

CANginell



CANginell enables the connection between commercial vehicle electronics and a telematics host computer. On its vehicle side CANginell offers connections to

- FMS CAN
- CAN of the digital tachograph
- D8 info link of the digital tachograph

With these connections not only the complete real-time vehicle operational data and the ID numbers of the driver cards are available but also access to the data storage of the digital tachograph. Using CANginell as access device to the vehicles electronics the telematics unit is able to download the complete tachograph data for archival storage without any manual intervention. The laborious and error-prone handling of the USB Download Stick is a thing of the past. Update your telematics equipment with CANginell for the cost of one single Download Stick.

High Performance

In its standard case, CANginell only measures 92x44x24 mm³ and contains a **72 MHz** modern 32 bit microcontroller, which is internal clocked at 72 MHz. The Arm controller offers enough resources even for future firmware extensions. The supply voltage is 7...32 V, the operating temperature range is -40...80°C.

FMS CAN

CANginell supports all messages defined in the FMS standard version 03 (trucks and busses). If the vehicle is equipped with FMS version 2 or 3, the connection of the D8 info serial link is generally not necessary as information about the inserted driver cards is provided by the new FMS standards. This simplifies cabling.

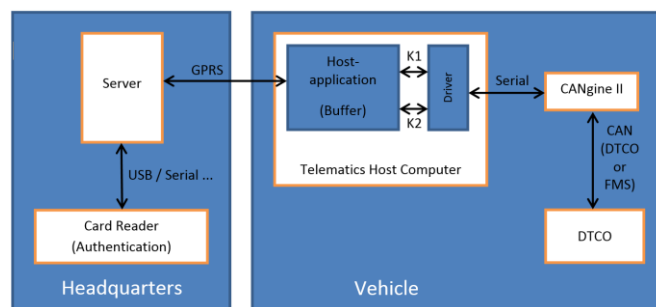
D8 Info Link of the DTCO

The digital tachograph (DTCO) features a serial output on its rear panel, where the driver's card data and some vehicle operational data are transmitted cyclically. Unfortunately the data format is not specified in the EU regulation paper and therefore the tachograph manufacturers use different data formats. In its actual revision CANginell supports the VDO and the Stoneridge formats, other tachographs will be added on request.



Remote Download

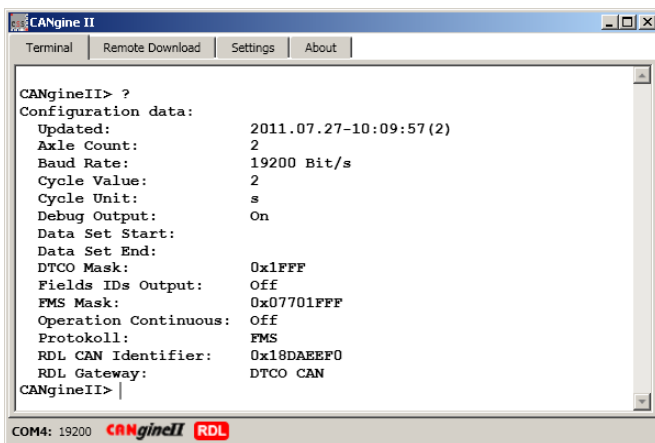
The Remote Download function via FMS CAN has been published end of 2008. CANginell grants access to this helpful feature without having to learn the related CAN protocol. A special serial protocol provides access to authentication and data download. On the telematics host side we provide a Run-Time API which realizes most of the programming tasks and facilitates building the Remote Download application. The API offers the functions to open a session, to realize the authentication process and to download the tachograph's and the driver cards data. To further facilitate the programming work the example application which is delivered with CANginell is available as a source code package.



If the vehicle does not yet support the Remote Download feature on the CAN FMS CANginell can be connected to the rear panel of the digital tachograph. Using a CANginell specific configuration command the link for Remote Download can be defined by the user.

Parameterising

CANgineII can be parameterised by a lot of useful parameters and in this way be adapted to nearly any special demands of a given telematic application. The telematics host is not bound to read all the real time variables. With the help of parameterising commands the variables are selectable by masks as well as the time or distance period of the output cycle.



```

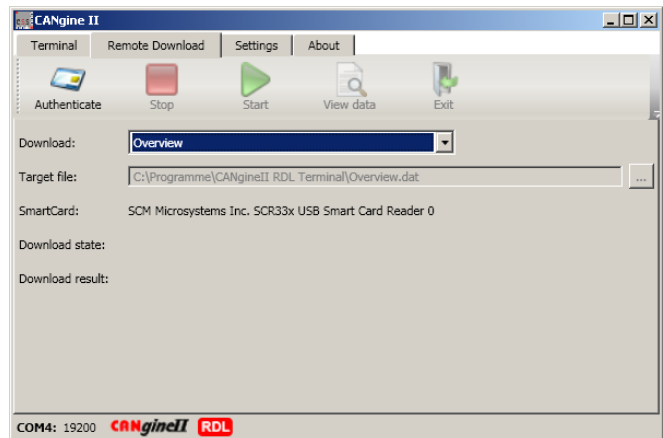
CANgineII> ?
Configuration data:
Updated:          2011.07.27-10:09:57 (2)
Axle Count:       2
Baud Rate:        19200 Bit/s
Cycle Value:      2
Cycle Unit:       s
Debug Output:     On
Data Set Start:
Data Set End:
DTCO Mask:        0x1FFF
Fields IDs Output: Off
FMS Mask:         0x07701FFF
Operation Continuous: Off
Protokoll:        FMS
RDL CAN Identifier: 0x18DAEEF0
RDL Gateway:     DTCO CAN
CANgineII>
  
```

Overview Parameterising

Example Software

The example software for Windows shows all functions of the CANgineII including the Remote Download function. The terminal window is used for direct communication to the device. In this window the operational parameters are set and the data output can be watched. With the settings tab basic communication parameters can be adjusted. The Remote Download tab is used to set the target directory for download data, to authenticate the download and to download the data sets from the tachograph or driver cards to the telematics host.

With the help of the Remote Download function companies are able to fulfil the compulsory archiving without manual intervention of the driver. Data downloaded by the Remote Download Function contains a digital signature as requested by the law in most European countries.



Remote Download Tab

Output of Real Time Values

The cyclic output of realtime values can be done in two different formats. The so called debug format is used for the initial operation procedure and for monitoring after modification of parametrising. In normal operation mode when data is transmitted to the telematic host a compressed format is used, where no leading text and no physical units are output. In this format the values are separated by semicolons and can be prefixed by an optional index value.

Technical Data

Power Supply	7 .. 30	VDC
Power Consumption	32 typ @ 12 VDC 26 typ @ 24 VDC	mA mA
CAN Transceiver	82C251 (24V)	
Vehicle Connector	Sub-D 9 pin male	
CAN Baud Rate	250	kBit/s
Host Connector	Sub-D 9 pin female	
Serial Baud Rate	4800 .. 115200	baud
Displays	LED RUN (green) LED ERR (red)	
Size	92 x 44 x 24 3.62 x 1.73 x 0.94	mm ³ inch ³
Weight	47	g
Operating Temperature	-40 .. +80	°C