metrix®

MTX 3281
MTX 3282
MTX 3283

"MTX HAND-HELD MULTIMETERS"

Graphic digital multimeters
100,000 counts TRMS



From the laboratory to the field, a single diagnostic instrument, powerful and complete!

- Large swivelling **graphic LCD** display, bilingual menus (French/English)
- 4 x **100,000 count digital** displays, bargraph, graphic measurement log
- Basic precision **0.02 %**, pass band **200 kHz**
- **3 measurement terminals with automatic selection**, complete **"AUTORANGING" in current**
- 8-key "virtual" measurement selector with **"one-hand"** direct access
- **"SPEC"** function for direct display of measurement uncertainties
- With the **"AUTOPEAK"** mode, no more peak factor limitation
- Frequency measurements up to **2 MHz**, durations, duty cycle, counting of events
- **Temperature measurements** using Pt 100, Pt 1000 probes, J and K thermocouples
- **"Preferred measurement"** key assigned to any physical quantity (conversion & unit)
- Storage of **6500 measurements** with date and time (up to 4 simultaneous parameters)
- Optical RS232, **USB, or Bluetooth** communication, depending on model
- Power supply by batteries, **rechargeable NiMH storage batteries**, or main power supply

A Brand of
CHAUVIN ARNOUX GROUP

metrix®

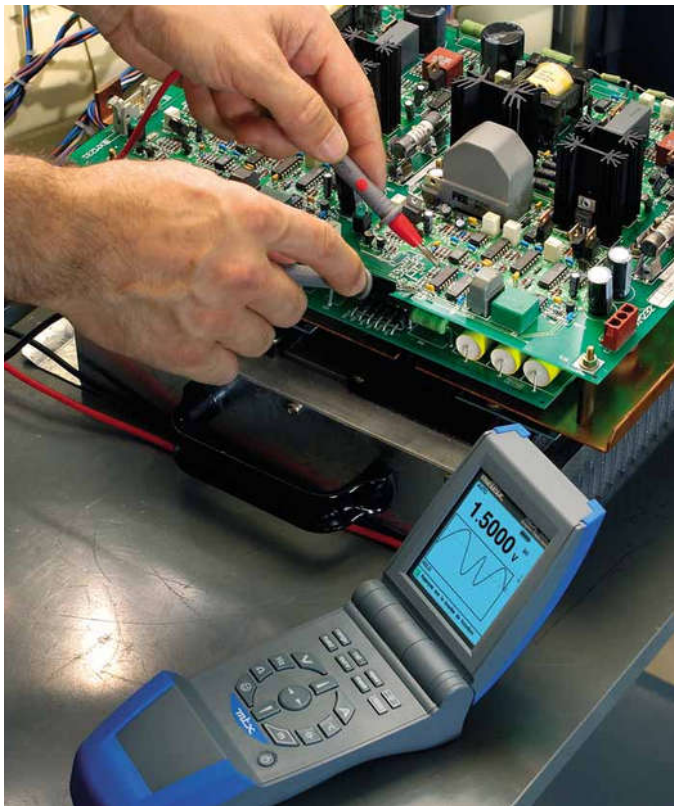
Uncompromising performances in the laboratory or on-site

A new standard in metrological performance and accuracy

On its launch, the ASYC2 range from Metrix® established a new standard in metrological performance, both for its high-performance specifications and its entirely new "virtual adjustment" functions, representing a breakthrough in field instrument technology.
The latest ASYC3 range (MTX 3281, MTX 3282 and MTX 3283) continues this tradition of innovation, with top of the range hand-held multimeters offering a resolution of 100,000 counts, a basic precision of 0.02 % and a 200 kHz pass band: performance and precision that sets them apart from the competition.
Innovative features and performances that are user-managed thanks to the optional calibration software, making periodical checks faster, easier and more economical.

Specially designed for laboratory and field use

Their unique design, featuring a multidirectional screen and electronic control switch, makes this range of instruments ideally suited for both tabletop and hand-held use.
The power supply system is equally innovative, offering all the benefits of a modern instrument, while combining a rechargeable accumulator for on-site use, and a mains adapter that also functions as a charger for the laboratory.
Thanks to this dual mains supply system, recordings over longer periods are no longer vulnerable to untimely power outages on the instrument.



