metrix®

Bench-top Multimeters

6,000 and 60,000 counts

MX 5006
MX 5060



Simple and effective for your laboratories...

- Error-free current measurement up to 10 A thanks to the single A terminal
- TRMS AC+DC and up to 60,000 counts displayed with 100 kHz bandwidth
- Measurement stability with the V_{LowZ} calibre which eliminates spurious voltages
- Measurement stability on variable speed drives with the 300 Hz PWM filter
- Recording and monitoring of the signed Min, Max and Peak values
- Compliance with IEC 61010 1000 V CAT III double insulation, optimized safety

Eco Conception

metrix® A Brand of CHAUVIN ARNOUX GROUP

Versatile, communicating multimeters

Designed for operation in total safety, the MX 5006 & MX 5060 TRMS multimeters can be used for a wide variety of applications in the electrical engineering and electronics sectors. With their measurement ranges and the multiple possible combinations, they are particularly versatile.

The table below shows all the functions which you can apply (or not) to the measurements in order to broaden their scope.

Measurement type / Functions	Max Min	Peak ±	ΔREL	Ω	Range Auto	Range Manual	HOLD	PWM filter
VLowZ voltage AC voltage AC+DC voltage Current (A)	●	●	●	In ΔREL mode only	●	●	●	●
Voltage VDC Current ADC	●		●	●	●	●	●	
Voltage 60 mVDC	●		●	●		●	●	●
Voltage 60 mVAC Voltage 60 mVAC+DC	●	●	●			●	●	●
Temperature	●		●	In ΔREL mode only	●	●	●	
Resistance	●		●		●	●	●	
Capacitance	●		●		●	●	●	
Frequency	●		●		●		●	
Period 1/F					●		●	
Continuity					●			
Diode test					●		●	

Ergonomics

These laboratory multimeters are stackable, but are also equipped with a multi-directional stand. Designed on the basis of Transflective LCD technology, **their large 16 mm display is exceptionally easy to read**. As a result, the MX 5060 offers 60,000 measurement counts with a double backlit display and a bargraph with central zero.



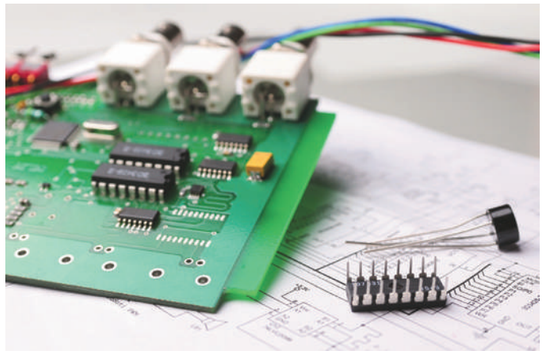
The screen (450 x 890 mm) contains 4 display areas:
- double digital display of the values measured
- display of the units
- display of the symbols
- analogue display via the 61-segment bargraph

The multi-directional stand ensures that it is easy to read on your bench-top. The coloured front panel of the MX 5006 & MX 5060 enables quick identification of the main and secondary functions (yellow).

For greater simplicity and to save space, the power cable is stowed by winding around the multimeter's feet.

All the quantities for electronics...

These multimeters are equipped with all the functions required for electronics applications: direct current, resistances, frequency, peak voltages, RMS values, etc. With their 100 kHz bandwidth for VDC, their 60 mV calibre and the MX 5060's µV resolution, these bench-top multimeters perform all the measurements with an accuracy comparable to handheld 0.05%R VDC multimeters.



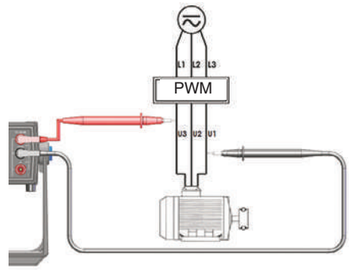
600 V CAT IV & 1,000 V CAT III electrical engineering applications

Due to their high level of electrical safety, the MX 5006 and MX 5060 can be used for multiple applications:

- Measurements on household appliances, power sockets, handheld tools and similar equipment.
- Measurements on switchboards, circuit-breakers, disconnectors, junction boxes, etc.
- Measurements on electrical equipment or other industrial appliances connected to the fixed installation.
- And even measurements on equipment installed upstream of the main circuit-breaker for a building.



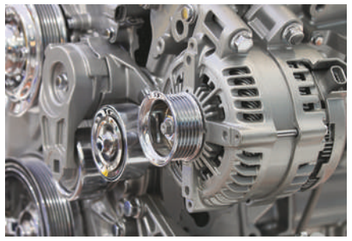
Applications on variable speed drives



Example: voltage measurement on a variable speed drive

The MX 5006 & MX 5060 both offer the main functions required for measurements on variable speed drives.

- V_{LowZ} low impedance to avoid the problem of "spurious" voltages.
- A 4th-order low-pass filter (300 Hz cut-off frequency) for stable measurements by eliminating the noise usually present on PWM variable speed drives.

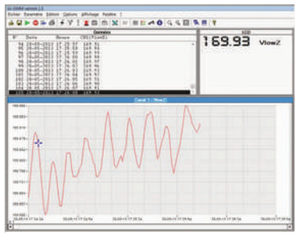




Monitoring

The Min/Max/Peak monitoring key triggers measurement of the following values: the highest and the lowest of the RMS measurement. Simple and effective for viewing a signal before recording it, it is possible to select each quantity by successively pressing this key.

