



### 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

<b>Input</b>	
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.)
<b>Performance</b>	
Sampling Rate	
4 readings/second	
Accuracy (-25 to +60°C):	
DMS-20PC-1/3-FM	±0.1Hz
DMS-20PC-2-FM	±1.0Hz
<b>Mechanical</b>	
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)	
<b>Environmental</b>	
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.



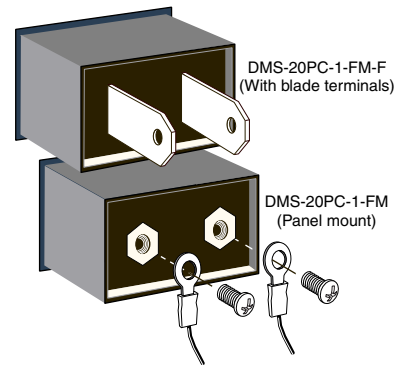
For full details go to  
[www.murata-ps.com/rohs](http://www.murata-ps.com/rohs)

**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.

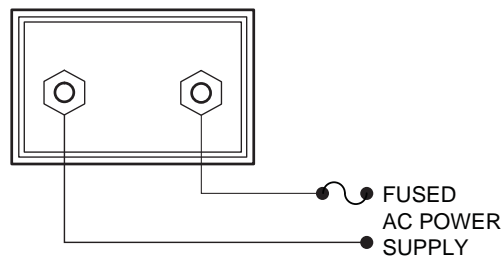
An ultra-stable, quartz-crystal-controlled, embedded microcomputer provides accuracies of ±0.1Hz (50/60Hz models) or ±1.0Hz (400Hz model) over the entire operating temperature range of -25 to +60°C. Epoxy encapsulated plastic packages provide excellent protection against the harsh environments normally 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

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

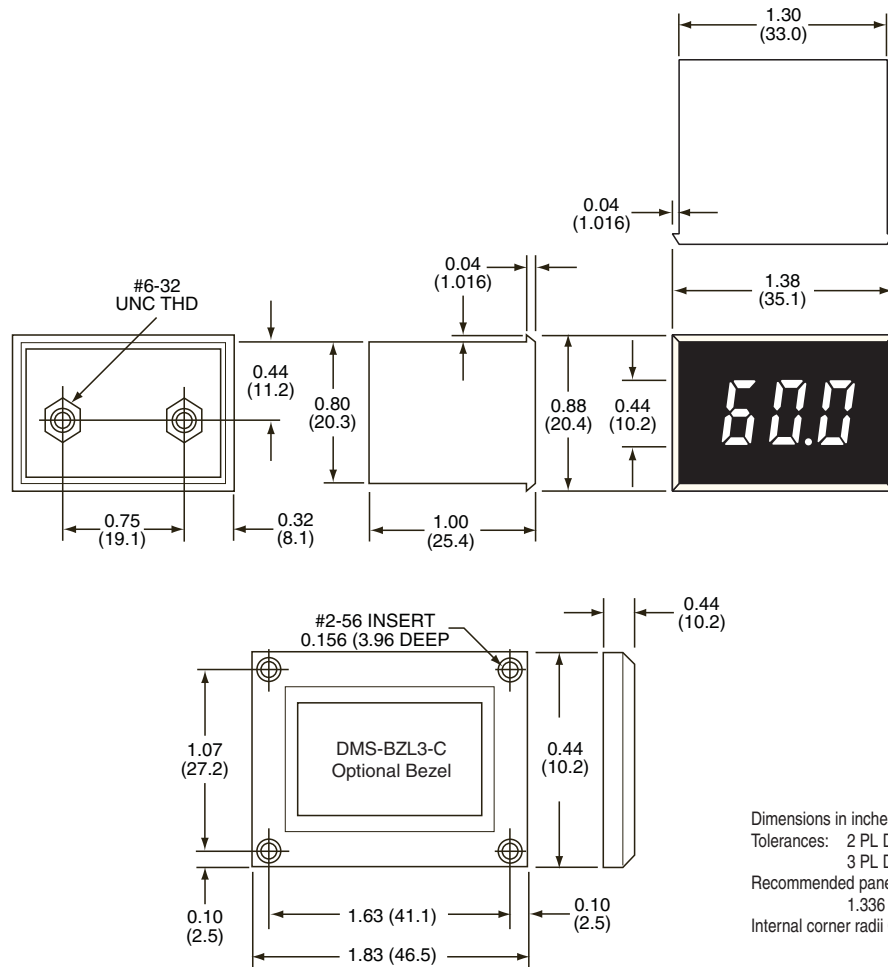
**Power Supply Polarity, Fusing, Wiring, and Grounding:** DMS-20PC-FM's two ac-supply terminals are not polarity sensitive, that is, they have no "AC LO" or "AC HI" designations. These units do not include nor require a connection to earth/chassis ground.

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 (1.31mm<sup>2</sup> to 0.52mm<sup>2</sup>) 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  $\pm 0.02$  ( $\pm 0.51$ )  
3 PL Dec  $\pm 0.010$  ( $\pm 0.254$ )  
Recommended panel cutout dimensions:  
1.336 (33.93)W  $\times$  0.838 (21.29)H  
Internal corner radii 0.032 (0.81) Max.



Murata Power Solutions, Inc.  
11 Cabot Boulevard, Mansfield, MA 02048-1151 U.S.A.  
ISO 9001 and 14001 REGISTERED

Murata Power Solutions, Inc. makes no representation that the use of its products in the circuits described herein, or the use of other technical information contained herein, will not infringe upon existing or future patent rights. The descriptions contained herein do not imply the granting of licenses to make, use, or sell equipment constructed in accordance therewith. Specifications are subject to change without notice. © 2012 Murata Power Solutions, Inc.