

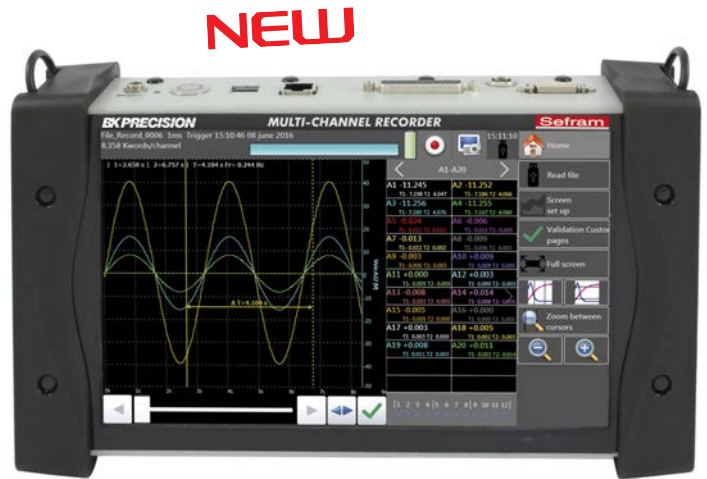


# SEFRAM DAS 240

## Multi Channel Handheld Recorder

### Capabilities

- 20 to 200 analogue channels
- Input: voltage, thermocouple, Pt100-Pt1000, current (with optional adapter), resistance
- Voltage: from 1mV to 200V ( $\pm 100V$ )
- Temperature: thermocouples (all types), Pt100-Pt1000 (2 or 3 wires)
- 16 Bit vertical resolution
- Max sampling rate: 1ms (1kHz)
- 12 logical channels
- 4 alarms (output)
- 4 logical function input with counter & frequency meter capability
- 10" TFT panoramic touch screen
- Internal hard drive: 32 Gb
- Interfaces: USB, Ethernet, Wifi (option)
- Lithium-ion battery (factory option): 15h autonomy
- DasLab software (licence free)
- Safety: IEC 61010 CAT I 100V



**DAS 240**

### A multi channel handheld recorder dedicated to process

The new DAS240 recorder has been designed to measure all parameters you can find in a process: voltage measurements, measurements on sensors (0-10V), temperature measurements (thermocouple, Pt100-Pt1000), current measurements (with optional shunt), resistance measurement, counter, frequency. You can view directly the results of measurements (graphs, numerical values) and memorize your results in the recorder memory or in a USB memory stick. The data transfer and data processing can be done later with a personal computer using the licence free DasLab software.

### User-friendly interface

The DAS240 is equipped with a panoramic 10" touch screen: the user interface becomes absolutely interactive. The icons and symbols used makes the browsing very easy and will save your time.

### A modular solution

The DAS240 is supplied with 20 analogue channels, but you can add 180 analogue channels, by steps of 20. All modules (20 channels) are strictly identical and can perform the same measurements (voltage, temperature, resistance, current).



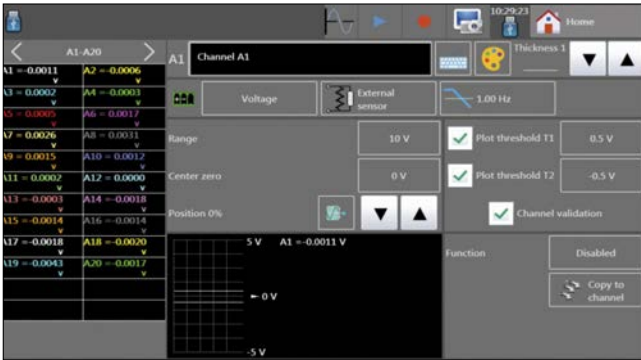
### Multiple applications

The DAS240 recorder is really a general purpose recorder for process applications:

- multi channel temperature monitoring and recording
- 0-10V sensors monitoring and recording
- voltage measurements
- pulse counting
- 4-20mA measurement and monitoring (with optional shunt).

