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MTX COMPACT

Analyzers-Oscilloscopes   MTX 3252 - MTX 3352 - MTX 3354
Meter-Generator   MTX 3240
Analyzer-Multimeter   MTX 3250

NEW !
MTX 3354, 4 channels – 150 MHz

They're so intelligent you can choose them just for their good looks

- An innovative design for unrivalled comfort and efficiency; the analyzer-oscilloscopes have a Windows-like environment and mouse piloting
- A lightweight, compact case, equipped with functional zones that are at least twice as large as those of classic instruments
- Display with unprecedented dimensions and legibility; for analyzer-oscilloscopes: multi-directional colour LCD screen
- Technological innovations that for the first time ever combine all the vital functions necessary to the user in a single instrument
- 100% digital calibration for accuracy and reduction of operation costs
- Versions that are entirely programmable in accordance with the SCPI protocol
- Advantages that will appeal to the worlds of industry and technical education alike

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The choice of professionals

MTX 3252, MTX 3352 MTX 3354:
60, 100 and 150 MHz analyzers-oscilloscopes

Oscilloscopes that are communications experts...

Once the screen of the oscilloscope is up, communications are operative between the unit and the user, who chooses both its mode and its control style.

🔸 Mode:

The complex functions may be "hidden". Easily accessed using "Advanced Mode", they do not disrupt navigation or analysis in standard mode.

🔸 Style:

1 - In "keyboard" use, you achieve record efficiency with twenty keys and the encoder enabling direct access and adjustments on a very simplified front panel.
Furthermore, on-line help is available at all times, for each function, and in five languages using the 🔲 key.
2 - Using the mouse, you pull down menus in a windows-like users-friendly environment.
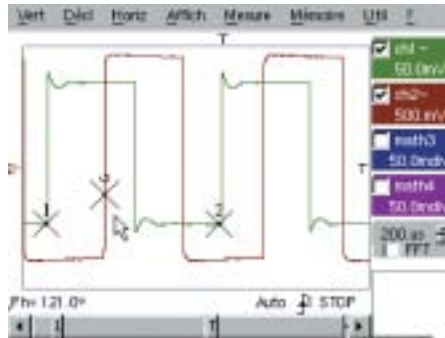Oscilloscopes are high-performance instruments, are reputed as hard to access for

beginners or occasional users. Thanks to "Windows-like" ergonomics and its universal operationnal mode, unique for this category of instrument, use of the MTX 3252, MTX 3352 & MTX 3354 is particularly accessible. The mouse is used to pull down the menus and navigate with ease; it is also used for direct and effective action on the graphic elements (cursors, trigger, trace position...). Cursors may be placed at any time on the signals to make measurements that are as accurate as they are varied, such as, for

example, the phase shift between two signals. "Magnetised" to the curve, the encoder or the mouse moves them in one horizontal movement.

Veritable lists of available functions, the menus are also used as learning tools and the "Pop-Up" windows present all of the adjustments at a glance.

🔸 The MTX 3252 and 3352 come with a 230 kbaud RS232 connection and Centronics interface as standard. Both of these features are necessary for communication with a PC or printer. The standard MTX 3354 has a 115.2 kbaud RS232 connection, Centronics interface and USB connection.

🔸 The Ethernet communication interface ensures rapid, smooth communication via a network. The entire range comes with integrated HTML server, while only the MTX 3354 has an Ethernet interface as standard (optional for the other models).

Windows Like environment: guaranteed compatibility and distance abolished!

