DAS700
High Speed Data Acquisition Solution

The DAS700 is a High Speed Data Acquisition Solution well suited for applications ranging from small sensor signal logging (process) to electrical power analysis.

With CAT III safety class, it features, high speed sampling **(1 MSa/s)**, a wide input range (1mV to 500V), **500GB internal SSD hard drive**.

The 1µs sampling interval in file mode lets you capture some transient events safely. In addition, its large built-in memory capacity allows for data recording for long periods.

Each channel can be easily configured in wide range of parameters to record different signals.
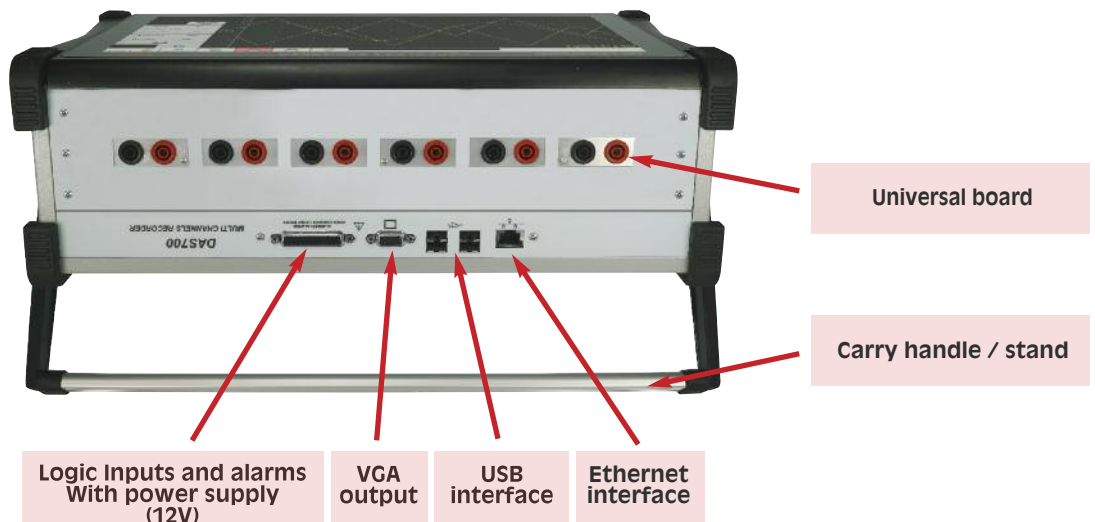
■ Features and benefits :

- Fast sampling rate: up to **1** MSa/s (1µs)
- 6 universal channels
- Measure AC and DC voltage temperature (thermocouple), current, frequency
- 500GB SSD Internal memory
- 16 logic input channels with power supply (12V)
- Wide 15,6 inches touchcreen TFT display
- USB and LAN interfaces
- Battery option (up to 2 hours)
- Free software for control and analysis
- Carrying case included in standard

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High Speed Data Acquisition Solution

■ Front panel

Carry handle / stand

15,6 inch touchscreen

■ Top panel

Universal board

Carry handle / stand

Logic Inputs and alarms With power supply (12V)

VGA output

USB interface

Ethernet interface

■ Back panel

CAN inputs when option is available (5-12V)

LIN inputs when option is available

Power button when battery option is available
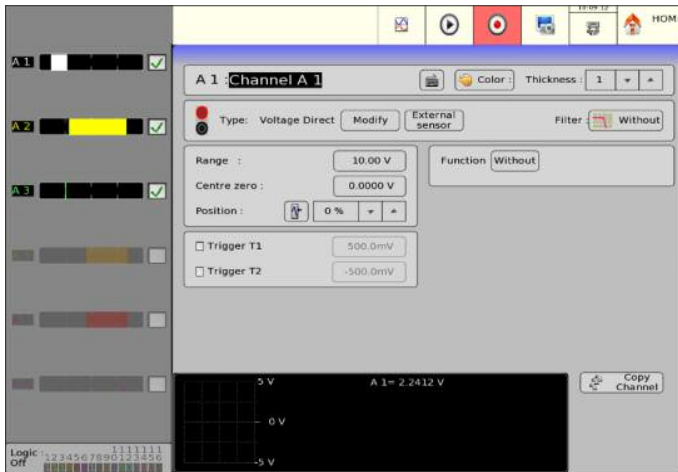
Power Supply / ON / OFF Button