### Selection guide

	DAS240	DAS240BAT
20 analogue multiplexed channels	●	●
12 logical channels input	●	●
Internal battery (15h autonomy)	-	●
20 channels module	option	option
WiFi interface (USB dongle)	option	option



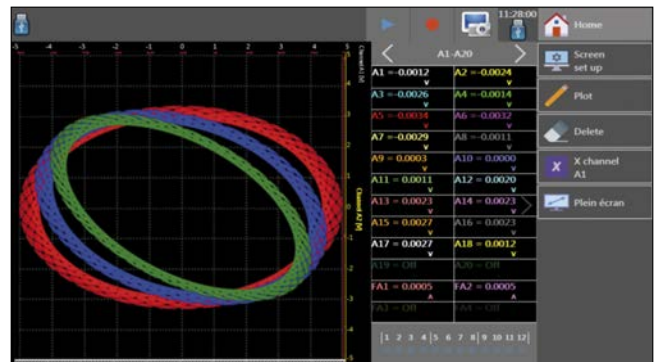
Setup: self-explanatory icons to guide the user



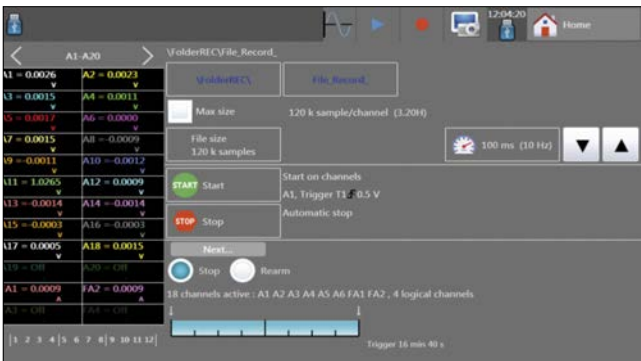
Channels setup: all parameters can be displayed on a single screen



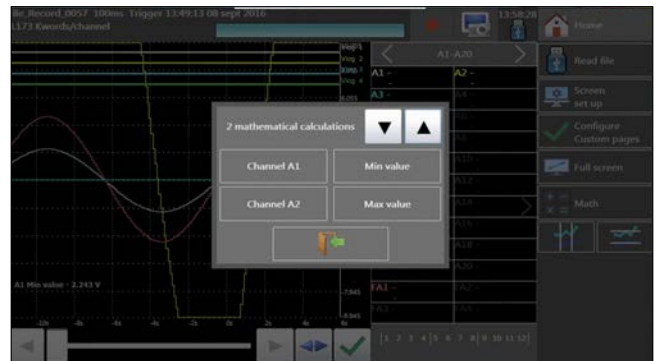
Numerical display of measurements



XY mode



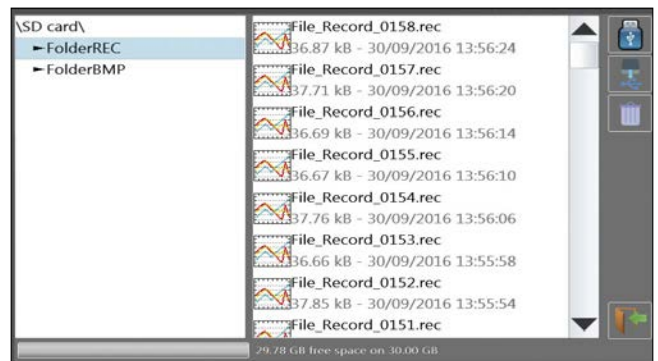
Trigger: multiple choice and combination of threshold, channels and conditions



Math calculation between channels



Measurement display with zoom and cursors



File management with the DAS240

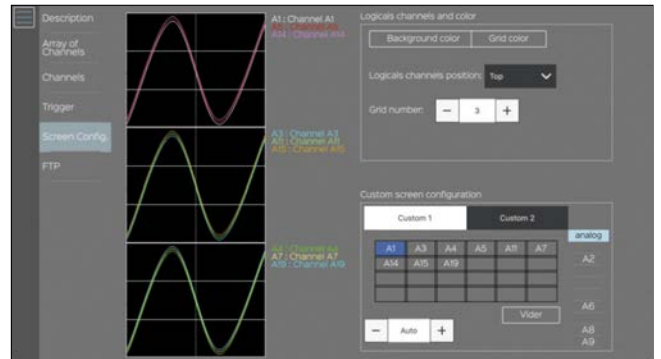
## SEFRAM DasLab Software

The new DasLab software for PC (under Windows) is suitable for:

