

# Intrinsically Safe Digital Multimeter Model MX 57EX TRMS



IECEX  
ATEX   
 

The AEMC® Model MX 57EX TRMS is an intrinsically safe digital multimeter designed for use in dangerous or explosive atmospheres. This meter is considered 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

- TRMS
- LCI 07: 0010X
- Safety rating: IEC 61010-1:2001
- Agency Approval: IECEx LC107.0010 X, LCIE 02 ATEX 6005 X,  $\text{Ex ib I}$ ,  $\text{Ex ib IIC T5}$  or  $\text{T4}$  or  $\text{T3}$   $\Delta$ ,  $\text{Ex ibD 21 T}$   $\Delta$
- Logic signal measurement and ADP input
- Min/Max/Avg functions
- Bargraph with zoom (x5) and center zero
- Rugged design — IP67 rating
- Protection by 500mA intrinsic safety fuse for the current range
- Includes test leads

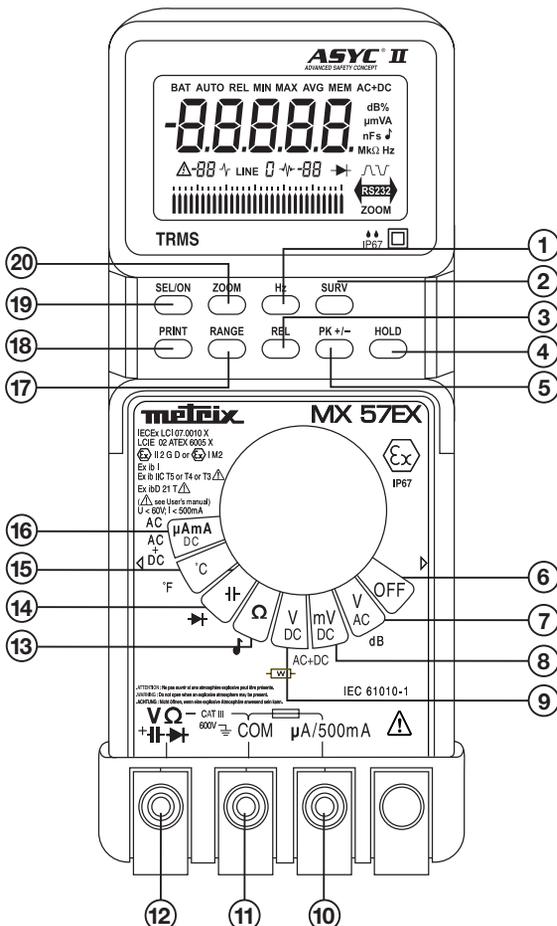
## Applications

- Oil refineries
- Mining
- Pharmaceutical plants



Model MX 57EX used outdoors in a mine.

## Construction



1. Time function selection
2. Monitoring values selection/display
3. Relative mode measurement
4. Display hold
5. Peak measurement
6. Power off
7. AC voltage measurement
8. 500mV voltage measurement
9. DC voltage measurement
10.  $\mu\text{A}$  mA range input terminal
11. Multimeter reference input (COM)
12. Range input terminal for positions 7, 8, 9, 13, 14, 15
13. Resistance measurement
14. Capacitance measurement
15. Temperature measurement
16. Current measurement up to 500mA
17. Range selection
18. Sends data to a printer
19. Power on (selects secondary functions)
20. Bargraph scale magnification

