Mixed Signal Oscilloscope

DLM6000 Series

DL6000 Series

Digital Oscilloscope

4CH Analog + 32-bit Logic

Lineup includes 500MHz, 1GHz, 1.5GHz bandwidth models

High speed waveform acquisition and History Memory

Intuitive Operation and High Performance

<table>
<thead>
<tr>
<th>Model</th>
<th>Frequency Bandwidth</th>
<th>Analog Channels</th>
<th>Logic Channels</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM6054</td>
<td>500MHz</td>
<td>4CH</td>
<td>16/32bit</td>
</tr>
<tr>
<td>DLM6104</td>
<td>1GHz</td>
<td>4CH</td>
<td>16/32bit</td>
</tr>
<tr>
<td>DL6054</td>
<td>500MHz</td>
<td>4CH</td>
<td>—</td>
</tr>
<tr>
<td>DL6104</td>
<td>1GHz</td>
<td>4CH</td>
<td>—</td>
</tr>
<tr>
<td>DL6154</td>
<td>1.5GHz</td>
<td>4CH</td>
<td>—</td>
</tr>
</tbody>
</table>

For more information, go to tmi.yokogawa.com

3-Year Warranty
Intuitive Operation and High Performance Waveform Analysis Tool

Your best tool for developing embedded systems

4CH Analog +16 / 32bit Logic
High performance MSO

Digital Oscilloscope
Mixed Signal Oscilloscope

DLM6000 Series

Abundant library of waveform analysis and computation functions
Auto Setup function
Immediatelyst est up and start analysis, including automatic detection of serial bus settings
Jog shuttle, with spring loaded outer dial and fine inner dial, provides intuitive cursor and zoom movements
History Memory function
Preserves up to 2000 past waveforms in memory, and always activated
A variety of trigger functions
Reliably capture only the signals of interest

Basic operations retain the feel of analog scopes
Ports for USB memory, keyboard, mouse, and other peripherals
Mouse controls for most instrument functions

32 bit

4CH Analog +32bit Logic
High speed acquisition and analysis

Digital Oscilloscope

DLM6000 Series

DA6000 Series

4CH Analog
High speed acquisition and analysis

Digital Oscilloscope

DLM6000 Series

32 bit

Search and Dual Zoom functions enable you to locate and confirm details
A high waveform update rate which does not decline with Logic signals displayed

4CH analog + 32bit Logic with Bus display and State display capabilities

Your best tool for developing embedded systems
Real time filter and high resolution mode — precision waveform observation

To capture desired waveforms easily and reliably, the DL6000/DLM6000 offers a variety of application-oriented triggers from simple edge triggers to multi-criteria combination and time difference triggers.

- **Input filters**
  - Analog filters: 200 MHz/20 MHz
  - Digital filters: 8 MHz/4 MHz/2 MHz/1 MHz/500 kHz/250 kHz/125 kHz/62.5 kHz/32 kHz/16 kHz/8 kHz

- **High Resolution mode**
  - Most digital oscilloscopes provide a vertical (voltage) resolution of 8 bits, but in High Resolution mode you can measure waveforms with a resolution of up to 12 bits.

- **Switching waveform measurement**
  - High resolution mode enables highly precise measurements.

When measuring switching waveforms, highly precise evaluation is impossible due to the insufficient dynamic range offered by 8-bit resolution. In such cases, you can use High Resolution mode to raise the precision of the waveform as well as of any computed results.

- **Action On Trigger function** — Captures, saves, and sends notifications of abnormal data, even overnight.

When you want to capture intermittently occurring phenomena, you can use the Action On trigger function to automatically save waveform data when trigger conditions become true and send notification thereof to a previously specified e-mail address. Even for phenomena that occur perhaps only once per day, you can be sure that a record of the data including the date and time, will be kept.

- **B Trigger**
  - Analog filters:
    - 200 MHz/20 MHz
  - Digital filters:
    - 8 MHz/4 MHz/2 MHz/1 MHz/500 kHz/250 kHz/125 kHz/62.5 kHz/32 kHz/16 kHz/8 kHz

- **During continuous measurement**: Up to 250,000 times per second per channel
- **In N Single mode**: Up to 2.5 million times per second per channel

Maximize your probability of catching anomalies with the industry-leading waveform update rate, which does not decrease even when you observe analog and logic signals simultaneously.

