metrix®

2,000 to 5,000-count AVG or TRMS Digital Multimeters
MX 21 - MX 22 - MX 23 - MX 24 - MX 24B - MX 26

MX Concept Series

Ergonomic, rugged and safe

- AVG or TRMS (AC+DC) measurements for precise, accurate results
- Bandwidth of up to 100 kHz
- Innovative design with a compact, rugged casing
- Large display with bargraph and backlighting for easy reading
- Numerous functions: MIN/MAX, AVG, MEM and/or AUTO MEM, etc.
- Single access to batteries and fuses with extra safety
- An optical RS 232 link to process the data on a PC with high-performance, user-friendly software
- An elastomer protective sheath and a wide range of measurement accessories
- Recyclable, re-usable instruments in compliance with the DEEE - 2002/96/CE directive.

metrix® A Brand of CHAUVIN ARNOUX GROUP

2,000/4,000/5,000-count AVG or TRMS digital multimeters

Elegant, rugged design

In addition to their elegant design, the MX Concept multimeters are particularly well balanced and comfortable to handle. Furthermore, in their elastomer sheath, they can resist even the severest operating conditions. The instrument can also be stored safely by reversing it in the sheath, thus ensuring that the screen and keys are fully protected.

All-round simplicity

A rotary switch and a set of extra-wide keys give you direct access to all the necessary functions (MIN, MAX, AVG, measurement storage, etc.).
The labels on the keys are particularly explicit so that users can quickly learn to use the instrument's functions intuitively.

Results at a glance

The MX Concept models all have a large display. This allows indication of the measurement unit and conditions (batteries too low, AC or AC+DC measurement, autoranging, etc.).
On the MX 26, MX 24, MX 23 and MX 22, a fast segmented bargraph instantly indicates the measurement trend and backlighting makes the display easy to read even in dark conditions (MX 24 and MX 26).

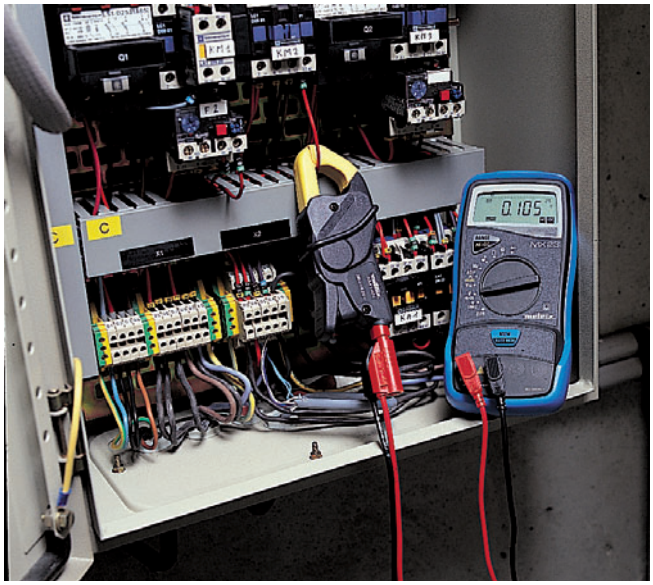
▶ If you turn them round in their sheath, MX Concept multimeters will resist even the severest treatment!

Storage of measurements

All the instruments in the MX Concept range are equipped with the MEM storage function.
By gently pressing this key, you can lock the display, while a second press switches it back to normal display mode. In addition, the MX 26, MX 24 and MX 23 are equipped with the AUTO MEM function. This enables you, after opening the measurement circuit, to hold the last non-zero value measured which remained stable for at least 1 s.
This is particularly useful when the measurement points are difficult to access, forcing the user to concentrate on the test probes.

Direct display of currents

Although it does not have a current input, the MX 21 offers an original function for reading measurements in Amperes. Simply use an MN 89 current clamp (or one of our other 100 mV/A models) and set the rotary switch to the clamp position. The instrument will then automatically manage the transformation coefficient and display the AC current values directly in Amperes.



Measurements in µA

With its maximum resolution of 0.1 µA, the MX 22 can be used to measure very low AC or DC currents. This is particularly useful for applications in electronics, for example.

Dedicated functions

For simpler use, some models (MX 26, MX 24 and MX 23) offer dedicated functions.
In this way, when the rotary switch is set to ADP, these multimeters propose a 500 mV DC or AC+DC calibre for the use of complementary accessories: temperature sensor, tachometric sensor, current sensor, etc.
In addition, their V low Z function (low impedance) avoids measuring the phantom voltages which may be encountered in electrical systems due to the stray capacitance of the cables.

