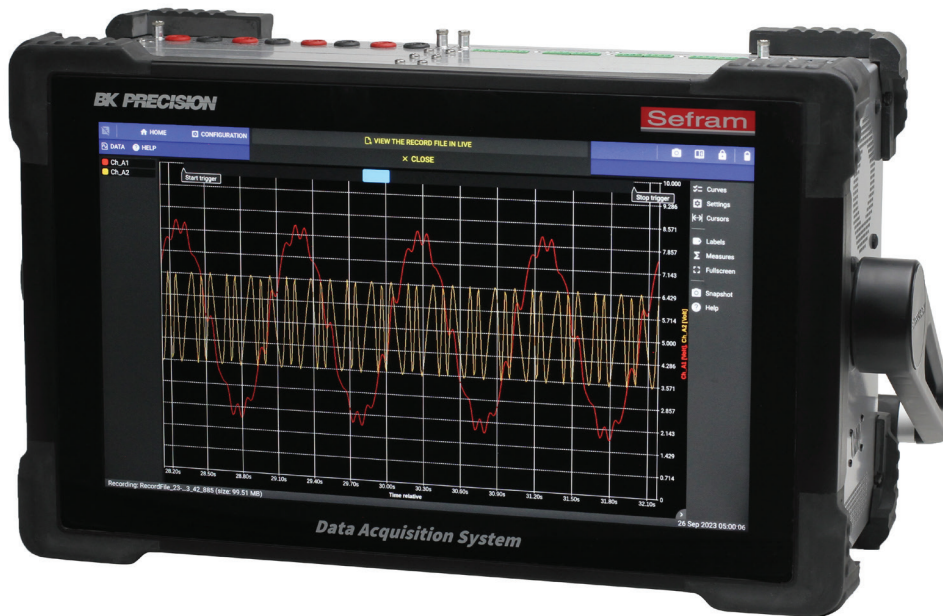


# High Speed Modular Data Acquisition Recorder

## DAS1800



With 10 slots for input modules, the DAS1800 can be configured for a wide variety of applications. Choose from 3 input modules with 4 or 8 channels each to achieve the optimal channel configuration. Acquire data from any sensor with a voltage or current output (with shunt), or directly measure voltage, resistance, or temperature using thermocouples or resistance temperature detectors (RTDs).

For capturing rapidly changing signals and transients, the DAS1800 can simultaneously measure and record up to 40 channels at 1 MSa/s/ch and stream the data directly to the solid-state drive. For slow changing parameters, the D18-MUX8 multiplexed module provides 8 inputs per module (up to 80 channels per system).

With four configurable sampling rates and advanced triggering options, the DAS1800 can record trends at low sample rates and transients at higher rates. It also comes with a 2 TB solid-state drive standard, providing the longest recording time of any data acquisition recorder on the market.

To gain portability, you don't have to give up features and performance with the DAS1800. Weighing about 15 lbs (6.8 kg), the battery configured base unit is the lightest all-in-one system in its class. Modules are also lightweight, only adding around 1.2 lbs (0.55 kg) each. The DAS1800 features a large 15.6" Full HD touch screen display for easy setup and visualizing real-time or recorded data, and the optional internal battery provides up to 3.5 hours of battery operation (1.5 hours with 10 D18-UNI4 modules) for testing in the field.

The highly intuitive user interface of the DAS1800 makes it easy to use with a multitude of time saving features such as one finger scrolling, pinch and zoom, and a built-in sensor library. The DAS1800 also provides several options for visualizing your measurement data. View measurements as real-time waveforms and numeric values on customizable dashboards.

For viewing data on a PC, download our free DASpro software. For remote control, the DAS1800 supports web server and VNC connections.

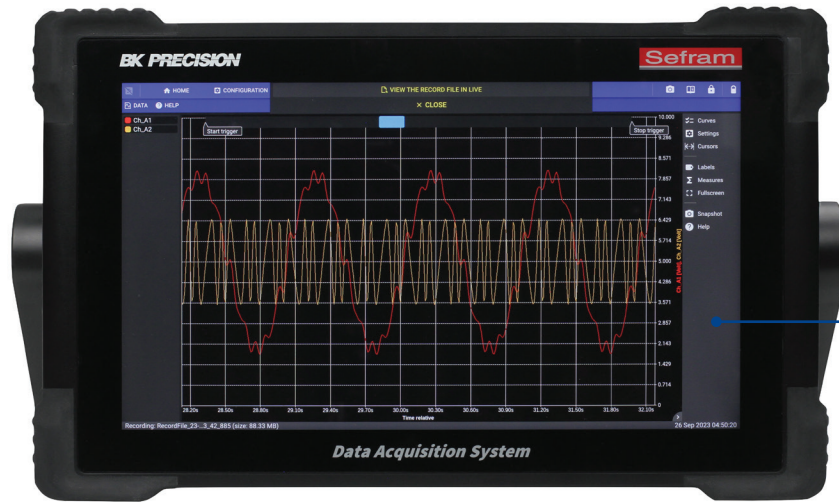
### Features and benefits:

- Stream 40 channels at 1 MSa/s/ch
- Up to 80 analog inputs with D18-MUX8 multiplexed module
- Measure up to  $\pm 600$  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 touchscreen display
- 2 TB internal SSD (standard)
- Advanced calculations and automatic measurements
- Battery option (up to 3.5 hours of operation)
- 16 digital input channels (24 V) and 4 digital outputs
- Dedicated power outputs for sensors with +3.3 V, +5 V, +12 V, or +24 V excitation voltages
- Interfaces include USB 3.0 (x2), USB 2.0 (x2), LAN 1 Gbps (x1), and HDMI (x1)
- Rugged carrying case included