Waveforms captured during high-speed acquisition can be reviewed one-by-one from History Memory. You can also fast-forward, rewind, and scroll using the jog shuttle.

- **History Memory function**
  - Hold up to 2000 screens worth of actual waveform data (not screen images)

- **High-speed acquisition means you can find abnormalities the first time they occur, and proceed with detailed analysis.**

- **Example of observing intermittent signals**:
  - Observation of SD bus commands

SD card bus commands are sent intermittently, and the non-signal portions of these waveforms do not need to be analyzed. To be able to extract the SD card bus commands from such signals, you can set a serial bus trigger and use the History memory to acquire up to 2000 waveforms that match the trigger conditions. These matches are stored into History Memory, while the non signal waveforms are ignored. Rather than acquiring a single waveform to the entire acquisition memory, you can acquire multiple waveforms of only the needed command, and analyze them.

- **Abundant trigger functions** — reliably capture the waveforms you want

- **High waveform update rate unaffected, even when displaying logic signals**

- **High waveform update rate with History Memory function**

- **Search and Zoom**
- **Automated measurement of waveform parameters**
- **Variety of advanced computations**
Quickly extract locations and abnormalities you wish to analyze from the acquired waveform data, and zoom in anywhere on waveform details. The DL6000/DLM6000 series has enhanced Search and Zoom functions for searching for desired portions of waveform data and observing those waveforms in detail.

- Search function for extracting abnormal phenomena

The Search function can search both analog and logic signals in History Memory (History search).

Main search functions:
- State search (Hi/Lo setting of each channel)
- Serial pattern (I2C, SPI, CAN, general-use pattern) search
- Polygon zone search
- Waveform zone search
- Parameter search (Measured parameters, FFT, etc.)

- Display two zoomed areas simultaneously

Because the DL6000/DLM6000 series lets you set zoom factors independently, you can display two zoomed waveform areas with different time axes scales at the same time.

- Zoom and scroll with the zoom knob and jog shuttle

Intuitively adjust the zoom factor with the zoom knob, and the scroll with the jog shuttle. You can also scroll the zoom window automatically with the Auto Scroll function.

Automated measurement of waveform parameters — Automatically display numeric values

- Measure a variety of parameters automatically

Simply select the check boxes of the parameters you wish to measure automatically in the setting screen’s parameter list. Simultaneously display up to 16 measured parameters during acquisition. Additional measured values can be obtained in the analysis screen, or via PC communication.

- Virtual D/A Computation function displays up to 32-bit logic signals as analog waveforms

The DL6000/DLM6000 includes a Virtual D/A Computation function, in which address bus signals or logic signals from data converter I/O can be converted to analog waveforms and displayed. You can display logic signals output from an A/D converter, and by comparing them with the original analog waveforms prior to conversion, you can investigate the general dynamic characteristics of the A/D conversion. Displaying the address bus signal as a waveform is also useful for identifying instances of abnormal memory access. D/A converted waveforms can undergo FFT analysis or have additional digital filtering computations applied to them.

- Making logic signal measurement probing easier, and minimizing effects on the target

There are two different types of logic probe that can be used with the DLM6000, depending on the application.

- 250 MHz logic probe (model 701989, input impedance: 100 kΩ)

The model 701989 is a 250 MHz logic probe with a tip shape designed for probing circuit boards. In addition to probing with the pincher tip, the tips can be stacked in the included holder, making it easy to connect to and disconnect from a 2.54 mm pitch bus connector.

- High impedance logic probe (model 701987, input impedance: 1 MΩ, Max. logic speed 100MHz)

The model 701987 is a 100 MHz general-purpose logic probe with an impedance of 1 MΩ. Its high impedance gives it characteristics that make it difficult to influence the behavior of the target. Aside from pincher tip probing, the head with the tip removed can also be connected to a 2.54 mm pitch diameter connector.
Serial bus analysis function (option) — general purpose serial bus protocol analysis

You can add on PC, SPI, CAN, LIN, and other serial-bus-specific trigger and analysis functions to your DL6000/DLM6000 series instrument. With these functions, you can trigger on specific serial bus parameters, and display the waveforms along with protocol analysis indicating the decoded serial bus information.