Even greater safety

Everything is safe! First of all, automatic shutdown of the instrument after 30 minutes without use optimizes the life span of your battery (this can be deactivated on the MX 26 and MX 24). Secondly, an automatic detection function indicates the presence of a voltage greater than 24 V or a current greater than 10 A (MX 26, MX 24 and MX 23).
Lastly, the battery and fuses are not accessible unless the measurement leads have been disconnected.

Battery and fuse changes made easy!

What could be more tiresome than looking for a screwdriver when you need to change the batteries or fuses? The MX Concept casing is specially designed to make this operation quick and easy, using any tool to hand: coin, pen, steel rule, etc.

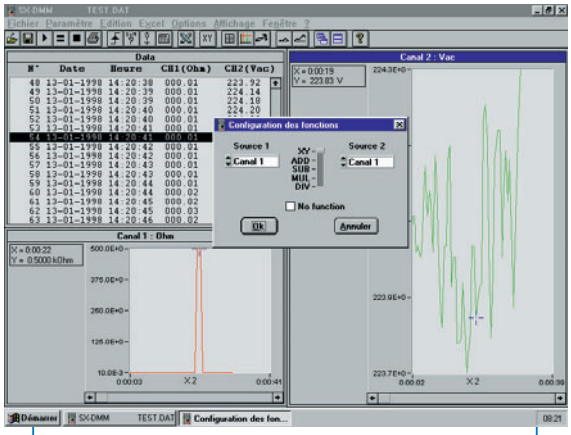
▸ Access to the battery and fuses is particularly easy and they can be changed in total safety, as it is impossible to open an MX Concept casing without first disconnecting the leads.
In addition, both the battery and the fuses benefit from genuine dedicated housings separated from the electronic circuit board.

Communication and software

Thanks to its infrared digital output, the MX 26 can be connected directly to a computer in total safety.

Stream acquisition is performed at rates of up to 2 measurements per second. Users can record the data, display them in graphic form and export them, at any time, into spreadsheet software such as Excel (SX-DMMK2 software).

It can also be coupled with up to 4 multimeters to constitute a genuine multi-channel measurement acquisition system.



▸ The SX-DMMK2 multilingual communication kit is easy to use with the MX 26 for data acquisition

▸ The connector of the MX 26's optical digital interface plugs directly into the instrument without any further action required.

The MX Concept range

MX 21

The excellent price/performance ratio of the MX 21 makes this 2,000-count digital multimeter the leader among measurement instruments designed for day-to-day electrical applications.

Its 18 mm-high digits make the display exceptionally easy to read.

It is ideal for measuring AC currents with a 200 A clamp (included with the MX0021-T and MX0021-W versions).

MX 22

The MX 22, a 4,000-count digital multimeter, offers a particularly wide range (400 µA to 10 A full scale) for measuring currents directly.

In addition, its fast bargraph can be used to assess variations of the measurement or of the minimum/maximum values.

MX 23

The MX 23 is a highly accurate 5,000/50,000-count TRMS digital multimeter with reinforced safety features. It gives the true root-mean-square value whatever the waveform of the signal, whether sinusoidal or distorted, with or without a DC component. Range selection is automatic by default and helps to prevent handling errors.

This multimeter includes an ADP input for current measurement with clamps (see selection tables).

This fuseless model is particularly effective and economical.

MX 24 / MX 24B

As soon as it was launched on the market, the MX 24B became the reference among 5,000/50,000-count TRMS digital multimeters.

Equipped with an ADP input, it can be hooked up to a variety of probes and accessories: light meter, current clamp, thermometer, tachometer, etc.

It also includes functions for low-impedance measurement (VLowZ), current measurement directly or with clamps, a capacitance meter, a frequency meter and a MIN/MAX/AVG monitoring mode.

MX 26

The MX 26 is a 5,000/50,000-count TRMS digital multimeter which is unique in its category because it offers a bandwidth of up to 100 kHz.

With its infrared digital output, the MX 26 can be connected directly to a computer in total safety. Users can then set up a genuine data acquisition system with graphs, charts, alarms, etc. (SX-DMMK2 option).

