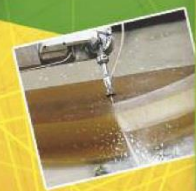




AUTOMatismES

Didactique | Robotique | Fab&Test | Energies

Equipment and solutions for technical education and vocational training





About us

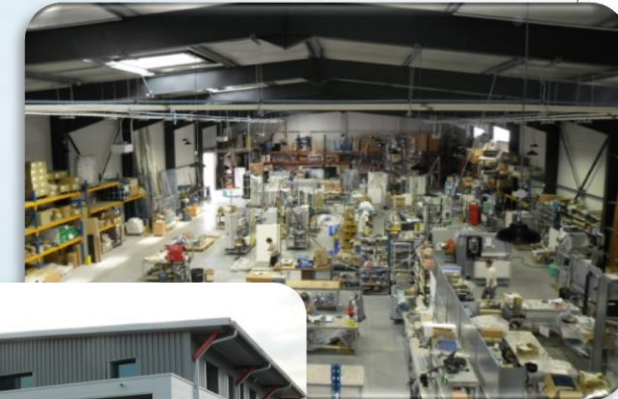
ERM provides technical systems and services in the fields of **education, robotics, manufacturing laboratories (FabLabs), energy and industry**. Founded in 1990 in southern France, ERM first focused on industrial automation. Overtaken by its educational culture, ERM quickly became the precursor of introducing industrial production lines within technical training institutions. Upon request by these educational institutions, ERM then extended its offer to other areas, such as electronics, electrical engineering, power engineering and renewable energy.

Today, ERM has become **a market leader in didactic solutions and systems** for technological and vocational training in France, and is developing its export markets.

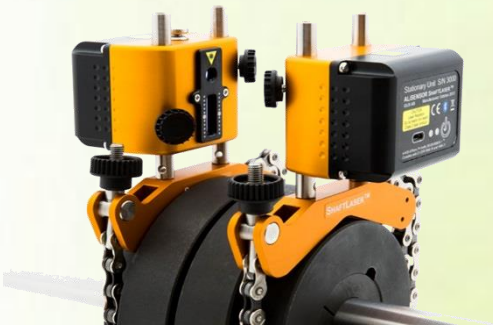
More than **1500 academic institutions** are equipped with ERM technical teaching equipment in **France**: Secondary schools for vocational training, Vocational training centers, Universities, Universities of Technology, Major engineering schools, etc.

Abroad, many vocational training institutions are using our systems:

- French overseas territories: Guadeloupe, Guyana, Reunion, Martinique, Mayotte, New Caledonia, French Polynesia, Wallis & Futuna
- Africa : Algeria, Burkina, Cameroun, Gabon, Ivory Coast, Morocco, Mauritania, Senegal, Tunisia, ...
- Asia : Vietnam, Korea...
- America : Mexico, Colombia...
- Europe : Belgium, Luxembourg, Romania, Hungary, Slovakia, Switzerland...



Measurement and Maintenance Tools



Laser-based shaft alignment tool with tablet interface



Vibration meter



Ultrasonic leak detector with video camera

ERM Automatismes represents several French and European brands
 Chauvin Arnoux / Kimo / Kern



Laser-based shaft alignment tool with tablet interface (Alisensor Shaftlaser)

Technical specifications:

- Laser-based shaft alignment system using the reverse dial indicator method
- Extremely compact measurement units that communicates via Bluetooth with an iPad or iPhone, offering a large and clear display
- Functions include reporting, photo shooting, e-mail management through internet connectivity
- Easy-to-use application available for free on the Apple Store, offering step-by-step guidance through the alignment procedure to the solution
- 3D coupling layout with a rotation function for maximum user-friendliness and clarity
- Included material: 2 measuring units, 2 shaft fixtures, 2 chains, 4 extension rods, 8 magnets, 1 tape measure, 1 Allen wrench, 1 accessory box for the magnets, 1 split charger cable, 1 transport case, 1 iPad Mini (depending on the version)



➤ **References:** SY//Alisensor: Laser-based shaft alignment tool with tablet interface (Alisensor Shaftlaser), without iPad – SY//Alisensor/iPad: Laser-based shaft alignment tool with tablet interface (Alisensor Shaftlaser) and iPad



Tachometer (Kimo CTA & Kimo CTS)

Technical specifications:

- Optic: 0 to 60000 rpm
- Contact: 0 to 20000 rpm
- Supplied with optical probe, contact tip, reflective tape, calibration certificate and transport case

➤ **References:** KI//CTA: Kimo CTA tachometer, remote probe – KI//CTS: Kimo CTS tachometer, embedded probe



Laser-based belt pulley alignment tool (LaserPointerII)

Technical specifications:

- Measurement of parallel and angular misalignment
- Maintenance benefits: **reduced belt vibration and noise level, extended service life for the belt drive, pulleys and bearings**
- Supplied in a transport case
- Included accessories: Magnetic support for the laser, target magnets, batteries

➤ **Reference:** OP//LaserPointerII: Laser-based belt pulley alignment tool (LaserPointerII)



Belt tension control tool (SM5)

Technical specifications:

- Belt tension adjustment by measuring the belt's own frequency from 7 to 450Hz
- Maintenance benefits: **extended service life for the belt and bearings, increased transmission efficiency, reduced noise level, advanced gear and positioning accuracy**

➤ **Reference:** BI//SM5: Belt tension control tool (SM5)



Vibration meter for diagnostics and analysis (Elivib)

Technical specifications:

- Main uses: **Global level of vibrations as per ISO10816, unbalance issues, looseness problem, misalignment, determining bearing condition**
- Measurement of vibration as per ISO and of bearing RMS
- Measurement of global vibration peak: 10 Hz -1000 Hz for velocity mm/s and 5 kHz -16 kHz for acceleration
- Measurement of bearing condition
- Measurement of vibration acceleration on 3 ranges of 500 Hz to 16 KHz
- Measurement of time signal and global vibrations
- Measurement of vibration displacement in mm
- Measurement of temperature
- Embedded strobe
- White lamp



➤ **References:** SY//ElivibBasic: Elivib Basic vibration meter for diagnostics and analysis (measurement of vibration and bearing condition only - supplied in a cardboard box with pre-cut foam inlay) – SY//ElivibStandard: Elivib Standard vibration meter for diagnostics and analysis (all measurements, supplied in a plastic case without headset) – SY//ElivibPro: Elivib Pro vibration meter for diagnostics and analysis (all measurements, supplied with a professional headset in an IP67 shockproof rigid case) – SY//ElivibProTrend: Elivib Pro vibration meter for diagnostics and analysis (all measurements, including PC management software that measures and monitors trends, supplied with a professional headset in an IP67 shockproof rigid case)

Ultrasonic leak detector with video camera (Leakshooter)



Industrial applications:

- ◆ **Compressed air leaks (→ Energy savings)**
- ◆ Pressure gas leaks (oxygen, argon, nitrogen, etc.)
- ◆ Vacuum leaks (sub atmospheric pressure), steam leaks
- ◆ Electrical faults such as corona effects, partial discharge, electrical path, etc.
- ◆ Tightness faults (acoustic transparency) with optional ultrasonic emitter
- ◆ Bearing faults (lubrication/spalling) with optional contact probe
- ◆ Steam trap faults with optional contact probe

Technical specifications:

- ◆ New concept: Hear, See, Measure, Photograph leaks using the embedded camera
- ◆ 40kHz internal ultrasonic sensor that can measure between 34kHz and 46kHz
- ◆ 2.5kHz audio bandwidth with Stereo ear defender headset
- ◆ Rechargeable Lithium-ion battery with a 5 to 6 hour autonomy
- ◆ May be used without the camera (energy savings)
- ◆ MAX and RMS values on a color bar graph
- ◆ Real-time dynamic target that indicates the location of the ultrasonic source
- ◆ JPEG photos (about 1000 saved in the memory), with USB connection for transfer to a PC
- ◆ Material included in the basic configuration: Leakshooter ultrasonic detector with video camera + Aluminium carrying case + Stereo Pro ear defender headset + Universal charger for the internal battery + USB cable + User manual + Visualization and reporting software

- **References:** SY//LKS100: Leakshooter ultrasonic leak detector with video camera – SY//LKSFLEX: Option: Flexible probe – SY//LKSPROBE: Option: Contact probe – SY//LKSCOVER: Option: Holster



Oil analysis kit (HY10)

Technical specifications:

- ◆ Oil contamination analysis (vial, vacuum pump, Petri dish, microscope...)
- ◆ Oil contamination analysis for **preventive** maintenance activities
- ◆ **Types and levels of contamination** of hydraulic oils
- ◆ Detailed instruction manual and **reference pictures** are provided

- **Reference:** HY10: Oil analysis kit



Oil filtration unit – Portable oil transfer and filtration unit



Features:

- ◆ Oil transfer and filtration (gear pump, 3 µm filter)
- ◆ **Filtration of hydraulic oil** to comply with manufacturer's recommended standards
- ◆ Studying and preventing **clogging**
- ◆ **Preventive maintenance** (analysis of flow losses when contamination level is high)
- ◆ Easy installation and a wide range of applications on new or existing installations.

- **References:** HY12: Oil filtration unit

Hydraulic measuring kit – Pressure, temperature & flow measuring kit



- **Features:** Sensors (pressure, temperature, flow)

Training activities:

- ◆ **Studying the output of a hydraulic pump**
- ◆ Analysis of continuous operation of a hydraulic circuit (**overheating, overpressure...**)
- ◆ Measurements, data logging and display (charts) of data collected from pressure, temperature and flow sensors
- ◆ Kit used by technicians to collect data from industrial or public works equipment
- ◆ Data transfer via **USB port**

- **Reference:** HY11: Hydraulic measuring kit

Portable particle counter and hydraulic fluid contamination on-line and off-line tester (iCount iOS)



Technical specifications:

- ◆ Compact, light and robust device for simple, fast and easy field testing
- ◆ Fully autonomous system, with a laser particle detector (iCountPD), a battery and a pump
- ◆ **Sampling** can be conducted **directly on a hydraulic tank**, a shaft, a vehicle fuel tank **or on a high-pressure hydraulic system on line** using a pressure reducing valve
- ◆ Ranges of use: Fluid viscosity up to 300cSt, Pressure up to 350bars
- ◆ Quick coupling and pressure reducing valve to test hydraulic fluid on line and off line
- ◆ Analysis as per ISO4406:1999, NAS1638 and display of the humidity sensor RH% in high visibility OLED format
- ◆ Data storage up to 250000 test points