The files generated use the Windows environment with their standard formats: .gif, .pcl, .txt, .bmp, .eps, .prn etc. It is possible to save in the files system of the instrument, to print them or export them directly to a PC for analysis using Windows applications (reports, spreadsheet, printable files, images, etc).
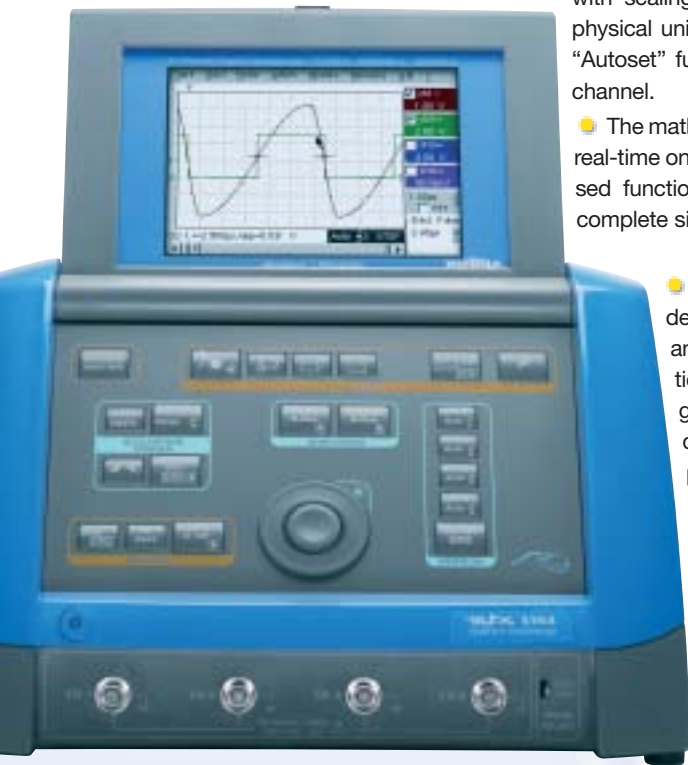

🔸 A state--the-art device, the Ethernet network interface and the HTML server can be used for further enhancements (options): Using only the Ethernet address of the unit, with no additional software, the user can take charge of the oscilloscope(s) installed in the network. This can solve certain remote management problems in industrial environments, but also in teaching. Displaying these signals, controlling the instrument, sending messages to the different users, downloading curves, results or configurations. All operations and manipulations are accessible remotely, still with 100% "Windows" compatibility.

🔸 Lightweight, compact and fitted with a handle, the instruments can also accompany professionals who need to move around as part of their jobs. A "field pack" can even be used for measurements and handling of the oscilloscope without removing it from its carrying bag.

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MTX 3252, MTX 3352 MTX 3354:
60, 100 and 150 MHz analyzers-oscilloscopes

Performance accessible to everyone

🟡 The exceptional vertical dynamic, ranging from 2.5 mV to 100 V per division is combined with scaling on channels with reading and physical unity of the signal, and an effective "Autoset" function that can be selected per channel.

🟡 The mathematics editor is used display for real-time on screen of the result of 4 customised functions using acquired signals or in complete simulation.

🟡 Thanks to a 50,000 count memory depth, a reference in this category, and to a unique horizontal and vertical trace zoom, with factor enlargement up to 200, what we see on display are always real acquisition points. The Full Trace function enables the screen to be divided in 2 and legibility of curves to be optimised. The user can obtain display of multiple traces without overwriting.
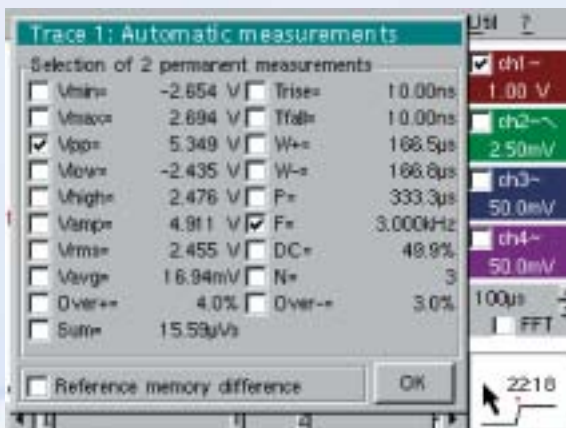
The MTX 3252 & MTX 3352, equipped with a memory depth that is 20 times' superior to that of any other oscilloscope, recording time is 20 times' longer than ever before and sampling frequency is 20 times higher, in other words, these instruments provide greater resolution that fully exploits the time base (1 ns to 200 s per division and up to 50 Ge/s).

The MTX 3354 goes even further to provide 100Ge/s repetitive sampling, and up to 200 Me/s in single-shot (2 channels). This model also stands out thanks to more accurate vertical resolution (10 bits).

🟡 The window of automatic measurements displays simultaneously the 19 parameters of the signal. For accurate and unambiguous analysis, 2 markers display the portion of the signal on which the first automatic measurement selected was performed; you can then select another zone by framing it with the manual cursors.

