

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



A high-performance, intrinsically safe multimeter:

- EEx ib group I and EEx group IIC T6 ratings
- 50,000-count display resolution
- TRMS alternating current measurements (AC or AC+DC coupling)
- MIN, MAX and Average value monitoring function
- 1 ms fast peak-to-peak measurements (Peak + and Peak -)
- Quick bargraphing with zoom (x 5) or central zero functions
- Robust, sealed IP67 casing
- A unique instrument which can also be used outside explosive zones (IEC 61010-1 / 600 V-Cat. III)

A Brand of

MX 57Ex:

Intrinsic safety equipment in explosive atmospheres due to gas or dust in the following conditions:

- Mines affected by fire damp (EEx ib I – marking Ex I M2)
- Surface industries, zones 1 and 2 (gas) and zones 21 and 22 (dust)
(EEx ib IIC T6 - marking Ex II 2 G/D)

Technical specifications						
DC VOLTAGES						
Range	500 mV	5 V	50 V	500 V	600 V	
Resolution	10 μ V	100 μ V	1 mV	10 mV	100 mV	
Accuracy	0.025 %R + 2 D	0.025 %R + 2 D	0.025 %R + 2 D	0.025 %R + 2 D	0.05 %R + 2 D	
Input impedance	10 M Ω / 1 G Ω	11 M Ω	10 M Ω	10 M Ω	10 M Ω	
Protection	\pm 1100 Vpk (1 minute max. in the 500 mV range)					
AC AND AC + DC VOLTAGES						
Range	500 mV	5 V	50 V	500 V	600 V	
Resolution	10 μ V	100 μ V	1 mV	10 mV	100 mV	
Bandwidth	DC at 10 kHz	DC at 50 kHz				DC at 1 kHz
Basic accuracy	0,7 %R + 30 D	0.3 %R + 30 D				
Input impedance	10 M Ω / 1 G Ω	11 M Ω	10 M Ω	10 M Ω	10 M Ω	
Protection	\pm 1,100 Vpk (1 minute max. in 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 + 5 D	0.2 %R + 2 D	0.2 %R + 2 D	0.2 %R + 2 D		
Protection	600 VRMS / 500 mA fuse with intrinsic safety certification					
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 at 5 kHz					
Basic accuracy	0.75 %R + 30 D	0.6 %R + 30 D	0.6 %R + 30 D	0.75 %R + 30 D		
	(40 Hz to 5 kHz)					
Protection	600 VRMS / 500 mA fuse with intrinsic safety certification					
RESISTANCES & 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 + 8 D	0.07 %R + 5 D	0.07 %R + 2 D		0.3 %R + 2 D	1 %R + 2 D
Protection	600 VRMS (electronic system with automatic reset)					
Continuity detection	Threshold 10 Ω to 20 Ω – Response time 1 ms					
DIODE TEST						
Diode voltage measurement	0 to 2 V – Measurement current 1 mA \pm 20 % – Protection 600 VRMS*					
FREQUENCY MEASUREMENTS						
Frequency (voltage or current)	Measurement range 0.62 Hz to 500 Hz – Resolution 50,000 counts – Accuracy 0.03 %R \pm 2 D					
OTHER FUNCTIONS						
Capacitance measurement	Ranges from 50 nF to 50 mF – Accuracy 1 %R + 2 D (not for use in hazardous zones)					
Temperature measurement	Range -200 $^{\circ}$ C to +800 $^{\circ}$ C – Resolution 0.1 $^{\circ}$ C – Pt 100 and Pt 1000 probes					
Other measurements	dB and U ² /R resistive power functions (reference adjustable from 1 Ω to 9999 Ω) Duty cycle – Pulse width / Timer – Event metering					

With "intrinsic safety", the electrical circuit parameters must comply with the following values: $U \leq 600$ V (crest value) or $I \leq 500$ mA

General specifications	
Display	50,000 counts – 2 measurements per second – Height of digits 14 mm
Bargraph	34 segments – 20 measurements per second
Safety & Certification	EN 50-014 and EN 50-020 – EEx ib IIC T6 or EEx ib I – Cat. III, 600 V IEC 61010-1 – Cat. III, 600 V LCIE 02 ATEX 6005 X-type examination certificate and LCIE 02 ATEX 6005 X/01- type additional examination certificate
EMC	NF EN 61326-1 (1997) ; A1 (1998) ; A2 (2001)
Temperature	Use from 0 $^{\circ}$ to 50 $^{\circ}$ C – Storage from -40 $^{\circ}$ C to +70 $^{\circ}$ C
Power supply	9 V alkaline battery (6LF22 or 6LR61) with intrinsic safety certification – Battery charge indicator
Battery life	300 hours – Automatic shut-off
Mechanical specifications	Dimensions 189 x 82 x 40 – Weight 400 g – IP67 sealing

Conditioning:

1 MX 57Ex multimeter, 1 carrying case, 1 set of measurement leads with safety test probes,
1 spare intrinsic-safety fuse, 1 operating manual

To order:

MX0057CX: multimeter for difficult environments



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