

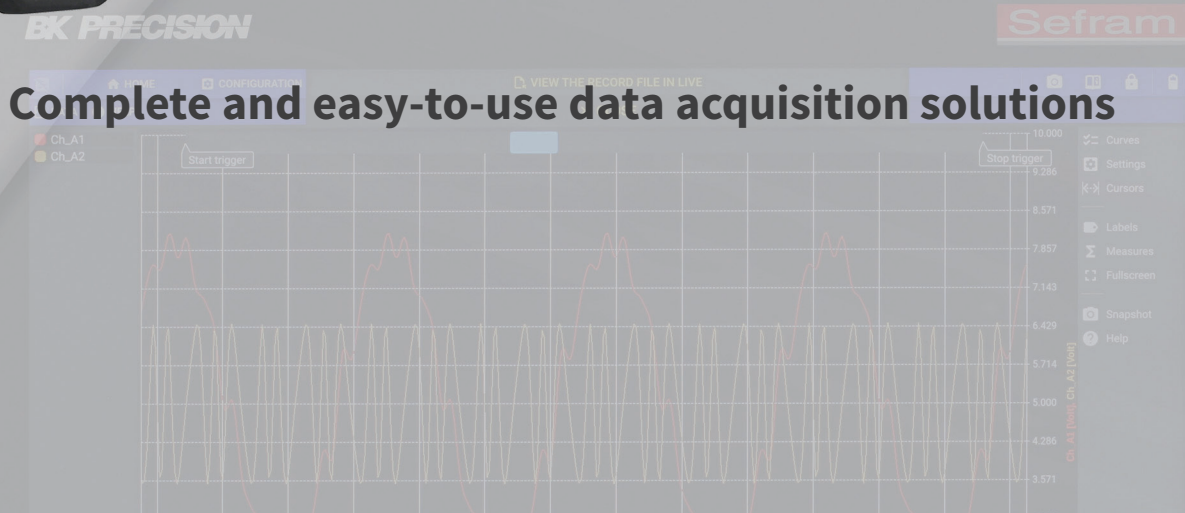
BK PRECISION

Sefram

a B&K Precision company

2024

Data Acquisition Recorder Selection Guide



Complete and easy-to-use data acquisition solutions

B&K Precision Data Acquisition Solutions: a 70-year history!

All B&K Precision data acquisition recorders are developed by Sefram, our subsidiary in France. Sefram has been providing innovative data acquisition products to customers in Europe for more than 70 years, and we are proud to offer the latest generation to our customers in North America.

B&K Precision's data acquisition recorders are portable all-in-one data acquisition systems complete with touchscreen displays, built-in signal conditioning, ample storage space for recording data, and easy-to-use software. Simply put, our data acquisition recorders come with everything you need to acquire, view, record, and analyze data.

B&K Precision offers a full line of data acquisition solutions to meet your needs. For applications requiring portability and high channel counts, the DAS240 series can measure and record up to 200 analog channels. For industrial maintenance and field service applications, the DAS30/50/60 family is the perfect solution for measuring and recording voltage, current, and frequency. For maximum performance, flexibility, and configurability, The DAS1700 and DAS1800 provide 3 and 10 slots respectively, for dedicated measurement boards and modules.

Our line of data acquisition recorders is the result of more than 70 years of research, providing an exceptional level of innovation and simplicity of use. B&K Precision data acquisition recorders are preferred by top energy, transportation, and manufacturing companies around the world.

Table of contents

DAS Products Overview Chart	3
DAS220 10-Channel Handheld Data Acquisition Recorder	4 - 5
DAS240 20 to 200-Channel Handheld Data Acquisition Recorder	4 - 5
DAS30/50/60 2 to 6-Channel High Speed Multi-Function Data Acquisition Recorders.....	6 - 7
DAS1700 6 to 72-Channel Configurable High Speed Data Acquisition Recorder	8 - 9
8460 6 to 36-Channel Thermal Paper Data Acquisition Recorder	9
DAS1800 4 to 80-Channel High Speed Modular Data Acquisition Recorder	10 - 11



DAS Product Families Overview Chart

B&K Precision offers a variety of data acquisition recorders that cover a range of channel count and sampling rates. This chart provides a high-level overview of the product families and how they compare.

