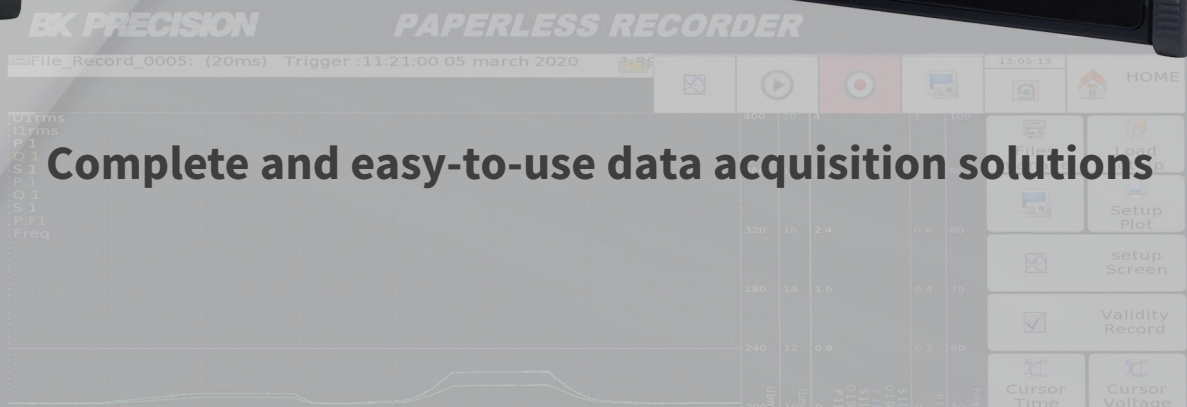


# Data Acquisition Recorder Selection Guide



## 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 provides up to 72 channels of data acquisition with 3 or 6 slots for dedicated measurement boards.

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.

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# 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
Form Factor	Portable				Portable			Portable	Benchtop
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
Storage	32 GB				32 GB	32 GB	64 GB	500 GB (2TB optional)	
Analog Channels									
Number of Channels	10		20 to 200		2	4	6	6 to 72	6 to 36
Input Type	2/3-wire				Banana			2/4-wire, banana, and strain gage (Dependent on boards)	
Measurements	Voltage, current, thermocouple, RTD, resistance				Voltage, current, thermocouple, RTD <sup>(3)</sup> , frequency, counter, PWM <sup>(8)</sup>			Voltage, current, thermocouple, RTD, strain, frequency, counter, PWM	
Max. Sampling Rate	1 kSa/sec				1 MSa/sec <sup>(2)</sup>			1 MSa/sec	
Measurement Resolution	16-bit				14-bit			14-bit and 16-bit boards	
Sampling Mode	Multiplexed				Simultaneous			Simultaneous	
Max. Input Voltage	100 VDC				± 500 VDC or 424 VRMS			± 1000 VDC or 1000 VRMS <sup>(4)</sup>	
Safety <sup>(1)</sup>	CAT I 100 V				CAT III 600 V			CAT III 1000 V, CAT IV 600 V	
Supported Thermocouples	J, K, T, S, B, E, N, C, L				J, K, T, S, B, E, N, C, L			J, K, T, S, B, E, N, C, L	
Supported RTDs	Pt100/Pt1000 2 or 3 wires				Pt100/Pt1000 2, 3, & 4 wires <sup>(3)</sup>			Pt100/Pt200/Pt500/Pt1000 2, 3, & 4 wires <sup>(5)</sup>	
Options									
CAN Inputs	-				-			Optional (2 ports)	-
LIN Inputs	-				-			Optional (2 ports)	-
GPS / IRIG Synchronization	-				-			Optional	Optional
Battery	-	√	-	√	√			Optional	-
Typical Battery Life	-	15 hrs	-	15 hrs	9.5 hrs			2 hrs	-
Thermal Printer	-				Optional (110 mm width)			-	√ (270 mm width)
Digital/Logic Channels									
Number of Channels	12				16			16	
Timing Channels	4				-			-	
Timing Input	PWM, counter, frequency				-			-	
Max. Permitted Voltage	24 V				24 V			24 V	
Number of Alarms	4				2	2	4	3	2
Alarm Output Level	5 V TTL				5 V TTL			Alarm A: relay Alarm B & C: 5 V TTL	A & B, 5 V TTL
Power Analysis Function									
Networks	-				Single phase	Single & 3-phase <sup>(7)</sup>		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	
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) <sup>(6)</sup>			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)
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)
Warranty	2 years				2 years			2 years	