Moreover, the DL6000/DLM6000 series also comes with a "Serial Bus Auto-Setup" function to eliminate the tedious task of entering settings when starting the analysis.

- Auto Setup Function for Serial Bus Analysis

Fast and Automatic Serial Bus Detection & Analysis with just one button:

1. Select the bus type
2. Press Auto Setup
3. Done!

- Display signal waveforms, protocol information, and decode information in real time

The DL6000/DLM6000’s serial bus analysis function simultaneously displays these three pieces of information on screen in real time. You can link the protocol information with the waveform information, select data in the protocol list, and automatically display the corresponding part of the analog waveform.

- Analyzing two busses at once

Both analog and logic inputs can be used for serial bus analysis. Also, two different serial busses can be analyzed at the same time. For example, you can analyze a CAN and LIN bus simultaneously, or use an MSO to analyze two SPI busses at once.

- Example:
  Behavioral analysis of an IFC control motor

You can trigger on specific data sent to a motor controller on an IFC bus and capture the waveform. Then, you can observe and analyze the content and timing of the data, plus the behavior of the activated motor. Together with that, you can use an MSO to observe control circuit logic signals, enabling you to evaluate the overall system.

Computation functions — quickly analyze information ‘‘hiding’’ in waveforms

Digital filters, integrals, edge, rotary count, logic signal DA conversion computation, and FFT computation functions come standard. As these computations are hardware-based, results appear on screen quickly. Even computations that traditionally needed to be sent to a separate PC for processing can now be executed at high speed on the oscilloscope, thus greatly reducing the time and effort involved in computing and analyzing waveform data.

- Digital filter computations
  - Delay, moving average, IR filter, and IR high loss filter calculations can be applied to analog signal or DA computation waveforms. This includes not only signal spectra, but also current and transfer functions.

- FFT computation
  - You can perform FFT computations for analog signal waveforms or DA computation waveforms. The includes not only signal spectra, but also current and transfer functions.

- User defined MATH (option)

By combining basic math, trigonometric functions, differentials, digital filters, and other values, you can define and execute equations and display the results along with the observed waveform.

Power supply analysis function (optional) — analyzing switching circuit characteristics

By using combinations of differential and current probes, you can evaluate switching loss or analyze safe operating area (SOA) in power supply waveforms. Through statistical computation you can also measure multiple switching waveforms and display loss on a per-week basis in lists and trends, or display statistics on aggregate loss of up to 2000 switching waveforms stored in History Memory. If precise calculations are required, a correction function and High Resolution mode are available.

- Cycle-by-cycle switching loss statistics and trend display

It can be extremely useful to check for fluctuations in switching frequency or voltage modulated by the commercial power input voltage on screen, at the same time as the waveform of the input voltage. Fluctuations in cycle-by-cycle loss, peak current, and other phenomena can be checked in lists and trend graphs thereby allowing you to identify excessive changes from power-ON to stable operation.

- Example:
  Harmonic Analysis of Power Supply Current Based on EN61000-3-2 (IEC61000-3-2)

Bar graphs and lists of harmonics can be displayed together with the appropriate limits for the device under test as defined by the IEC Standard (supports device classes A-G). Any measured value which exceeds the limit is highlighted.

- Related Accessories

Dedicated parameters of the voltage input channels

- Analog Input Current Probe
  - DC~100MHz

- Analog Input Voltage Probe
  - DC~50MHz

- Digital Input Probe
  - DC~50MHz

- Differential Probe
  - DC~100MHz
  - 5000Vrms/7000Vp-p
  - 1400V

- High Pass/Medium Pass Filter
  - 700/1000/1400Hz

- Low Pass Filter
  - 1000/1400/20A

- Correction of Probe Propagation Delay Time (Auto Deskew)

For accurate measurement and computation of switching loss, the difference in the current probe and voltage probe signal propagation time (skew) can be automatically corrected. A separate deskew correction signal source is available.

