

**SOLUTIONS &
PRODUCT OVERVIEW**

TEST & MEASUREMENT

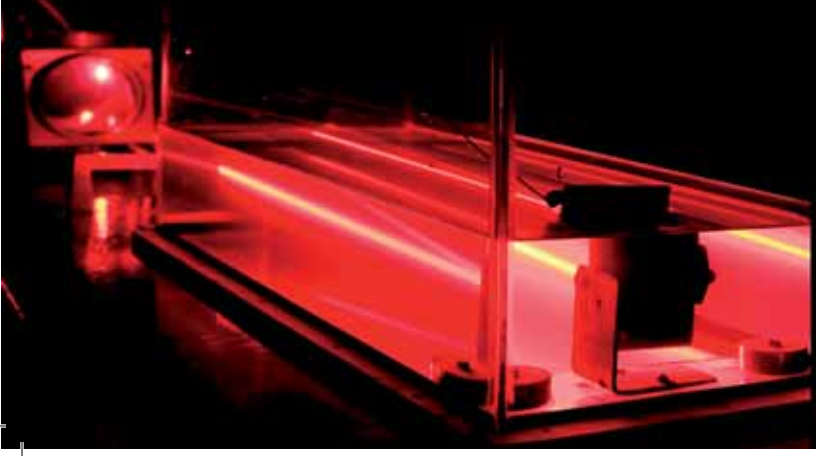


QUALITY ■ INNOVATION ■ FORESIGHT



YOKOGAWA

<http://tmi.yokogawa.com>



A COMMITMENT TO INNOVATION

Since its founding in 1915, quality, innovation and foresight have laid the foundations for Yokogawa to grow into the multi-billion Euro organisation it is today. Providing high quality, highly reliable test and measurement solutions, we enable our customers to design, build and deploy next generation products that increase the quality of life, productivity and the efficient use of the world's resources.

Being engaged in cutting-edge research and innovation has secured more than 7000 patents and registrations. This strong commitment to invest in R&D will continue long into the future, allowing us to extend our already comprehensive product range of digital oscilloscopes, power analysers and optical test equipment as well as data acquisition systems.

Yokogawa is a global organisation and has over 1200 employees spread throughout Europe and Africa in a network of strategic locations that are complemented by our partners in a distributor network. From Finland to Portugal and from Ireland to South Africa, every customer receives the local help to support their investment in our test and measurement solutions to enable them to be pioneers and innovators in their fields.

contents

Digital storage oscilloscopes	4,6	Data acquisition & logging systems	18
ScopeCorders	8	Recorders	20
Power analysers & meters	10	PC-based measurement system	22
Multimedia testers	12	Signal source & generators	24
Optical spectrum analysers	14	Electrical test tools	26
Optical field testers	16	Contact	28

DIGITAL STORAGE OSCILLOSCOPES



DLM2000 - mixed signal oscilloscopes

These powerful compact oscilloscopes are the solution to the widest range of applications and budgets. The input flexibility enables the 4th analogue channel to be converted to 8 logic inputs. They offer a wealth of measurement and analysis capabilities including digital filtering and serial bus analysis

with CAN-DBC symbolic layer decoding. With a new innovative user interface, it quickly provides the answers.

- 200MHz, 350MHz and 500MHz bandwidths
- 2 or 4 analogue channels (or 3 analogue and 8 logic)
- Up to 2.5GS/s sample rates
- Up to 125M points memory

Powerful performance and value

Ever since the launch of the first DL digital oscilloscope in 1988, Yokogawa has been providing long flexible capture memories, which enable you to maintain high sample rates, and extensive signal analysis capabilities. The first to provide dedicated analysis and support for serial buses such as I²C, SPI, CAN, LIN and FlexRay. Yokogawa provides cutting-edge measurement solutions, easy connectivity and especially, value for money.

DIGITAL STORAGE OSCILLOSCOPES



DLM2000 – Mixed signal oscilloscopes

The DLM2000 combines long memory, fast waveform acquisition, flexible configuration and compact form factor. In addition to the key performance specifications, the DLM2000 features a number of advanced measurement and analysis features, including histogram and trending functions, up to 20,000 history memories, digital filtering, zoom windows, user-defined mathematics, power supply analysis and serial bus analysis.

- English, German, French, Italian or Spanish user interface
- Two independent zoom windows
- Up to 450,000 waveforms per second



DL9000 - SignalXplorer™ Oscilloscopes

The unrivalled combination of the high-speed waveform acquisition (25,000/second) and 2000 'super history' memory means easy to use analogue look-and-feel, and the ability to not only capture rare and abnormal signals, but also make measurements on each one. The lightweight SignalXplorer has a large, clear 8.4-inch LCD and is capable of analysing two serial buses in real time with its powerful and comprehensive measuring capabilities.

