CAN Newsletter Online

Multiple CAN FD interface cards

ESD Electronics has extended its CAN FD product line. They added a range of interface boards: the CPCIserial-CAN/402-4-FD, XMC-CAN/402-4-FD, PMC-CAN/402-4-FD, CAN-PCIe/402-FD, CAN-PCIeMini/402-2-FD as well as the CAN-USB/400-FD.

CAN FD as specified in ISO 11898-1 (2015) allows transmission speeds above 1 Mbit/s. ISO 11898-2 (2016) defines transceiver parameters for up to 5 Mbit/s. Nevertheless, the higher bit-rates can be achieved depending on the required temepearature range and the used network topology. The CAN FD data frames feature payloads of up to 64 byte.
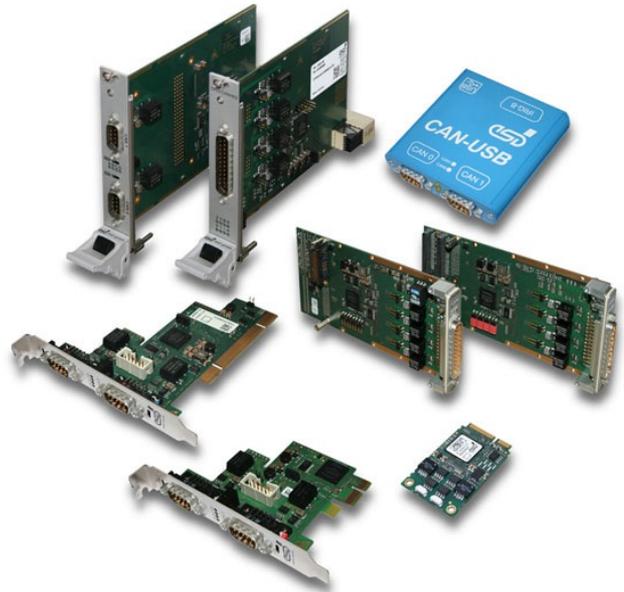
The CPCIserial-CAN/402-4-FD board has four high-speed CAN FD interfaces conforming to ISO 11898-2. All of the interfaces are accessible at the front panel via a 25-pin D-sub plug connector. Likewise, the XMC-CAN/402-4-FD and PMC-CAN/402-4-FD mezzanine boards are equipped with four CAN FD ports. They are able to send CAN FD data frames back-to-back and can handle a 100-percent busload.

The CAN-PCIe/402-FD interface board comes in various versions. It is available either as PCIe or PCI and provides one or two CAN FD interfaces. Furthermore the company offers a low profile version and an option without electrical isolation. The provided CAN FD interfaces operate independently. The product is suitable for use of CAN FD interfaces in MiniPCs, hat rail mounted PCs, and embedded systems. This card is an Add-In PCI Express Full-Mini-board and provides two CAN FD interfaces.

For notebooks and laptops there is an external component available, the CAN-USB/400-FD, which offers two CAN FD interfaces via USB.

The CAN FD product line from ESD Electronics comprises interfaces with various form factors suitable for many different CAN FD applications (Photo: ESD Electronics)

All of the CAN FD interface boards are controlled by the ESD Advanced CAN Core, "esdACC", implemented in an Altera-FPGA. With the FPGA the boards support bus mastering. Write cycles in the direction of the host memory can be realized, regardless of the CPU or the system's DMA controller. This reduces the host load and overall latency. The boards support MSIs (Message Signaled Interrupts) and are equipped with a switchable internal CAN termination. Using MSIs make these boards suitable for hypervisor environments. The CAN messages are linked to a 64-bit hardware timestamp.

The company is part of the Hannover Messe 2018 in Hanover, Germany (hall 9, stand F17).

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