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http://www.sefram.fr

SEFRAM DAS30 / DAS50 / DAS60

Multifunction handheld recorders

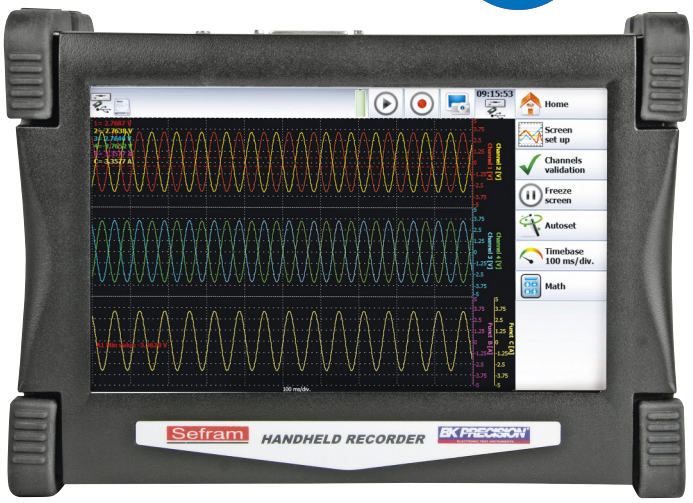
Capabilities

- 2 to 6 analogue channels
- Universal input
- DC, AC+DC RMS voltage measurement
- Frequency, counter
- Temperature: thermocouple, Pt100/Pt1000*
- Power analysis function (up to 400Hz for DAS60)
- 16 logical channels
- 14-bit resolution
- 10" TFT panoramic LCD touch screen
- 1 Ms/s sampling rate
- 100 kHz bandwidth
- 32 GB internal hard disk (64GB for DAS60)
- 32 Mword memory
- Interfaces: 2 x USB, Ethernet
- Lithium-ion battery
- Autonomy: up to 9,5 hours.
- 110mm Thermal printer module*
- IEC 1010 CAT III 600V

* **factory options:** - printer module (all models)
- Pt100 / Pt1000 (DAS30 / 50)

NEW

2 YEAR WARRANTY



DAS30 / 50 / 60

Multifunction recorders for all your applications

The new DAS30 / 50 / 60 series recorders have been designed to meet the requirements of all applications in industry (IEC 61010, CAT. III 600V). You can view your measurements (traces, digital values) and record directly in the internal memory or into a USB memory stick. Using Sefram software, you can transfer easily your records on a computer.

Universal input

The new DAS30 / 50 / 60 recorders offer universal input, which are convenient for all types of signals :

- voltage ranges from 1mV to 1000V DC or 425Vrms
- temperature (thermocouples) and Pt100/Pt1000*
- counter, frequency
- current (with optional shunt)

Easy-to-use

Thanks to the new user interface combined with its large touch screen LCD, the portable DAS recorders are design for ease of use for a wide range of data recording applications and easy transfer of your records.

Typical applications

The new DAS30 / 50 / 60 recorders are general purpose and multifunction recorders and are suitable for many applications:

- maintenance/failure diagnostic on electrical systems
- voltage, current, temperature recording and monitoring
- power analysis for single-phase and three-phase systems

Selection guide

	DAS30	DAS50	DAS60
2 isolated universal channels	●		
4 isolated universal channels		●	
6 isolated universal channels			●
Memory	32GB	32GB	64GB
2 Pt100/Pt1000 input	factory option	factory option	●
110mm thermal printer	factory option	factory option	factory option

