Murata Power Solutions’ DMS-20PC-2-LM is a component-size, self-contained, low-cost ac voltmeter specifically designed for high-voltage or high-frequency operation. The DMS-20PC-2-LM’s unique power-supply circuitry allows a single model to operate from either 240 to 310Vac with 50/60Hz inputs or from 85 to 140Vac with 400Hz inputs. The meter requires no external components or auxiliary power for full operation! Its large, 0.37”/9.4mm, bright red LED display is easily readable under virtually all lighting conditions.

DMS-20PC-2-LM employs half-wave sinusoidal averaging (rms calibrated) to achieve a display resolution of 1Vac over its full operating range. Packaged in a red-filter case with a built-in bezel, the meter is epoxy encapsulated for ruggedness.

This low-cost, extremely versatile digital voltmeter is ideal for use in emergency power equipment, 277Vac fluorescent lighting systems, 400Hz aircraft installations, and any other application requiring accurate, high-voltage or high-frequency, ac line monitoring.

FEATURES

- Self-powered, two-terminal operation
- Dual operating ranges: 240-310Vac at 50/60Hz or 85-140Vac at 400Hz
- Half-wave averaging, rms calibrated
- Large, easy-to-read, bright red LED display
- Rugged, epoxy-encapsulated construction
- Built-in bezel for panel mounting
- Reliable screw terminals for easy installation
- Small 1.38” x 0.88” x 1.0” package
- Approvals to UL/cUL/IEC/61010-1

Functional Specifications

<table>
<thead>
<tr>
<th>Input</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voltage Range</td>
<td>240-310Vac (47-99Hz)</td>
<td>240-310Vrms (47-99Hz)</td>
</tr>
<tr>
<td></td>
<td>85-140Vac (350-450Hz)</td>
<td>85-140Vrms (350-450Hz)</td>
</tr>
<tr>
<td>Current Consumption</td>
<td>50mA (max.)</td>
<td>50mA (max.)</td>
</tr>
<tr>
<td>UL/IEC61010-1</td>
<td>Measurement category II</td>
<td>Measurement category II</td>
</tr>
</tbody>
</table>

Performance

- Sampling Rate: 2.5 readings/second
- Measurement Type: Half-wave average, rms calibrated for sinusoidal input
- Accuracy @ +25°C: ±1V (typ.), ±2V (max.)
- Temperature Drift: ±0.15 Volts/°C (max.)
- (–25 to +60°C)

Mechanical

- Dimensions: 1.38” x 0.88” x 1.0”
- Display Type: 3 digit, red LED, 0.37”/9.4mm
- 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%

Ordering Information

- DMS-20PC-2-LM-C: High-voltage ac line monitor with screw terminals and screws
- DMS-8ZL3-C: Panel mount bezel
- DMS-8ZL4-C: Panel mount bezel with sealing gasket
- DMS-20-CP: Panel cutout punch

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

For full details go to www.murata-ps.com/rohs
Power Supply Polarity, Fusing, Wiring, and Grounding: DMS-20PC-2-LM’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-2-LM ac voltmeters are not internally fused. The rear threaded standoff input-terminals are to be used only for powering the voltmeter’s internal circuitry; they must not be used to supply power to external loads. Depending on the ac supply line-voltage in the user’s installation, the supply wires feeding these voltmeters must be fused with a 0.25A/250V or a 0.25A/600V 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).

1. Description of safety marks:
   - Caution, risk of electrical shock
   - Caution, risk of danger
   - Equipment is protected throughout by double or reinforced insulation

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

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

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Murata:
DMS-20PC-2-LM-C