# **DMS-20RM Series**



## True-rms ac Voltmeters with Isolated Inputs



#### **FEATURES**

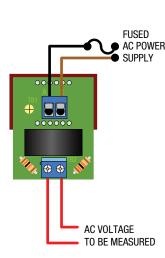
- Measures the rms value of complex ac voltages
- Three input ranges: 20Vac, 200Vac and 300Vac
- Two operating-supply options: 85-264Vac, or +10-40Vdc
- Input circuit fully isolated from operating power supply
- 47-1kHz input frequency range
- Fully encapsulated plastic package measures 1.38" x 0.88" (35mm x 22.4mm)
- Large, easy-to-read, red LED display is visible from 12 feet (4m)

Murata Power Solutions' DMS-20RM series are four-wire, self-contained ac voltmeters that measure and display the true-rms values of complex ac waveforms. Because the input circuitry is electrically isolated from the unit's operating power source, these voltmeters can measure signals down to zero volts. No external isolation transformers or auxiliary power supply conditioning components are required. Simply connect the input signal and a source of operating power (85-264Vac, or an optional +10-40Vdc) to the two rear-mounted terminal blocks and the unit is fully operational.

DMS-20RM rms voltmeters are available in a choice of three input ranges: 20Vac (with 0.01V resolution); 200Vac (0.1V resolution); and 0-300Vac (1V resolution). An input frequency range of 47-1kHz makes these voltmeters ideal for all ac voltage monitoring applications. And, unlike conventional, average-responding products, these meters can measure and accurately display the true-rms value of triangle waves, square waves, or other irregularly shaped waveforms with 0.4% full-scale accuracy.

The large (0.37"/9.4mm), bright red LED display makes the DMS-20RM ac voltmeters easily readable from as far as 12 feet (4 meters). All units are packaged in a red-filter case with a built-in bezel; these meters are fully encapsulated to make them moisture and vibration resistant. Their miniature size is perfect for high-end consumer electronics, laboratory instrumentation, alternative power generators and other products requiring precise ac line monitoring.

#### TYPICAL WIRING DIAGRAMS



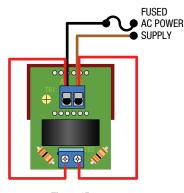
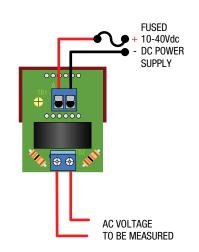


Figure 1B. Powered by and measuring the same AC power source.



#### Figure 1A. Powered by AC supply while measuring separate AC signal.

Figure 2. Powered by DC power supply while measuring AC signal.





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# **DMS-20RM Series**

## True-rms ac Voltmeters with Isolated Inputs

Performance/Functional Specifications

Typical at TA=+  $25^{\circ}$ C with 60Hz sine-wave input, unless otherwise noted

