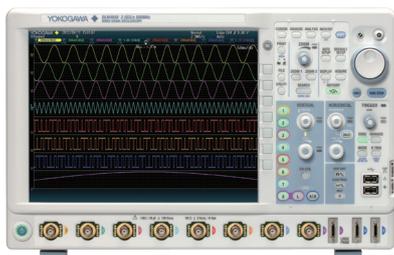


DLM4000 Mixed Signal Oscilloscope

When four channels are not enough...

The DLM4000 mixed signal oscilloscope has 8 analogue channels (or 7 plus 8 logic) and further 16 optional logic channels.

Precision Making



Mixed Signal Oscilloscope - DLM4000

The DLM4000 is a unique 8 channel Mixed Signal Oscilloscope (MSO) which provides comprehensive measurement and analysis capabilities for embedded, automotive, power and mechatronics applications.

- 350 MHz and 500 MHz bandwidths
- Up to 2.5GS/s sample rates
- 1.25GS/s for 8 channels
- Up to 250 MPoints memory

MSO input plus 16 more digital channels

The DLM4000 has 8 analogue channels as standard and the ability to flexibly use one analogue channel as 8 digital channels. The /L16 option adds 16 more digital channels to both these configurations. Not only does the DLM4000 provide enough channels for analogue applications such as 3 phase voltage and current measurements, but also enables users to view the actual waveform shape of more digital signals. This helps the digital debug process as glitches are often caused by such things as noise and crosstalk which are invisible when viewing just "1"s and "0"s.

Two independent zoom windows

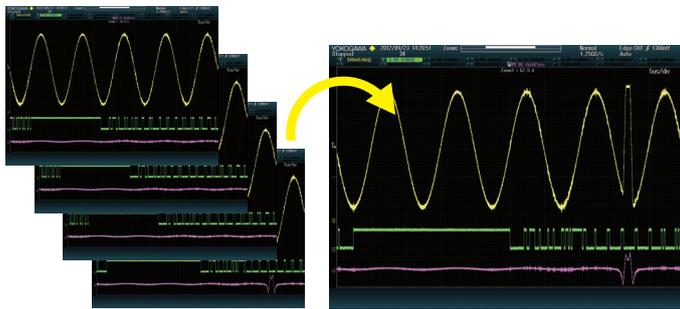
Combined with the advanced search and cursor/parameter measurement capabilities, the two zoom windows enable users, for example, to see the waveform detail of two parts of the acquisition which can be separated by a long time period. It is thus possible to quickly find, measure and analyse the details of the cause and effect of an abnormality which could be on the same or different input channels.

Long waveform memory (up to 250 MPoints for 4 channels)

The two advantages of a long waveform memory are the ability to capture for longer periods of time and to be able to maintain high sample rates and hence higher effective measuring bandwidths. Using a short memory means that sample rates will be lower in order to make an acquisition for the same period of time. When the maximum memory length is not selected, the history memory is automatically enabled.

History memory and high speed acquisition

With higher acquisition rates, there is more chance of seeing an anomaly when it occurs. The DLM4000 has a maximum continuous acquisition rate of 20,000 waveforms/second, which increases to approximately 320,000 when N Single mode is used. The DLM4000 is able to use its history memory in combination with its continuous waveform acquisition rates so users can extract and measure the details of up to 20,000 individual acquisitions. The wave shapes of abnormalities can thus be isolated and precisely categorised without changing trigger settings in order to try to recapture just the abnormal signal.

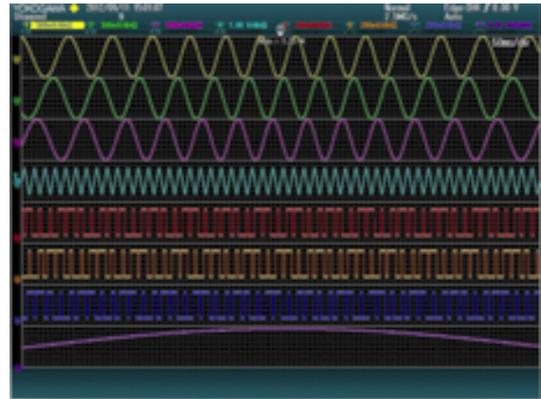


Serial bus triggering and analysis (4 buses simultaneously)

Dedicated trigger functions are available for FlexRay, CAN, CAN FD, LIN, SENT, UART, I²C and SPI serial bus patterns as well as the ability to perform simultaneous real-time analyses on up to four different buses operating at different speeds. This is enhanced by the extensive search facilities, allowing the user to look for specific data in the very long memory. The dual-zoom facility means that different buses can be viewed and debugged alongside one another.

Large and easy to configure 12.1 inch display

Users can automatically or manually split the display to separate individual channel waveforms while maintaining their full dynamic range, which makes the DLM4000 one of the simplest scopes to set up to see the details of the desired signals irrespective of the number of channels used.



Power measurement

The oscilloscope can be used as a 3-phase power meter, with the 8 channels allowing voltages and currents to be individually measured and displayed alongside derived values. The instrument offers automated measurement of power parameters for up to four pairs of voltage and current waveforms. These values can then be statistically processed and calculated to provide peak, average and root-mean-square values, along with many other parameters such as power factor and q-factor.

Power supply analysis

Using the long memory, the switching loss of the voltage and current waveforms can be computed over long periods. Joule integral (i2t), SOA (safe operating area) and harmonics based on EN61000-3-2 can also be measured and analysed.

Why choose the DLM4000?

Quality – Yokogawa’s reputation for high quality products ensures the user is never let down and can depend on the DLM4000.

Innovation – The ever increasing demands of today’s test needs means oscilloscopes must be versatile and adapt to all sorts of different applications.

Foresight – Keeping in touch with users has ensured that any Yokogawa product introduced to the market has been developed with their needs in mind.

