

CANerator CANopen

Generation and Configuration of Source Code

CANerator CANopen is a tool for managing source code configuration settings and for creating and generating object directories automatically.

Features and Advantages

The CANopen communication profile distinguishes itself through its broad scalability for use in embedded networks. It offers many opportunities for representing necessary device functionality and at the same time accommodating the small resources of a micro-controller. Vector Informatik's CANopen Master and Slave Source Code therefore offers a multitude of setting possibilities.

The price for this flexibility is the increased complexity of the development process. In addition, there is the requirement for reusability and more flexible adaptability of software for entire spectrums of various devices from a manufacturer.

In addition to the actual configuration of the source code, the developer of CANopen devices must also create an object directory. This forms the interface between application and CANopen communication and serves to describe the device characteristics.

With CANerator CANopen, the software developer has available a tool that supports him comfortably in his tasks and significantly speeds up the development process.

Functions

CANerator CANopen makes available the following functions:

- > Configuration of the source code with the aid of a clear display of all #define instructions
- > Creation and automatic generation of the object directory as source code
- > Automatic creation of EDS files
- > Simple management of projects

These functions will be described in detail below.

Application Areas

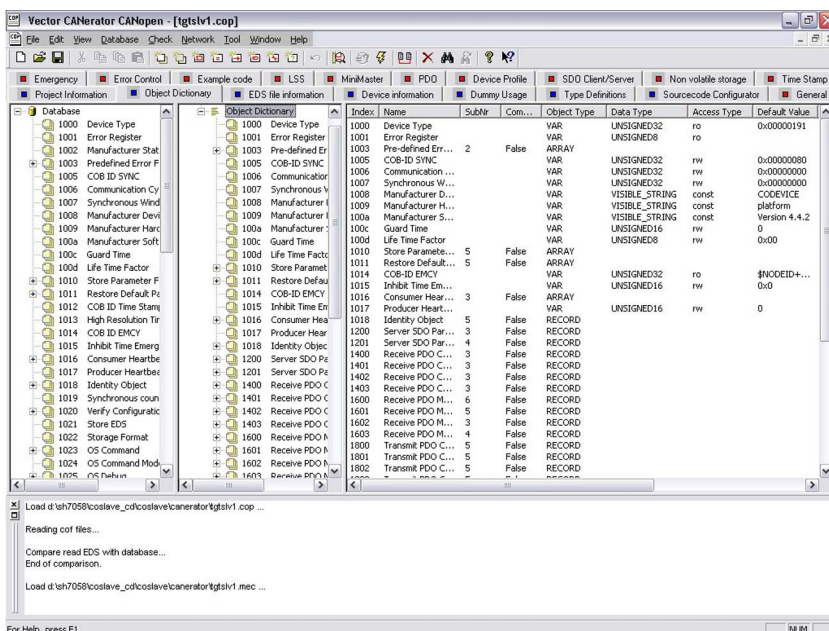
CANerator CANopen is intended for use together with CANopen Master and Slave Source Code from Vector.

Source Code Configurator

CANerator CANopen displays all relevant settings of the source code (#defines) in a tree view.

An instrumentation of the source code allows the display of only the relevant #define instructions and structures them in problem-related groups.

In addition, comments are assigned to the settings that explain their purpose and value range. Different data types are thus assigned various masks with type-sensitive validators.



Creating the EDS File with the Aid of CANeds

Generation of Object Directory

Thanks to complete integration of CANeds, all capabilities of this tool are available. These are described in detail in the CANeds product information. With the aid of CANeds, all standard objects of the object directory can be created with drag and drop. In addition, it is possible to define manufacturer-specific objects. The objects are already provided with default values that can be modified if necessary.

After the developer has specified the objects, CANerator CANopen displays the structure of the object directory in a hierarchical tree structure. Then variables in the program are assigned to objects. These are ultimately the interface between the protocol-specific part of the software and the application. In addition to the symbolic specification of variable names, the CANerator also supports the specification of physical addresses in order to enable direct access to hardware ports. After the object directory has been created, the corresponding portions of the source code are created automatically.

Electronic Data Sheet (EDS)

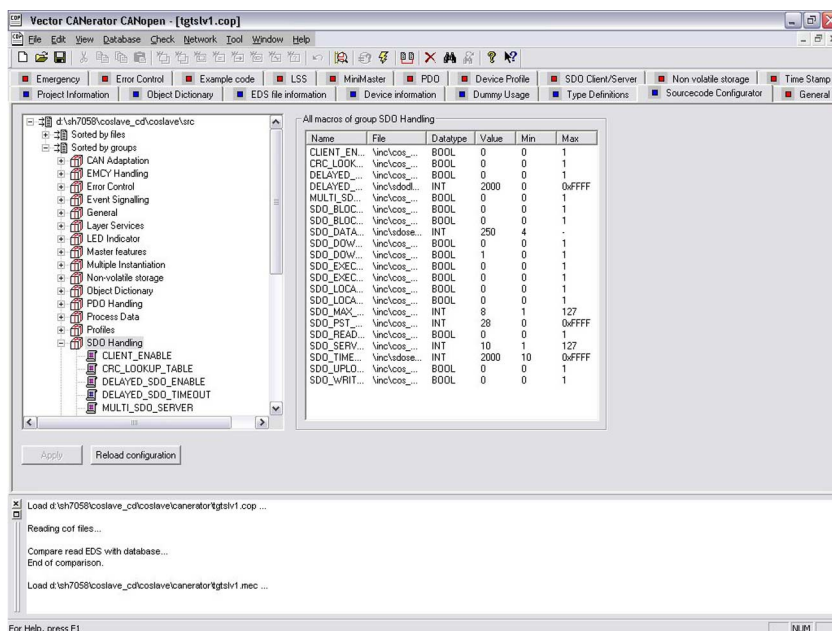
Virtually as a byproduct, the Electronic Data Sheet is generated. This can be processed further and tested with the functions of CANeds.

Project Management

CANerator CANopen allows the easy and comfortable management of profiles. When a set of settings has been created, it is stored under its own name. Different profiles of this type can be used in one and the same project for generation. Therefore it is possible, for example, to provide a project with or without debugging information and to change between the profiles with the touch of a button.

Another application is the creation of profiles for various device types on the basis of a source code. This simplifies the single source principle.

As project documentation, an HTML page is generated, which in addition to general project information contains a list of all objects with their attribute values as well as a list of all settings.



CANerator CANopen in Configuration Mode: all #define Settings can be Edited Clearly