

## Multi Channel Handheld Recorder

### Capabilities

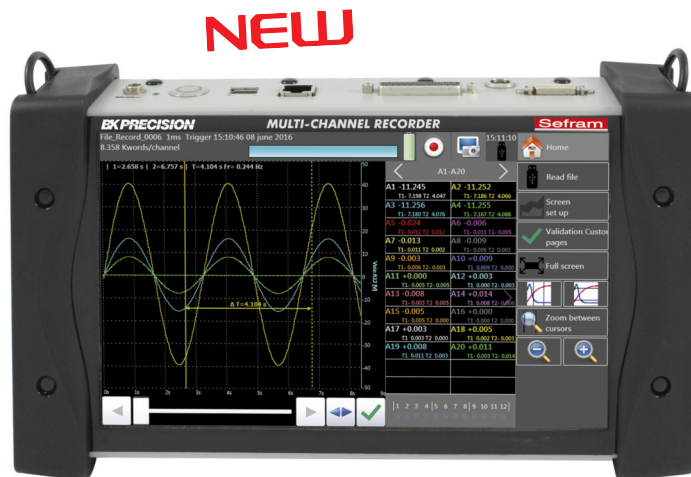
- 20 to 200 analogue channels
- Input: voltage, thermocouple, Pt100-Pt1000, current (with optional adapter), resistance
- Voltage: from 1mV to 200V ( $\pm 100V$ )
- Temperature: thermocouples (all types), Pt100-Pt1000 (2 or 3 wires)
- 16 Bit vertical resolution
- Max sampling rate: 1ms (1kHz)
- 12 logical 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

### 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.



**DAS 240**

### 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).



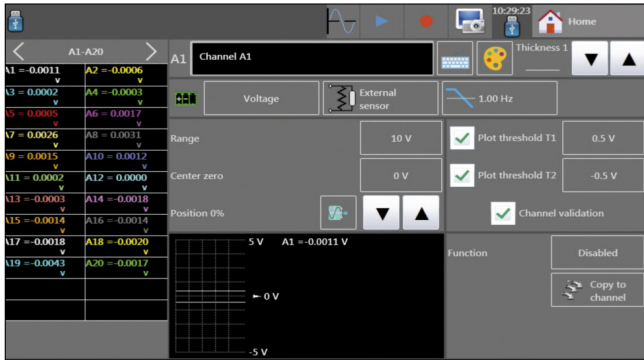
### Multiple applications

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



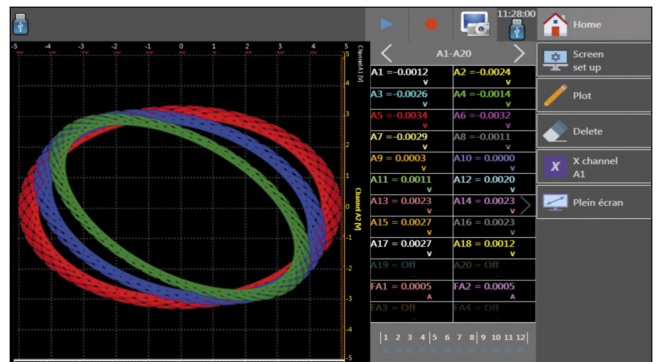
Setup: self-explanatory icons to guide the user

Name	Voie A1	Voie A2	Voie A3	Voie A4	Voie A5	Voie A6	Voie A7	Voie A8	Voie A9	Voie A10	Name
Type	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Voltage	Type
Filter	Without filter	Without filter	Without filter	Without filter	Without filter	Without filter	Without filter	Without filter	Without filter	Without filter	Filter
Function	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Disabled	Function
Range	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	10 V	Range
Center zero	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	0 V	Center zero
Max.	5 V	5 V	5 V	5 V	5 V	5 V	5 V	5 V	5 V	5 V	Max.
Min.	-5 V	-5 V	-5 V	-5 V	-5 V	-5 V	-5 V	-5 V	-5 V	-5 V	Min.
Threshold T1	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	Threshold T1
Threshold T2	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	0.5 V	Threshold T2

