

# dbDAQ-1

“When device portability enhances the freedom of measurement”



## Key Features

- Small rugged aluminium casing (187 x 118 x 38 mm)
- Easy setup for usage
- Standard 8-pin connectors for easy plug-and-play with various sensor types (powered/non-powered)
- Available for singular type signal input or universal analogue input channels (voltage, current, RTD)
- Connects directly with PC/notebook via USB port (bus-powered)
- Direct 12 V power for sensor biasing
- Integrated data logging software with basic database features

The dbDAQ-1 measurement module is a rugged, compact system that communicates with a PC/notebook via a USB connection. Its small form factor bundle is ideal for portable or distributed measurements. With its integrated software, the dbDAQ-1 series is able to perform comprehensive and high performance data acquisition.

The dbDAQ-1 series comprises of cost effective value options with specific single type signal inputs as well as universal inputs option for flexible measurement requirements.

This standalone solution provides users with a fast and portable setup but does not compromise the advanced features available in a standard data acquisition system.

## dbDAQ-1 series options:

1. Voltage Measurement System NI 9215
  - 4 differential channels at 100 kS/s with 16-bit resolution
  - Maximum Voltage Range: -10 V, 10 V
  - Maximum Voltage Range Accuracy: 0.003 V
2. Current Measurement System NI 9203
  - 4 single-ended channels at 200 kS/s with 16-bit resolution
  - Maximum Current Range: -20 mA, 20 mA
  - Maximum Current Range Accuracy: 0.049 mA
3. Temperature Measurement System NI 9211
  - 4 thermocouple channels at 14 S/s with 24-bit resolution
  - Maximum Voltage Range: -80 mV, 80 mV
4. RTD Measurement System NI 9217
  - 4 100  $\Omega$  RTD channel at 400 S/s with 24-bit resolution
  - 3- and 4-wire RTDs; built-in excitation and automatic detection
5. Universal Measurement System NI 9219
  - 4 universal channels at 100 S/s with 24-bit resolution
  - Maximum Voltage Range: -60 V, 60 V
  - Maximum Voltage Range Accuracy: 243 mV
  - Maximum Current Range: -25 mA, 25 mA
  - Maximum Current Range Accuracy: 0.152 mA

- Measurement Type: Current, Temperature, Resistance, RTD, Strain/Bridge-based sensor, Thermocouple and Voltage

## Connectivity

The *dbDAQ-1* series connects directly to a PC/notebook via the USB port and is directly bus powered. An optional sensor power source can be made available for a powered sensor type by connecting the DC power supply to the sensor power input jet.

## dbDAQ-1 Software

This is a database-controlled measurement software built with a standard database, data logging and report generation features. Users will have access to features such as:

- Administrative: User Management with system access and data security
- User and Customer Management: Access Control, User and Customer Record and Usage Tracking
- Sensors Management: Sensor Registration, EOL Control and Calibration Records Control
- Test Management: Test Processes and Control
- Report Management: Report Generation and Report Retention
- Charting: Linear and Circular Plots with Measurement and Performance markers
- General: New data entry, modification and deletion of existing data.

The screenshot displays the software interface for configuring and executing a test. It is divided into several sections:

- Sensor Information:** Fields for Sensor Part No (XPG), Sensor Type (Pressure), Sensor Unit (psi), Sensor Range (0 to 30000 psi), Sensor Reference (4 mA to 20 mA), Sensor Offset (0 psi), Calibration Date (23/04/2014), and Calibration File Path (73/04/2014).
- Test Information:** Fields for Test Name (Test 456), Test Medium (Air), Test Pressure (15000), Test Description (The test criteria to be a min range values), and Remarks.
- Linear Chart Configuration:** X-Axis Name (Time (Min)), Y-Axis Name (Pressure (psi)), Plot Color (Blue), X-Axis Pattern (4-Hour Graph), Y-Axis Max Range (15000), Start Marker Color (Yellow), End Marker Color (Magenta), and Marker Time (60 Sec).
- Circular Chart Configuration:** X-Axis Name (Time (Min)), Y-Axis Name (Pressure (psi)), Graph Plot Color (Blue), Graph Grid Color (Black), X-Axis Pattern (4-Hour Graph), Y-Axis Max Range (15000), Start Marker Color (Yellow), End Marker Color (Magenta), and Marker Time (60 Sec).
- Execution Linear:** A linear graph showing pressure over time. The Y-axis ranges from 0 to 30000 psi, and the X-axis ranges from 0 to 3 Hr 40 Min. The graph shows a constant pressure of 15000 psi.
- Execution Circular:** A circular graph showing pressure over time. The Y-axis ranges from 0 to 30000 psi, and the X-axis ranges from 0 to 3 Hr 40 Min. The graph shows a constant pressure of 15000 psi.
- Control Panel:** Fields for Customer, PO No., Hti Job No., Test Procedure No., Test Medium, Test Pressure, and Description. A digital display shows Current Pressure (0.00) and Recording Duration (0). Control buttons for Start, Pause, Stop, and Report are provided.