

Mini-Max M235 & M245 Digital Panel Meters



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- 3/64 DIN Indicator
- Unique mounting bracket allows stacking of multiple units
- Screw terminal connectors for easy installation
- LCD: 3-1/2 or 4-1/2 digit, 0.5" high LCD display with optional negative image, bright red backlighting
- LED: 3-1/2 digit, 0.56" high display
- LED: 4-1/2 digit, 0.40" high display
- Limited range display scaling

LCD



LED



INPUTS

DC Voltage

Range	Resolution M235	Resolution M245	Input Impedance	Max Input Infused
200mV	100μV	10μV	10MEG	100VDC
2V	1mV	100μV	10MEG	250VDC
20V	10mV	1mV	10MEG	250VDC
200V	100mV	10mV	9.9MEG	250VDC
600V	1V	100mV	9.9MEG	600VDC

DC/AC TRMS Current

Range	Resolution		LCD		LED	
	M235	M245	Voltage Drop	Max Input Unfused	Voltage Drop	Max Input Unfused
200uA	100uA	10nA	200mVDC	10mA	200mVDC	6mA
2mA	1uA	100nA	200mVDC	40mA	200mVDC	20mA
20mA	10uA	1uA	200mVDC	100mA	200mVDC	60mA
200mA	100nA	10uA	200mVDC	400mA	200mVDC	300mA
2A	1mA	100uA	200mVDC	3A	200mVDC	2.6A
5A	10mA	1mA	50mVDC	6A	100mVDC	6A

AC TRMS Voltage

Range	Resolution M235	Resolution M245	Input Impedance	Max Input Infused
200mV	100μV	10μV	500K	10VAC
2V	1mV	100μV	100K	100VAC
20V	10mV	1mV	1MEG	200VAC
200V	100mV	10mV	1MEG	200VAC
270V	1V	100mV	1MEG	270VAC
600V	1V	100mV	9.9MEG	600VAC

DC Process

Range	Resolution M235	Resolution M245	Voltage Drop	Max Input Infused
4 to 20mA	0.10%	0.01%	200mVdc	60mA
1 to 5Vdc	0.10%	0.01%	10MEG	250VDC
0 to 10Vdc	0.10%	0.01%	10MEG	250VDC
0 to 100Vdc	0.10%	0.01%	10MEG	250VDC

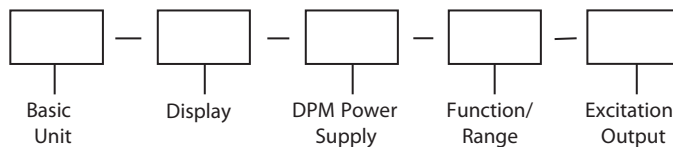
Specifications	LCD		LED				
	M235	M245	M235	M245			
DISPLAY	7 Segment						
	Type:	0.5" (12.7mm)					
	Height:	0.56" (14.2mm)					
	Decimal point (Selectable):	3 position	4 position	3 position			
	Overrange indication:	Most significant digit = "1"					
Backlighting:	Optional negative image, Red Backlight			Blinking Display			
	Polarity:			NA			
POWER REQUIREMENTS	Auto with "-" indication, "+" implied						
	AC Volt:	85-250VAC @40-440Hz					
POWER CONSUMPTION	DC Volt:	9-32DCV					
	85-250VAC:	LCD 4.0VA(2.4W) Max					
ISOLATION	9-32DCV:	LCD 3 W Max					
	250Vrms Max						
ACCURACY @ 25°C	200 Hz:	±0.2% of input ± 0.2Hz					
	2 KHz:	±0.2% of input ± 2 Hz					
	DC V & A:	±(0.1% of Reading ± 1 count)	±(0.04% of Reading ± 1 count)	±(0.1% of Reading ± 1 count)			
	DC 2A:	±(0.25% of Reading ± 1 count)					
	DC 5A:	±(0.5% of Reading ± 1 count)					
	AC TRMS V & A:	±(0.5% of Reading + 5 count)	±(0.5% of Reading + 50 count)	±(0.5% of Reading + 2 count)			
		(50 Hz - 2KHz)	(50 Hz - 5KHz)	(50 Hz - 5KHz)			
	DC Process:	±(0.02% of Reading ± 1 count)					
	EXCITATION CURRENT	25mA (Maximum)					
	ENVIRONMENTAL	0 to 55°C					
Storage Temperature:	-10 to 60°C						
	Relative Humidity:	0 to 85% non condensing @ 40°C					
	Temperature Coefficient:	0.2% of input ± 0.5 digits/°C					
WARM-UP TIME	Less than 20 minutes						
NOISE REJECTION	CMRR						
	86dB Typical						
A TO D CONVERSION	Technique:	Integrating Dual Slope					
	Rate:	3 samples/second typical					
FREQUENCY	Technique:	Frequency-to-voltage					
INPUT LEVEL (Frequency Meter)	500mV to 270VRMS	NOT AVAILABLE					
	@ 1.0Meg ohm or 5V to 24V SquareWave (DC offset = 2Vmax)						
MECHANICAL	Bezel:	0.95" x 2.84" (24mm x 72mm)					
	Depth:	2.36" (60mm)					
	Panel cutout:	0.88" x 2.68" (22.2mm x 68mm)					
	Weight:	3.5oz (99.2g)					
	Case Material:	94-0,UL-rated, glass-filled thermoplastic					

Mounting Requirements: see page A6

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Ordering Information

Mini-Max Indicators can be configured by making an entry in each section. Example: M245-1-0-71-0.



Selection	Description	Selection	Description
Basic Unit		Function/Range (continued)	
M235	3-1/2 Digit	31	200 mVAC TRMS
M245	4-1/2 Digit	32	2 VAC TRMS
		33	20 VAC TRMS
		34	200 VAC TRMS
		36	270 VAC TRMS**
		35	600 VAC TRMS †
Display		41	200 AC A TRMS
0	Non Backlit (LCD)	42	2 ACmA TRMS
1	Negative Red Backlight (LCD)	43	20 ACmA TRMS
2	Red LED	44	200 ACmA TRMS
DPM Power Supply		45	2 ACA TRMS
0	85-250 ACV	46	5 ACA TRMS
2	9-32 DCV* **		
Function/Range		71	4-20 DCmA (DC Process)
11	200 DCmV	72	1-5 DCV (DC Process)
12	2 DCV	73	0-10 DCV (DC Process)
13	20 DCV	74	0-100 DCV (DC Process)
14	200 DCV		
15	600 DCV †	81 (M235)	20-199.9 Hz RMS**
21	200 DCμA	82 (M235)	20-1999 Hz RMS**
22	2 DCmA	83 (M235)	20-199.9 Hz Sq. Wave**
23	20 DCmA	84 (M235)	20-1999 Hz Sq. Wave**
24	200 DCmA		
25	2 DCA	Excitation Output (N/A w/Frequency)	
26	5 DCA	0	None
		1	12 DCV @ 25mA
		2	24 DCV @ 25mA

* Not available on Frequency (Hz) Meters

† Not available LCD

**Not available LED