- Related Accessories

701926  Differential Probe
  - DC~50MHz
  - 5000Vrms/7000Vp-p

701929  Current Probe
  - DC~1000Hz
  - 701929  DC~1000Hz/701929
  - 1000Hz/701929
  - 30 Arms

98
Includes cost- and time-saving features for embedded systems development — Never miss the waveforms you want. Quickly reveal the information you need.

For evaluation of embedded systems that are becoming increasingly complicated, engineers want oscilloscopes that not only display waveforms, but also elucidate the meanings of those waveforms and aid in their understanding. The DL6000/DLM6000 series shrink R&D and evaluation times and help reduce development costs for embedded systems.

- Computing and observing actuator drive waveforms in real time

You can observe signals such as control signals to actuators and PWM waveforms that drive motors, and observe the resultant physical waveforms in real-time as they are converted through high-speed computation. For particularly noisy signals, you can reject the noise with highly configurable input filters prior to observation.

- Real-Time Serial Bus Analysis

In systems that control multiple devices using I2C, SPI, CAN, LIN, and other serial busses, engineers must verify whether each device is operating as designed. With the DL6000/DLM6000, you can capture specific commands and data on the serial bus with serial bus trigger functions, the communication with protocol analysis functions, and simultaneously confirm the signal waveforms on the bus and the behavior of the controlled devices.

- Evaluation of A/D conversion circuits with Virtual D/A computation

Not only can you observe the digital data before and after data conversion on logic input channels as waveforms, but you can also wholly convert the data to analog waveforms with Virtual D/A computation, display the waveforms, and perform additional computations on them.

- Check PCI bus performance with 32-bit logic input

You can measure the main signals using 32-bit logic + 4 analog channels to check control-signal statuses or check transferring on the PCI bus. The number of burst transfers on the PCI bus can usually be ascertained by counting the number of CLK pulses that occur during the period when TRDY is Lo. However, the DLM6000 series has a Pulse Count function that counts the number of clocks automatically.

- Parallel bus observation

The DLM6000 enables observation and analysis of up to 32-bit logic signals along with 4 channels of analog signals, and this is useful for verifying operations on a parallel bus.

- Analysis of serial interface memory communications

Flash memory that uses I2C or SPI as its interface is often found in embedded systems. Using the DL6000/DLM6000 which can simultaneously display three sets of data (waveforms, protocols, and decodes) in real-time means highly efficient verification of system operations, including the status of the serial bus.
DLM6000

Probe power
(Factory set option)

GO/NO-GO I/O
Can be used to output the results of either GO/NO-GO tests or mask tests for communication purposes as a TTL level signal.

USB-PC connection port
Can be used to control DLM6000 and upload data from the DLM6000 to a PC.

Video OUT
Can be connected to an external monitor.

Trigger I/O
Separate ports available for external trigger input and output.

100BaseTX/10BaseT Ethernet
(Factory set option)

DML6000

Probe power
(Factory set option)

GO/NO-GO I/O
Can be used to output the results of either GO/NO-GO tests or mask tests for communication purposes as a TTL level signal.

USB-PC connection port
Can be used to control DLM6000 and upload data from the DLM6000 to a PC.

Video OUT
Can be connected to an external monitor.

Trigger I/O
Separate ports available for external trigger input and output.

100BaseTX/10BaseT Ethernet
(Factory set option)

Software — easy and efficient offline analysis

**Xviewer** (701992, sold separately)

This PC software program displays and analyzes analog and logic waveforms captured by a DL series instrument (including the DLM6000 and DLM6000). It supports measurement of waveform parameters, FFT and user-defined computation functions, logic signal bus display, virtual D/A and display, and other functions.

**Measurements**
- Measurement of waveform parameters
- FFT and user-defined computation functions
- Analog and logic waveforms can be placed anywhere on the screen
  - Display display of analog and logic waveforms
  - Display display of analog and logic waveforms
- Control of the DLM6000/DLM6000 via USB or Ethernet

