DLM 2000 Series
Mixed Signal Oscilloscope

Lineup includes 200 MHz, 350 MHz, 500 MHz bandwidth models
Lightweight and compact
Large 8.4-inch LCD display
Long memory: Up to 125M points (with /M2 option)
High speed sampling: Up to 2.5 GS/s (1.25 GS/s with 4 ch)

For more information, go to tmi.yokogawa.com
Test & Measurement Instruments

3-Year Warranty
Flexible inputs and flexible performance

Easy-to-Use & Easy-to-See
Easy to use. Portrait body + large screen makes display easy to see.

We elevated the large (8.4-inch) LCD screen up into the line of sight. Also, the portrait format saves space on the desk or test bench. A compact, personal oscilloscope designed for easy viewing and ease of use.

Flexible MSO Input
- Capture a mixed signals of analog and logic signals -
Four channels is not sufficient to view the functioning of digital control circuits. The DLM2000 series converts 4 ch of analog input to 8-bit logic, and functions as a 3 ch analog + 8-bit logic MSO (mixed signal oscilloscope).

The performance of up to 11 inputs by converting to logic
Using logic input, up to 11 input signals can be observed simultaneously as 3 ch of analog and 8-bit logic. It is not only possible to use logic input for observation of data and control signals, or as a trigger source, but also for logic input analysis of I2C and SPI serial busses.

Fast data processing with ScopeCORE
With our proprietary ScopeCORE fast data processing IC, real time display is possible even when simultaneously measuring multichannel signals of 11 inputs.

DLM2000 Series Lineup

<table>
<thead>
<tr>
<th>Item</th>
<th>DLM2022</th>
<th>DLM2024</th>
<th>DLM2024</th>
<th>DLM2052</th>
<th>DLM2054</th>
<th>DLM2052</th>
<th>DLM2054</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>710105</td>
<td>7101010</td>
<td>7101100</td>
<td>710130</td>
<td>7101100</td>
<td>710130</td>
<td></td>
</tr>
<tr>
<td>Analog input channels</td>
<td>2</td>
<td>2</td>
<td>4*</td>
<td>2</td>
<td>4*</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Logic input</td>
<td>-</td>
<td>-</td>
<td>8 bit</td>
<td>-</td>
<td>8 bit</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Maximum sampling rate</td>
<td>2 GS/s</td>
<td>2 GS/s</td>
<td>2.5 GS/s (interleave ON)</td>
<td>2 GS/s</td>
<td>2.5 GS/s (interleave ON)</td>
<td>2 GS/s</td>
<td></td>
</tr>
<tr>
<td>Frequency characteristics</td>
<td>200 MHz</td>
<td>350 MHz</td>
<td>500 MHz</td>
<td>200 MHz</td>
<td>350 MHz</td>
<td>500 MHz</td>
<td></td>
</tr>
<tr>
<td>Maximum record length</td>
<td>62.5 Mpoints (single measurement, memory length: Ms, interleave ON)</td>
<td>125 Mpoints (logic measurement, memory length: Ms, interleave ON)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Or 3 channels when using logic input.

Analog input channels
- Logic probe for the DLM2000

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Large screen in a compact body
Footprint is approximately 2/3 the size of an 8 1/2 x 11 sheet of paper (depth of approximately 8 ).

Measured values can be accurately read on the 0.1 div sub grid display.

Signal observation on 4 channels or more...

Using logic input, up to 11 input signals can be observed simultaneously as 3 ch of analog and 8-bit logic. It is not only possible to use logic input for observation of data and control signals, or as a trigger source, but also for logic input analysis of I2C and SPI serial busses.

Logic probe for the DLM2000

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</tr>
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* Or 3 channels when using logic input.
Sophisticated waveform acquisition engine

With long memory and the History function, you'll never miss an historical waveform. A variety of trigger functions reliably capture the waveforms you want.

