

Sefram Recorders

Examples of Applications

Markets:

1 - Electricity Production & Distribution

2 - Aeronautics & Defense

3 - Automobile

4 - Transportation

5 - General Industry

6 - Education

Sefram Recorders – Examples of Applications



Electricity Production & Distribution

Sefram Recorders – Examples of Applications



Nuclear Power Plant applications

EDF - France

Application Description:

A lot of applications, based on sensor control when the plant stop or restart, but also for ongoing maintenance.

The recorder is put on the field for a long time, to spy different events.

Key advantages:

Sensors are record simultaneously on paper and in a secure file

500GB memory depth.

2 sampling rate speed.

Start file with a complex combination trigger.

Used model:

8460 – DAS800 - DAS1600 - DAS 50 with 2 x RTD channels option



Sefram Recorders – Examples of Applications



Commissioning of new hydro turbine

EDF - France

Application Description:

Short-circuit test

Rotation speed sensor

Safety test (shut-off valve)

Key advantages:

Easy to use

Hand-held Battery operation

32 GB memory depth

High speed sampling rate

Used model:

DAS 50 with 2 x RTD channels option



Sefram Recorders – Examples of Applications



Power plant application

ENEL - Italy



Application Description:

Portable data acquisition for support in service and maintenance

Objectives:

- Checking of output of sensors, switches and other signals in the power plant.
- Acquiring of signals in a long period in order to discover the reason of the problems

Inputs:

- 4 analog channels and two Pt100 for temperatures

Key advantages:

Easy to use speed and memory

Used model: DAS 50 with PT100



Sefram Recorders – Examples of Applications



Hydraulic turbine

Andritz - Italy

Application Description:

Data acquisition system for installation and service of hydraulic turbine

Objectives:

- Acquisition of signals from sensors, voltage and current from the turbine

Inputs:

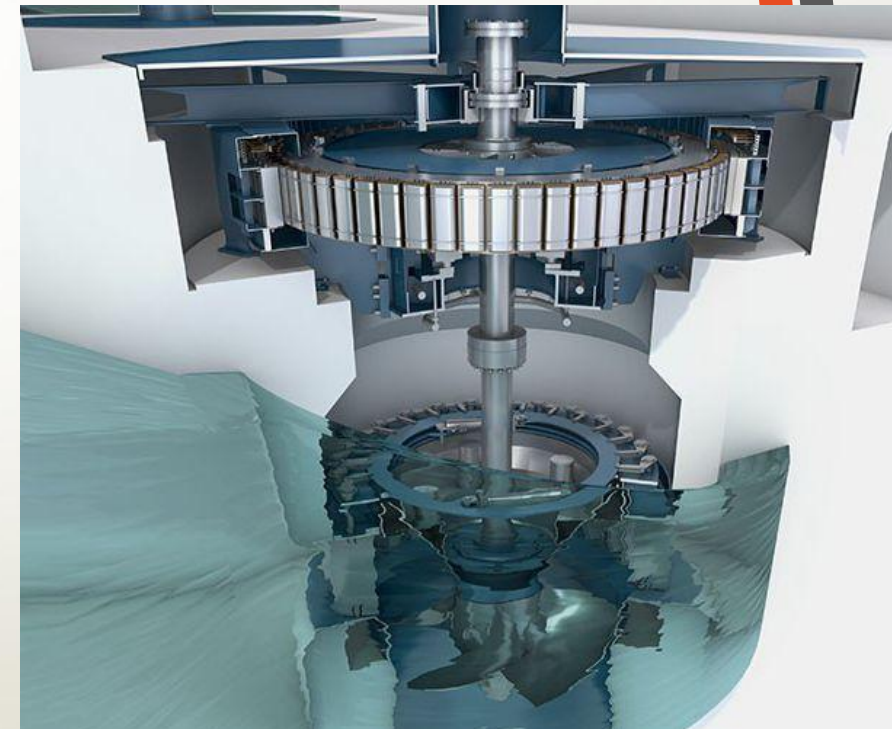
- 12 universal channels

Key advantages:

Easy to use, reliable, ruggedized, speed and memory

Used model:

2 DAS1600/020

The logo for ANDRITZ, featuring the word "ANDRITZ" in a bold, blue, sans-serif font on a white background.

Sefram Recorders – Examples of Applications

BK PRECISION
ELECTRONIC TEST INSTRUMENTS

Sefram

Aeronautics & Defense

Sefram Recorders – Examples of Applications



Testing of Aircraft Engine

HINDUSTAN AERONAUTICS LIMITED (HAL) - India



Application Description:

The Company manufactures various Fighter Aircrafts for Defense in India and also Helicopters. The User wants to test the behavior of the Jet Engine in their R & D Division. The testing is done on Prototypes and also under simulated conditions.