**GO/NO-GO I/O**
- Factory set option

**Probe power**
- Factory set option

**USB-PC connection port**
- Can be used to control the DLM6000 remotely and upload data from the DLM6000 to a PC.

**Video OUT**
- Can be connected to an external monitor.

**Trigger I/O**
- Separate ports available for external trigger input and output.

**100BaseTX/10BaseT Ethernet**
- Factory set option

Related Product

**DLM2000 Series**

**Analog 4CH/2CH Flexible MSO Input**

- Capture mixed signals with a selectable analog or 8-bit logic input
  - 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 RM2 option)
  - Analog 4CH or Analog 3CH Logic 8Bit
  - Serial analysis function (option), Power supply analysis (option)

**DLM7480**

**Analog 8CH+Logic 16bit**

- Max 550Ms/500MHz bandwidth
- Long memory: Up to 16M pts

**ScopeCorder Series - DL750/DL750P/SL1400**

**Isolated Analog Max.16CH+Logic 16bit**

- Max.100Ms/s
- Select from 11 different plug-in modules

**Optional Accessories**

**PBA2500/1500/1000 Active Probe**

- DC – 125MHz
- DC – 2.5GHz

**PBD2000 2.0GHz Differential Probe**

- DC – 30MHz
- ±5V

**PBDH1000 1.0GHz Differential Probe**

- DC – 1GHz
- ±5V

**701924 Differential Probe**

- DC – 100MHz
- 1000Vrms/±1400V

**701921 Differential Probe**

- DC – 100MHz
- 700Vrms

**701926 Differential Probe**

- DC – 1GHz
- ±5V

**701929 Current Probe**

- DC – 30MHz
- ±100A

**701944/701946 10kΩ Voltage Probe**

- DC – 400kHz

**701919 Probe Stand**

- DC – 250kHz/1MHz

**701919 Probe Stand**

- DC – 250kHz
- 1000Vrms

**Management of waveform parameters**

- Measurement of waveform parameters
- FFT and user-defined computation functions
- Analog and logic waveforms can be placed anywhere on the screen
  - Mixed display of analog and logic waveforms
- Display display of logic signals in three different formats (waveform, bus, and D/A) at the same time.

**Control of the DLM6000/DLM6000 via USB or Ethernet**

- Can be used to control the DLM6000 externally or to upload data from the DLM6000 to a PC.

**USB-PC connection port**

- 100BaseTX/10BaseT Ethernet
  - Factory set option

**PC Card Slot**

- A PC card slot is standard. A National Instruments’ PCMCIA-GPIB card is required to be able to use the GPIB interface.

**GPIB interface**

- Can be used to output the results of either GO/NO-GO tests or mask tests for communication purposes as a TTL level signal.

**GO/NO-GO I/O**

- Factory set option

**Probe power**

- Factory set option

**USB-PC connection port**

- Can be used to control the DLM6000 remotely and upload data from the DLM6000 to a PC.

**Video OUT**

- Can be connected to an external monitor.

**Trigger I/O**

- Separate ports available for external trigger input and output.

**100BaseTX/10BaseT Ethernet**

- Factory set option

**A PC card slot is standard. A National Instruments’ PCMCIA-GPIB card is required to be able to use the GPIB interface.**

**Probe power**

- Factory set option

**USB-PC connection port**

- Can be used to control the DLM6000 remotely and upload data from the DLM6000 to a PC.

**Video OUT**

- Can be connected to an external monitor.

**Trigger I/O**

- Separate ports available for external trigger input and output.

**100BaseTX/10BaseT Ethernet**

- Factory set option

**Diverse connectivity — remote control, data transfer, and data saving**

**Related Product**

**Software** — easy and efficient offline analysis

**Xviewer** (701992, sold separately)

This PC software program displays and analyzes analog and logic waveforms captured by a DL series instrument (including the DLM6000 and DLM6000). It supports measurement of waveform parameters, FFT and user-defined computation functions, logic signal bus display, virtual D/A and display, and other functions.

- Mixed display of analog and logic waveforms
- Display display of logic signals in three different formats (waveform, bus, and D/A) at the same time.

**Control of the DLM6000/DLM6000 via USB or Ethernet**

- Can be used to control the DLM6000 externally or to upload data from the DLM6000 to a PC.

**USB-PC connection port**

- 100BaseTX/10BaseT Ethernet
  - Factory set option

**PC Card Slot**

- A PC card slot is standard. A National Instruments’ PCMCIA-GPIB card is required to be able to use the GPIB interface.