Large capacity (125 Mpoint) memory enables long-duration measurements

For taking 2 ch measurements in Single mode, you can add the /M2 memory expansion option giving you up to 125 Mpoints of large memory capacity. 10,000 Hz signals can be recorded for up to 5,000 seconds. Even at a sampling rate of 1.25 GS/s, waveforms down to 0.1 seconds can be captured.

<table>
<thead>
<tr>
<th>Memory Expansion</th>
<th>Continuous Measurement</th>
<th>Single-Shot Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard</td>
<td>2 ch, 4 ch same</td>
<td>With 4 ch (With 2ch for DLM20x2)</td>
</tr>
<tr>
<td>/M1, /M1S option</td>
<td>1.25 Mpoints</td>
<td>6.25 Mpoints</td>
</tr>
<tr>
<td>/M2 memory option</td>
<td>6.25 Mpoints</td>
<td>25 Mpoints</td>
</tr>
<tr>
<td></td>
<td>12.5 Mpoints</td>
<td>62.5 Mpoints</td>
</tr>
</tbody>
</table>

Note: The /M1, /M2 memory expansion options are only available on 4ch models. The /M1S option is only available on 2ch models.

You can replay waveforms later on, so you'll never miss an abnormal waveform - History Function -

With the DLM2000 series, up to 20,000 previously captured waveforms can be saved in the acquisition memory. With the History function, you can display just one or all of the previously captured waveforms (history waveforms) on screen. You can also perform cursor measurement, computation, and other analyses on history waveforms. Using the History function, you can analyze rarely-occurring abnormal signals.

History search function

You can search the up to 20,000 previously captured waveforms for history waveforms that meet certain conditions. You can perform cursor measurement and other analyses on the found waveforms.

Replay function

Waveforms can be displayed in order, one at a time, by using the rotary knob. With the Replay function, history waveforms can be automatically played back, paused, fast-forwarded, and rewound.
The DLM2000 series has two types of filters, one processed at the input circuit and one based on MATH functions. These filters are effective for rejecting unwanted signals, allowing observation of only the desired bandwidths.

Each channel has 14 low pass filters available from 8 kHz to 200 MHz. Waveforms of limited bandwidths are stored in internal memory.

**Cutoff frequencies:** 200 MHz, 100 MHz, 20 MHz, 10 MHz, 5 MHz, 2 MHz, 1 MHz, 500 kHz, 250 kHz, 125 kHz, 62.5 kHz, 32 kHz, 16 kHz, and 8 kHz

The input waveform can be filtered using an IIR filter, which is a MATH function. Filtered waveforms can be displayed at the same time as the input waveform for comparison. You can select low pass or high pass filters.

**Cutoff frequency setting range:** 0.01 Hz to 500 MHz

Because the DLM2000 series lets you set zoom factors independently, you can display two zoomed waveforms with different time axis scales at the same time. Also, using the Auto Scroll function, you can automatically scroll waveforms captured in long memory and change the zoomed location. With Auto Scroll you can choose forward, backward, fast-forward, scroll speed, and other control options.

**Zooms into two different points — Waveform zoom and search functions —**

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**Large capacity memory gives you a variety of waveform search functions.**

**Two types of waveform searching:**

Normally, searching for data takes time and costs money, and long memory is useless without functions for extracting desired data from a large capacity memory. That's why the DLM2000 series does not simply offer long memory, it also provides powerful waveform search functions.

**Searching for data in a single screen: the Zoom Search function**

This function searches captured waveforms in the long memory and displays waveforms that meet the search criteria in the zoom area. The locations of the found waveforms are marked on screen (shows the current location).

**Searching for history waveforms: the History Search function**

Criteria can be specified for extracting desired waveforms from up to 20,000 previously captured waveforms.

