



## FEATURES

- Self-powered, requires only two connections
- 160 to 430Vdc measurement range
- Ideal for 380V DC power distribution systems
- Digital replacement for analog panel meters
- Large, easy-to-read, bright red LED display
- Screw-style terminal connections simplify installation
- Rugged silicone-encapsulated plastic package
- Reverse polarity protected to -430Vdc

## Functional Specifications

### Input

Voltage Range ①	+160 to +430Vdc
Current Consumption @Vin = 430Vdc	3mA (max.)
Reverse Polarity Protection	-430Vdc (max.)

### Performance

Sampling Rate	2.5 readings/second
Resolution	1Vdc
Accuracy @ +25°C	±1V (typ.), ±2V (max.)
Temperature Drift (-25 to +60°C)	±0.4 V/°C (max.)

### Mechanical

Dimensions	1.38" x 0.88" x 1.00"
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-lbs (0.7 – 0.9N-m)

### Environmental

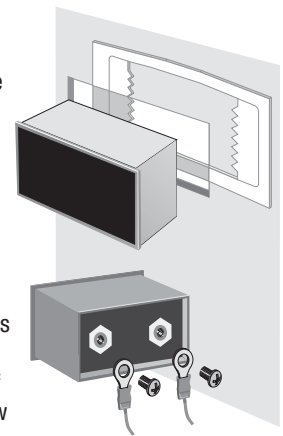
Operating Temperature	-25 to +60°C
Storage Temperature	-40 to +75°C
Humidity (Non-condensing)	0 to 85%

① Operation and accuracy at inputs above or below this range are not specified.

DATEL's DMS-20PC-9-DCM self-powered, high voltage DC monitors are specifically designed to measure and display voltages in 380V DC power-distribution systems or battery banks. Simply connect any 160 to 430Vdc source across its rear terminals and the meters are fully operational—no additional components or power supplies are required.

Their large, 0.37"/9.4mm, red LED display can be easily read from 15 feet away (5 meters). These meters accurately display dc bus voltages with 1Vdc resolution. Built-in reverse polarity protection assures simple, trouble-free installation. All DMS-20PC-9-DCMs employ a 3½ digit A/D converter and precision metal-film resistors to achieve outstanding performance over an operating temperature range of -25 to +60°C.

The meter's electronics are housed in an encapsulated, polycarbonate case that also provides excellent protection against moisture, shock, and vibration. The DMS-20PC-9-DCM is designed to fit in the same panel cutout as many of DATEL's AC and DC voltage monitors and AC and DC ammeters; all of your voltage and current monitoring instrumentation can now be sourced from one supplier.



Typical panel mount installation and suggested wiring (user supplied)

## Ordering Information

<b>DMS-20PC-9-DCM-C</b>	160 to 430V DC voltage monitor (Red LED)
<b>DMS-BZL4-C</b>	Optional panel mount bezel with sealing gasket
<b>DMS-20-CP</b>	Panel cutout punch

Note: Brass screws (6-32 thread) and a panel-mount retaining clip are supplied with each meter. The '-C' suffix denotes RoHS compliance.

## TECHNICAL NOTES



**IMPORTANT!** To ensure safe and reliable operation, DMS-20PC-9-DCM high voltage monitors must be installed and serviced by qualified technical personnel. Contact Murata Power Solutions if there is any doubt regarding installation or operation.

1. **Measurement Type:** DMS-20PC-9-DCM AC voltmeters employ a precision analog-to-digital converter and a stable voltage reference to measure and display voltages from +160Vdc to +430Vdc.
2. **Calibration:** DMS-20PC-9-DCM voltmeters are factory calibrated; there is no provision for calibrating units in the field.
3. **Panel Installation:** All electrical connections to DMS-20PC-9-DCM must be made after the voltmeter is securely attached to the panel, and with the input DC supply de-energized (off). In high-vibration environments, adequate strain reliefs must be used on all supply wiring. While the supplied brass retaining clip is adequate for most installations, the DMS-BZL4-C optional bezel assembly is recommended for demanding environmental installations. (Continued on next page.)