Model	DAS220	DAS220-BAT	DAS240	DAS240-BAT	DAS30	DAS50	DAS60	DAS1700	8460	DAS1800	
Form Factor	Portable				Portable			Portable	Benchtop	Portable	
Display	10" TFT touchscreen LCD, backlit, 1024 x 600				10" TFT touchscreen LCD, backlit, 1024 x 600			15.6" TFT LCD, 1366 x 768	15.4" TFT LCD, 1280 x 800	15.6" Full HD touchscreen display 1920 x 1080	
Storage	32 GB				32 GB	32 GB	64 GB	500 GB (2TB optional)		2 TB	
Analog Channels											
Number of Channels	10		20 to 200		2	4	6	6 to 72	6 to 36	4 to 80	
Input Type	2/3-wire				Banana			2/4-wire, banana, and strain gage (Dependent on boards)		Measurement modules	
Measurements	Voltage, current, thermocouple, RTD, resistance				Voltage, current, thermocouple, RTD ⁽³⁾ , frequency, counter, PWM ⁽⁸⁾			Voltage, current, thermocouple, RTD, strain, frequency, counter, PWM		Voltage, current, thermocouple, RTD, frequency, counter, PWM	
Max. Sampling Rate	1 kSa/sec				1 MSa/sec ⁽²⁾			1 MSa/sec	1 MSa/sec	1 MSa/sec	
Measurement Resolution	16-bit				14-bit			14-bit and 16-bit boards		16-bit and 18-bit modules	
Sampling Mode	Multiplexed				Simultaneous			Simultaneous	Simultaneous	Simultaneous	
Max. Input Voltage	100 VDC				± 500 VDC or 424 VRMS			± 1000 VDC or 1000 VRMS ⁽⁴⁾		± 600 VDC or 424 VRMS	
Safety ⁽¹⁾	CAT I 100 V				CAT III 600 V			CAT III 1000 V, CAT IV 600 V		CAT III 600 V	
Supported Thermocouples	J, K, T, S, B, E, N, C, L, R				J, K, T, S, B, E, N, C, L, R			J, K, T, S, B, E, N, C, L, R		J, K, T, S, B, E, N, R	
Supported RTDs	Pt100/Pt1000 2 or 3 wires				Pt100/Pt1000 2, 3, & 4 wires ⁽⁵⁾			Pt100/Pt200/Pt500/Pt1000 2, 3, & 4 wires ⁽⁵⁾		Pt100/Pt200/Pt500/Pt1000 2, 3, & 4 wires ⁽⁵⁾	
Options											
CAN Inputs	-				-			Optional (2 ports)	-	-	
LIN Inputs	-				-			Optional (2 ports)	-	-	
Synchronization	-				-			PTP, NTP, GPS, and IRIG ⁽⁹⁾		PTP (optional)	
Battery	-	√	-	√	√			Optional	-	Optional	
Typical Battery Life	-	15 hrs	-	15 hrs	9.5 hrs			2 hrs	-	3.5 hrs	
Thermal Printer	-				Optional (110 mm width)			-	√ (270 mm width)	-	
Digital/Logic Channels											
Number of Channels	12				16			16		16	
Timing Channels	4				-			-		-	
Timing Input	PWM, counter, frequency				-			-		-	
Max. Permitted Voltage	24 V				24 V			24 V		24 V	
Number of Alarms	4				2	2	4	3	2	4	
Alarm Output Level	5 V TTL				5 V TTL			Alarm A: relay Alarm B & C: 5 V TTL	A & B, 5 V TTL	5 V TTL, 10 mA	
Power Analysis Function											
Networks	-				Single phase	Single & 3-phase ⁽⁷⁾		Single and 3-phase (Delta and Wye)		-	
Frequency	-				50, 60, and 400 Hz			50, 60, 400, and 1000 Hz		-	
Display	-				Fresnel diagram, oscilloscope, numerical values						-
Measurements	-				Mean value, RMS, peak, crest factor, THD and DF for voltage & current, active, reactive and apparent power, power factor						-
Harmonics	-				Calculated up to rank 50, with display and record						-
General											
Interfaces	2 x USB host, LAN				2 x USB host, LAN			4 x USB host, LAN, VGA output		4 x USB host, 2 x LAN, HDMI	
Dimensions (W x H x D)	2.6" x 11.7" x 6.9" (66 x 298 x 176 mm)				11.5" x 8.25" x 4.1" (295 x 210 x 105 mm) ⁽⁶⁾			18.58" x 10.67" x 6.06" (472 x 271 x 154 mm)	15.57" x 17.32" x 7.68" (370 x 440 x 195 mm)	19.1" x 11" x 7.9" (485 x 280 x 200 mm)	
Weight	3.3 lbs (1.5 kg)	4.5 lbs (2 kg)	3.3 lbs (1.5 kg)	4.5 lbs (2 kg)	5.5 lbs (2.5 kg)			17.64 lbs (8 kg)	24.25 lbs (11 kg)	15 lbs (6.8 kg) base unit + battery option 1.21 lbs (550 g) each module	
Warranty	2 years				2 years			2 years		3 years	

(1) Per IEC 61010

(2) Memory mode

(3) Factory option for DAS30 & DAS50

(4) With high voltage input module

(5) With multiplexed board

(6) Dimensions are based off DAS60

(7) DAS50 can measure single and 3-phase Aron

(8) Only on the DAS60

(9) GPS and IRIG are options. GPS is only available on the DAS1700.

