testforce

B&K PRECISION

Sefram
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Portable Multi-Channel Data Acquisition Recorder
DAS240 Series

The DAS240 is ideal for measuring and recording common parameters such as voltage, current, temperature, pressure, and more with sampling rates up to 1,000 samples per second. It includes 20 universal analog inputs with convenient screw terminals, and an expandable design to support up to 200 channels. This data logger also provides digital inputs and alarm outputs for process monitoring applications.

Measurements can be viewed graphically and numerically on the 10-inch color touchscreen. Icon driven menus make it easy to navigate through the user interface, and a channel setup screen displays the settings for all channels including measurement type, filter settings, and scaling.

The DAS240 provides LAN connectivity and LabVIEW™ drivers for remote control and logging data directly to a PC. Free additional software is also available for viewing acquired data, transferring files, and exporting to common file formats.

The DAS240 data acquisition recorder features 32 GB of solid-state memory for recording data over extended periods of time. When equipped with the optional internal battery (-BAT option), the DAS240 can run for up to 15 hours without connecting to external power.

Main applications

- Temperature logging with thermocouples and platinum resistance temperature sensors
- Voltage measurements from ± 0.5 mV to ± 100 V (CAT I 100 V)
- 4-20 mA current loop measurements
- Frequency, pulse totalization and pulse rotation measurements, which can be expressed in RPM (rotations per minute)
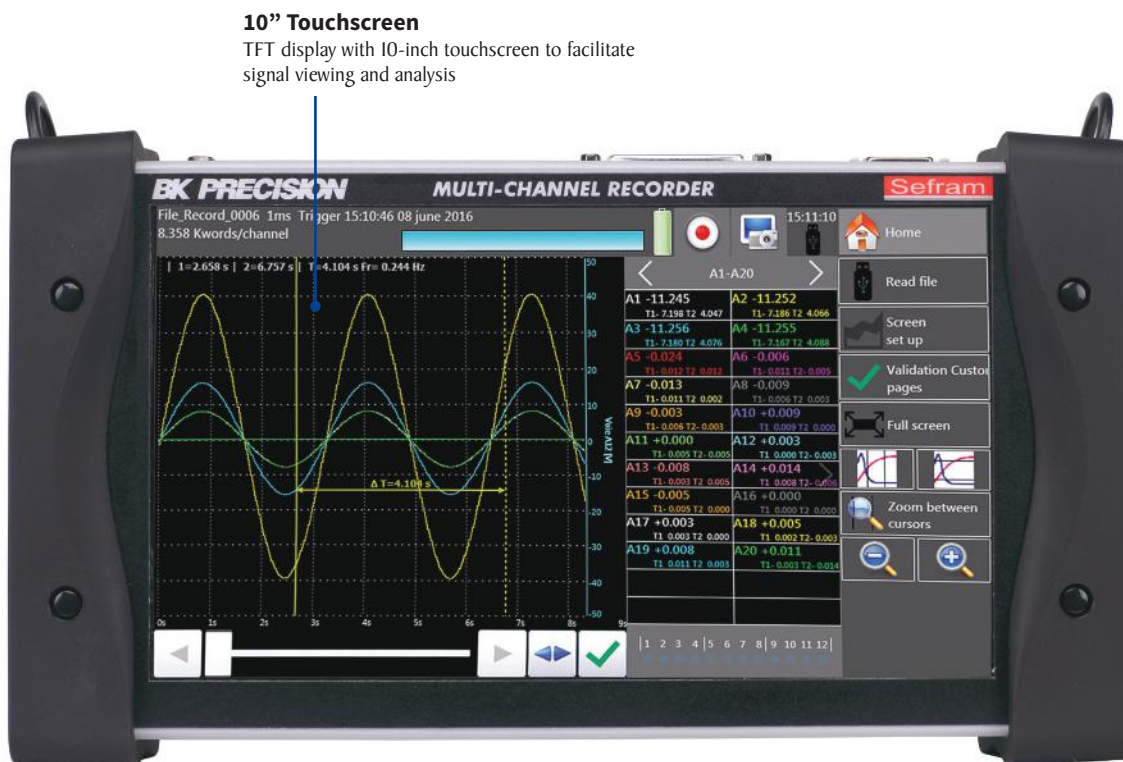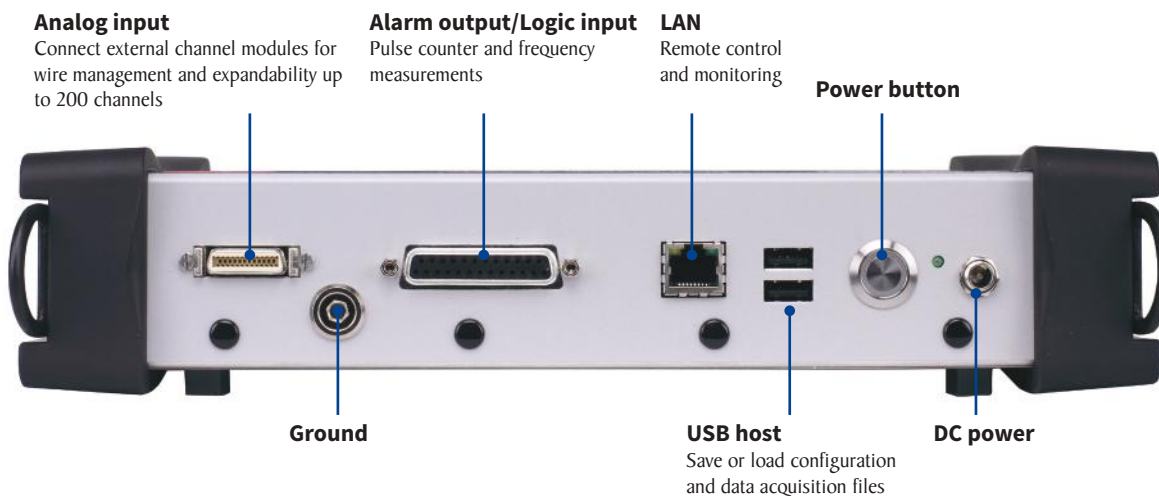

