

SIC transceivers for CAN FD

To improve the use of CAN FD networks, CiA has developed the so-called SIC (signal improvement capability) transceivers. The nonprofit association has released the CiA 601-4 specification standardizing these SIC transceivers.

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(Source: Adobe Stock)

CAN FD as specified in ISO 11898-1:2015 allows bit-rates higher than 1 Mbit/s in the data-phase of the data frame. The achievable bit-rate depends on the network topology and the selected physical layer components such as cable and connectors. Using pure bus-line topologies enables bit-rates of 2 Mbit/s respectively 5 Mbit/s. In order to enable the use of not ideal topologies, the data-phase bit-rate needs to be lowered. Another option is to use so-called SIC (signal improvement capability) transceivers, which suppress the ringing caused by the not optimized network topology. These SIC transceivers are specified in CiA 601-4. There are two implementations available: one suppresses the ringing when transmitting; the other filters the ringing when receiving.

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CAN FD, the next CAN generation, will be used heavily in future passenger cars (Source: CiA)

Recently, the nonprofit CAN in Automation (CiA) association has released the CiA 601-4 version 2.0. "It is an important step for the automotive industry to use CAN FD also in hybrid topology networks at high bit-rates," said Holger Zeltwanger, CiA Managing Director. "SIC transceivers from several manufacturers will be available, soon." The released document specifies also the EMC (electromagnetic compatibility) testing.

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