

The new DAS 1400 family of paperless recorders offers up to 36 analogue inputs to cover all your applications

The DAS1400 are the latest generation of portable paperless recorders, ideal to measure, record and analyse signals up to 100 kHz.

The wide bandwidth, internal hard disk (80Gb) and large LCD screen, together with a new user interface under Linux® offers excellent performance with ease-of-use. Comprehensive interfaces (USB and Ethernet) are built into each recorder.



DAS 1400 : New design



- 6 to 36 analogue channels
- Universal input
- DC, AC+DC RMS voltage measurement
- Strain Gauge measurement (option)
- Frequency, thermocouple and PT100 measurement
- 16 logical channels
- 16-bit resolution
- 1Mega sample/s sampling rate
- 100 kHz bandwidth
- 20 automatic measurements
- Power Analysis function
- 12" TFT LCD screen
- 32Mword memory
- 80 Gb internal hard disk
- Interfaces: USB, Ethernet, XGA
- IEC 1010 – Cat III 600V

2008 **NEW**

- Power/Energy Analysis
- Strain Gauge board

EASE OF USE

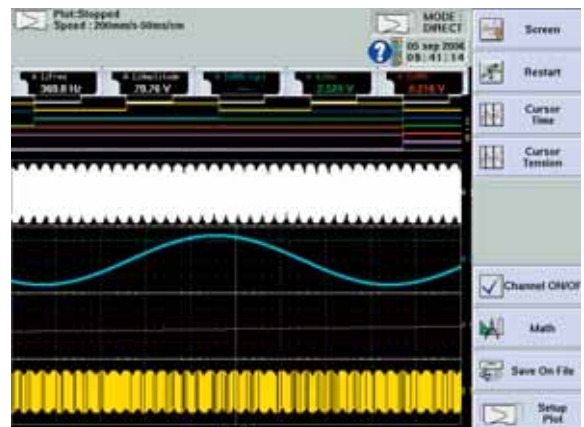
DAS1400 are the easiest to use recorders on the market today. The concept of previous families has been maintained, but now backed by the Linux operating system.

All parameters are displayed on the screen. With the mouse, you can access and change functions and parameters. A help screen is provided for each function..



PANORAMIC LCD SCREEN

The high resolution LCD screen provides excellent quality real-time graphical display, even in difficult conditions.



DAS1400

6 TO 36 ANALOGUE CHANNELS

The DAS1400 can be configured with 6, 12, 18, 24, 30 or 36 analogue channels and 16 logical channels. You can choose between two types of input modules :

- 6 universal inputs: Designed for high speed and high voltage applications
- 6 isolated strain gauge input
- 12 multiplexed inputs : designed for temperature and low voltage applications

The DAS1400 is very flexible. The user can configure or upgrade the recorder for particular applications with up to three modules. Modules can be added or exchanged without return to the factory.

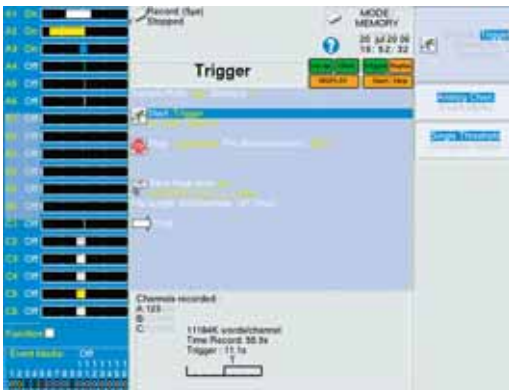
*High flexibility :
you can add yourself
new input boards*



REAL TIME ACQUISITION ON HARD DISK

For long recording, the DAS1400 provides direct acquisition onto the internal hard disk – up to 100kHz for 6 channels simultaneously.

Various trigger modes simplify the capture of complex signals: edge, date, alarms, Go-No-Go,...



DATA ANALYSIS

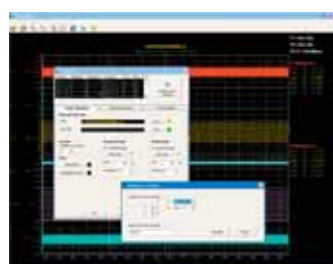
The DAS1400 provides 20 automatic measurements that can be setup to suit your application. The DAS1400 includes a power analysis function (see page 10) that can be used for single phase, dual phases and three phases networks. Cursors can be associated to zoom mode (zoom in and out) to get the best analysis of your graphs, with exceptional accuracy.



DATA STORAGE AND INTERFACE

The DAS1400 offers various storage options: internal hard disk (80Gb), external USB flash memory (USB key), USB storage devices (CD/DVD writer, external hard disk,...). You can save your records and the recorder parameters (setup).