- **Waveform search criteria**
  - Edge, edge (with conditions), state pattern, pulse width, state width, serial bus (only on models with the serial bus analysis option)

- **Search results marked**

- **Waveform search using edge criterion**

- **Searching for waveforms in zones created by moving measured waveforms up/down/left/right.**

- **Search for waveforms that pass through/ do not pass through a rectangular zone placed on screen.**

- **Zooms into two different points — Waveform zoom and search functions —**

- **Zoom keys**

- **Auto Scroll menu**

- **Dedicated Zoom keys**

- **Zone created from measured waveforms**

- **Place square zone and search**

- **Criterion extraction**

- **Search results marked**

- **Waveform search using edge criterion**

- **Searching for waveforms in zones created by moving measured waveforms up/down/left/right.**

- **Search for waveforms that pass through/ do not pass through a rectangular zone placed on screen.**
Displays trends of peak-to-peak or pulse width per cycle

— Measure function and statistics —

Twenty-eight waveform parameters are included such as: maximum, minimum, peak-to-peak, pulse width, period, frequency, rise/fall time, and duty ratio. Automated measurement can be performed using up to 20 of these waveform parameters. Also, waveform parameters can be measured repeatedly, and the statistical values displayed (mean, maximum, minimum, standard deviation, etc.).

Measures voltage/time differences automatically

— Cursor Measurement —

Cursors can be placed on the displayed waveform from signal data, and various measurement values at the intersection of the cursor and waveform can be displayed. There are six types of cursor: \( \Delta T \), \( \Delta V \), \( \Delta T \& \Delta V \), Marker, Degree Cursor.

Keeps waveforms with one push

— Snapshot —

By pressing the SNAPSHOT key to the lower right of the screen, you can freeze a white trace of the currently displayed waveform on the screen. You can press the key repeatedly and conveniently leave traces for comparing multiple waveforms. Also, snapshot data recorded on screen can be saved or loaded as files, and can be recalled for use as reference waveforms when making comparisons.

Has a GO/NO-GO function

— Action on trigger —

GO/NO-GO can be determined using trigger conditions, zone waveforms, measurement parameters, and other criteria. For NO-GO, actions can be carried out at the same time such as sounding a buzzer, saving the current waveform, or sending notification to a designated e-mail address. Waveforms in which an abnormality occurred can be saved for confirmation and analysis of the phenomena at a later time.

Can check functions with graphical online help

— Graphical online help —

You can view detailed graphical explanations of the oscilloscope’s functions by pressing the "?" key in the lower left of the screen. This lets you get help on functions and operations on screen without having to consult the user’s manual.

Analyzes frequency spectrums

— FFT analysis —

Up to 2 FFT analyses can be performed simultaneously. FFT can be performed on computed waveforms in addition to the actual waveforms on CH1 to CH4. Analysis can be performed of the frequency components of waveforms filtered for limited bandwidth, of frequency for changes in period of rotary objects, and other phenomena.

Displays stored files in thumbnail format

— Thumbnails of saved files —

Thumbnails of waveform data, waveform image data, and Wave-Zone files can be displayed. The image and file names are shown so that you can view screen image contents while copying or deleting files. In addition to normalized screens, you can even save wide images that have been zoomed along the time axis.

Trend display of waveform parameters

Histogram display using the time axis

— Trend and histogram displays —

Waveform parameters such as period, pulse width, and amplitude can be measured repeatedly and displayed in graphs. In a single screen you can observe period-by-period fluctuations, compute amplitudes every screen using multiple waveforms, and display amplitudes as trends. You can also display histograms referencing the voltage or time axis using values from repeated automated measurement of waveform parameters.

FFT analysis

Simultaneous level and time difference measurement with the \( \Delta T \& \Delta V \) cursor

Zoomed (2x) long image file

— Useful Functions —

Fastest and most capable analysis

DLM 2000 Series
Serial analysis function options (/F1, /F2, /F3, /F4)
- UART/CAN/LIN/I2C/SPI-

Triggers for UART, CAN, LIN, I2C, and SPI bus signals are supported along with decode display analysis (serial bus analysis option only on 4 ch models). Logic input can also be used for serial buses (excluding CAN and LIN).