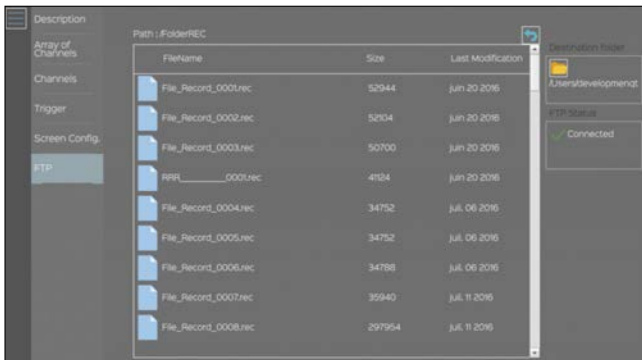
- Managing recorder setup (online & offline)
- Remote setup of the DAS240
- Managing & downloading files (records, setup) from the recorder

**DasLab is a licence free software** and can be downloaded from Sefram website.

The link between your DAS240 and your computer can be set up through the Ethernet interface or the Wifi interface (option).



DasLab : Remote setup



DasLab: files management

Description	Ch	Channel Name	Actif	Type	Filter	Range	Zero	Position
Array of Channels		analog						
Channels	A1	Channel A1	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V
	A2	Channel A2	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V
	A3	Channel A3	<input checked="" type="checkbox"/>	Shunt	<input type="checkbox"/>	100 Hz	10 A	0 A
	A4	Channel A4	<input checked="" type="checkbox"/>	Resistance	<input type="checkbox"/>	100 Hz	10 Ω	0 Ω
	A5	Channel A5	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V
	A6	Channel A6	<input checked="" type="checkbox"/>	PT1000	<input type="checkbox"/>	100 Hz	10 °C	0 °C
	A7	Channel A7	<input checked="" type="checkbox"/>	PT100	<input type="checkbox"/>	100 Hz	10 °C	0 °C
	A8	Channel A8	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V
	A9	Channel A9	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V
	A10	Channel A10	<input checked="" type="checkbox"/>	Thermocouple	<input type="checkbox"/>	100 Hz	10 °C	0 °C
	A11	Channel A11	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	100 Hz	10 V	0 V

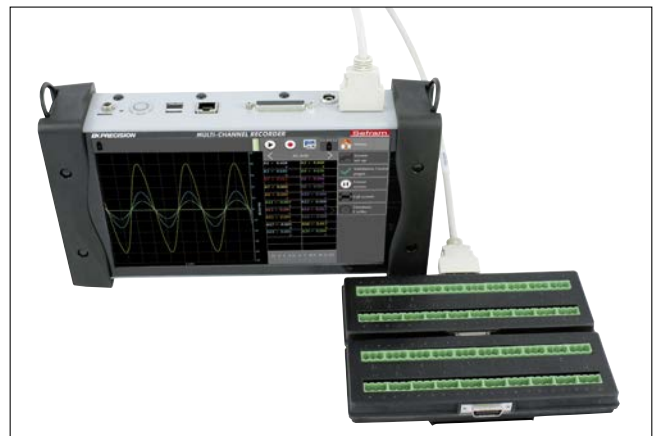
DasLab: channels setup

## DAS 240: a flexible solution with the optional 20 channels modules

Your applications needs more measurement channels? The DAS240 is a flexible and scalable system! Supplied with 20 measurement channels, you can add up to 180 channels, by increment of 20, for reaching a total of 200 channels. The 20 channels modules (P/N: 902401000) are all versatile: you can measure voltage, temperature with thermocouples, Pt100-1000 and are supplied with fast connectors and a mechanical system to fix them together.



