

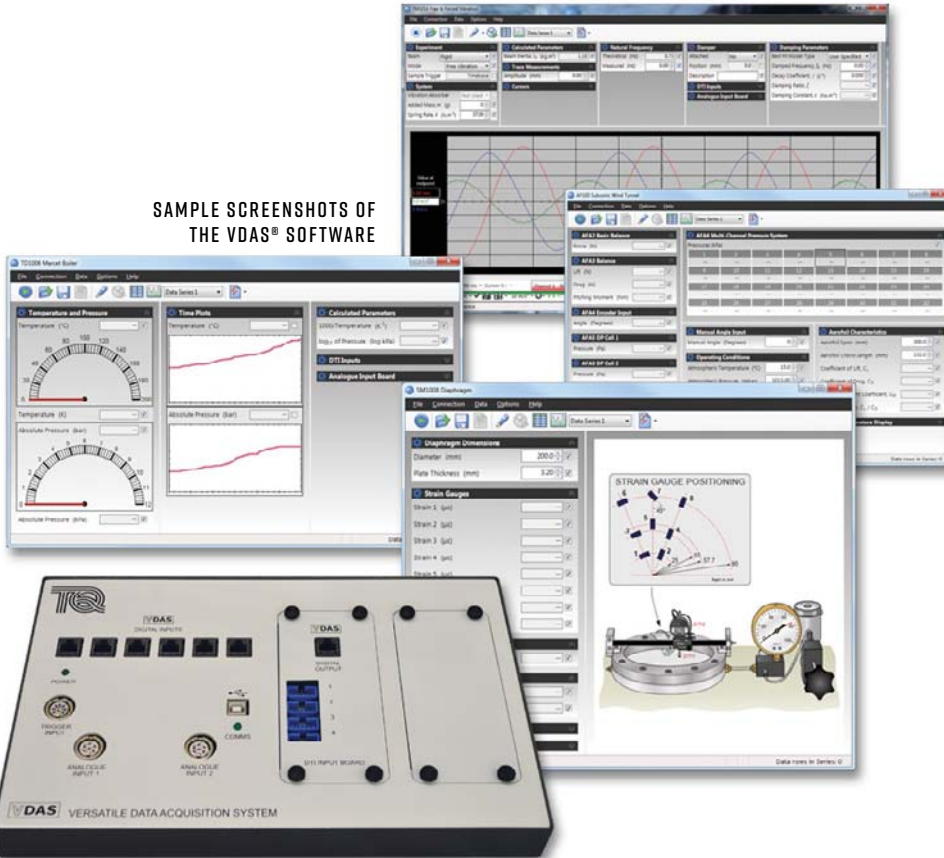
VDAS (MKII)

VERSATILE DATA ACQUISITION SYSTEM **VDAS**<sup>®</sup>

For high-capacity, accurate, efficient and user-friendly automatic data acquisition from over 50 TecQuipment products.



SAMPLE SCREENSHOTS OF THE VDAS<sup>®</sup> SOFTWARE



VERSATILE DATA ACQUISITION SYSTEM BENCH-TOP INTERFACE (VDAS-B MKII)



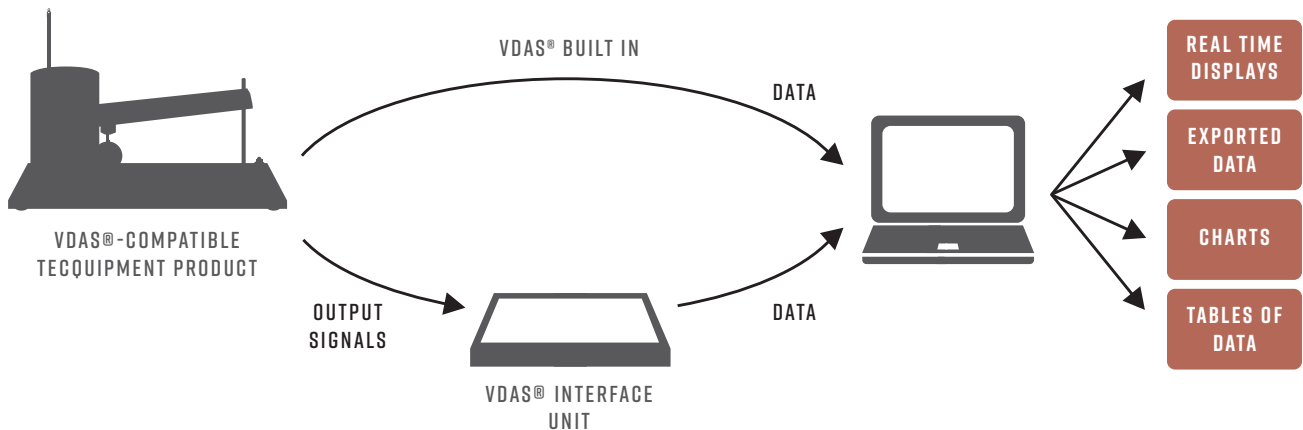
VERSATILE DATA ACQUISITION SYSTEM FRAME-MOUNTING INTERFACE (VDAS-F MKII)