DAS220 & DAS240 Portable Multi-Channel Data Acquisition Recorders

The DAS220 and DAS240 provide universal inputs for acquiring temperature (thermocouples and RTD's) and sensors with 0-10 V or 4-20 mA outputs.



DAS220 / DAS240 Family

This family of recorders are ideal for measuring slow changing parameters over long periods of time. Their universal inputs with convenient screw terminals make it easy to measure voltage, resistance, current (with shunt), and temperature (with thermocouples and RTDs).

The DAS220 provides 10 built-in channels and the DAS240 utilizes 20-channel input modules that can be expanded up to 200 channels. An additional 16 digital channels are provided for logic signals, pulse count, frequency, and PWM measurements.

The intuitive user interface makes setup easy, and measurements can be viewed graphically or numerically. Data will be saved to the internal solid-state memory, where it can be replayed on the instrument's 10-in color touch screen or transferred to a USB flash drive for offline analysis.

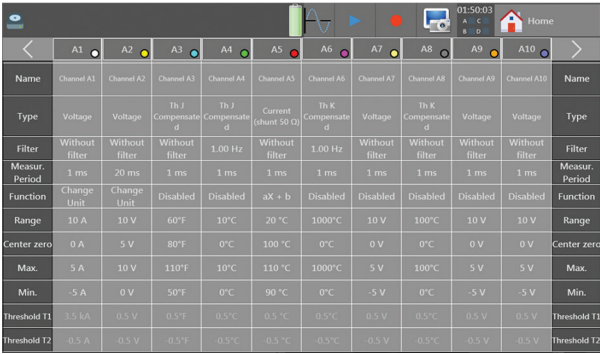
B&K Precision also provides software utilities and NI LabVIEW drivers for remotely controlling the recorder, transferring data and configuration files, and viewing live data on a PC.

Features and Benefits

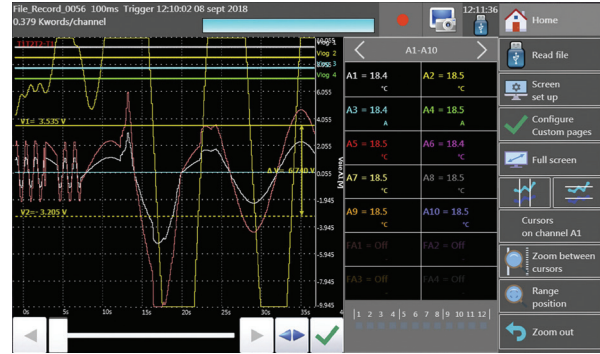
- Wide 10-inch touchscreen TFT display
- 10 built-in channels (DAS220) and 20-channel input modules, expandable to 200 channels (DAS240)
- Versatile temperature measurements supporting thermocouples (J, K, T, S, B, E, N, C, L) and Pt100/Pt1000 temperature sensors
- Measure voltage to $\pm 100V$, resistance to 10 k Ω and current (with optional shunt)
- 16-bit resolution
- 32 GB internal solid-state memory
- Up to 15 hours of battery operation (-BAT)
- 12 digital inputs and 4 outputs
- 4 timing digital input channels for pulse count, frequency, and PWM measurements
- 2 USB host and 1 LAN interface
- WiFi monitoring and control (standard USB WiFi dongle required)