- ◆ No special software is required
 - ◆ Embedded web page generator to download data on any PC or laptop, through an interface integrated by RJ45 cable connection
 - ◆ Quick detection of contaminants with sampling time between 5 and 999 seconds
- **Reference:** PA//IOS1220EUR: Portable particle counter and hydraulic fluid contamination on-line and off-line tester (iCount iOS)

Infrared thermal imaging camera

Uses in industry (preventive maintenance)

- ◆ **Pumps** (abnormal high temperature due to vibrations, overloaded electric cables, etc.)
- ◆ **Valves and drains** (tightness problems)
- ◆ **Storage tanks** (level control, insulation defects, etc.)
- ◆ **Piping** (insulation defects, leaks, clogging problems, corrosion, etc.)
- ◆ **Motors, coupling and transmission devices** (bearing faults, misalignment, mechanical or electrical overheating, etc.)
- ◆ **Power supply units, transformers, electrical cabinets and components** (contactors, circuit breakers, disconnecting switches, power sources, buses)

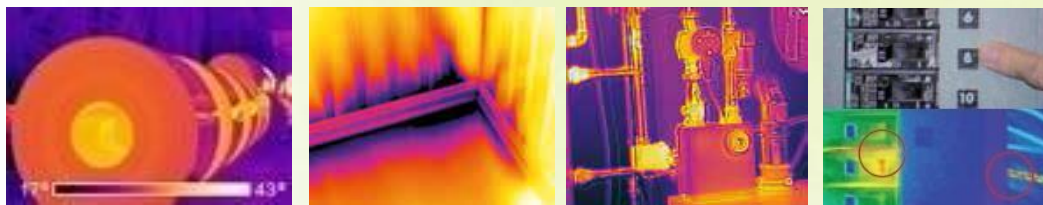
Uses in buildings (thermal diagnostics and control)

- ◆ **Thermal diagnostics of buildings:** detection of incoming air, thermal bridges, poor insulation, window control (incoming air, energy loss, etc.), deterioration caused by water leaks, etc.
- ◆ Analysis of **heating and cooling networks:** piping identification (underfloor heating, etc.), piping defects (clogging), piping insulation defects, etc.
- ◆ Analysis of **defects in photovoltaic power stations** (hot spots)

Key points:

- ◆ A tool that has become indispensable for industrial maintenance services and building diagnostics
- ◆ Excellent value for money for initiation in thermal diagnostics
- ◆ Supplied with a **user guide for teaching purposes**

- ◆ **References:** **FL//E4:** Flir E4 thermal camera, 80x60 pixels resolution (Building & Industry) – **FL//E5:** Flir E5 thermal camera, 120x90 pixels resolution (Building & Industry) – **FL//E6:** Flir E6 thermal camera, 160x120 pixels resolution (Building & Industry) – **FL//E8:** Flir E8 thermal camera, 320x340 pixels resolution (Building & Industry) – **FL//E40:** Flir E40 thermal camera, 160x120 pixels resolution (Advanced industry) – **FL//E50:** Flir E50 thermal camera, 240x180 pixels resolution (Advanced industry) – **FL//E60:** Flir E60 thermal camera, 320x340 pixels resolution (Advanced industry)



1- or 2-channel thermometer (Kimo TKA, TKB, TK1 and TK2)

Technical specifications:

- ◆ 1 or 2 thermocouple channels, type K, J, T, S (-200 to +1300°C)
- ◆ TKA and TKB versions: 2-line display + Functions: Hold, Min, Max, backlight, alarms, auto shut-off and selection of thermocouple type + Supplied with transport case and calibration certificate
- ◆ TK1 and TK2 versions: 1-line display + Function: Hold, auto shut-off and selection of thermocouple type + Supplied with calibration certificate

- ◆ **References:** **KII//TK1:** Kimo TK1 portable 1-channel thermometer, without probe – **KII//TKA:** Kimo TKA portable 1-channel thermometer, without probe – **KII//TK2:** Kimo TK2 portable 2-channel thermometer, without probe – **KII//TKB:** Kimo TKB portable 2-channel thermometer, without probe – **KII//SGDK-150:** General-purpose type-K thermocouple probe (stainless steel sheath D=4.5mm), 150mm length, with handle – **KII//SCLDK-150:** Lamella contact type-K thermocouple probe (stainless steel sheath D=6mm), 150mm length, with handle – **KII//SKV-150:** Velcro type-K thermocouple probe, 150mm length – Other probes: contact us



4-channel thermometer (Kimo TM200)

Technical specifications:

- ◆ Module containing 4 K/J/T thermocouple channels (-200 to +1300°C) or 2 PT100 channels (-100 to +400 °C)
- ◆ Optional current (4-20mA) and voltage (0-10V) module
- ◆ Functions: Hold, Min, Max and probe type recognition
- ◆ Large backlit graphic display
- ◆ Memory capacity: 8000 points
- ◆ Radio and USB - PC communication (optional software)
- ◆ Supplied with transport case and calibration certificate



