CAN FD light â€“ LED devices for passenger cars

CAN in Automation (CiA) has established a Special Interest Group to develop a “handler/dog” data link layer protocol based on CAN FD. It is intended for use in sensor/actuator networks such as automotive lighting systems.

(Source: Adobe Stock)

“Handler/dog” is a substitute term for “master/slave”. The nonprofit association develops a handler/dog data link layer based on the CAN FD protocol as specified in ISO 11898â€‘1:2015. The “handler” node implements the CAN FD protocol and sends just 11â€‘bit identifier FD frames. The “dog” nodes transmit data frames in FBFF (FD base frame format) only on request of the “handler” node. This avoids the implementation of high-performance and costly oscillators.

The protocol engine of the “dog” nodes is simplified compared to a CAN FD controller, explained the organization. Error and overload frames are not supported at all. Nevertheless, data fields of up to 64 byte are possible. The bit-rate is not switched and limited to one fixed value, for example 1 Mbit/s.

This commander/heeler approach is suitable for embedded networks in LED devices for passenger cars. Other application examples include door control subsystem and airâ€‘conditionings with a lot of sensors. The CiA Special Interest Group (SIG) is named “CAN FD light”. Fred Rennig from ST Microelectronics chairs the group, which comprises about 20 experts from different companies.

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