Earth terminal

DAS700

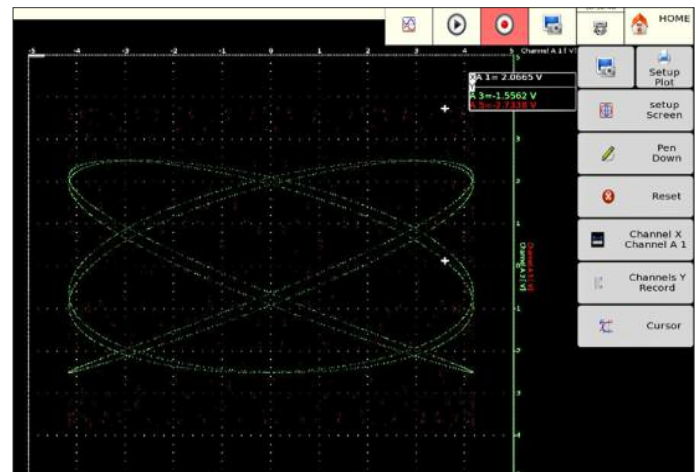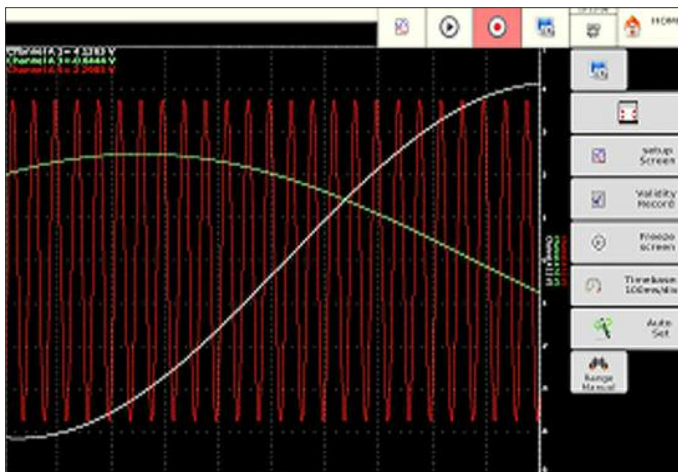## High Speed Data Acquisition Solution

■ Operation highlights

In the same page each channel can be easily and simply prepared to record. Parameters such as the type of signal to be recorded (voltage, current, frequency, temperature, counter, PWM), set change unit (to convert a voltage to meters for example), the display range, shift the zero, add functions, choose the best layout for yours graphics and define the trigger positions.
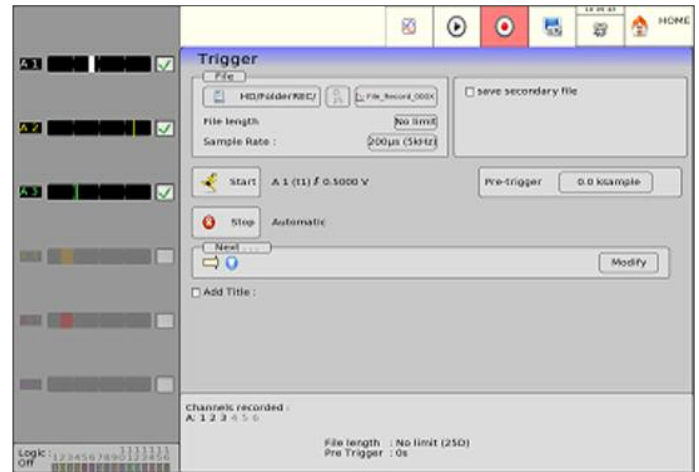
It is possible to set a trigger or combination of triggers to start and stop recording, for example, start your recording on a logical channel, after a delay, on an analogue channel with a threshold, on a combination of parameters.
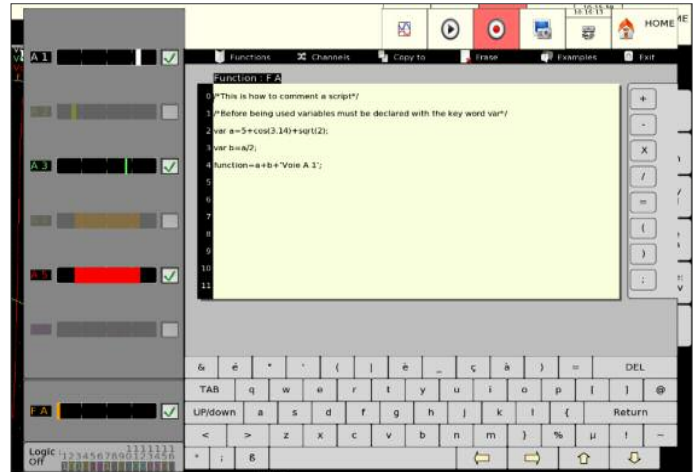