- 500 MHz, 1 GHz or 1.5 GHz bandwidths
- 5 or 10 GS/s sample rates
- 2.5 or 6.25M points memory/channel
- Up to 2.5 million waveforms per second



DL9000 - Mixed signal oscilloscope models

These MSO models provide all the functionality of the standard DL9000 plus 16 or 32 logic channels. They are optimised for users who wish to analyse logic signals as well as analogue waveforms and feature the full state display and bus display functions typically found on logic analysers, allowing co-ordinated analysis of analogue and logic signals.

- 500 MHz and 1 GHz bandwidths
- 6.25 M points memory on every channel
- 5 GHz maximum sample rate

software and accessories

Xviewer PC software for DL series

Virtual instrument control, file transfer, waveform viewer and analysis. Support for Ethernet, USB and GPIB interfaces. Comprehensive analysis includes 6 types of FFT calculation for up to 2 M datapoints.

Complete range of probes

A DSO is only as good as its probes. Our range includes active, differential, low capacitance, passive and current types, with frequency bandwidths to 2.5 GHz, and a stand for hands-free precision probing.

DIGITAL STORAGE OSCILLOSCOPES



SB5000 – Vehicle serial bus analyser

The SB5000 is a serial bus analyser focused on in-vehicle serial bus protocols including FlexRay, CAN and LIN as well as providing UART, I²C and SPI trigger and analysis capabilities. It also carries out FlexRay eye-diagram analysis and bus driver electrical parameter measurement, provides simultaneous analysis of

analogue and logic channels, and simultaneous observation of any two buses.

- 4 analogue and 8 or 32 logic channels
- CAN-DBC and FIBEX database import
- Symbolic layer triggering, analysis and trending

All in One vehicle serial bus analysis

To improve safety, reliability and comfort, the rapid expansion in the amount of electronics inside a vehicle is expected to continue. The advanced control systems require new high speed communication technologies such as FlexRay, which offers data rates up to 10Mbit/sec, deterministic behaviour and guaranteed message latency and jitter. Yokogawa provides the physical layer analysis tools which enable the development and implementation of these buses and to test their conformity to their standards.

DIGITAL STORAGE OSCILLOSCOPES



DL7400 – 4 or 8 channel mixed signal oscilloscopes

With its unique 8 analogue channels plus 16 logic, the DL7400 allows precise trouble shooting and characterisation of digital circuits or multi-phase waveform analysis. It supports I²C, SPI, CAN and FlexRay serial bus analysis and the power analysis option is ideal for high frequency power semiconductor test.

- 500 MHz bandwidth and 2.5 GS/s sample rate
- 4 or 8 analogue channels plus 16 logic
- 4 or 16 M points memory



PBDH1000 – 1GHz differential probe

- Compatible with the FlexRay standard
- 1M ohm / 1.1pF input
- +/- 25V differential voltage input
- Connects directly to SB5000, DL9000, DLM2000

PBA1000, PBA1500, PBA2500 – Active probes

- 1GHz, 1.5GHz and 2.5GHz bandwidths
- 100k ohm / 0.9pF input
- +/- 7 V dynamic range
- Connects directly to SB5000, DL9000, DLM2000

PBC050, PBC100 – Current probes

- 30 A rms continuous measurement
- DC to 50 MHz or 100MHz
- Direct readout of current values
- Connects directly to SB5000, DL9000, DLM2000

PBL5000 – Low capacitance probe

- DC to 5GHz
- 450 ohm or 950 ohm / 0.25 pF input
- 20 V rms maximum input
- DC blocking capacitor available

software and accessories

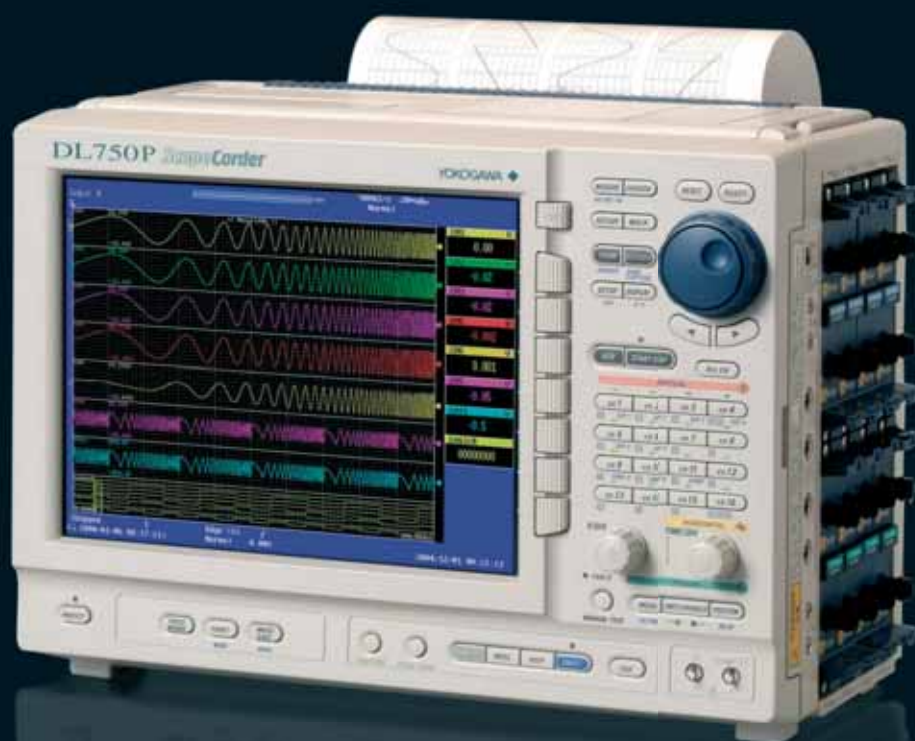
FIBEX and CAN databases

The free PC symbol editor software enables FIBEX and CAN DBC Databases to be converted into physical (Message, Signal) values, which can then be displayed as trend graphs on the SB5000 or used as triggers etc.

