

# Intrinsically Safe Digital Multimeter Model MX 57EX



The AEMC® Model MX 57EX is an intrinsically safe digital multimeter designed for use in dangerous or explosive atmospheres. This meter is considered as a passive device without inductive or capacitive issues that are problematic in dangerous or explosive environments. This meter provides high functionality in a unique case designed for enhanced safety, reliability, ease-of-maintenance and protection from contaminants.

The meter is built into a rugged housing which provides a separate battery and fuse compartment to isolate the DMM's electronics from contamination.

This meter offers a complete set of measurement ranges and is in compliance with international safety and quality standards to ensure a professional and reliable measuring tool.

The Model MX 57EX measures AC Amps, AC Volts, DC Amps, DC Volts, Resistance, Continuity (with beeper) and has a Diode Test function.

The large and easy-to-read LCD features a 50,000-count digital display. The display features comprehensive user interface symbols, such as low battery, Min/Max/Avg and a

34-segment analog bargraph for easy trend readings. Accuracy is 0.025%. The meter is equipped with a Data Hold function that freezes the measurement for later viewing.

Includes a pair of test leads (red/black), 9V Alkaline battery, hard carrying case and a user manual.

## Features

- ATEX 6005X,  $\text{Ex}$  II 2 G/D EEx ib I ICT6 or  $\text{Ex}$  I M2 EEx ib I assigned specifications
- Logic signal measurement and ADP input
- MIN/MAX/AVG functions
- Bargraph with zoom (x5) and center zero
- Rugged design — IP67 185°F (85°C) rating
- Protection by 500mA intrinsic safety fuse for the current range

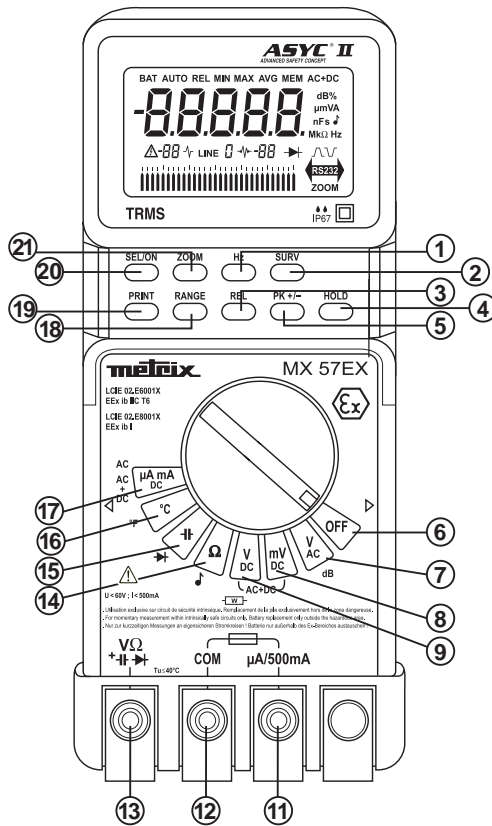
## Applications

- Oil refineries
- Mining
- Pharmaceutical plants



Model MX 57EX used outdoors in a mine.

## Construction



- |  |  |  |
|--|--|--|
| 1. Time functions selection            | 10. Input terminal range 10A                     | 17. Current measurement up to 500mA        |
| 2. Monitoring values selection/display | 11. Input terminal range $\mu\text{A}$ , mA      | 18. Range change                           |
| 3. Display backlighting                | 12. Multimeter reference input                   | 19. Data sending to a printer              |
| 4. Display hold                        | 13. Input terminal, ranges 11, 12, 13, 14 and 15 | 20. Power on (selects secondary functions) |
| 5. Peak measurement                    | 14. Resistance measurement                       | 21. Bargraph scale magnification           |
| 6. Power off                           | 15. Capacitance measurement                      |  |
| 7. AC voltage measurement              | 16. Temperature measurement                      |  |
| 8. 500mV voltage measurement           |  |  |
| 9. DC voltage measurement              |  |  |

# Specifications

Meets the EN 50014 and EN 50020 standards,  $\text{Ex}$  II 2 G/D EEx ib I ICT6 or  $\text{Ex}$  I M2 EEx ib I assigned specifications, IP 67 185°F (85°C) (electrical equipment for use in explosive atmospheres). CE certificate: LCIE 02 ATEX 6005X. Quality certificate: LCIE 02 ATEX Q8021.