Quick selection guide for clamps suitable for use with MX Concept multimeters

General purpose	AC Current							
Products	**MINI02**	**MINI05**	**MN08/09**	**MN89**	**C106/C107**	**Mini*FLEX***	**Mini*FLEX***	**Amp*FLEX*™**
Reference	P01105102Z	P01105105Z	P01120401/02	P01120415	P01120304/05	P01120560	P01120561	P01120504
Useful measurement range associated with the multimeter for use of 5% to 100 % of the multimeter's ranges								
MX21	-	5 mA to 100 A	-	0.5 A à 240 A	1 A to 1,200 A	0.5 A to 300 A	0.5 A to 3,000 A	0.5 A to 2,000 A
MX22	50 mA to 100 A		0.5 A to 240 A		2 A to 1,200 A			
MX23	-	25 mA to 100 A	-		25 A to 1,200 A			
MX 24	2.5 A to 50 A		2.5 A to 50 A					
MX24B / MX26	25 A to 100 A		12 A to 240 A					
Clamp performance								
Bandwidth	10 kHz	500 Hz	10 kHz	10 kHz	10 kHz	20 kHz	20 kHz	20 kHz
Typical accuracy	1%	3% - 2%	1 %	2 %	0.5%	1 %	1 %	1 %
Clamping diameter	12 mm	12 mm	20 mm	20 mm	52 mm	54 mm	80 mm	140 mm
Output								
Direct reading	YES 1mA/A	YES 1mV/mA - 1mV/A	YES 1mA/A	NO 100mV/A	YES 1mV/A	NO 100 mV/A – 10 mV/A	YES 10 mV/A – 1 mV/A	YES 10 mV/A – 1 mV/A
Connection	Lead	Lead	Sockets/Lead	Lead	Sockets/Lead	Casing spacing 19mm	Casing spacing 19mm	Casing spacing 19mm

Recommended

Specific use	AC & DC current			Leakage current	Process	Current transformer
Products	**E6N**	**PAC11**	**PAC20**	**MN73**	**K2**	**MN71**
Reference	P01120040A	P01120068	P01120071	P01120421	P01120074A	P01120420
Useful measurement range associated with the multimeter for use of 5 % to 100 % of the multimeter's ranges						
MX21	5 mA to 80 $A_{AC/DC}$	0.4 A to 600 A_{DC} 0.2 A to 400 A_{AC}	1 A to 1,400 A_{DC} 1 A to 1,000 A_{AC}	10 mA to 240 A_{AC}	100 µA to 450 mA_{DC} 100 µA to 300 mA_{RMS}	10 mA to 12 A
MX22			2 A to 1,400 A_{DC} 2 A to 1,000 A_{AC}		200 µA to 450 mA_{DC} 200 µA to 300 mA_{RMS}	20 mA to 12 A
MX23	25 mA to 80 $A_{AC/DC}$		25 A to 1,400 A_{DC} 25 A to 1,000 A_{AC}	25 mA to 240 A_{AC}	2.5 mA to 450 mA_{DC} 2.5 mA to 300 mA_{RMS}	250 mA to 12 A
MX 24						
MX24B / MX26						
Clamp performance						
Bandwidth	2 kHz ou 8 kHz	10 kHz	5 kHz	10 kHz	1.5 kHz	10 kHz
Typical accuracy	2% ou 4%	1.5% - 2%	2%	1% - 2%	1%	1%
Clamping diameter	11.8 mm	39 mm	39 mm	20 mm	3.9 mm	20 mm
Output						
Direct reading	YES 1 V/A – 10 mV/A	YES 10 mV/A – 1 mV/A	YES 1 mV/A	YES 1 V/A – 10 mV/A	NO 10 mV/mA	NO 100 mV/A
Connection	Lead	Lead	Lead	Lead	Lead	Lead