- ◆ **References:** **KII//TM200:** Kimo TM200 portable 4-channel thermometer, without probe – **KII//MCT:** Kimo MCT current and voltage rear module – **KII//Datalogger10:** Kimo Datalogger10 campaign management and data processing software – **KII//SGDK-150:** General-purpose type-K thermocouple probe (stainless steel sheath D=4.5mm), 150mm length, with handle – **KII//SCLDK-150:** Lamella contact type-K thermocouple probe (stainless steel sheath D=6mm), 150mm length, with handle – **KII//SKV-150:** Velcro type-K thermocouple probe, 150mm length – **KII//KCTJ02N:** 4-20mA 2m-long current input cable and jack – **KII//KCTJ10N:** 0-10V 2m-long voltage input cable and jack – **KII//KPIJ20N:** 20A 2m-long hook-on ammeter and jack – Other probes: contact us

Laser sighting infrared thermometer (Kimo Kiray200)

Technical specifications:

- ◆ Temperature range: - 50 to + 850 °C
- ◆ Accuracy : From -50 to -20°C : ±5°C
From -20 to +200°C : ±1.5% of reading ±2°C
From +200 to +538 °C : ±2% of reading ±2°C
From +538 to +850°C : ±3.5% of reading ±5°C
- ◆ Optical : D.S 30:1
- ◆ Emissivity : adjustable from 0;10 to 1.00
- ◆ High and low alarm
- ◆ Supplied K thermocouple probe, holster and user manual

- ◆ **Reference:** **KII//Kiray200:** Kimo Kiray200 infrared thermometer



Hotwire electronic thermo-anemometer (Kimo VTA & Kimo VTS)



Technical specifications:

- ◆ Stainless steel hotwire probe Ø 8 mm, length 300 mm and 2m cable
- ◆ Velocity 0.15 to 30 m/s, Airflow 0 to 99 999 m³/h, Temperature -20 to +80°C
- ◆ VTS version: 1-line display + Functions: Velocity, Temperature and Hold + Calibration certificate
- ◆ VTA version: 2-line display + Functions: Velocity, Airflow calculation, Airflow calculation with cone, Temperature, Automatic average, Hold, Min, Max, Backlight and Auto shut-off + Transport case + Calibration certificate

➤ **References:** **KII/VTA:** Hotwire electronic thermo-anemometer (Kimo VTA) – **KII/VTS:** Hotwire electronic thermo-anemometer (Kimo VTS) – **KII/K35:** 400m³/h airflow cone – **KII/K75:** 750m³/h airflow cone – **KII/K120:** 1200m³/h airflow cone – **KII/K150:** 400m³/h airflow cone

Thermo-hygrometer (Kimo HRA & Kimo HRS)



Technical specifications:

- ◆ Hygrometry and temperature probe, 2 m cable
- ◆ Relative humidity: from 5 to 95 % RH
- ◆ Dew point: from -40 to +70°C
- ◆ Ambient temperature: from -20 to +70°C
- ◆ HRS version: Integrated probe + 1-line display + Functions: Relative humidity, Temperature and Hold + Supplied with calibration certificate
- ◆ HRA version: Remote probe + 2-line display + Functions: Relative humidity, Dew point, Temperature, Hold, Min, Max, Backlight and Auto shut-off + Supplied with transport case and calibration certificate

➤ **References:** **KII/HRA:** Thermo-hygrometer (Kimo HRA) – **KII/HRS:** Thermo-hygrometer (Kimo HRS)

Manometer (Kimo MPA)



Technical specifications:

- ◆ Integrated pressure sensor
- ◆ Measuring range : From -1000 to +1000Pa
- ◆ Tolerated overpressure: 250mbar
- ◆ Air speed: 2 to 40m/s
- ◆ 2-line display + Functions: Pressure, Pitot tube velocity, Manual temperature and atmospheric pressure compensation, Hold, Min, Max, Backlight, Auto shut-off and Manual auto-zero
- ◆ Supplied with 2 x 1m black and white silicone tube, stainless steel tube (Ø 6 mm, length 100mm), calibration certificate and transport case

➤ **References:** **KII/MPA:** Manometer (Kimo MPA) – **KII/NPL:** Pitot tube Ø 6mm length 300 mm

Micromanometer (Kimo MP1)



Technical specifications:

- ◆ Integrated pressure sensor
- ◆ Measuring range : From -1000 to +1000Pa
- ◆ 1-line display + Functions: Pressure, Hold and Auto-zero at turn-on
- ◆ Supplied with 2 x 1m black and white silicone tube, calibration certificate

➤ **Reference:** **KII/MP1:** Micromanometer (Kimo MP1)

Multifunction : Thermo-hygro-mano-anemometer (Kimo DIAME)



Technical specifications:

- ◆ Pressure / Air velocity: pressure module (0 to 1000mm H₂O and 2 to 100m/s), Pitot tube (Ø 6 mm, length 300 mm)
- ◆ Air velocity / Temperature: hotwire probe (Ø 8 mm, length 300 mm, 0.15 to 30m/s), hotwire extension, vane probe (Ø 70mm, 0.3 to 35 m/s)
- ◆ Hygrometry / Temperature: probe 3 to 98 % RH and -20 to +80°C
- ◆ Graphic backlit display and USB to PC output (optional software)
- ◆ Functions: 8000pts memory capacity – point/point average, automatic point/point average, automatic average – Hold, Min and Max, standard deviations, etc.
- ◆ Supplied with 2 x 1m black and white silicone tube, stainless steel tube (Ø 6 mm, length 100mm), calibration certificate and transport case

➤ **References:** **KII/DIAME:** Thermo-hygro-mano-anemometer (Kimo DIAME) – **KII/DiamLog:** DIAM-LOG software with USB interface for PC connection – **KII/MTC4:** 4 thermocouple channels module for DIAM - Other temperature and air velocity probes, accessories: contact us

Sound level meter (Kimo SDA)



Technical specifications:

- ◆ Class 2 sound level meter according to international standards (30 to 130dB)
- ◆ Weighing functions, time constants: slow and fast
- ◆ Supplied with windscreens, transport case and calibration certificate

➤ **Reference:** **KII/SDA:** Portable sound level meter (Kimo SDA)

Solarimeter (Kimo SAM20)



Technical specifications:

- ◆ Measuring range : from 1 to 1300W/m²
- ◆ Energy measurements cumulated over 3 days
- ◆ Supplied with remote solar cell, 1.25m cable, transport case and calibration certificate

➤ **Reference:** **KII/SAM20:** Portable solarimeter (Kimo SAM20)

Luxmeter (Kimo LXS & LIS20)



Technical specifications:

- ◆ Class C luxmeter with integrated sensor as per NF standards
- ◆ LXS version: 0 to 10 000 lux – 1-line display – Function: Hold – Supplied with adjustment certificate
- ◆ LIS20 version: 0 to 150 000 lux – 2-line display – Functions: Hold, Min, Max, Average – Supplied with calibration certificate and transport case

➤ **References:** **KII/LXS:** Luxmeter (Kimo LXS) - **KII/LIS20:** Luxmeter (Kimo LIS20)

Scopix III handheld oscilloscope (Metrix OX7104)



Technical specifications:

- ◆ Five instruments in one: Oscilloscope, Spectrum analyzer, 8,000-count TRMS graphic multimeter, Graphic recorder indicating date and time, Harmonic analyzer & Single- and three-phase wattmeter
- ◆ 4 isolated 600V 200MHz channels
- ◆ AD converter: 12 bit 2.5 GS/s in single-shot & 100 GS/s in ETS
- ◆ Vertical sensitivity between 2.5 mV and 200 V/div (156 μ V zoom)
- ◆ Self-powered current probes
- ◆ 50,000 memory points per channel
- ◆ "Windows-like" menus & touchscreen
- ◆ USB and Ethernet communication with the Web server, FTP and FTP client
- ◆ SCOPENET application to retrieve, view and fully analyze available measurements on PC and Android

➤ **References:** CA/OX7104-CSDO: Scopix III handheld oscilloscope

HandScope handheld oscilloscope (Metrix OX5042)



Technical specifications:

- ◆ Three instruments in one: 40MHz 2-isolated channels oscilloscope, 8,000-count double multimeter with power analyzer, Harmonic analyzer
- ◆ 3.5" LCD color display with LED backlighting
- ◆ Integrated interactive multilingual help
- ◆ Recording of 2,700 measurements (5 minutes in 1 month) in multimeter mode
- ◆ Isolated USB communication with SCPI protocol

➤ **References:** CA/OX5042-C: 2x40MHz HandScope handheld oscilloscope - CA/OX5042-CK: 2x40MHz HandScope handheld oscilloscope with USB communication

Single-phase and balanced three-phase power and energy quality analyzer (Chauvin Arnoux CA8220)



Technical specifications:

- ◆ Display of instantaneous and effective currents and voltages (TRMS), W, var & VA, cos and PF, THD and harmonics
- ◆ Sensitive from 5 mA
- ◆ USB connection
- ◆ Digital display on the device and graphic display on PC with PAT software available free of charge or DataView® software (option)
- ◆ Thermometer & tachometer for motor monitoring

➤ **References:** CA/P01160620: Single-phase and balanced three-phase energy and power analyzer (Chauvin Arnoux CA8220), no additions – CA/P01160621: Single-phase and balanced three-phase energy and power analyzer (Chauvin Arnoux CA8220), with MN93A current sensor (120 A) – CA/P01160622: Single-phase and balanced three-phase energy and power analyzer (Chauvin Arnoux CA8220), with AmpFlex 450 flexible current sensor (6500 A) – CA/P01102095: DataVIEW data processing software

Three-phase network and energy analyzer with 4 voltage inputs and 4 current inputs (Chauvin Arnoux CA8336)



Technical specifications:

- ◆ Measurement as per IEC 61000-4-30 standard
- ◆ Measurement of neutral and 3-phase current (from 100mA via Flex sensor), of neutral-to-ground and 3-phase voltage
- ◆ Measurement of apparent, active, reactive, non-active and distorting powers
- ◆ Energy measurement (total and per phase) (Tonnes of oil equivalent)
- ◆ Harmonics: measurement, calculation and display up to the 50th order
- ◆ Transients: up to 210 captures / Calculation of PST and PLT Flicker values
- ◆ Intuitive and very easy to use
- ◆ Memory capacity > 2 Go
- ◆ Inrush mode: recording of load power-up over 10 minutes
- ◆ Automatic recognition of different types of connected current sensors

