



# CA 5292 & CA 5293

## RECORDER-MULTIMETERS WITH GRAPHICAL COLOUR SCREEN



ASYC IV, the reference for multimeters

in the lab and in the field!

- Optimized display:
  - Graphical display of trends and multiple parameters
  - 600 Hz waveform
- Storage of up to 30,000 measurements with direct access [Mem]
- Power supply via USB charger
- Top-of-the-range specifications: 100 kcts, 200 kHz bandwidth and 0.02% accuracy
- Multiple analytical tools: time/date-stamped monitoring of Min/Max/Avg et Peak, filtering, duty cycle

... While continuing to offer unrivalled simplicity of use!























# ERGONOMICS AND ADVANTAGES

imultaneously portable and benchtop multimeters, the ASYC IV models are simple and intuitive to use.

Accessible directly, the various measurements are represented explicitly in the form of pictograms on the electronic switch.

The display allows users to view the measurement results either as numeric values or as graphs showing the trend over time. Recorded measurements can be displayed as traces, with the possibility of positioning cursors and zooming on a part of the recorded curve.

An integrated help function available in French and English provides information on the measurements in progress.

USB or BT communication is provided to transfer the data onto a PC for saving and programming with the LV/LW drivers.

Once the instrument is connected to the PC, the firmware can be updated by accessing the "Loader" program on the web.

#### PROTECTED TERMINAL STRIP

The terminal strip for the measurements is located at the top of the instrument to ensure that the screen remains as easy to read as possible. If the cables are connected to the wrong inputs, there is an audible alert signal and the function is recognized automatically.

- 4 terminals: 3 measurement inputs
- + 1 isolated connection for USB communication



225.58

227.53

0.3%, 30 dats

Utilisez les touches Fx pour choisir un couplage

AC+DC

# C.A 5293 Graphic class Tradicions Comparison of the comparison o

Multiple parameters with 3 levels of backlighting which vary automatically according to the lighting conditions for better visibility and more comfortable reading.

**DISPLAY WITH LARGE DIGITS** 

#### **GRAPHICAL SCREEN**

Monitoring of the evolution of the main quantity or display of the waveform

#### **SELECTION OF THE MEASUREMENT FUNCTION**

By means of a function key which is lit to remind you of the function selected for intuitive configuration

#### F1 - F4 FUNCTION KEYS

For direct access to the function menus



Specific connector to USB for charging

#### **IP 67 MOULDED CASING**

For instrument safety and comfortable handling

# **APPLICATIONS**

SYC IV multimeters are ideal for many applications in the industrial sector, telecommunications and Defence. Their multiple functions make them easy to use for electrical, electronics and machine maintenance. In the electronics sector, the ASYC IV models can be used to test wiring, IT or medical equipment and SMDs. With their IP67 protection, they are designed to be dustproof and watertight for difficult environments. In industry, they are ideal for applications involving automation and processes in a wide variety of sectors: agri-food, plastics, concrete, metal, paper, wood, oil, nuclear.

ASYC IV multimeters can be used for the maintenance of many industrial machines: numerical control systems, motors, generators, etc.

These versatile instruments are also suitable for the needs of expert electrical installers and professionals in the transport and energy sectors.

The high-performance, affordable and ergonomic ASYC IV models also have their place in education and research.



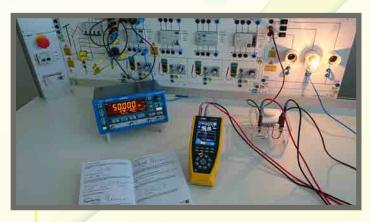
Temperature
measurement on solar
panels.
The practical
magnetized Multifix
accessory allows you to
work hands-free.



Measurements on heating and air-conditioning systems: current, voltage and temperature.