XY mode for plotting one varying signal versus another and F(t) mode like oscilloscope with 100 kHz bandwith

High Speed Data Acquisition Solution

■ Operation highlights
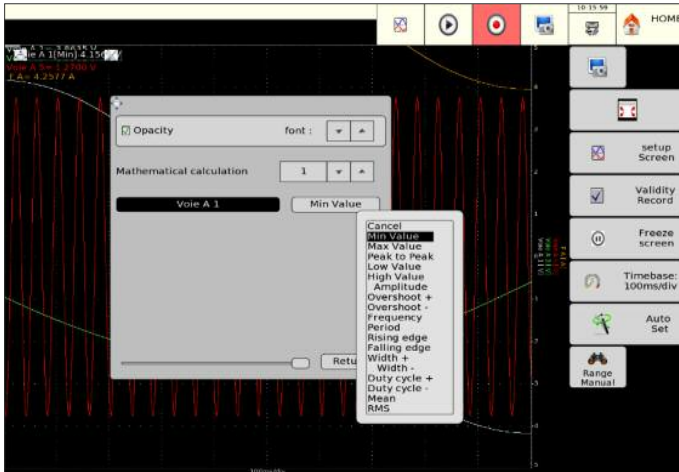
Benefit from up to 19 calculations on the recorded channels. View the values on your graphs.

The power of the DAS700 makes it possible to perform complex mathematical calculations between the channels. Use up to 24 channels functions. These channels are calculation channels and will not decrease the number of acquisition channels.

For even more complex calculations, a function editor in the script syntax language is available.