USB 2.0 compliance test

BusXplorer-USB is a cost-effective, highly-automated test system based on the DL9000. The software displays detailed test procedures and wiring methods enabling quick results from inexperienced operators.

SCOPECORDERS



DL750/DL750P ScopeCorders



The DL750/DL750P offers a solution to the most demanding test applications. It offers a wide range of simple and advanced trigger methods and time saving waveform analyses. Furthermore the instrument offers real time maths, the ability to separately capture high speed transients during long durability tests

using "Dual Capture", and "GIGAZoom" which enables up to 1 billion samples of data to be displayed and quickly analysed.

- 2 to 16 analogue and 16 digital channels
- Wave window trigger
- A4 printer and chart recording function (DL750P)

All-in-one recording & analysis solutions

A ScopeCorder is a flexible and powerful multi-channel test and measuring solution which combines the benefits of a high precision isolated oscilloscope and a paper chart recorder.

It can display signals on its big display, record to paper and/or memory for long periods (e.g. 30 days or more) and also capture, and analyse, very fast transients.

By directly connecting popular sensors like thermocouples, accelerometers, strain gauges and tachometers, all kinds of electrical and mechanical application, can be satisfied.

SCOPECORDERS



SL1400 - ScopeCorder

The SL1400 is ideal for manufacturing and maintenance applications where data needs to be quickly and easily recorded to an A4 chart recorder and/or memory.

- 2 to 16 analogue channels and 16 digital
- Chart recorder, XY recorder and memory modes
- Quick and easy user interface



SL1000 - High-speed data acquisition unit

The SL1000 is a PC-based data-acquisition unit designed to provide high-speed data logging and fast data transfer, particularly in electro-mechanical and power measurement applications. By connecting and linking up to 8 individual SL1000 units, a 128 channel measurement system can be created. With up to 100 MS/s sampling on 16 channels and isolated inputs for high-voltage measurements, the SL1000 comes with intuitive, easy-to-use logging and control software for quick start and set-up.

- 1000Base-T Ethernet and USB 2.0 interfaces
- 3.2 MByte/s data streaming rate (1.6 MS/s)
- 12 types of input module



2 channel input modules for ScopeCorders and SL1000

- 100 MS/s, 12 bit, 1kV isolation (SL1000 only)
- 10 MS/s, 12-bit high speed isolated
- 10 MS/s, 12-bit high speed non-isolated
- 1 MS/s, 16-bit high speed isolated
- 100 kS/s, 16-bit, high-voltage isolated and RMS
- Universal (voltage & temperature)
- Universal (voltage & temperature) with AAF
- Temperature/high precision
- Strain (NDIS)
- Strain (DSUB, shunt calibration)
- Acceleration/voltage
- Frequency

software and accessories

Complete connectivity

Simply connect a USB stick to a DL750, DL750P or SL1400 and quickly store your measurement files. All ScopeCorders are equipped with USB, GPIB, RS232 and SCSI interfaces. Options include Ethernet, PC card, built in hard disk, FDD and Zip.

Xviewer PC software for ScopeCorders and SL1000

The Xviewer software can display DL and SL-acquired waveforms (using the "Viewer" function), perform file transfers and control DL oscilloscopes and ScopeCorders remotely. Comprehensive analysis includes 6 types of FFT calculation for up to 2 M datapoints. Xviewer supports Ethernet, USB and GPIB interfaces.

POWER ANALYSERS & METERS



WT3000 Power analyser

Meet the world's most stable and accurate power analyser, with more bandwidth and more features. Supreme accuracy makes WT3000 ideal for transformer applications. $\cos\phi$ measurements close to zero are normally difficult to make, but not for WT3000. The WT3000 supports 50/60 Hz (10/12 cycles) harmonic and inter-harmonic measurement and analysis, as required by the IEC61000 standards. It can also measure and analyse voltage fluctuation/flicker

according to IEC61000-3-3/-3-11. The standard WT3000 measures electrical energy. A powerful motor testing version is also available, allowing evaluation of motors, inverters, and both electrical efficiency and electrical/mechanical efficiency measurements.

