

50,000-count TRMS Digital Multimeter

for use in hazardous and explosive atmospheres



A high-performance multimeter that is more than intrinsically safe

- Ex II 2 G/D EEx ib I ICT6 or Ex I M2 EEx ib I assigned specifications
- 50,000-count display resolution
- Rugged casing and IP 67 sealed
- 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
- Patented SECURIX system prevents the leads from being accidentally pulled out
- RS232 optical link for transferring measurements to a PC or printer (optional)

MX 57Ex:

50,000-count Digital Multimeter for use in hazardous and explosive atmospheres

Meets the EN 50014 and EN 50020 standards, Ex II 2 G/D EEx ib IIC T6 or Ex I M2 EEx ib I assigned specifications, IP 67 85°C (electrical equipment for use in explosive atmospheres). CE certificate: LCIE 02 ATEX 6005X. Quality certificate: LCIE 02 ATEX Q8021.

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 VRMS / 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 VRMS / 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 VRMS (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 VRMS 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 Vdc, 1000 Vdc, 500 Vac and 750 Vac 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 50014 - EN 50020 - Ex II 2 G/D EEx ib IIC T6 or Ex I M2 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 DC mode - Automatic shut-off	
Mechanical characteristics	Dimensions: 189 x 82 x 40 mm - Weight: 400 g - T85 $^{\circ}$ C	

Characteristics subject to modifications according to technological developments.

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