Efficient by design: enhanced handling for ease of use

Compact and robust when not in use, the ASYC3 range's "variable geometry" design provides enhanced handling and ergonomics when opened out, thanks to its simple lines and extra-slim casing.
Its "one-hand one-touch" design enables the instrument to be held and operated by the same hand: measurement functions are selected by simply pressing on the appropriate key of the electronic control switch.
In addition, a specially designed hands-free carrying pouch leaves the user free to operate the required lead connections, avoiding the need for cumbersome fittings and accessories.





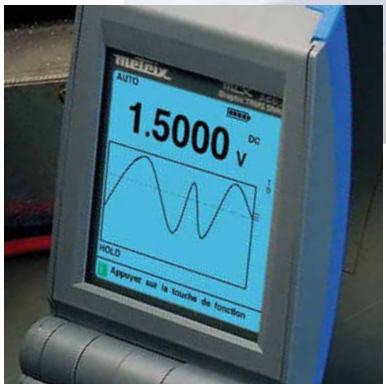
For optimal efficiency and safety, the instrument proposes only 3 measurement terminals.
When the mobile lead is connected to the Ampere or Volt terminal, the corresponding function is automatically selected in AC+DC mode, complete with auto-ranging, thus reducing handling and operating to a minimum.
Its fully moulded casing, both self-extinguishing and extra-resistant, offers IP51 protection rating.

Uncompromising performances in the laboratory or on-site

Display features not usually found on this type of instrument

For greater reading comfort, the series features an extra large multidirectional backlit screen offering multiple display functions and analogue bargraph. About the neck, on a tabletop, or in the hand: whatever the position, the display remains visible.





Selected modes and functions, as well as physical and electrical values, and relevant warning symbols, are all clearly displayed on the instrument's160 x 160 high-resolution graphic display.

Depending on the function selected, results are displayed in either mixed digital/graphic or in uniquely digital mode

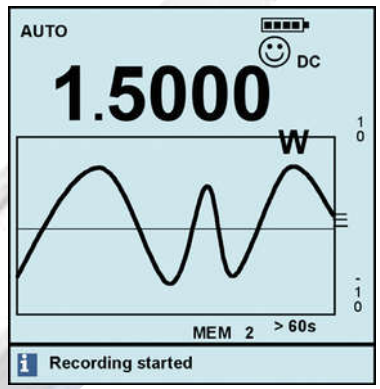
*Features **4 digital displays**, for the simultaneous reading of measurements requiring a minimum number of operations (combination of measurements: SPEC, REL, MEM, SURV).*

*In **mixed display** mode, the digital display offers stable and accurate measurement readings, while rapid variations are clearly indicated by the bargraph. A 3rd dimension is added thanks to the instrument's graphic recorder, enabling you to display measurement variations over time.*

All operating menus and help windows are available in 2 languages (English and French).

A "preferred measurement" key allows the user to programme automatic access to their most frequently used measurement mode.
Whatever the physical quantity measured, this key enables you to convert the scale and define the appropriate measurement unit, so as to obtain direct readings of the original quantity.

- *Preferred measurement key symbol ☺*
- *Active AUTO mode*
- *DC measurement*
- *W unit*
- *Actived MEM mode*



Thanks to technological improvements resulting in a single “A” terminal, current measurements may be carried out from a single switch position, making for fluid and trouble-free changes of the measurement range, from just a few hundred micro Amperes to up to 20 Amperes.
Current and voltage measurements may even be carried out simultaneously, using 3 measurement leads, and the corresponding result "V x A" displayed.



Single "A" terminal

Electronic control switch and direct access one-touch keys



The only instrument of its kind equipped with an electronic control switch that replaces traditional mechanical switches (the primary cause of malfunctions on conventional hand-held multimeters), the ASYC3 range offers at the same time improved performances and safety features. Direct access one-touch controls remove the need for the intermediate positions found on conventional mechanical control switches. The principal measurement modes are instantly accessible using the instrument's 6 direct-access keys, making it no longer necessary to choose between the 4 or 5 positions required by conventional mechanical switches in order to carry out simple voltage or current measurements.