The Ethernet interface provides fast and efficient remote control of the recorder and will allow very fast transfer of data files to personal computers.



COMPLETE SOFTWARE

SEFRAM VIEW and SEFRAM PILOT are supplied with your recorder. SEFRAM VIEW displays graphs on your personal computer as well as export to a spreadsheet (Excel©) or word processor (Word©).

SEFRAM PILOT allows you the remote control and the setup of the recorder.

DAS1400

SPECIFICATIONS - UNIVERSAL INPUT BOARD

Channels : 6 per board

VOLTAGE

DC voltage ranges: 1mV to 1000 V
 Max offset: ± 5 ranges (except 1000V)
 Accuracy: $\pm 0,1\% \pm 10 \mu V \pm 0,2\%$ offset
 TRMS AC+DC : 200 mV to 500 V
 Bandwidth (-3dB): 5Hz to 500Hz
 Crest factor : 2,2

FREQUENCY

Sensitivity 300mV rms min.
 Duty cycle 10%
 Frequency range 10Hz to 100 kHz
 Basic accuracy 0,2% of full scale
 Maximum input voltage $\pm 500VDC$ or 440V AC (sine)

TEMPERATURE

Sensor	Using environnement	Ranges
J	-20°C to 1200°C	20°C to 2000°C
K	-250°C to 1370°C	20°C to 2000°C
T	-200°C to 400°C	20°C to 500°C
S	-50°C to 1760°C	50°C to 2000°C
B	-200°C to 1820°C	50°C to 2000°C
E	-250°C to 1000°C	20°C to 1000°C
N	-250°C to 1300°C	20°C to 1000°C
W5	0 à 2320°C	50°C to 2000°C

Accuracy Cold junction compensation : $\pm 1,25^\circ C$

SAMPLING

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

BANDWIDTH

Analog input bandwidth (-3dB) range $\geq 1V$: 100kHz
 range $\leq 50mV$: 20kHz min
 Programmable digital filters 10Hz, 100Hz, 1kHz, 10kHz
 Input impedance (DC) $>25M\Omega$ for range $<1V$
 $1M\Omega$ for upper ranges
 Input capacitance 150pF typ.
 Maximum input voltage between one channel and the frame ground $\pm 500V$
 between 2 terminals of one channel $\pm 500V$
 Isolation between frame ground and channel $>100M\Omega$ at 500VDC

LOGIC INPUT

Channels 16
 TTL - Max voltage 24V
 Available functions triggering acquisition on alarm
 triggering on logical words
 acquisition in memory mode
 4, 8, 16 channels paper trace
 Sensor supply 12 V DC
 Alarms 3 (2 TTL , 1 relay)

STRAIN GAUGE BOARD

See detailed specifications page 10

POWER/ENERGY ANALYSIS

See detailed specifications page 11



MORE PRODUCTIVITY WITH THE SOFTWARE

Flexpro® software* :

Powerful analysis software with more than 100 functions.

* option

SPECIFICATIONS - MULTIPLEXED BOARD

Channels : 12 per board

VOLTAGE

DC voltage ranges: 1mV to 50 V
 Max offset: ± 5 ranges
 Accuracy: $\pm 0,1\% \pm 10 \mu V \pm 0,1\%$ offset
 TRMS AC+DC : 200mV to 50V.
 Bandwidth (-3dB): 5Hz to 100Hz
 Crest factor : 2,2

TEMPERATURE

Sensor	Using environnement	Ranges
PT100 (2,3,4 Fils)	-200°C to 850°C	20°C to 1000°C
J	-20°C to 1200°C	20°C to 2000°C
K	-250°C to 1370°C	20°C to 2000°C
T	-200°C à 400°C	20°C to 500°C
S	-50°C to 1760°C	50°C to 2000°C
B	-200°C to 1820°C	50°C to 2000°C
E	-250°C to 1000°C	20°C to 1000°C
N	-250°C to 1300°C	20°C to 1000°C
W5	0 to 2320°C	50°C to 2000°C

Accuracy Cold junction compensation: $\pm 1,25^\circ C$

SAMPLING

Resolution 16 Bits
 Sampling rate 200µs maxi. (5K sample/s)
 Memory length 32M word in segments of up to 128 Blocks
 Triggering Positive edge, negative edge, on logical input, delay, Go No Go.
 Pre trigger -100% à +100%

BANDWIDTH

Analog input bandwidth (-3dB) 1kHz à -3dB
 Programmable digital filters 0,1Hz, 1Hz, 10Hz, 100Hz
 Input impedance (DC) 2 MΩ ranges $>5V$
 Input capacitance 10MΩ (150pF) for other ranges
 Maximum input voltage between one channel and the frame ground $\pm 50V$
 between 2 terminals of one channel $\pm 50V$
 all input are differential, non isolated
 Common mode voltage (max.) $\pm 5V$ for ranges $< 5V$
 $\pm 50V$ for ranges $> 5V$

