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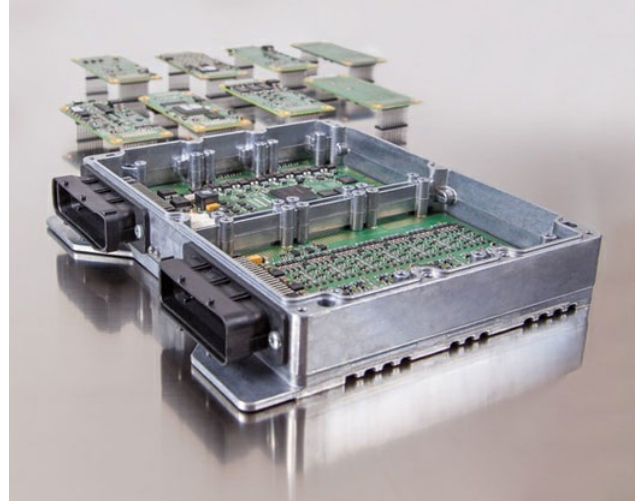
Communication with CANopen Safety Library

For safety applications in mobile machines Sensor-Technik Wiedemann (Germany) offers the electronic control units ESX-3XL and ESX-3XM. To enhance functionality in safety relevant systems, the company has introduced the CANopen Safety Library for both units.

THE LIBRARY IS APPROVED BY TÜV SÜD for sending and receiving safety relevant data. Transmission of data up to SIL-2 or PL-d is supported. The functionality and performance of the official release was confirmed at the CiA's CANopen Safety plug fest in October 2013. Using this library, the control units can exchange data with other safety relevant components, for example sensors, actuators or participate in decentralized control systems. Prerequisite is the use of the memory protection mechanism of the controllers. The library makes use of the CRC Check supervision of the Tricore CAN controller. The application software for the ESX series can be developed using the high-level programming language C or according to IEC 61131-3 (CODESYS V3). A Matlab package is also available. Various additional libraries such as for CANopen, J1939, or error handling help system integration.

Mobile machines have to fulfill a multitude of complex functions. In order to minimize risk, safety-related conditions according to EN13849 and IEC61508 must be taken into consideration.

Usually, safety relevant data needs to be exchanged between participants within a system. The ESX-3XM is roughly half the size of the ESX-3XL and has half the number of inputs/outputs, which makes it suitable for smaller machines or for decentralized or distributed control system concepts in larger machines.



The safety library is available for both electronic control units (Photo: STW)