

Portable Multi-Channel Data Recorder

Model DAS240-BAT



The DAS240-BAT measures and records parameters commonly found in process applications including voltage, temperature, current, resistance, frequency and pulse. It includes 20 universal analog channels with convenient screw input terminals that can be expanded up to 200 channels. This recorder was developed by B&K Precision's subsidiary Sefram in France, which specializes in the design and manufacture of data acquisition instruments, field strength meters and other test and measurement instruments.

Measurement results can be viewed graphically and numerically on a 10-inch color touchscreen and saved to internal memory or an external USB memory stick. Icon-driven menus make the instrument easy to navigate. The free DasLab Windows PC software allows users to remotely control and configure the recorder, transfer logging results and configuration files, and view live data in graphical or numerical format on the PC.

The data recorder features 32 GB of solid-state memory for data logging over extended periods. The internal battery provides back-up in the event of power loss.

Main applications

- Temperature logging with thermocouples and platinum resistance temperature sensors
- Voltage measurements down to ± 0.5 mV range
- 4-20 mA current loop measurements
- Frequency, pulse totalization and pulse rotation measurements, which can be expressed in RPM (rotations per minute)



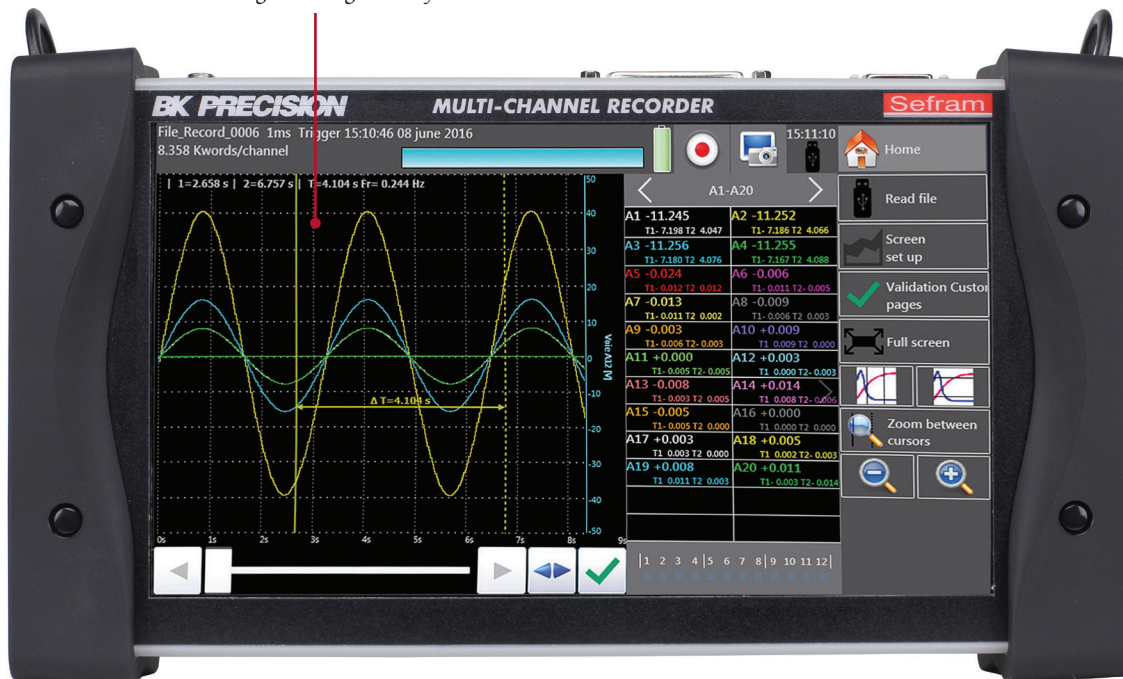
Expandable 20-channel analog modules

Features and benefits:

- Wide 10" touchscreen TFT display
- Extended battery life of up to 15 hours
- 20 universal analog input channels, expandable to 200 channels
- Versatile temperature measurements supporting thermocouples and Pt100 / Pt1000 temperature sensors
- Measure voltage to ± 100 V, resistance to 10 k Ω and current (with optional shunt input-terminal block)
- 16 bit vertical resolution
- Recording interval (sampling rate) up to 1 ms
- 12 logic input/output channels
- 4 timing logic input channels for pulse count, frequency and PWM measurements
- 4 alarm outputs
- 32 GB internal solid state memory
- 2 USB Host ports and 1 LAN interface
- Free DasLab operating software
- Virtual Networking Computing (VNC) capability for replicating the instrument's front panel interface on a PC

Front panel

10" Touchscreen
TFT display with 10-inch touchscreen to facilitate signal viewing and analysis



