



# Star Diagnosis CANtool

## Troubleshooting in the depths of the electronics

### **CAN bus – bus wake-up events - bus keepawake units**

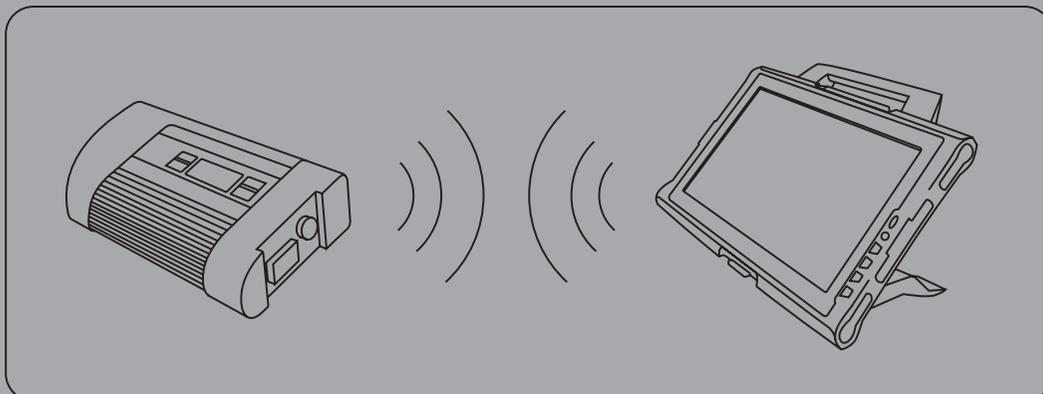
The CAN bus connects several control units in the vehicle to each other via a central line. Many individual signals are bundled in data packages to avoid clogging the line with countless signals. These data packages go to all of the control units on the data bus one after the other - much like a bus goes around to its bus stops. The common central line for the control units makes many individual lines unnecessary.

The control units switch off or go into energy-saving mode after the vehicle engine has stopped. If there is a defect in a CAN bus control unit, this unit may keep

all the other control units „awake“ or „wake them up“ from a standby state. This is referred to as a „bus keepawake unit“ or „bus wake-up event“. In this case, it is practically impossible for the CAN bus to go into energy-saving mode and the control units hence continue to consume power. As a consequence, the car battery is quickly discharged for no apparent reason. Such a control unit malfunction often cannot be discovered with a common diagnosis where fault codes are read out and test steps performed.

**The Star Diagnosis CANtool helps in this case.**

## Mercedes-Benz



# Star Diagnosis CANtool

Troubleshooting in the depths of the electronics



## New capabilities in diagnostics

There was previously practically no way for a workshop to investigate communication faults on the CAN bus. The Star Diagnosis CANtool offers new options for troubleshooting. It may be used when conventional diagnostic tools do not detect the defective components. CAN messages and CAN signals in the vehicle can be displayed and recorded. The diagnostics technician can use the data recorded to investigate much more accurately and determine faults in the CAN bus much more precisely. The Star Diagnosis CANtool is integrated into the SDconnect multiplexer and may be used via two different applications.

## CAN diagnosis with Xentry DAS

CAN diagnosis is possible using the Diagnosis Assistance System Xentry DAS. This can be used to simply locate bus wake-up events and bus keepawake units in certain model series\*. Furthermore, the diagnostics technician has the ability to access CAN signals sorted by function, to display and to check these. The Diagnosis Assistance System guides the user through all the necessary steps. This form of CAN diagnosis can easily be used by any system and diagnostics technician without any additional training. The CANtool with Xentry DAS is available for the following model series: 164, 251, 169, 245, 171, 203, 209, 211, 219, 220, 215, 221, 216 and 230. There are currently no plans to integrate the CANtool in Xentry Diagnostics.

## CAN diagnosis with the SDscan expert software

SDscan, the separate expert software, offers special capabilities for troubleshooting in complex CAN diagnostic functions. SDscan can be used to directly monitor CAN messages for all CAN signals in many model series\*, in addition to detecting the bus wake-up events and bus keepawake units. The user puts together his own CAN signal list as necessary, saves it and can use it for future tests. This can help in locating software faults in control units causing CAN faults which Xentry DAS cannot display directly via the fault codes. Use of the

Star Diagnosis CANtool in combination with SDscan is intended for diagnostics experts and requires technical knowledge gained in training.

## Training

Global Training provides training in the specialist knowledge needed for SDscan. The learning objectives of the training are:

- Expansion of existing diagnosis knowledge, adding the new SDscan application
- Examination of digital CAN data graphs and interpretation of the diagnosis
- Avoiding incorrect diagnosis interpretations through SDscan
- Analysis of complex error causes and their effects on the network

If you are interested, book the training (course number PTXS-ME140) at Global Training.

Internet: <http://gt.mercedes-benz.com>

Intranet: <http://gt.intra.corpintra.net>

Your market representative or responsible trainer has more information.

## Hardware required

- Star Diagnosis compact<sup>4</sup> or Star Diagnosis compact<sup>3</sup> w including SDconnect multiplexer and 8-pin CAN monitoring cable
- Electrical connection kit (may be obtained separately from your Logistics Center)
- Adapter cables for potential distributor for the newer model series may be ordered individually from your Logistics Center.

\* Information regarding the model series with current data may be found in the Star Diagnosis CANtool manual (INFO information system on the desktop of your Star Diagnosis system)