- large 8.4-inch LCD supporting user-configurable screens
- USB and Ethernet interfaces
- bandwidth: DC, 0.1 Hz to 1 MHz

More accurate power measurements

With the growing desire to make efficient use of energy, there is an increasing demand to make more accurate and reliable power measurements. Transient and low power standby behaviour transformers and highly distorted waveforms caused by inverters, motors, lighting circuits, power supplies, etc, all require stable and trustworthy measurements. Yokogawa, the world's largest manufacturer of energy and power analysers and meters, provides a broad choice to satisfy all requirements. Each instrument carries a three-year warranty.

POWER ANALYSERS & METERS



WT500 - compact power analyser

The WT500 offers features for efficiency measurements of power conditioners in the field of renewable energy with high-speed data updating (100 ms) and display of numerical values, waveforms and trends. It can also measure bought and sold watt hours separately.

- Current range: 0.5 to 40 A, Voltage range: 15 to 1000 V.
- Easy setup and operation
- Frequency range: DC and 0.5 Hz to 100 kHz



WT210 (1-phase) & WT230 (2-3 phase) series

One compact instrument to measure voltage, current, phase angle, power factor, harmonics etc. The most widely used power meter in production facilities.

- Extremely good price/performance ratio
- Ranges down to 5 mA (WT210) to measure standby/sleep mode power with 25 μ A resolution
- Go-NoGo test output for production testing



WT1600/WT1600S - digital power meter

Offers electrical pump and motor testers a free selection of input elements and a wide choice of measurement ranges for a higher accuracy.

- Standard master-slave function allows synchronised operation of 4 WT1600 meters or 24 power elements
- Input frequency range DC, 0.5 Hz to 1 MHz (DC, 0.5 Hz to 300 kHz for WT1600S)
- Highest accuracy energy measurements via 200 kS/s continuous sample speed
- Up to the 100th order harmonic



PZ4000 - power analyser

By combining our high precision power measurement and deep-memory oscilloscope technology, Yokogawa has created a unique instrument suitable for analysing power in unstable loads, and fast transients.

- Scope style triggering
- High speed sampling to 5 MS/s
- Cursor measurements on original data
- Power frequency input range DC to 2 MHz

software and accessories

761922 Harmonic software

Software that loads data measured by the WT3000 and performs harmonic analysis that complies with IEC61000-3-12 edition 2.2.

760122 WT-viewer

Application software tool that reads numeric, waveform and harmonic data measured with one of the WT-series.

253734 Power viewer

Software that is able to display and analyse measured data from the PZ4000.

MULTIMEDIA TESTERS



TA720 Time interval analyser

A high-end instrument, suitable for use in Blu-ray production and development environments for example. With a sampling rate to 80 MS/s and measurement resolution of 25 ps, it offers outstanding performance for such tasks. The TA720 can

perform simultaneous jitter measurement of data-to-clock and data-to-data edges, and simultaneously display mark and space pulse widths.

- built-in printer
- multi measurement windows
- inter-symbol interference analysis

Analysing next-generation optical disks

The introduction of short-wavelength blue light lasers has meant that the amount of data which can be stored on an optical disk has dramatically increased. In order to measure the jitter and analyse disk performance, a time interval analyser requires the fastest sample rate, accuracy and resolution. With a maximum sample rate of 80 MS/s, Yokogawa's TA720 continues to set the de-facto measuring standard for DVDs.

MULTIMEDIA TESTERS



TA220 – Blu-ray digital jitter meter

Specially designed for the production of Blu-ray disks, the TA220 includes a Blu-ray equalizer and PLL circuit that enables the measurement of jitter from RF signals directly. Supports measurement of data-to-clock jitter and pulse width jitter.

- multiple displays
- standard GPIB interface
- Ethernet interface



3298 – display tester

Will measure flicker as well as luminance, contrast and chrominance, which means that one instrument will measure the key parameters of all colour displays including plasma and TFT types.

- very simple to use
- includes logging function
- hand-held



TB200 – optical power meter

For laser applications, the TB200 supports all blue, red and near-infrared (405, 660 and 785 nm) wavelengths. With flat sensitivity in these bands, it is ideal for CD, DVD and next-generation (Blu-ray) optical disk development and production.

- 18 mm diameter sensor for detecting light from high numerical aperture lenses
- detachable optical sensor module for production lines
- USB interface

OPTICAL SPECTRUM ANALYSERS



AQ6370B Optical Spectrum Analyser

The AQ6370B is the most advanced Optical Spectrum Analyser on the market today – uniquely offering a combination of high resolution, high speed and high sensitivity over a wide wavelength range. State-of-the-art connectivity allows remote monitoring and system control. USB ports can accept mass storage devices, mouse or keyboard.

On-board wavelength calibration ensures long term accuracy and reliability.

- Wavelength range 600 – 1700nm
- Detection limit -90 dBm (1 pW)
- Real-time analysis and comparison
- 0.02 nm resolution (up to 50,000 data points)
- Compatible with single-mode and large core multi-mode fibres

Optical measuring systems for R&D and manufacturing

The photonics age is here and Yokogawa is established as a leading supplier of cutting-edge optical diagnostic instruments, offering solutions that meet the most challenging applications in fibre-optic communications and in R&D environments.

