TEST & MEASUREMENT 2010

QUALITY ♦ INNOVATION ♦ FORESIGHT

http://tmi.yokogawa.com/ea
QUALITY ■ INNOVATION ■ FORESIGHT
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.
At the heart of our overall philosophy and aims, Yokogawa strives to carry out all of its activities in an environmentally friendly manner and provide environmentally friendly products to customers.

By focusing on solving the measurement challenges related to energy conservation, efficiency and sustainability, and 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.

Yokogawa is a global organisation with over 19,000 employees. In Europe and Africa our 1,200 employees, located in a network of strategic locations, 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 green test and measurement solutions to enable them to be pioneers and innovators in their fields.
A DLM6000 is not just an MSO. The ability to sample the 16 or 32 logic channels at the same rate as the 4 analogue ones together with features such as full state display and bus display functions, typically found on logic analysers, enable embedded systems and their timing to be comprehensively analysed.

A/D and D/A engineers can benefit from the ‘virtual A/D’ feature to get quick characterisation of circuit designs
- 500 MHz and 1 GHz bandwidths
- 6.25 M points memory on every channel
- 5 GHz maximum sample rate on every channel

Yokogawa provides digital and mixed signal oscilloscopes with long flexible capture memories, which enable you to maintain high sample rates, and with extensive signal analysis capabilities. The integrated hardware enables serial buses, such as I2C, SPI, CAN, LIN and FlexRay, to be analysed in real time and multiple parameters to be measured without any reduction in waveform acquisition rate. Yokogawa scopes offer large clear displays, intuitive multi-language user interfaces, easy connectivity and especially, value for money.
DIGITAL STORAGE OSCILLOSCOPES

DLM2000 – Mixed signal oscilloscopes
The DLM2000 combines long memory, fast waveform acquisition and up to 20,000 history memories. 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, serial bus analysis and histogram functions. These powerful compact oscilloscopes are the solution to the widest range of applications and budgets.
- 200 MHz, 350 MHz and 500 MHz bandwidths
- 2 or 4 analogue channels (or 3 analogue and 8 logic)
- Up to 2.5 GS/s sample rates
- Up to 125 M points memory

DL6000 - Digital oscilloscopes
With bandwidths up to 1.5GHz, these high performance oscilloscopes offer an unrivalled combination of high speed waveform acquisition and 2000 history memories which provides not only the ability to capture rare and abnormal signals but also to make comprehensive measurements on each one. The 4 maths channels, which can be user defined, deliver extra versatility for countless applications.
- 500 MHz, 1 GHz and 1.5 GHz bandwidths
- 5 or 10 GS/s sample rates
- 6.25 M points/channel
- Up to 2.5 million waveforms per second

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

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.

CAN-DBC and logic symbol file editor software
Create and edit logic symbol definition files for use on the DLM6000 and SB5000, and CAN-DBC physical value definitions for the same models plus the DLM2000 and DL6000.
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 performs FlexRay signal integrity testing (SI Voting), eye-diagram analysis and bus driver electrical parameter measurement, and provides simultaneous analysis of analogue and logic channels, and simultaneous observation of any two serial 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

PBDH1000 – 1 GHz differential probe
■ Compatible with the FlexRay standard
■ 1 M ohm / 1.1 pF input
■ +/- 25V differential voltage input

PBA1000, PBA1500, PBA2500 – Active probes
■ 1 GHz, 1.5 GHz and 2.5 GHz bandwidths
■ 100 k ohm / 0.9 pF input
■ +/- 7 V dynamic range

PBC050, PBC100 – Current probes
■ 30 A rms continuous measurement
■ DC to 50 MHz or 100 MHz
■ Direct readout of current values

PBL5000 – Low capacitance probe
■ DC to 5 GHz
■ 450 ohm or 950 ohm / 0.25 pF input
■ 20 V rms maximum input
■ DC blocking capacitor available

701919 – Probe stand and positioner
■ Hands-free circuit board testing
■ Heavy base and flexible arm (1.5 kg)
■ For 8 mm to 13 mm diameter probes

701936 – Deskew signal source
■ For use with DL/DLM power analysis option
■ Maximises power measurement accuracy
■ Accepts large jawed current probes

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.