(1) Per IEC 61010

(2) Memory mode

(3) Factory option for DAS30 & DAS50

(4) With high voltage input module

(5) With multiplexed board

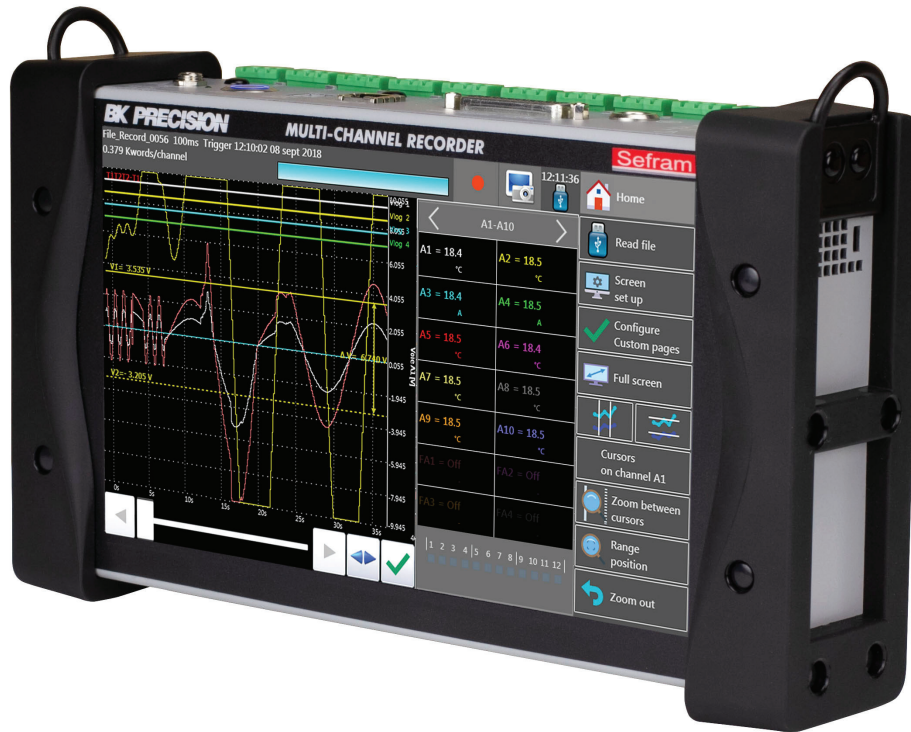
(6) Dimensions are based off DAS60

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

(8) Only on the DAS60

# DAS220 10-Channel Handheld Data Acquisition Recorder

The DAS220 multi-channel data acquisition recorder provides 10 universal inputs for acquiring most common signal types including temperature (thermocouples and RTD's) and 0-10 V or 4-20 mA sensors.



## DAS220 Data Acquisition Recorder

The DAS220 and DAS220-BAT (with internal battery) are ideal for measuring slow changing parameters over long periods of time. With 10 universal inputs and convenient screw terminals, it is easy to perform voltage, temperature, current, resistance, frequency, and pulse measurements.

Weighing less than 5 lbs, the DAS220 is perfect for measurements on the go. B&K Precision also provides a shoulder strap with each unit. The intuitive user interface makes setup easy, and measurements can be viewed graphically or numerically on the 10-in color touch screen display. Data can be saved to the internal solid-state hard drive or external USB memory stick.