■ Power Analysis
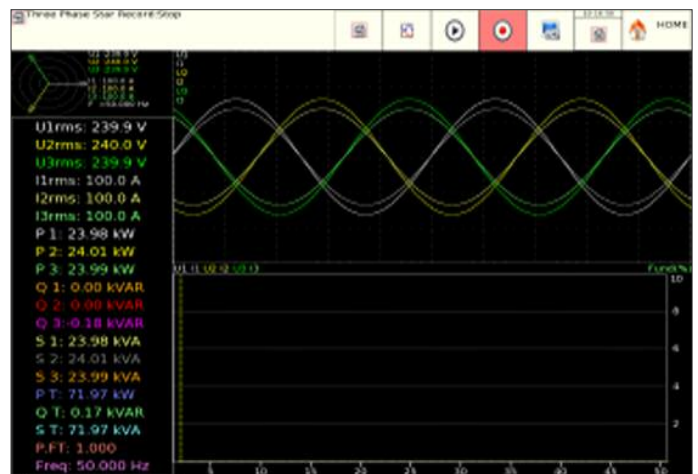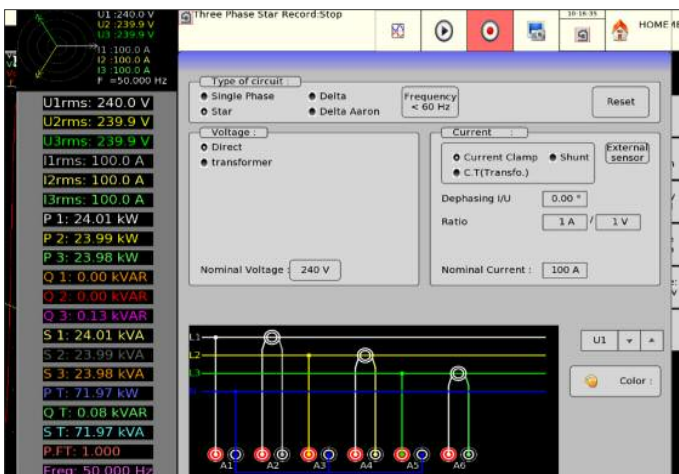
A powerful power analysis mode is available on the DAS700. Easily configure your power analysis and define the type of network you want to analyze: single-phase, star three-phase or delta three-phase. Analyze networks up to 1000 Hz and use voltage or current transformers to analyze high voltage networks.

Once the setup is complete, access the measurement menu and view the voltages, currents, Fresnel diagram and display and measure up to 61 parameters (RMS voltage, power, current, energy, harmonics up to the 50th order,...). Also save this data in the internal memory of the device with a sampling rate up to 200µs.
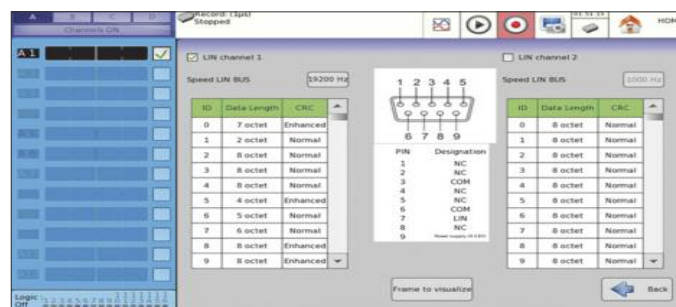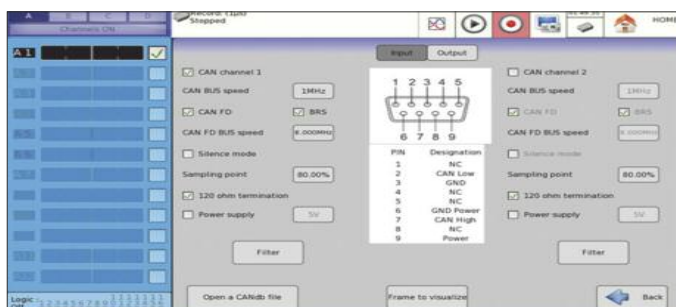
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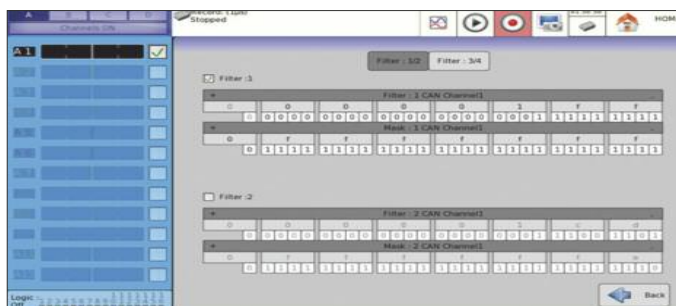## High Speed Data Acquisition Solution

■ CAN/LIN Mode

With this new feature, you can analyze the following buses:
- CAN 2,0 A / B
- CAN FD
- LIN 1.3 / 2.X

2 isolated LIN input and 2 isolated CAN channels are provided on the rear panel of the DAS700.
An external 5-12V supply is available for users.