**GPIB interface**

- Can be used to output the results of either GO/NO-GO tests or mask tests for communication purposes as a TTL level signal.

**GO/NO-GO I/O**

- Factory set option

**Probe power**

- Factory set option

**USB-PC connection port**

- Can be used to control the DLM6000 remotely and upload data from the DLM6000 to a PC.

**Video OUT**

- Can be connected to an external monitor.

**Trigger I/O**

- Separate ports available for external trigger input and output.

**100BaseTX/10BaseT Ethernet**

- Factory set option
Auxiliary analysis functions

- Data search and find: Array functions, ASCII display and graphing display

Analysis result user function

- Analysis list data can be saved to CSV file format

Power Supply Analysis (Optional)

Propagation time difference correction (deskew)
- The offset correction of the propagation time of voltage and current probes can be automatically or manually corrected.

Adapted measurement of power supply with 1:10 probes
- Voltages are measured by a probe with a 1:10 probe ratio with a high DC constant current source.

Current measurement
- The voltage probe ratio has been adjusted to 1:10 to reduce errors due to the phase difference of the instrument constant current source.

Statistical processing of measured values

- Enables calculation of statistical values (Max, Min, Average, etc.) using measured data in CSV file format.

Waveform capture of power supply analysis waveform

- Enables capture of high-speed waveform with 1:10 probe ratio with an instrument constant current source.

Display of the Area of Voltage-CURRENT Operation

- The display area is divided into the voltage-current operation regions.

Sweeping harmonic analysis result
- Results of harmonic analysis can be saved to CSV file format.

Floating Point PBR (Optional)

- 5 types of floating point types are supported:
  - Binary
  - BCD
  - Decimal
  - OCT
  - HEX

- Effective width of fixed point PBR is 104 bits (32 digits)

Auxiliary Input

- Rear panel I/O signal
  - External trigger input, external trigger output, GO/NO-GO output, video output

- Rear panel I/O signal
  - External trigger input, external trigger output, GO/NO-GO output, video output

Storage

- Built-in storage media
  - Capacity: Standalone approx. 390 MB
  - Mass Storage: USB 2.0 compliant, SDHC card, USB Mass Storage Class Ver. 1.1 compliant, mass storage device

- USB Peripheral Connection Terminal

  - Connector
    - USB Type A (4 pin) x 2

- USB 2.0, Ethernet connection

PC Card Interface

- Slot Type
  - 1 (lower) slot

- Slot Type
  - 1 (lower) slot

- USB-PC Connection Terminal

  - Connector
    - RJ-45 connector

  - Transmission media
    - CAT-5 (unshielded) or CAT-6 (unshielded), 3.5 inch Class

- USB 2.0, Ethernet connection

- Static specifications

General Specifications

- Power supply consumption
  - 50/60 Hz, 230 VAC, 10% to 12%, 500VA (when using 701989)

- Power supply consumption
  - 50/60 Hz, 230 VAC, 10% to 12%, 500VA (when using 701989)

- External dimensions
  - 178(D) mm x 422(W) mm x 322(H) mm

- Weight
  - 1514 g

- Operating temperature range
  - 5°C to 40°C

- Operating environment
  - Ambient temperature: 10°C to 40°C (0.001% + 10 ps + 1 sample time)
**Model and Suffix Codes**

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM6054/6104/6154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DLM6054</td>
<td>4CH 500MHz, Max. 5GS/s(2.5GS/s/CH), 6.25 Mpts/CH</td>
<td></td>
</tr>
<tr>
<td>DLM6104</td>
<td>4CH 1GHz, Max. 5GS/s(2.5GS/s/CH), 6.25 Mpts/CH</td>
<td></td>
</tr>
<tr>
<td>DLM6154</td>
<td>4CH 1.5GHz, Max. 10GS/s(5GS/s/CH), 6.25 Mpts/CH</td>
<td></td>
</tr>
</tbody>
</table>

**Power cable**
- D: UL/CSA standard
- F: VDE standard
- Q: BS standard
- R: AS standard
- H: GB standard

**Help language**
- HE: English Help (Menu and Panel)
- HC: Chinese Help (Menu and Panel)
- HK: Korean Help (Menu and Panel)
- HG: German Help (Menu and Panel)
- HF: French Help (Menu and Panel)
- HL: Italian Help (Menu and Panel)
- HS: Spanish Help (Menu and Panel)