MODEL	MX 57EX					
<b>AC CURRENT</b>						
Measurement Range	500µA	5mA	50mA	500mA		
Resolution	10nA	100nA	1µA	10µA		
Bandwidth	DC to 5kHz	DC to 5kHz	DC to 5kHz	DC to 5kHz		
Accuracy	±0.75% of Reading ± 30cts	±0.6% of Reading ± 30cts	±0.6% of Reading ± 30cts	±0.7% of Reading ± 30cts		
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms		
<b>AC VOLTAGE</b>						
Measurement Range	500mV	5V	50V	500V*	750V*	
Resolution	10µV	100µV	1mV	10mV	100mV	
Bandwidth	40Hz to 1kHz	1kHz to 4kHz	4kHz to 10kHz	10kHz to 30kHz	30kHz to 50kHz	
Accuracy	±0.3% of Reading ± 30cts	1% of Reading ± 30cts	2% of Reading ± 30cts	2% of Reading ± 30cts	±3% of Reading ± 30cts	
Input Impedance	11MΩ	11MΩ	10MΩ	10MΩ	10MΩ	
Overload Protection	1100Vpk	1100Vpk	1100Vpk	1100Vpk	1100Vpk	
<b>DC CURRENT</b>						
Measurement Range	500µA	5mA	50mA	500mA		
Resolution	10nA	100nA	1µA	10µA		
Accuracy	±0.2% of Reading ± 5cts	±0.2% of Reading ± 2cts	±0.05% of Reading ± 2cts	±0.2% of Reading ± 2cts		
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms	600Vrms	
<b>DC VOLTAGE</b>						
Measurement Range	500mV	5V	50V	500V*	1000V*	
Resolution	10µV	100µV	1mV	10mV	100mV	
Accuracy	±0.025% of Reading ± 2cts	±0.025% of Reading ± 2cts	±0.025% of Reading ± 2cts	±0.025% of Reading ± 2cts	±0.2% of Reading ± 2cts	
Input Impedance	11MΩ	11MΩ	10MΩ	10MΩ	10MΩ	
Overload Protection	1100Vpk	1100Vpk	1100Vpk	1100Vpk	1100Vpk	
<b>RESISTANCE</b>						
Measurement Range	500Ω	5kΩ	50kΩ	500kΩ	5MΩ	50MΩ
Resolution	10mΩ	100mΩ	1Ω	10Ω	100Ω	1kΩ
Accuracy	±0.07% of Reading ± 5cts	±0.07% of Reading ± 2cts	±0.07% of Reading ± 2cts	±0.07% of Reading ± 2cts	±0.3% of Reading ± 2cts	±1% of Reading ± 2cts
Max Open-Circuit Voltage	7V	7V	7V	7V	7V	7V
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms	600Vrms	600Vrms
<b>CONTINUITY</b>						
Measurement Range	10Ω to 20Ω					
Response Time	1ms					
<b>DIODE</b>						
Test Voltage	0 to 2V					
Test Current	1mA ± 20%					
<b>CAPACITANCE</b>						
Range	50nF to 50mF					
Accuracy	1% of Reading ± 2cts					
<b>FREQUENCY</b>						
Measurement Range	0.62Hz to 500kHz					
Accuracy	0.03% of Reading ± 2cts					
<b>TEMPERATURE</b>						
Range (User selectable in °F or °C)	-328° to 1472°F (-200° to 800°C)					
Sensor	PT100/PT1000					
<b>GENERAL</b>						
Digital Display	50,000-count					
Analog Bargraph	34-segment					
Power Source	9V Alkaline battery					
Dimensions	7.4 x 3.2 x 1.5" (189 x 82 x 40mm)					
Weight	0.8 lb (400g)					
<b>ENVIRONMENTAL</b>						
Operating Temperature	14° to 104°F (-10° to 40°C)					
Storage Temperature	-40° to 158°F (-40° to 70°C)					
<b>SAFETY</b>						
Safety Rating	EN 50014, EN50020					
Agency Approval	$\text{Ex}$ II 2 G/D EEx ib I ICT6 or $\text{Ex}$ I M2 EEx ib I assigned specifications					
EMC	Emission and immunity as per NF EN 61326-1, 1998					
CE Mark	Yes					

\*Operating voltages are limited to 60V peak value or currents to 500mA for intrinsically safe operation.



Case included with MX 57EX

**ORDERING INFORMATION**

**CATALOG NO.**

DMM MX 57EX (Intrinsically Safe, TRMS, 50,000-count, 0.1% Accuracy)..... **Cat. #2130.65**

## Contact Us

### United States & Canada:

Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments  
200 Foxborough Blvd.  
Foxborough, MA 02035 USA  
(508) 698-2115 • Fax (508) 698-2118  
[www.aemc.com](http://www.aemc.com)

**Customer Support – for placing an order, obtaining price & delivery:**  
[customerservice@aemc.com](mailto:customerservice@aemc.com)

**Sales Department – for general sales information:**  
[sales@aemc.com](mailto:sales@aemc.com)

**Repair and Calibration Service – for information on repair & calibration, obtaining a user manual:**  
[repair@aemc.com](mailto:repair@aemc.com)

**Technical and Product Application Support – for technical and application support:**  
[techinfo@aemc.com](mailto:techinfo@aemc.com)

**Webmaster – for information regarding [www.aemc.com](http://www.aemc.com):**  
[webmaster@aemc.com](mailto:webmaster@aemc.com)

### South America, Central America, Mexico, Caribbean, Australia & New Zealand:

Chauvin Arnoux<sup>®</sup>, Inc.  
d.b.a. AEMC<sup>®</sup> Instruments  
15 Faraday Drive  
Dover, NH 03820 USA  
(978) 526-7667 • Fax (978) 526-7605  
[export@aemc.com](mailto:export@aemc.com)  
[www.aemc.com](http://www.aemc.com)

### All other countries:

Chauvin Arnoux SCA  
190, rue Championnet  
75876 Paris Cedex 18, France  
33 1 44 85 45 28 • Fax 33 1 46 27 73 89  
[info@chauvin-arnoux.com](mailto:info@chauvin-arnoux.com)  
[www.chauvin-arnoux.com](http://www.chauvin-arnoux.com)