Easy and intuitive setup of all types of buses

Hardware filtering of CAN frames

Display of complete frames of the selected bus

Graphical waveform conversion with analogue signal comparison

Channel	Time stamp	ID	DATA	Frame type	Errors
CAN 1	122551422	88888888	123456789a123456789z123456789e123456789r0123456789t	donnée	0
CAN 2	122551423	888	123456789n123456	donnée	0
CAN 1	122551424	99999999		remote	0
LIN 1	122551425	98	88	donnée	1
LIN 2	122551426	85	64	donnée	0
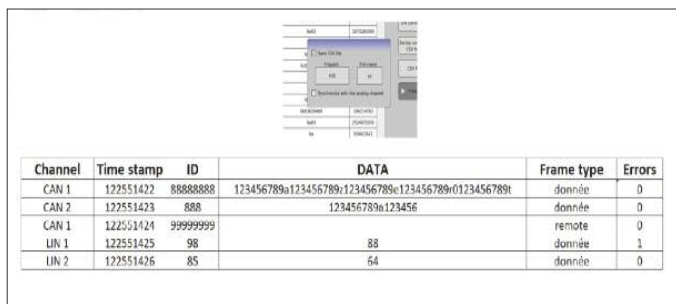
CAN frames recording in CSV format
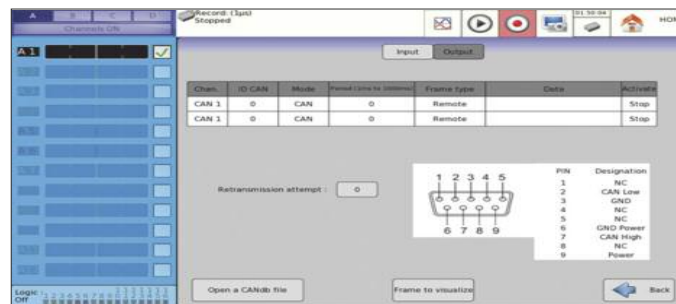
Periodic frames output on the CAN bus

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■ A complete suite of software

Several software programs are available for free to remote control the device and analyze the recorded data.

■ Analyze the data recorded
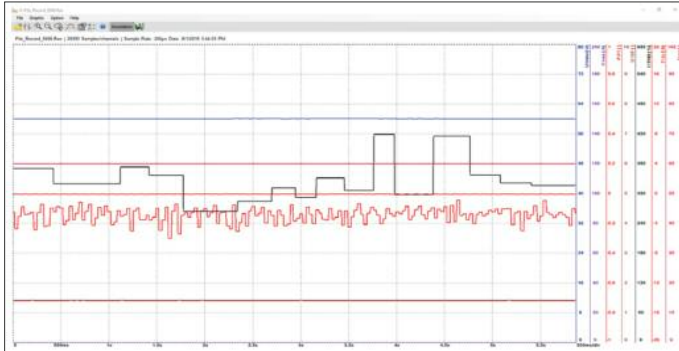

■ Sefram viewer

Use the free Sefram Viewer software to use and analyze all data stored on the device. Use the mathematical calculations available in the software to perform calculations after recording ($y=ax+b$, $y=ln(x)+b$, $y=exp(cx)+b$,...). With the software, also convert data saved in Excel© format or in text format for your personnal post analysis.

■ Flexpro (paid software)