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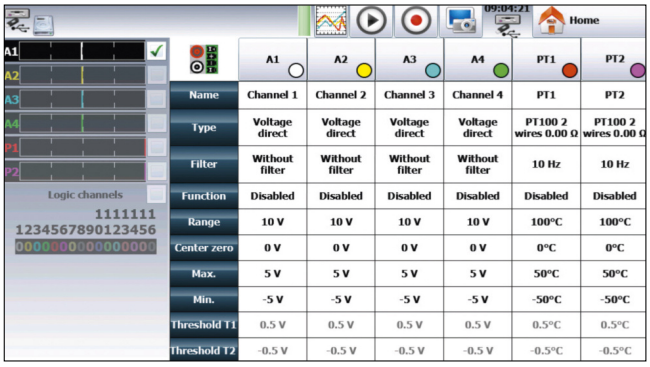
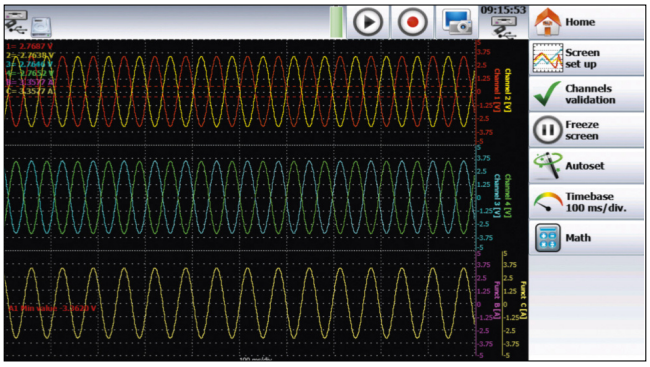
SEFRAM DAS30 / DAS50 / DAS60

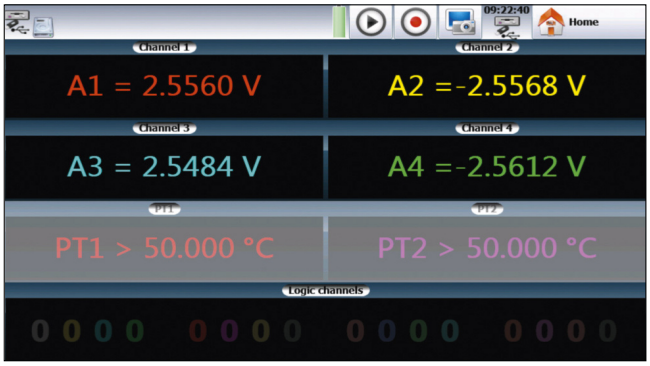
Multifunction handheld recorders



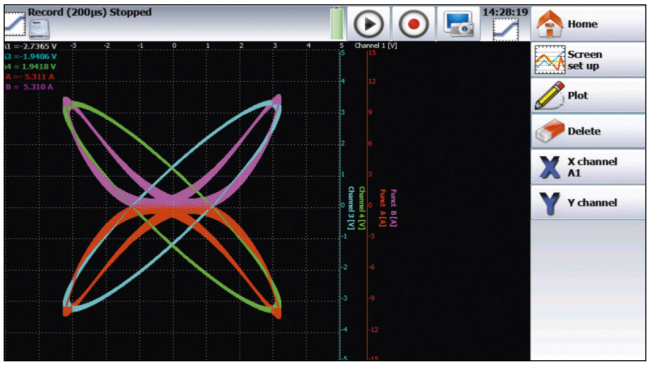
Channels setup: one screen with colors to differentiate channels



Oscilloscope mode

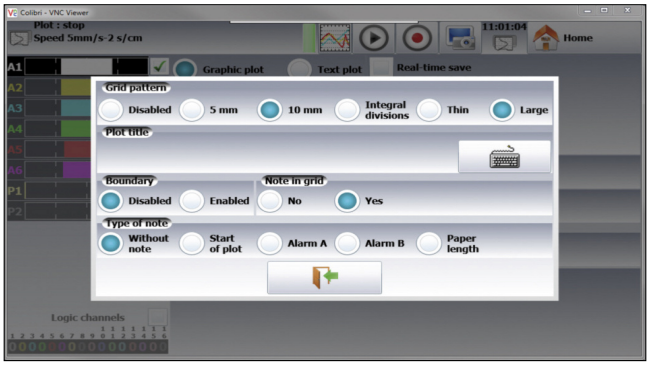


Digital display of measurements



XY mode

Trigger: several type of trigger, one channel, on a level, slope, several channels or combined conditions.



With the thermal printer module, you can set up your print

Factory options

110mm thermal printer module

It's possible to install on Sefram DAS30 / 50 / 60 recorders a thermal printer module (110 mm width, 10 meters thermal paper roll).

Pt100/Pt1000 board

This board is included in the DAS60 and is a factory option for DAS30 / 50. It adds 2 channels dedicated to Pt100/Pt1000 platinium resistance measurements, with 2 wire, 3 wire or 4 wire setup. Using a 20 bit analog to digital converter, this card will provide an excellent accuracy and resolution for temperature measurement.