Recommended

TECHNICAL SPECIFICATIONS	MX 21	MX 22	MX 23	MX 24	MX 24B	MX 26
Display resolution (counts)	2,000	4,000	5,000/50,000			
Measurements	AVG AC		TRMS AC+DC			TRMS AC & AC+DC
20 meas./s fast bargraph			•			
Backlighting / Auto-shutdown	-/-	-/•		•/•		
Bandwidth	500 Hz		1 kHz			100 kHz
Auto / manual ranges			•/•			
MEASUREMENTS AVAILABLE						
DC voltage (ranges)	20.00 mV to 600 V	40.00 mV to 600 V	500.0 mV to 1,000 V			
DC voltage basic accuracy	1 % R + 4 D	0.3 % R + 2 D				
AC or AC + DC voltage (ranges)	200.0 mV to 600 V	40.00 mV to 600 V	500.0 mV to 750 V			
AC or AC+DC voltage basic accuracy	1.5 % R + 8 D	1 % R + 4 D	1.5 % R + 2 D			1 % R + 3 D
DC/ AC+DC current (ranges)	Up to 200 A_{AC} with MN89 clamp	400 µA to 10 A	with clamp as accessory	50.00 mA - 20.00 A	500.0 mA - 20.00 A	500.0 mA - 10.00 A
DC current basic accuracy	-	1 % R + 3 D	-	0.3 % R + 2 D		
AC or AC+DC current basic accuracy	1 % R + 4 D	1.2 % R + 5 D	-	1.5 % R + 2 D		
Resistance (ranges / accuracy)	200.0 Ω to 20.00 MΩ / 1% + 4D	400.0 Ω to 40.00 MΩ / 0.5% + 4D	500.0 Ω to 50.00 MΩ / 0.3% + 3D			
Fast continuity test with buzzer	< 750 Ω •)) / 500ms	< 40 Ω •)) / 100ms	< 10-20 Ω / 10ms			<10-15 Ω / 1ms
Diode test	•					
Frequency (ranges / accuracy)	-	4,000 kHz à 4,000 MHz / 0,1%L + 3D	5,0000 Hz à 500,00 kHz / 0,03% + 2D (5000 ou 50000 points)			
Capacitance (ranges / accuracy)	-		De 50,00 nF à 50,00 mF / 1% L + 4D			
Variable speed drive filter	Bandwidth 500 Hz		Bandwidth 1 kHz			-
Direct measurements with clamp	• (see compatibility tables)					
Low-impedance measurements (V Low Z)	-		5.000 V to 750 V (AC+DC)			5.000 V to 750 V (AC)
MEASUREMENT PROCESSING						
Hold / Auto-Hold display functions	•/-		•/•			
Min / Max / Avg monitoring	-/-/-	•/•/-	-/-/-	•/•/•		-/-/-
1ms fast peak measurement	-					MAX and MIN
SAFETY AND RELIABILITY						
EN61010-1, 2001	600 V CAT III					
Batteries / fuses	Separate compartments - protected access and fuse test system (no fuse on MX 23)					
"Closed-casing" soft calibration	-		•			
GENERAL SPECIFICATIONS						
PC communication / back-up	-					Optical serial link and software
Power supply	9 V battery					
Battery life	300 h	200 h	250 h			500 h
Dimensions (H x L x W) / weight	170 x 80 x 35 mm / 285 g with battery					
Warranty	1 year		3 years			

To order

Accessories included as standard for all the models: an elastomer sheath, a set of 2 safety leads, 9 V battery installed

MX0021-L : MX 21 delivered in hard case.
MX0021-T : MX 21 delivered in hard case with 1 current clamp.

MX0021-Z : MX 21 delivered in blister.
MX0021-W : MX 21 delivered in blister pack with 1 current clamp.

MX0022-L : MX 22 delivered in hard case.

MX0022-Z : MX 22 delivered in blister pack.

MX0023-CG : MX 23

MX0023-CL : MX 23 delivered in hard case.

MX0024-CG : MX 24

MX0024-CL : MX 24 delivered in hard case.

MX0024B-CL : MX 24B delivered in hard case.

MX0024B-CZ : MX 24B in blister pack.

MX0026-G : MX 26

MX0026-T : MX 26 delivered in hard case with 1 optical interface and software (SX-DMMK2 Kit)

Optional accessories

HX0002 : Simple shockproof sheath for MX21/MX22/MX23/MX24
AE0237 : Sheath with stand for MX21/MX22/MX23/MX24
HX0010 : Shockproof sheath with stand for MX26
HX0018 : Carrying case (110x240x50 mm)
AE0190 : Carrying bag (185x270x60 mm)

HX0009 : Hard case with Metrix logo (270x195x65 mm)
AE0227 : Hard case with Metrix logo (320x260x90 mm)
P01651610Z : Infrared temperature probe, -30 °C to +550 °C (1mV/°C)
HX0064 : CMS clamp (banana lead)

CHAUVIN ARNOUX GROUP

For information and ordering

FRANCE
Chauvin Arnoux
190, rue Championnet
75876 PARIS Cedex 18
Tel: +33 1 44 85 44 38
Fax: +33 1 46 27 95 59
export@chauvin-arnoux.fr
www.chauvin-arnoux.fr

UNITED KINGDOM
Chauvin Arnoux Ltd
Nelson Ct, Flagship Sq, Shaw Cross Business Pk
Dewsbury, West Yorkshire - WF12 7TH
Tel: +44 1924 460 494
Fax: +44 1924 455 328
info@chauvin-arnoux.co.uk
www.chauvin-arnoux.com

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

Code : 906211210 - Ed. 1 – 01/2010 - No contractual document, please confirm caracteristics before ordering.