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.
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)

Multi-channel recording & analysis

A ScopeCorder is a flexible and powerful multi-channel test and measuring solution which combines the benefits of 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
With up to 100 MS/s sampling on 16 channels and isolated inputs for high-voltage measurements, the SL1000 PC-based high-speed data acquisition unit comes with intuitive logging and control software for quick start and set-up.
- Ethernet and USB interfaces
- 3.2 MByte/s data streaming rate (1.6 MS/s)
- 128 channels by connecting 8 SL1000 units

Input modules - for ScopeCorders and SL1000
- 100 MS/s, 12 bit, 1kV isolation (SL1000 only)
- 10 MS/s, 12-bit high speed isolated / non-isolated
- 1 MS/s, 16-bit high speed isolated
- 100 kS/s, 16-bit, high-voltage isolated and RMS
- Universal (voltage & temperature)
- Temperature/high precision
- Strain
- Acceleration/voltage
- Frequency

WE7000 – PC-based measurement system
The WE7000 combines multiple measuring instruments in a single PC based system. The control software supports both streaming and triggered applications through USB or Ethernet communication interfaces.
- Multiple input modules
- Source & measure
- Plug and play

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
Display waveforms (using the “Viewer” function), perform file transfers and control ScopeCorder, and SL1000 remotely. Comprehensive analysis includes 6 types of FFT calculation for up to 2 M datapoints.
POWER ANALYSERS & METERS

WT3000 Power analyser

Meet the world’s most stable and accurate power analyser, offering high bandwidth and is ideal for energy efficiency measurements. The WT3000 is certified for standby power testing according to IEC62301 and 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. For the evaluation of motors and inverters, a special version is available that enables measurements of both electrical efficiency and electrical/mechanical efficiency.

- Basic power accuracy 0.02%
- 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. Standby behaviour of transformers and highly distorted waveforms caused by inverters, motors, lighting circuits, power supplies, etc, all require stable and trustworthy power measurements. Yokogawa, the world’s largest manufacturer of power analysers and meters, provides a broad choice to satisfy all requirements. Each instrument carries a three-year warranty.
POWER ANALYSERS & METERS

WT3000T – Precision power analyser - transformer test version
For measuring transformer losses under no-load conditions, according to IEC60076-8, the WT3000T offers excellent accuracy at low power factors.
- Basic power accuracy 0.02%
- Accuracy better than 0.6% at power factor 0.01
- Accredited calibration certificate at delivery

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. The efficiency of 3 phase inverters can be measured when the maximum 6 input elements are installed.
- Basic power accuracy of 0.1%
- Input frequency range DC, 0.5 Hz to 1 MHz (WT1600)
- Harmonics measurement up to the 100th order

WT210/WT230 – Digital power meters
The most widely used compact power meters in production facilities, easily measure voltage, current, phase angle, power factor and harmonics and are available with one, two or three-input elements.
- Basic power accuracy of 0.1%
- Input frequency range DC, 0.5 Hz to 100 kHz
- Certified for standby power testing IEC62301 (WT210)

CW120/CW240 – Clamp-on power meters
Small-sized and battery powered electric energy and power meters for power quality management.
- Ideal for field applications
- Measure energy consumption
- Wiring check function minimises connection errors

software and accessories

760122 WT-viewer
Display numerical and waveform data on a PC, perform harmonic analyses and use trend view to monitor power supply voltage fluctuations, changes in current consumption and other time-based variations.

761922 Harmonic software
This software enables harmonic analysis, voltage fluctuation and flicker measurement, compliant to IEC61000-3-12 & IEC 61000-3-3, to be carried out using measurement data from the WT3000.
Specially designed for renewable energy applications and with one, two or three phase inputs, the WT500 can, for example, measure DC input and AC output signals simultaneously and calculate input to output efficiency. The instrument easily displays numerical values, waveforms and trends.

WT500 Compact power analyser

The WT500 is the ideal companion for evaluating the power conditioning technologies used in renewable energy applications, such as inverters, drives and transformers.