SEFRAM DAS30 / DAS50 / DAS60

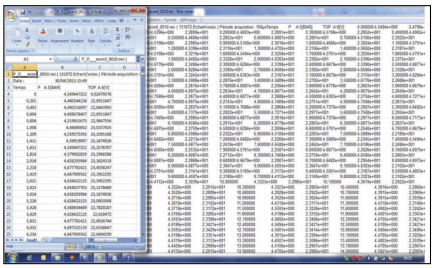
Multifunction handheld recorders

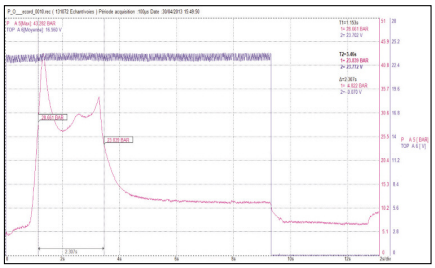
SEFRAM VIEWER

This licence free software is supplied with each recorder. It allows the visualization of the recordings and the data transfer to other applications. SEFRAM Viewer makes the acquired signal analysis easier.

Capabilities

- Curve printing
- Display of values (text)
- Cursors and zoom
- File concatenation
- 8 math calculations
- Up to 120 characters text notes
- Bitmap, Excel®, txt, csv export
- Easy setup of curves display

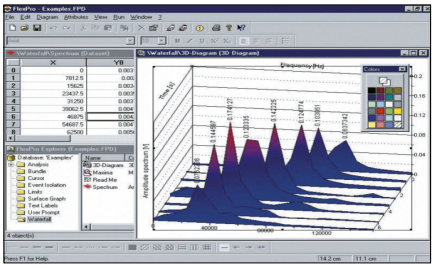


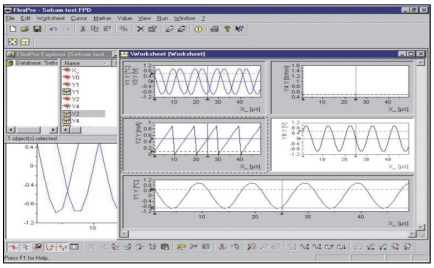


FLEXPRO™: a powerful software for your data analysis.

With Flexpro® :

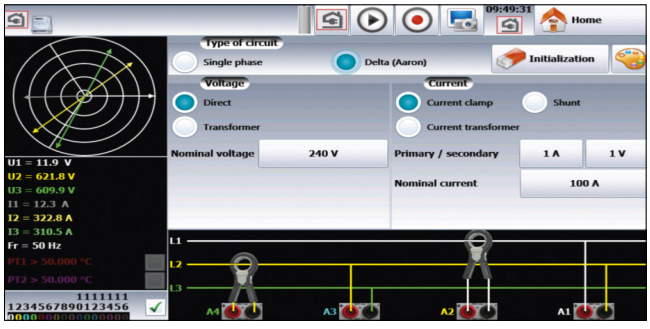
- More than 100 functions of statistical and math analysis
- Powerful graphical display
- Measurement report editing



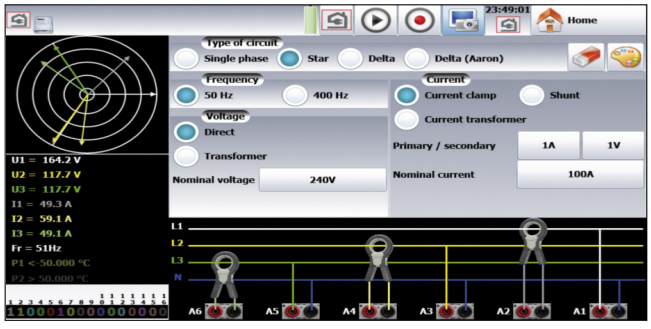


ENERGY / POWER ANALYSIS

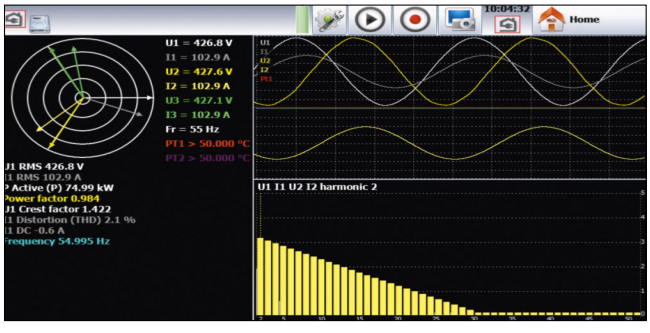
A very powerful analysis for single-phase or three-phase networks. Analysis is provided with Fresnel diagram or oscilloscope mode.
The DAS60 can work with 400Hz networks and has a trigger selection function.



