



CANgine

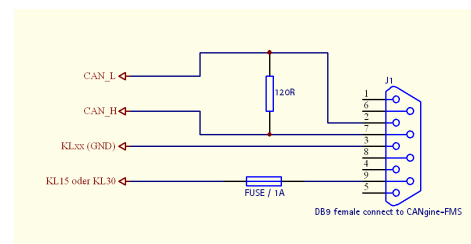
BT FMS

Product Brief

CANgineBT FMS is a smart FMS (fleet management protocol) to Bluetooth converter for use with any bluetooth equipped device. CANgineBT FMS speaks pure ASCII code, so handling the device is easy. No special drivers are needed and with a few commands in configuration mode CANgineBT FMS can be set to the customers needs. From incoming FMS frames real time data is extracted and transmitted via Bluetooth with selectable cycle time and data contents. CANgineBT FMS is based on the FMS standard defined in mid 2002 by DaimlerChrysler, MAN, Scania, Volvo, Iveco and DAF. Since spring 2006 the Bus-FMS standard is also supported by CANgineBT FMS.

The CANgineBT FMS module is a small (only 84 x 36 x20 mm³) device which is powered by two pins of the 9 pin D-Sub CAN connector.

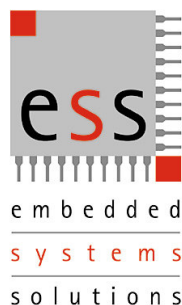
Technical Data	
Internal Microcontroller	40 MHz internal clock Full CAN 2.0B interface
Bluetooth Class 1	1.2 ~100m in open air
Bluetooth antenna	internal
Bluetooth Profile	SPP (serial port protocol)
CAN transceiver	ISO 11898-2 (high speed) compliant
CAN baud rate	250k according to FMS standard
CAN (FMS) connector	D-Sub 9 pin male
Display	LED RUN (green) and LED ERR (red)
Power supply	7 ..30 VDC / 50 mA (typ.) via CAN connector
Operating temperature	-20 ... +70 °C
Size	84,4 x 35,6 x 20,2 mm ³ 3.321 x 1.4 x 0.794 inch ³
Weight	46 g



Cabling CANgineBT FMS in the truck

CANgineBT FMS has two LEDs signaling operating state (running or configuration mode) and errors. Sophisticated FMS data filtering and the possibility to configure the cycle time for serial transmission allow adapting CANgine FMS to users needs.

The cycle time for transmission of data via serial link can be set between 100 ms (10 data packages per second) and infinite (data request mode). In data request mode data is transmitted every time the character 'P' is received. With a mask register the data transmitted to the serial link can be individually selected between all data items defined in the FMS standard. The output format of serial data can be switched between a well readable screen format for debug or display purposes and a packed database format without variable names and physical units.



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Command Overview

?[CR]	show parameter settings
An[CR]	set axle count for serial transmission
ASn[CR]	set autostart feature on or off
Cn[CR]	set cycle time for serial transmission
CUc[CR]	set cycle time unit for serial transmission
Dc[CR]	set decimal separator for serial output
En[CR]	set RS232 echo on or off
F[CR]	send error register info to serial link
Mccccccc[CR]	set mask for data selection
P	send data set (in normal operation mode if data request mode is selected)
Pc[CR]	set protocol to truck or bus FMS protocol (in configuration mode)
R[CR]	restart FMS polling (exit configuration mode)
Sn[CR]	set screen or database format
V[CR]	send version information to serial link

Sample data output in screen format for truck protocol:

```

0-00:01:29.342
EngSpeed 2933,375 rpm
Accel 051,6 %
TCO 078,1 km/h MD y OS n DI f TP n HI n EV n D1:p/3/01 D2:n/7/15
Speed 078,1 km/h CC:1 BR:0 CS:0 PTO: 2
Service +3200 km
Distance 123456,135 km
EngHours 3215,75 h
FuelC 2730849,5 L
weight 2991,5 kg (n) 2724,5 kg (n) 2713,5 kg (n)
EngTemp +88 degr
FuelLev 068,4 %
VehID CANgine
FMS 01.00 Diag: n Requ: n

```

In database format, all values are separated by ';' and neither name nor physical units are transmitted.

ESS Embedded Systems Solutions

Industriestr. 15
D-76829 Landau
Phone: (49) 6341/3487-0
Fax : (49) 6341/3487-29
www.ESSolutions.de

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For more information about the whole CANgine product family or downloading the manual of CANgineBT FMS see

www.CANgine.com