Typical applications are found in analysing the latest optical components and devices (e.g. multiplexers, fibre amplifiers, attenuators, etc), but also in laser research, gas analysis, optical fibre sensing, NIR- and Raman Spectroscopy.

OPTICAL SPECTRUM ANALYSERS



AQ6319 – Ultra-high Resolution Spectrum Analyser

The AQ6319 offers the world's highest spectral resolution (0.01nm) in combination with a broad wavelength range (600 – 1700nm). The AQ6319 is used in many demanding R&D applications – enabling the development of next-generation optical systems (e.g. narrow band lasers, high capacity fibre-optic networks)

- Wavelength range 600 – 1700nm
- High spectral resolution (0.01 nm)
- Versatile optical input
- USB, Ethernet, 2xGPIB, RS232



AQ6375 – Extended-IR Optical Spectrum Analyser

The AQ6375 uniquely offers extended access in the near-infrared wavelength region (1200 – 2400 nm). This allows testing of optical components and devices (e.g. filters, lasers, Fiber Bragg Gratings) that cannot be otherwise evaluated.

- Wavelength range 1200 – 2400 nm
- Versatile optical input
- USB, Ethernet, 2xGPIB, RS232



AQ2200 - Multi-application test system

The modular design of the AQ2200 is easily (re)configured to enable testing of a wide range of passive and active optical components (signal sources, mux/demux, fibre amplifiers, gratings, etc.). The available plug-in modules include different laser sources, power meters, attenuators, fibre switches and a complete set of 10G test modules.

- Plug & play operation
- Available in 3-slot and 9-slot (19 inch) versions
- Ethernet remote monitoring and system control

software and accessories

Plug-in modules for the AQ2200

The extensive range includes:

- 4 x laser diodes (tunable & fixed wavelength)
- 5 x optical power meters
- 2 x optical attenuators
- 3 x optical switches
- 10Gbit/s Bit Error Rate Tester (BERT)
- XFP interface
- 2 x 10 Gbit/s optical modulators
- 10 Gbit/s optical receiver

Remote viewer software (AQ6370B/AQ6319/AQ6375)

Provides real-time monitoring of measurement results and complete control over the instrument from a remote PC. Previously stored measurement results can also be analysed off-line. Through the Ethernet interface, the OSA can be connected to the internet, allowing remote control from any location in the world.

OPTICAL FIELD TESTERS



AQ7275 Optical time domain reflectometer fibreXplorer™

The AQ7275 offers the industry's best performance in terms of event separation capability and the shortest dead zone, less than 80cm, to enable multiple-event detection even when events are close to one another. Its high-speed operation optimises work efficiency, while automatic test functions enable installers

to execute tests easily and reliably.

- 4-wavelengths, covering the requirements of core, metro and access networks
- increased work efficiency with fast power up time, high quality large screen colour LCD and one-button testing
- full automatic mode

Evaluating optical fibre

The worldwide spread of broadband services has stimulated the installation of optical fibre in metro and access networks, which in turn has increased the demand for portable and reliable test equipment to aid the installation and maintenance of these networks.

OPTICAL FIELD TESTERS



AQ2160 and AQ4270 - Hand-held power meter and light source

During fibre-to-the-home (FTTH) installation, a hand-held power meter and a light source are often used to identify the connection between distribution network and household. The AQ2160 and AQ4270 provide simple to use solutions. The AQ2160 provides settable wavelengths, preset wavelengths (850, 1310, 1550 nm), and USB interfacing.

- compact and lightweight, with protective case
- long battery operating life
- bright LCD



AQ8603 - Brillouin optical time-domain reflectometer (BOTDR)

Optical fibre is highly sensitive and prone to defects such as microscopic blemishes. Such defects tend to grow, and cause a fibre break when a tensile force is exerted. Normal OTDRs cannot detect areas of strain, and therefore cannot warn of future breaks. AQ8603 provides powerful strain monitoring capability that will forecast the probability of failure.

- high spatial resolution down to 1 m
- distance range of up to 80 km
- single end measurement

software and accessories

AQ7932 - OTDR emulation software

Tabular or waveform graph reports from OTDR test data can be generated easily using this Windows-based software, with its Wizard' function. Report data can also be output in Excel format.

DATA ACQUISITION & LOGGING SYSTEMS



DAQMaster series PC-based data acquisition systems

DAQMaster is the next generation of PC-based data acquisition. The MX100 offers a simple and flexible solution as a PC front-end system. The MW100 has the versatility of webserver-based remote monitoring and configuration,

with many advanced network capabilities, but is also well suited to standalone.

- modular design with various input/output modules
- standard Ethernet communication interface
- CompactFlash card memory support up to 2 GB

Network-based data acquisition systems

Yokogawa's wide range of data acquisition and logging systems meets all kind of application requirements. Ethernet communication interfaces support fast and easy connection to LAN environments, enabling remote monitoring applications and centralised back up services. Standard software for the configuration of measurement devices and applications offer easy set-up and minimises preparation time. Advanced software packages can be used with Yokogawa recorders, data acquisition instruments and other measuring equipment to build an integrated PC-based data acquisition system.