**Option**
- BS: Built-in printer
- P2*: Probe power
- C9*: Internal storage + LXI compliant LAN
- C12*: LXI compliant LAN
- G2*: User defined Math
- G4*: Power supply analysis function (includes /G2)
- /F3: UART+/C+SPI trigger and analysis
- /F4: UART+CAN+LIN trigger and analysis

**DLM6054/6104**

<table>
<thead>
<tr>
<th>Model Suffix Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DLM6054</td>
<td>4CH 500MHz+Logic16/32bit, Max. 5GS/s(2.5GS/s/CH), 6.25 Mpts/CH</td>
</tr>
<tr>
<td>DLM6054</td>
<td>4CH 1GHz+Logic16/32bit, Max. 5GS/s(2.5GS/s/CH), 6.25 Mpts/CH</td>
</tr>
</tbody>
</table>

**Power cable**
- D: UL/CSA standard
- F: VDE standard
- Q: BS standard
- R: AS standard
- H: GB standard

**Help language**
- HE: English Help (Menu and Panel)
- HC: Chinese Help (Menu and Panel)
- HK: Korean Help (Menu and Panel)
- HG: German Help (Menu and Panel)
- HF: French Help (Menu and Panel)
- HL: Italian Help (Menu and Panel)
- HS: Spanish Help (Menu and Panel)

**Logic input**
- L16*: Logic 16bit (Logic probe interface x 2)
- L32*: Logic 16bit (Logic probe interface x 4)

**Option**
- BS: Built-in printer
- C9*: Internal storage + LXI compliant LAN
- C12*: LXI compliant LAN
- G2*: User defined Math
- G4*: Power supply analysis function (includes /G2)
- /F3: UART+/C+SPI trigger and analysis
- /F4: UART+CAN+LIN trigger and analysis

**Standard Accessories**

<table>
<thead>
<tr>
<th>Name</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power cord (with 3-prong to 2-prong adapter)</td>
<td>1</td>
</tr>
<tr>
<td>Passive probe, model 701939 (500 MHz, 1.3 m)</td>
<td>4</td>
</tr>
<tr>
<td>Protective front cover</td>
<td>1</td>
</tr>
<tr>
<td>Soft carrying case for probes</td>
<td>1</td>
</tr>
<tr>
<td>Printer roll paper (for BS option)</td>
<td>1 roll</td>
</tr>
<tr>
<td>Rubber leg cap</td>
<td>1 set</td>
</tr>
<tr>
<td>User’s manuals</td>
<td>1 set</td>
</tr>
</tbody>
</table>