GENERAL SPECIFICATIONS

DISPLAY

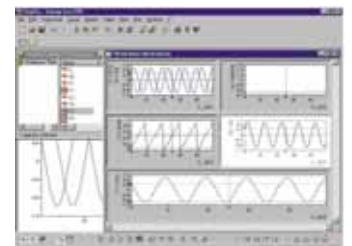
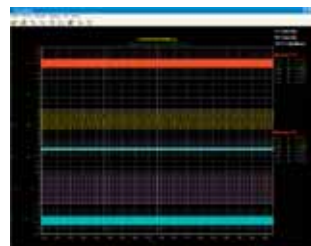
Display TFT LCD coloured screen 12 inches
 f(t) and XY functions
 Zoom, cursors, dV,dT and zoom between cursors
 Calculation functions : $y=ax+b$, $y=-/x/+b$, $y=avx+b+c$, $y=ax^2+b$, $y=(\log x)+b$, $yae^{(kx+b)+c}$, $+ , - , x , /$ between channels
 Automatic measurements 20 automatic measurements (F, T, Vpp, Tm...)
 Power analysis function see detailed description page 11

STORAGE

Setup backup : 16 named in RAM, unlimited on the hard disk
 Internal hard disk 80 Gb.
 Interfaces 4 USB ports, VGA, Ethernet

MISCELLANEOUS

Power supply 85VAC to 264 VAC, 47Hz to 63 Hz
 Max. consumption : 60W
 Dimensions & weight 384 x 445 x 195 , 7,5 kg
 Operating temperature range 0°C to 40°C
 Storage temperature range : -20°C to 60°C
 Max. RH 80% (without condensation)
 Warranty period 1 year
 Safety IEC1010 CAT III , 600V



DAS600 / DAS 600SV

Compact, light weight and easy to use, the DAS600 is designed for users requiring a very simple handheld recorder, but without compromising on features. The DAS600 can be your partner for many measurement applications.

- 6 analogue channels
- Universal isolated input
- DC, AC+DC RMS voltage measurement
- Frequency, thermocouple
- Energy / Power analysis function
- 16 logical channels
- 14-bit resolution
- 1Mega sample/s sampling rate
- 100kHz bandwidth
- 20 automatic measurements
- 12" TFT LCD screen
- 32 Mword memory
- 80 Gb internal hard disk
- Interfaces: USB, Ethernet, XGA
- IEC 1010 – Cat III 600V

2008 **NEW**
- Power/Energy Analysis



DAS 600SV : same specifications as DAS600.

This model has no fan and can be used in special polluted environment.

SPECIFICATIONS - UNIVERSAL INPUT BOARD

Channels :	6	
VOLTAGE		
DC voltage ranges:	1mV to 1000 V	
Max offset:	± 5 ranges (except 1000V)	
Accuracy:	± 0,1% ± 10 µV ± 0,2% offset	
TRMS AC+DC :	200 mV to 500 V	
Bandwidth (-3dB):	5Hz to 500Hz	
Crest factor :	2,2	
FREQUENCY		
Sensitivity	300mV rms min.	
Duty cycle	10%	
Frequency range	10Hz to 100kHz	
Basic accuracy	0,2% of full scale	
Maximum input voltage	± 500VDC or 440V AC (sine)	
TEMPERATURE		
Sensor	Using environnement	Ranges
J	-20°C to 1200°C	20°C to 2000°C
K	-250°C to 1370°C	20°C to 2000°C
T	-200°C to 400°C	20°C to 500°C
S	-50°C to 1760°C	50°C to 2000°C
B	-200°C to 1820°C	50°C to 2000°C
E	-250°C to 1000°C	20°C to 1000°C
N	-250°C to 1300°C	20°C to 1000°C
W5	0 à 2320°C	50°C to 2000°C
Accuracy	Cold junction compensation : ± 1,25°C	
SAMPLING		
Resolution	14 bits	
Sampling rate	1M sample/sec per channel	
Memory length	32M word in segments of up to 128 Blocks	
Triggering	Positive edge, negative edge, on logical input, delay, Go No Go.	
Pre trigger	-100% à +100%	
BANDWIDTH		
Analog input bandwidth (-3dB)	range ≥ 1V: 100kHz range ≤ 50mV-1V : 50kHz	
Programmable digital filters	10Hz, 100Hz, 1kHz, 10kHz	
Input impedance (DC)	>25MΩ for range <1V 1MΩ for upper ranges	
Input capacitance	150pF typ.	
Maximum input voltage	between one channel and the frame ground ± 500V between 2 terminals of one channel ± 500V	
Isolation between frame ground and channel	>100MΩ at 500VDC	

