

Mini-Max M235 & M245 Digital Panel Meters



- 3/64 DIN Indicator
- Unique mounting bracket allows stacking of multiple units
- Screw terminal connectors for easy installation
- 3-1/2 or 4-1/2 digit LCD display with optional negative red backlighting

Specifications

DISPLAY		
Type		7-segment LCD
Height		0.5" (12.7mm)
Decimal point		3 or 4 position user-programmable
Overrange indication		Most significant digit = "1", other digits blank
Backlighting		Optional negative image, red backlighting
Polarity		Auto with "-" indication, "+" implied
POWER REQUIREMENTS		
AC Volt		85-250VAC @ 40-440Hz
DC Volt		9-32DCV
Power Consumption		2.5VA min/4VA max
85-250VAC		1.5VA min/3VA max
9-32DCV		750VRMS
Rated Circuit to Ground Voltage		
ACCURACY @ 25°C		
200 Hz		±0.2% of input ± 0.2Hz
2 KHz		±0.2% of input ± 2 Hz
DC V & A M235		±0.1% of reading ± 1 count
DC V & A M245		±0.04% of reading ± 1 count
DC 2A M235 & M245		±0.25% of reading ± 1 count
DC 5A M235 & M245		±0.5% of reading ± 1 count
AC TRMS V & A M235		±0.5% of reading ± 5 counts
AC TRMS V & A M245		±0.5% of reading ± 50 counts
AC Amps M235		±1% of reading ± 5 counts
AC Amps M245		±1% of reading ± 50 counts
DC Process M235		±0.02% of reading ± 1 count
DC Process M245		±0.02% of reading ± 1 count
Excitation Max. Current		25mA
ENVIRONMENTAL		
Operating Temperature		0 to 55°C
Storage Temperature		-10 to 60°C
Relative Humidity		0 to 85% non condensing @ 40°C
Temperature Coefficient		0.02% of input ± 0.2 digits/°C
Warmup time		Less than 20 minutes
NOISE REJECTION		
NMRR		60dB, 50/60Hz
CMRR		(w/1KΩ unbalanced @ 60Hz) 90dB min
A TO D CONVERSION		
Technique		Integrating
Rate		3 samples/second typical
FREQUENCY		
Technique:		Frequency-to-voltage
INPUT LEVEL (Frequency)		500mV to 750VRMS at 1.0MΩ impedance OR 5V to 24V Square Wave (DC offset 2V max)
MECHANICAL		
Bezel:		0.94" x 2.83"
Depth:		2.36"
Panel cutout:		0.89" x 2.71" (22.6mm x 68.8mm)
Weight:		3.5oz (99g)
Case Material:		94-0,UL-rated, glass-filled thermoplastic

Inputs

AC TRMS Current

Range	Resolution	Voltage Drop	Max Input (Unfused)
200μA	100μA	200mV	10mA
2mA	1μA	200mV	40mA
20mA	10μA	200mV	100mA
200mA	100μA	200mV	400mA
2A	1mA	200mV	3A
5A	10mA	50mV	6A

AC TRMS Voltage

Range	Resolution	Input Impedance	Maximum Input
200mV	100μV	>100MΩ	100V
2V	1mV	10MΩ	750V
20V	10mV	10MΩ	750V
200V	100mV	10MΩ	750V
750V	1V	100MΩ	750V

DC Current

Range	Resolution	Voltage Drop	Max Input (Unfused)
200μA	100μA	200mV	10mA
2mA	1μA	200mV	40mA
20mA	10μA	200mV	100mA
200mA	100μA	200mV	400mA
2A	1mA	200mV	3A
5A	10mA	50mV	6A

DC Process

Range	Resolution	Voltage Drop	Max Input (Unfused)
4-20mA	0.1%	200mV	100mA

Range	Resolution	Input Impedance	Maximum Input
1-5 DCV	0.1%	10 MΩ	750 V
0-10 DCV	0.1%	10 MΩ	750 V
0-100 DCV	0.1%	10 MΩ	750 V

DC Voltage

Range	Resolution	Input Impedance	Max Input
200mV	100μV	>100MΩ	100V
2V	1mV	10MΩ	750V
20V	10mV	10MΩ	750V
200V	100mV	10MΩ	750V
750V	1V	10MΩ	750V

Mounting Requirements: see page A6

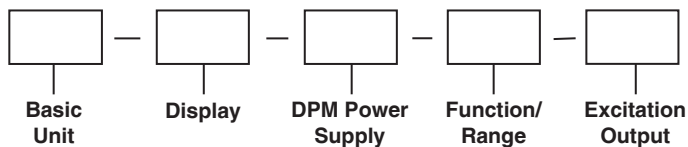
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Ordering Information

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 LCD	31	200 mVAC TRMS
M245	4-1/2 Digit LCD	32	2 VAC TRMS
		33	20 VAC TRMS
		34	200 VAC TRMS
		35	750 VAC TRMS
Display		41	200 ACμA TRMS
0	Non Backlit	42	2 ACmA TRMS
1	Negative Red Backlight	43	20 ACmA TRMS
DPM Power Supply		44	200 ACmA TRMS
0	85-250 ACV	45	2 ACA TRMS
2	9-32 DCV*	46	5 ACA TRMS
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	81 (M235)	20-199.9 Hz RMS
15	750 DCV	82 (M235)	20-1999 Hz RMS
21	200 DCμA	83 (M235)	20-199.9 Hz Sq. Wave
22	2 DCmA	84 (M235)	20-1999 Hz Sq. Wave
23	20 DCmA	Excitation Output (N/A w/Frequency)	
24	200 DCmA	0	None
25	2 DCA	1	12 DCV @ 25mA
26	5 DCA	2	24 DCV @ 25mA

* Not Available on Frequency (Hz) Meters