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 universal analog inputs
- 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 $\Omega$  and current (with optional shunt)
- 16-bit resolution
- 32 GB internal solid-state memory
- Up to 15 hours of battery operation (-BAT)
- 12 logic input/output channels
- 4 timing logic 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)

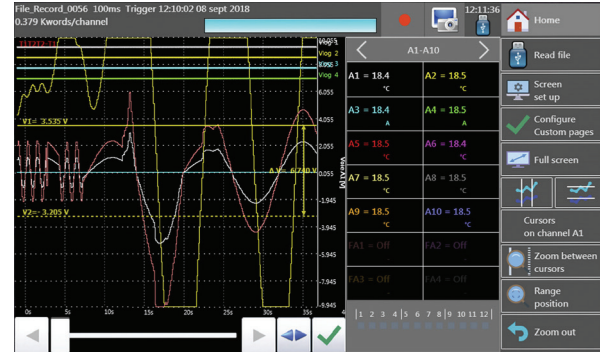


# DAS220 Operation Highlights and Ordering Information

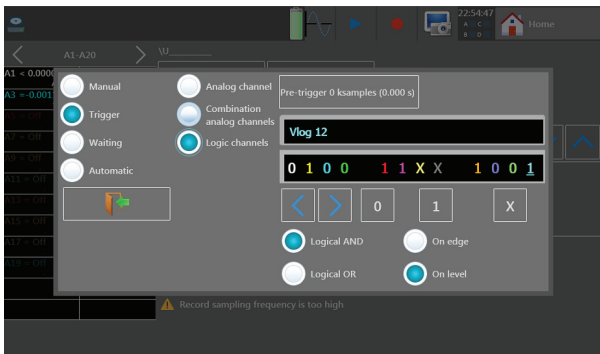
## User Interface

Name	Channel A1	Channel A2	Channel A3	Channel A4	Channel A5	Channel A6	Channel A7	Channel A8	Channel A9	Channel A10	Name
Type	Voltage	Voltage	Th J Compensate d	Th J Compensate d	Current (shunt 50 Ω)	Th K Compensate d	Voltage	Th K Compensate d	Voltage	Voltage	Type
Filter	Without filter	Without filter	Without filter	1.00 Hz	Without filter	1.00 Hz	Without filter	Without filter	Without filter	Without filter	Filter
Measur. Period	1 ms	20 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	1 ms	Measur. Period
Function	Change Unit	Change Unit	Disabled	Disabled	aX + b	Disabled	Disabled	Disabled	Disabled	Disabled	Function
Range	10 A	10 V	60°F	10°C	20 °C	1000°C	10 V	100°C	10 V	10 V	Range
Center zero	0 A	5 V	80°F	0°C	100 °C	0°C	0 V	0°C	0 V	0 V	Center zero
Max.	5 A	10 V	110°F	10°C	110 °C	1000°C	5 V	100°C	5 V	5 V	Max.
Min.	-5 A	0 V	50°F	0°C	90 °C	0°C	-5 V	0°C	-5 V	-5 V	Min.
Threshold T1	1.5 kA	0.5 V	0.5°F	0.5°C	0.5 °C	0.5°C	0.5 V	0.5°C	0.5 V	0.5 V	Threshold T1
Threshold T2	0.5 A	0.5 V	0.5°F	0.5°C	0.5 °C	0.5°C	0.5 V	0.5°C	0.5 V	0.5 V	Threshold T2

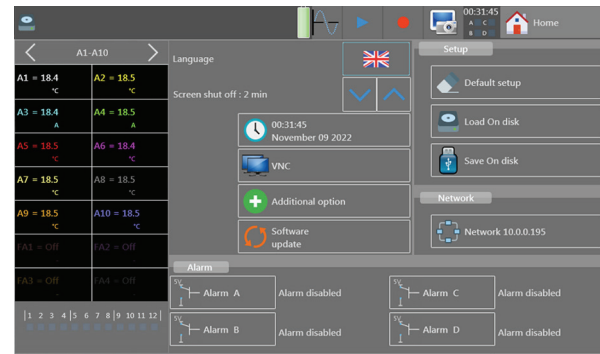
Channel setup displays all parameters on a single screen



Measurement display with zoom and cursors



Configure triggers on analog and logic channels



Large display with icon driven menus for easy setup and operation

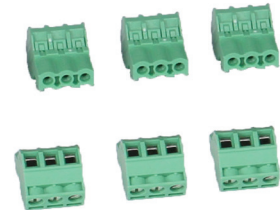
## Ordering Information

### Base Unit

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

### Accessories

Part Number	Description
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



Analog input terminals



Logic channels patch cord



4 - 20 mA / 50 Ω shunt

# DAS240 20-200 Channel Handheld Data Acquisition Recorder

The DAS240 provides the same functionality as the DAS220 and expands the channel count up to 200 channels.



