

1000+ PGNS

Updated J1939 DBC file released

CSS Electronics (Denmark) released the latest version of the J1939 DBC (data base CAN) in March 2020. The file makes it possible to decode J1939 data from heavy-duty vehicles to human-readable form.



(Source: CSS Electronics)

The company acts as reseller on behalf of the SAE (society of automotive engineers) for the J1939 database file. The J1939 DBC file bundle includes an SAE J1939 DBC file with ca. 1060 PGNS (parameter group numbers) and ca. 6400 SPNs (suspect parameter numbers). It also includes one legal license (one user, one PC) matching the J1939 Digital Annex license with stand-alone price of 250 \$. Company-wide licenses of the J1939 DBC are offered.

A DBC file is a standardized method for storing the rules on how to interpret CAN bus data. In particular, it contains details about which signals (e.g. RPM, vehicle speed, diverse temperatures) are contained within CAN messages with certain CAN-IDs. In the J1939 standard, messages are referred to as parameter group numbers (PGNs) and signals as suspect parameter numbers (SPNs). Further, a DBC file includes the names, descriptions, positions and lengths of the signals, as well as how to offset and to scale them. The DBC file format is used in diverse CAN tools including company's CANedge logger software.

Before buying the file, a company can check if the required PGNS are already covered. If the PGNS are not covered, they can be added in the converter offered on company's website. Thus, it is

possible to improve the file as a large user base may contribute its PGNS and corrections for free. A manually constructing of a J1939 DBC from scratch is not more necessary. CSS recommends to read the FAQ (frequently asked questions in a separate tab) for details on PGN and SPN coverage. Also available on the website is a sample of J1939 data logged from a tractor using the CANedge2 WiFi CAN logger from CSS. The sample also contains a demo J1939 DBC with one SPN (engine speed). Another possibility is to load the J1939 data and DBC in the free open source Asammdf GUI/API (graphical user interface/application programming interface) offered for use with the CANedge series. Hereby it is possible to decode the data e.g. to plot it.

The company's CANedge2 data logger supports free, open source APIs for automating data processing. To get started with the APIs is it now possible via an API-example library on Github. It includes basic start scripts, as well as event triggers for processing data. The users are invited to test the sample data and to inform CSS about ideas for additional scripts examples. Currently, the company is working on a firmware release for the CANedge devices, which will include such features as compression, encryption and more.

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