# Specifications

Meets the EN 50014 and EN 50020 standards,  $\text{Ex}$  II 2 G/D EEx ib IIC T6 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 TRMS				
<b>AC CURRENT</b>						
Measurement Range	500 $\mu$ A	5mA	50mA	500mA		
Resolution	10nA	100nA	1 $\mu$ A	10 $\mu$ A		
Bandwidth	DC to 5kHz	DC to 5kHz	DC to 5kHz	DC to 5kHz		
Accuracy	$\pm 0.75\%$ of Reading $\pm 30$ cts	$\pm 0.6\%$ of Reading $\pm 30$ cts	$\pm 0.6\%$ of Reading $\pm 30$ cts	$\pm 0.7\%$ of Reading $\pm 30$ cts		
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms		
<b>AC VOLTAGE</b>						
Measurement Range	500mV	5V	50V	500V*	1000V*	
Resolution	10 $\mu$ V	100 $\mu$ V	1mV	10mV	100mV	
Bandwidth	40Hz to 1kHz	1kHz to 4kHz	4kHz to 10kHz	10kHz to 30kHz	30kHz to 50kHz	
Accuracy	$\pm 0.3\%$ of Reading $\pm 30$ cts	1% of Reading $\pm 30$ cts	2% of Reading $\pm 30$ cts	2% of Reading $\pm 30$ cts	$\pm 3\%$ of Reading $\pm 30$ cts	
Input Impedance	11M $\Omega$	11M $\Omega$	10M $\Omega$	10M $\Omega$	10M $\Omega$	
Overload Protection	1100Vpk	1100Vpk	1100Vpk	1100Vpk	1100Vpk	
<b>DC CURRENT</b>						
Measurement Range	500 $\mu$ A	5mA	50mA	500mA		
Resolution	10nA	100nA	1 $\mu$ A	10 $\mu$ A		
Accuracy	$\pm 0.2\%$ of Reading $\pm 5$ cts	$\pm 0.2\%$ of Reading $\pm 2$ cts	$\pm 0.05\%$ of Reading $\pm 2$ cts	$\pm 0.2\%$ of Reading $\pm 2$ cts		
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms		
<b>DC VOLTAGE</b>						
Measurement Range	500mV	5V	50V	500V*	1000V*	
Resolution	10 $\mu$ V	100 $\mu$ V	1mV	10mV	100mV	
Accuracy	$\pm 0.025\%$ of Reading $\pm 2$ cts	$\pm 0.025\%$ of Reading $\pm 2$ cts	$\pm 0.025\%$ of Reading $\pm 2$ cts	$\pm 0.025\%$ of Reading $\pm 2$ cts	$\pm 0.2\%$ of Reading $\pm 2$ cts	
Input Impedance	10M $\Omega$ /1G $\Omega$ **	11M $\Omega$	10M $\Omega$	10M $\Omega$	10M $\Omega$	
Overload Protection	1100Vpk	1100Vpk	1100Vpk	1100Vpk	1100Vpk	
<b>RESISTANCE</b>						
Measurement Range	500 $\Omega$	5k $\Omega$	50k $\Omega$	500k $\Omega$	5M $\Omega$	50M $\Omega$
Resolution	10m $\Omega$	100m $\Omega$	1 $\Omega$	10 $\Omega$	100 $\Omega$	1k $\Omega$
Accuracy	$\pm 0.07\%$ of Reading $\pm 5$ cts	$\pm 0.07\%$ of Reading $\pm 2$ cts	$\pm 0.07\%$ of Reading $\pm 2$ cts	$\pm 0.07\%$ of Reading $\pm 2$ cts	$\pm 0.3\%$ of Reading $\pm 2$ cts	$\pm 1\%$ of Reading $\pm 2$ cts
Max Open-Circuit Voltage	7V	7V	7V	7V	7V	7V
Overload Protection	600Vrms	600Vrms	600Vrms	600Vrms	600Vrms	600Vrms
<b>CONTINUITY</b>						
Measurement Range	10 $\Omega$ to 20 $\Omega$					
Response Time	1ms					
<b>DIODE</b>						
Test Voltage	0 to 2V					
Test Current	1mA $\pm 20\%$					
dB Function	Ref. Resistance Adjustable from 1-9999 $\Omega$ , Resolution 100 W displayed in VA					
<b>CAPACITANCE</b>						
Range	50nF to 50mF					
Accuracy	1% of Reading $\pm 2$ cts					
<b>FREQUENCY</b>						
Measurement Range	0.62Hz to 500kHz					
Accuracy	0.03% of Reading $\pm 2$ cts					
<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	NF EN 50014, EN50014: 1992; NF EN 50020, EN 50020: 1994					
Agency Approval	Agency Approval: IECEx LC107.0010 X, LCIE 02 ATEX 6005 X, ExII 2 G D or ExI M2, Ex ib I, Ex ib IIC T5 or T4 or T3, Ex ibD 21 T					
EMC	Emission and immunity as per NF EN 61326-1, 1998					
CE Mark	Yes					