## DAS240 Data Acquisition Recorder

The DAS240 and DAS240-BAT (with internal battery) are ideal for measuring up to 200 slow changing parameters over long periods of time. With 20 universal inputs (base unit) and convenient screw terminals, it is easy to measure most common signal types.

The channel count can be expanded from 20 to as many as 200 using external terminal blocks (sold separately). Each terminal block contains 20 inputs, and they can be daisy-chained to achieve the desired channel count.

The intuitive user interface makes setup easy, and measurement results can be viewed graphically and numerically on the 10-in 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 the DAS240 remotely via the built-in LAN interface or optional USB WiFi. B&K Precision 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
- 20-channel input modules, expandable to 200 channels (by daisy chaining modules)
- 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 $\Omega$  and current (with optional shunt)
- 16-bit resolution
- 32 GB internal solid-state memory
- Up to 15 hours of battery operation (-BAT)
- 12 logic input/output channels
- 4 timing logic 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)

# DAS240 Ordering Information



## Ordering Information

### Base Unit

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

### Accessories

Part Number	Description
902401000	20-Channel analog module with input terminal blocks
902407500	Measurement module cable
902409000	19" Rackmount kit for DAS240
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 $\Omega$ 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



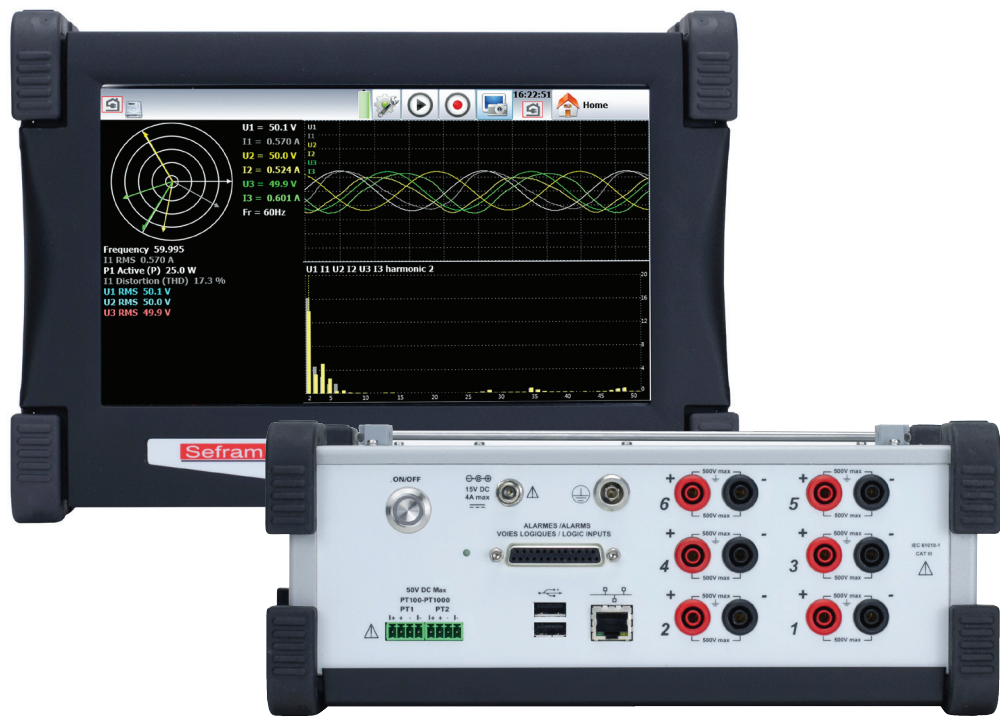
Rugged carrying case for  
DAS220 & DAS240