DMS-20RM-1 DMS-20RM-2 DMS-20RM-3      0 0 199.9 300      Vac Vac Vac        Frequency Range      47      60      1000      Hz        Performance 300      vac 300      Vac        Sampling Rate      2.5 readirs      per second        Accuracy ①      ±0.4%/S ±2 counts with 60Hz size wave input        Measurement Type      rms responding. Crest Factors of 1-5        Temperature Drift (0 to 60°C)      ±0.2      ±0.4      Counts/°C        Zero-Volt Reading (within 30 sec.)      -001      000      001      Counts/°C        Breakdown Voltage, TB1 to TB2      2000        Vdc        Imperature Drift (0 to 60°C)       200       KΩ        DMS-20RM-1       20       KΩ        DMS-20RM-2       200       KΩ        DMS-20RM-3       264      Vac/47-63Hz        DMS-20RM-3       264      Vac/47-63Hz        DMS-20RM-4C1       30      50      mA/47-63Hz        DMS-20RM-X-AC1	Full-Scale Input Voltage (TB2)	Min.	Тур.	Max.	Units
DMS-20RM-3      0       300      Vac        Frequency Range      477      60      1000      Hz        Performance       500      Hz         Sampling Rate            Accuracy ①             Measurement Type      rms       Vdc        Vdc        Imperature Drift (0 to 60°C)        Vdc       Vdc        Input Impedance       20       KΩ        DMS-20RM-1       200       KΩ        DMS-20RM-2       200       KΩ        DMS-20RM-3       266       KΩ        DMS-20RM-4       266       KΩ        DMS-20RM-X-AC1      85       KΩ         DMS-20RM-X-AC1	,	0	_		Vac
Frequency Range      447      60      1000      Hz        Performance <th>DMS-20RM-2</th> <th>0</th> <th>_</th> <th>199.9</th> <th>Vac</th>	DMS-20RM-2	0	_	199.9	Vac
PerformancePerformanceSampling Rate2.5 reading per secondAccuracy ① $\pm 0.4\%FS \pm 2 \text{ counts}$ with 60Hz sine wave inputMeasurement Typerms responding, Crest Factors of 1-5Temperature Drift (0 to 60°C) $\pm 0.2$ $\pm 0.4$ Counts/°CZero-Volt Reading (within 30 sec.)001000001Counts/Breakdown Voltage, TB1 to TB22000VdcInput ImpedanceU2000kQDMS-20RM-120kQDMS-20RM-2200kQDMS-20RM-3266kQDMS-20RM-3266kQDMS-20RM-3264Vac/47-63HzDMS-20RM-3264Vac/47-63HzDMS-20RM-X-DC2+10.0+40.0VdcPower Supply Current (TB1, @)DMS-20RM-X-AC185264Vac/47-63HzDMS-20RM-X-DC21015mAdcTerminal Block Wiring (TB1 and TB2)UUUWire Size16-22AWG, Solid or strandedInsulation Strip Length $0.250$ inchesScrew Tightening Torque $3!2$ Digit LED, $0.37"/9.4 mm$ highOverrange Indication*1""DisplayJiplay Type and Size $3!2$ Digit LED, $0.37"/9.4 mm$ highOverrange Indication*1""Physical/Environmental-25 $+60$ °COperating Temperature-25 $+60$ °CStrag	DMS-20RM-3	0		300	Vac
Sampling Rate2.5 reading per secondAccuracy ①±0.4%FS ±2 counts with 60Hz sine wave inputMeasurement Typerms responding, Crest Factors of 1-5Temperature Drift (0 to 60°C)±0.2±0.4Counts/°CZero-Volt Reading (within 30 sec.)-001000001CountsBreakdown Voltage, TB1 to TB22000VdcImput Impedance2000VdcDMS-20RM-120kΩDMS-20RM-2200kΩDMS-20RM-3266kΩDMS-20RM-485264Vac/47-63HzDMS-20RM-X-AC185264Vac/47-63HzDMS-20RM-X-DC2+10.0+40.0VdcPower Supply Current (TB1, @)DMS-20RM-X-AC13050mA/47-63HzDMS-20RM-X-DC21015mAdcTerminal Block Wiring (TB1 and TB2)Wire Size16-22AWG, Solid or strudedInsulation Strip LengthOUVacScrew Tightening TorqueSigit LED, 0.37"/9.4mm highOverrange Indication*1"DisplayDisplayDisplayDisplayOperating Temperature-265-Screw Tightening TorqueSigi	Frequency Range	47	60	1000	Hz
Accuracy ①      ±0.4%FS ±2 counts with 60Hz sine wave input        Measurement Type      rms responding, Crest Factors of 1-5        Temperature Drift (0 to 60°C)      ±0.2      ±0.4      Counts/°C        Zero-Volt Reading (within 30 sec.)      -001      000      001      Counts/°C        Breakdown Voltage, TB1 to TB2      2000      —      —      Vdc        Input Impedance      U      20      —      KΩ        DMS-20RM-1      —      20      —      KΩ        DMS-20RM-2      —      200      —      KΩ        DMS-20RM-3      —      206      —      KΩ        DMS-20RM-AC1      85      —      264      Vac/47-63Hz        DMS-20RM-X-AC1      85      —      264      Vac/47-63Hz        DMS-20RM-X-AC1      —      30      50      mA/47-63Hz        DMS-20RM-X-DC2	Performance				