DATA ACQUISITION & LOGGING SYSTEMS



MX100 - modular data acquisition system

The MX100 gets you up and running very quickly with a highly reliable, PC based, real time data acquisition system that meets your requirements for R&D, durability testing, Quality Assurance, and facilities monitoring.

- high scanning speed: 10 or 100 ms
- wide range of I/O (mV, V, mA, TC, RTD, strain [DI, DO], V or mA output)
- scalable from 4 to 1200 channels



MW100 - web-enabled datalogger

The web-enabled MW100 datalogging system allows you to use your standard web browser to access data from multiple locations, making it ideal for facility management and remote equipment monitoring.

- datalogging system for standalone and network applications
- advanced network functions including e-mail, FTP, SNMP, DHCP
- strong mathematic and Event Action functions for custom applications



MXLOGGER- Advanced software

High speed data acquisition software for use with MX100.

- supports up to 20 units with maximum 1200 channels
- up to 60 mathematical channels for customer computations
- flexible combination of trend displays, numerical displays and alarm displays



DAQWORX – Data Acquisition Software Suite

integrates a wide range of recorders, dataloggers and measuring devices into one software solution for datalogging and monitoring.

- DAQLOGGER can handle up to 1600 ch per second
- DataBrowser let you efficiently search files for desired data and display the results as waveforms
- AddObserver let you create your own graphical user screens for remote monitoring



MCPS – Multi Channel Process System

Brings a complete software studio for data acquisition and evaluation.

- advanced alarm monitoring and logging functions
- powerful mathematical functions for on-line and off-line computations
- customer specific reports

RECORDERS



MV1000/MV2000 Portable paperless recorders

Innovative paperless recorders for both stand alone and networked applications. FTP, webserver and e-mail functions provide seamless integration with intranet and internet environments. The quick setup menu enables simple and easy configuration of the recorder.

- Bright TFT colour display with wide viewing angle
- 4-48 universal input channels
- CF card and USB memory storage

Advanced and versatile recording technology

Yokogawa offers a wide range of paper and paperless recorders to meet all recording needs. Universal inputs accept voltage, thermocouple and RTD signals, and offer maximum flexibility over recording span and scaling of units.

RECORDERS



DX1000/2000 - DAQSTATIONS

Support more input channels and faster measurement speeds to handle more applications. Advanced networking functions include time synchronisation (SNTP) and automatic network setup (DHCP), and the possibility of communicating with power monitoring, controller subsystems, etc.

- 80-200 MB non-volatile memory
- up to 240 additional input channels via remote I/O
- USB interface (to load/save set-up files, connect keyboard)



DR130/DR230 - Darwin recorders

High performance and reliable desktop recorders that will measure data from 10 to 300 channels. Accepts a large variety of input types including voltage, temperature, pulse and strain, enabling configuration of the optimum data acquisition environment.

- advanced, versatile 150/250 mm recorders
- 10 to 300 configurable input channels
- PC communication via GPIB, RS232 or Ethernet for set-up/datalogging



LR1200/LR4100E/LR4200E/LR8100E - laboratory recorders

The LR series has a reputation based on outstanding reliability and performance. Electrical contacts and gears are eliminated. Data processing is digitised to facilitate PC-based data recording and analysis. A fast 135 Hz sampling rate makes it ideal for machine performance testing.

- 1-12 universal input channels (mV/V/TC/RTD)
- chart speeds from 10 mm/hour to 1200 mm/minute
- digital printing and analogue recording functions



XL120 (Datum-Y) - portable datalogger

An 8- or 16-channel compact portable datalogger optimised for high performance and simple operation in field measurement environments. Provides wide-ranging functions and extensive communication capabilities for a multitude of acquisition applications. Measurement data can be stored on SD-card, CF-card and USB memory.

- compact and battery powered
- various communication interfaces: USB, Ethernet (IPv6)
- fast scan interval: to 100 ms

software and accessories

Solid state relays with high breakdown voltage (SSR)

Offer long operation life and accurate measurement.

USB flash drive

Can be used to transfer data and set-up files to your PC, or to attach an external keyboard for set-up and text entry.

Data Viewer software

Displays and prints data from measurement files. Data can be viewed in trend, digital and circular forms, and converted to ASCII, Excel or Lotus 1-2-3.

PC-BASED MEASUREMENT SYSTEM



WE7000 Modular PC-based data acquisition system

WE7000 measuring stations are available with 5 or 9 slots for instruments, and up to 3 measuring stations can be combined to create large systems. Each module is supplied with built-in software which opens automatically as soon as the module is plugged in.

No other software is required, and a fully functioning instrument is immediately available.