### Applications

- Measure and record up to 80 analog channels
- Monitoring of processes and equipment
- Product validation and verification

## Front panel



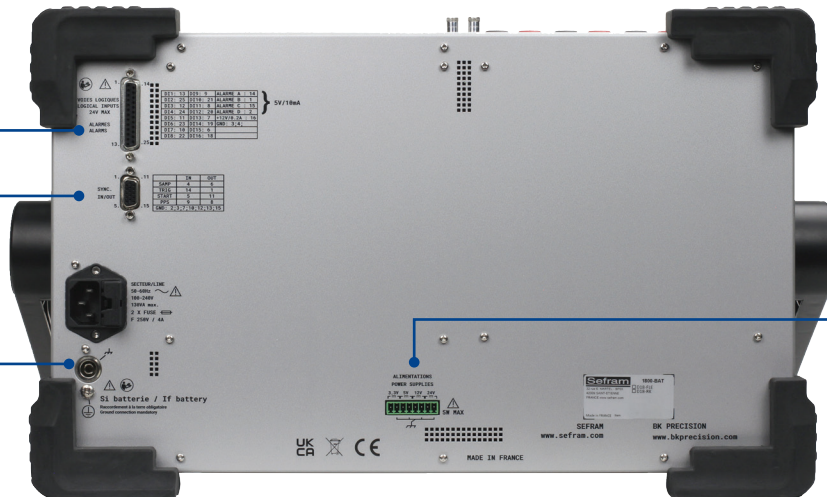
**15.6" touchscreen**  
Full HD touchscreen display with multi-touch features such as one finger scrolling and pinch zoom

## Rear panel

**Digital inputs & outputs**  
Provides 16 digital input channels and 4 digital outputs

**Synchronization input**  
SUB-D 15 HD pin terminal provides start/stop, trigger, and sampling input and outputs

**Ground terminal**



**Power supply outputs**  
Dedicated outputs provide 3.3 V, 5 V, 12 V, and 24 V with maximum 500 mA

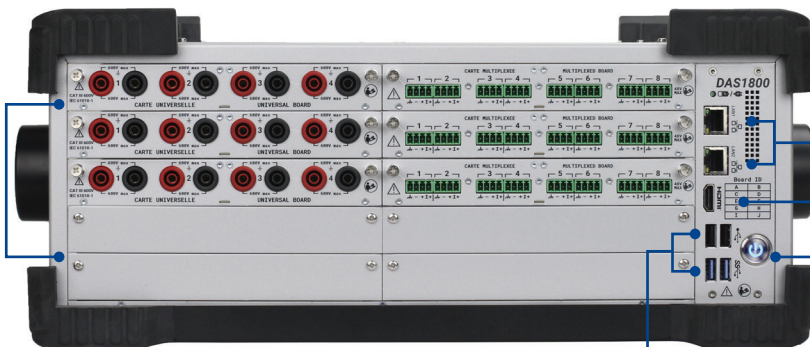
## Top panel

**Standard 10 module slots**  
Easily configure system with plug & play modules

**LAN**  
Dual LAN ports for remote control and monitoring

**HDMI output**  
Mirror the DAS1800 screen to an external monitor

**Power button**

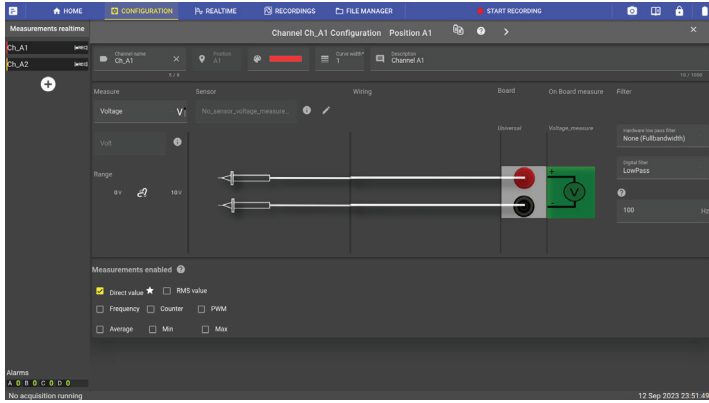


**USB host ports**

Image displays a DAS1800 configured with 3 universal modules and 3 multiplexed modules.

