CiA 417 documents updated

CAN in Automation (CiA) has released new versions of the CiA 417 application profile for lift control systems. In addition, the CiA 814 application note on the CANopen Lift boot-loader has been published.

The CANopen Lift demonstrator proofs the interoperability of CiA 417 devices (Photo: CiA)

AFTER THREE YEARS, THE FOUR PART SPECIFICATION has been updated. Part 1 (version 2.2.0) contains general definitions, which have been improved editorially. Some emergency error codes (e.g. unintended car movement) have been added, as well. Part 2 (version 2.2.0) specifies additional parameters for program download purposes. The table of CAN-IDs used for lift controller 1 in part 3-1 (version 2.1.0) has been updated, too.

Most of the changes are related to part 4 (version 2.2.0), which specifies in detail the application objects (process data and configuration parameter). Input and output functions have been added. For outputs, functions such as vocal message for users or music playback have been specified, for example. As input function lift lights has been added. Other new parameters are related to the inverter virtual device, also known as car drive unit. This includes for example the motor actual voltage and current, the reference and actual speed as well as module temperature. The latest versions of the CiA 417 documents are accessible only for CiA members. Non-members can download the free-of-charge version 2.0.0.

New is the CiA 814 application note. Part 1 describes the boot-loader. It provides implementation hints for the boot-loader as specified in CiA 417 version 2.2.0 on the base of the CANwizard tool offered by Schmersal (formerly Boehnke & Partner). On start-up the boot-loader is executed first. It checks for a valid application program. If the application code is valid, this code is executed and the device resumes operating. When the boot-loader is called during runtime, it waits for commands received via the CANopen Lift network. This includes commands such as erase flash memory, flash a program, or verify the downloaded program. Of course, the boot-loader is an optional feature. Non-members can download this application note from CiA's website.

An application profile specifies all CANopen interfaces in an application, e.g. a lift control system, which may comprise different network segments interconnected by means of bridges or gateways. It is a virtual system approach. The interoperability of the connected devices from different manufacturers is one of the most important benefits of CiA 417.