Expandable 20-channel analog modules

Features and benefits:

- Wide 10" touchscreen TFT display
- Extended battery life of up to 15 hours (-BAT)
- 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 kΩ 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
- WiFi monitoring and control (standard USB WiFi dongle required)
- 2 USB Host ports and 1 LAN interface
- Virtual Networking Computing (VNC) capability for replicating the instrument's front panel interface on a PC
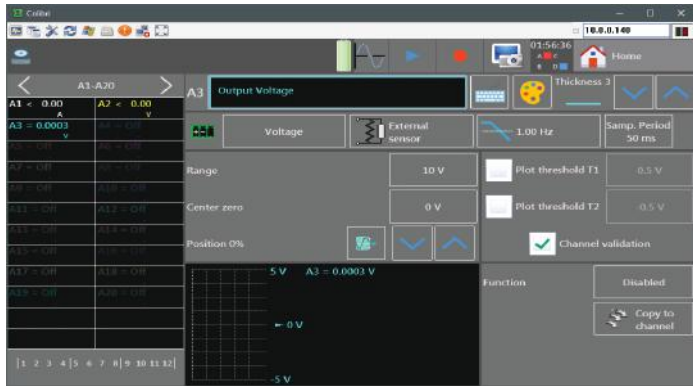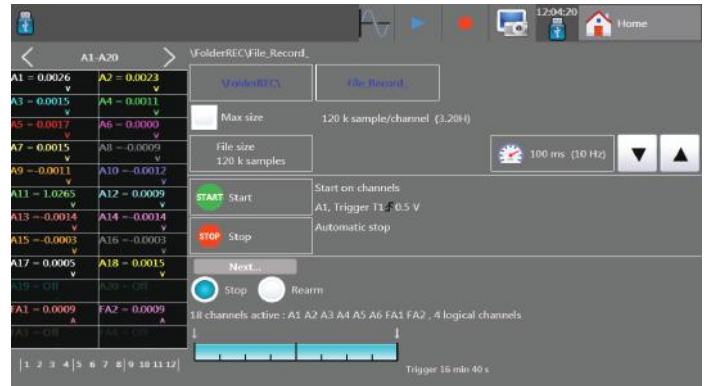
Front panel