- Min/Max at approx. 100 mV
- Peak± over 1 ms (Fmax = 1 kHz)



Recording

Installed on a PC, the SX-DMM2 software can be used to process the measurements. It provides time/date-stamped recordings of the values measured and displays the signal on the PC. All the data processed in this way can be transferred into a spreadsheet very simply.

Temperature

The MX 5006 & MX 5060 measure temperature with a K thermocouple over a very wide measurement range (from –60 °C to +1200 °C). To obtain the ambient temperature linked to the measurements in progress, simply short-circuit the inputs and the instrument will display the ambient temperature directly (in °C or °F).

Chauvin Arnoux® offers a wide range of K thermocouple sensors: made of stainless steel with or without extensions, bendable, for flat surfaces or for penetrating in certain substances (pasty, liquid, etc.).





TECHNICAL SPECIFICATIONS	MX 5060 *				MX 5006			
DC, AC and AC+DC voltages								
Range	60 mV*	600 mV	6 V		60 V	600 V	1000 V	
Resolution*	0.001 mV	0.01 mV	0.0001 V		0.001 V	0.01 V	0.1 V	
DC accuracy	0.05%				0.09%			
AC and AC+DC bandwidth	100 kHz							
AC ans AC+DC basic accuracy	0.5%				0.8%			
V_{LowZ} AC basic accuracy (520 kΩ)	0.5%				1.2%			
DC, AC and AC+DC current								
Range	6000 µA	60 mA	600 mA	6 A	10 A / 20 A (30 s max)			
Resolution*	0.1 µA	0.001 mA	0.01 mA	0.0001 A	0.001 A			
DC accuracy	0.8%							
AC and AC+DC bandwidth	20 kHz			10 kHz				
AC and AC+DC accuracy	1%							
Frequency								
Frequency range	60 Hz	600 Hz	6 kHz	60 kHz				
Resolution*	0.01 Hz	0.1 Hz	1 Hz	10 Hz				
Resistance and continuity								
Range	600 Ω	6 kΩ	60 kΩ	600 kΩ	6 MΩ	60 MΩ		
Resolution*	0.01 Ω	0.1 kΩ	0.001 kΩ	0.01 kΩ	0.0001 MΩ	0.001 MΩ		
Basic accuracy	0.2%			0.4%				
Protection	1,000 V electronic protection							
Audible continuity detection	600 Ω SIGNAL <30 Ω +/-5 Ω < 5V							
Diode test								
Voltage measurement	3 V, resolution 1 mV + Buzzer <40 mV ±10 mV							
Capacitances								
Range	6 nF	60 nF	600 nF	6 µF	60 µF	600 µF	6 mF	60 mF
Resolution	0.001 nF	0.01 nF	0.1 nF	0.001 µF	0.01 µF	0.1 µF	1 µF	10 µF
K thermocouple temperature								
Operating range	-200 °C to +1,200 °C							
Accuracy / Resolution	0.5% R / 0.1 °C							
Other functions								
Min/Max/Peak ±	On all positions measured							
ΔREL	MEM relative value on secondary display subtracted from the measured value on the main display							
PWM filter	4th-order 300 Hz low-pass filter for measurements on variable speed drives of asynchronous motors							
Central Zero	VDC and IDC with central zero							
USB communication	With SX-DMM2 software – SCPI commands							
Measurement rate and bargraph	5 measurements per second and 61-segment bargraph for analogue function							
General specifications								
Display type	Transflective LCD with backlighting, broadened viewing angle and 16 mm digits 60,000-count* or 6,000-count double display							
PC interfaces	USB type B connector – SX-DMM2 software							
Mains power supply	Universal 230 V / 47-63 Hz / removable mains lead and 110V** version < 2 VA							
Safety / EMC	Safety as per IEC61010-1 (2001) 1000V-CATIII – EMC as per EN61326-1							
Environment	Storage: -20 °C to +70 °C – Operation: 0 °C to +40 °C							
Mechanical specifications	Dimensions (L x D x H): 295 x 295 x 95 mm – Weight: 1.85 kg							
Warranty	3 years							

*60,000 counts

State at Delivery & References

MX 5006 multimeter delivered with EU mains power cable, 1.5 m red straight/straight cable, 1.5 m black straight/straight cable, red CAT IV 1 kV test probe, black CAT IV 1 kV test probe, operating manual on CD and start-up guide on paper
> MX5006

MX 5060 multimeter delivered with EU mains power cable, 1.5 m red straight/straight cable, 1.5 m black straight/straight cable, red CAT IV 1 kV test probe, black CAT IV 1 kV test probe, operating manual on CD, start-up guide on paper and remote programming manual
> MX5060

** MX5006-110 and MX5060-110 versions available on request

Accessories

SX-DMM software for bench-top multimeters	***> SX-DMM2***
Set of 2 x BNC/banana leads with rear connection	***> AG1066-Z***
Calibration kit	***> P01196770***
K thermocouple with adapter	***> P01102107Z***

Replacement parts

1.5 m mains power cable	***> AG0416***
1000 V 11 A fuse (x5)	***> P01297092***
1.80 m USB A/B cable	***> P01295293***

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For assistance and ordering

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