- multiple measuring instruments in a single system
- over 16 types of measurement modules
- Plug-and-play

One system, multiple instruments

The WE7000 satisfies the demands for fast, reliable and precise data acquisition that require a standard laptop or PC as its user interface. Individually shielded and calibrated input and output modules plug into an expandable measuring station, thus providing the same high level of precision as Yokogawa standalone instruments. Standard Ethernet (100Mbits/sec) or USB 2.0 (480Mbits/s) interfaces can be used for remote control and data transfer. It is also possible to harmonise with LabView and MATLAB, making the WE7000 exceptionally versatile. Furthermore the WE7000 can perform measurements and judgements without a PC by using programmable embedded software modules.

PC-BASED MEASUREMENT SYSTEM



Oscilloscope

- WE7111: 1ch, 100MS/s, 8-bits, 100kW Memory

CAN Bus I/F

- WE7081: Interpret & monitor CAN Bus Data as analog value. Synchronized Measurement & Analysis of Analog Signals and CAN Bus Data

Digitizer

- WE7116: 2ch, 20MS/s, 12-bits 50V, 8MW memory
- WE7235: 4ch, 100kS/s, 16-bits, 4MW memory
- WE7241: 10ch, 14-bits, digital thermometer
- WE7245: 4ch, 100kS/s, 15-bits, internal strain amplifier, 20V, 4MW memory.
- WE7251: 10ch, 100kS/s, 16-bits, 20V, 1MW memory
- WE7271/72: 4ch, 100kS/s, 16-bits,
- WE7273: 8ch, 100kS/s, 16-bits, isolated 50V, 8MW memory
- WE7275: 2ch, 1MS/s, 14-bits, isolated, 350V, 4MW memory

Analog Output

- WE7121: 1 μ Hz - 10MHz function generator
- WE7281/82: 4ch, 100kS/s D/A, 16-bits, 4MW memory

Counter

- WE7141: 1Hz - 120MHz universal counter
- WE7521: 4ch, timing measurement: arbitrarily combine 4ch of input, and perform measurement on one of five parameters

Digital I/O

- WE7262: 32-bits, 2MHz digital I/O (TTL/CMOS level)
- Contact Input Terminal Box (707823, 707824) (16-bits)

GP-IB Controller

- WE7021: Allows GP-IB instruments to be used in combination with WE7000 series modules

software and accessories

WE7000 Software

Double-click the icon and WE7000 control software opens and runs, recognising which modules are installed. A set-up panel for each module is available, as well as a data viewer.

SIGNAL SOURCE & GENERATORS



GS820 Multi channel Source measure unit

The GS820 is a highly accurate multi channel voltage/current source measure unit that incorporates voltage generation/current generation as well as USB storage and an Ethernet interface. Since the two source channels and two measuring channels can be operated arbitrarily, almost all electrical characteristics can be evaluated.

- Dual sink and source operation: 7V and 3.2A or 18V and 1.2A
- Precise pulse generation (down to 100 μ sec width with 0.1 μ sec resolution)
- Drag & drop operation via USB

Fast, flexible and precise

For general purpose standalone applications or as core components in a high speed test and measurement system, Yokogawa sources and signal generators are highly accurate and functional. The integration of source and measurement into a single unit greatly simplifies the test process. Semiconductor devices, sensors, displays or batteries etc can therefore be quickly and easily characterised.

SIGNAL SOURCE & GENERATORS



GS610 - Source measure unit

The GS610 is a high accuracy, high speed programmable voltage and current source that incorporates both generation and measurement functions as well as USB storage and an Ethernet interface. As the GS610 can operate as a current source or a current sink, a wide range of electrical characteristics can be evaluated.

- wide range sink and source operation (3.2A, 110V, 60W)
- precise pulse generation (down to 100us width with 1μs resolution)
- drag & drop operation via USB



FG100 - Synthesized function generator.

These simple to use function generators provide the most commonly required test waveforms and functions with 10 bit setting precision. Direct digital synthesis is used to generate highly accurate signals, which makes them a perfect choice for a wide range of applications, from research & development to production.

- 1 or 2 independent channels
- 1 μHz to 2MHz waveforms
- Precise phase control between channels



FG200 & FG300 - Synthesized function generators.

The FG200 features sweep and modulation capabilities with outstanding ease of operation. The FG300 adds arbitrary waveform capabilities plus sequencing functions. These powerful functions make them ideal for a wide range of applications in mechatronics, vehicle design and testing.

- 1 or 2 independent channels
- 1 μHz to 15MHz waveforms
- Arbitrary waveform generation (FG300)

software and accessories

Multi-channel capability

Use the external input/output connectors to source or generate multiple synchronised channels and makes test systems scalable.

Full connectivity

As well as GPIB, the GS610 supports Ethernet, which allows remote control, using a web browser, and FTP file transfers. By using USB, the memories in the instrument appear as storage devices on the PC.

ELECTRICAL TEST TOOLS



Digital multimeters

Yokogawa's family of handheld DMMs is packed with advanced functionality, such as frequency, pulse width, duty cycle, temperature, capacitance and dB measurements. The TY series offer memory and USB communication functions, true RMS and mean value measurements, closed case calibration, a low pass filter and safety shutters. Features and functions like these allow the technician to test, troubleshoot and calibrate equipment, regardless of

whether it is on the bench or in the field.