Operation Highlights and Ordering Information

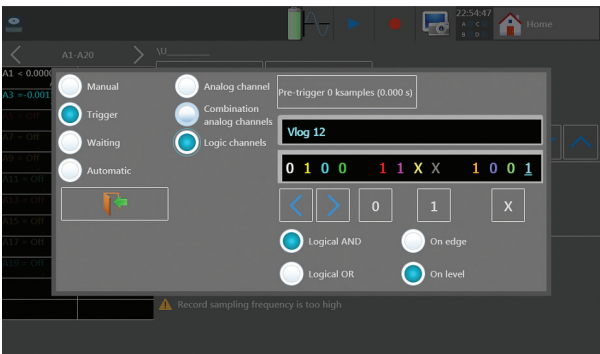
User Interface



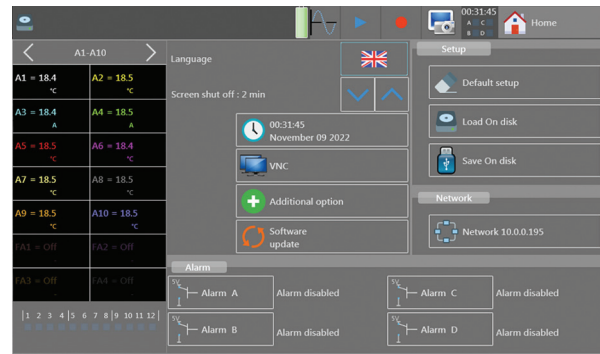
Channel setup displays all parameters on a single screen



Measurement display with zoom and cursors



Configure triggers on analog and logic channels

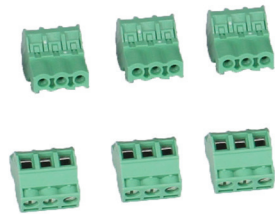


Large display with icon driven menus for easy setup and operation

Ordering Information

Base Unit

Part Number	Description
DAS220	Portable 10-Channel Data Recorder without battery
DAS220-BAT	Portable 10-Channel Data Recorder with battery
DAS240	Portable 20-Channel Data Recorder without battery
DAS240-BAT	Portable 20-Channel Data Recorder with battery



Analog input terminals

Accessories

Part Number	Description
902401000	20-Channel analog module with input terminal blocks
902407500	Measurement module cable
902209000	Rackmount kit for DAS220-BAT
902408000	Rugged carrying case for DAS220 & DAS240
902401050	Analog input terminal blocks 20 pack
902407000	Logic channels patch cord
902406500	4 to 20 mA / 50 Ω shunt
902405000	Li-ion Battery for DAS220 and DAS240 (Individual)
902409500	Replacement Power Adapter (US)
978553000	Replacement Power Adapter (Europe)
902402000	WiFi dongle for recorders



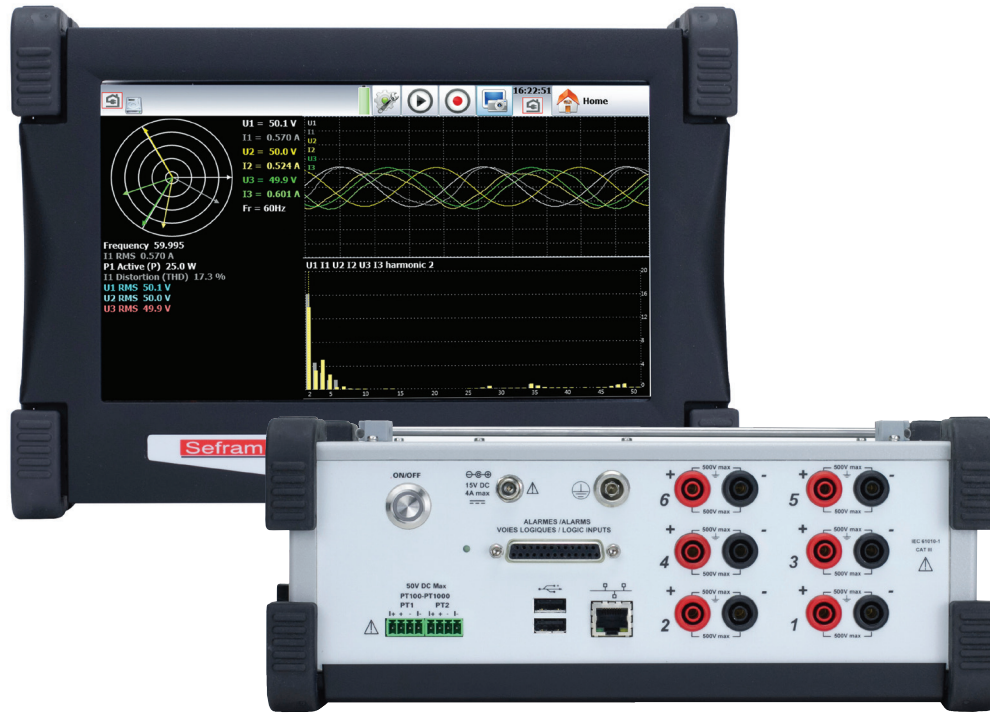
20-Channel analog module



4 - 20 mA / 50 Ω shunt

DAS30/50/60 High Speed Multi-Function Data Acquisition Recorders

DAS30, DAS50, and DAS60 handheld recorders provide high-voltage universal inputs and fast sampling rates for capturing high speed signals and transient events.