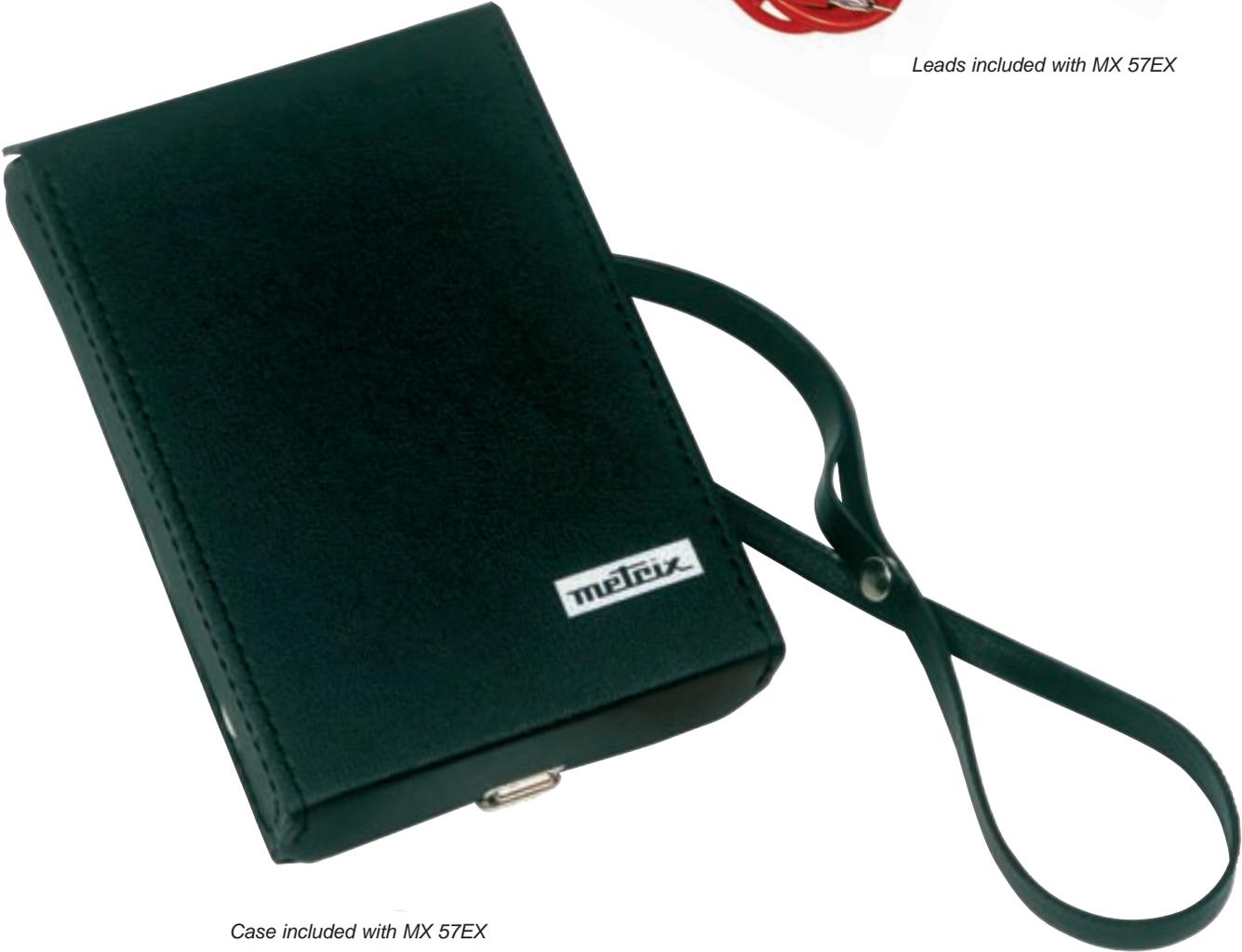
\*Operating voltages are limited to 60V peak value or currents to 500mA for intrinsically safe operation.

\*\*User selectable





*Leads included with MX 57EX*



*Case included with MX 57EX*

ORDERING INFORMATION	CATALOG NO.
DMM MX 57EX IECEx (Intrinsically Safe, TRMS, 50,000-count, 0.025% Accuracy) . . . . .	Cat. #2130.66