OSCILLOSCOPE

Measurement and graphing of CAN FD

Teledyne LeCroy (US) has announced the addition of measurement and graphing capabilities to their CAN FD serial trigger and decoding solution.

CAN FD TDM IS A CAN FD TRIGGER AND DECODE SOLUTION with measurement and graphing capabilities. TDM combines oscilloscope capabilities, CAN triggering, and protocol decode in one test system. It enables designers to gain insight in to their systems, correlating physical layer signals and protocol layer data on a single display while also measuring and plotting bus performance. These tools can be used to measure the time between two CAN or CAN FD messages, or from a message to an analog signal. These measurements can then be extracted to recreate analog waveforms. It supports CAN signals up to 1 Mbit/s and CAN FD signals up to 10 Mbit/s.

CAN FD TDM links dedicated CAN FD triggering with CAN FD timing and message data evaluation. The CAN FD trigger can isolate Frame IDs, specific data packets, remote frames, and error frames. For CAN FD signals, the oscilloscope can trigger on specific frames with the Bit Rate Shift (BRS) bit identifying frames

CAN FD TDM provides flexible triggering for CAN and CAN FD data, error, and remote frames (Photo: Teledyne LeCroy)

that will shift from the nominal bitrate to the faster bitrate. Conditional triggering enables triggering on a range of events such as a series of Frame IDs or data messages.

The decoder uses a color-coded overlay that clearly identifies different parts of the data being captured, allowing the user to identify different parts of the CAN FD data. CAN FD TDM provides specific CAN FD measurement parameters the accumulation of statistical information on a wide variety of events, and provides graphical display tools that permit visualization of the data.

The solution offers the ability to decode four busses simultaneously. These four busses can be a combination of many protocols, including ISO CAN FD, non-ISO CAN FD, and Classic CAN at the same time. Decoded data can also be seen in an interactive table. Entries in this table can be selected and automatically zoomed, preventing the need to scroll through long records. A search function is built in to the zoom trace to quickly locate a specific Frame ID or data message. The oscilloscope can be turned into a protocol analyzer with the table display of decoded information. The table can be customized to show only the data of interest and touch a message in the table to automatically display it on the screen. The table can be exported for offline analysis.

CAN FD Trigger and Decode is available on a variety of the company's oscilloscopes. Oscilloscope users who already have CAN Trigger and Decode can upgrade their system to CAN FD Trigger and Decode. Teledyne LeCroy was the first to provide a trigger and decode solution for CAN FD in June of this year. Starting this week, Rohde & Schwarz (Germany) also provide oscilloscopes for the analysis of the CAN FD protocol.