- Basic power accuracy of 0.1%
- Measurement of bought and sold watt hours.
- Frequency range: DC and 0.5 Hz to 100 kHz

Renewable energy

Global warming has led to a demand for more ‘green’ energy. Yokogawa is committed to the protection of the environment and eager to support both the development of renewable sources of energy and to optimise the efficiency of all energy usage with its broad range of power measurement and analysis solutions.
PZ4000 - Power analyser
Combining high precision power measurement and deep memory oscilloscope technologies, the PZ4000 is a unique instrument suitable for the power analysis of unstable loads and fast transients.
- High speed sampling to 5 MS/s
- Input frequency range DC to 2 MHz
- Harmonic analysis (up to 500th order)

External current sensors
For power measurement with the highest accuracy, the test current should be connected directly to the shunt input of the powermeter. However, currents above 50 Arms cannot be connected directly, due to the large errors caused by heating effects, and an external high precision sensor must be used.

MACC\textsuperscript{Plus} - External current sensor
The accuracy and cost effectiveness of the MACC\textsuperscript{Plus} make it the most popular sensor with a 1000:1 ratio and is suitable for currents up to 850 A\text{peak} (600 Arms).

SC1000 - Zero-Flux\textsuperscript{TM} split core current sensor
The unique split core principle enables it to be easily installed when power cables cannot be disconnected. Primary currents up to 1000 A\text{peak} (700 Arms) can be measured.

CURACC - Zero-Flux\textsuperscript{TM} external current sensor
When currents above 1000 A\text{peak} (700 Arms) need to be measured, the CURACC offers high accuracy measurements up to 6000 A\text{peak} (4240 Arms).

Precision sensing and measurement
The accuracy of Yokogawa’s power measurement is complemented by the precision sensor expertise of Hitec Power Protection. Their long history and experience in power measurement mean that accurate and reliable measurements can be made from milliwatts to megawatts.
AQ6370 optical spectrum analysers are the most advanced on the market today. Covering wavelengths from 350 to 2400 nm they offer a unique combination of excellent performance, long term reliability and outstanding ease of operation. This makes them instruments of choice in not only extensive R&D applications, but also in a variety of industrial process and quality control applications.

- High speed recording, and real-time analysis
- Compatible with single-mode and large core multi-mode fibres
- Simple operation & maintenance (incl. auto-calibration, mouse control or remote control)

Leading solutions for R&D and industrial applications

In 2002 Yokogawa became a leading supplier of optical spectrum analysers following the acquisition of Ando Corporation. A commitment to supplying advanced functionality means that Yokogawa OSAs provide the solution to the widest range of R&D and industrial applications. These include the testing of visible light LEDs and lasers, the evaluation of densely spaced communication signals and infrared sensing of gases such as those attributed to global warming.
The remote viewer software provides real-time monitoring of measurement results and complete instrument control from a remote PC (Ethernet). Using the same software, previously stored measurement results can also be analysed off-line.

A range of broadband light sources is available to support extensive OSA applications:
- Halogen source (AQ4305)
- ASE source
- Super Luminescence Diodes (SLD)
- Tunable diode laser (AQ2210-136) synchronised to the OSA
- Super-Continuum sources
optical & multimedia testers

AQ2200 Multi Application Test System

The modular platform of the AQ2200 offers a solution for many optical test applications. With the broad range of available plug-in modules, complex measurement setups are simplified, with a single-box solution. A single MATS frame can handle multiple applications simultaneously, allowing different users to control the modules thus saving cost.

The fast response of the instrument makes it an ideal tool in a manufacturing environment

- 3 and 9-slot frames allow hot-swapping of modules
- Fast command processing and programming capabilities
- Ethernet, GP-IB and USB interfaces

Optical testing

Applications that are based on the propagation of light are entering our daily lives. Varying from applications in telecommunication, automotive, research, aerospace and consumer goods, each one requires its dedicated optical components to be thoroughly tested.

Yokogawa optical test systems offer the flexibility, speed and functionality to meet all requirements.
optical & multimedia
testers

AQ210 Series – Plug-in modules
A broad range of modules is offered to satisfy the extensive range of applications i.e. different laser diodes (tunable & fixed wavelength), sensor modules, attenuators, optical switch, optical return loss module, 10 Gbit/s Bit Error Rate Tester (BERT) modules.

