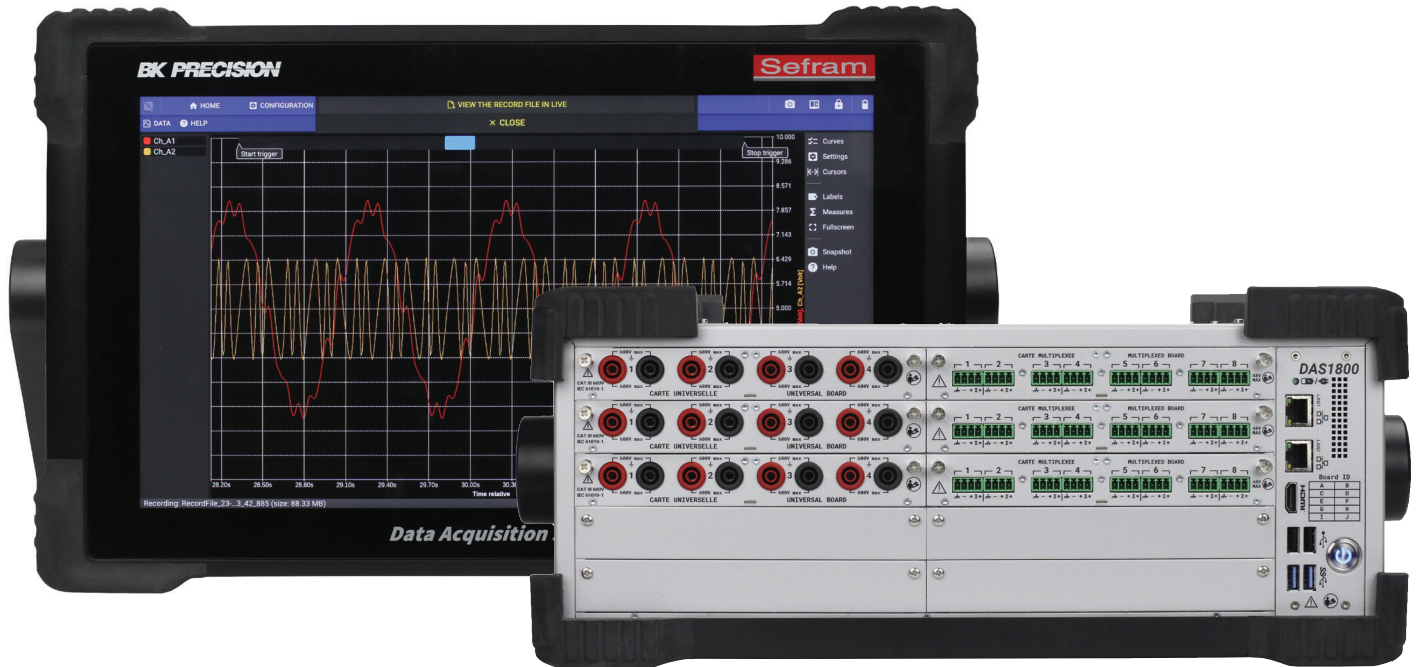


DAS1800 Modular High-Speed Data Acquisition System

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 1 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, numeric values, phasor diagrams, or bar charts 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.

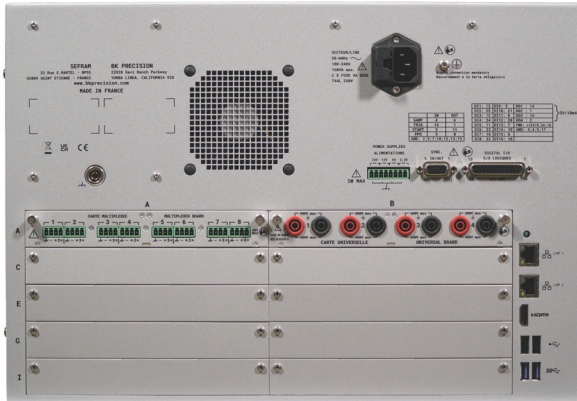
The DAS1800 is highly versatile with new features provided regularly through software updates and a modular design that can be easily reconfigured as testing needs evolve.