20 channels module (P/N: 902401000)



DAS240 equipped with 40 channels

### TECHNICAL SPECIFICATIONS

**Number of channels:** 20 channels, expandable to 200 with optional 20 channels modules

### INPUT SPECIFICATIONS

#### DC Voltage

Ranges: 1mV ( $\pm 0,5mV$ ) to 200V ( $\pm 100V$ )  
 Maximum input voltage: 100V DC  
 Accuracy: 0,1% of the full scale  $\pm 10\mu V$

### TEMPERATURE WITH THERMOCOUPLES

Sensors	Range
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

Cold junction compensation:  $\pm 0,5^\circ C$

### TEMPERATURE WITH Pt100 - Pt1000

Current: 1mA (Pt100) & 100 $\mu A$  (Pt1000)  
 Range: -200°C to 850°C  
 Measurements: 2 and 3 wires  
 Accuracy (at 20°C): 0,3°C  $\pm 0,1\%$  of reading  
 Compensated resistance with 2 wire: 30 ohms max.  
 Compensated resistance with 3 wires: 50 ohms max

### RESISTANCE

Ranges: 1k $\Omega$  and 10k $\Omega$   
 Accuracy: 1 $\Omega$  (range 1k $\Omega$ ) and 10 $\Omega$  (range 10k $\Omega$ )

### ACQUISITION - SAMPLING

Resolution: 16 bit  
 Acquisition system: scanner, one sample per channel  
 Sampling rate: 1ms to 20mn for V >50mV  
 2ms to 20mn for V  $\leq 50mV$ , thermocouples & Pt100-Pt1000  
 Trigger: date, delay, threshold, combination of thresholds (and/or), word on logical channels (and, or, slope, level) variable from 0 to 100k samples  
 Pre-trigger :

### ADDITIONAL I/O

#### Logical channels

Number: 12  
 Maximum permitted voltage: 24V Cat I  
 Input impedance: 4,7k $\Omega$   
 Sampling rate: 1ms max.

### LOGICAL FUNCTION INPUT

Number of channels: 4 (K1 to K4)  
 Maximum permitted voltage: 24V Cat I  
 Input impedance: 4,7k $\Omega$   
 Sampling rate: 1ms max.  
 Pulse counter: 0 to 10000000  
 Frequency measurement: 1Hz to 10kHz

### ALARMS (OUTPUT)

Number: 4 alarms (A, B, C, D)  
 Output level: 0-5V

### INTERNAL STORAGE

Internal flash drive size: 32Gb min  
 Maximum file size: 2Gb

### INTERFACES

USB: 2 x USB type A  
 Ethernet: 10/100base-T with RJ45 socket  
 Wifi: with optional USB dongle

### GENERAL SPECIFICATIONS

Display: 10" TFT touch screen LCD, backlit, 1024 x 600 dots  
 Power supply: 15V / 4A max with main adapter (100/240VAC)  
 Battery: factory option, non removable, Lithium-ion  
 Autonomy with battery: 15h with standby mode, 10h without stand-by mode  
 Operating temperature: 0°C to 40°C, 80% RH (no condensation)  
 Storage temperature: -20°C to 60°C  
 Dimensions: 66 x 298 x 176mm  
 Weight: 1,5kg  
 Safety: Cat I 100V, according to IEC61010-1  
 Warranty: 2 years

### ACCESSORIES AND OPTIONS

- 902401000: 20 channels module
- 902408000: Rugged carrying case
- 902402000: Wifi option (USB dongle)
- 984405500: 12 isolated logical channels board
- 902407000: Logical channels patch cord
- 902406500: 4-20mA / 50 ohms shunt
- 902409000: 19" rackmount kit.



**Supplied with:** a main adaptor 100/240V, manual (CD-ROM), 1 male connector with 25 pins male and cover, 1 cable (70cm) for measurement module connection, 1 measurement module (20 channels) with connectors, a stylus, a soft wipe, a screwdriver.



FTDAS240A00 - Specifications can be updated without notice

**For assistance and ordering**




32, rue Edouard Martel - BP55- 42009 - St Etienne - cedex 2  
 Tél. +33 (0) 4.77.59.01.01  
 Fax. +33 (0) 4.77.57.23.23  
 Web : www.sefram.fr - e-mail : sales@sefram.fr