20-Channel analog module

# 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-in 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

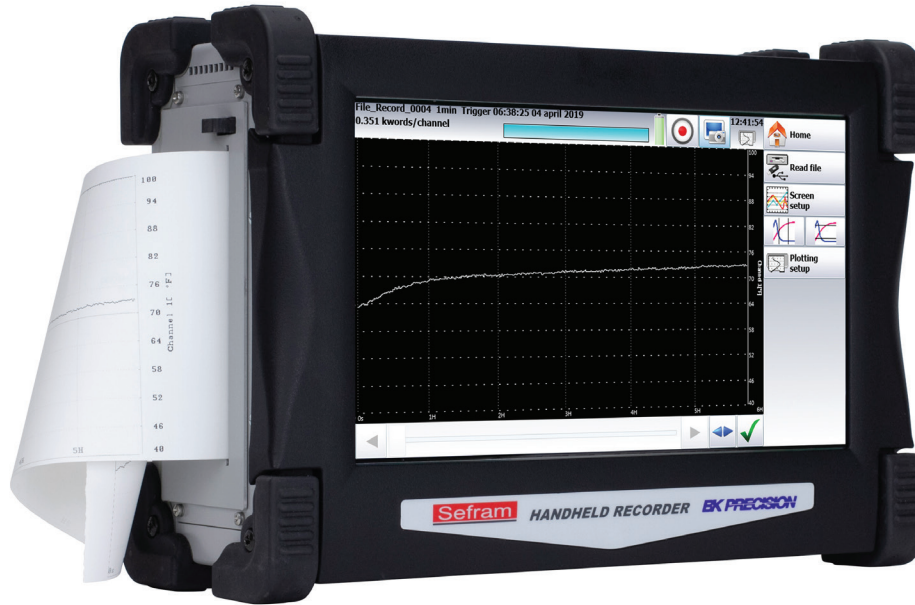
- 2 to 6 isolated universal inputs (CAT III 600 V)
- Wide 10-inch touchscreen TFT display
- 2 inputs for low voltage or dedicated Pt100/Pt1000 temperature sensors (factory option on DAS30/50)
- 14-bit resolution
- Up to 9.5 hours of battery operation
- 16 logic input/output channels
- 2 (DAS30/DAS50) 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

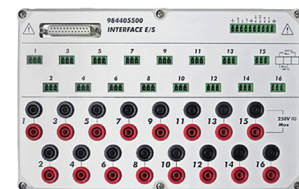
Part Number	Description
DAS30	2-channel high speed multi-function data recorder
DAS30-T	2-channel paperless recorder with Pt100/Pt1000
DAS30-P	2-channel recorder with printer
DAS30-PT	2-channel recorder with Pt100/Pt1000 and printer
DAS50	4-channel high speed multi-function data recorder
DAS50-P	4-channel 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