Features and Benefits

- 10 slots for measurement modules
- Measure up to ± 1500 VDC
- Up to 80 analog inputs with D18-MUX8 multiplexed module
- Max sampling rate of 1 MSa/s/ch (up to 40 channels)
- Multi-file recording (up to 4) with individually configured sample rates
- Synchronize timing with IRIG, GPS, and PTP (DAS1800-SYNC model)
- Class S power analysis supports DC, single-phase, and 3-phase networks operating in 50 Hz, 60 Hz, or 400 Hz
- 15.6" Full HD touchscreen display
- 1 TB SSD internal memory, upgradeable to 2 TB (D18-2TB)
- Battery providing up to 3.5 hours of operation (-BAT models only)
- Interfaces include USB 3.0 (x2), USB 2.0 (x2), LAN 1 Gbps (x2), and HDMI (x1)
- TÜVus certifies CSA and UL safety standard

DAS1800-R Rackmount High-Speed Data Acquisition System

The DAS1800-R retains the all core hardware and software features as the DAS1800, but adopts a mechanical redesign convenient for rackmount applications. Module slots and communication interfaces are easily accessible from the back and the 1 TB SSD withholding measurement data and configuration files is removable from the front.



DAS1800-R rear view



DAS1800-R rackmount front view

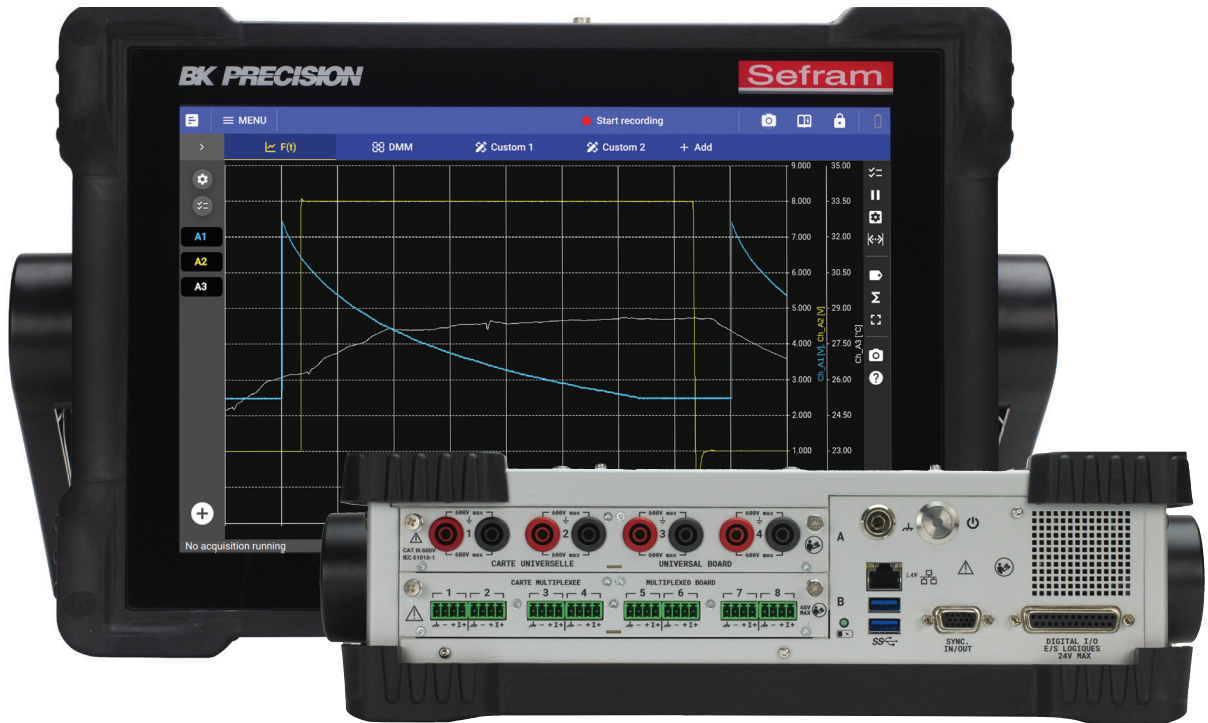
Measurement Modules

Select from four different modules to enable measurement acquisition on DAS1800 and DAS1820 systems. Configurable in any combination, these 4- and 8-channel modules support complex mix-signal acquisition across a wide range of speeds and voltages (up to 1500 VDC). Additionally, they provide built-in conditioning for measuring temperature with thermocouples and RTDs, as well as resistance and current via a shunt.



Board Type	Universal	High Impedance	High Voltage	Multiplexed
Channels	4	4	4	8
Maximum Voltage	± 600 VDC	± 600 VDC	± 1500 VDC	± 48 VDC
RMS Voltage	424 VRMS	424 VRMS	1000 VRMS	-
Resolution	16 bit	16 bit	16 bit	18 bit
Sampling Rate	1 MSa/s/ch	1 MSa/s/ch	1 MSa/s/ch	5 kSa/s
Input Impedance	1 MΩ	10 MΩ	10 MΩ	2 MΩ
Input Type	Single ended	Single ended	Differential	Differential