Top input and connection panel

Analog input

Connect external channel modules for wire management and expandability up to 200 channels

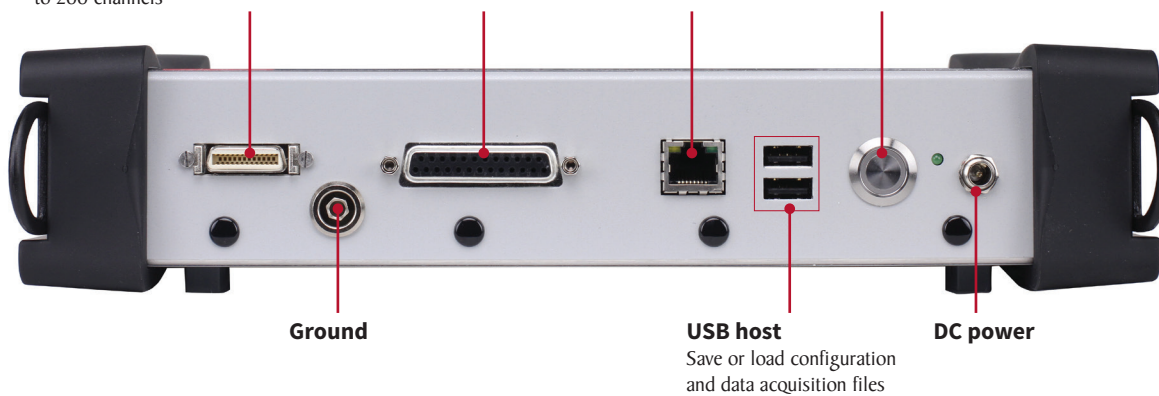
Alarm output/Logic input

Pulse counter and frequency measurements

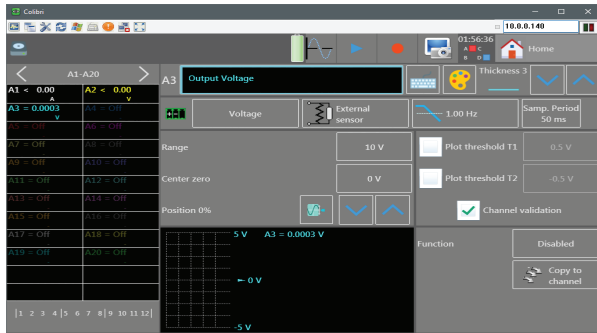
LAN

Remote control and monitoring

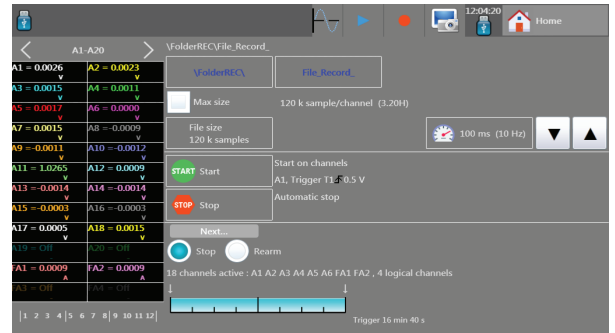
Power button



Flexible operation



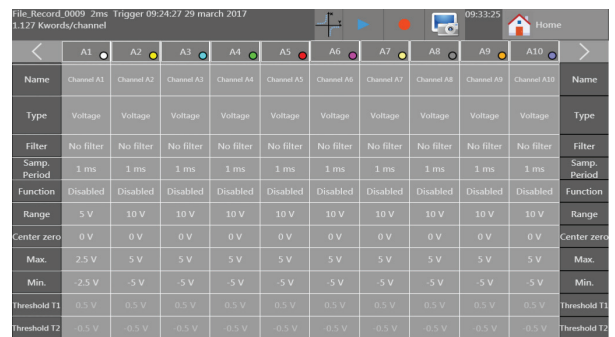
Large display with icon-driven menus for easy setup and operation.



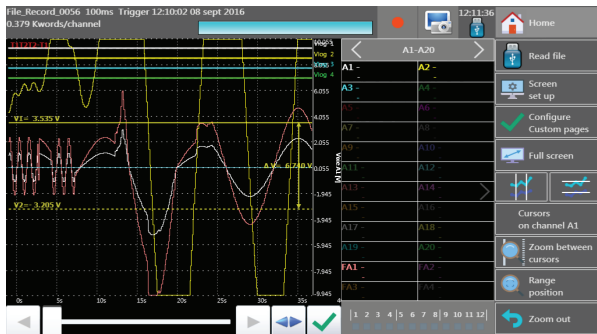
Comprehensive triggering capabilities: Configure triggers on analog and logic channels. Select from multiple combinations of thresholds, channels and conditions.