TA720 – Time interval analyser
The TA720 is the de-facto standard for measuring jitter and analysing the performance of optical disks, including Blu-ray, in development and production environments, due to its outstanding sample rate, accuracy and resolution.
- 80 MS/s sampling rate, 25 ps resolution
- Simultaneous data-to-clock and data-to-data jitter measurement
- Inter-Symbol Interference analysis

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.
- Data-to-clock, and pulse width jitter measurement
- Ethernet, Gp-IB interfaces
- Multiple displays

TB200 – Optical power meter
The TB200 hand-held optical power meter covers the wavelength range from 400 to 850 nm. It is ideal for laser applications such as optical disk development and production.
- Flat response in the 405, 660 and 785 nm wavelengths bands
- Power measurement up to 100 mW
- USB interface for full remote control

software and accessories

Remote viewer software for the AQ2200
Viewer software for the AQ2200 provides real-time monitoring of measurement results and complete system control from a PC via Ethernet. Remote users can therefore easily access the instrument even when it is integrated into a production line or another machine.
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
- Multi core and PON measurements

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.
**AQ1100 - Optical loss test set**
The AQ1100 OLTS provides a power meter and light source(s) in one very portable unit for testing optical fibre networks such as FTTH (fibre to the home) and LAN (local area network). The optional PING function extends its capabilities and the USB port offers simple data storage. Choices of light source(s), including support for both single mode and multi mode fibres, and power meter, mean that the AQ1100 is a genuine Multi-field tester.
- Power measurement up to +27 dBm
- PON (1490/1550 nm) parallel measurement
- Optional visible light source for fault finding

**AQ2160 - Hand-held power meter**
During fibre-to-the-home (FTTH) installation, a handheld power meter is often used to identify the connection between the distribution network and the household. The AQ2160 provides a simple to use solution with preset wavelengths (850, 1310, 1550 nm), and USB interfacing.
- Compact and lightweight, with protective case
- Long battery life
- Bright LCD display

**AQ4270 - Light source**
The AQ4270 is a compact handheld light source. It supports the common optical fibre network wavelengths (1310/1550 nm) and is an ideal partner for the AQ2160 handheld power meter for installation and fibre identification use.
- High output stability
- Detachable universal adaptor
- Easy cleaning of the output fibre

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**software and accessories**

**AQ7940 - Intermittent* disconnection monitoring software**
The AQ7940 is PC software for detecting and monitoring intermittent disconnections of an optical fibre connected to an OTDR, which is controlled via an Ethernet or USB interface. Disconnections could be caused by cold weather, animals or insects, for example, and may require quick action. Disconnections as short as 100 ms can be detected.
* Occurring occasionally or at regular or irregular intervals

**AQ7932 - OTDR emulation software**
This Windows based software can analyse trace data obtained with AQ7270 and AQ7275 OTDRs on the PC. With its “Wizard” function it can easily generate tabular or waveform graph reports from the test data. Report data can also be output in Excel format.
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 μsec width with 0.1 μsec resolution)
- Drag & drop operation via USB

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.
Multi-channel capability
Use the external input/output connectors to source or generate multiple synchronised channels and make 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.
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 offers 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

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

Calibrators
- CA11E: voltage/current calibrator with auto step (4 to 20 mA), 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
- MY40 series: 4 range digital insulation testers with automatic discharge, memory, comparator and conductor resistance measurement
- MY10 series: single range analogue insulation testers with automatic discharge function, AC voltage measurement, and a protective covering
- 2406E series: 2 and 3 range analogue insulation testers with a discharge function and electro-luminescent backlight

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 20 mA-1000 A; 40 mA-4000 A; 3 mA-1000 A
- 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
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, and supports standalone use.
- 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.
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, SNTP, DHCP
- strong mathematical 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 channels per second
- DataBrowser lets you efficiently search files for desired data and display the results as waveforms
- AddObserver lets 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
- powerful custom scripting functions for performing complex data analysis, transfer data online to Excel or to send commands to devices and enabling control of automated test stands
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 to 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. Battery options provide extra versatility when mains power is not available.
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 to 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 the 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

LR Series - 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 to 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.
YOKOGAWA ELECTRIC CORPORATION

Yokogawa’s global network of 19 manufacturing facilities and 85 companies spans 40 countries. Since its founding in 1915, the US$4 billion company has been engaged in cutting-edge research and innovation, securing more than 8,000 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 the company’s web site at www.yokogawa.com