Objectives:

- They need to acquire Pressure, RPM and the Temperature. These parameters have to be measured at various locations of the Engine.

Inputs:

- Channel 1 - Pressure using Pressure Transducer.
- Channel 2 - RPM by using Proximity Sensors.
- Channel 3 - Temperature from Thermocouples.
- Channel 4 - Voltage or Current depending on the testing conditions.

Key advantages:

Easy to use (User-friendly), Hand-held Battery operation ; can be carried to field/site.

Used model: DAS 50 if only 4-channels are required ; DAS 1600 for more number of Channels



Sefram Recorders – Examples of Applications



Aeronautics - Testing of Landing Hydraulics Gear

HINDUSTAN AERONAUTICS LIMITED (HAL) - India



Application Description:

Test the behavior of the Landing Gear Hydraulics in R&D Division. The testing is done on Prototypes and also under simulated conditions.

Objectives:

- Acquisition of Voltage given from the Control to Landing Gear, the Pressure on the Hydraulics, the movement of the wheels landing and RPM. In some cases, the temperature around it.

Inputs:

- Channel 1 - Voltage coming from the Control section.
- Channel 2 - The Pressure level in Bars – being measured using suitable Pressure Sensor.
- Channel 3 - The Movement or Displacement of the Landing Wheels
- Channel 4 - RPM or Temperature - depending on the testing conditions.

Key advantages :

Easy to use (User-friendly), Handheld Battery operation ; can be carried to field/site (compared to using an Oscilloscope)

Calculation of “Force Vs Load” in X-Y Mode.

Used model: DAS 50



Sefram Recorders – Examples of Applications



Helicopters - Testing of Rotar Motors - Rotary Wing Research & Design

HINDUSTAN AERONAUTICS LIMITED (HAL) - India

Application Description:

The User needs to test the behavior of the Rotor Motors in their R&D Division. The testing is done on Prototypes and also under simulated conditions.

Objectives:

- Acquisition of various parameters like Pressure, Vibration, RPM, Temperature, Voltage, etc. These parameters have to be measured at various locations of the Rotor.

Inputs:

- Many types of Sensors / actuators, etc. are used to send signals / inputs to Sefram Recorder

Key advantages:

Easy to use (User-friendly), On-line Printing Facility.

Sefram Recorder has 1mV Full Scale Sensitivity & 25 M Ohms Input Impedance. This fits the user needs, since he does not need any additional Signal Conditioner/Amplifier to amplify the input signals coming out of Sensors/actuators.

The User finds it easy to take on-line immediate print out on Thermal paper and analyze. Also, he can show this instant print-out to HAL's customer, when HAL's buyer visits and do Quality Testing. Also, Chart Speed is 200 mm/sec – really fast.

Used model: 8420, 8440 and 8460 with 18-channels



Sefram Recorders – Examples of Applications



U.A.V.s - Testing of Unmanned Air Vehicles MISSILES - Testing of Sub-systems in Missiles PRANAV MOTORS, TAIGENE-KINETIC - India



Application Description:

Organizations which are manufacturing UAVs and Missiles for Defense wants to test various parameters like Vibration, Shock, Pressure, Temperature, Voltages, etc coming from various Sensors/Accelerometers/Pressure Transducers/Thermocouple, etc. The Users needs to test the behavior of the Sub-systems in their R&D Division. The testing is done on Prototypes and also under simulated conditions.

Objectives:

- Acquisition of various parameters like Pressure, Vibration, RPM, Temperature, Voltage, etc. These parameters have to be measured at various locations of the Sub-systems.

Inputs:

- Many types of Sensors/actuators, etc. are used to send signals/inputs to Recorder.

Key advantages:

Easy to use (User-friendly), On-line Printing Facility.

Sefram Recorder has 1mV Full Scale Sensitivity & 25M Ohms Input Impedance. This fits the user needs, since he does not need any additional Signal Conditioner/Amplifier to amplify the input signals coming out of Sensors/actuators.

The User finds it easy to take on-line immediate print out on Thermal paper and analyze. Also, Chart Speed is 200 mm/sec.

Used model: 8420, 8440 and 8460 with 18-channels.



Sefram Recorders – Examples of Applications



Inrush Current (warship & underwater electrical motor) **DCNS**

DCNS - France

Application Description:

Inrush test after renovation.

