

CAN232 is a RS232 to CAN dongle to be used with any PC/UNIX/LINUX software or an existing embedded microcontroller that has an RS232 port available.

CAN232 is a low cost tool to get CAN connectivity without the need of drivers etc You simply use your own RS232 Driver (in e.g Visual Basic, Delphi , C++ etc) and send/receive ASCII commands.

## Free Delphi Monitor Program