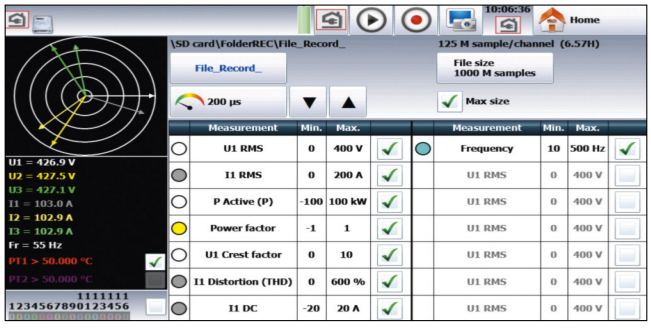
Your instrument shows how to connect the inputs with a schematic and you can setup parameters and measurements on the same screen.



Example of a three-phase network.



Real time display of signals and harmoics (up to rank 50)



Setup of parameters to measure or calculate.

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SPECIFICATIONS – UNIVERSAL INPUT

Number of channels : 2 (DAS30), 4 (DAS50), 6 (DAS60)

VOLTAGE

Bandwidth :	100 kHz
DC voltage ranges :	1 mV to 1000 V
Maximum input voltage :	± 500 VDC or 440 VAC
Max offset :	± 5 ranges (up to ± 500 V)
Accuracy :	± 0,1% of range ; ± 10µV / ± 0,1% offset
TRMS AC+DC ranges :	from 200 mV to 424 V
Bandwidth (- 3 dB) :	5 Hz - 500 Hz
Response time :	100 ms typical (40 ms to 50 Hz)
Crest factor :	2,2 and 600 V peak voltage

FREQUENCY

Sensitivity :	100 mV rms min.
Duty cycle :	10% min.
Frequency range :	0,1 Hz to 100 kHz
Basic accuracy	0,02% of full scale

TEMPERATURE

Sensor	Ranges
Couple J	-210°C to 1200°C
Couple K	-250°C to 1370°C
Couple T	-200°C to 400°C
Couple S	-50°C to 1760°C
Couple B	200°C to 1820°C
Couple E	-250°C to 1000°C
Couple N	-250°C to 1300°C
Couple C	0°C to 2320°C
Couple L	-200°C to 900°C

Accuracy Cold junction compensation ±1,25°C

POWER ANALYSIS FUNCTION

Networks :	Single phase, 2 phases, 3 phases
Display :	Fresnel diagram, oscilloscope, data
Measurements :	Mean value, RMS value, peak value, crest factor, THD and DF for voltages and currents, active, reactive and apparent power, power factor (cos ϕ)
Harmonics :	calculated up to rank 50, with display and record

SAMPLING

Resolution :	14 bit
Sampling rate :	1M sample/sec per channel max.
Memory length :	32Mword in segments of up to 128 Blocks
Triggering :	Positive edge, negative edge, on logical input, delay, Go No Go
Pre trigger :	-100% to +100%

BANDWIDTH

Bandwidth (-3dB)

Range :	> 1 V : 100kHz
Range :	> 50mV : 50kHz
Range :	5 mV : 20kHz
Internal analogue filters :	10 kHz, 1 kHz, 100 Hz, 10 Hz.
Slope :	20 dB/decade
Programmable digital filters :	10 Hz, 1 Hz, 0,1 Hz, 0,01 Hz, 0,001 Hz
Slope :	40 dB/decade
Input impedance (DC) :	>25MΩ for range <1V 1 MΩ for upper ranges // 150pF typical
Maximum input voltage :	± 500VAC between one channel and the frame ground
Between 2 terminals of one channel	± 500VAC
Isolation between frame ground and channel :	>100 MΩ at 500 VDC

LOGIC INPUT

Channels :	16
TTL – Max voltage :	24V
Sampling rate :	The same sampling rate as analogue inputs.
Sensor supply :	9 to 15 V
Alarms 2 :	A & B 0-5 V output.