🟡 The fast comparison of two signals could not be simpler: after pressing the 🖫 key you compare directly the 2 traces and by checking "reference difference" you measure the differences of all the new signal's 19 parameters.

For greater simplicity and considerable time-saving, the user can define 2 automatic measurements (to be chosen from among 19).
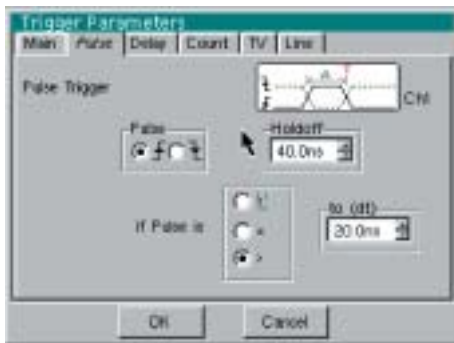
MTX 3252, MTX 3352 & MTX 3354 :
60, 100 and 150 MHz analyzer-oscilloscopes!

The upgraded activation modes of the MTX 3354: unprecedented!

The brand new MTX 3354 has classic edge activation (**Principal**) with adjustable parameters, just like any other oscilloscope. Although up to this, the user is in familiar territory, he will discover, in the "activation" menu, unprecedented possibilities for this category of instruments.
5 activation modes are presented in tabs :

🟡 **Pulse**, activation on pulse width
Activation becomes effective on the end edge of the pulse when its width corresponds to the selected comparison criteria (e.g. width < 25 μs).

🟡 **TV**, activation on a TV signal
The MTX 3354 enables activation on a specific line number, for 625 lines (SECAM) or 525 lines (PAL).

🟡 **Mains**
Activation occurs on rising and falling edges, as selected by the user, and enables an image of the instrument's supply voltage to be obtained.
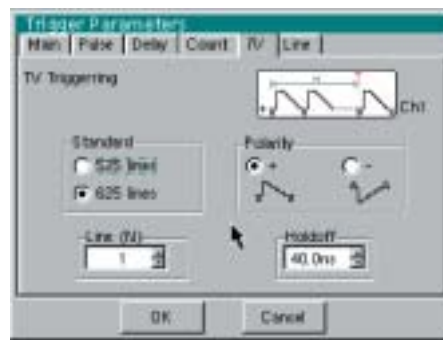

🟡 **Delay**, activation on edges with retarder
The user indicates the duration of the required delay, which is activated by the auxiliary source. Activation occurs on the following event of the main source after the end of the selected duration.
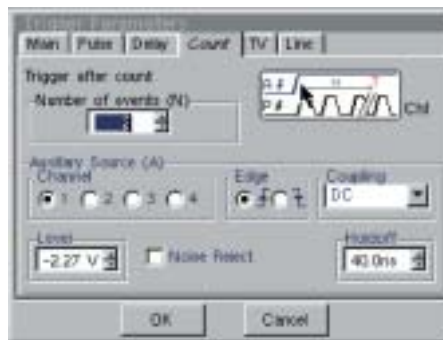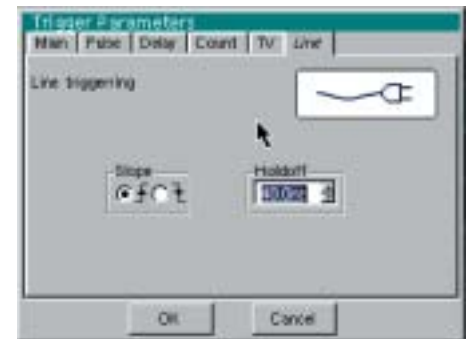
🟡 **Metering**, activation on edge with event metering
The user enters the number of events. At the end of this metering, activated by the auxiliary source, activation becomes effective during the following event of the principal source.

As well as these various parametering modes, **Holdoff** is available for the majority of these activation modes. This function enables the signal to the stabilised by inhibiting activation during a duration defined by the user.

Integrated instruments for a "global" tool

Originally designedl for displaying signals, the oscilloscope has become a veritable analytical tool.

🟡 Thus, the MTX 3354, MTX 3352 & MTX 3252 are capable of real time FFT and multi-channel analysis of the signal.

🟡 For users working more in the electrical engineering field, the analysis of 31 order multichannel harmonics is proposed as an option.