Isolation	√	√	√	-
Voltage	√	√	√	√
Current	√	√	√	√
Thermocouples	√	√	-	√
RTDs	-	-	-	√
Frequency	√	√	√	-
Counter	√	√	√	√
PWM	√	√	√	-

DAS1820 Portable High-Speed Data Acquisition System



The DAS1820 is a portable high-speed data acquisition system with a dual-slot chassis. It utilizes the same module ecosystem and hardware architecture as the DAS1800, providing near-identical performance in a smaller compact solution. This shared platform ensures the DAS1820 maintains the same plug-and-play functionality and signal conditioning capabilities as the larger system, enabling reconfiguration without requiring factory recalibration.

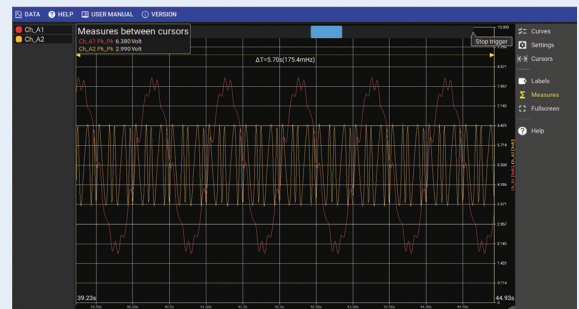
To gain portability, you don't have to give up features and performance with the DAS1820. The battery-configured base unit weighs about 8.6 lbs (3.9 kg), and modules only add around 1.2 lbs (0.55 kg) each. The internal battery option provides up to 4 hours of field operation (3.5 hours with two D18-UNI4 modules) and the 12" HD touchscreen allows for easy setup and data visualization.

Key Features

- 2 slots for measurement modules
- Measure up to ± 1500 VDC
- Up to 16 analog inputs with D18-MUX8 multiplexed module
- Max sampling rate of 1 Msa/s/ch (up to 8 channels)
- Multi-file recording (up to 3) with individually configured sample rates
- Synchronize timing with IRIG, GPS, and PTP (-SYNC model)
- Dedicated power analysis supports DC, single-phase, and 3-phase networks operating in 50 Hz, 60 Hz, or 400 Hz
- 12" HD touchscreen display
- 500 GB SSD internal memory (standard)
- Battery option (D1820-BAT) provides up to 4 hours of operation
- Interfaces include USB 3.0 (x2) and LAN 1 Gbps

DASpro (PC software)

DASpro is a license free software that can be downloaded from bkprecision.com. Through this software, users can open and view the universal ASAM MDF4 file recordings saved by the DAS1800/DAS1820. Viewing data and analysis features are similar to the instrument, making it easy and intuitive to operate.