The DAS30/DAS50/DAS60 Family

DAS30, DAS50, and DAS60 handheld recorders feature isolated universal inputs and fast sampling rates up to 1 MHz. With CAT III 600 V rated inputs and a 9.5 hr battery life, these instruments are ideal for a wide variety of applications including maintenance and electrical power analysis.

DAS30, DAS50, and DAS60 recorders make it easy to measure voltage, temperature, current, and more. The dedicated power analysis mode extends the functionality of these units and provides all necessary measurements for analyzing single or 3-phase networks. Choose from Fresnel diagram, oscilloscope, and numerical data displays.

The intuitive user interface makes setup easy, and measurement results can be viewed graphically and numerically on the 10-inch color touch screen display. Data can be saved to the internal solid-state hard drive or to an external USB memory stick for offline analysis.

Connect to DAS30, DAS50, and DAS60 units remotely via the built-in LAN interface or optional USB WiFi. B&K provides software utilities for remotely controlling the recorder, transferring data and configuration files, and viewing live data on a PC.

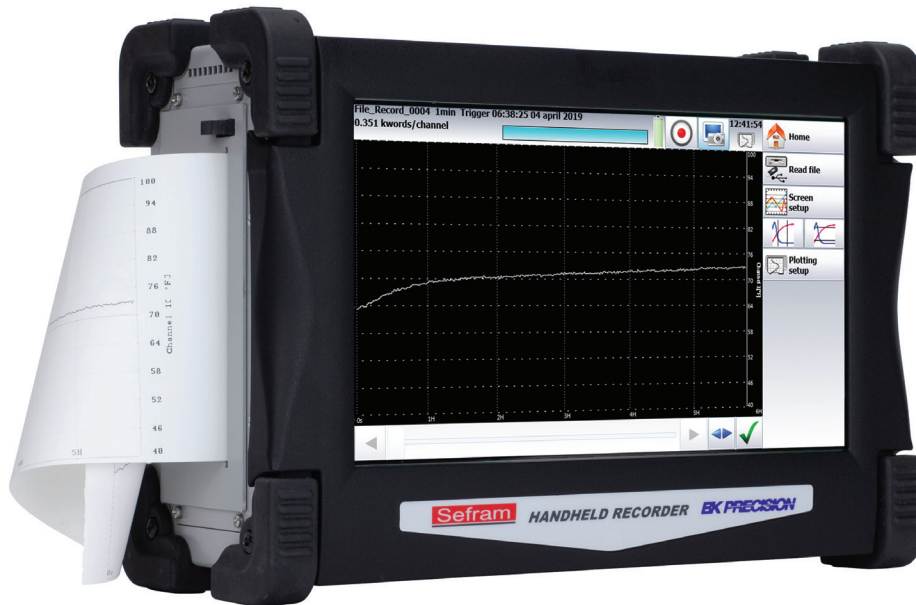
Features and Benefits

- 2 to 6 isolated universal inputs (CAT III 600 V)
- Wide 10-inch touchscreen TFT display
- 2 inputs for low voltage or dedicated Pt100/Pt1000 temperature sensors (factory option on DAS30/50)
- 14-bit resolution
- Up to 9.5 hours of battery operation
- 16 logic input/output channels
- 2 (DAS30/DAS50) or 4 alarm outputs (DAS60)
- Optional 110 mm integrated thermal printer
- 2 USB host and 1 LAN interface
- WiFi monitoring and control (standard USB WiFi dongle required)

Use the table below to select the right model for your specific needs.

Feature	DAS30	DAS50	DAS60
Max. sample rate (Memory mode)	1 MSa/s	1 MSa/s	1 MSa/s
Max. sample rate (File mode)	200 kSa/s	200 kSa/s	500 kSa/s
Memory	32 GB	32 GB	64 GB
Pt100/Pt1000 inputs	Option	Option	√
Power analysis	Single phase	3-phase Aron	3-phase Delta & Wye
Alarms	2	2	4