🟡 Finally, for all those who monitor the variations of physical or mechanical phenomena over time, a veritable fast digital logger can be integrated into the instrument, in the form of a software module.

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MTX 3252, MTX 3352 & MTX 3354 :
60, 100 and 150 MHz analyzer-oscilloscopes!

FEATURES		
MTX 3354	**MTX 3352**	**MTX 3252**
USER INTERFACE		
Display	5 ''7 colour LCD (115x86mm) - 320 x 240 + CCFL backlighting	5 ''7 monochrome or colour LCD (115x86mm) - 320 x 240 + CCFL backlighting
Number of curves on screen	4 curves + 4 references	
Controls	21 direct shortcut keys + 1 encoder + 1 "help" key Windows-like menus - 100% of controls are accessible via the mouse Choice of language per menu (English/French/German/Italian/Spanish)	
VERTICAL		
Bandwidth	150 MHz (bandwidth limiter for 15 MHz / 1.5 MHz and 5 kHz)	100 MHz (bandwidth limiter for 15 MHz)	60 MHz (bandwidth limiter for 15 MHz)
Number of channels	4 class 1 channels – Cat. II / 300 V	2 class 1 channels – Cat. II / 300 V	
Sensitivity	2.5 mV – 100 V/div + "Winzoom" vertical expansion x 10 (maximum sensitivity 250 µV/div)	2,5 mV – 100 V/div + "Winzoom" vertical expansion	
HORIZONTAL		
Scanning speed	1 ns to 200 s/div - graphic winzoom up to 100 factor	
ACTIVATION	Auto, normal, single-shot, Auto 50% CH1, CH2, CH3, CH4, LINE Edge, Pulse width, Delay, Event, Metering, TV line counter, Hold-off	Auto, normal, single-shot Auto 50% CH1, CH2, EXT, LINE Edge, TV trame counter,TV Line counter	
DIGITAL MEMORY		
Maximum sampling	Repetitive = 100 Gsam./s – Single-shot = 200 Gsam./s, Vertical resolution 10 bits	Repetitive = 50 Gsam./s – Single-shot = 100 Gsam./s Vertical resolution 8 bits	
Capacity	50,000 counts – 4 references + 16 x 50 k curves	50,000 points – 2 references + 8 x 50 k curves	
MODES	GLITCH, ENCLOSURE, AVERAGING, DIGITAL XY	
OTHER FUNCTIONS	Complete AUTOSET, FFT and MATH, V/T/Phase cursors, 19 automatic measurements	
RECORDER		
Acquisition rate	from 40 µs to 54 s sampling interval (2 s to 31 days of recording)	
Processing	Direct time-stamping, conversion and physical quantity units, cursor measurements and event search, files can be processed using standard spreadsheet programme	
HARMONICS ANALYZER		
Analysis range	31 orders simultaneously on 1 to 4 channels	
Processing	Permanent display: total RMS value and THD – Order selected: %F, phase, freq., Vrms	
Interfaces	RS232C, Centronics, USB, Ethernet with HTML server (standard)	RS232C, Centronics (standard) Ethernet with HTML server, USB (options)	
DIMENSIONS		
(HxLxD) - Weight	210 x 177 x 200 mm – 2.5 kg	

The ideal companion for class 1 oscilloscopes, to display signals that are not earth referenced!

The MTX1032-B and MTX1032-C differential test probes can be used alone or mechanically combined with the MTX oscilloscopes. Equipped with 2 input channels, our test probes come in "Laboratory" type casing and work with banana measurement or very long coaxial/banana leads (depending on model)

Main features
- 30 MHz or 50 MHz bandwidth
  - Differential input voltage range between ± 0.1 and ± 600 V
    - Comply with DBT safety standards as per IEC 61010-1,
      and with EMC standards as per NF EN 61326-1 (07/97)+ A1 (10/98) + A2 (2001)

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MTX 3240: the stand-alone meter-generator

A generator with innovative features

Its advanced technology allows each user to benefit from its new, essential functions:

- Frequency settings - guarantees stability to the nearest digit, and intelligent accelerator with automatic range change for frequency

- Automatic range changing optimized for "LEVEL and OFFSET" amplitude

- Duty cycle adjustable without varying or dividing the frequency

- "LOGIC" function for a fast and simple solution to generating logic signals with directly adjustable thresholds

- A rugged generator with protected 60 V_{DC} / 40 V_{AC} outputs

Combined functions

Another advantage of these innovations: complete functionality. The MTX 3240's combined functions enable autonomous operation which means that, when simply testing settings, one can avoid the systematic use of an oscilloscope or multimeter.

