



Software

User Manual
CAN 232 Driver
Document code: MN67190_ENG
Revision 1.300

CAN 232 DRIVER

User Manual

Revision 1.200
English

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TERMINOLOGY:

| Term | Description | Descrizione |
|------|-------------|-------------|
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PRODUCTS AND RELATED DOCUMENTS:

| Part | Description | URL |
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INTRODUCTION

The product is a software component presented as a library.

The library can be used with any system /Programming language such as Visual C, Visual Basic, Delphi, C Builder, Basic Script and HTML.

Applications are provided with the library.

DRIVER CHARACTERISTICS:

➤ CAN functions implemented:

- InitAnalyzer
- CanStart
- CanStop
- GetCanFrames
- SetCanFrame
- SetFilter
- GetFilter
- GetStatus
- SetBaudRate
- GetBusLoad
- GetVersion
- DeInitAnalyzer
- Reset

SOFTWARE COMPATIBILITY

- ### ➤ Windows 9x, Windows 2000, Windows XP

FILE CONTENTS: DL67190.ZIP

Contains the following folders and files:

- DLL_CAN_232_MN67190_ENG.pdf .
- Folder ADF_DLL_CANana
 - CAN_232_DLL.dll
 - Folder with one Example in Borland Delphi

THE FUNCTIONS EXPORTED FROM THE LIBRARIES

InitAnalyzer

PARAMETERS:

| Name | Description | Data type | Value |
|----------|--------------------|---------------|--|
| ComPort | Number of the port | Unsigned char | 0-255 0 = COM1 1 = COM2 |
| Baudrate | Speed of Can bus | Unsigned long | 10,20,50,100,125, 250,500,800,1000 |
| CANType | Type of the CAN | Unsigned char | 1 = Standard (11 bit) 0 = Extended (29 bit) |

RETURN VALUE:

The function returns an "long" that can take on the following values:

- 1 if the operation is completed correctly
- 0 if there is an error when open port.
- 1 if there is an error in Baudrate
- 2 if there is an error in ComPort parameter
- 3 if there is an error in CANType parameter

CanStart

PARAMETER: none

It is used to start the read of the can message

RETURN VALUE:

The function returns an "unsigned char" that can take on the following values:

- 1 if the operation is completed correctly
- 0 if the InitAnalyzer function is not called.
- 255 generic error

CanStop

PARAMETERS: none

It is used to stop the read of the can message

RETURN VALUE:

The function returns an "unsigned char" that can take on the following values:

1 if the operation is completed correctly
 0 if the InitAnalyzer function is not called.
 255 generic error

GetCanFrames

PARAMETERS:

| Name | Description | Data type | Value |
|--------|----------------------------------|-----------|-------|
| Frames | Pointer to an array of structure | | |

Frames is a pointer of an array of struct

OutData frames[MAXFRAMES];

MAXFRAMES is equal at 2000;

The OutData structure is declared as following:

```
Struct OutData {
  Unsigned long CobID;    //COB-ID
  Unsigned char NByte;    //N of byte for this frame
  Unsigned char Data[8]; //array with data
  Unsigned long Time;     //time of Frame expressed in 1/10 of milliseconds.
}
```

RETURN VALUE:

The function returns an "long" that can take on the following values:

0 Error in read
 >0 the number of record present in Array.

SetCanFrame

PARAMETERS:

| Name | Description | Data type | Value |
|-------|---------------|-----------|-------|
| Frame | Data of frame | OutData | |

The OutData structure is declared as following:

```
Struct OutData {
    Unsigned long CobID;    //COB-ID
    Unsigned char NByte;    //N of byte for this frame
    Unsigned char Data[8];  //array with data
    Unsigned long Time;     //time of Frame expressed in 1/10 of milliseconds.
}
```

RETURN VALUE:

The function returns an "long" that can take on the following values:

- 0 Error in write
- 1 if the operation is completed correctly

SetFilter

PARAMETERS:

| Name | Description | Data type | Value |
|--------|-----------------------|-----------------------------|-------|
| Filter | Filter of CAN message | Pointer of an array of byte | |

Filter is declared as following:

```
Unsigned char Filter[256];
```

Every bit of every Byte of array mask an COB-ID.

For example: the bit 0 of Filter[0] is equal to COB-ID \$000, the bit 1 of Filter[0] is equal to COB-ID \$00, ..., the bit 0 of Filter[1] is equal to COB-ID \$008 and so on.

If the bit is equal at 1 the message with that COB-ID are delete from hardware.

RETURN VALUE:

The function returns an "long" that can take on the following values:

- 1 if the operation is completed correctly
- 0 if the InitAnalyzer function is not called
- 1 Filter is in download
- 2 Generic Error

GetFilter

PARAMETERS:

| Name | Description | Data type | Value |
|--------|-----------------------|-----------------------------|-------|
| Filter | Filter of CAN message | Pointer of an array of byte | |

Filter is declared as following:

```
Unsigned char Filter[256];
```

Every bit of every Byte of array mask an COB-ID.

For example: the bit 0 of Filter[0] is equal to COB-ID \$000, the bit 1 of Filter[0] is equal to COB-ID \$00, ..., the bit 0 of Filter[1] is equal to COB-ID \$008 and so on.

If the bit is equal at 1 the message with that COB-ID are delete from hardware.

The function returns an "long" that can take on the following values:

- 1 if the operation is completed correctly
- 0 if the InitAnalyzer function is not called

GetStatus

PARAMETERS: none

The Bit 0 of result byte represent the CR state.

The Bit 1 of result byte represent the TP state.

The Bit 2 of result byte represent the OV state.

The Bit 3 of result byte represent the WL state.

The Bit 5 of result byte represent the BO state.

For more information please see the analyzer manual.

If the value is equal to 255 the InitAnalyzer function is not called

SerBaudRate

PARAMETERS:

| Name | Description | Data type | Value |
|----------|---------------------|---------------|--|
| BaudRate | BaudRate of CAN bus | Long | 10,20,50,100,125,250,500,800,1000 |
| CANType | Type of CAN | Unsigned char | 1 = Standard (11 bit) 0 = Extended (29 bit) |

RETURN VALUE:

The function returns an "unsigned char" that can take on the following values:

- 1 if the operation is completed correctly
- 0 if there is an error.
- 1 if there is an error in Baudrate
- 2 generic error
- 3 if there is an error in CANType

GetBusLoad

PARAMETERS: none

RETURN VALUE:

The function returns an "long" that can take on the following values:
 255 if the InitAnalyzer function is not called
 From 0 to 100 is the value (in per cent) of the Bus Load.

GetVersion

PARAMETERS: none

RETURN VALUE:

The function returns a "long" that is the Get Version

DeInitAnalyzer

PARAMETERS: none

Reset

PARAMETERS: none

The function returns an "long" that can take on the following values:
 1 if the operation is completed correctly (reset of the board)
 255 if the InitAnalyzer function is not called
 -2 generic error

DIMENSION OF DATA

Unsigned char is a 8bit data
Unsigned int is a 16bit data
Unsigned long is a 32bit data
Char is a 8bit data with sign
Int is a 16bit data with sign
Long is a 32bit data with sign