Overview Chart

Model	DAS1800	DAS1800-R	DAS1820
Form Factor	Portable	Rackmount	Portable
Display	15.6" Full HD touchscreen display 1920 x 1080		12" HD touchscreen display 1280 x 800
Storage	1 TB SSD ⁽¹⁾		500 GB SSD
Analog Channels			
Number of Channels	4 to 80		4 to 16
Input Type	Measurement module specific		Measurement module specific
Measurements	Voltage, current, thermocouple, RTD, frequency, counter, PWM		Voltage, current, thermocouple, RTD, frequency, counter, PWM
Max. Sampling Rate	1 MSa/sec		1 MSa/sec
Measurement Resolution	16-bit and 18-bit modules		16-bit and 18-bit modules
Sampling Mode	Simultaneous		Simultaneous
Max. Input Voltage	± 1500 VDC or 1000 VRMS ⁽²⁾		± 1500 VDC or 1000 VRMS ⁽²⁾
Safety ⁽³⁾	CAT III 1500 V, CAT IV 1000		CAT III 1500 V, CAT IV 1000
Supported Thermocouples	J, K, T, S, B, E, N, R		J, K, T, S, B, E, N, R
Supported RTDs	Pt100/Pt200/Pt500/Pt1000 2, 3, & 4 wires		Pt100/Pt200/Pt500/Pt1000 2, 3, & 4 wires
Options			
Synchronization	IRIG, GPS, PTP (IEEE 1588)		IRIG, GPS, PTP (IEEE 1588)
Battery	Provided as separate -BAT model		Removable battery option
Typical Battery Life	3.5 hours		4 hours
Thermal Printer	-		-
Digital/Logic Channels			
Number of Channels	16		16
Timing Channels	-		-
Timing Input	-		-
Max. Permitted Voltage	24 V		24 V
Number of Alarms	4		4
Alarm Output Level	5 V TTL, 10 mA		5 V TTL, 10 mA
Power Analysis Function			
Networks	Single & 3-phase		Single & 3-phase
Frequency	50, 60, and 400 Hz		50, 60, and 400 Hz
Display	Phasor diagram, harmonic histogram, real-time waveforms, numeric meters		Phasor diagram, harmonic histogram, real-time waveforms, numeric meters
Measurements	Mean value, RMS, peak, crest factor, THD, PQR, and DF for voltage & current, active, reactive and apparent power, power factor		Mean value, RMS, peak, crest factor, THD, PQR, and DF for voltage & current, active, reactive and apparent power, power factor
Harmonics	Calculated up to rank 50, with display and record		Calculated up to rank 50, with display and record
General			
Interfaces	USB2.0 host (x2), USB3.0 host (x2), LAN (x2), HDMI (x1)		USB3.0 host (x2), LAN (x1)
Dimensions (W x H x D)	19.1" x 11" x 7.9" (485 x 280 x 200 mm)	19.3" x 12.25" x 10.2" (490 x 311 x 260 mm)	15.7" x 9.6" x 4.7" (400 x 245 x 120 mm)
Weight	9.9 lbs (4.5 kg) base unit + battery option	20.9 lbs (9.5 kg)	8.6 lbs (3.9 kg) base unit + battery option
Warranty	3 years		3 years

(1) Removable on the DAS1800-R

(2) With high voltage input module

(3) Per IEC 61010

DAS1800/DAS1820 Ordering Information

DAS1800 models and options

Models	Description
DAS1800 (Base unit)	The DAS1800 base unit includes the following standard; 10 module slots, 1 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 2.0 (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
DAS1800-SYNC	Includes the DAS1800 base unit with PTP enabled and additional hardware supporting IRIG and GPS synchronization
DAS1800-BAT-SYNC	Includes the DAS1800 base unit with battery equipped, PTP enabled, and hardware supporting IRIG and GPS synchronization
DAS1800-R	19" rackmount version of the DAS1800 with removable 1 TB SSD
Options	Description
D18-FLE ⁽¹⁾	Fanless version of the DAS1800 base unit
D18-PTP	Software license to enable PTPv2 (IEEE1588) time synchronization through ethernet
D18-2TB	Upgrades memory capacity to a 2 TB SSD