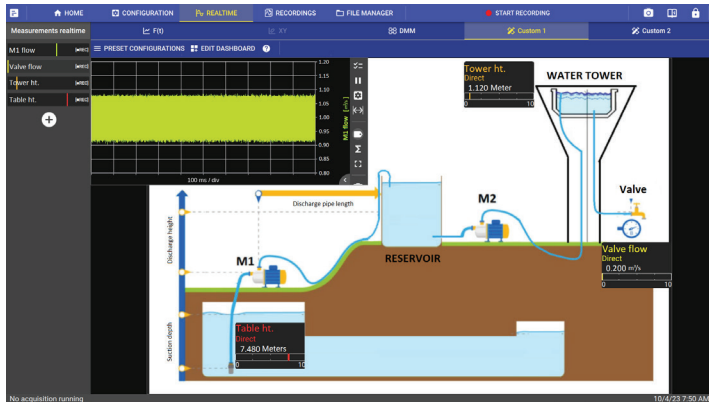
## Operation highlights

### Channel configuration



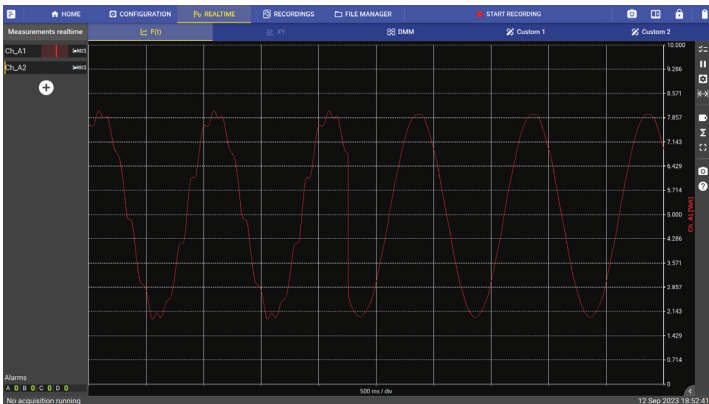
The channel configuration menu offers an intuitive design to ease measurement setup. The connection diagram changes to display wiring information for the measurement type and sensor selected.

### Custom dashboards



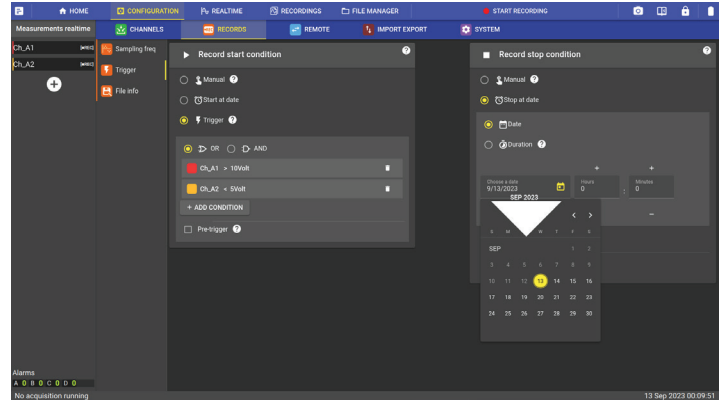
Measure and visualize data as real-time waveforms and numeric values on a customizable dashboard. Import circuit diagrams or system images to display on the dashboard.

### Filtering



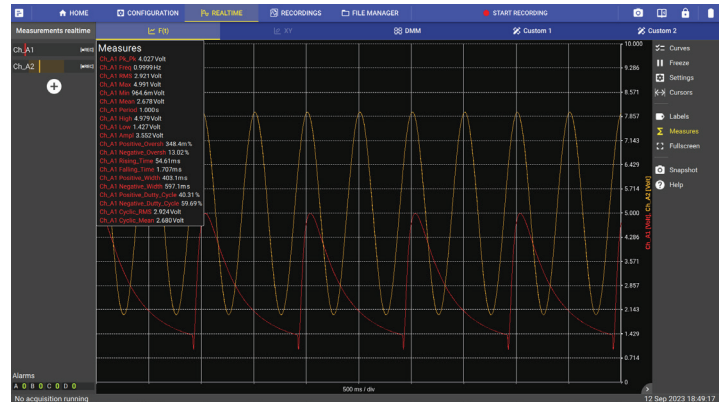
Reduce unwanted noise with built-in analog and digital filters. Analog filters include 100 Hz, 1 kHz, and 10 kHz low-pass filters. Digital filtering includes a user-definable low pass filter between 10 mHz to 10 kHz.

### Advanced triggering



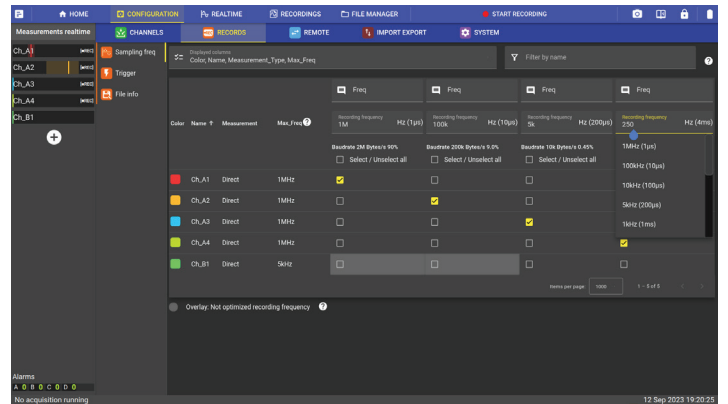
Configure the trigger settings to start and stop acquisition manually, at a specified time, or through a combination of one or multiple channel(s).

### Waveform measurements



Automatically calculate up to 19 different waveform measurements including, amplitude, RMS, mean, frequency, rise time, and fall time.