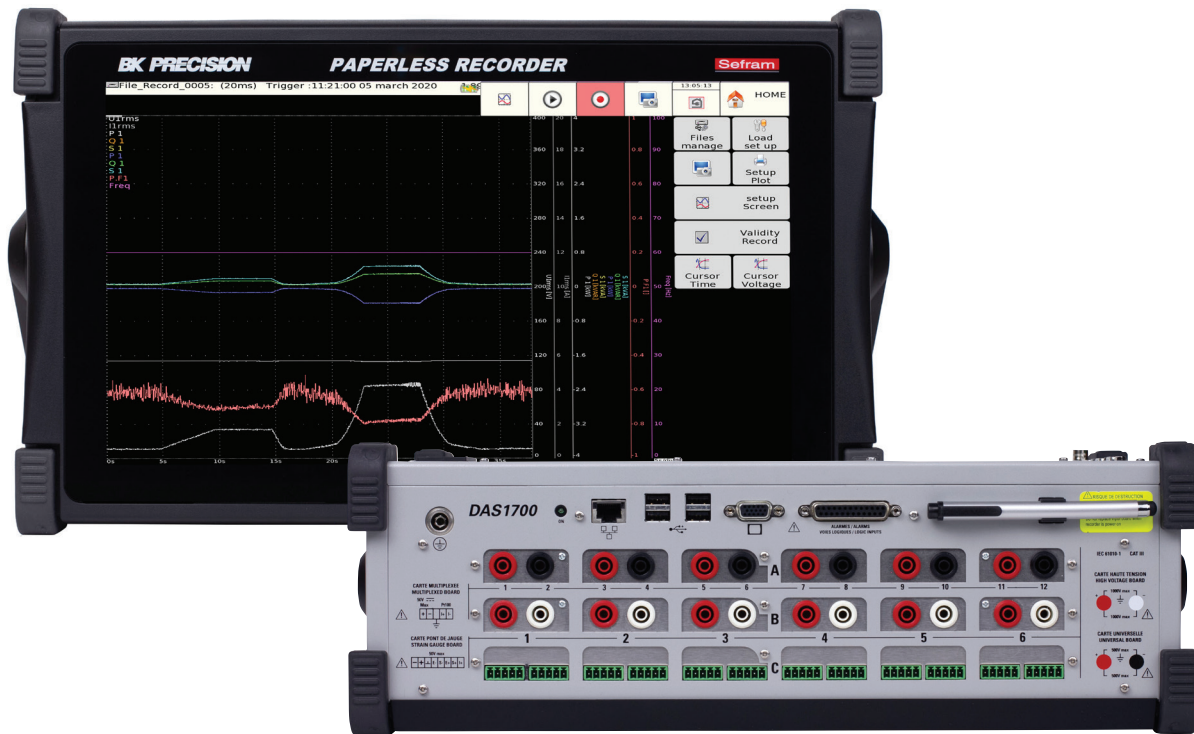
Part Number	Description
984405500	16-channel isolated logic channel module
903004000	19-inch rack mount kit for DAS30 and DAS50
903001000	Rugged carrying case for DAS30 and DAS50
906001000	19-inch rackmount kit for DAS60
906002000	Replacement rugged carrying case for DAS60
902402000	WiFi dongle for recorders



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

With 3 slots for measurement boards, the DAS1700 is B&K Precision's most flexible data acquisition solution. 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	984405500
Logic channels patch cord	902407000
WiFi dongle for recorders	902402000

### Options

Description	Part Number
CAN/LIN option <sup>(1),(3)</sup>	917005500
GPS option <sup>(1),(3)</sup>	917005600
IRIG option <sup>(1),(3)</sup>	917005000
2 TB hard drive option <sup>(1)</sup>	917007000
Battery option (up to 2 hours of run time) <sup>(2)</sup>	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

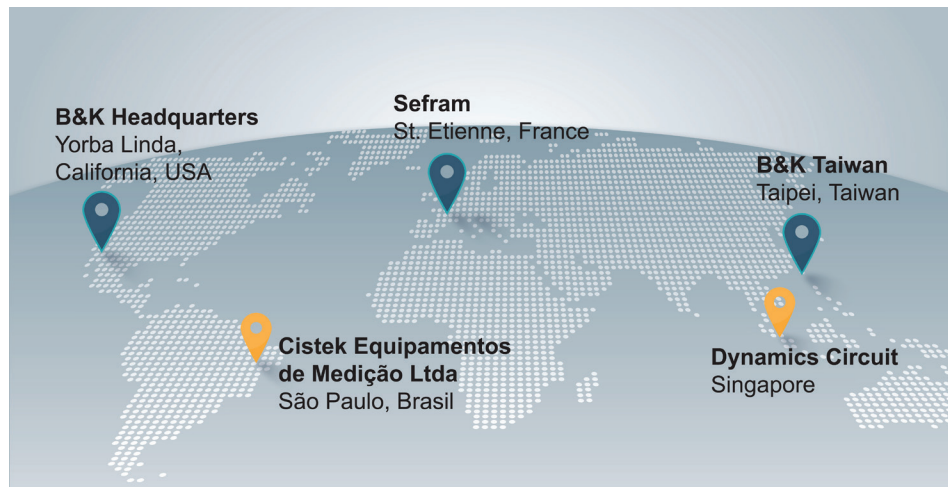
- 15.4" touchscreen display
- 270 mm thermal printer
- 6 to 36 analog channels
- 3 slots for measurement modules



## 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



## Video Library

View product overviews, demonstrations, and application videos in English, Spanish and Portuguese.

<http://www.youtube.com/user/BKPrecisionVideos>



## Product Applications

Browse all of our supported product and mobile applications.

<http://bkprecision.com/product-applications>