**KEY FEATURES**

- Modern, cost-effective automatic data acquisition hardware, software and accessories to enhance teaching and laboratory sessions
- Real-time traces, data capture, monitoring and display of your experiment readings on a computer (PC)
- Intuitive and easy-to-use software, with clear, customisable display and layout options
- Automatic calculation, recording, charting and data export for efficient use of students' and lecturers' time
- Available in both frame-mounting and bench-top options for convenience
- Similar software layout for all VDAS<sup>®</sup> compatible products – no need to learn new software when changing experiments

**KEY SPECIFICATIONS**

- All mains connectors and cables
- STP (shielded twisted pair) cables for equipment connection
- Data Export:
  - XLSX file (default)
  - HTML file (optional)



## DESCRIPTION

TecEquipment’s modern, cost-effective and accurate Versatile Data Acquisition System (VDAS®) improves laboratory teaching. It works with a growing list of over 50 TecEquipment products, enabling real-time display and capture of experiment data.

For both individual student use or for lecturers demonstrating experiments to a whole class, VDAS® gives real-time calculation, recording and charting with fast data export. This makes efficient, productive and effective use of time for both students and lecturers.

VDAS® mkII consists of mkII hardware and Version 2 software. The hardware offers a choice of either a frame-mounting interface (VDAS-F) or a bench-top interface (VDAS-B). Both interface units work the same but the choice gives more convenience to the user. For example, some TecEquipment VDAS® compliant products have an integral instrumentation frame so the frame-mounting interface unit is the best choice. To reduce costs, you may order just one VDAS® unit for each classroom and connect it to each product as needed.

The digital inputs on each interface connect directly to instrumentation on suitable TecEquipment products. These inputs are non-specific, for easy experiment setup and reduced connection errors. The mostly digital communications circuits make the equipment more resistant to electrical noise than purely analogue systems.

The mkII interface units also have two analogue inputs. These are for fast-moving (transient) signals from some TecEquipment products or for transducers and sensors. These may include displacement or pressure measuring sensors and flow meters. VDAS® Version 2 can display the analogue signals in real-time as traces on your computer screen. This allows VDAS® to work as a user-friendly alternative to an oscilloscope on selected products.

The output from the interface unit connects to a computer (computer not supplied) running the VDAS® software.

The Version 2 software has extra features that allow you to add derivative traces and reference traces, based on each of the two analogue input signals. You may also adjust software filtering and smoothing of each signal trace, and scale the traces to best fit your trace area.

The software is intuitive and easy to use, with clear and convenient data display options. The software looks similar and works in a similar way for each TecEquipment VDAS®-compliant product. This saves time as students do not have to learn to use new software when changing experiments.

VDAS® Version 2 Software features include:

- Works with existing TecEquipment VDAS®-compatible products
- Recording data manually or automatically
- Data capture set by time or intervals
- Display of real-time data, in digital form or as an analogue meter
- Real-time traces of analogue signals
- Logging data for printing and later analysis
- Exporting data for use by other software
- Performing real-time calculations to generate user-defined data
- Creating and printing charts and data tables
- Customisable layouts