### Simultaneous recording

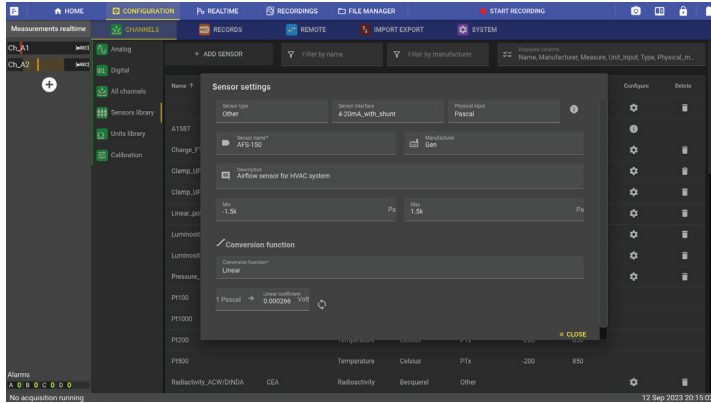


Record data at up to 4 different user configurable sample rates simultaneously. Allocate channels to slower rates or higher rates on a per channel basis for efficient use of hard drive space.



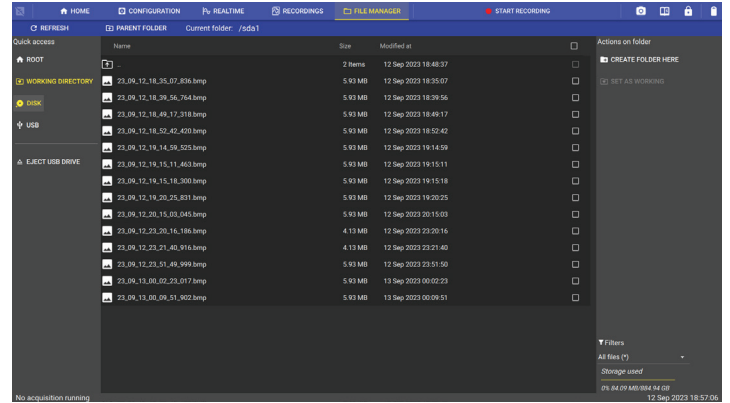
## The tools you need

### Sensor library



The DAS1800 provides a library of common sensor configurations to facilitate channel setup. Users can also add to the library by creating a new sensor with user-defined parameters including, name, units, and conversion function.

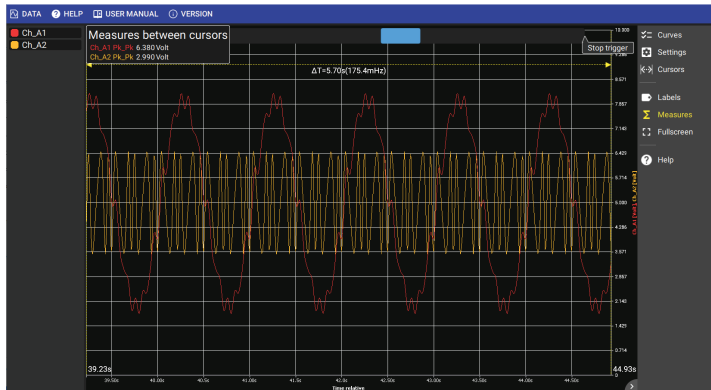
### 2 TB SSD



The DAS1800 provides the longest recording time of any data acquisition on the market with a 2 TB solid state drive that comes standard. Store waveform recordings, configuration files, and screenshots.

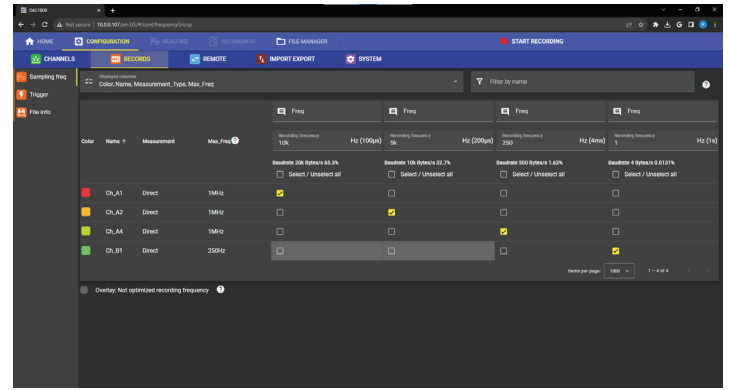
## Remote connectivity and PC software

### DASpro (PC software)



The DASpro software is a license free software that can be downloaded from [bkprecision.com](http://bkprecision.com). Using this software, users can open and view the universal ASAM MDF4 file recordings saved by the DAS1800. Viewing data and analysis features are similar to the DAS1800, making it easy and intuitive to operate.

### Web server



The DAS1800 provides an internal web server for remote access through any device on the same network. Configure instrument channels and trigger parameters, initialize acquisition, and easily save and transfer files to a local storage system.

### Virtual Network Computing (VNC) capability

The recorder's built-in VNC provides a graphical desktop system to remotely control the instrument from a computer with a full graphical interface that replaces the instrument's front panel using a mouse and keyboard.

### File Transfer Protocol (FTP)

Access remotely the internal hard drive of the recorder to drag and drop the recording files into your desktop.

## Measurement Modules

Configure the DAS1800 to fit your needs with any combination of modules up to 10.



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

### Included accessories



Bare wire to banana adapter<sup>(1)</sup>  
(Set of 4 pairs)



4 pin screw terminal block<sup>(2)</sup>  
(Set of 8).



Rugged case



SUB-D 25 pin connector for digital  
inputs and alarms



SUB-D 15 HD pin connector for  
timing and synchronization I/O

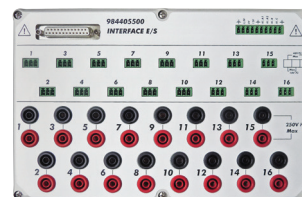


8 pin screw terminal block  
for power rail supply

### Optional accessories



Digital channel patch cord



Isolated digital channel board

(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.