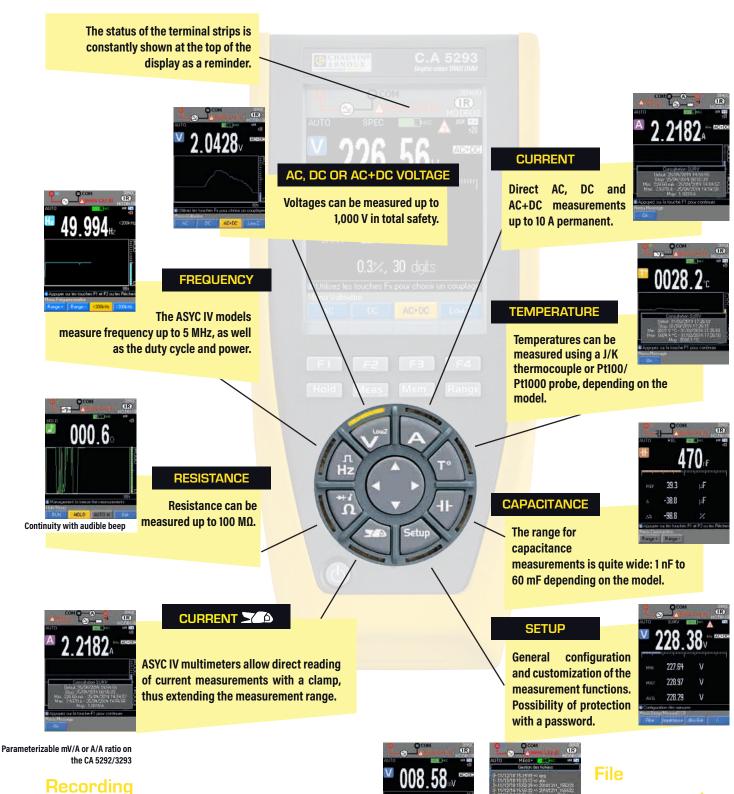
Measurement with leakage current clamp and recording of the fault.



High-performance functions for R&D and laboratory testing.



The TRMS AC voltage and current measurements are also accurate on non-linear signals.



Depending on the model, ASYC IV multimeters can record up to 30,000 values. The simplified parameterization concerns the number of measurements, the recording interval (0.2 s to 24 h), the duration and the storage capacity.





# management

Display of the files with time/date stamp and campaign name.

# FUNCTIONS

Display of the trends of each main quantity with time base parameterizable from 1min28s to 1h13min20s.

# CONTROL OF THE MEASUREMENT BY MEANS OF SURV AND PEAK FUNCTIONS

Time/date-stamped capture of the minimum / maximum/ average and PEAK values enables you to record the transient values and variations automatically. This function can be used for effective detection of a signal's variations or anomalies.



#### RELATIVE VALUES FOR GREATER ACCURACY

The REL relative mode can be used to express the measurements in terms of their absolute and relative deviation from the re





deviation from the reference measured.

#### **MATH FUNCTION**

This function is suitable for measuring any physical quantity by conversion into the appropriate unit





and offers direct readings (Ax + B).

#### **Hz FUNCTION**

Frequency can be measured up to 5 MHz. This function can also be used to measure the +/- duty cycle for analysis of the active or inactive intervals of switching signals or logic signals. PW+/- pulse width measurement can be used to check electronic fuel injection systems and switching power supplies.



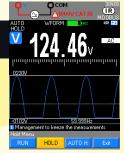
#### STORAGE OF 30,000 RECORDED VALUES IN THE MULTIMETER'S MEMORY

Main and secondary values with graphical trace.



#### **WAVEFORM DISPLAY**

Display of a V or I signal up to 600 Hz, with automatic trigger. Practical when you want to find out the shape and evolution of a signal.



## MEASUREMENT WITH CURRENT CLAMP

Depending on the model, users can integrate the transformation ratio to allow direct reading of the current value, whether the clamp is equipped with a V output or an A output.



# ACCURATE MEASUREMENTS, INCLUDING ON VARIABLE SPEED DRIVES

A 300 Hz low-pass filter guarantees accurate voltage and frequency measurements on PWM variable speed drives.

#### **FLEXIBILITY**

The RANGE function automatically selects the most suitable measurement range for the measurements in progress.

#### **USER-FRIENDLY & TIME-SAVING**

The "user/basic" function saves the setting preferences defined by the user when the instrument is powered down. This means you don't have to readjust the settings every time you switch on! This function is password-protected.

# CA 5292 & CA 5298

These portable multimeters with graphical colour display allow direct measurement of the main electrical quantities and instantaneous display of the trends. With their innovative design, they are compact, rugged, watertight and easy to grip. Other advantages include the product HMI, the advanced measurement functions and the measurement help function.

