

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	
85-250VAC	2.5VA min/4VA max
9-32DCV	1.5VA min/3VA max
Rated Circuit to Ground Voltage	750VRMS
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

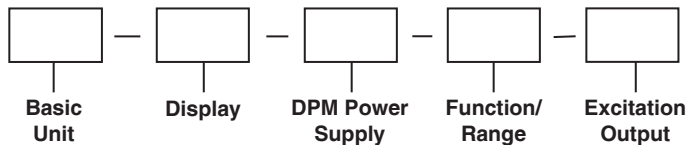
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Mini-Max M235 & M245 Digital Panel Meters

Ordering Information

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



Selection	Description
Basic Unit	
M235 M245	3-1/2 Digit LCD
	4-1/2 Digit LCD
Display	
0 1	Non Backlit
	Negative Red Backlight
DPM Power Supply	
0 2	85-250 ACV
	9-32 DCV*
Function/Range	
11 12 13 14 15	200 DCmV
	2 DCV
	20 DCV
	200 DCV
	750 DCV
21 22 23 24 25 26	200 DCμA
	2 DCmA
	20 DCmA
	200 DCmA
	2 DCA
	5 DCA

Selection	Description
Function/Range (continued)	
31 32 33 34 35	200 mVAC TRMS
	2 VAC TRMS
	20 VAC TRMS
	200 VAC TRMS
	750 VAC TRMS
41 42 43 44 45 46	200 ACμA TRMS
	2 ACmA TRMS
	20 ACmA TRMS
	200 ACmA TRMS
	2 ACA TRMS
	5 ACA TRMS
71 72 73 74	4-20 DCmA (DC Process)
	1-5 DCV (DC Process)
	0-10 DCV (DC Process)
	0-100 DCV (DC Process)
81 (M235) 82 (M235) 83 (M235) 84 (M235)	20-199.9 Hz RMS
	20-1999 Hz RMS
	20-199.9 Hz Sq. Wave
	20-1999 Hz Sq. Wave
Excitation Output (N/A w/Frequency)	
0 1 2	None
	12 DCV @ 25mA
	24 DCV @ 25mA

* Not Available on Frequency (Hz) Meters