with 60Hz sine wave input        Measurement Type      rms responding, Crest Factors of 1-5        Temperature Drift (0 to 60°C)      ±0.2      ±0.4      Counts/°C        Zero-Volt Reading (within 30 sec.)      -001      000      001      Counts/°C        Breakdown Voltage, TB1 to TB2      2000        Vdc        Input Impedance       20       kΩ        DMS-20RM-1       20       kΩ        DMS-20RM-2       200       kΩ        DMS-20RM-3       266       kΩ        DMS-20RM-4AC1      85       264      Vac/47-63Hz        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-AC1       10      15      mAdc        Terminal Block Wiring (TB1 and TB2)       10      15      mAdc        Mire Size      16-22AWG, Solid or stradd       10      15        Screw Tightening Torque	Sampling Rate	2.5 reading per second			
Temperature Drift (0 to 60°C)      ±0.2      ±0.4      Counts/°C        Zero-Volt Reading (within 30 sec.)      -001      000      001      Counts        Breakdown Voltage, TB1 to TB2      2000        Vdc        Input Impedance      2000        Vdc        DMS-20RM-1       20       kΩ        DMS-20RM-2       200       kΩ        DMS-20RM-3       266       kΩ        Power Supply Voltage (TB1)       266       kΩ        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0       +40.0      Vdc        Power Supply Current (TB1, ②)       10      15      mAdc        DMS-20RM-X-AC1       30      50      mA/47-63Hz        DMS-20RM-X-AC1       10      15      mAdc        Terminal Block Wiring (TB1 and TB2)      -      10      15      mAdc        Insulation Strip Length      0.250 inches	Accuracy ①				
Zero-Volt Reading (within 30 sec.)      -001      000      001      Counts        Breakdown Voltage, TB1 to TB2      2000        Vdc        Input Impedance        Vdc      Input Sec.)       KΩ        DMS-20RM-1       200       KΩ        DMS-20RM-2       200       KΩ        DMS-20RM-3       266       KΩ        Power Supply Voltage (TB1)       264      Vac/47-63Hz        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0       +40.0      Vdc        Power Supply Current (TB1, @)       10      15      mAdc        DMS-20RM-X-DC2       10 </th <th>Measurement Type</th> <th colspan="4">rms responding, Crest Factors of 1-5</th>	Measurement Type	rms responding, Crest Factors of 1-5			
Breakdown Voltage, TB1 to TB2      2000      —      —      Vdc        Input Impedance	Temperature Drift (0 to 60°C)		±0.2	±0.4	Counts/ºC
Input Impedance      -      20      -      kΩ        DMS-20RM-1      -      200      -      kΩ        DMS-20RM-2      -      200      -      kΩ        DMS-20RM-3      -      266      -      kΩ        Power Supply Voltage (TB1)      -      266      -      kΩ        DMS-20RM-X-AC1      85      -      264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0      -      +40.0      Vdc        Power Supply Current (TB1, ②)      -      30      50      mA/47-63Hz        DMS-20RM-X-AC1      -      30      50      mA/47-63Hz        DMS-20RM-X-AC1      -      30      50      mA/47-63Hz        DMS-20RM-X-DC2      -      10      15      mAdc        Terminal Block Wiring (TB1 and TB2)      Wire Size      16-22AWG, Solid or stranded      Insulation Strip Length      0.250 inches        Screw Tightening Torque      2.2 lb·in (0.25 N·m) ±20%      Rated Voltage      300Vac      Display        Display      Display Type and Size      3½ Digit LED, 0.37"/9.4mm high      0vac      st	Zero-Volt Reading (within 30 sec.)	-001	000	001	Counts