## STANDARD FEATURES

- Supplied with comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

**ESSENTIAL ANCILLARY**

- Suitable computer

**ANCILLARY FOR**

Nozzle Flow Apparatus (AF27)  
 Subsonic Wind Tunnel (AF100)  
 Supersonic Wind Tunnel (Intermittent) (AF300)  
 Supersonic Wind Tunnel (Continuous) (AF302)  
 Centrifugal Pump Test Set (H47)  
 Two-Stage (Series And Parallel) Pumps (H83)  
 Pipe Surge and Water Hammer (H405)  
 Centrifugal Pump Module (MFP101)  
 Axial Flow Pump Module (MFP102)  
 Positive Displacement Pump Module (MFP103)  
 Reciprocating Compressor Module (MFP104)  
 Centrifugal Compressor Module (MFP105)  
 Centrifugal Fan Module (MFP106)  
 Axial Fan Module (MFP107)  
 Universal Testing Machine (SM1000)  
 Torsion Testing Machine (30 Nm) (SM1001)  
 Bench Top Tensile Testing Machine (SM1002)  
 Unsymmetrical Cantilever (SM1003)  
 Beam Apparatus (SM1004)  
 Loading And Buckling Of Struts (SM1005)  
 Creep Testing Machine (SM1006)  
 Thin Cylinder (SM1007)  
 Diaphragm (SM1008)  
 Strain Gauge Trainer (SM1009)  
 Digital Strain Display (SM1010)  
 Thick Cylinder (SM1011)  
 Rotating Fatigue Machine (SM1090)  
 Small Engine Test Set (TD200)  
 Regenerative Engine Test Set (TD300)  
 Heat Exchanger Service Module (TD360)  
 Temperature Measurement And Calibration (TD400)  
 Boyle's Law Apparatus (TD1000)  
 Gay-Lussac's Law Apparatus (TD1001)  
 Heat Transfer Experiment Base Unit (TD1002)  
 Radiant Transfer Experiments (TD1003)  
 Water-to-Air Heat Exchangers (TD1007)  
 Thermoelectric Device Demonstrator (TD1008)

Free And Forced Convection Experiment (TD1005)  
 Marcet Boiler Experiment (TD1006)  
 Steam Motor And Energy Conversion (TD1050)  
 Photovoltaic Cells (TE4)  
 Thermal Conductivity Experiment (TE19)  
 Focusing Solar Energy Collector (TE38)  
 Flat Plate Solar Energy Collector (TE39)  
 Boiling, Condensing Heat Transfer (TE78)  
 Natural Convection And Radiation (TE85)  
 Cross Flow Heat Exchanger (TE93)  
 Air Bearing Apparatus (TE96)  
 Gyroscope (TM1004)  
 Centrifugal Force (TM1005)  
 Free and Forced Vibrations (TM1016)  
 Geared Systems (TM1018)  
 Cam Analysis Machine (TM1021)  
 Governors (TM1027)  
 Free Vibrations of a Mass-spring System (TM164)  
 Free Torsional Vibrations (TM165)  
 Free Vibrations of a Cantilever (TM166)  
 Free Vibrations of a Beam and Spring (TM167)

**ESSENTIAL SERVICES**

**ELECTRICAL SUPPLY (FOR VDAS<sup>®</sup> HARDWARE):**

- VDAS-B (mkII) 100 VAC to 240 VAC, 50 Hz to 60 Hz
- VDAS-F (mkII) 90 VAC to 250 VAC, 50 Hz to 60 Hz

**MINIMUM COMPUTER HARDWARE:**

- Intel<sup>®</sup> i5 or equivalent processor. Multi-core processors give better performance.
- 1280 x 768 screen resolution
- USB 2 or USB 3 port
- 500 MB of hard disc space
- Standard two-button mouse (three-button mouse with scroll wheel is better)

**PC OPERATING SYSTEM:**

- Microsoft<sup>®</sup> Windows 7 or later

**OPERATING CONDITIONS**

**OPERATING ENVIRONMENT:**

Laboratory environment

**STORAGE TEMPERATURE RANGE:**

-25°C to +55°C (when packed for transport)

**OPERATING TEMPERATURE RANGE:**

+5°C to +40°C

**OPERATING RELATIVE HUMIDITY RANGE:**

30% to 95% (non-condensing)



**DETAILED SPECIFICATIONS**

TecEquipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

**FRAME-MOUNTING INTERFACE UNIT (VDAS-F):**

**NETT DIMENSIONS AND WEIGHT:**

Width 190 mm x depth 130 mm x height 445 mm and 4.5 kg

**APPROXIMATE PACKED VOLUME AND WEIGHT:**

0.07 m<sup>3</sup> and 9 kg

**BENCH TOP INTERFACE UNIT (VDAS-B):**

**NETT DIMENSIONS AND WEIGHT:**

Width 330 mm x depth 205 mm x height 45 mm and 2 kg

**APPROXIMATE PACKED VOLUME AND WEIGHT:**

0.05 m<sup>3</sup> and 9 kg

**COMPUTER CONNECTION:**

- USB (lead included)

**ACCESSORIES (SUPPLIED):**

- All mains connectors and cables
- STP (shielded twisted pair) cables for equipment connection

**DIGITAL INPUTS:**

- 6 off RJ45 connection
- 4 off SPC (DTI) inputs

**ANALOGUE INPUTS:**

- 1 DIN type socket for dual trigger input
- 2 DIN type sockets for signal inputs of 0 to 10 V or 4 to 20 mA
- Sample rate up to 25 kHz with 12 bit resolution
- Bandwidth/Filter cut-off 3 kHz (nominal)

**DATA EXPORT:**

- XLSX file (default)
- HTML file (optional)