## Specifications, base unit

Note: All specifications apply to the unit after a temperature stabilization time of 60 minutes over an ambient temperature range of 23 °C ± 5 °C.

| Data Acquisition System                 |  |  |
|---|--|--|
| <b>Recording (files written to SSD)</b> |  |  |
| Max Sampling Rate <sup>1</sup>          | 1 MSa/s up to 40 channels  |  |
| Recording Groups                        | 4  |  |
| Write Speed                             | 120 MB/s (7 GB/min)  |  |
| File Format                             | ASAM MDF4 (.mf4)   |  |
| File Size Limit                         | 90% of disk capacity   |  |
| At End of Acquisition                   | Notify, rearm trigger  |  |
| <b>Real Time Measure</b>                |  |  |
| Display Mode                            | F(t)   | Roll mode: 100 ms/div to 10 min/div<br>Scope mode: 10 µs/div to 50 ms/div                        |
|   | DMM  | Acquisition time:<br>200ms (10 NPLC <sup>2</sup> at 50Hz),<br>2s (100 NPLC <sup>2</sup> at 50Hz) |
|   | Record live view   | Typical Refresh period 2s,<br>Zoom Mode  |
|   | Custom   | 2 Customizable Views Widgets: F(t),<br>RecLive F(t), DMM, Picture                                |
| <b>File Viewer</b>                      |  |  |
| Open File Time (typical)                | 10 sec per 100 GB of file  |  |
| Subplot                                 | 16   |  |
| Cursors                                 | Horizontal, vertical   |  |
| Measurements                            | On the data displayed or between cursors   |  |
|   | Min, Max, Pk to Pk, Frequency, RMS, Rising time  |  |
| <b>Trigger System</b>                   |  |  |
| Compute Period                          | 1 µs   |  |
| Source                                  | Analog channel, external source, manual, date/time,<br>delay (on start), duration (on stop),<br>AND/OR combination of channels (128 max) |  |
| On Analog Channel                       | Edge (rising, falling, both), Threshold (above,<br>below), windows (in, out)   |  |
| Pre-trigger                             | 128 Msamples   |  |
| Post-trigger                            | 1000 s maximum   |  |

| Digital I/O               |  |
|---------------------------|--|
| <b>Input</b>              |  |
| Number of Channels        | 16   |
| Max Voltage               | 24 V   |
| Threshold                 | 1.2 V to 2.8 V   |
| Sampling Interval         | 1 µs (1 MSa/s) each channel                                |
| <b>Output</b>             |  |
| Number of Channels        | 4  |
| Output Characteristics    | TTL 5 V, 10 mA   |
| Trigger Source            | Analog/Digital channels, acquisition start/stop, disk full |
| Power Supply <sup>3</sup> | + 12 V ± 5 %, 200 mA                                       |

- (1) For D18-UNI4 and D18-HIZ4 Module  
 (2) NPLC: Number of power line cycles  
 (3) Used to power the isolated digital input board  
 (4) Time with only the 1st frequency group used

| Power Supply Outputs                                  |   |  |
|---|---|--|
| Maximum Power Consumption                             | 5 W   |  |
| Output Characteristics                                | + 3.3 V ± 5%, 500 mA; + 5 V ± 5%, 500 mA;<br>+ 12 V ± 5%, 400 mA; + 24 V ± 5 %, 200 mA  |  |
| Synchronization I/O                                   |   |  |
| <b>On Synchronization Connector (SUB-D 15 HD pin)</b> |   |  |
| Input   | Signal level  | TTL 3.3 V  |
|   | External trigger  | Pull-up resistor: 10 kΩ, Rising edge sensitive<br>Minimum pulse width: 100 µs  |
| Output  | External start/stop   | Pull-up resistor: 10 kΩ, Rising edge sensitive for start<br>Falling edge sensitive for stop<br>Minimum pulse width: 500 ms |
|   | Signal  | TTL 3.3 V  |
|   | Trigger   | 1 ms positive pulse at trig event  |
|   | Start/stop  | Set when record is launched  |
| Software Feature                                      |   |  |
| Remote Access   | VNC for remote monitoring and control   |  |
|   | Web server  |  |
|   | File management   | FTP, SFTP  |
|   | Bench automation  | SCPI command port (23 or 5025)   |
| Sensor Library  | Predefined sensors and user created   |  |
| Date and Time   | Manual, NTP   |  |
| Software Update                                       | Through web or USB  |  |
| Languages   | English, French   |  |
| General   |   |  |
| Internal Solid State Memory                           | 2 TB SSD 3D TLC NAND  |  |
| Operating Temperature                                 | 0 °C to 40 °C (32 °F to 104 °F)   |  |
| Storage Temperature                                   | -20 °C to 60 °C (-4 °F to 140 °F)   |  |
| Display   | 15.6" TFT LCD full HD 1920x1080   |  |
| Power Supply  | 100 VAC to 240 VAC ± 10%, 50 to 60 Hz (150 VA max)<br>Protection: Fuse 2 x T4AL250V   |  |
| Interfaces  | USB 3.0 (x2), USB 2.0 (x2), LAN 1 Gbps (x1),<br>HDMI (x1)   |  |
| Battery (optional)                                    | Non removable, Lithium-ion  |  |
| Battery Life (typical)                                | 3 ½ hrs - One D18-UNI4 module installed<br>1 ½ hrs - Ten D18-UNI4 modules installed   |  |
| Weight  | 15 lbs (6.8 kg) base unit + battery option<br>1.21 lbs (550 g) each module  |  |
| Safety  | Low Voltage Directive (LVD) 2014/35/EU<br>EN 61010-2010+AI:2019   |  |
| Electromagnetic Compatibility                         | EMC directive 2014/53/EU<br>EN IEC 61326-1 (2021)<br>EN 61000-3-2 (2019+AI/2021)<br>EN 61000-3-3 (2013+AI/2019)                                 |  |
| Dimensions (W x H x D)                                | 19.1" x 11" x 7.9" (485 x 280 x 200 mm)   |  |
| Warranty  | 3 Years   |  |
| Supplied Accessories                                  | Power cord, SUB-D 25 pin male connector and back shell,<br>SUB-D 15 HD pin male connector and back shell, 8 pin connector, rugged carrying case |  |

