




## Intrinsically Safe Multimeters

 LCIE approved

**MX 51 Ex**  
 Group I  
 Group I and II  
 Group II

**matrix**

ITT Instruments

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- LCIE approvals :
  - Group I 92. C8003 X; category EEx ib I
  - Group II 91. C6063 X; category EEx ib (zone 1) IIC T6
- 5000 count resolution ; 0.1% basic accuracy
- Autoranging operation
- Bargraph with zoom (0.4% resolution) and LIVE TREND MEMORY MODE
- 50 mA DC range features 0.1% accuracy for 4 - 20 mA current loop measurements
- Relative and MIN/MAX recording modes
- Logic level detection mode
- Memory to store five readings
- IP 66 waterproof housing
- Protected by 500 mA intrinsically safe and 10 A HBC fuses (both are user replaceable)

The MX 51 Ex series are intrinsically safe multimeters which are approved for use in potentially explosive atmospheres in hazardous areas.






The approval covers measurements of voltage up to 60 V, current up to 500 mA and resistance. Also, continuity and diode tests, plus logic level detection.

In addition to these intrinsic safety features, the MX 51 Ex multimeters include all the advantages offered by the ASYC Advanced Safety Concept.

### Other specifications

**Measurement rate** : 2/sec digital, 10/sec bargraph  
**Series mode rejection** : 60 dB  
**Common mode rejection** : 120 dB AC/DC - 60 dB AC/AC  
**Reference range** : +18°C to +28°C  
**Operating range** : -10°C to +50°C; < 40°C in the Ex safe area (operation at -40°C for 20 minutes provided unit started at 20°C)  
**Storage** : - 40°C to + 80°C (without battery)  
**Relative humidity** : 0 to 80% (0 to 40°C)  
 0 to 70% (40°C to 50°C)  
**Temperature coefficient** : 0.1 x specific accuracy/ °C  
**Sealing/Shock** : IP 667 and MIL T 28800-2  
**ADP (Adaptor)** : 500 mV DC range for use external accessories  
**Safety class II** : IEC 348 , VDE 0411, BS 4743  
 Three versions cover differnt Gas Groups : I, II or I and II

## Technical Specifications

MX 51 Ex Version	A	B	C
<b>Gas Group use</b>	Group II Oil	Group I and II Mines & Oil	Group I Gassy Mines
<b>Display</b>	5000 counts (13 mm); 50 division bargraph (zoom x 5)		
<b>V DC</b>	500 mV : 0.1% R ± 1 c - 5 to 1000 V : 0.1% R ± 3 c		
 V < 60 V	<b>Ranges</b>	<b>Resolution</b>	<b>Input impedance</b>
	500 mV	100 μV	> 1000 MΩ
	5 V	1 mV	11 MΩ
	50 V	10 mV	10 MΩ
	500 V	100 mV	10 MΩ
1000 V	1 V	10 MΩ	
<b>V AC</b>	500 mV, 5 V, 50 V, 500 V, 750 V		
Accuracy	40Hz		
	400Hz	0.75% R ± 3 d	
	1000Hz	1.7% R ± 3 d	
<b>Voltage protection</b>	1100 V peak - 6 kV/10 μs x 5/s - IEEE 587 - SAFETY ALERT  Audible alarm if range exceeded		
<b>I DC</b>	<b>Ranges</b>	<b>Resolution</b>	<b>Voltage drop</b>
 I < 500 mA	500 μA (1.2% R ± 2 d)	0.1 μA	60 mV
	5000 μA (1% R ± 1 d)	1 μA	500 mV
	50 mA (0.1% R ± 3 d)	10 μA	60 mV
	500 mA (1% R ± 1 d)	100 μA	1.2 V
autoranging	5 A (1.2% R ± 2 c)		
	10 A (1% R ± 1 c)		
<b>I AC</b>	40Hz		
Same ranges as I DC	400Hz	1.5% R ± 3 d	
	1000Hz	2.5% R ± 3 d	
<b>Current protection</b>	 protection up to 500 mA; HBC fuses for 5/10 A SAFETY ALERT  Audible alarm if range exceeded		
<b>Resistance</b>	<b>Ranges</b>	<b>Resolution</b>	<b>Test voltage</b>
	500 Ω (0.3% R ± 5 d)	0.1 Ω	< 300 mV
	5 kΩ (0.3% R ± 2 d)	1 Ω	< 300 mV
	50 kΩ (0.3% R ± 2 d)	10 Ω	< 300 mV
	500 kΩ (0.3% R ± 2 d)	100 Ω	< 400 mV
	5 MΩ (0.5% R ± 2 d)	1 kΩ	< 400 mV
	40 MΩ (2% R ± 2 d)	10 kΩ	< 1.5V
<b>Continuity test &amp; beeper</b>	On 500 Ω range: * < 20 Ω : low frequency tone * between 20 and 300 Ω : high frequency tone		
<b>Resistance protection</b>	380 V AC		
<b>ADP (adaptor) input</b>	500 mV DC, high impedance range for external accessories		
<b>Diode test</b>	0 to 1.999 V (1 mA test current)		

### Electromagnetic Compatibility :

**Interference** : VDE 871 cl. B and MIL STD 461 RE02  
**Susceptibility** : IEC 801 and MIL STD 461 RS03  
**Intrinsic safety** : EN 50020 and EN 50014

**Power supply** : 9 V 6LF22 battery; Auto switch off after 30 mins.  
 Battery life : > 500 hours

**Dimensions** : 40 x 82 x 189 mm  
**Weight** : 400 g

**Housing colour** : Safety yellow  
 Supplied with type AE 193 carrying case.

Specifications are subject to change without notice.

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