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

Ground

USB host
Save or load configuration
and data acquisition files

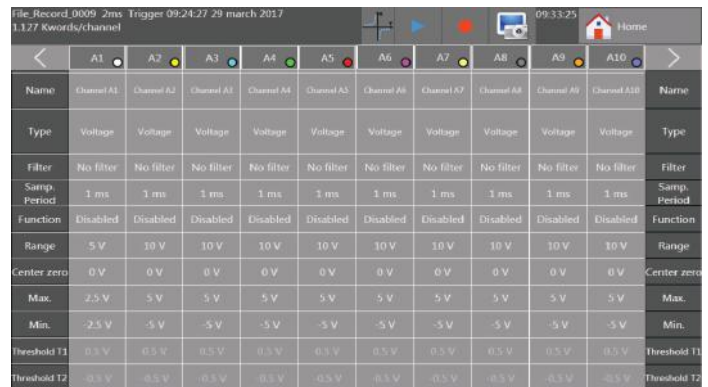**DC power**

Flexible operation

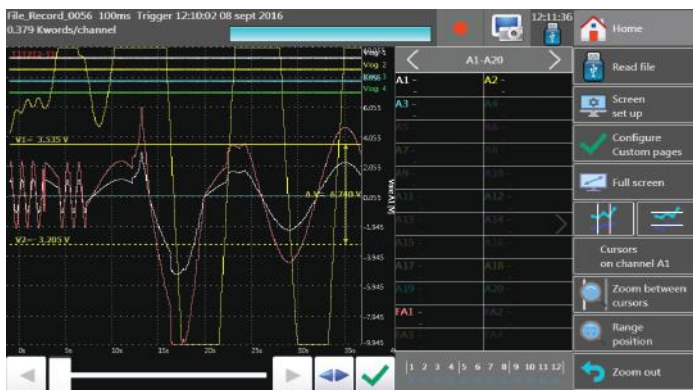Large display with icon-driven menus for easy setup and operation.

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

Numerical display of measured values

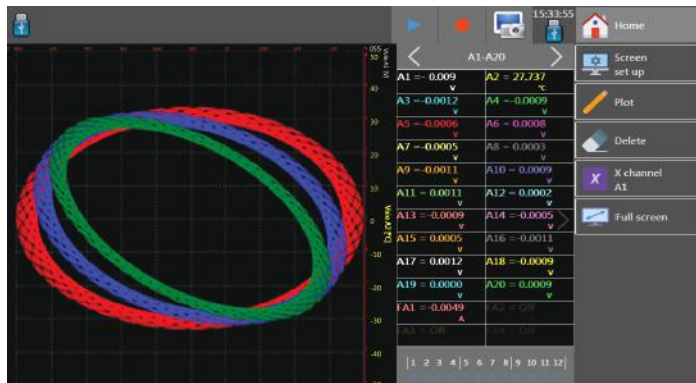Channel setup displays all parameters on a single screen
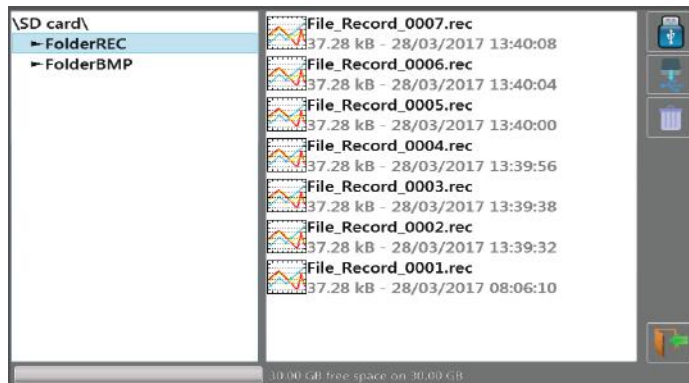