DAS30/50/60 Ordering Information



Ordering Information

Base Units

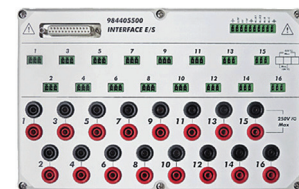
Part Number	Description
DAS30	2-channel high speed multi-function data recorder
DAS30-T	2-channel paperless recorder with Pt100/Pt1000
DAS30-P	2-channel recorder with printer
DAS30-PT	2-channel recorder with Pt100/Pt1000 and printer
DAS50	4-channel high speed multi-function data recorder
DAS50-P	4-channel paperless recorder with Pt100/Pt1000
DAS50-T	4-channel recorder with printer
DAS50-PT	4-channel recorder with Pt100/Pt1000 and printer
DAS60	6-channel recorder (PRT inputs standard)
DAS60-P	6-channel recorder with printer (PRT inputs standard)



Rackmount kit

Accessories

Part Number	Description
917008000	16-channel isolated logic channel module
903004000	19-inch rack mount kit for DAS30 and DAS50
903001000	Rugged carrying case for DAS30 and DAS50
906001000	19-inch rackmount kit for DAS60
906002000	Replacement rugged carrying case for DAS60
902402000	WiFi dongle for recorders



16 channel isolated logic module

DAS1700 Configurable High Speed Data Acquisition Recorder

The DAS1700 high speed and configurable data acquisition system combines a fast sampling rate, large hard drive, and a wide 15.6" touch-screen display for easy setup and visualizing acquired data.



DAS1700 Configurable Data Acquisition Recorder

The DAS1700 offers up to 6 slots (with extension option) for measurement boards. Choose any combination from 4 different measurement boards with 6 or 12 channels each to configure the DAS1700 to your specific application.

For capturing high speed transient signals, the DAS1700 can simultaneously acquire and record 36 channels at 1 MSA/s in memory mode, or 6 channels in file mode. It also comes with a 500 GB solid state hard drive (upgradeable to 2 TB) for storing large amounts of data.

B&K Precision offers a variety of options to extend the functionality of the DAS1700 including battery operation, IRIG and GPS synchronization, CAN and LIN inputs, and an extension unit which provides 3 additional measurement board slots.

The intuitive user interface makes setup easy, and measurement results can be viewed graphically and numerically on the wide 15.6-inch touchscreen display.

Connect to the DAS1700 remotely via the built-in LAN interface or optional USB WiFi. B&K Precision provides software utilities for remotely controlling the recorder, transferring data and configuration files, and viewing live data on a PC.

Features and Benefits

- Wide 15.6-inch touchscreen display (16:10 ratio)
- Up to 72 analog inputs (with multiplexed board)
- 3 slots for measurement modules (expandable to 6)
- 4 measurement board types: Universal, Multiplexed, Strain Gauge & High Voltage
- Up to 1,000 VAC with High Voltage board
- 1 MSA/s sampling rate on up to 6 channels simultaneously
- 500 GB internal SSD hard drive (2 TB optional)
- Power analysis function for 50 Hz, 60 Hz, 400 Hz, and 1 kHz single or 3-phase systems
- Advanced measurement calculations and user defined math functions
- Battery option (up to 2 hours)
- 16 logic input/output channels
- Optional IRIG and GPS synchronization
- Optional CAN and LIN inputs (2 ports each)
- 4 USB ports, 1 LAN interface and 1 VGA output
- WiFi monitoring and control (standard USB WiFi dongle required)
- Rugged carrying case included

DAS1700 Ordering Information



Ordering Information

Base Unit

Part Number	Description
DAS1700	DAS1700 base unit

Individual Module Boards

Part Number	Description
DAS984401000	Universal input board 6 channels
DAS916006000	High voltage board 6 channels
DAS984402000	Multiplexed board 12 channels
DAS984402500	Strain gauge board 6 channels

Accessories

Description	Part Number
Rack mount kit	917004000
Replacement carrying case	917007500
16-channel isolated logic channel module	917008000
Logic channels patch cord	902407000
WiFi dongle for recorders	902402000

Options

Description	Part Number
CAN/LIN option ^{(1),(3)}	917005500
GPS option ^{(1),(3)}	917005600
IRIG option ^{(1),(3)}	917005000
2 TB hard drive option ⁽¹⁾	917007000
Battery option (up to 2 hours of run time) ⁽²⁾	917003000
Expansion chassis (provides 3 additional input slots)	917001000

(1) Factory installed option

(2) Not compatible with expansion chassis

(3) Only one of the two options can be installed at the same time

8460 6 to 36 Channel Thermal Paper Data Acquisition Recorder

High speed and configurable data acquisition solution with continuous printing capability and a large touchscreen display.

8460 Data Acquisition Recorder

With 3 slots for measurement boards, the 8460 is a modular data acquisition solution for applications requiring a paper printout. Choose from 4 dedicated measurement modules to configure the 8460 for your specific application. The 8460 provides continuous printing on 270 mm wide thermal paper at speeds of 1 mm/hr to 200 mm/sec.