- Frequency control loop and display

- AMPLITUDE vpp (peak/peak) and OFFSET V_{DC} check and display

- Duty cycle check and display

The MTX 3240 is also a rational investment for it is also a 100 MHz frequency meter (Cat. I, 300 V), which means that it is not necessary to purchase an instrument for occasional use.

And in order to meet the user's requirements in terms of automated systems in an economical way, a 100% programmable version of this generator exists via a rapid, SCPI-compatible link.

MTX 3240 with built-in frequency meter

FEATURES								
Display	**Frequency range**	**Signal forms**	**Outputs**	**Sweep**	**External frequency meter**	**Power supply**	**Dimensions H x L x W**	**Interface MTX 3240-P**
LCD 50 x 140 mm Main display 20 mm 4 variables at a time	0.1 Hz to 5.1 MHz 7 ranges + fine-tuning to the nearest digit + accelerator Accuracy: 0.05 %	Sine, square, triangle, pulse, ramp, TTL, LOGIC Distortion < 0.5 %	1)Main: up to 20 Vpp open circuit, automatic range 2) TTL Protection: overload 60 V_{DC} / 40 V_{AC}	LIN or LOG CONTINU 1: 50 Min 10 ms to 10 s Internal or external	0.1 Hz to 100 MHz Accuracy: 0.05 % Input 300V, Cat. I Automatic responsiveness	115 V - 230 V - 240 V 50 / 60 Hz 300 V, Cat. II	170x270x190 mm Weight: 2.8 kg	optical RS232

Accessories and information for ordering

Standards: safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998

Warrantee: 3 years

The MTX 3240 generator is supplied with a mains power cable, a user's manual and an interactive presentation of the instrument on CD-ROM.

To order

MTX3240   Functions Generator 5.1 MHz

MTX3240-P Functions Generator 5.1 MHz + RS232
           Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM.

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MTX 3250: the built-in multimeter-analyzer

A multimeter at the leading edge of modes

It all begins with a connection reduced to 3 terminals which limits maneuvers and errors and allows complete current "AUTORANGING" between 50 µA and 20 A. Then with its 3-way display, the MTX 3250 gives measurement combinations that meet current applications simply and efficiently, as for example, bandwidth measurement (attenuation in dB and frequency display).

- For metrology control, the "SPEC" Mode calculates and displays the instrument's uncertainties according to the ranges and the measured value

- Mode **MATH** gives a direct reading of the measured quantity, as well as the corresponding physical unit

- "Surveillance" Mode **SURV** records the minima and maxima so to catch and date faults

- "RELATIVE" Mode, expressed in absolute, percentage or dB (ratio), makes direct operations

Associated features

Like the generator of the same family, the MTX multimeter is an exceptional, multifunctional device. Thanks to its signal analysis, there is no need for the user to use other instruments (an oscilloscope for example) when verifying made measurements.

Impossible to make errors, which are so frequent and yet often ignored, due to very high crest factor. In fact, the MTX 3250 measures rapid peaks at 500 µs non-stop and lets you know when it finds a fault. Better still, when "AUTO PEAK" Mode is validated, the multimeter automatically switches to the range best suited to the type of signal measured. Since crest factor is displayed, one can also make an initial quantitative diagnosis on signals.

The MTX 3250 is a rational investment for it is also a frequency meter, a thermometer and even a logger, which means that it is not necessary to purchase instruments that one doesn't use that often. Also for recording up to 4 channels and 12 parameters in the laboratory, the "data logger" version of this multi-purpose instrument offer high-performance service with its associated PC software.

Temperature is measured directly starting from Pt 100 or Pt 1000, and in the same way that frequency is measured, up to 1 MHz, with period and duty cycle.

And in order to better meet the users' expectations of automated systems, a 100% programmable version of this instrument exists via a SCPI-compatible, RS232 optical link at 57,600 bauds.

