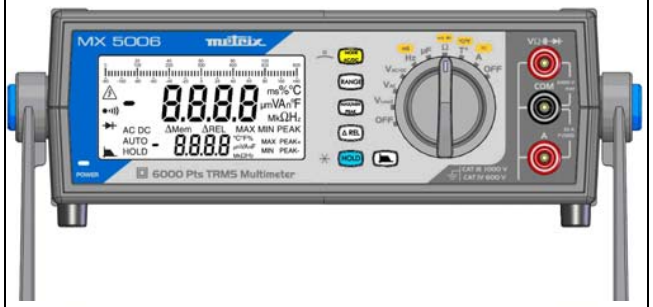
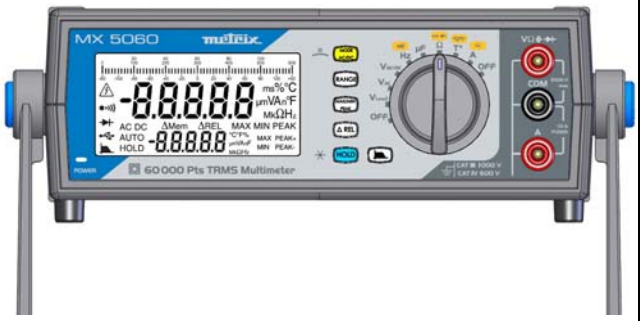
Benchtop Multimeters

MX 5006 - 6000 pts
MX 5060 - 60000 pts

User's Guide (*)





(*) Complete form of the user's manual is available on the CD supplied with the instrument. Download is possible from our support site : *www.chauvin-arnoux.com.*

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I - General instructions

1 - Introduction

Congratulations! You are the new owner of a **benchtop multimeter.**
We thank you for this sign of confidence in the quality of our products.
The line of instruments to which it belongs comprises the following models:

MX 5006	**6000 pts**	**TRMS**	-	
MX 5060	**60000 pts**	**TRMS**	**USB**	Range 60 mV

It complies with safety standard NF EN 61010-1 + NF EN 61010-2-030 concerning electronic measuring instruments.
For best results, read this manual closely and observe the precautions of use.
Failure to observe these warnings and/or directions may damage the instrument and/or its components and may endanger the user.

2 - Precautions and safety measures

This instrument is been designed to be used as follows:
- indoors
- in an environment of pollution degree 2
- at an altitude of less than 2000m
- at a temperature between 0°C and 40°C
- at a relative humidity below 80% up to 35°C.

The safety of any system incorporating the instrument is the responsibility of the system integrator.
It can be used for measurements on 1000V, CAT III and 600V, CAT IV circuits.
However, some accessories may lead to the use of this instrument on circuits of a lower voltage and category.

2.1 Before use

Comply with the environmental and storage conditions.
Check the integrity of the guards and insulation of the accessories. Any item of which the insulation is deteriorated (even partially) must be removed from service and scrapped.
A change of colour of the insulation is a sign of deterioration.
Supply: make sure that the power cord supplied with the instrument is in good condition.
It must be connected to line power (230V ±10%, 300V, CAT II), (US version: 110V ±10%)
The removable power cords must be replaced by cords having the appropriate rated characteristics.

2.2 During use

Read closely all notes preceded by the ⚠ symbol.
The instrument's power supply has an electronic protection device that resets automatically after the fault disappears.
As a safety measure, use only the appropriate leads and accessories supplied with the instrument or approved by the manufacturer.

3 - Definition of the measurement categories

CAT II: Test and measurement circuits directly connected to the points of use of the low-voltage network (power outlets and other similar points).
E.g.: Measurements on the network circuits of household appliances, portable tools, and similar devices.

CAT III: Test and measurement circuits connected to parts of the low-voltage network of the building.
E.g.: Measurements on distribution panels (including secondary meters), circuit-breakers, wiring including cables, bus bars, branch boxes, disconnecting switches, power outlets in the fixed installation, and industrial appliances and other equipment, such as motors permanently connected to the fixed installation.

CAT IV: Test and measurement circuits connected to the source of the low-voltage network of the building.
E.g.: Measurements on devices installed before the main fuse or the circuit-breaker of the building installation.

ATTENTION :
Using a measuring instrument, a lead, or an accessory belonging to a lower measurement or voltage category derates the resulting system (instrument + leads + accessories) to the lowest measurement category and/or service voltage of any of the components.