➤ **Reference:** CA/P01160591: Three-phase network and energy analyzer with 4 voltage inputs and 4 current inputs (Chauvin Arnoux CA8336), no additions

Power & energy loggers (Chauvin Arnoux PEL102 & PEL103)



Technical specifications:

- ◆ Ergonomic, magnetized and suitable for all types of cabinets
- ◆ Solid, airtight IP 54 casing
- ◆ Single-phase, split-phase and three-phase installations
- ◆ Analysis of harmonics up to the 50th order
- ◆ Automatic recognition of connected sensors
- ◆ Networking of several PEL10x to centralize consumption management
- ◆ Real-time USB, Ethernet & Bluetooth communication and PC analysis using the PEL Transfer software
- ◆ Recording on SD card

➤ **References:** CA/P01157152: No-display logger (PEL102), without current sensor – CA/P01157153: 4-line display logger (PEL103), without current sensor – CA/P01102134: PEL self-powering system

Multi-function electrical installation tester (Chauvin Arnoux CA6116N)



Technical specifications:

- ◆ Testing according to international standards: IEC 60364-6, NF C 15-100, VDE 100, XP C 16-600, etc.
- ◆ Test on AC, A-type and B-type RCDs (C.A 6116N)
- ◆ Contextual help for each function, including all the connection diagrams
- ◆ Suitable for all neutral systems (TT, TN, IT)
- ◆ Measurements: voltage, current via clamp, power, waveforms and harmonics

➤ **Reference:** CA/P01145455: CA6116N multi-function electrical installation tester

Multi-function electrical installation tester (Metrix MX435D)



Technical specifications:

- ◆ Continuity (200 mA) & insulation (500 VDC)
- ◆ Earth with or without auxiliary rods (loop)
- ◆ Differential testing between 10 mA and 650 mA (ms)
- ◆ Current between 1 mA and 200 A with clamp option
- ◆ Leak current in mA with clamp option
- ◆ "Color code" to facilitate connections

➤ **References:** **CA//MX0435D:** MX435D multi-function electrical installation tester
CA//MX0435DK: Multi-function electrical installation tester with MX435DK Earth set

TRMS AC+DC digital multimeter (Chauvin Arnoux CA5273)



Technical specifications:

- ◆ Double 6,000-count backlit display and dual-mode bargraph (Full scale / Central zero)
- ◆ Automatic AC/DC recognition
- ◆ Typical accuracy: 0.09%
- ◆ (LowZ) AC voltage with low-pass filter
- ◆ Voltage up to 1 000 V AC/DC, resolution from 0.01 mV
- ◆ Current up to 10 A AC/DC, resolution from 1 μ A
- ◆ Resistance, capacitance, audible continuity, diode test, temperature, frequency
- ◆ MIN/MAX and PEAK+/-
- ◆ Differential (Δ X) and relative (Δ X/X%) measurement

➤ **Reference:** **CA//P01196773:** CA5273 TRMS AC+DC digital multimeter

TRMS AC, DC, AC+DC compact digital clamp multimeter (Chauvin Arnoux F205)



Technical specifications:

- ◆ 6,000-count backlit display
- ◆ Single-phase and balanced three-phase AC and DC power (W, var, VA, PF and THD)
- ◆ 600A AC / 900A DC - 1000V AC/DC
- ◆ Automatic AC/DC detection
- ◆ Resistance, continuity, etc.
- ◆ Overcurrent capture
- ◆ MIN, MAX, PEAK
- ◆ 2-wire phase rotation
- ◆ Differential (Δ R) and relative (Δ R/R%) measurement
- ◆ Clamping diameter: 34mm

➤ **Reference:** **CA//P01120925:** F205 TRMS AC, DC, AC+DC digital clamp multimeter

Pocket digital multimeter (Chauvin Arnoux CA702)



Technical specifications:

- ◆ AC/DC voltage between 200 mV and 600 V
- ◆ AC/DC current between 200 A and 200 mA (C.A 703)
- ◆ Contact-free voltage detection
- ◆ Ohmmeter up to 20 M
- ◆ Audible continuity & diode test
- ◆ Integrated flashlight
- ◆ Ideal for any toolbox

➤ **Reference:** **CA//P01191739Z:** CA702 pocket digital multimeter

Low-voltage two-pole voltage absence tester & phase sequence controller (Chauvin Arnoux CA760N)



Technical specifications:

- ◆ Compliance with CEI 61243-3 Ed-2, UTE and NFC 18-510 standards
- ◆ Integrated full autotest
- ◆ Testing of voltage up to 690 VAC / 750 VDC, single-pole phase and continuity
- ◆ Phase sequence control up to 400 Hz
- ◆ Removable lead and standard or IP2X test probe

➤ **Reference:** **CA//P01191761Z:** CA760N low-voltage two-pole voltage absence tester & phase sequence controller

Solar power installation analyzer (Chauvin Arnoux FTV100)



