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Murata Power Solutions

DMS-20PC-FM Series

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

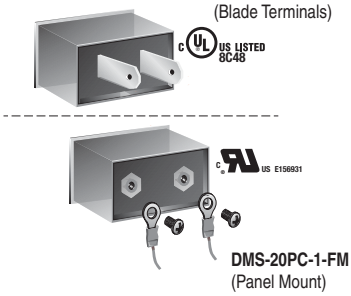


FEATURES

- 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

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).



DMS-20PC-1-FM-F
(Blade Terminals)

DMS-20PC-1-FM
(Panel Mount)

Suggested wiring (user supplied)

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.)
UL/IEC61010-1	Measurement Category II

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.

RoHS COMPLIANT

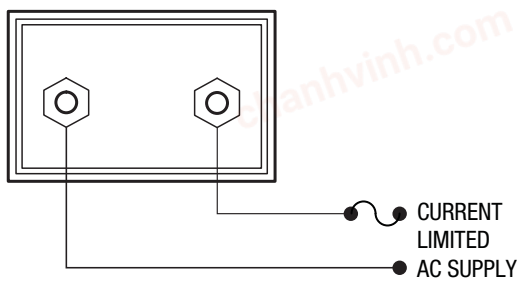
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For full details go to
www.murata-ps.com/rohs

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

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

Power Supply Polarity, Grounding, Fusing, and Wiring

1. Polarity and Grounding:

DMS-20PC-FM's two ac-supply input 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. Additional model-specific information is provided below.

2. UL Recognized Panel Mount Models with Screw Terminals:

c US E156931

DMS-20PC-FM AC frequency meters are not internally fused. 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 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.
The recommended wire size is 16AWG to 20AWG (1.31mm^2 to 0.52mm^2) 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). 300V UL rated wire suitable for the intended application is required.

3. UL Listed Models with "Plug-in" Blade Terminals:

c UL US LISTED

Plug-in DMS-20PC-1-FM-XF models are not internally fused and must be protected by an external current limiting circuit breaker or fuse in accordance with applicable regulatory codes. These models are designed to be plugged into NEMA 1-15R, NEMA 5-15R, and NEMA 5-20R receptacles.

4. Description of the safety marks:

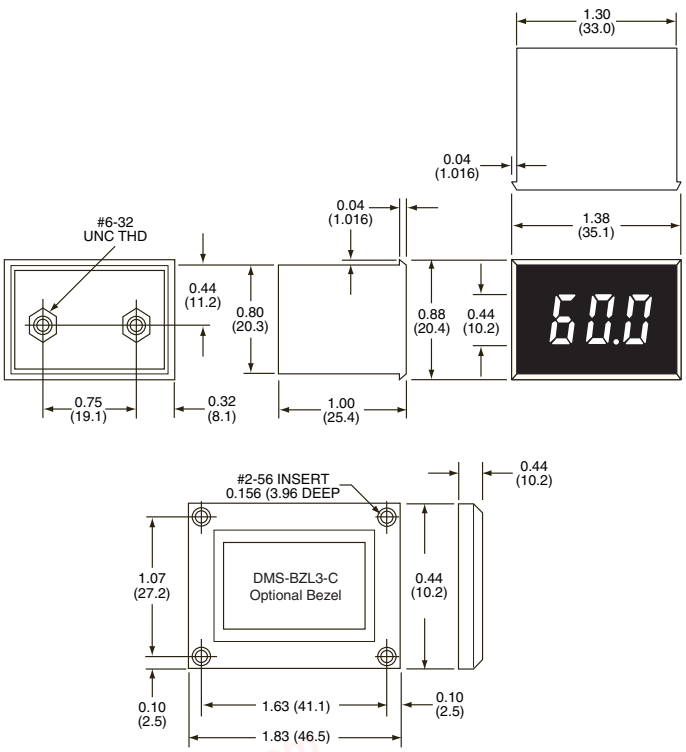
Caution, risk of electrical shock

Caution, risk of danger

Equipment is protected throughout by double or reinforced insulation

5. Cleaning Instructions: Gently clean with dry cloth only.

6. Caution: if the equipment is used in a manner not specified by Murata Power Solutions, the protection provided by the equipment may be impaired.



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 x 0.838 (21.29)H
Internal corner radii 0.032 (0.81) Max.

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ISO 9001 and 14001 REGISTERED

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