Measurement display with zoom and cursors
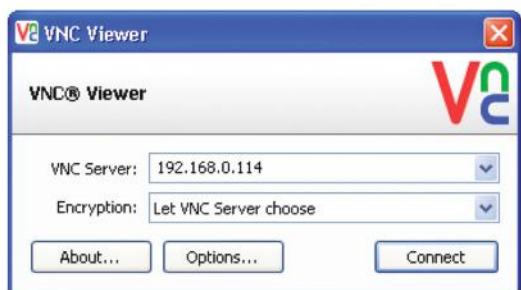

Math calculations between channels

The tools you need

XY mode for plotting one varying voltage versus another

Internal file management

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.

Expandable up to 200 analog channels

The DAS240 series 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 instrument is moved to each location for recording. This helps with wire management and setup time.
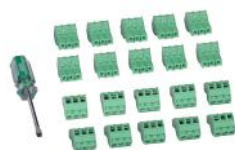
Optional accessories

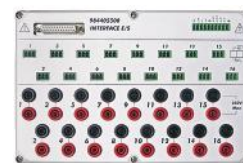The 50 Ω shunt can be used to record the output from 4-20 mA loop sensors.

Rugged carrying case

Spare analog input connectors 20 pack

Logic channels patch cord

Isolated logic channel module

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
	C	0 °C to 2320 °C
	L	-200 °C to 900 °C
	R	-40 °C to 1500 °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, edge level, combination of thresholds (and/or), word on logic channels	
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 (-BAT)	Non removable, Lithium-ion
Typical Battery Life (-BAT)	15 hours with standby mode, 10 hours without stand-by mode
Safety	Cat I 100 V, according to IEC61010-1
Weight	DAS240 / 3.3 lbs (1.5 kg)
	DAS240-BAT / 4.5 lbs (2 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, screwdriver, calibration certificate and test report

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
902409500	US Mains power adapter
978553000	EU Mains power adapter
917008000	Isolated logic channel module

[1] User configurable with solder cups

B&K PRECISION

About B&K Precision

For more than 70 years, B&K Precision has provided reliable and value-priced test and measurement instruments worldwide.

Our headquarters in Yorba Linda, California houses our administrative and executive functions as well as sales and marketing, design, service, and repair. Our European customers are most familiar with B&K through our French subsidiary, Sefram. Engineers in Asia know us through our B+K Precision Taiwan operation. The independent service centers in Singapore and Brasil service customers in Singapore, Malaysia, Vietnam, Indonesia and South America, respectively.

B&K Headquarters
Yorba Linda,
California, USA

Sefram
St. Etienne, France

B&K Taiwan
Taipei, Taiwan

Cistek Equipamentos de Medição Ltda
São Paulo, Brasil

Dynamics Circuit
Singapore

● B&K Precision group member   ● Independent service center   ● Service center location

Quality Management System

B&K Precision Corporation is an ISO9001 registered company employing traceable quality management practices for all processes including product development, service, and calibration.

ISO9001:2015   Certification body NSF-ISR
                    Certificate number 6Z241-IS8

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NSF-ISR
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+1 (888) 880-6804
sales@testforce.com

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About Sefram

Established in 1947, Sefram has been designing and manufacturing data recorders for more than 70 years. Sefram joined the test and measurement division of Schlumberger in 1978, and has been a subsidiary of B&K Precision since 2004. Certified ISO 9001, Sefram's strategy is to provide innovative and high-quality test and measurement products for electronic and electrical applications.

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