Amersfoort, the Netherlands Yokogawa Europe/ TM/PR/005/2018

23rd October, 2018

**NEW PRODUCT**

**Yokogawa launches next generation Mixed Signal Oscilloscope:**

* ***DLM3000 features improved precision and productivity from a compact package with interactive touch-screen display –***

The new Yokogawa DLM3000 is the first of a new generation of Mixed Signal Oscilloscopes featuring the familiar “look and feel” and small footprint of the earlier DLM2000 Series but with a complete hardware redesign with higher measurement speed and precision plus an intuitive touchscreen display for enhanced ease of use and improved productivity.

The DLM3000 builds on Yokogawa’s oscilloscope legacy with new features focusing on quality, flexibility and usability to increase users’ productivity and meet the advanced needs of today’s designs, particularly in the mechatronics and automotive sectors. Integrating the latest in touchscreen operation, solid-state storage and high-speed signal processing, the DLM3000 enhances productivity by providing “clean” noise-free signals, extensive processing, and ease of operation.

“Where other oscilloscope manufacturers emphasise increased bit resolution and bandwidth at the expense of precision and signal fidelity in the final measurement application, Yokogawa concentrates on meeting the real-world needs of engineers in the automotive and mechatronics sectors”, says Terry Marrinan, Vice President Europe, ASEAN & Oceania, for Yokogawa’s Test & Measurement Business Unit: “As power devices are increasingly switching faster and with higher voltages, capturing and analysing waveforms reliably with detail and precision requires better noise performance from the measuring instrument. With the DLM3000 Yokogawa - well known for its leading power analyser technology and years of experience with oscilloscopes - has again improved its measurement performance to achieve higher precision.”

The new instrument has a bandwidth of up to 500 MHz and a high sampling rate of 2.5 GS/s, making it ideally suited to precision waveform analysis in measurements on fast switching signals in inverter drives, for example. The high sample rate is combined with an onboard memory capacity of 250 megapoints and an increased voltage range, leading to lower residual noise and increased sensitivity. The DLM3000 also incorporates a variety of real-time lowpass filters to ensure the fidelity of captured signals.

The combination of the interactive touchscreen interface with a traditional oscilloscope control panel allows users to seamlessly transition between the two modes of operation, while a variety of communication and storage options make it easy to access large data sets.

In the multi-channel mixed-signal capability of the DLM3000 series, four channels of analogue input signals are converted to 8-bit logic, so that the instrument functions as a 3-channel analogue oscilloscope combined with an 8-bit logic analyser. As a result, up to 11 input signals can be observed simultaneously as three channels of analogue signals and an 8-bit logic input.

This means that the instrument can be used not only for the observation of data and control signals or as a trigger source, but also for the logic input analysis of I2C, SPI or other serial buses, removing the limitations imposed by the four channels of a standard oscilloscope in applications where the functioning of multi-channel digital control circuits needs to be examined.

The channel count and memory depth options combined with optional power math and serial bus features - including major automotive buses - result in an oscilloscope that can be configured for a variety of needs.

The ‘best-in-class’ memory capacity of up to 500 Mpoints allows the instrument to maintain its high sample rate in long-term measurements. A zoom and search function allows the user to select and display two zoomed waveforms with different time axis scales at the same time, searching captured waveforms in the long memory and displaying waveforms that meet a wide of range of search criteria in the zoom area.

The powerful history memory function automatically saves up to 100,000 previously captured waveforms in the acquisition memory and subsequently displays just one or all of them on screen. The user can then perform cursor measurement, computation, and other operations on history waveforms, allowing rarely occurring abnormal signals to be analysed.

The DLM3000 series comes with a variety of easy-to-configure triggers combining analogue and logic inputs such as edge, enhanced, and B triggers.

Also included is a real-time filter with optimum noise reduction supporting a wide range of frequencies from 8 kHz to 200 MHz. The DLM3000 series has two types of filters, one processed at the input circuit and one based on mathematical functions. These filters are effective for rejecting unwanted signals, allowing observation of only the desired bandwidths.

A range of functions that help operation efficiency include:

* Display trends of peak-to-peak or pulse width values per cycle
* Automatic measurement of voltage and time differences
* Analysis of frequency spectra
* Single-push snapshot of waveforms
* Display of stored waveforms in thumbnail format
* “Go/No-go” function
* Checking functions with graphical online help.

Dedicated serial analysis function options (/F01 to /F05) are available for embedded systems and in-vehicle bus signals along with decode display analysis. The logic input can also be used for specific serial buses including UART, I2C, SPI and SENT. Complicated trigger and decode settings such as bit rate and threshold level are automatically detected. Simultaneous analyses of four different buses can be carried out, with waveforms and analysis results from buses with different speeds being displayed using dual zoom windows.

Dedicated power supply analysis options are available (for 4-channel models only) for measuring switching loss, joule integral (I2t), SOA (safe operating area) analysis, harmonic analysis of power supply current based on EN61000-3-2, and other power parameter measurement such as active power and power factor. Utilising the long memory capability, voltage and current waveforms over long cycles can be input for computation of switching loss. Values can be statistically processed and calculated.

A wide range of interfaces and software are available to provide broad connectivity and easier control. The DLM3000 is equipped with Gigabit Ethernet and USB3.0\*1 as standard communication interfaces to provide smoother linkages with PC applications.

The DLM3000 features an 8.4-inch capacitive touchscreen, and is housed in a compact package with a portrait format that is approximately two-thirds the size of an A4 sheet of paper (with a depth of approximately 200 mm) to save space on the desk or test bench.

For further information about the DLM3000 Mixed Signal Oscilloscope please visit: <https://tmi.yokogawa.com/eu/solutions/products/oscilloscopes/digital-and-mixed-signal-oscilloscopes/dlm3000-mso-series/>

### About Yokogawa Test & Measurement

Yokogawa has been developing measurement solutions for 100 years, consistently finding new ways to give R&D teams the tools they need to gain the best insights from their measurement strategies. The company has pioneered accurate power measurement throughout its history, and is the market leader in digital power analysers.

Yokogawa instruments are renowned for maintaining high levels of precision and for continuing to deliver value for far longer than the typical shelf-life of such equipment. Yokogawa believes that precise and effective measurement lies at the heart of successful innovation - and has focused its own R&D on providing the tools that researchers and engineers need to address challenges great and small.

Yokogawa takes pride in its reputation for quality, both in the products it delivers - often adding new features in response to specific client requests - and the level of service and advice provided to clients, helping to devise measurement strategies for even the most challenging environments.

The guaranteed accuracy and precision of Yokogawa's instruments results from the fact that Yokogawa has its own European standards laboratory at its European headquarters in The Netherlands. This facility is the only industrial (i.e. non-government or national) organisation in the world to offer accredited power calibration, at frequencies up to 100 kHz. ISO 17025 accreditation demonstrates the international competence of the laboratory.

- Meet the precision makers at <http://tmi.yokogawa.com/eu/>

**About Yokogawa**

Founded in 1915, Yokogawa engages in broad-ranging activities in the areas of measurement, control, and information. The industrial automation business provides vital products, services, and solutions to a diverse range of process industries including oil, chemicals, natural gas, power, iron and steel, and pulp and paper. With the life innovation business the company aims to radically improve productivity across the pharmaceutical and food industry value chains. The test & measurement, aviation, and other businesses continue to provide essential instruments and equipment with industry-leading precision and reliability. Yokogawa co-innovates with its customers through a global network of 113 companies spanning 61 countries, generating US$3.8 billion in sales in FY2017. For more information, please visit [www.yokogawa.com/](http://www.yokogawa.com/)

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