## Specifications, measurement Modules

Note: All specifications apply to the unit after a temperature stabilization time of 30 minutes over an ambient temperature range of 23 °C ± 5 °C.

| Universal Module (D18-UNI4)   |   |   |
|---|---|---|
| Number of Channels  | 4   |   |
| Input Type  | Isolated single ended input - 4mm Banana Plug   |   |
| <b>Voltage</b>  |   |   |
| Max. Input Voltage  | ± 600 VDC or 424 Vrms   |   |
| Range   | 19 Ranges:<br>± 500 µV / 1 mV / 2.5 mV / 5 mV / 10 mV / 25 mV /<br>50 mV / 100 mV / 250 mV / 500 mV / 1 V / 2.5 V /<br>5 V / 10 V / 25 V / 50 V / 100 V / 250 V / 600 V |   |
| DC Accuracy <sup>1</sup>  | ≤ ± 25 mV   | ± 0.1% of full range + 10 µV <sup>2</sup> |
|   | ± 25 mV to ± 500 mV   | ± 0.1% of full range + 10 µV              |
|   | ≥ ± 1 V   | ± 0.06% of full range                     |
| Offset Drift  | ± 50 ppm/°C ± 1 µV/°C   |   |
| Input Impedance   | 1 MΩ for ranges ≥ ± 1 V, 25 MΩ for ranges ≤ ± 0.5 V   |   |
| Input Capacitance   | 150 pF  |   |
| Intrinsic Noise <sup>3</sup><br>(standard deviation in % of the span) | ≤ ± 1 mV  | < 0.2%                                    |
|   | ± 2.5 mV to ± 10 mV   | < 0.1%                                    |
|   | ± 25 mV to ± 500 mV   | < 0.05%                                   |
|   | ≥ ± 1 V   | < 0.02%                                   |
| CMRR  | ≤ ± 500 mV  | > 85 dB                                   |
|   | ≥ ± 1 V   | > 70 dB                                   |
| Crosstalk   | > -90 dB  |   |
| Isolation   | CH to CH and CH to GND, > 100 MΩ at 650 VDC   |   |
| Safety  | CAT III 600 V   |   |
| <b>Bandwidth and Filters</b>  |   |   |
| Bandwidth<br>(-3 dB)  | ≤ ± 2.5 mV  | 1 kHz                                     |
|   | ± 5 mV to ± 25 mV   | 10 kHz                                    |
|   | ± 50 mV to ± 500 mV   | 60 kHz                                    |
|   | ≥ ± 1 V   | 100 kHz                                   |
| Analog Filter   | 2nd Order(-20 dB/dec)   | 100 Hz, 1 kHz, 10 kHz                     |
| Digital Filter  | IIR 4th order (-80 dB/dec)  | 0.01 Hz to 10 kHz                         |
|   | Type  | Low-pass                                  |
| Filter  | Butterworth   |   |
| <b>Data Acquisition</b>   |   |   |
| ADC   | 16 bit – SAR  |   |
| Sampling Interval   | 1 µs (1 MSa/s) each channel   |   |
| <b>Temperature (Thermocouple)</b>                                     |   |   |
| Compute Frequency   | 4 ms  |   |
| Cold Junction   | Uncompensated, internal, external (other channel)   |   |
|   | Accuracy <sup>4</sup> : ± 1.25°C  |   |
| Type  | J   | -210 °C to 1200 °C (-346 °F to 2192 °F)   |
|   | K   | -250 °C to 1370 °C (-418 °F to 2498 °F)   |
|   | T   | -200 °C to 400 °C (-328 °F to 752 °F)     |
|   | S   | -50 °C to 1760 °C (-58 °F to 3200 °F)     |
|   | B   | 200 °C to 1820 °C (392 °F to 3308 °F)     |
|   | E   | -250 °C to 1000 °C (-418 °F to 1832 °F)   |
|   | N   | -250 °C to 1300 °C (-418 °F to 2372 °F)   |
|   | R   | -50°C to 1768°C (-58 °F to 3214 °F)       |