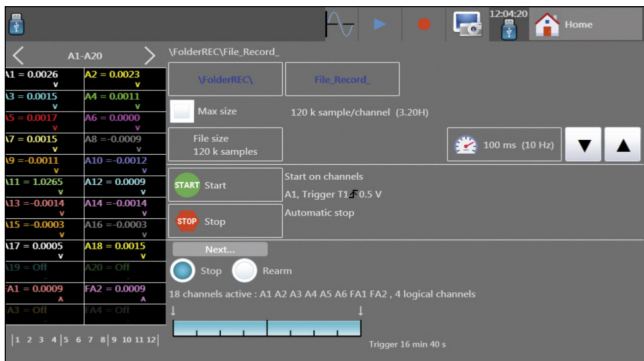
Channels setup: all parameters can be displayed on a single screen

CH	Value	Min	Max	CH	Value	Min	Max	CH	Value	Min	Max
Channel A1	= 0.0024	-0.0058	0.0050	Channel A9	= -0.0017	-5.0000	0.0038	Channel A17	= -0.0005	-5.0000	0.0040
Channel A2	= 0.0024	-5.0000	0.0040	Channel A10	= -0.0029	-5.0000	0.0035	Channel A18	= 0.0008	-5.0000	0.0040
Channel A3	= 0.0017	-5.0000	0.0038	Channel A11	= -0.0040	-5.0000	0.0046	Channel A19	= Off		
Channel A4	= 0.0015	-5.0000	0.0035	Channel A12	= -0.0021	-5.0000	0.0035	Channel A20	= Off		
Channel A5	= 0.0005	-5.0000	0.0035	Channel A13	= -0.0017	-5.0000	0.0040	Funct A1	= 0.0008	-0.0058	0.0050
Channel A6	= -0.0003	-5.0000	0.0040	Channel A14	= -0.0024	-5.0000	0.0040	Funct A2	= 0.0008	-0.0058	0.0050
Channel A7	= -0.0014	-5.0000	0.0047	Channel A15	= 0.0014	-5.0000	0.0038	Funct A3	= Off		
Channel A8	= -0.0024	-5.0000	0.0038	Channel A16	= -0.0014	-5.0000	0.0040	Funct A4	= Off		

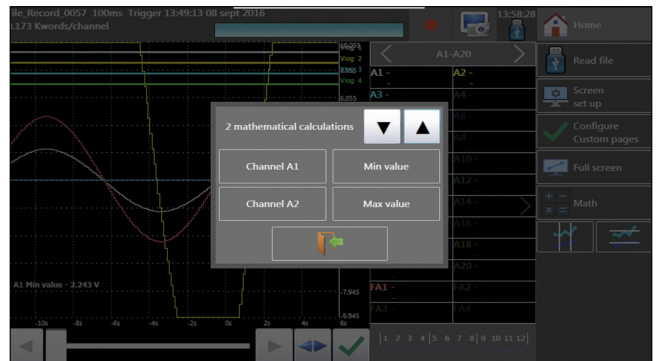
Numerical display of measurements



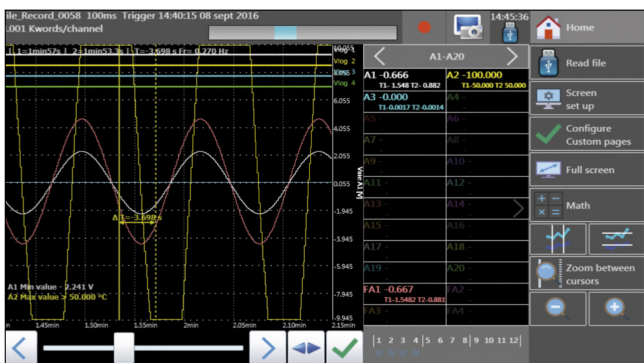
XY mode



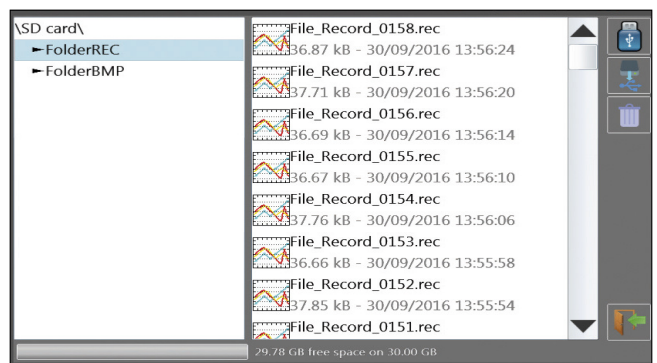
Trigger: multiple choice and combination of threshold, channels and conditions