Simultaneous analyses of different busses: Two busses can be analyzed simultaneously. Waveforms and analysis results from busses with different speeds can be displayed in individual Zoom screens with different scales.

A wealth of trigger functions: A wide variety of trigger conditions can be set, such as ID/Data trigger combinations and combinations of serial bus triggers with normal edge triggers.

Inputs supported for serial bus analysis

<table>
<thead>
<tr>
<th></th>
<th>I2C</th>
<th>SPI</th>
<th>UART</th>
<th>LIN</th>
<th>CAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analog</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Logic</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

Power supply analysis option (/G4)

Dedicated power supply analysis options are available (4 ch models only) for switching loss, joule integral (i2t), SOA (safe operating area) analysis, harmonic analysis of power supply current based on EN61000-3-2, and other operations.

Switching loss analysis
Voltage and current waveforms can be input to the 62.5 MW (max.) long memory (/M2 models) for computation of switching loss (V(t) X i(t)). A wide variety of switching loss analyses are supported, including turn-on/off loss calculation, loss including continuity loss, and loss over long cycles (50 Hz/60 Hz).

Harmonic analysis of power supply current based on EN61000-3-2
Harmonics determined by the IEC standard that are generated by the target device can be judged for each applicable class (classes A-D). Bar graphs and lists can be displayed for comparing harmonic current limit values with values calculated from actually measured signals.

Accessories

PBDH1000 differential probe
(model 701924)
1.0 GHz bandwidth
1 MΩ, approximately 1.1 pF
Maximum differential input voltage range: ±25 V

Differential probe (model 701920)
DC to 500 MHz bandwidth
100 kΩ, approximately 2.5 pF
Maximum differential input voltage range: ±12 V

Related Accessories

700924 Differential probe
DC to 100 MHz
1000 Vrms/ ± 1400 V

701928/701929 Current probe
DC to 100 MHz(701928)
DC to 50 MHz(701929)
30 Arms

701935 Deskew correction signal source
**Broad Connectivity and Easier Control**

- **Ethernet (optional)**
  Supports 1000BASE-T, 100BASE-TX, 10BASE-T

- **GO/NO-GO I/O terminal**
  Using the GO/NO-GO function, you can input a timing signal for judging a waveform and output the result as a TTL level signal.

- **RGB video signal output terminal**
  You can output an image signal and check the waveform on an external monitor.

- **USB-PC connection terminal**
  Enables control from a PC.

- **USB peripheral connection terminal**
  Supports USB storage, USB keyboards, USB printers.

- **Probe power terminal (optional)**
  Power supply output terminal for current probes (701930 and 701931) and differential probes (701920, 701921, 701922, 700924, 700925, and 701926).

- **GP-IB connection terminal (optional)**
  Enables control from a PC.

- **External trigger input**
  Lets you input a trigger signal separately from the input signal.

- **Trigger output**
  Outputs a CMOS 3.3V level trigger signal.

- **1000BASE-T/100BASE-TX/10BASE-T compliant adapters**
  (hubs and routers)

- **Ethernet (standard on rear panel)**

- **USB (standard on rear panel)**

- **Internal storage (C8 option)**

**Software**

- **Xviewer (701992, sold separately)**
  Xviewer is software for use on a PC. It can be used for display, analysis, and conversion to ASCII of binary waveform data using waveforms captured by the DLM2000 series. By adding the MATH option, you can enter user expressions for performing waveform computations. FFT of up to 2 Mwords can be performed.

- **DL series library (freeware)**
  This is an API that enables you to control a DL or send data from a DL using an external program. The API is offered in the form of a DLL that can be called from a program controlled by the user.