**Accessories (Optional)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Model</th>
<th>Specifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Passive probe</td>
<td>701939</td>
<td>10 MO (10¹), 500 MHz, 1.3 m</td>
</tr>
<tr>
<td>FET probe</td>
<td>700939</td>
<td>DC to 900 MHz bandwidth/2.5MHz/1.8pF</td>
</tr>
<tr>
<td>Active probe (PBA1000)</td>
<td>701912</td>
<td>DC to 1 GHz bandwidth/1MO/2O/9pF</td>
</tr>
<tr>
<td>Active probe (PBA1000)</td>
<td>701914</td>
<td>DC to 1.5 GHz bandwidth/10O/2O/9pF</td>
</tr>
<tr>
<td>Active probe (PBA2000)</td>
<td>701913</td>
<td>DC to 2.5 GHz bandwidth/10O/2O/9pF</td>
</tr>
<tr>
<td>100:1 voltage probe</td>
<td>701944</td>
<td>DC to 400 MHz, 1.2 m, 1000 Vrms</td>
</tr>
<tr>
<td>100:1 voltage probe</td>
<td>701945</td>
<td>DC to 250 MHz, 3 m, 1000 Vrms</td>
</tr>
<tr>
<td>Differential probe</td>
<td>701920</td>
<td>DC to 500 MHz bandwidth/0.12 V</td>
</tr>
<tr>
<td>Differential probe</td>
<td>701921</td>
<td>DC to 100 MHz bandwidth/0.70 V</td>
</tr>
<tr>
<td>Differential probe</td>
<td>701922</td>
<td>DC to 200 MHz bandwidth/0.20 V</td>
</tr>
<tr>
<td>Differential probe (PBDH1000)</td>
<td>701923</td>
<td>DC to 50 MHz bandwidth/50O, ±5 V</td>
</tr>
<tr>
<td>Differential probe (PBDH1000)</td>
<td>701924</td>
<td>DC to 1 GHz bandwidth/1MO/±25 V</td>
</tr>
<tr>
<td>Differential probe</td>
<td>701926</td>
<td>DC to 50MHz bandwidth/50O/ max. ±5000 Vrms</td>
</tr>
<tr>
<td>Differential probe</td>
<td>700924</td>
<td>DC to 100 MHz bandwidth/±4000 V</td>
</tr>
<tr>
<td>Differential probe</td>
<td>700925</td>
<td>DC to 15 MHz bandwidth/±500 V</td>
</tr>
<tr>
<td>Current probe</td>
<td>701929</td>
<td>DC to 50 MHz bandwidth, 30 Arms</td>
</tr>
<tr>
<td>Current probe</td>
<td>701928</td>
<td>DC to 100 MHz bandwidth, 30 Arms</td>
</tr>
<tr>
<td>Current probe</td>
<td>701920</td>
<td>DC to 10 MHz bandwidth, 150 Arms</td>
</tr>
<tr>
<td>Current probe</td>
<td>701931</td>
<td>DC to 2 MHz bandwidth, 500 Arms</td>
</tr>
<tr>
<td>Mini clip converter</td>
<td>700971</td>
<td>For models 701938 and 701939</td>
</tr>
<tr>
<td>BNC adapter</td>
<td>700972</td>
<td>For models 701938 and 701939</td>
</tr>
<tr>
<td>PCB adapter</td>
<td>366945</td>
<td>For models 701938 and 701939, 10 per set</td>
</tr>
<tr>
<td>Solder-in adapter</td>
<td>366946</td>
<td>For models 701938 and 701939, 1 adapter, red/black cables (3 ea.)</td>
</tr>
<tr>
<td>Printer roll paper</td>
<td>89988AE</td>
<td>Lot size is 10 rolls, 10 meters each</td>
</tr>
<tr>
<td>Printer roll paper</td>
<td>89850NX</td>
<td>Lot size is 5 rolls, 30 meters each (for DLM6000D)</td>
</tr>
<tr>
<td>Xviewer</td>
<td>701992-SP01</td>
<td>For DLWE series, standard type</td>
</tr>
<tr>
<td>Xviewer</td>
<td>701992-GP01</td>
<td>For DLWE series, with MATH functions</td>
</tr>
<tr>
<td>Probe stand</td>
<td>701919</td>
<td>Round base, 1 arm</td>
</tr>
<tr>
<td>Rack mount kit</td>
<td>701983-01</td>
<td>JIA standard-compliant</td>
</tr>
<tr>
<td></td>
<td>701983-02</td>
<td>JIA standard-compliant</td>
</tr>
</tbody>
</table>

**Logic Probes for DLM6054/6104**

<table>
<thead>
<tr>
<th>Name</th>
<th>Model</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logic probe (PBL100)</td>
<td>701988</td>
<td>1 MO input resistance, toggle frequency of 100 MHz</td>
</tr>
<tr>
<td>Logic probe (PBL250)</td>
<td>701989</td>
<td>100 kO input resistance, toggle frequency of 250 MHz</td>
</tr>
<tr>
<td>Accessory kit</td>
<td>701909</td>
<td>Accessory kit for 701988(PBL250)</td>
</tr>
</tbody>
</table>

---

YOKOGAWA ELECTRIC CORPORATION
Communication & Measurement Business Headquarters | Phone: (81)-422-52-6768, Fax: (81)-422-52-6624
E-mail: tm@cs.jp.yokogawa.com

YOKOGAWA EUROPE B.V.
Phone: (31)-88-6461000, Fax: (31)-88-646111

Subject to change without notice.
[Ed : 01/b] Copyright ©2009 Printed in Japan, 909(KP)

MS-18E