



# Datasheet



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[www.sunbeltrentals.co.uk](http://www.sunbeltrentals.co.uk)

# 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				
<b>DC voltages</b>						
Range	500 mV	5 V	50 V	500 V*	1000 V*	
Resolution	10 $\mu$ V	100 $\mu$ 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 $\Omega$ / 1 G $\Omega$	11 M $\Omega$	10 M $\Omega$	10 M $\Omega$	10 M $\Omega$	
Protection	$\pm$ 1100 Vpk (1min max. on the 500mV range)					
<b>AC and AC+DC voltages</b>						
Range	500 mV	5 V	50 V	500 V*	750 V*	
Resolution	10 $\mu$ V	100 $\mu$ 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 $\Omega$ / 1 G $\Omega$	11 M $\Omega$	10 M $\Omega$	10 M $\Omega$	10 M $\Omega$	
Protection	$\pm$ 1100 Vpk (1 min max. on the 500 mV range)					
<b>DC currents</b>						
Range	500 $\mu$ A	5 mA	50 mA	500 mA		
Resolution	10 nA	100 nA	1 $\mu$ A	10 $\mu$ A		
Basic accuracy	0.2% R + 5d	0.2% R + 2d	0.05% R + 2d	0.2% R + 2d		
Protection	600 V <sub>RMS</sub> / 500 mA fuse intrinsic safety approved					
<b>AC and AC+DC currents</b>						
Range	500 $\mu$ A	5 mA	50 mA	500 mA		
Resolution	10 nA	100 nA	1 $\mu$ A	10 $\mu$ 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 <sub>RMS</sub> / 500 mA fuse intrinsic safety approved					
<b>Resistance &amp; Continuity</b>						
Range	500 $\Omega$ - 5 k $\Omega$ - 50 k $\Omega$ - 500 k $\Omega$ - 5 M $\Omega$ - 50 M $\Omega$					
Resolution	10 m $\Omega$ - 100 m $\Omega$ - 1 $\Omega$ - 10 $\Omega$ - 100 $\Omega$ - 1 k $\Omega$					
Basic accuracy	0.07% R + 5d / 500 $\Omega$ - 0.07% R + 2d / 5 k $\Omega$ to 500 k $\Omega$ - 0.3% R + 2d / 5 M $\Omega$ - 1% R + 2d / 50 M $\Omega$					
Protection	600 V <sub>RMS</sub> (automatic reset electronic mechanism)*					
Continuity detection	Threshold: 10 $\Omega$ to 20 $\Omega$ - Response time: 1 ms					
<b>Diode test</b>						
Diode voltage measurement	0 to 1.999 V - Current measurement: 1 mA $\pm$ 20% - resettable 600 V <sub>RMS</sub> protection *					
<b>Frequency measurements</b>						
Frequency (voltage or current)	Measurement range: 0.62 Hz to 500 kHz - 50,000-count resolution - Accuracy: 0.03 %R + 2d					
<b>Other measurements</b>						
	Duty cycle - Pulse width / Chronometer - Event metering					
<b>Other functions</b>						
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 <sup>2</sup> /R (reference adjustable from 1 $\Omega$ to 9999 $\Omega$ )					

\* As an "intrinsically safe" instrument, operating voltages are limited to 60 V peak value or currents to 500 mA. For the 500 V<sub>DC</sub>, 1000 V<sub>DC</sub>, 500 V<sub>AC</sub> and 750 V<sub>AC</sub> 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		

Characteristics subject to modifications according to technological developments



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## LOCATIONS

### LONDON, HEATHROW

#### Sunbelt Rentals UK Test & Monitoring

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