Uncompromising performances in the laboratory or on-site

Technology in the service of safety

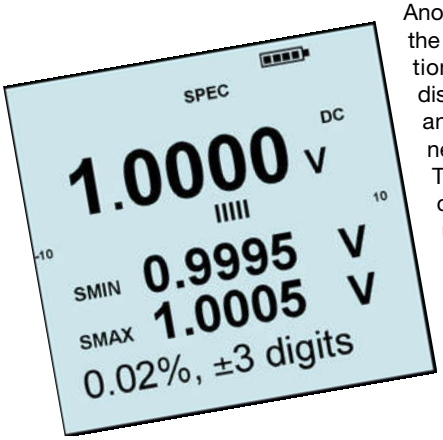
Lead/command coherence is fully managed by the multimeter, which upon detecting a lead present on the Ampere or Volt terminals, automatically selects the corresponding function.
When a lead is connected to the Volt terminal, for example, the instrument automatically proposes to check for the presence of voltage before carrying out resistance or capacitance measurements.
On the practical side, the Ampere input's single HRC fuse has made it possible to reconcile the instrument's compact design with the increased safety distances required by compliance with IEC standards 61010 1000 V / Cat. III, 600 V / Cat. IV.
An innovation that also represents an effective safeguard against wiring errors, liable to destroy the safety fuses normally used for current measurements.

The battery and fuse compartment has been designed for greater protection, providing secured access that requires leads to be disconnected before opening.



Total measurement control

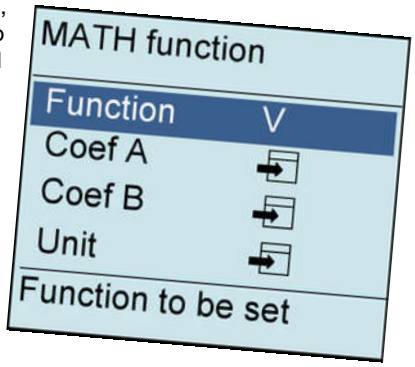
Thanks to its innovative **AUTOPEAK** mode, changes of current and voltage ranges are now based on the rapid acquisition of peaks, in order to avoid untimely overruns of the instrument's Peak Factor, liable to result in measurement errors without the user being aware of it. Except for the instrument's 1000 V range, this removes the need for limitation of the peak factor.



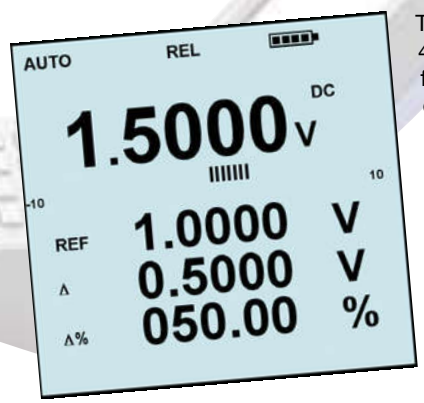
Another innovative feature is the instrument's **SPEC** function, which automatically displays measurement tolerances without the user needing to calculate it.
The user is thus in complete control of the measurement uncertainties, whatever the range and the AC signal frequency.

Innovative functions for all-round measurement performance

Thanks to its **MATH** function, the ASYC3 series is particularly suited to the measurement of different physical units. This allows the user, whether measuring physical quantities in Volts, Amperes, Hertz or Ohms, to convert the quantity and assign the appropriate unit to it, in order to obtain a direct reading on the secondary display unit of the original quantity.
This type of function may be assigned directly to the "Favourite measurement" key, in which case it is carried out automatically.



Other standard features include control of the attenuation and the bandwidth on electronic circuits.
The dB function on the ASYC3 series enables you to display all the information you need directly, including voltage, frequency, and attenuation in dB, with respect to reference values.