DMS-20RM-1 DMS-20RM-2 DMS-20RM-3       20 -0       KΩ AΩ        Power Supply Voltage (TB1)       266       KΩ        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-AC1      85       264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0       +40.0      Vdc        Power Supply Current (TB1, @)       30      50      mA/47-63Hz        DMS-20RM-X-AC1       30      50      mA/47-63Hz        DMS-20RM-X-AC1       30      50      mA/47-63Hz        DMS-20RM-X-DC2       10      15      mAdc        Terminal Block Wiring (TB1 and TB2)      Wire Size      16-22AWG, Solid or stranded      Insulation Strip Length      0.250 inches        Screw Tightening Torque      2.2 lb·in (0.25 N·m) ±20%      Rated Voltage      300Vac      300Vac        Display      Display Type and Size      3½ Digit LED, 0.37"/9.4mm high      0verrange Indication      "1"        Decimal Point      Fixed, model dependent (see full-scale input voltage above)      voltage above)      "C	Breakdown Voltage, TB1 to TB2	2000	—	—	Vdc
DMS-20RM-2 DMS-20RM-3       200 266       kΩ        Power Supply Voltage (TB1)               KΩ        DMS-20RM-X-AC1      85       264      Vac/47-63Hz <th< th=""><th>Input Impedance</th><th></th><th></th><th></th><th></th></th<>	Input Impedance				
DMS-20RM-3      —      266      —      KΩ        Power Supply Voltage (TB1)        DMS-20RM-X-AC1      85      —      264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0      —      +40.0      Vdc        Power Supply Current (TB1, ②)        DMS-20RM-X-AC1      —      30      50      mA/47-63Hz        DMS-20RM-X-AC1      —      30      50      mA/47-63Hz        DMS-20RM-X-DC2      —      10      15      mAdc        Terminal Block Wiring (TB1 and TB2)        Wire Size      16-22AWG, Solid or straded      Insulation Strip Length      0.250 inches        Screw Tightening Torque      2.2 lb·in (0.25 N·m) ±20%      Rated Voltage      300Vac        Display      Type and Size      31½ Digit LED, 0.37"/9.4mm high      Overrange Indication      "1"        Decimal Point      Fixed, model dependent (see full-scale input voltage above)      voltage      Scale function      "1"        Physical/Environmental		-	-	—	
Power Supply Voltage (TB1)      B      -      264      Vac/47-63Hz        DMS-20RM-X-AC1      85       +40.0      Vdc        Power Supply Current (TB1, ②)      -      +40.0      Vdc        DMS-20RM-X-AC1       30      50      mA/47-63Hz        DMS-20RM-X-AC1       30      50      mA/47-63Hz        DMS-20RM-X-DC2       10      15      mAdc        Terminal Block Wiring (TB1 and TB2)       10      15      mAdc        Vire Size      16-22AWG, Solid or stranded      Insulation Strip Length      0.250 inches      Screw Tightening Torque      2.2 lb-in (0.25 N·m) ±20%        Rated Voltage      300Vac      300Vac      Solid or stranded      Insulation Strip Length      0.250 inches      Solid vac        Display      Type and Size      3½ Digit LED, 0.37"/9.4mm high      Overrange Indication      "1"        Decimal Point      Fixed, model dependent (see full-scale input voltage above)      Solid vac      Solid vac        Physical/Environmental      -      +60      °C      Storage Temperature      -25      -      +60		-		_	
DMS-20RM-X-AC1      85      —      264      Vac/47-63Hz        DMS-20RM-X-DC2      +10.0      —      +40.0      Vdc        Power Supply Current (TB1, ②)			200		K12
DMS-20RM-X-DC2      +10.0      —      +40.0      Vdc        Power Supply Current (TB1, ②)		85		264	Vac/47-63Hz
DMS-20RM-X-AC1—3050mA/47-63HzDMS-20RM-X-DC2—1015mAdcTerminal Block Wiring (TB1 and TB2)Wire Size16-22AWG, Solid or strandedInsulation Strip Length0.250 inchesScrew Tightening Torque2.2 lb-in (0.25 N·m) ±20%Rated Voltage300VacDisplay31½ Digit LED, 0.37 "/9.4mm highOverrange Indication"1"Physical/EnvironmentalFixed, model dependent (see full-scale input voltage above)Physical/Environmental-25Operating Temperature-25-40-475%%	DMS-20RM-X-DC2	+10.0	_	+40.0	Vdc
DMS-20RM-X-DC2—1015mAdcTerminal Block Wiring (TB1 and TB2)Wire Size16-22AWG, Solid or strandedInsulation Strip Length0.250 inchesScrew Tightening Torque2.2 lb-in (0.25 N·m) ±20%Rated Voltage300VacDisplayDisplay Type and Size3½ Digit LED, 0.37"/9.4mm highOverrange Indication"1"Decimal PointFixed, model dependent (see full-scale input voltage above)Physical/Environmental-25Operating Temperature-25C Storage Temperature-400—85%	Power Supply Current (TB1, ②)	1			