| Time and Counting             |  |                      |
|-------------------------------|--|----------------------|
| Threshold                     | Set by user, auto  |                      |
| Duty Cycle                    | 10% minimum – (minimum pulse width, 20 µs)   |                      |
| Counter                       | 48 bits  |                      |
| Frequency                     | 0.1 Hz to 100 kHz  |                      |
|                               | Accuracy:<br>0.01% reading, 0.1 Hz to 10 Hz<br>0.05% reading, 10 Hz to 100 kHz                           |                      |
| PWM                           | Absolute error:<br>0.1% from 0.1 Hz to 1 kHz<br>0.5% from 1 kHz to 5 kHz                                 |                      |
| <b>TRMS</b>                   |  |                      |
| Compute Period                | Compute on the 1 Ms/s data flow<br>Each period until 100 Hz<br>10 ms between 100 Hz and 10 kHz           |                      |
| Accuracy<br>(Sine wave ≥ 1 V) | 10 Hz to 2 kHz   | ± 0.1% of full range |
|                               | 2 kHz to 10 kHz  | ± 0.3% of full range |
| <b>Other</b>                  |  |                      |
| Current                       | Through shunt or clamp   |                      |
| Sensor                        | 0 to 10 V, 4 to 20 mA (with external shunt), duty cycle or frequency sensor, other user defined settings |                      |
| Calculations                  | Min – max – avg on Δt  |                      |

| High Impedance Module <sup>5</sup> (D18-HIZ4)                         |  |         |
|---|--|---------|
| <b>Voltage</b>  |  |         |
| Input Impedance   | 10 MΩ for ranges ≥ ± 1 V, 25 MΩ for ranges ≤ ± 0.5 V |         |
| Intrinsic Noise <sup>3</sup><br>(standard deviation in % of the span) | ≤ ± 1 mV   | < 0.2%  |
|   | ± 2.5 mV to ± 10 mV                                  | < 0.1%  |
|   | ± 25 mV to ± 500 mV                                  | < 0.05% |
|   | ≥ ± 1 V  | < 0.05% |
| <b>Bandwidth and Filters</b>  |  |         |
| Bandwidth   | ≤ ± 2.5 mV   | 1 kHz   |
|   | ± 5 mV to ± 25 mV                                    | 10 kHz  |
|   | ± 50 mV to ± 500 mV                                  | 60 kHz  |
|   | ≥ ± 1 V to ± 10 V                                    | 20 kHz  |
|   | ≥ ± 25 V   | 80 kHz  |

- (1) Direct measure taken on DMM at 10 (50 Hz) / 12 (60 Hz) NLP (200 ms) and full bandwidth
- (2) Only when offset adjustment has been performed after installing a new module. Otherwise accuracy is ± 0.1% of full range (max. range - min. range) + 20 µV
- (3) Measure ± short circuit termination to 50 Ω on chassis during 1 sec at the fastest acquisition speed and full bandwidth
- (4) Only when cold junction adjustment has been performed after installing a new module and after 30 minutes of connection between TLK2B accessory, thermocouple and module terminal. Otherwise accuracy is ± 3 °C
- (5) For all other specs, refer to the universal module specifications

## Specifications, measurement Modules

Note: All specifications apply to the unit after a temperature stabilization time of 30 minutes over an ambient temperature range of 23 °C ± 5 °C.

| Multiplexed Module (D18-MUX8)   |   |                            |
|---|---|----------------------------|
| Number of Channels  | 8   |                            |
| Input Type  | Non-isolated differential input – 4 pin terminal block,<br>Part: Phoenix Contact MC 1.5/ 4-ST-3.5                                 |                            |
| <b>Voltage</b>  |   |                            |
| Maximum Input Voltage   | ± 48 VDC between CH to GND and between<br>2 poles on a channel  |                            |
| Range<br>(16 ranges)  | ± 500 µV / 1 mV / 2.5 mV / 5 mV / 10 mV / 25 mV /<br>50 mV / 100 mV / 250 mV / 500 mV / 1 V / 2.5 V /<br>5 V / 10 V / 25 V / 48 V |                            |
| Admissible Common<br>Mode   | ≤ ± 1 V   | ± 3 V                      |
|   | ≥ ± 2.5 V   | ± 48 V                     |
| DC Accuracy <sup>1</sup>  | ≤ ± 10 mV   | ± 0.1% of full range + 5µV |
|   | ≥ ± 25 mV   | ± 0.04% of full range      |
| Offset Drift  | ± 50 ppm/°C ± 0.5 µV/°C   |                            |
| Input Impedance   | 2 MΩ for ranges ≥ ± 1 V, 25 MΩ for ranges ≤ ± 0.5 V   |                            |
| Input Capacitance   | 150 pF  |                            |
| Intrinsic Noise <sup>2</sup><br>(standard deviation in%<br>of the span) | ≤ ± 1 mV  | < 0.15%                    |
|   | ± 2.5 mV to ± 10 mV   | < 0.05%                    |
|   | ≥ ± 25 mV   | < 0.01%                    |
| CMRR  | > 70 dB   |                            |
| Crosstalk   | > -90 dB  |                            |
| <b>Bandwidth and Filters</b>  |   |                            |
| Bandwidth (-3 dB)   | 1 kHz   |                            |
| Digital Filter  | IIR 4th order (-80 dB/dec)  | 0.01 Hz to 500 Hz          |
|   | Type  | Lowpass                    |
|   | Filter  | Butterworth                |
| <b>Data Acquisition</b>   |   |                            |
| ADC   | 18 bit – SAR  |                            |
| Sampling Interval   | 200 µs (5 kSa/s) each channel   |                            |

