

OSCILLOSCOPE

CAN FD monitoring module

Yokogawa has introduced a CAN FD monitoring module for its Scopecorder family of portable data-acquisition and recording instruments. The 720242 plug-in module is compatible with the DL850EV instrument and the DL350 Scopecorder fitted with the /VE option.

Using a Scopecorder together with bus monitor modules to decode data from automotive serial buses such as Classical CAN enables engineers to display information. These information can be engine temperature, vehicle speed, and brake pedal position as trend waveforms. The modules compare this with the analog data coming from the actual sensors. By plotting both the digital values and analog values on one screen, automotive engineers gain a thorough insight into the dynamic behavior of the complete electromechanical system.

First announced in 2012, CAN FD is an extension format for Classical CAN in which the transfer rate and data length of the data field has been increased while still following a protocol common to Classical CAN. It enables data rates higher than 1 Mbit/s to be transmitted on a Classical CAN network in order to deliver the higher bandwidths now required by the automotive industry for in-vehicle networks. Yokogawa already supports CAN FD triggering and decoding in its range of DLM mixed signal oscilloscopes for physical layer bus development.



By plotting both the digital values and analog values on one screen, automotive engineers gain a thorough insight into the dynamic behavior of the complete electromechanical system (Photo: Yokogawa)

Some automotive manufacturers in the US, Europe, and Asia are planning to implement CAN FD as early as model year 2018 with a wider adoption expected in 2020. This means that automobile engineers are now free to consider CAN FD as the solution to meet the needs for higher data rates in automotive buses especially with regard to electric/hybrid vehicles where new powertrain concepts demand a much higher bit-rate and utilization.

“The Scopecorder series of products combines high resolution isolated measurements, mixed signals of analog, digital, and sensor inputs, and gives engineers the performance of a Data Acquisition system with the push-button ease-of-use of an oscilloscope. This makes it popular among automotive engineers. Adding CAN FD support means they can integrate the next generation technologies into their vehicle systems”, said Richard Patterson, Product Manager for Scopecorders in North America. “Validating ECU algorithms by comparing computed values to actual performance within a single instrument is a huge productivity advantage and we are proud to be first-to-market with this capability for CAN FD.”

“Our many automotive Scopecorder customers recognize that a Scopecorder offers them a one-box solution for their testing needs and enables them to easily analyze data without the need to synchronize and import data from multiple instruments and devices,” said Terry Marrinan, Vice-President of Sales & Marketing for Yokogawa’s Test & Measurement business in Europe & Southeast Asia: “They have been considering the use of CAN FD, and in advance of their actual testing requirements they have been asking us to add the capability for CAN FD to the ScopeCorder so that it is available when they need it. We are pleased to be able to satisfy these requests.”

The introduced module is also compatible with Classical CAN and will replace the existing 720240 Classical CAN-only model. Yokogawa claims to be the first test and measurement manufacturer to provide automotive serial bus analysis on any oscilloscope.

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