Objectives:

- Control the maximum allowable start time.
- Check phase balance
- Confirms nominal current

Inputs:

- 3 x currents with different clamps brand
- 2 x temperature with RTD in stator winding

Key advantages:

Easy to use

Management of files by serial number

Used model:

DAS 50 with 2 x RTD channels option



Sefram Recorders – Examples of Applications

Automobile Industry

Sefram Recorders – Examples of Applications



Radiator Motors Testing

PRANAV MOTORS, TAIGENE-KINETIC - India



Application Description:

The above Companies manufacture various types of Radiators for Automobiles – Cars, Trucks, etc. The Users want to test the behavior characteristics of various Radiators (Radiator Fans) being manufactured.

Objectives:

- Checking of Voltage drop, Current consumption and Wattage required. Sometimes, monitoring of temperature to observe the heating & cooling effect is also done

Inputs:

- Channel 1 - DC Voltage.
- Channel 2 - Current Consumption pattern.
- Channel 3 - RPM.
- Channel 4 - Temperature.
- Virtual Channels - Power and Wattage

Key advantages:

Easy to use (User-friendly), Handheld Battery operation (compared to using an Oscilloscope) ;

Used model: DAS 50



Sefram Recorders – Examples of Applications



Validation of the car sensors in the car equipment factory

Continental - France



Application Description:

Sensor test and analysis of SENT and PWM bus from the car sensors

Objectives:

- Control and record the sensor bus information

Inputs:

- 36 ANALOG channels with 0-10 A
- 20 SENT channels
- 20 PWM channels

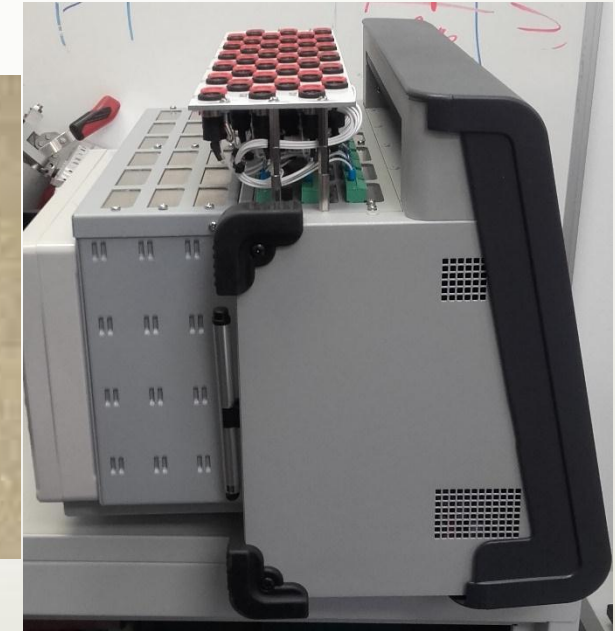
Key advantages:

Easy to use with specific software

Re-arm function on trigger

Used model:

DAS 1600/300 or DAS1600/030 + EXTENSION + /030 with SENT & PWM box



Sefram Recorders – Examples of Applications



Automobile Starters - Monitoring Battery Voltage and Starter Current

BOSCH, LUCAS-TVS, COMSTAR, TATA MOTORS, LEYLAND, JCB, FERGUSON, MAHINDRAS - India

Application Description:

Test of behavior and characteristics of various Starters being manufactured.

Objectives:

- Acquisition of DC Voltages from the Vehicle Battery and the Actuator (in the Starter), Current being drawn by the Starter at the time of Cranking and subsequent Settling Current, the RPM of the Starter and the temperature around it. Post analysis is done after.

Inputs:

- Channel 1 - DC Voltage from the Battery of the Automobile (12V or 24V)
- Channel 2 - DC Voltage from the Actuator in the Starter
- Channel 3 - Initial Starting Current drawn by the Starter when the Vehicle is started (Cranking) and after a few seconds, the Settling Current.
- Channel 4 - RPM of the Starter from Cranking to Settling (or) Temperature of the Starter.

Key advantages:

Easy to use (User-friendly), Hand-held Battery operation (compared to using an Oscilloscope) ;

Used model: DAS 50



Sefram Recorders – Examples of Applications

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Verification of truck sensors

IVECO - Italy

IVECO

Application Description:

Data acquisition system for several sensors for R&D propose

Objectives:

- Checking of the output of the sensors in the time and to verify the correct reading in their on board instrument

Inputs:

- 4 analogue channels and two Pt100 for the temperatures

Key advantages:

Easy to use speed and memory

Used model:

DAS 50 with Pt100



Sefram Recorders – Examples of Applications

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Monitoring car sensors

Magneti Marelli - Italy



Application Description:

Data acquisition system to monitor temperature and some output of the gasoline engine control unit in long term test

Objectives:

- Data acquisition with real time display (numeric mode)

Inputs:

- 12 universal channels and 12 multiplexed

Key advantages:

Easy to use, display, memory number of channels

Used model:

2 DAS1400/12 1 DAS1600/120



Sefram Recorders – Examples of Applications

Consumption current & voltage set

ThyssenKrupp - France



Application Description:

Follow up of the motor driver.

