

50,000-count TRMS Digital Multimeter

for use in hazardous and explosive atmospheres



A high-performance multimeter that is more than intrinsically safe

- EEx ib group I, IIc and temperature class T6 assigned specifications
- 50,000-count display resolution
- Measures AC current in TRMS values (AC or AC+DC coupling)
- Surveillance function for MIN, MAX and AVG values
- Measures rapid peaks 1 ms (Peak+ and Peak-)
- Rapid bargraph with zoom (x5) or center zero possible
- RS232 optical link for transferring measurements to a PC or printer (optional)
- Rugged casing and IP 67 sealed
- Patented SECURIX system prevents the leads from being accidentally pulled out

Technical specifications		MX 57Ex				
DC voltages						
Range		500 mV	5 V	50 V	500 V*	1000 V*
Resolution		10 μ V	100 μ V	1 mV	10 mV	100 mV
Accuracy		0.025%R + 2d	0.025%R + 2d	0.025%R + 2d	0.025%R + 2d	0.2%R + 2d
Input impedance		11 M Ω / 1 G Ω	11 M Ω	10 M Ω	10 M Ω	10 M Ω
Protection		\pm 1100 Vpk (1min max. on the 500mV range)				
AC and AC+DC voltages						
Range		500 mV	5 V	50 V	500 V*	750 V*
Resolution		10 μ V	100 μ V	1 mV	10 mV	100 mV
Bandwidth		DC to 50 kHz				
Basic accuracy		0.3%R + 30d (1%R + 30d / 500V & 750 V) for DC at 1 kHz				
Input impedance		11 M Ω / 1 G Ω	11 M Ω	10 M Ω	10 M Ω	10 M Ω
Protection		\pm 1100 Vpk (1 min max. on the 500 mV range)				
DC currents						
Range		500 μ A	5 mA	50 mA	500 mA	
Resolution		10 nA	100 nA	1 μ A	10 μ A	
Basic accuracy		0.2%R + 5d	0.2%R + 2d	0.05%R + 2d	0.2%R + 2d	
Protection		600 V _{RMS} / 500 mA fuse intrinsic safety approved				
AC and AC+DC currents						
Range		500 μ A	5 mA	50 mA	500 mA	
Resolution		10 nA	100 nA	1 μ A	10 μ A	
Bandwidth		DC to 5 kHz				
Basic accuracy		0.75%R + 30d	0.6%R + 30d	0.6%R + 30d	0.7%R + 30d	(40Hz to 5 kHz)
Protection		600 V _{RMS} / 500 mA fuse intrinsic safety approved				
Resistance & Continuity						
Range		500 Ω - 5 k Ω - 50 k Ω - 500 k Ω - 5 M Ω - 50 M Ω				
Resolution		10 m Ω - 100 m Ω - 1 Ω - 10 Ω - 100 Ω - 1 k Ω				
Basic accuracy		0.07%R + 5d / 500 Ω - 0.07%R + 2d / 5 k Ω to 500 k Ω - 0.3%R + 2d / 5 M Ω - 1%R + 2d / 50 M Ω				
Protection		600 V _{RMS} (automatic reset electronic mechanism)*				
Continuity detection		Threshold: 10 Ω to 20 Ω - Response time: 1 ms				
Diode test						
Diode voltage measurement		0 to 1.999 V - Current measurement: 1 mA \pm 20% - resettable 600 V _{RMS} protection *				
Frequency measurements						
Frequency (voltage or current)		Measurement range: 0.62 Hz to 500 kHz - 50,000-count resolution - Accuracy: 0.03 %R + 2d				
Other measurements						
		Duty cycle - Pulse width / Chronometer - Event metering				
Other functions						
Capacitance measurement		Range: 50 nF to 50 mF - Accuracy: 1%R + 2d (Not to be used in hazardous areas)				
Temperature measurement		Range: -200 $^{\circ}$ C to +800 $^{\circ}$ C - Resolution: 0.1 $^{\circ}$ C - Pt100 and Pt1000 probes				
Other measurements		dB Function and Resistive Power U ² /R (reference adjustable from 1 Ω to 9999 Ω)				

* As an "intrinsically safe" instrument, operating voltages are limited to 60 V peak value or currents to 500 mA. For the 500 V_{dc}, 1000 V_{dc}, 500 V_{ac} and 750 V_{ac} ranges, the accuracy given is without guarantee.

General specifications		MX 57Ex				
Display		50,000 counts - 2 measurements per second - Height of numbers: 14 mm				
Bargraph		34 segments - 20 measurements per second				
Safety & Approval		EN 50-014 - EN 50-020 - EEx ib IIC T6 and EEx ib I				
EMC		Emission and immunity as per NF EN 61326-1, 1998				
Temperature		Operating: -10 to +40 $^{\circ}$ C - Storage: -40 to +70 $^{\circ}$ C				
Power supply		9 V alkaline battery (6LF22 or 6LR61) intrinsic safety approved - Low battery indicator				
Life		300 hour life - Automatic shut-off				
Mechanical characteristics		Dimensions: 189 x 82 x 40 mm - Weight: 400 g - IP67 sealed				