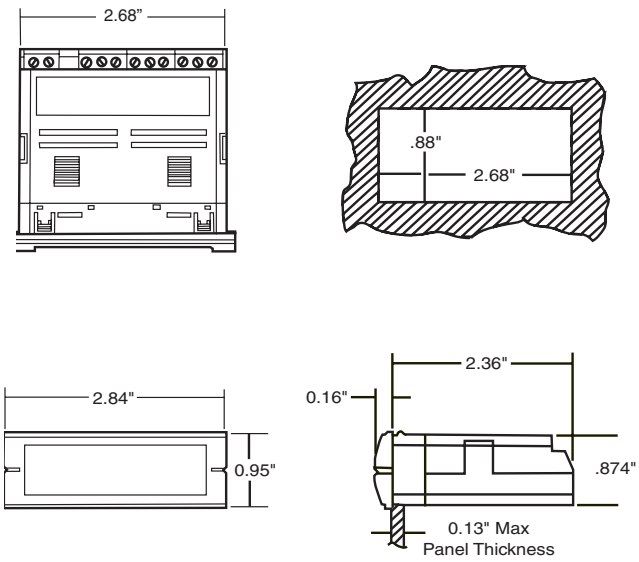
Mini-Max M235 Series Digital Panel Meter

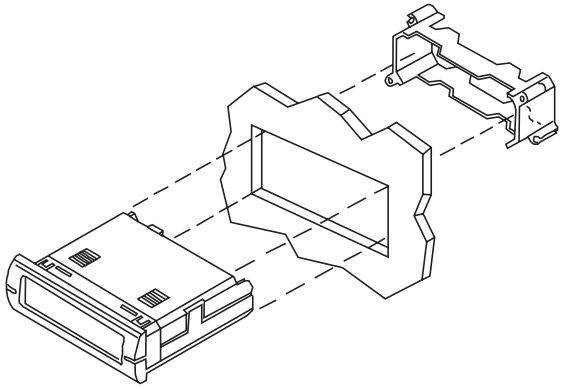
- ***Shallow Depth Indicator - Less Than 2.5" (60mm) of Space Required Behind the Panel***
- ***Stackable Mounting Bracket Included for Easy Installation***
- ***3-1/2 Digit, 0.5" (12.7mm) High LCD with Optional Negative Image, Bright Red Backlighting***
- ***Standard Screw Terminals for Easy Installation***
- ***Two Frequency Ranges: 20 - 199.9Hz or 20 - 1999Hz***
- ***Choice of RMS or Square Wave***
- ***85-250VAC Power***

Simpson's Mini-Max Frequency meters provide accurate, stable, frequency indication in a compact, 60mm deep case. Units have a 3-1/2 digit, 0.5" (12.7mm) LCD display and are available with a bright red, negative image backlight option. Display hold is a standard feature. Screw terminal connectors provide easy wiring of power supply and input signal.

A unique mounting bracket is provided to allow for vertical or horizontal stacking of multiple indicators. All units feature a 3/64 DIN, high-impact plastic case. The standard units have a clear viewing window, and the units with optional negative image, red backlighting have a red window.

Installation and Panel Cutout





Mounting Requirements

Insert the Mini-Max through the panel, and then slide the mounting bracket on to the Mini-Max. The mounting bracket allows Mini-Max units to be stacked side-to-side or top-to-bottom and maintain the DIN standard panel arrangements in 24mm by 72mm multiples. Panel cutout instructions for stacking multiple units are provided under "stacking features."