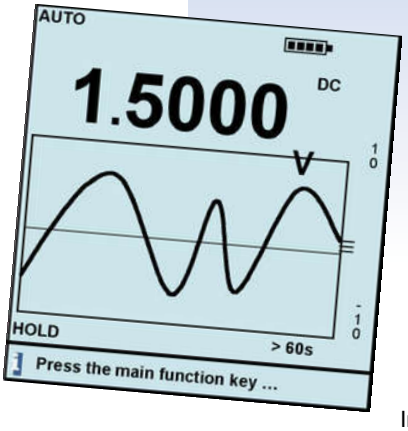
Thanks to the instrument's 4 digital displays, the relative function **REL** provides comprehensive simultaneous display of the absolute and absolute drift values, relative drift % and reference value.
For greater comfort, the reference value can be adjusted directly using the **REL** function key.



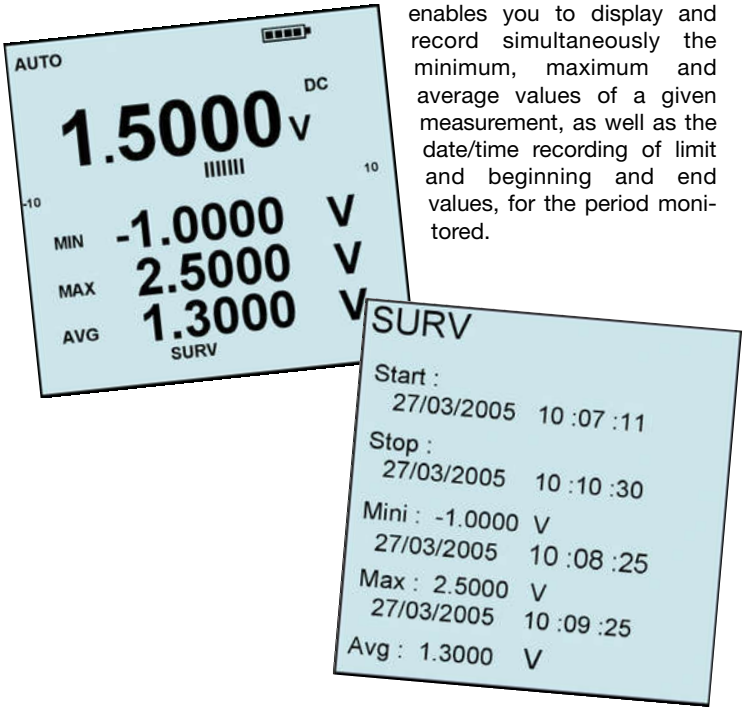
Uncompromising performances in the laboratory or on-site

Enhanced features and performance for error-free fault detection

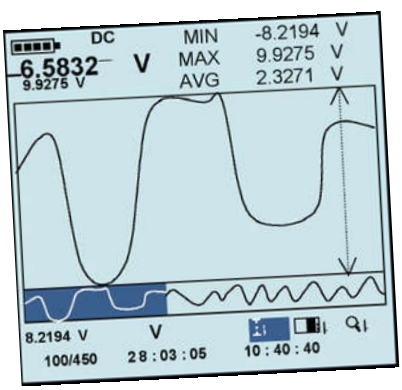
The ASYC3 series, offering the combined features of both a multimeter and a recorder, is the perfect all-round diagnostics tool for your maintenance, adjustment or development needs, on-site or in the laboratory.
Whatever your electronics applications, be they in the domain of processes, production equipment or energy distribution, the ASYC3 series ensures a cutting-edge difference.



The ASYC3 series' **graphic recorder display** offers a 3rd dimension in measurement performance, providing you with at-a-glance graphic display of measurement variations over time.



In addition, its **SURV** function enables you to display and record simultaneously the minimum, maximum and average values of a given measurement, as well as the date/time recording of limit and beginning and end values, for the period monitored.



The **MEM** function enables you to record up to 6500 date/time measurements, for periods ranging from 1 sec to 24 hrs, and to analyse the results graphically for up to 4 simultaneous measurements.

