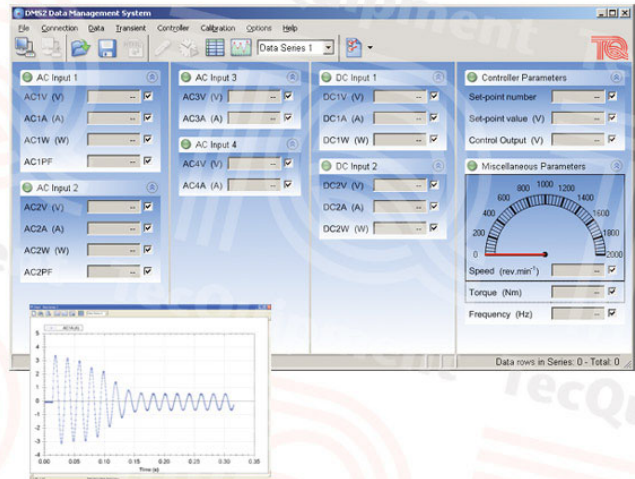


DMS2

Data Management System

A versatile hardware and software combination which replaces several ordinary electrical instruments with one bench-mounting unit. Includes real-time display and data acquisition.



Screenshots of the DMS2 software

- Works with a suitable computer (not included) to replace a whole range of standard electrical instruments
- For use with TecEquipment's Electrical Machines Teaching System and any other suitable electrical power application
- Includes user-friendly software with real-time displays of voltages, currents, power, power factor and frequency from multiple 'virtual' a.c. and d.c. voltage and current instruments
- Software includes manual and automatic (timed) data acquisition for 'hands-free' operation, and user-editable layout to suit their needs
- Connects directly to the universal serial bus (USB) connection of a computer for fast data acquisition – needs no tools or extra cards
- Built-in controller for computer control and data acquisition of motor performance – for use with TecEquipment's Electrical Machines Test Bed (FH2)
- Displays and records torque and speed – for use with TecEquipment's Electrical Machines Test Bed (FH2)

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- An ISO 9001 certified company

DMS2

Data Management System

Description

The Data Management System (DMS2) is a two-part product: hardware and software. It replaces several standard electrical instruments with one unit and adds data acquisition.

Students can use it in place of several conventional instruments for any suitable electrical power experiments, single and three-phase. They can also use it with TecQuipment's Electrical Machines Teaching System for control and data acquisition with tests on machines.

The hardware is a module that contains a.c. and d.c. 'virtual' instruments with shrouded input connections. The instruments measure voltage and current. The a.c. instruments also measure frequency. The module contains connections to accept speed and torque signals and to output torque (load) control for connection to TecQuipment's Test Bed (FH2). The hardware sends signals to the DMS2 software on a suitable computer (computer not included).

The software shows real-time displays of the measurements from the virtual instruments and records the data. A software-based controller allows students to create a control system for tests on machines. The controller works in open loop or closed loop (with feedback). It has adjustable proportional and integral gain blocks that work on the feedback error signal (speed or torque) from the FH2 Test Bed. For transient measurements, the user can set up a sampling interval and number of samples. The user can select any of the a.c. signals to trigger the transient logging. Students can set the software to collect data automatically over a given time or a number of readings (timed data acquisition). The software can create charts of the data and export data for use in other programs.

Users can edit the layout of the software to display digital meters, analogue meters and calculated displays, based on other displays.

Standard Features

- Supplied with comprehensive user guide
- Two-year warranty
- Made in accordance with the latest European Union directives

Essential Ancillaries (not supplied by TecQuipment)

Suitable computer with a minimum specification of:

- Intel® Pentium® 4 (or equivalent processor) operating at 1.8 GHz
- 512 MB of RAM and 500 MB of hard disk space
- SVGA monitor that works with 16-bit colour, 1024 x 768 resolution
- CD-ROM drive
- USB 2 port
- Standard two-button mouse (three-button mouse with scroll wheel is better)
- Microsoft® Windows® XP or Vista operating system

Essential Services

Electrical supply:

Single-phase with earth and neutral 50/60 Hz
88 to 264 VAC 2 A

Bench space needed:

750 mm x 750 mm

Operating Conditions

Operating environment:

Laboratory environment

Storage temperature range:

-25°C to +55°C (packed)

Operating temperature range:

+5°C to +40°C

Operating relative humidity range:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C

Sound Levels

Less than 70 dB(A)

Specifications

Nett dimensions and weight:

540 mm x 450 mm x 200 mm and 16 kg

Packed dimensions and weight:

Approximately 0.16 m³ and 7.5 kg

Virtual instruments:

- Four a.c. voltage: 0 to 500 VAC
Accuracy range: 40 to 70 Hz
- Four a.c. current: 0 to 25 A
Accuracy range: 40 to 70 Hz
- Two d.c. voltage: 0 to 250 VDC
- Two d.c. current: 0 to 10 A

Other inputs:

- Torque and speed (from FH2 Test Bed)

Outputs:

- Torque (load) control to FH2 Test Bed
- USB2 connection type B

Software:

- Real-time displays of the d.c. and a.c. voltages and currents
- Automatic calculation and display of power for two of the a.c. and two of the d.c. instruments, and power factor for two a.c. instruments
- Charts any two inputs together or any input against time
- Exports HTML
- Controller with proportional and integral gain

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