

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

more >>

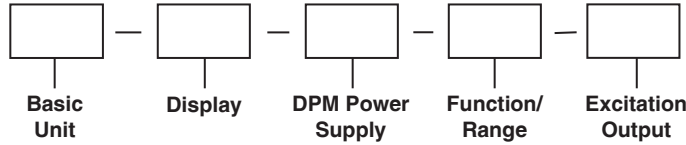




Mini-Max M235 & M245 Digital Panel Meters

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