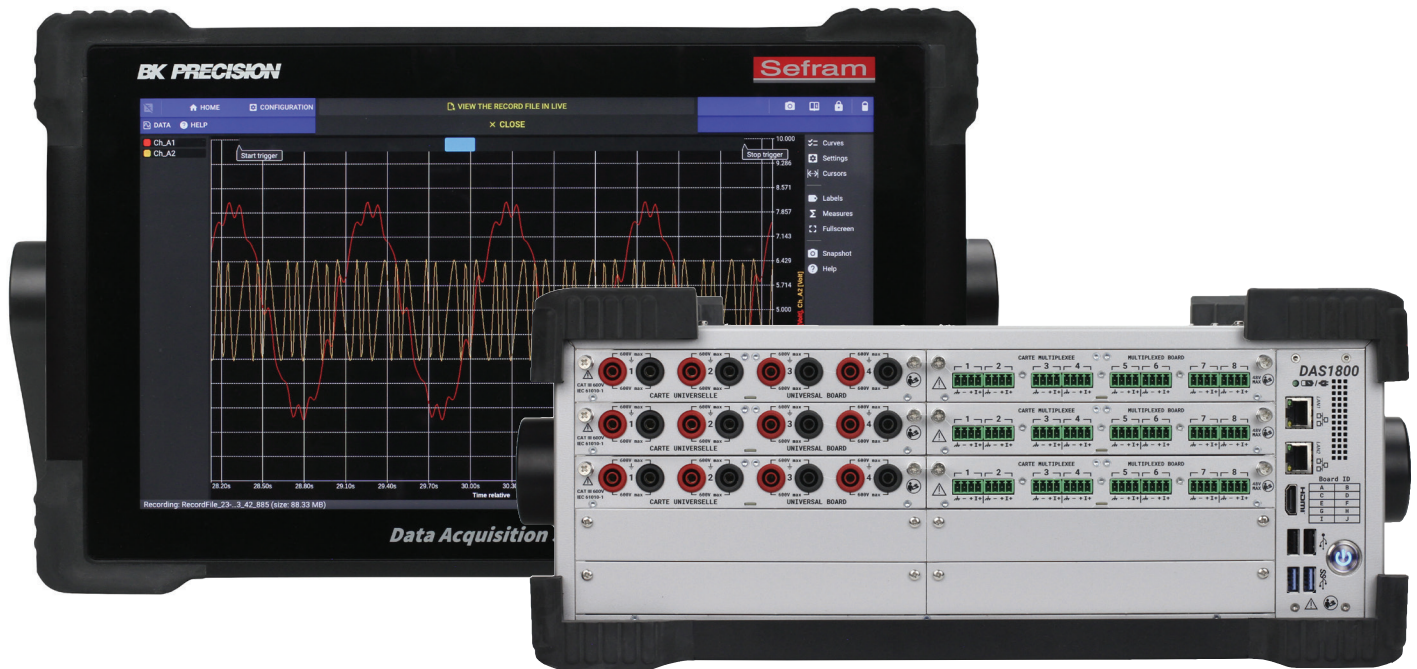
Features and Benefits

- 15.4" touchscreen display
- 270 mm thermal printer
- 6 to 36 analog channels
- 3 slots for measurement modules



DAS1800 High Speed Modular Data Acquisition Recorder

The DAS1800 high speed data recorder sets a new standard for configurability with 10 slots available for input modules.



DAS1800 Modular Data Acquisition Recorder

The DAS1800 raises the bar for performance and configurability with an extensive set of features, new user-friendly UI, and a base unit providing 10 module slots.

Capture high speed signals for long periods of time with sample rates up to 1 MSa/s, an internal 2 TB solid-state drive, and optional internal battery lasting up to 3.5 hours on a single charge. The battery configured model only weighs 15 lbs — making it the lightest all-in-one system in its class and ideal solution for field testing.

Save time acquiring, visualizing, and analyzing data using the comprehensive software features available on the DAS1800. Quickly set up channels by storing and recalling sensor information from the customizable sensor library. Visualize data in real-time as waveforms or numeric values on the 15.6" Full HD multi-touch display. Playback recordings and easily navigate to points of interest using touch gestures such as pinch to zoom and one finger scrolling.

The DAS1800 is highly versatile with new features provided regularly through software updates and a modular design that can be easily reconfigured as testing needs evolve.

