

DMS-20PC-FM Series

Self-Powered, 3-Digit LED Display AC Line Frequency Monitors



FEATURES

- Self-powered, no external supplies required
- 3 models: 47.0-99.0Hz (85-140Vac)
47.0-99.0Hz (170-264Vac)
350-450Hz (85-140Vac)
- Screw terminals simplify panel mounting
- Ideal for emergency power equipment
- Small 1.38" x 0.88" x 1.0" packages
- Epoxy encapsulated for harsh environments
- Large (0.40"/10.2mm) red LED displays

Functional Specifications

Input

Freq. Range (Voltage Range): ①	
DMS-20PC-1-FM	47.0-99.0Hz (85-140Vac)
DMS-20PC-2-FM	350-450Hz (85-140Vac)
DMS-20PC-3-FM	47.0-99.0Hz (170-264Vac)
Current Consumption	50mArms (max.)
Overvoltage Protection:	
DMS-20PC-1/2-FM	200Vrms (max.)
DMS-20PC-3-FM	300Vrms (max.)

Performance

Sampling Rate	4 readings/second
Accuracy (-25 to +60°C):	
DMS-20PC-1/3-FM	±0.1Hz
DMS-20PC-2-FM	±1.0Hz

Mechanical

Dimensions	1.38" x 0.88" x 1.00"
Display Type	3 digit, red LED, 0.4"/10.2mm
Weight	1 ounce (28 grams)
Case Material	Polycarbonate
6-32 screw torque	6-8 in-lb (0.7 – 0.9N-m)

Environmental

Operating Temperature	-25 to +60°C
Storage Temperature	-40 to +75°C
Humidity (Non-condensing)	0 to 95%

① Operation and accuracy at inputs above or below these ranges are not specified.

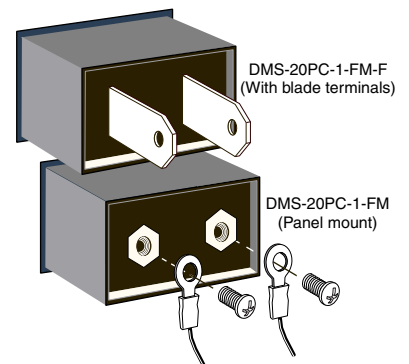


US E156931

DATEL

DATEL's new DMS-20PC-FM Series are the world's smallest, self-powered, ac frequency meters. Simply connect the ac line to the two rear input terminals, and the unit is fully operational with no additional components or auxiliary power required! Two, 50/60Hz models operate over input voltage ranges of 85-140Vac or 170-264Vac. A third, 400Hz model operates over an input voltage range of 85-140Vac. Despite their small size (1.38" x 0.88" x 1.0"), DMS-20PC-FM meters feature large 0.40"/10.2mm red LED's that can be read easily from 15 feet away.

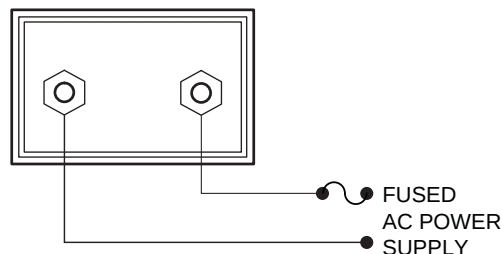
An ultra-stable, quartz-crystal-controlled, embedded microcomputer provides accuracies of ±0.1Hz (50/60Hz models) or ±1.0Hz (400Hz model) over the entire operating temperature range of -25 to +60°C. Epoxy encapsulated plastic packages provide excellent protection against the harsh environments normally encountered by emergency backup power generators. DMS-20PC-FM meters are the exact same size as DATEL's popular AC Line Voltage Monitors (models DMS-20PC-X-LM).



Ordering Information

DMS-20PC-1-FM-C	47-99Hz / 120Vac frequency monitor with threaded standoffs ②
DMS-20PC-1-FM-F-C	47-99Hz / 120Vac frequency monitor with blade terminals
DMS-20PC-2-FM-C	350-450Hz / 120Vac frequency monitor with threaded standoffs ②
DMS-20PC-3-FM-C	47-99Hz / 220Vac frequency monitor with threaded standoffs ②
DMS-20-CP	Optional panel cutout punch
DMS-BZL3-C	Optional panel mount bezel
DMS-BZL4-C	Optional panel mount bezel with sealing gasket

② Brass screws (6-32 thread) and a panel-mount retaining clip are supplied with meter.