I - General instructions (cont'd)

4 - Symbols on the instrument

⚠ Warning: Hazard. The operator must refer to the manual each time this danger symbol is encountered.

Double insulation

In the European Union, this product is subject to selective collection for the recycling of electrical and electronic equipment waste in accordance with Directive WEEE 2002/96/EC: this equipment must not be treated as ordinary waste. The spent batteries must not be treated as ordinary waste. Take them in to the appropriate collection point for recycling.

Risk of electric shock: directions for connection and disconnection of the inputs. Always connect the probes or adapters to the instrument before connecting them to the measurement points. Always disconnect the probes or cords from the measurement points before disconnecting them from the instrument. These directions apply before the instrument is cleaned.

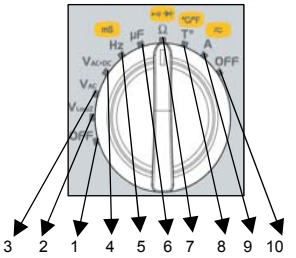
Earth

CE The CE marking indicates conformity with the European "Low Voltage", "EMC", "WEEE" and "RoHS" directives.

The **MX 5060** has a USB communication interface, used:
- to configure and read the data measured by the instrument (using SX-DMM software),
- to recalibrate the instrument.

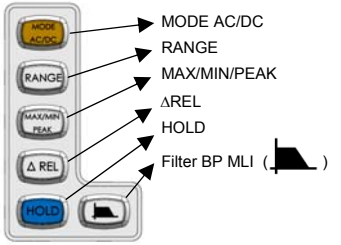
II - Description of the instruments

1 - Switch



1. OFF mode - Switches the multimeter off
2. AC voltage measurement at low impedance (VLowZ)
3. RMS AC voltage measurement
4. DC or AC+DC voltage measurement at high impedance (V)
5. Frequency measurement
6. Capacitance measurement
7. Resistance measurement, audible continuity measurement, diode test
8. Temperature measurement T, K
9. Current measurement A (AC, DC, or AC+DC)
10. OFF mode : switches the multimeter off

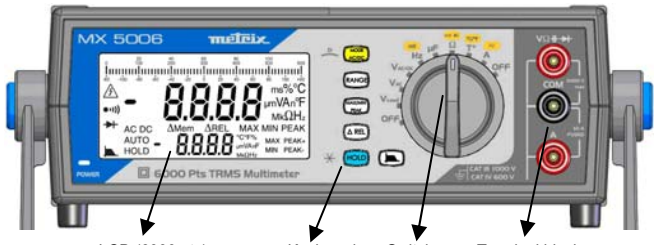
2 - Keyboard



II - Description of the instruments (con'd)