Features and Benefits

- Up to 80 analog inputs with D18-MUX8 module
- Measure up to ± 600 VDC
- 10 slots and 3 measurement modules available
 - Universal (4 ch)
 - Multiplexed (8 ch)
 - High Impedance (4 ch)
- Temperature measurements with thermocouples and RTDs
- Store sensor information and parameters in the sensor library
- Simultaneous recording at multiple sample rates (up to 4)
- Internal signal conditioning with analog and digital filters
- 15.6" Full HD multi-touch display
- 2 TB internal SSD (standard)
- Advanced calculations and automatic measurements
- Battery option (up to 3.5 hours of operation)
- 16 digital inputs (24 V) and 4 digital outputs
- Interfaces include USB 3.0 (x2), USB 2.0 (x2), LAN 1 Gbps (x1), and HDMI (x1)



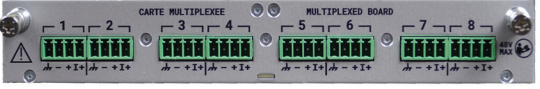
DAS1800 Ordering Information

Base unit models and factory options

Models	Description
DAS1800 (Base unit)	The DAS1800 base unit includes the following standard; 10 module slots, 2 TB SSD, 16 digital channels, SUB-D 15 HD pin connector for external triggering and synchronization, 5 W power rail, 15.6" TFT LCD Full HD (1920 x 1080), USB 3.0 (x2), USB 2. (x2), 1 Gbps LAN (x2), and HDMI (x1) interfaces
DAS1800-BAT	Includes the DAS1800 base unit with a non-removable Li-ion battery providing up to 3 ½ hours of use

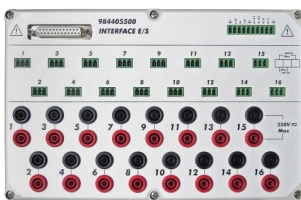
Factory Options	Description
D18-FLE	Fanless version of the DAS1800 base unit

Individual modules

Part Number	Description
D18-UNI4	4-channel isolated universal input module for measuring voltages up to 600 VDC or 424 VRMS, temperature with thermocouples, and current (with shunt) at up to 1 MSa/s/ch 
D18-HIZ4	High impedance version of the universal module with 10 MΩ for ranges $\geq \pm 1$ V and 25 MΩ for ranges $\leq \pm 0.5$ mV. 
D18-MUX8	8-channel non-isolated differential input module for measuring voltages up to ± 48 V, temperature with thermocouples and RTDs, 4-20 mA current (with shunt), and resistance up to 10 kΩ at sampling rates up to 5 kSa/s. 

Accessories

Part Number	Description
917008000	Isolated digital channel board
902407000	Digital channel patch cord
GCM5P	Replacement 4 pin terminal block for D18-MUX8 input module, pack of 8
TLQ2B	Replacement quick connect banana plug, 4 pairs
LCLDR	Replacement DAS1800 hard case



917008000



902407000



GCM5P



TLQ2B

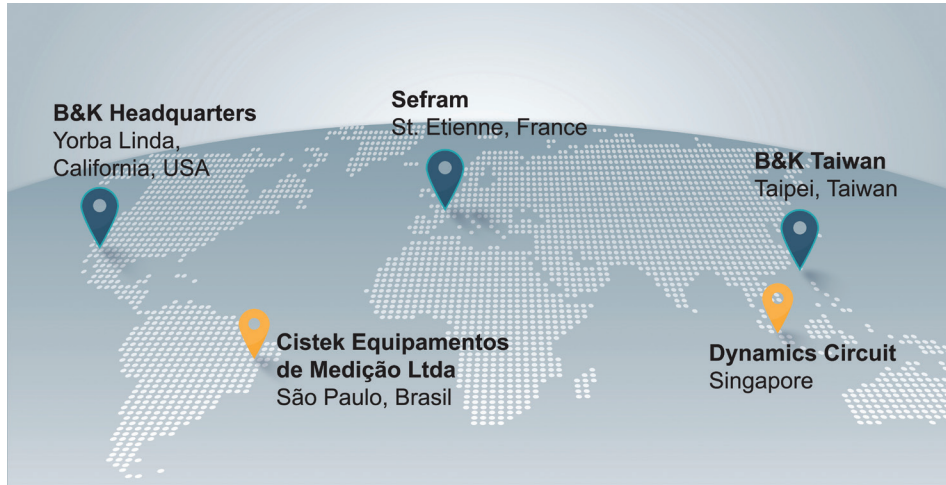


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About B&K Precision

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 Precision group member ● Independent service center ● Service center location



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