Technical specifications:

- ◆ Electrical power survey
- ◆ Calculation of solar panel efficiency and DC/AC inverter efficiency
- ◆ Standard measurement accessories: 1 pyranometer for solar radiation, 1 Pt100probe for ambient temperature, 1 Pt100 probe for panel temperature, 3 AC ammeter clamps, 1 DC ammeter clamp
- ◆ 5.7" color LCD display and RS232 (or Bluetooth) communication to the PC
- ◆ Includes Greentest Report software for calibration, measurements and analyses

➤ **References:** **CA//P01160700:** FTV100 solar power installation analyzer (DC 1-input version) – **CA//P01160720:** FTV100 solar power installation tester (DC 3-input version)

Photovoltaic module and string tester (Chauvin Arnoux FTV200)



Technical specifications:

- ◆ Specifications of thousands of panels referenced in an integrated library
- ◆ Excellent display resolution due to 500 measurement points per curve with zoom
- ◆ Temperature and solar radiation measurements
- ◆ I-V curves and MPP for any type of PV panel
- ◆ Measurements of peak power, V_{OC} , I_{SC} , etc. as per IEC / EN 60891 standard

➤ **References:** **CA//P01160740:** FTV200 photovoltaic module and string tester, version with temperature probe and pyranometer – **CA//P01160735:** FTV200 photovoltaic module and string tester, version without temperature probe and pyranometer

DC current logger (Chauvin Arnoux L322)

Technical specifications:

- ◆ 2 independent 4/20mA channels
- ◆ Programmable recording modes and sampling rate
- ◆ Storage of up to 240,000 measurements
- ◆ Optically isolated USB port
- ◆ Supplied with DataView® software: graphics creation, analyses and report generation
- ◆ Real-time display and data analysis on PC screen

➤ **Reference:** CA//P01157090: 4/20mA current logger (L322)

Voltage logger (Chauvin Arnoux L432)

Technical specifications:

- ◆ 2 independent -10/+10V channels
- ◆ Programmable recording modes and sampling rate
- ◆ Storage of up to 240,000 measurements
- ◆ Optically isolated USB port
- ◆ Supplied with DataView® software: graphics creation, analyses and report generation
- ◆ Real-time display and data analysis on PC screen

➤ **Reference:** CA//P01157070: -10/+10V voltage logger (L432)

8-channel data logger with LCD display - Temperature data logging, 0/10V and 4/20mA sensors, etc.

Technical specifications:

- ◆ 8 configurable channels (J/K/T thermocouples, PT100, 0/10V voltage, 4/20mA current, pulses)
- ◆ 1 alarm output
- ◆ 16-bit resolution
- ◆ Sampling frequency: up to 4000Hz
- ◆ Storage capacity: **512,000 measurements**
- ◆ Management of several recording sessions
- ◆ **USB communication**
- ◆ User-friendly acquisition software (data logging, display and analysis)

Key points:

- ◆ May be used with ERM systems, and any other training system
- ◆ **Specifications are suitable for technology courses, user-friendly software**
- ◆ **Wide range of adjustable and available sensors and measurement conditioners**

➤ **Reference:** OM//DAQPRO5300: USB data logger with data acquisition and processing software

DDS Function Generator (Metrix GX305)

Technical specifications:

- ◆ From 0.001 Hz to 5 MHz
- ◆ Large display with all signal parameters (F, V_{DC} , V_{rms} , V_{PP} , RC, etc.)
- ◆ Protected BNC inputs/outputs on the front panel, 60 VDC - 40 VAC
- ◆ Frequency adjustment stable to the nearest digit

➤ **Reference:** CA//GX305: GX305 DDS function generator

Function/arbitrary waveform generator (Metrix GX1025)

Technical specifications:

- ◆ From 1 μ Hz to 25 MHz
- ◆ Sine, square, triangle, ramp, white noise signal
- ◆ Sin(x)/x and arbitrary signal generation
- ◆ 14-bit resolution, 125 MS/s sampling, 16 k memory
- ◆ AM/FM modulations, SWEEP, BURST, ASK, FSK and PM functions
- ◆ 20 internal memories, possible USB interfaces
- ◆ SX-GENE software to control the arbitrary generator (back-up, configuration restoration and arbitrary signal generation)

➤ **Reference:** CA//GX1025: GX1025 function / arbitrary waveform generator

Benchtop multimeter (Metrix MX5060)

Technical specifications:

- ◆ TRMS 60,000-count display
- ◆ DC, AC and AC+DC voltage and current
- ◆ 6,000 A calibre
- ◆ 300 Hz PWM filter
- ◆ V_{LowZ} low impedance calibre
- ◆ Monitoring of signed MIN/MAX and PEAK values
- ◆ Frequency, resistance, continuity, diode test, capacitance, temperature
- ◆ USB communication

➤ **Reference:** CA//MX5060: MX5060 benchtop multimeter

DC power supply (Metrix AX502)

Technical specifications:

- ◆ Single and dual 0 to 30VDC / 0 to 2.5A outputs
- ◆ Low noise (<1mV Ripple) and stable linear technology for clean output
- ◆ High efficiency toroidal transformers: no fan and low electromagnetic emissions
- ◆ Unique variable tracking mode for Master/Slave operation: Slave or Master track proportionally to the original setting
- ◆ Active protection against overloads, short circuits and overheating
- ◆ Simultaneous display of Voltage and Current