## High-performance graphical multimeters...

- Easy-to-read 320 x 240-pixel colour matrix screen with black background
- Graphical display of the trends in a summary screen
- Trace, cursors and zoom on the recordings
- Recording of up to 30 sequences
- Automatic waveform display

AUTO	<u>*</u>	COM 1000 √FORM	V CAT III	38400 (IR) MODBUS USR		
V	1.	<u> 22</u>	' - 1	AC		
00.95	V		_			
<i></i>						
	$\bigvee$					
-03.60			175.00Hz			
Secondary measurement display selection						
Measu	rement Me	nu (3/3)				
/	WF	ORM		Exit		

#### Dynamic recorders...

- Storage of up to 30,000 measurements in memory. Simplified parameterization of the number of measurements, the interval, the duration and the storage capacity...
- Internal storage of 30 measurement sequences
- File manager: with date, time and name.
- Interactive zoom function and cursors on the recordings
- A simple monitoring mode displaying the time/date-stamped MIN/MAX and AVG values

Y		OV CAT III	(IR) MODBUS			
AUTO	MEAS+	M1% IACC	USR 🛨			
Gestion des fichiers						
3- 11/12/18 4- 29/01/19 5- 04/02/19 6- 04/02/19	15:23:12 => 15:53:28 => 15:55:32 => 15:55:32 => 03:54:31 => 11:22:04 => 11:26:17 =>	> abc > 20181211_ > 20181211_ > eurotunne[2 > 20190204_ > abcdefghijk	155532 218 112204 Ilmnop			
-Contenu du fichier sélectionné: 450 val (0.3 s), V						
1 z les touches flèches haut et bas pour sélection Menu Setup/Mémoire/Fichiers						
Ouvrir	Supprimer	Tout Supp.	Annuler			

#### ...And more

- Contextual reminder of the connections
- Standard USB communication plus Bluetooth option
- IP67 ingress protection resistant to water projection and dust, suitable for outdoor use
- Commercially-available NiMH AA rechargeable battery, the best pricequality solution
- Battery life of up to 100 hours with management of the battery level
- No time wasted: the instrument operates while charging at the same time



	CA 5292	CA 5293
Display resolution (counts)	100 k	100 k
VAC/DC/AC+DC (BW)	100 kHz	200 kHz
VLowZ	•	•
IAC / I DC	•	•
IAC+DC	•	•
IAC/DC direct reading	•	•
Resistance	•	•
Capacitance	•	•
Frequency meter	•	•
Audible continuity / Diode test	•/•	•/•
K TC / Pt100 temperature	•/•	•/•
dBm (/R) / dB (/Vref)	•/•	•/•
Resistive power	•	•
Duty cycle / Pulse width / Pulse counting	•/•/•	•/•/•
HOLD / Auto-HOLD	•/•	•/•
Min / Max / Avg	•/•/•	•/•/•
Peak+ / Peak- / CF	•/•/•	•/•/•
Relative	•	•
measurements		
MATH function	•	•
Recording	10,000	30,000
USB / Bluetooth communication	• / • (option)	• / • (option)
CAT III / CAT IV	1,000 V / 600 V	1,000 V / 600 V
3-year warranty	•	•

#### Documents available

- Start-up guide in 20 languages
- User's manual in more than 11 languages
- SCPI programming guide in 2 languages
- and, as always, the HMI in 5 languages!

# CA 5292 & CÁ 5298

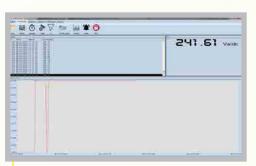
#### Communication



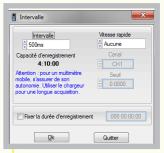
The ASYC IV models are equipped with a universal communication mode, based on the SCPI standard, via USB or Bluetooth. The SX-DMM software is a simple, effective tool for display, processing and analysis of the data. SX-DMM is delivered as standard with the product and updates are available to download free of charge from the Support website. The SX-DMM software can be used for real-time processing of the data on a PC, upgrading of the instrument and calibration, as well as offering a new function for automatic adjustment of the time on the instrument. It is also possible to display the storage capacity. The ANDROID application, available for download from the Google store, can be used to monitor measurement campaigns and view the measurements remotely.







Display of the data and the curve with the spreadsheet export function.



Parameterization of the recording campaigns



Mathematical functions applied to the data

## The loader! Choose your working language from the 5 languages available.

4 language packs available as firmware upgrades.