FEATURES							
Display	VDC ranges and basic accuracy	VAC ranges and basic accuracy Bandwidth	IDC ranges and basic accuracy	IAC ranges and accuracy Bandwidth	Ohm ranges and basic accuracy	Dimensions H x L x W	Interface MTX 3250-P MTX 3250-A
50,000 counts LCD 50 x 140 mm Backlit 3-way display	500 mV - 500 V & 1000 V 0.08%L+3D	500 mV - 600 V 0.5%R + 3D (50,000 counts) 100 kHz	500 µA - 500 mA & 10 A 0.2%R + 3D	5 µA – 500 mA & 10A 0.5%R + 3D 10 kHz	500 Ω - 50 MΩ 0.1%L + 3D	170 x 270 x 190 mm Weight: 2.3 kg	optical RS232 57,600 bauds

- Other measurements: continuity test, diode test, 50 nF – 50 mF capacitance, frequency 1 Hz -1 MHz, duty cycle 0.01% to 100%, temperature - 200 to + 800°C, pt 100 and pt 1000.
- PEAK HOLD function: Pk+/ -500 µs on I & V, crest factor
- Additional features: SURV = dated MIN/MAX / MATH = dB, dBm, ax+b / OFFSET (Offset, nil, delta%) / Data HOLD & Auto HOLD

- Additional features on the MTX 3250-P: PRINT, 0.5 s to 10 h rate, clock and calendar, RS232 optical drive
- Additional features on the MTX 3250-A: DATA LOGGER with 1,500 stored measurements, 1 or 3 values at a time.

Accessories and information for ordering

Standards: safety as per IEC 61010-1, 2001 and EMC as per NF 61326-1, 1998
Warrantee: 3 years
The MTX 3250 multimeter is supplied with 1 mains power cable, 1 set of measurement leads, a user's manual and an interactive presentation of the instrument on CD-ROM.

To order

MTX3250	50,000-count Benchtop Multimeter
MTX3250-P	50,000-count Benchtop Multimeter + RS232
	Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers on CD-ROM.
MTX3250-A	50,000-count Benchtop Multimeter + Logger
	Supplied with an RS232 optical link, a programming manual and Labwindows / Labview drivers and the SX-DMM data logger software on CD-ROM.

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Efficiency displayed with elegance

An attractive structure and a shape that makes room

The MTX family's appealing and modern design, which is especially compact, will fit perfectly into your workspace.

Placed directly on a counter top, their design leaves great room in front of them. Their height has been calculated so they fit nicely in half-shelf spaces. Having a standard length and not very deep, they can be placed on top of another instrument.

Since they have a built-in handle and are light in weight, these instruments are easy to displace and carry.

A leader in technology, innovative to the fingertips

The qualities of the MTX do not limit themselves to their looks.

With the latest 16 or 32-bit microprocessors, a downloadable software and a 100% digital calibration, these instruments are smart too. As for safety, a resettable electronic protection eliminates the need for the mains fuse on certain models.

All the models in the MTX Compact family can be fitted with high-performance communications interfaces and communication standard SCPI.

Even the selection keyboard is the latest in technology with its microswitch contacts that have an exceptionally long life span: more than 100,000 maneuvers. The markings on the keys are made with permanent laser engraving.

With the MTX family, Metrix makes it possible for each professional to access instruments which are the best of the best.

A user-friendly, man-machine interface with exceptional legibility

Even at a distance or in poor light (sun, neon), the measurements are perfectly readable, perfectly legible thanks to its large (50 x 140 mm), dark background display and adjustable led-matrix backlighting as well as the exceptional height of the main display of 20 mm (MTX 3240 and MTX 3250).
The very attractive adjustable LCD screen of the MTX 3352 and MTX 3252 is available in monochrome and colour versions, with also excellent legibility.

Situated on the front panel, the operations zones of the whole MTX Compact familty are large, coherent, and organized; and the measurement connections are easily accessible.
On the generator and multimeter, primary functions are selected directly with keys that are marked with their function and a led. A high-performance encoder makes it possible to make settings, and contextual keys located at the edge of the screen clearly show the configuration.
In addition to direct access via the keyboard, the oscilloscope is also controlled via the mouse, under a "Windows-like" environment, facilitating learning. Unprecedented in this device category.

For assistance and ordering