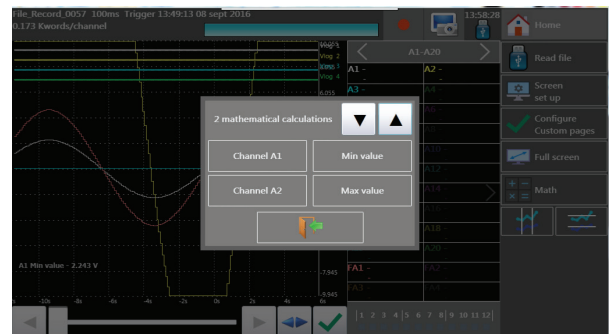
Numerical display of measured values



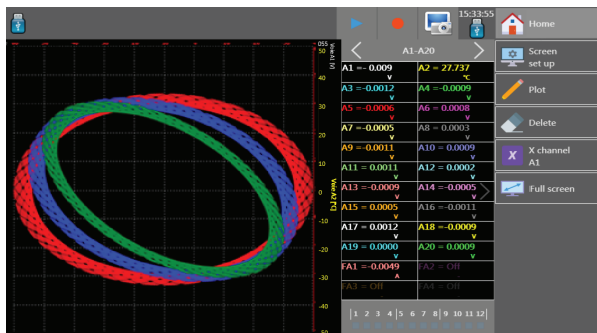
Channel setup displays all parameters on a single screen



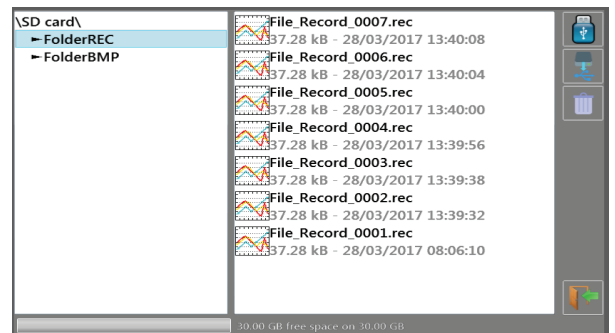
Measurement display with zoom and cursors



Math calculations between channels



XY mode for plotting one varying voltage versus another



Internal file management

The tools you need

Expandable up to 200 analog channels



The 50 Ω shunt can be used on any channel of the DAS220-BAT to accurately measure, display, and record the output from 4 to 20 mA current loop sensors.

Virtual Network Computing (VNC) capability

The recorder's built-in VNC capability, based on the Remote Frame Buffer protocol (RFB), provides a graphical desktop sharing system to remotely control the instrument from another computer. VNC is platform independent and provides a means to control all functions of the instrument through a graphical interface replicating the instrument's front panel, using a mouse and keyboard.

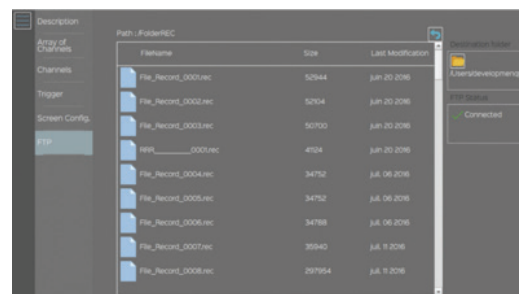
The DAS240-BAT provides a flexible and scalable analog channel concept. Each unit is supplied with one 20-channel analog module and 20 screw input terminal blocks. By daisy-chaining additional modules, the total number of channels can be incremented by 20 to a maximum of 200 channels (10 modules). These modules can be pre-wired to the UUT and stationary in multiple locations while the DAS240-BAT is moved to each location for recording. This helps with wire management and setup time.

DasLab Software

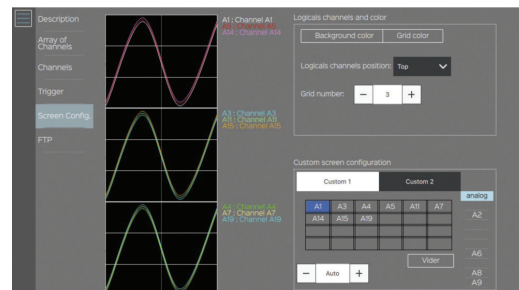


DasLab is a license-free Windows compatible software that can be downloaded from www.bkprecision.com. The software controls the recorder through the LAN interface and provides the following features:

- Channel and trigger configuration
- Display live measurement results in graphical or numerical format
- File management, file upload and download of data recordings, screen captures and configuration files