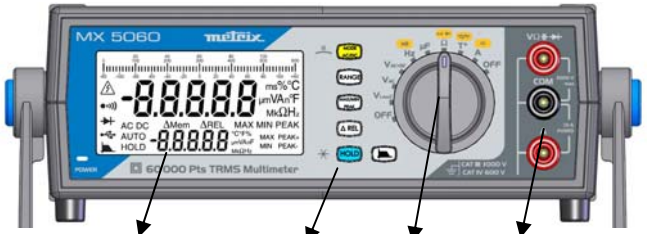
1 - Front panel

1.1 MX 5006



LCD (6000 pts) Keyboard Switch Terminal block

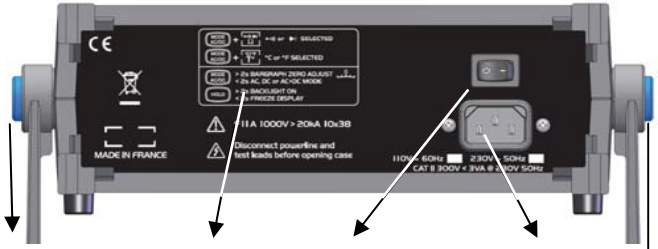
1.2 MX 5060



LCD (60000 pts) Keyboard Switch Terminal block

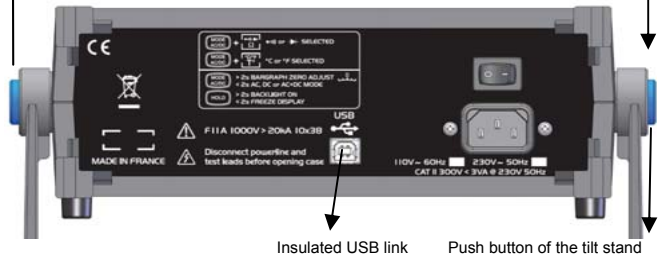
2. Rear panel

2.1 MX 5006



Push button of the tilt stand Reminders Switch ON/OFF Power plug 110 V or 230 V

2.2 MX 5060



Insulated USB link Push button of the tilt stand

3. Tilt stand

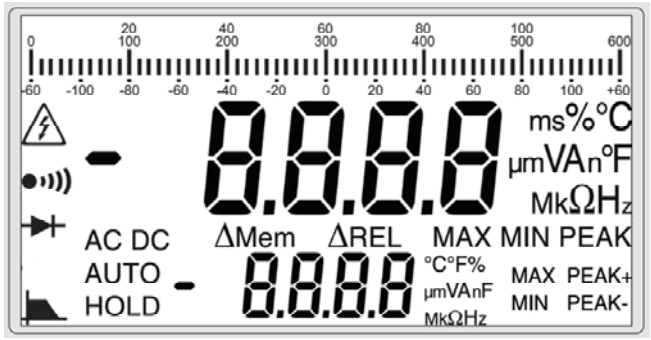
The tilt stand/handle has 2 blue pushbuttons on the sides that are used to unlock it:

- Press the pushbuttons simultaneously
- Adjust the prop to the desired position
- Release the 2 pushbuttons to lock the handle in position

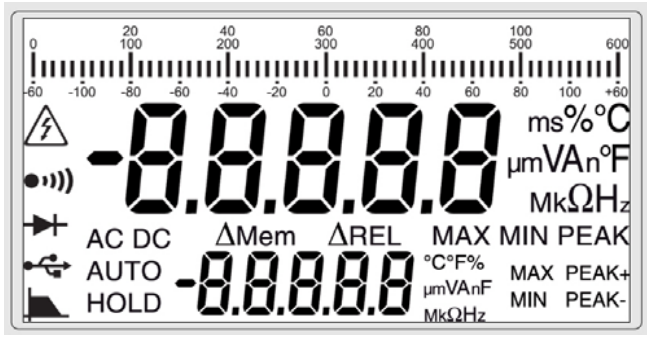
III - Functional description

1 - Display

1.1 MX5006, double display, 6000 pts



1.2 MX 5060, double display, 60000 pts



2 - Quantities measured, Units

Quantities measured	
VLowZ	AC voltage measurement at low impedance
VAC	AC voltage measurement
VAC/DC	DC or AC+DC voltage measurement at high impedance (V)
A	Current intensity measurement
Hz	Frequency measurement
Ω	Resistance measurement
µF	Capacitance measurement
T°	Temperature measurement
ms	Period measurement
%	Measurement of the relative value

Units	
V	Volt
A	Ampère
Hz	Hertz
Ω	Ohm
F	Farad
°F	Degree Fahrenheit
°C	Degree Celsius
ms	milliseconde
k	kilo (kΩ - kHz)
M	Mega (MΩ - MHz)
n	nano (nF)
µ	micro (µV - µA - µF)
m	milli (mV - mA - mF)

III - Functional description (cont'd)

3 - Symbols on the display

	Designation
AC	Measurement of the RMS AC signal
DC	Measurement of the DC signal
AC + DC	Measurement of the TRMS AC and DC signal
AUTO	Automatic range switching
ΔREL	Values relative to a reference
ΔMem	Presence of a relative value in memory
HOLD	Storage and display of stored values
MAX	Maximum value
MIN	Minimum value
PEAK+	Maximum peak value
PEAK-	Minimum peak value
.run r.un ru.n	Capacitance meter, acquisition in progress
-----	Frequency measurement impossible
O.L	Overshoot of the measurement capacities
V	Volt
Hz	Hertz
F	Farad
°C °F	Degree Celsius, degree Fahrenheit
A	Ampere
%	Percentage
Ω	Ohm
ms	millisecond
n	Symbol of the nano- prefix
µ	Symbol of the micro- prefix
m	Symbol of the milli- prefix
k	Symbol of the kilo- prefix
M	Symbol of the mega- prefix
	Symbol of the audible continuity measurement
	Symbol of the measurement and testing of a semiconductor junction
	Warning, possibility of electric shock (*)
	USB communication
	300Hz MLI filter

(*) When voltages exceeding 60 VDC or 25 VAC are measured, the symbol flashes on the display unit.