Use the optional Flexpro software for powerful and advanced analysis of your recordings. Perform automatic analyzes, create test reports, use more than 100 functions of statistical and math analysis, display and visualize your data in 2D and 3D, convert your files into other formats, ...
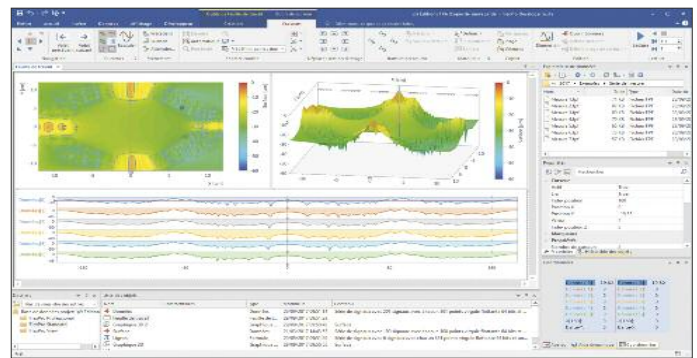
■ Remote control your device
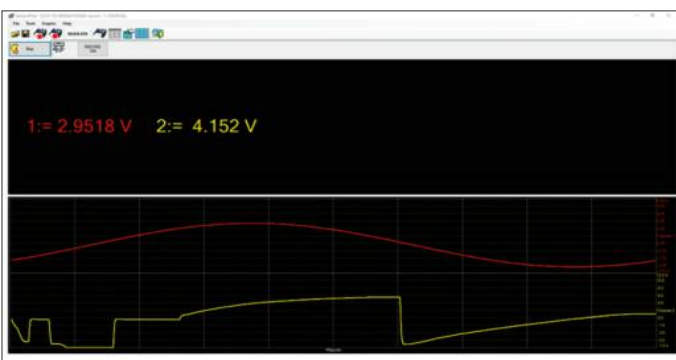
■ Pilot Sefram

Set up your device remotely with the free Pilot Sefram software. But that's not all ! Also, view in real-time the data recorded by the device, save the current setup of the device and download the recorded data via the built-in FTP browser.

■ VNC viewer

The recorder's built-in VNC provides a graphical desktop sharing system to remotely control the instrument from a computer with a full graphical interface that replicates the instrument's front panel using a mouse and keyboard.

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■ Included accessories

917007500: Carrying case for DAS700

917006010: European Power Cord
917006020: UK Power Cord
917006030: US Power Cord

917006050: Logical connector

984401100: Accessories for universal board

■ Optional accessories

984405500: 16 channel isolated logic adapter

984405000: Special cord for logical input

SO415: Banana / BNC female adaptor

916004500: WiFi option for DAS700

989007000: 50 ohms shunt, 0.1%, 0.05A max

910007100: 0.01 ohm shunt, 1%, 3A max

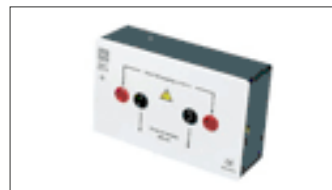**910007200:** 0.1 ohm shunt, 1%, 1A max

912008000: 10 ohms shunt, 0.1%, 0.15A max

989006000: 1 ohm shunt, 0.1%, 0.5A max

207030500: 0.001 ohm shunt, 0.5%, 50A max

207030301: 0.01 ohm shunt, 0.5%, 30A max

A1587: Flexible Current Clamp 3000A AC

917004000: Rackmount for DAS700

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■ Nuclear and Hydroelectric production plant power

During maintenance period, the DAS700 can record 16 parameters with his isolated analogue input (500VDC max) and save with safety the records Inside the 500GB hard disk.

■ Aeronautic industry application

The DAS700 is used to test the behavior of the rotor motors.
Thanks to his 1mV sensitivity, the records of pressure, vibration, RPM,temperature are done with an excellent accuracy.
The DAS700 provides a complete test of physical and Electrical parameters which are integrated in the test report.

■ Automobile Industry

The DAS700 includes CAN BUS analysis which is the great solution for automobile application test.
The user can combines CAN BUS signal analysis and physical parameters as well temperature.
The large display offers the ability to display all parameters in the same time for better analysis.

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■ Railway Industry application

For this application, the DAS700 is fixed in the train with his rack mounted kit.
More than 6 channels are used to control and analyse the geometry of the track.
The DAS700 can be connected to a printer for direct interpretation or the Sefram 8460 can be used with his thermal paper system fully integrated.
The records are saved in the hard disk and or transfer by Ethernet to a computer.