DasLab file management



DasLab remote setup

Specifications

| Analog Channels | | |
|---|---|--------------------|
| Analog Input Channels | 20 standard, expandable to 200 with optional 20-channel modules | |
| DC Voltage | | |
| Ranges | ± (0.5, 1, 2.5, 5, 10, 25, 50, 100) mV ± (0.5, 1, 2.5, 5, 10, 25, 50, 100) V | |
| Maximum input Voltage | 100 V DC | |
| Accuracy | 0.1% of the full scale ±10 µV | |
| Temperature with Thermocouples | | |
| Sensors Range by Type (Cold junction compensation: ±0.5 °C) | J | -210 °C to 1200 °C |
| | K | -250 °C to 1370 °C |
| | T | -200 °C to 400 °C |
| | S | -50 °C to 1760 °C |
| | B | 200 °C to 1820 °C |
| | E | -250 °C to 1000 °C |
| | N | -250 °C to 1300 °C |
| | L | -200 °C to 900 °C |
| Temperature with Pt100 and Pt1000 | | |
| Current | 1 mA (Pt100), 100 µA (Pt1000) | |
| Range | -200 °C to 850 °C | |
| Measurements | 2 and 3 wires | |
| Accuracy (at 20 °C) | 0.3 °C ±0.1% of reading | |
| Compensated Resistance | 2 wires | 30 Ω max. |
| | 3 wires | 50 Ω max. |
| Resistance | | |
| Ranges | 1 kΩ and 10 kΩ | |
| Accuracy | 1 Ω (range 1 kΩ) and 10 Ω (range 10 kΩ) | |
| Logic Channels | | |
| Logic Input/Output | | |
| Number of Channels | 12 | |
| Maximum Permitted Voltage | 24 V Cat I | |
| Input Impedance | 4.7 kΩ | |
| Sampling Rate | 1 ms max. | |
| Timing Input | | |
| Number of Channels | 4 (K1 to K4) | |
| Maximum Permitted Voltage | 24 V Cat I | |
| Input impedance | 4.7 kΩ | |
| Sampling Rate | 1 ms max. | |
| Pulse Counter | 0 to 10 Million, accuracy 0.1% | |
| Frequency Measurement | 1 Hz to 10 kHz, accuracy 0.1% | |
| PWM Measurement | 100 Hz to 2 kHz, accuracy 0.1% | |
| Alarm Output | | |
| Number of Channels | 4 Alarms (A, B, C, D) | |
| Output Level | 0 to 5 V | |

| Acquisition System | | |
|---|--|----------------|
| Resolution | 16 bit | |
| Acquisition System | Scan, one sample per channel | |
| Sampling Interval | V >50 mV | 1 ms to 20 min |
| | V ≤50 mV, thermocouples and Pt100 / Pt1000 | 2 ms to 20 min |
| Trigger | Date, delay, threshold, combination of thresholds (and/or), word on logic channels (and, or, slope, level) | |
| Pre-trigger | Variable from 0 to 100k samples | |
| General | | |
| Internal Flash Drive Size | 32 GB | |
| Maximum File Size | 2 GB | |
| Operating Temperature | 0 °C to 40 °C, 80% RH (no condensation) | |
| Storage Temperature | -20 °C to 60 °C | |
| Display | 10" TFT touchscreen LCD, backlit, 1024 x 600 dots | |
| Power Supply | 15 V / 4 A max with main adapter (100 / 240 VAC) | |
| Interfaces | 2 x USB host, LAN (10/100 base-T with RJ45 socket) | |
| Battery | Non removable, Lithium-ion | |
| Typical Battery Life | 15 hours with standby mode, 10 hours without stand-by mode | |
| Safety | Cat I 100 V, according to IEC61010-1 | |
| Weight | 3.3 lbs (1.5 kg) | |
| Dimensions (W x H x D) | 2.6" x 11.7" x 6.9" (66 x 298 x 176 mm) | |
| Warranty | Two Years | |
| Supplied Accessories | Main adapter 100 / 240 V, 25 pin male connector ⁽¹⁾ and backshell, 1 cable (70 cm) for measurement module connection, 1 measurement module (20 channels) with input terminals, stylus, soft wipe, and screwdriver | |
| Order Information for Optional Accessories | | |
| 902401000 | 20-channel analog module with 20 input terminal blocks | |
| 902401050 | Analog input terminal blocks 20 pack | |
| 902408000 | Rugged carrying case | |
| 902407000 | Logic channels patch cord | |
| 902406500 | 4 to 20 mA / 50 Ω shunt | |
| 902409000 | 19" rack-mount kit | |

⁽¹⁾ User configurable with solder cups