(1): Fanless option is not available with -BAT models

DAS1820 models and options

Models	Description
DAS1820 (Base unit)	The DAS1820 base unit includes the following standard; 2 module slots, 500 GB SSD, 16 digital channels, SUB-D 15 HD pin connector for external triggering and synchronization, 12" TFT LCD Full HD (1280 x 800), USB 3.0 (x2), and 1 Gbps LAN interfaces
DAS1820-SYNC	Includes the DAS1820 base unit with PTP enabled and additional hardware to support IRIG and GPS synchronization
Options	Description
D1820-BAT	Removable Lithium-ion battery providing up to 4 hours of continuous use
D18-PTP	Software license to enable PTPv2 (IEEE1588) time synchronization through Ethernet

Modules

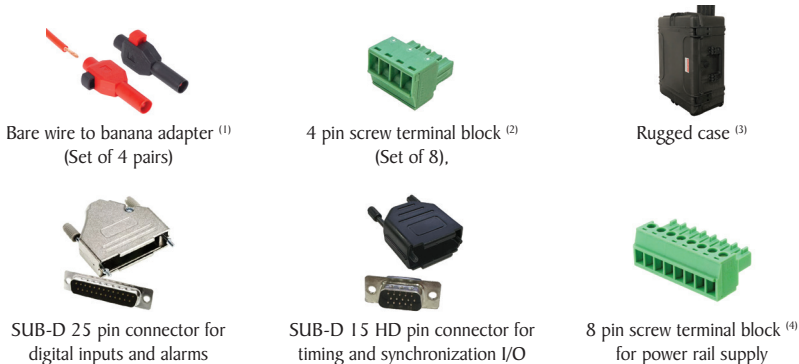
Module	Channels	Measurements
Universal (D18-UNI4)	4	Voltage, current (shunt), temperature (thermocouple), frequency, PWM, True RMS
High Impedance (D18-HIZ4)	4	Voltage, current (shunt), temperature thermocouple, frequency, PWM, True RMS
Multiplexed (D18-MUX8)	8	Voltage, current (shunt), resistance, temperature (RTD), temperature (thermocouple)
High Voltage (D18-HVM4)	4	Voltage (\pm 1500 VDC), current (shunt), frequency, PWM, True RMS

Note: Refer to the measurement modules and specifications sections for additional information.

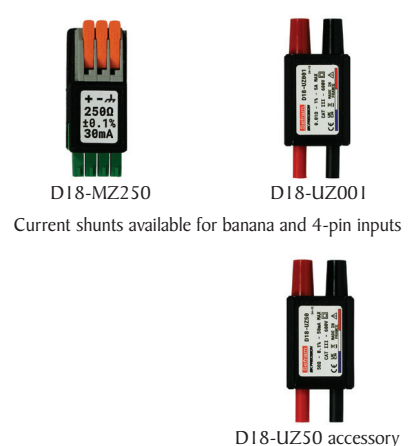
Accessories

Description	Part Number
Isolated digital channel board	917008000
Digital channel patch cord	902407000
Replacement 4 pin terminal block, pack of 8	GCM5P
Replacement quick connect banana plug, 4 pairs	TLQ2B
4-pin 250 Ω shunt, 0.1%, 0.03 A max	D18-MZ250
Banana 50 Ω shunt, 0.1%, 0.05 A max	D18-UZ50
Banana 0.01 Ω shunt, 1%, 5 A max	D18-UZ001

Included accessories



Optional accessories



(1) A set of bare wire to banana adapters is provided with every universal and high impedance module purchased

(2) A set of 4 pin screw terminal blocks is provided with every multiplexed module purchased

(3) A rugged case is included with all DAS1800 and DAS1820 models, with the exception of the DAS1800-R

(4) Provided only to models with DAS1800 base unit (e.g. DAS1800-BAT, DAS1800-R)