Objectives:

- Control the Intensity consumption
- Report the voltage set
- Accept the motor conditions

Inputs:

- 1 x currents with different clamps brand (analog)
- 2 x Voltage (Enter & Exit) of the driver box

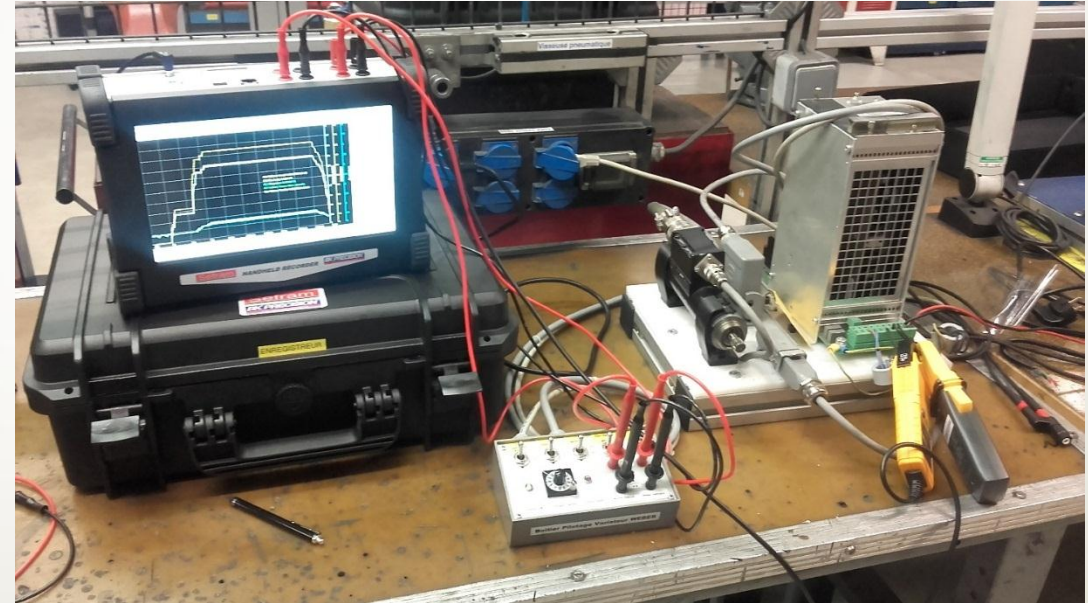
Key advantages:

Easy to use and replay the configuration

Management of the record files and export via xls, csv or txt files

Used model:

DAS 50



Sefram Recorders – Examples of Applications



Transportation

Sefram Recorders – Examples of Applications



Test of quality of the transport by cable

Application Description:

Check up of cable quality

Objectives:

- Control the electromagnetic system of the sensor
- Report the voltage consumption by trigger
- Detect the position of the pic voltage on the cable

Inputs:

- 2 x Voltage (U1 & U2) signals of the SMRT (FIFLL) or HALEC sensor exit
- 1 x Counter signal of the position (meter)

Key advantages:

Transportable solution and accurate measure

Management of the record files (with paper) and export via xls, csv or txt files (SeframViewer, Flexpro)

Used model:

DAS 50 with printer option



Sefram Recorders – Examples of Applications

Railway track and ballast overhaul

TSO - France



Application Description:

Measurement of the track geometry using the embedded dimensional sensors to check if the renewal of the track was done correctly.

Objectives:

- Need of a system to be integrated on an existing machine. Thermal impression of the track parameters to deliver information to the end customer.

Key advantages:

Reliable, ruggedized, adjustable input channel parameters, integrated thermal printer

Used model:

8460/200



Sefram Recorders – Examples of Applications



Commissioning of high-speed line CEGELEC MOBILITY - Morocco



Application Description:

Short-circuit test

Inputs:

2 x currents with different clamps brand

2 x voltage with special high-voltage probe.

Key advantages:

Easy to use

Hand-held Battery operation

Management of files by serial number

Used model:

DAS 50 with 2 x RTD channels option



Sefram Recorders – Examples of Applications



General Industries

Sefram Recorders – Examples of Applications



Test on automated production line

Tefal - France

Application Description:

Sensor test from converter in control box.