➤ **Reference:** CA//AX502A: AX502 laboratory power supply

Oscilloscope with 16-channel logic analysis probe (Metrix MTX2024)



Technical specifications:

- 200 MHz 4-channel oscilloscope with 16-channel logic analysis probe on PC
- PC environment: large display, multi-windowing, storage, communication, etc.
- Simplified ergonomics and detailed online help
- Analysis of several buses: UART, I2C, SPI, CAN, LIN, Modbus, KNX, DMX512, etc.
- FFT analyzer, fast recorder mode and harmonic analyzer
- Communication: USB, Ethernet & WiFi with integrated web server

Reference: [CA/MTX2024W-PC](#): MTX2024 oscilloscope with logic analysis probe



25/40/100MHz 2-channel digital oscilloscope (Metrix DOX2025, 2040 & 2100)

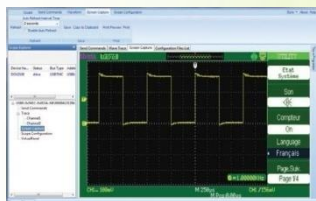


Technical specifications:

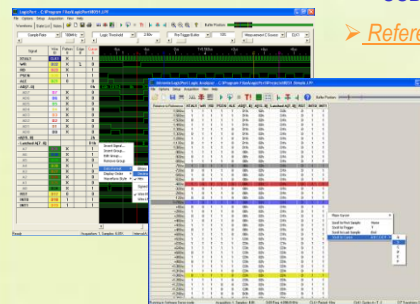
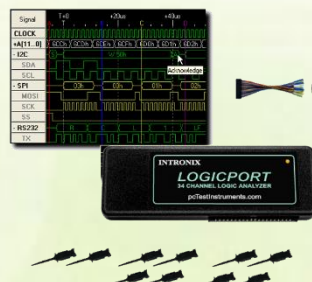
- Ergonomic, high performance and multiple acquisition and analysis functions
- Very bright 7" TFT color screen
- Sampling rate up to 1 GS/s in one-shot mode and 50GS/s in ETS
- Choice of 3 acquisition levels: sample, averaging to reduce noise, and peak detect for capturing transients in 2 modes
- "Real Time" and "Equivalent Time"
- Memory depth of 40 k points to 2 M points
- Vertical sensitivity from 2 mV/div. to 10 V/div. in 12 ranges
- 5 types of triggering: edge, pulse width, video, slope, and alternate
- 32 automatic measurements can be viewed simultaneously on the screen
- Measurements using manual cursors
- Simple MATH functions (+, -, x, /) and "real-time" FFT function with simultaneous display of traces
- Multiple memorization: 20 setups

- 5 types of recording: parameters, curves, images, .csv and factory data, internally or on a USB stick
- Communication: host USB and device (PC, Pictbridge printers, USB stick)
- EASY SCOPE software that displays waveforms generated by the oscilloscope, sends programming commands, and offers configuration tools for a virtual panel

References: [CA/DOX2025](#): 2x25MHz digital oscilloscope (DOX2025) – [CA/DOX2040](#): 2x40MHz digital oscilloscope (DOX2040) – [CA/DOX2100](#): 2x100MHz digital oscilloscope (DOX2100)



500MHz 34-channel logic analyzer (PR09)



Technical specifications:

- Capturing and viewing of logic signals
- Protocol interpreters for analyzing serial buses such as UART, SPI, I2C and CAN
- 34 measurement channels
- 500 MHz temporal sampling (internal clock)
- 200 MHz sampling based on logic states (external clock)
- Advanced multi-condition triggering
- Real-time data compression
- Adjustable trigger threshold: +6 V to -6 V
- I2C, SPI and RS232 interpreters
- Integrated 300MHz frequency meter
- USB connection to a PC

Reference: [PR09](#): 500MHz 34-channel logic analyzer



LAN cabling tester and fault identifier (Chauvin Arnoux CA7028)



Technical specifications:

- Locates and identifies faults up to 150m or 500ft away: cut, short-circuited, crossed or separated pairs, short circuits between pairs, pair inversions and shield/screen continuity; faults at the end of the link or installed line
- Measures cable or link length (in m or ft)
- Tested cable types: UTP & STP (SSTP & FTP) as per TIA568 A/B, ISO, EN, USOC and RNIS standards
- 128x64 pixel backlit graphic LCD display
- Protection/Security: alert if there are active services on the tested cable
- Built-in sound frequency generator to locate and identify cables

Reference: [CA/PO1129501](#): CA7028 cabling tester and fault identifier



Didactique | Robotique | Fab&Test | Energies

561, allée Bellecour 84200 Carpentras-France
Tél : +33 (0)4 90 60 05 68 / Fax : +33 (0)4 90 60 66 26
contact@erm-automatismes.com

www.erm-automatismes.com

Follow us on :



Contact :

Patrick Mestre	 p.mestre@erm-automatismes.com
	 + 33 (0)6 84 72 41 17
Cyril Liotard	 c.liotard@erm-automatismes.com