Specifications

DISPLAY
Type: 7-segment LCD
Height: 0.5" (12.7mm)
Overrange indication: Most significant digit = "1"; other digits blank
Backlighting:
Optional negative image, red LED backlighting
Polarity: Auto with "-" indication, "+" implied

POWER REQUIREMENT
85-250VAC @40-440Hz
Power Consumption:
2.5VA min/4VA max

ACCURACY @ 25°C:
200 Hz: ±0.2% of input ± 0.2Hz

ACCURACY @ 25°C: (cont.)
2 kHz: ±0.2% of input ± 2Hz

INPUT LEVEL: 500mV to 250VRMS at 1.0MΩ impedance OR 5V to 24V Square Wave (DC offset 2V maximum)
Resolution: 200Hz = 0.1Hz
2kHz = 1Hz

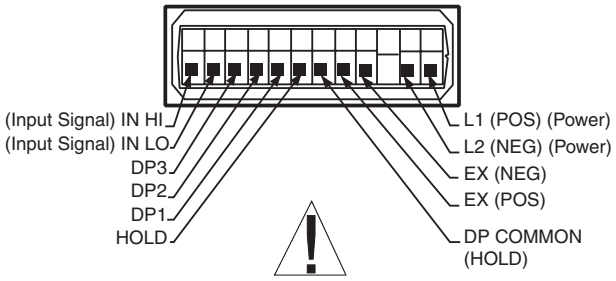
CONVERSION
Technique: Frequency-to-voltage
Rate: 3 samples/second-typical

ENVIRONMENTAL
Operating Temperature: 0 to 55°C
Storage Temperature: -10 to 60°C

ENVIRONMENTAL (cont.)
Relative Humidity:
0 to 85% non condensing @ 40°C
Temperature Coefficient:
(± 0.02% of input ± 0.2 digits)/°C
Warmup time: Less than 15 minutes

MECHANICAL
Bezel: .95" x 2.84"
(24mm x 72mm)
Depth: 2.36" (60mm)
Panel Cutout: .88" x 2.68"
(22.2mm x 68mm)
Weight: 3.5oz (99.2g)
Case Material:
94-0,UL-rated, glass-filled thermoplastic

Wiring Display



These instruments are designed for maximum safety to the operator when mounted in a panel according to instructions. They are not to be used unmounted or for exploratory measurements in unknown circuits.

Input Signal: Connect the IN HI and IN LO to the signal to be monitored.

Supply Power: Connect the power to the L1 and L2 terminals. Backlighting power for the optional negative image, bright red LED backlighting is supplied by the Mini-Max, so no additional external power supply is required.

Reading Hold: Connect HOLD to COM/HOLD. If this feature is not required, the HOLD pin may remain unconnected (open).

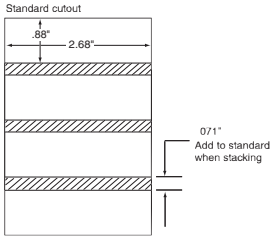
Stacking Features

The mounting brackets, included with every Mini-Max, can be connected together. Multiple units can be mounted in a single opening, allowing perfect alignment.

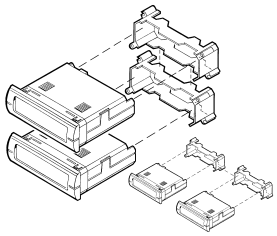
To punch one hole for multiple units, be sure to adjust the standard panel cutout dimensions as shown here; otherwise the meters will not fit properly in the hole.

Mounting multiple units is quick and easy. Install the first meter (bottom unit first if stacking vertically). Position the next mounting bracket snugly against the first one, and slide the second meter into place. Repeat for remaining units.

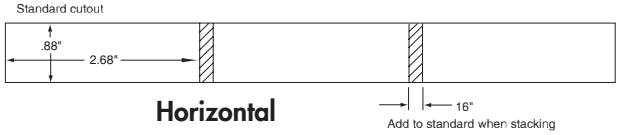
Vertical



Horizontal



Vertical



Horizontal

Ordering Information

Mini-Max Frequency Indicators are configured by making an entry for each box.

Basic Unit	Display	DPM Power Supply	Range	Excitation Output
M235 — 3-1/2 Digit Indicator	0 — Non Backlight 1 — Negative Image Red	0 — 85-250 VAC	81 — 20-199.9 Hz RMS 82 — 20-1999 Hz RMS 83 — 20-199.9 Hz Sq. Wave (5-24V) 84 — 20-1999 Hz Sq. Wave (5-24V)	0 — None

Safety Symbol

The WARNING sign denotes a hazard. It calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, could result in personal injury.

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