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■ Specifications

GENERAL FEATURES
Capacitive backlight touch screen 15,6''
Screen resolution: 1366X768
Internal hard disk memory: 500 GB SSD (up to 2 TB with option)
Memory: 128 Mwords divisible by 128 blocks
Weight: 8 kg
Dimensions (WxHxD): 271 x 472 x 154mm
Power Supply: 99 VAC to 264 VAC, 47 to 63 Hz
Consumption: 80 VA max
Operating temperature: 0 to 40°C (0 to 30°C with battery option or without fan
Storage temperature: -20 to 60°C
Interfaces: 4 USB, 1 VGA, 1 Ethernet

| UNIVERSAL INPUT BOARD |
| --- |
| **VOLTAGE** |
| Number of channels: 6 isolated channels |
| DC Voltage range: 1 mV to 1000 V |
| Maximum DC voltage: 500 V |
| Direct voltage accuracy: ± 0.1 % of range |
| Bandwith: 100 kHz (-3 dB) |
| AC RMS Voltage range: 200 mV to 500 V |
| Maximum AC RMS voltage: 424 V |
| RMS voltage accuracy: 1 % of range |
| Bandwith for RMS measurement: 5 Hz - 500 Hz |
| Crest factor: 2 |
| Input impedance: 1 MΩ for ranges > 1 V / 25 MΩ for ranges < 1 V |
| High impendance input option: 10 MΩ for ranges > 1 V / 25 MΩ for ranges < 1V |
| Input capacitance: 150 pF |
| **FREQUENCY** |
| Sensitivity: 100 mV |
| Duty cycle: 10 % |
| Frequency range: 1 Hz to 100 kHz |
| Accuracy: 0.02 % of range |
| **TEMPERATURE** |
| Thermocouple type: J, K, T, S, B ,E ,N, C, L: -250 °C to 1760 °C |
| Cold junction compensation: ± 1.25 °C |
| **SAMPLING** |
| Vertical resolution: 14 bits |
| Maximum direct voltage sampling rate: 1 MSa/s (1 μs) each channel |
| Maximum RMS sampling rate: 5 kSa/s (200μs) each channel |
| Analogue filters: 100 Hz, 1 kHz, 10 kHz |
| Digital filters setting: < 100 Hz |
| **SAFETY** |
| Safety: CAT III - 500 V |

Example with 1 mV and 1000V range
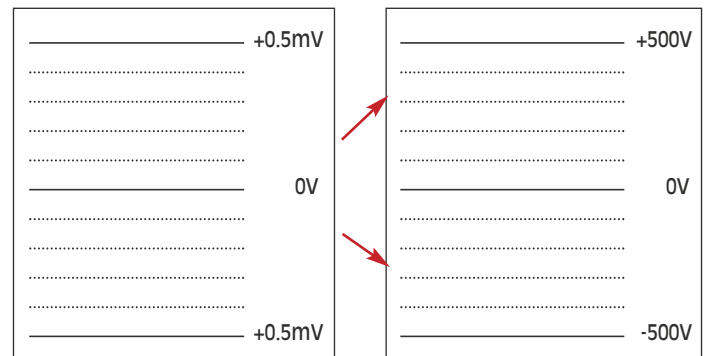
■ POWER ANALYSIS FUNCTION

(this function can be used with one universal board and accessories for current measurements)

Networks: single phase, three-phase

Frequency: 50-60Hz, 400Hz and 1000Hz

Display: oscilloscope, Fresnel diagram

Harmonics: calculated up to rank 50, with recording capabilities

Measurements: U and I (mean values, RMS, peak), crest factor, power (active, reactive, apparent), power factor, harmonics, THD, DF, frequency, energy

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■ **Ordering Informations**

■ Factory options

917003000: Battery option - with up to 2 hours of autonomy
917005000: IRIG option - internal clock synchronisation with an IRIG time
917005500: CAN / LIN Bus option
917009000: Without fan option for specific environments
917007000: 2TB memory extension
917005600: GPS option - internal clock synchronisation with an GPS time
984402300: High Impedance input option for universal board (10MΩ).

For assistance and ordering

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FT DAS700 A00- Specifications can be updated without notice

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