Thanks to its PC-compatible analysis software, measurement results may be exported in real-time or deferred mode, enabling you to store, analyse, document and transfer data to a standard spreadsheet programme.

The measurement of individual or periodical rapid peaks of 250 µs, using the instrument's **PEAK** function, makes it possible to pinpoint anomalies that are normally undetectable using conventional multimeters, and to carry out first-hand diagnosis of signal types based on the **Peak Factor** displayed.

Universal communication technology

Thanks to optically insulated RS232 and USB ports, and integrated Bluetooth technology, the ASYC3 series provides you with universal communication that is adapted to all working environments.
Metrix® offers you an expanding range of customer services, including a user "hot-line": **support@chauvin-arnoux.fr**, software update services, enabling you to upgrade your firm-ware versions directly from our support site: **www.Chauvin-Arnoux.com**; a customers' calibration software, and an extensive after-sales service network.





TECHNICAL CHARACTERISTICS

	MTX3281 (1)	MTX3282 (2)	MTX3283 (3)
MAN-MACHINE INTERFACE			
Display	Swivelling graphic LCD (58 x 58 mm) - Contrast adjustable - Back-lighting		
Characteristics	Graphic resolution 160 x 160 - 100,000-point digital display		
Modes	Main display + bargraph + (graphic or selection of 3 secondary displays)		
Measurement connections	3 measurement terminals (V, A, COM) - Detection and automatic selection of Vac+dc or Iac+dc		
Controls	Virtual measurement selector, 8 "one-hand" direct access keys - "Preferred function" key		
Ergonomy	2 complete languages (French, English) - Configuration menu & browser - On-line help		
DC, AC, and AC+DC voltages / 5 automatic or manual ranges from 100,000 mV to 1000,00 V			
DC basic precision	0.1 % L + 8D (1)	0.03 % L + 8D (2)	0.02 % L + 8D (3)
AC and AC+DC basic precision	0.7 % L + 40D (1)	0.3 % L + 40D (2)	0.3 % L + 40D (3)
Specified pass band	DC to 50 kHz (1)	DC to 100 kHz (2)	DC to 200 kHz (3)
DC, AC and AC+DC current / 6 automatic or manual ranges on a single A terminal from 1000,00 µA to 20,000 A (30 s max.)			
DC basic precision	0.08 % L + 8D (1)	0.08 % L + 8D (2)	0.08 % L + 8D (3)
AC and AC+DC basic precision	1.0 % L + 30D (1	0.3 % L + 30D (2)	0.3 % L + 30D (3)
Specified pass band	DC to 20 kHz (1)	DC to 50 kHz (2)	DC to 50 kHz (3)
Frequency & Period / 7 automatic or manual ranges from 10,0000 Hz to 2,0000 MHz - Basic precision 0.02 % L + 8D			
Duty cycle	Rated range 5 to 95 % - Resolution 0.01 %		
Positive and negative pulses (2) (3)	Counting up to 99,999, minimum duration 5 µs - Measurement of duration from 100 µs to 12.5 s		
Elapsed time	Graph of events with zoom and Measurement cursors: Relative mode (1), or Date/Time (2) (3)		
Resistances & Continuity / automatic or manual ranges from 1000,00 Ω to 50,000 MΩ			
Basic precision	0.1 % L + 8D (1)	0.07 % L + 8D (2)	0.07 % L + 8D (3)
Audible continuity detection	Range 1000,0 Ω - Response time 5 ms		
Diode test / From 0 to 2.6000 V - Precision 2 % L + 30D - measurement current approx. 1 mA			
Capacitances / automatic or manual ranges from 10,00 nF to 10,00 mF - Basic precision 1 % L + 5 D - Measurement time < 2 s (for C < 100 µF)			
Temperatures / J or K thermocouple probes (1) (2) (3) and Pt 100 or Pt 1000 probes (2) (3)			
Other measurements			
V Peak > 250 µs and Peak Factor	Valid for one-time or periodic phenomena		
Measurement in dBm (3)	Resolution 0.01 dBm - Adjustable reference from 1 Ω to 10,000 Ω		
Resistive power U²/R or R x I² (3)	Resolution 100 µW - Adjustable reference from 1Ω to 10,000 Ω		
dB function (3)	Triple secondary display: signal frequency, variation in dB in comparison with the reference, Maths function		
Other functions			
AUTOPEAK function (2) (3)	Automatic management of ranges to comply with the Peak Factor of the instrument		
SPEC function	Calculation of measurement tolerance in the form Min & Max Values, and x %L + xD		
HOLD & AUTOHOLD function	Manual hold of display (HOLD) or automatic hold on stable measurement (AUTOHOLD)		
REL function	Triple secondary display: adjustable reference, relative value, deviation in %		
SURV function	Surveillance and storage of "MIN", "MAX", and "AVG" values with timestamping		
MATH function (2) (3)	Automatic management of ranges to comply with maximum Peak Factor specified for the instrument		
MEM function	Acquisition of data (up to 4 measurements at once) - Interval from 1 s to 24 h 4 x 150 measurements can be stored (1) or 6,500 measurements can be stored (2) (3) Direct sending of the timestamped measurements on the link as they are acquired		