| Temperature (RTD)               |  |                                 |
|---------------------------------|--|---------------------------------|
| Compute Frequency               | 4 ms   |                                 |
| Current                         | Pt100  | 1.0 mA                          |
|                                 | Pt200  | 0.5 mA                          |
|                                 | Pt500  | 0.2 mA                          |
|                                 | Pt1000   | 0.1 mA                          |
| Temperature Range               | -200 °C to +850 °C (-328 °F to 1562 °F )   |                                 |
| Wiring                          | 2 wires  | Max. corrective resistance 50 Ω |
|                                 | 3 wires  | Max. 3-wire resistance, 50 Ω    |
|                                 | 4 wires  |                                 |
| Measurement Range<br>(7 Ranges) | ± 10 °C, ± 25 °C, ± 65 °C, ± 130 °C, ± 200 °C,<br>[-200 °C, +380 °C], [-200 °C, +850 °C] |                                 |
| Accuracy                        | 3 wires  | 0.1% of the range ± 0.3 °C      |
|                                 | 4 wires  | ± 0.1% of the range ± 0.2 °C    |

(1) Direct measure taken on DMM at I0 (50 Hz) / I2 (60 Hz) NLPC (200 ms) and full bandwidth

(2) Measure ± short circuit termination to 50 Ω on chassis during 1 sec at the fastest acquisition speed and full bandwidth

| Temperature (Thermocouple)      |   |   |
|---------------------------------|---|---|
| Compute Frequency               | 4 ms  |   |
| Cold Junction                   | Uncompensated, internal, external (other channel)                           |   |
|                                 | Accuracy <sup>3</sup> : ± 1.25 °C   |   |
| Type                            | J   | -210 °C to 1200 °C (-346 °F to 2192 °F) |
|                                 | K   | -250 °C to 1370 °C (-418 °F to 2498 °F) |
|                                 | T   | -200 °C to 400 °C (-328 °F to 752 °F)   |
|                                 | S   | -50 °C to 1760 °C (-58 °F to 3200 °F)   |
|                                 | B   | 200 °C to 1820 °C (392 °F to 3308 °F)   |
|                                 | E   | -250 °C to 1000 °C (-418 °F to 1832 °F) |
|                                 | N   | -250 °C to 1300 °C (-418 °F to 2372 °F) |
|                                 | R   | -50°C to 1768°C (-58 °F to 3214 °F)     |
| <b>Resistance</b>               |   |   |
| Compute Frequency               | 4 ms  |   |
| Wiring                          | 2 wires   | Max. corrective resistance 50 Ω         |
|                                 | 3 wires   | Max. 3-wire resistance, 50 Ω            |
|                                 | 4 wires   |   |
| Measurement Range<br>(4 Ranges) | 300 Ω (1 mA), 1500 Ω ( 0.5 mA), 5k Ω (0.2 mA),<br>10 kΩ (0.1 mA)            |   |
| Accuracy                        | ± 0.1% of the range ± 0.1 Ω   |   |
| <b>Time and Counting</b>        |   |   |
| Threshold                       | Set by user, auto   |   |
| Minimum Pulse<br>Width          | 1 ms  |   |
| Counter                         | 32 bits   |   |
| <b>Other</b>                    |   |   |
| Current                         | Through shunt or clamp  |   |
| Sensor                          | 0 to 10 V, 4 to 20 mA (with external shunt), other user<br>defined settings |   |

(3) Only when cold junction adjustment has been performed after installing a new module and after 30 minutes of connection between GCMSP accessory, thermocouple and module terminal. Otherwise accuracy is ±3 °C



## Ordering Information

### Step 1: Select base unit model and factory options

| Models                 | Description  |
|------------------------|--|
| DAS1800<br>(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 2.0 (x2), 1 Gbps LAN (x2), and HDMI (x1) interfaces |
| DAS1800-BAT            | Includes the DAS1800 base unit with a non-removeable Lithium-ion battery providing up to 3 ½ hours of continuous use   |
| Factory Options        | Description  |
| D18-FLE                | Fanless version of the DAS1800 base unit   |

Note: D18-FLE is not compatible with a DAS1800-BAT.

### Step 2: Determine the number and type of measurement modules for your application. Select up to 10 modules.

| Module                       | Channels | Measurements  |
|------------------------------|----------|---|
| Universal<br>(D18-UNI4)      | 4        | Voltage, current (shunt), temperature (thermocouple), frequency, PWM, TRMS          |
| High Impedance<br>(D18-HIZ4) | 4        | Voltage, current (shunt), temperature thermocouple), frequency, PWM, TRMS           |
| Multiplexed<br>(D18-MUX8)    | 8        | Voltage, current (shunt), resistance, temperature (RTD), temperature (thermocouple) |

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

### Step 4: Contact us

#### **B&K Precision:**

For inquiries and assistance configuring your DAS1800, please fill out the [DAS1800 Order Request Form](#).

Or, visit our where to buy page at [bkprecision.com](http://bkprecision.com) to view a list of authorized vendors.

### Step 3: Select your accessories

| Accessory                                      | Part Number |
|--|-------------|
| Isolated digital channel board                 | 917008000   |
| Digital channels patch cord                    | 902407000   |
| Replacement 4 pin terminal block, pack of 8    | GCM5P       |
| Replacement quick-connect banana plug, 4 pairs | TLQ2B       |
| Replacement DAS1800 hard case                  | LCLDR       |

#### **Sefram:**

Visit <https://www.sefram.com/en/contact-us.html> to request a quote.

# BK 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 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



NSF-ISR

Registered to ISO 9001

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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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