

Q&A WITH EMOTAS

“We will implement new CANopen FD features and services”

Torsten Gedenk from Emotas, answered five questions regarding their CANopen FD protocol stack. For example, an increasing number of customers use CANopen FD for internal communication in closed networks or complex devices substituting older proprietary networks.



Torsten Gedenk is Managing Director at Emotas Embedded Communication: He told us about first customers, CANopen FD tools, next features and steps, as well as the influence of the coronavirus pandemic (Source: Emotas)

Q: Which features does your CANopen FD protocol stack provide?

A: The Emotas CANopen FD Stack provides all CANopen FD services defined in CiA 1301. It is available as a CANopen FD “responder” stack, with PDO producer and consumer, Heartbeat producer and consumer, Emergency producer and USDO server, and a CANopen FD “commander” stack, that additionally supports USDO client services, EMCY consumer, and NMT “commander” functions. The API (application programming interface) and the tooling are similar to our existing CANopen stack, so any upgrade for existing customers is as easy as possible. With a CAN FD capable hardware it is even possible to support both, classic CANopen and CANopen FD, in one device and to select CANopen or CANopen FD at start-up of the devices to provide a smooth migration path to CANopen FD.

Q: Who are the first customers and for what applications they like to use CANopen FD?

A: Unfortunately, none of our CANopen FD customers allowed us to disclose their names. Besides that, in general we mostly only provide the protocol stack and normally don't ask our customers about their use cases. Anyway, we got some feedback from our customers and it turns out that an increasing number of customers use CANopen FD for internal communication in closed networks or complex devices substituting older proprietary networks.

Q: How has the Covid-19 pandemic impacted the implementation of your CANopen FD protocol stack?

A: Our CANopen FD stack was already released before the Covid-19 pandemic had started and the implementation hasn't been affected. Maintenance of the stack and customer support aren't interrupted. Anyway, some customers have postponed a purchase decision because of Covid-19.

Q: Which CANopen FD tools do you offer?

A: Emotas provides the most comprehensive CANopen FD tool chain in addition to our CANopen FD stack. The [CANopen Devicedesigner](#) can be used to design CANopen FD devices and among other features generate XDD files, the CANopen Deviceexplorer is a versatile tool to configure, test, and analyze CANopen FD devices and our CANinterpreter is able to log CAN FD messages and to interpret them according to the CANopen FD specification. In addition to that, we also offer a CANopen FD bootloader with an Updatemanager to handle CANopen FD firmware updates. The CANopen FD Starterkit can be used to start with CANopen FD and evaluate our CANopen FD stack and tools.

Q: What are the next steps regarding CANopen FD you are planning?

A: We continuously increase the number of supported micro-controllers with CAN FD. Of course, our engineers are active in the standardization of CANopen FD and we will implement new CANopen FD features and services: LSS for CANopen, additional application functions according to the upcoming CiA 1302, or whatever is released next.



The CANopen FD Starterkit (Source: Emotas)

Background

Emotas embedded communication from Germany, founded in 2012, offers embedded software development services with the focus on CANopen, Energybus, J1939, Ethercat, and Bluetooth. Besides development services the company provides protocol stacks, drivers, and tools for Classical CAN, CAN FD, CANopen, CANopen FD, J1939, ISO-TP, UDS, and Ethercat.

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