Objectives:

- Control the offset of different sensor
- Inspect every stage of the manufacturing process.
- Research the causes of defects and actively
- Check the correct function of the sensors

Inputs:

- 4 analogs channels with 0-10V or 4-20mA

Key advantages:

Easy to use

Re-arm function on trigger

Used model:

DAS 50 with 2 x RTD channels option

Tefal®



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Heat treatment for pests insect on an industrial wheat mill

Techmo Hygiène - France

Le Groupe **Techmo Hygiène**

Application Description:

Heating of an industrial wheat mill at temperatures between 50°C and 60°C

Objectives:

- Control the temperature of the heating process
- Check if the temperature reach the needed value in all parts of the building
- All temperature are centralized in one instrument

Inputs:

- Up to 16 T-type thermocouples

Key advantages:

Easy to use

Both real-time, easy to view numeric display and recording of the data

Used model:

DAS 240BAT with 16 T-type thermocouples



Sefram Recorders – Examples of Applications

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Supercap charge and discharge

Newen - Italy



Application Description:

Control of charge and discharge time of Supercap for stabilize the 48VDC used in Telecom application

Objectives:

- Record charge and discharge time for quality control

Inputs:

- 2 analog channels: one for voltage and one for current

Key advantages:

Easy to use and enough memory for acquisition of 30-40 seconds

User combined the recorder with a B&K Precision DC Load, DC Power Supply and AC Source

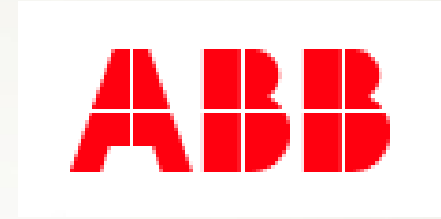
Used model:

DAS 30, BK 8514; XLN 6024; BK 9805



Monitoring voltage and current

ABB - Italy



Application Description:

Data acquisition system in order to monitor low voltage and high current in the bus bar used in test for industrial low voltage switch gear.

Objectives:

- Acquisition of voltage, current and some temperatures. ABB was using old recorder that had no ability to perform power calculation. With DAS1600 ABB is able to combine temperature measurement with power analysis recording

Inputs:

- 6 universal channels and 12 multiplexed

Key advantages:

Easy to use, speed memory and power analysis

Used model:

DAS1600/011



Education

Sefram Recorders – Examples of Applications



Monitoring consumption & temperature in hydrogen battery

ENSEEIHT University - France



Application Description:

During the endurance test in the thermal room recording of 20 signals inside of a hydrogen battery.

Objectives:

- Monitoring the temperature and voltage consumption of battery lines for a long term acquisition (10 days).

Inputs:

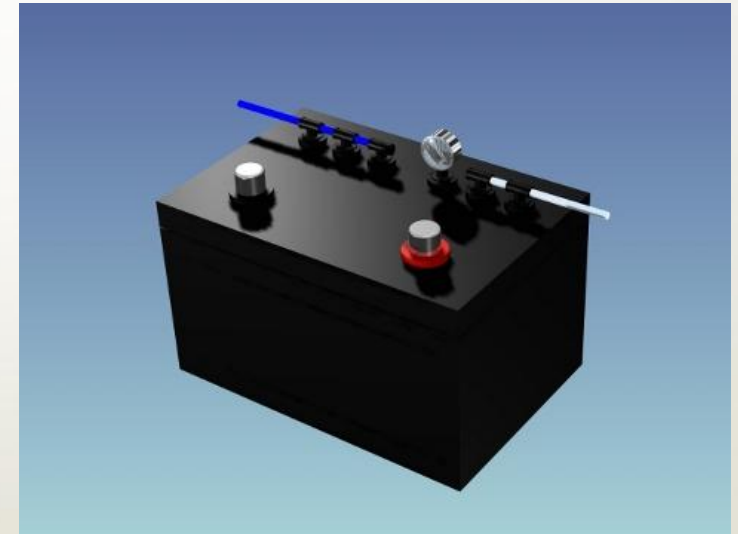
- 20 multiplexed channels and MATHEMATICAL functions

Key advantages:

Easy to use, display, memory number of channels

Used model:

1 DAS240 (20 channels) + Rack mounting



Sefram Recorders – Examples of Applications



Replacement of old XY printers Universities - France

Application Description:

Portable data acquisition system to replace old and hard to maintain XY printers

Objectives:

- Check the transfer function of various mechanical devices in a graphical way but without paper

Inputs:

- 2 analog channels

Key advantages:

Easy to use XY function and memory

Used model:

DAS 30