For details on accessory software, visit [https://y-link.yokogawa.com/YL000.po](https://y-link.yokogawa.com/YL000.po)
Also, you can download free software and trial versions of retail software from this site.
Main Specification

Models

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Input terminal</th>
<th>Max. sample rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032 (T10106)</td>
<td>200MHz</td>
<td>2 analog channels</td>
<td>1.25GS/s (interleave mode off)</td>
</tr>
<tr>
<td>DLM2033 (T10115)</td>
<td>350MHz</td>
<td></td>
<td>2.5GS/s (interleave mode on)</td>
</tr>
<tr>
<td>DLM2052 (T10125)</td>
<td>500MHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLM2024 (T10110)</td>
<td>200MHz</td>
<td>4 analog channels</td>
<td></td>
</tr>
<tr>
<td>DLM2054 (T10116)</td>
<td>350MHz</td>
<td>3 analog channels</td>
<td></td>
</tr>
<tr>
<td>DLM2054 (T10158)</td>
<td>500MHz</td>
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Basic Specifications

Analog signal input

Input channels

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<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>2 analog channels</td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td></td>
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Input coupling setting

Input impedance

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<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>1 MΩ ±1%, 2 MΩ ±2%</td>
<td></td>
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<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
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Voltage axis sensitivity

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<th>Voltage axis sensitivity</th>
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<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>±1 V/div (1 V/div to 10 V/div)</td>
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<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td>±1 V/div (1 V/div to 10 V/div)</td>
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Isolation between channels

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<th>Frequency/ bandwidth</th>
<th>Isolation between channels</th>
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<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>≥35 dB@ analog bandwidth (typical value)</td>
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<td>1.25GS/s</td>
<td>≥35 dB@ analog bandwidth (typical value)</td>
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Gain

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<th>Gain</th>
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<tr>
<td>DLM2032x: CH1, CH2</td>
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<td>100 mV/div to 500 mV/div</td>
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A/D resolution

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<th>A/D resolution</th>
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<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>±15% (when using passive probe)</td>
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<tr>
<td>DLM2033x: CH1 to CH4</td>
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Offset voltage accuracy

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<th>Offset voltage accuracy</th>
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<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>±10% (0.1 V/div to 10 V/div)</td>
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<tr>
<td>DLM2033x: CH1 to CH4</td>
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Accuracy of A/D conversion

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<th>Accuracy of A/D conversion</th>
<th></th>
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<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>±0.002% (100 MHz, 125 MHz)</td>
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</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td>±0.002% (100 MHz, 125 MHz)</td>
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</table>

Display

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Display</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>8.4-inch TFT color liquid crystal display</td>
<td>1024 x 768 (XGA)</td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
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</tbody>
</table>

Computation & Analysis Functions

Parameter measurement

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Parameter measurement</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>MAX, MIN, P-P, HIGH, LOW, RMS, Mean, StdDev, IntegTY+, IntegTY, OVER</td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
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<td></td>
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</table>

FFT

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>FFT</th>
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</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Histogram

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Histogram</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
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</tbody>
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Trigger modes

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Trigger modes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>Edge CH1 to CH4, Logic, EXT, LINE</td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td>Edge CH1 to CH4, Logic, EXT</td>
<td></td>
</tr>
</tbody>
</table>

Reference function

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Reference function</th>
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</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
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Analysis

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Analysis</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>XY</td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
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</tbody>
</table>

Serial Bus

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>Serial Bus</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>CAN (option), LIN (option)</td>
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</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td>UART (option), CAN (option), LIN (option)</td>
<td></td>
</tr>
</tbody>
</table>

User-defined math (G2 Options)