**TECHNICAL NOTES, CONT.**

**4. Power Supply Fusing and Wiring:**

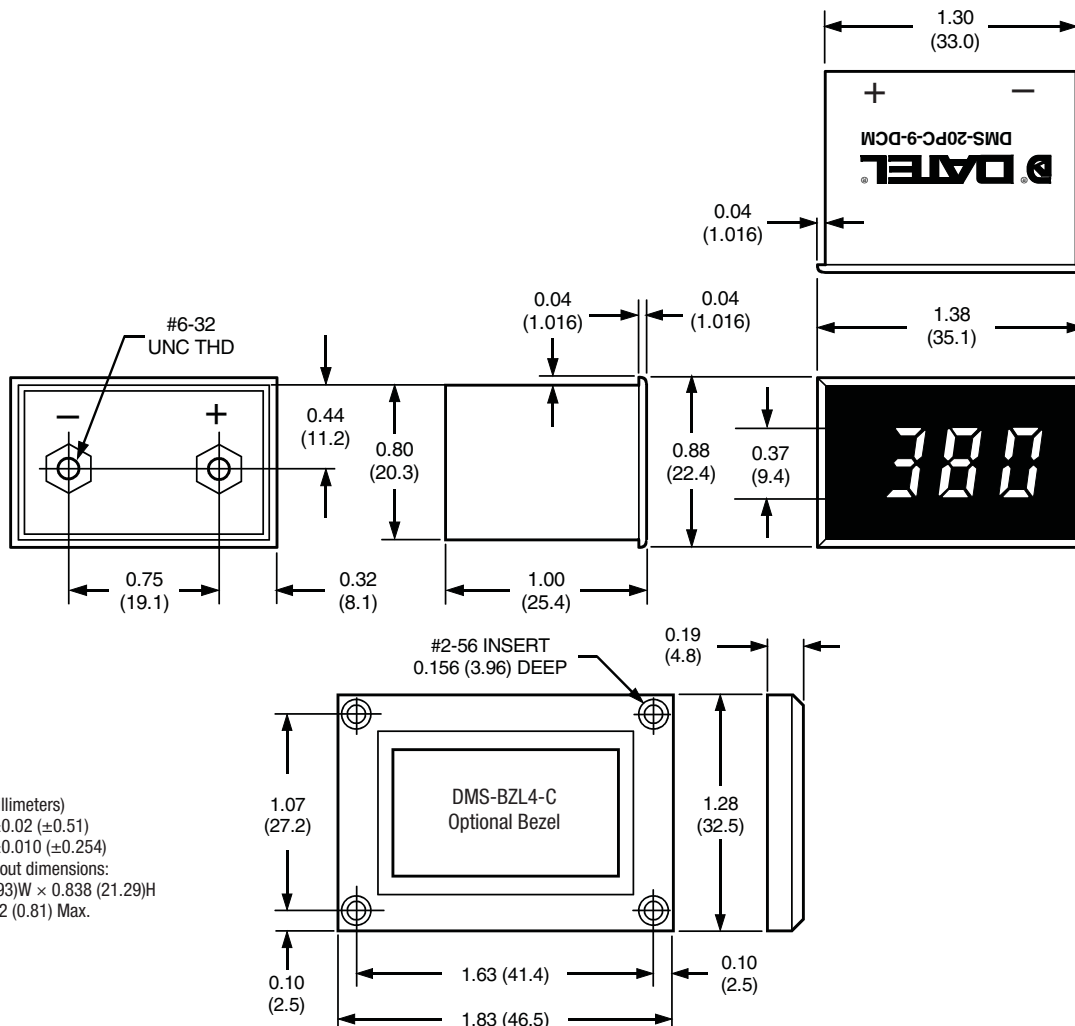
DMS-20PC-9-DCM DC voltmeters are not internally fused. The supply wires connected to its input terminals must be fused with a 0.25A/600V time delay/time lag fuse, in accordance with applicable regulatory codes.

All 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. 600V, UL-rated hook-up wire suitable for the intended application is required. 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 supply wire size is 18AWG to 22AWG (0.83mm<sup>2</sup> to 0.325mm<sup>2</sup>) solid or stranded copper wire. The supply wires must be properly stripped and attached to the meter's rear terminals such that their insulation is not pinched by the screw terminal. Recommended insulation strip length is 0.60" (15.2mm).

**MECHANICAL SPECIFICATIONS**



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

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