GENERAL CHARACTERISTICS

	MTX3281 (1)	MTX3282 (2)	MTX3283 (3)
Communication (depending on model)	Optical RS232 link, 9600 to 38400 baud - USB adapter - Bluetooth wireless link		
EMC / Safety	Emissions and immunity as per NF EN 61326-1, 1998 / IEC 61010, 2001, Cat IV-600 V or Cat III-1000 V		
Power supply / Interval between charges	3 LR6 batteries or AA NiMH storage batteries / approximately 80 h (batteries) or 65 h (NiMH storage batteries) (depends on use)		
Mains power (2) (3)	Adapter/charger, 230 V ±10 % or 110 V ±10 % (45 Hz to 65 Hz)		
Housing	ABS V0 - Dimensions, closed H/W/D: 44 x 85 x 180 mm - Mass: 400 g - Protection index IP51		

Models and versions: basic versions = MTX3281, MTX3282, MTX3283
RS232 + USB kit versions = MTX3281-COM, MTX3282-COM, MTX3283-COM / Bluetooth versions = MTX3281-BT, MTX3282-BT, MTX3283-BT

Accessories provided: 1 set of cables, 4 mm-dia. banana jack, 1 set of 3 LR6 batteries (1) or 1 set of 3 AA NiMH storage batteries (2) (3), 1 mains adapter/charger (2) (3), 1 installed HBC fuse, 10 x 38 mm, 1000 V-T11A-20 kA, and an extract from the operating manual in 5 languages.

Accessories, optional or according to version: fast charging kit (fast charger + 3 AA NiMH storage batteries) (HX0053), set of 3 AA NiMH storage batteries (HX0051), "Hands free" transport and operating kit (HX0052), communication kit (optical RS232 cable + PC software) (HX0050), optical/USB cable (HX0056-Z), USB/RS232 adapter for PC (HX0055), USB/Bluetooth adapter for PC (P01.6373.01), measurement adapter for K thermocouple (P06.2393.06), measurement adapter for J thermocouple.

CHAUVIN ARNOUX GROUP

FRANCE
Chauvin Arnoux
190, rue Championnet
75876 PARIS Cedex 18
Tel: +33 1 44 85 44 86
Fax: +33 1 46 27 95 59
export@chauvin-arnoux.fr
www.chauvin-arnoux.fr

UNITED KINGDOM
Chauvin Arnoux Ltd
Waldeck House - Waldeck Road
MAIDENHEAD SL6 8BR
Tel: +44 1628 788 888
Fax: +44 1628 628 099
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.co.uk

MIDDLE EAST
Chauvin Arnoux Middle East
P.O. BOX 60-154
1241 2020 JAL EL DIB (BEIRUT)
Tel: +961 1 890 425
Fax: +961 1 890 424
camie@chauvin-arnoux.com
www.chauvin-arnoux.com

For assistance and ordering

AD.COM - 906 211 121 - Ed. 2 - VS 05/06 - Characteristics subject to modifications according to technological developments.