Translation of the messages

Translation of the interactive menus

## ANDROID application available on Google Play



Main function in real time + data recording and use of tools such as email, SMS, etc





Curve plotted on a tablet

**CA 5292** 

CA 5293

DC, AC and AC+DC voltages Range

**TRMS** 100 mV \*/ 1000 mV / 10 V / 100 V / 1000 V

Resolution

 $1 \,\mu V \, / \, 10 \,\mu V \, / \, 0.1 \, mV \, / \, 1 \, mV \, / \, 10 \, mV$ 

AC and AC+DC bandwidth

DC accuracy

100 kHz

AC and AC+DC (VLowZ) accuracy

0.03% 0.3%

200 kHz 0.02%

DC, AC and AC + DC TRMS current

0.3%

Range

1000 μA / 10 mA / 100 mA / 1000 mA / 10 A / 20 A (30s max on 100 A range)

Resolution DC / AC and AC+DC accuracy 10 nA / 0.1 μA / 1 μA / 10 μA / 100 μA / 1000 μΑ 0.08% / 0.3%

AC and AC+DC bandwidth

50 kHz

Frequency

Frequency range

10 Hz / 100 Hz / 1 kHz / 10 kHz / 100 kHz / 1 MHz / 5 MHz

Resolution

0.0001 Hz / 0.001 Hz / 0.01 Hz / 0.1 Hz / 1 Hz / 10 Hz / 100 Hz

Resistance and continuity

Ranges

 $100 \Omega * / 1 k\Omega / 100 k\Omega / 1000 K\Omega / 10 M\Omega / 100 M\Omega$ 

Resolution

 $0.001~\Omega\,/$   $10~m\Omega\,/$   $100~k\Omega\,/$   $10\Omega\,/$   $10\Omega\,/$   $1~k\Omega$ 

Basic accuracy Protection

1000 V electronic protection

Audible continuity detection

1000  $\Omega$  / SIGNAL <20  $\Omega$  < 3.5 V

Diode test

Threshold voltage measurement

Diode O -2.6 V <1 mA + Zener diode or LED O-2.6 V <11 mA

Capacitance

Ranges

Resolution\*

 $1 \text{ nF} / 10 \text{ nF} / 100 \text{ nF} / 1000 \text{ nF} / 10 \mu\text{F} / 100 \mu\text{F} / 1 \text{ mF} / 10 \text{ mF}$ 

 $1 pF / 10 pF / 0.1 nF / 1 nF / 0.01 \mu F / 0.1 \mu F / 1 \mu F / 10 \mu F$ 

Temperature with Pt100/1000 and K/J thermocouples

Operating range

-200 °C to +800° C with Pt and -40 to +1200 °C with K thermocouple 0.1 %

Other Measurement functions

SURV MAX/MIN/AVG

Time/date-stamped on all the main positions

REL

Reference-delta relative value on 3 displays + main measurement

**PWM** filter

Accuracy

4th order 300 Hz low-pass filter for measurements on variable speed drives of asynchronous motors

SPEC **GRAPH** 

Display of the measurement tolerance + Smin + Smax Trends of main measurements with max., variable time and display of waveform (50/60 and 600 Hz)

Secondary measurements Measurement storage

3 measurements + main measurement 10.000 30,000

\*manual access

General specifications

Colour graphical (70x52) with backlighting and black background on 4 x 100,000-count displays

Type of display PC interfaces

Optical USB connector or Bluetooth (option) - SX-DMM software and ANDROID application

Power supply

USB-type charger or 4 AA batteries or NiMH rechargeable batteries

Safety / EMC

Environment

Safety as per IEC 61010-1, IEC 61010-2-033 1000 V-CAT III / 600 V CAT IV

EMC as per EN 61326-1

Storage: -20 °C to +70 °C - Operation: 0 °C to +40 °C

Mechanical specifications

Dimensions (L x W x H): 196x90x47.1 mm - Weight: 570 g

Warranty

3 years

#### STATE AT DELIVERY

4 x 1.5 V NiMH rechargeable batteries 1.5 m straight/straight red cable 1.5 m straight/straight black cable

Red CAT IV 1 kV test probe Black CAT IV 1 kV test probe

USB optical communication cable + SX-DMM software

USB charger + USB connection cable

User's Manual on CD and multilingual start-up guide on paper

#### REFERENCES

CA 5292..... .P01196802 CA 5293.. ..P01196803 CA 5292BT... ..P01196812

CA 5293BT..... ..P01196813

Calibration software...

Kit of 4 NiMH batteries......

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