Math calculation between channels



Measurement display with zoom and cursors



File management with the DAS240

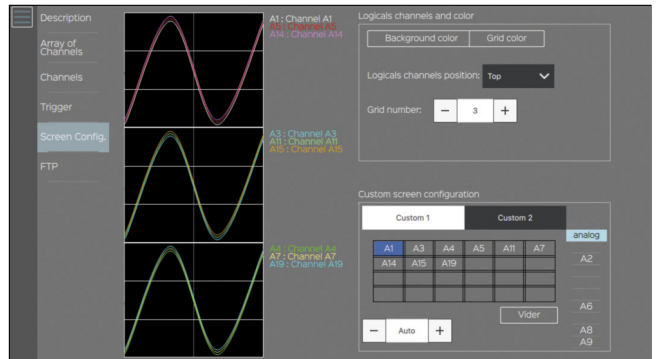
## SEFRAM DasLab Software

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

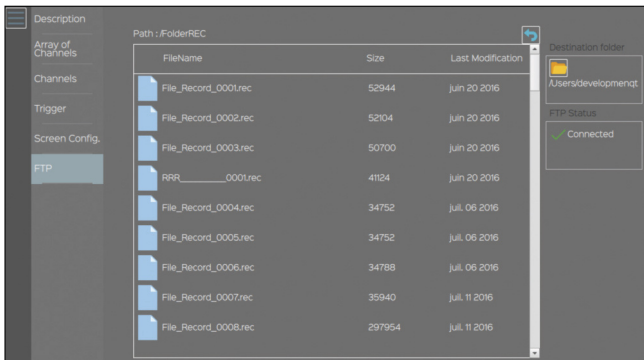
- Managing recorder setup (online & offline)
- Remote setup of the DAS240
- Managing & downloading files (records, setup) from the recorder

**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"/>	1.00 Hz	10 V	0 V
Channels	A2	Channel A2	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	1.00 Hz	10 V	0 V
Channels	A3	Channel A3	<input checked="" type="checkbox"/>	Shunt	<input type="checkbox"/>	1.00 Hz	10 A	0 A
Channels	A4	Channel A4	<input checked="" type="checkbox"/>	Resistance	<input type="checkbox"/>	1.00 Hz	10 Ω	0 Ω
Channels	A5	Channel A5	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	1.00 Hz	10 V	0 V
Channels	A6	Channel A6	<input checked="" type="checkbox"/>	PT1000	<input type="checkbox"/>	1.00 Hz	10 °C	0 °C
Channels	A7	Channel A7	<input checked="" type="checkbox"/>	PT100	<input type="checkbox"/>	1.00 Hz	10 °C	0 °C
Channels	A8	Channel A8	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	1.00 Hz	10 V	0 V
Channels	A9	Channel A9	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	1.00 Hz	10 V	0 V
Channels	A10	Channel A10	<input checked="" type="checkbox"/>	Thermocouple	<input type="checkbox"/>	1.00 Hz	10 °C	0 °C
Channels	A11	Channel A11	<input checked="" type="checkbox"/>	Tension	<input type="checkbox"/>	1.00 Hz	10 V	0 V

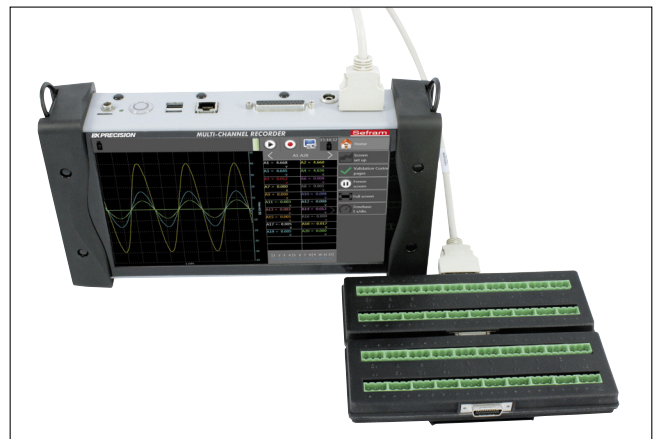
DasLab: channels setup

## 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  
 date, delay, threshold, combination of thresholds (and/or), word on logical channels (and, or, slope, level) variable from 0 to 100k samples

**Trigger:**

**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**




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