Typical Connection Diagram

DMS-20PC-FM Series

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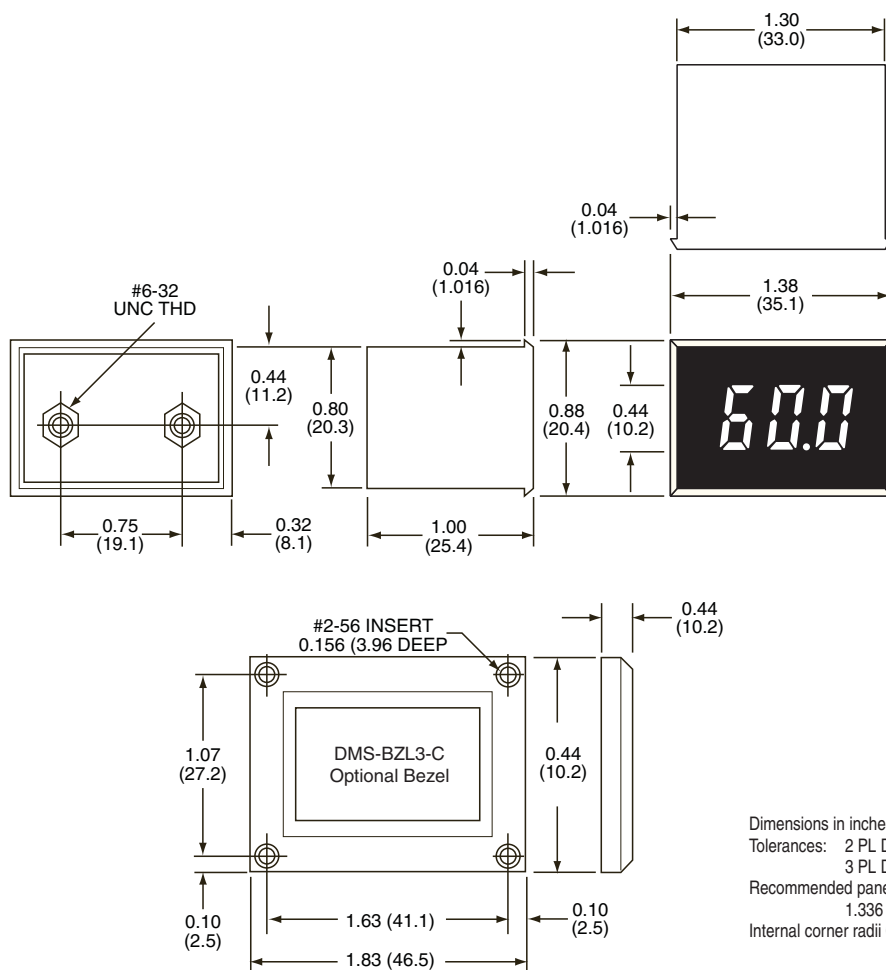
Power Supply Polarity, Fusing, Wiring, and Grounding: DMS-20PC-FM's two ac-supply terminals are not polarity sensitive, that is, they have no "AC LO" or "AC HI" designations. These units do not include nor require a connection to earth/chassis ground.

All ac-supply wiring must be rated for the voltages and currents they will conduct and comply with any code or application-mandated requirements pertaining to the user's specific installation. 300V UL rated wire suitable for the intended application is required.

DMS-20PC-FM ac frequency meters are not internally fused. The rear threaded standoff input-terminals are to be used only for powering the meter's internal

circuitry; they must not be used to supply power to external loads. Except for plug-in models with blade terminals, which must be protected by an external system circuit breaker or fuse, the supply wires feeding these meters must be fused with a 0.25A/250V time delay/time lag fuse, in accordance with applicable regulatory codes.

The recommended wire size is 16AWG to 20AWG (1.31mm² to 0.52mm²) stranded copper wire. Wires must be properly stripped and attached to the threaded standoffs such that their insulation is not pinched by the supplied 6-32 screws. Rated tightening torque for the 6-32 screws is 7 to 8 pound-inches (0.8 to 0.9N-m).



Dimensions in inches (millimeters)
Tolerances: 2 PL Dec ± 0.02 (± 0.51)
3 PL Dec ± 0.010 (± 0.254)
Recommended panel cutout dimensions:
1.336 (33.93)W $\times$ 0.838 (21.29)H
Internal corner radii 0.032 (0.81) Max.