

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

MX 57Ex:

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

Meets the EN 50-014 and EN 50-020 standards, EEx ib group I and IIc assigned specifications, Temperature class T6 (electrical equipment for use in explosive atmospheres) - Certificates LCIE 02.E8001X for group I and LCIE 02.6001X for group IIc

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.

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

Characteristics subject to modifications according to technological developments



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