<table>
<thead>
<tr>
<th>Model name</th>
<th>Frequency/ bandwidth</th>
<th>User-defined math (G2 Options)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM2032x: CH1, CH2</td>
<td>1.25GS/s</td>
<td>+, - , x, /, SIN, COS, TAN, ASIN, ACOS, ATAN, INTEG, DIFF, ABS, SORT, LOG, EXP, LN, BIN, DELAY, P (power of 2), PH, DA, MEAN, JLH1, FWHH, FWHW, PWLH, PWHL, PWX, FVX, DUTY, DUTY,</td>
<td></td>
</tr>
<tr>
<td>DLM2033x: CH1 to CH4</td>
<td>1.25GS/s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Power supply analysis function (G4 option)
The maximum record-length that can be computed is as well as standard math functions. Propagation time difference correction (deskew): The difference in propagation-time of voltage and current probe signals can be automatically or manually corrected. Correction range is ±100 ns (0.01 ns resolution)
Automated measurement of power supply analysis parameters: Power supply analysis parameters can be measured automatically and simultaneously with standard measurement items. (Automated measurement of two areas is also possible) Waveform computation of power supply analysis parameters: Wp, Wp’, Wp, Abs.Wp, P, P+, P- Abs.P, Z(impedance)
Display of the Area of Voltage-CURRENT Operation: Allows for checking whether it is within the ASO(areas of safe operation) Harmonic analysis: Harmonic current emission standard IEC 61000-3-2 edition 2.2(EN61000-3-2 (2000))

T/C Bus Signal Analysis Functions (F2 & F3 Options)
Applicable bus T/C bus Bus transfer rate: 3.4 Mbit/s max. Address mode: 7/4 bit per byte
SM bus Complies with System Management Bus
T/C Trigger modes Every Start, Address & Data, Non-Ack, General Call, Start Byte, Idle Mode
Analyzable signals Assignable to CH1 to CH4, Logic input, or M1 to M2
Auto setup function Auto setting of bit rate, threshold value, time axis scale, voltage axis scale, and display of analysis results
Analyzable no. of data 300,000 bytes max.
Search function Searches data that matches specified address pattern, data pattern, and acknowledge bit condition
Analysis results save function Analysis list data can be saved to CSV-format files

SPI Bus Signal Analysis Functions (F2 & F3 Options)
Trigger types 3 wire/4 wire After assertion of CS, compares data after arbitrary byte count and triggers.
Byte order MSB/LSB
Auto setup function Auto setting of bit rate, threshold value, time axis scale, voltage axis scale, and display of analysis results
Decode data length 300,000 bytes max.
Analysis results displays Analysis results can be freely specified (1 to 5 bits), decode start point, and data length
Auxiliary analysis functions Auto setting of bit rate, threshold value, time axis scale, voltage axis scale, and display of analysis results
Analysis results save function Analysis list data can be saved to CSV-format files

UART Bus Signal Analysis Functions (F1 & F3 Options)
Bit rate 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600 bps
Data format Select a data format from the following: 8 bit (Non-user defined), 16 bit, or 32 bit
UART Trigger modes Every Data, Data, Error (Frame, Parity)
Analyzable signals Assignable to CH1 to CH4, Logic input, or M1 to M2
Auto setup function Auto setting of bit rate, threshold value, time axis scale, voltage axis scale, and display of analysis results
Analyzable no. of frames 300,000 frames max.
Analysis results displays Analysis results can be freely specified (1 to 5 bits), decode start point, and data length
Auxiliary analysis functions Data search and field jump functions
Analysis results save function Analysis list data can be saved to CSV-format files

CAN Bus Signal Analysis Functions (F4 Option)
Applicable bus CAN version 2.0A/B, Hi-Speed CAN (ISO11898), Low-Speed CAN (ISO11519-2)
Bit rate 1 Mbps, 500 kbps, 250 kbps, 125 kbps /3.3 kbps
CAN Bus Trigger modes SOF, EOF, DATA, ID OR, Error (enabled when loading physical values/symbol definitions)
Auto setup function Auto setting of bit rate, threshold value, time axis scale, voltage axis scale, and display of analysis results
Analyzable no. of frames 100,000 frames max.
Analysis results displays Analysis results can be freely specified (1 to 5 bits), Frame type, ID, DLC, Data, CRC, presence/absence of Ack, information
Yokogawa’s Approach to Preserving the Global Environment

- Yokogawa’s electrical products are developed and produced in facilities that have received ISO14001 approval.
- In order to protect the global environment, Yokogawa’s electrical products are designed in accordance with Yokogawa’s Environmentally Friendly Product Design Guidelines and Product Design Assessment Criteria.

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