PT100 / PT1000* INPUT (factory option for DAS30 / 50)

Number of channels :	2
Current :	1mA for Pt100 and 100µA for Pt1000
Resolution :	20 bits
Temperature range:	-200°C to +850°C
Measurements :	2, 3, 4 wires
Accuracy at 20°C :	±0,2°C

PAPER PLOT CARACTERISTICS (factory option for all models)

Paper width :	110 mm
Paper speed :	from 1 mm/min to 25mm/s
Paper speed in memory mode :	10 mm/s max.
Resolution & accuracy : Y axis :	8 dots per mm
X axis :	16 dots per mm
XY mode :	8 dots per mm (both axis)

Storage

Setup backup :	unlimited on the hard disk
Internal hard disk :	32 GB (solid state) for DAS30 / 50 and 64GB for DAS60

GENERAL SPECIFICATIONS

Display :	10 inches TFT LCD coloured touch screen F(t)and XY functions. Zoom, cursors, dV, dT and zoom between cursors. Calculation functions y=ax+b , y=/x/+b, y=a√x+b+c, y=ax2+b, y=(log x)+b, yae(x+b)+c
Automatic measurements :	20 automatic measurements (F, T, Vpp, Tm…)
Interfaces :	2 x USB port, Ethernet
Power supply :	100 to 240 VAC, ouput 15 V 5A max.
Battery (factory installed) :	Lithium ion 10,8 V, 6,5 Ah.
Autonomy :	Typically 9h30min after a complete charge 4 hours without screen saver
Charging time:	1 hour (recorder off) Complete charge in 4 hours.
Dimensions & weight :	295 x 210 x 105 mm, 2,5 Kg
Operating temperature range :	0°C to 40°C
Max. RH. :	80% without condensation.
Storage temperature range :	-20°C to 60°C
Warranty :	2 years
Safety :	IEC 61010 - CAT III 600V

OPTIONNAL ACCESSORIES

Accessory clamps
SP 201 - 200 AAC, 10mV/1A, ø 15 mm.
SP 221 - 100 AAC, 100mV/1A, ø 15 mm.
SP 230 - 1200 AAC, 10mV/1A, ø 50 mm.
SP 261 - 1200 AAC+DC, 1mV/1A, ø 50 mm.
SP 270 - 2000 AAC, 1 mV/1A, ø 70 mm.
A 1287 - 3000 AAC, 0.333 mV/A, ø 150 mm / Flex

Shunts
Shunts (with banana plugs)
910007100 Shunt CA 0.01 ohm : 3 A
910007200 Shunt CA 0.1 ohm : 1 A
989007000 Shunt CA 50 ohm : 0.05 A
989006000 Shunt CC 1 ohm : 0.5 A
912008000 Shunt CA 10 ohm : 0.15 A

Shunts (with wires)
207030301 Shunt 0.01 ohm : 30 A max
207030500 Shunt 0.001 ohm : 50 A max

Logical channels.
984405500 16 isolated logical channels interface
902407000 16 channels logic probe.

Rugged carrying case
903001000 Rugged carrying case for DAS30/50
906002000 Rugged carrying case for DAS60

FLEXPRO software
916002100 FlexPro View
916002200 FlexPro Standard
916002300 FlexPro Professional
916002400 FlexPro Developer Suite

Printer module (factory option)
903002000 Thermal printer module for DAS30/50
906003000 Thermal printer module for DAS60

Consumables
837500526 Thermal paper roll (10m)

Pt100/Pt1000 (factory option for DAS30 / 50)
903003000 2 channels Pt100/Pt1000

19" rackmount kit
903004000 Rackmount kit for DAS30/50
906001000 Rackmount kit for DAS60

Supplied with : a carrying case, a set of red and black cable + alligator clip + quick banana plug, main adaptor, manual (CD-ROM).

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For assistance and ordering

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afaq ISO 9001 Qualité AFNOR CERTIFICATION 1997/7001

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