DAS 600 : Design and ergonomy



POWER/ENERGY ANALYSIS

See detailed specifications page 11

GENERAL SPECIFICATIONS

DISPLAY

Display	TFT LCD coloured screen 12 inches f(t) and XY functions Zoom, cursors, dV/dT and zoom between cursors
Calculation functions :	$y=ax+b$, $y=-x/+b$, $y=a\sqrt{x}+b+c$, $y=ax^2+b$, $y=(\log x)+b$, $yae^{(x-b)+c}$ + , - , x , / between channels
Automatic measurements	20 automatic measurements (F , T , Vpp , Tm...)

STORAGE

Setup backup :	16 named in RAM, unlimited on the hard disk
Internal hard disk	80 Gb.
Interfaces	4 USB ports, VGA, Ethernet

MISCELLANEOUS

Power supply	85VAC to 264 VAC, 47Hz to 63 Hz
Max. consumption :	60W
Dimensions & weight	384 x 445 x 195 , 5 kg
Operating temperature range	0°C to 40°C
Storage temperature range :	-20°C to 60°C
Max. RH	80% (without condensation)
Warranty period	1 year
Safety	IEC1010 CAT III , 600V

DAS 1200

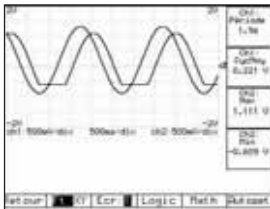
Record, measure and display...



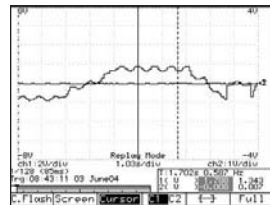
DAS 1200

The SEFRAM DAS 1200 recorder is a unique high performance instrument for all your industrial and maintenance applications.

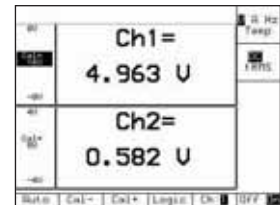
- 2 channels and 8 logical channels
- 12 bits resolution/sampling : 1Ms/s
- Recorder, multimeter and oscilloscope mode
- Mass storage capacity (compact flash interface)
- Calculation functions and mathematical combination of channels
- RS-232 interface for external printer
- Power supply for external sensors
- High safety level : IEC1010, CAT.III - 600 V
- PC software : Sefram VIEW (Windows compatible)



Safety oscilloscope



A state-of-the-art recorder



2 isolated input multimeter

To capture all your signals of your electrical applications, the DAS 1200 will be ideal companion. It includes 17 mathematical functions to help you analyzing complex waveform.

It features all acquisition and trigger modes provided on high end recorders SEFRAM 8440 and DAS 1400. The 100 kHz bandwidth will allow all types of records. For long acquisition, the instrument has a compact flash memory interface.

You can measure with total safety 2 signals DC or TRMS (AC+DC) : the 2 channels are fully isolated. The large display will provide 4 different measurements simultaneously.

SEFRAM DAS 1200

Channels	2 analog and 8 logical channels
Voltage input	1 mV to 200 VDC/div and 10 mV to 200 V/div for TRMS
Current input	using external shunt*
Temp. input	thermocouples J,K,T,S,B,E,N,W5
Resolution	12 bits Frequency 20 Hz to 30 kHz
Sampling freq.	1 Ms/s per channel max.
Memory	1 Mword, in 128 blocks max.
Trigger	edge +, -, window, slope, GoNoGo, delay, logical channel
Bandwidth	100 kHz Filter programmable
Input imped.	25 Mohms min. (range <= 200 mV), 2 Mohms (range > 200 mV)
Auto measur.	F, T, Vpp, Vmax (17 functions)
Multimeter Mode	2 input, 4 digits, 10 µV resolution DC and AC TRMS
Oscilloscope Mode	2 channels, Autoset Timebase 50 µs to 20mn/div
Storage	Compact flash interface
Interface	RS-232 for printer
Display	LCD B&W, backlighted
Supply	9-10 V DC jack type (1.5 A max.)
Dimension & weight	210 (H) x 170 (L) x 80 (P) & aprox. 1 kg
Warranty	1 year

Delivered with 1 set of safety test leads, 1 main adaptor 230 V /10VDC

DESIGN AND EASY-TO-USE



The DAS 1200 was designed to be easy to use, even at first time operation. Each button is associated with one function. The «Replay» function help you to instantly display your records.

Sefram view:

Graphic display. Transfer of curves and data to Excel® and Word®.