- TY700-series: 4.5 digit with 0.02% basic accuracy, 50000-count dual display and 51-segment bar graph
- TY500-series: 3.5 digit with 0.09% basic accuracy, 6000-count dual display and 31-segment bar graph
- 732 series: 3.5 digit, 4300 count with mean value measurement
- 73101: 3.5 digit, 4300 count pocket DMM

High performance hand-held instruments

Yokogawa supplies a wide range of field instruments including digital multimeters, insulation testers, clamp-on testers and thermometers. Designed for day-to-day field troubleshooting and maintenance of electrical systems, electrical power systems and associated equipment, Yokogawa products help our customers to analyse, troubleshoot and repair their systems to ensure maximum performance. For use in industry, R&D and education, our products are safe and reliable, and they comply with the required safety standards.

ELECTRICAL TEST TOOLS



CW100 and CW200 series

Lightweight, small-sized battery powered electric energy and power meter for field applications.

- wiring check
- high-speed field datalogging: to 1/second
- can measure two 3-phase loads simultaneously

Calibrators

- CA11E: voltage/current calibrator with auto step (4 to 20mA), 20 mA sink, and sweep function
- CA12E: temperature calibrator with selectable RTD, Pt100 or JPt100, and built-in RJC
- CA51: handy calibrator with simultaneous signal source and measurement, and many useful functions
- CA71: handy calibrator with RTD, TC (10 kinds), and online communication functions
- CA150: hand-held calibrator with simultaneous signal source and measurement, SINK, auto sweep, loop check, data save and many other useful functions



Insulation testers

- MY10 series: analogue insulation testers with automatic discharge function, AC voltage measurement, and a protective covering
- 2406D/2406E series: digital and analogue insulation testers with a discharge function and electro-luminescent backlight
- 3213A series: analogue insulation testers with AC voltage measurement, live-line checking, and continuous measurement



Thermometers

- TX series: 1 or 2 channel multi-function digital thermometers with data hold, internal memory and user-calibration, and a relative display function
- TM series: thermo collectors with logging and user calibration functions, and data management software

Clamp-on testers

- CL series: clamp-on testers for AC currents, AC/DC currents and leakage currents; ranges 20mA-1000A; 40mA -4000A; 3mA-1000A
- Low pass filter (some models).



Luxmeters

- 51001: digital luxmeter with timer hold, deviation display, and automatic power-off function
- 51002: digital luxmeter with ripple measurement, and an average luminance computation function

EUROPEAN HEADQUARTERS

YOKOGAWA EUROPE B.V.

Euroweg 2,
3825 HD, Amersfoort
The Netherlands
Tel. +31 88 464 1000
Fax +31 88 464 1111
info@yokogawa.nl

<http://tmi.yokogawa.com>

EUROPE TEST AND MEASUREMENT SALES NETWORK

THE NETHERLANDS

Yokogawa Europe B.V.
T&M Division -
Sales Netherlands & Belgium
Euroweg 2,
3825 HD, Amersfoort
The Netherlands
Tel. +31 88 464 1000
Fax +31 88 464 1111

GERMANY

Yokogawa Measurement
Technologies GmbH
Gewerbestr. 17
D-82211 Herrsching
Germany
Tel. +49 815293 100
Fax +49 815293 1060

ITALY

Yokogawa Italia S.r.l.
Via Pelizza da Volpedo 53
20092 Cinisello Balsamo (MI)
Italy
Tel. +39 02 66 055 1
Fax +39 02 66 011 415

SPAIN IBERIA

Yokogawa Iberia S.A.
c/Lezama, N°22
28034 Madrid
Spain
Tel. +34 91 771 31 50
Fax +34 91 771 31 80

UNITED KINGDOM

Yokogawa Measurement
Technologies Ltd
Stuart Road, Manor Park
Runcorn, Cheshire
WA7 1TR
United Kingdom
Tel. +44 1928 597200
Fax +44 1928 597201

NORDIC

Yokogawa Measurement
Technologies A.B.
Finlandsgatan 52, 2fl
SE-164 74 Kista
Stockholm
Sweden
Tel. +46 8 477 1900
Fax +46 8 477 1999

T&M DISTRIBUTOR NETWORK

Yokogawa has an extensive distribution network. To find the representative in your country or close to you, go to <http://tmi.yokogawa.com> or call +31 (0) 88 464 1000 or email to t&m@nl.yokogawa.com



YOKOGAWA ELECTRIC CORPORATION

Yokogawa's global network of 19 manufacturing facilities, 89 affiliate companies, and over 650 sales and engineering offices spans 32 countries. Since its founding in 1915, the US\$4 billion company has been engaged in cutting-edge research and innovation, securing more than 7,500 patents and registrations, including the world's first digital sensors for flow and pressure measurement. Industrial automation and control, test and measurement, information systems and industry support are the core businesses of Yokogawa. For more information about Yokogawa, please visit our web site at www.yokogawa.com

BU-4A4A4-E-E Subject to change without notice. Copyright© Yokogawa, 2009. Printed in The Netherlands, 08-902.