Terminal Block Wiring (TB1 and TB2)    Wire Size  16-22AWG, Solid or stranded    Insulation Strip Length  0.250 inches    Screw Tightening Torque  2.2 lb·in (0.25 N·m) ±20%    Rated Voltage  300Vac    Display  302    Display Type and Size  3½ Digit LED, 0.37"/9.4mm high    Overrange Indication  "1"    Decimal Point  Fixed, model dependent (see full-scale input voltage above)    Physical/Environmental  -25    Operating Temperature  -25    -40  +75    Wire Size  -40    0  -85    %	DMS-20RM-X-AC1	_	30	50	mA/47-63Hz
Wire Size16-22AWG, Solid or strandedInsulation Strip Length0.250 inchesScrew Tightening Torque2.2 lb-in (0.25 N-m) ±20%Rated Voltage300VacDisplayDisplayDisplay Type and Size3½ Digit LED, 0.37"/9.4mm highOverrange Indication"1"Decimal PointFixed, model dependent (see full-scale input voltage above)Physical/Environmentaloperating Temperature-25+60°CStorage Temperature-40-475°CHumidity (non-condensing)085%	DMS-20RM-X-DC2	_	10	15	mAdc
Insulation Strip Length    0.250 inches      Screw Tightening Torque    2.2 lb-in (0.25 N·m) ±20%      Rated Voltage    300Vac      Display    31/2 Digit LED, 0.37"/9.4mm high      Overrange Indication    "1"      Decimal Point    Fixed, model dependent (see full-scale input voltage above)      Physical/Environmental    -25    -    +60    °C      Storage Temperature    -25    -    +75    °C      Humidity (non-condensing)    0    -    85    %	Terminal Block Wiring (TB1 and TI	B2)			
Screw Tightening Torque    2.2 lb-in (0.25 N-m) ±20%      Rated Voltage    300Vac      Display    309Vac      Display Type and Size    3½ Digit LED, 0.37"/9.4mm high      Overrange Indication    "1"      Decimal Point    Fixed, model dependent (see full-scale input voltage above)      Physical/Environmental    -25    -    +60    °C      Storage Temperature    -40    -    +75    °C      Humidity (non-condensing)    0    -    85    %	Wire Size	16-22AWG, Solid or stranded			
Rated Voltage  300Vac    Display  Display Type and Size  3½ Digit LED, 0.37"/9.4mm high    Overrange Indication  "1"    Decimal Point  Fixed, model dependent (see full-scale input voltage above)    Physical/Environmental  Operating Temperature    -25  +60  °C    Storage Temperature  -40  +75  °C    Humidity (non-condensing)  0  85  %	Insulation Strip Length	0.250 inches			
Display    Display Type and Size  3½ Digit LED, 0.37"/9.4mm high    Overrange Indication  "1"    Decimal Point  Fixed, model dependent (see full-scale input voltage above)    Physical/Environmental  -25    Operating Temperature  -25    -40  +75    °C    Humidity (non-condensing)  0	Screw Tightening Torque	2.2 lb·in (0.25 N·m) ±20%			
Display Type and Size    3½ Digit LED, 0.37"/9.4mm high      Overrange Indication    "1"      Decimal Point    Fixed, model dependent (see full-scale input voltage above)      Physical/Environmental    -25    -    +60    °C      Operating Temperature    -25    -    +75    °C      Humidity (non-condensing)    0    -    85    %	Rated Voltage		3	300Vac	
Overrange Indication  "1"    Decimal Point  Fixed, model dependent (see full-scale input voltage above)    Physical/Environmental    Operating Temperature  -25  +60  °C    Storage Temperature  -40  +75  °C    Humidity (non-condensing)  0  85  %	Display				
Decimal Point  Fixed, model dependent (see full-scale input voltage above)    Physical/Environmental  -25  +60  °C    Operating Temperature  -40  +75  °C    Humidity (non-condensing)  0	Display Type and Size	31/2 Digit LED, 0.37"/9.4mm high			
Physical/Environmental  voltage above)    Operating Temperature  -25   +60  °C    Storage Temperature  -40   +75  °C    Humidity (non-condensing)  0   85  %	Overrange Indication	"1"			
Operating Temperature-25+60°CStorage Temperature-40+75°CHumidity (non-condensing)085%	Decimal Point				
Storage Temperature-40+75°CHumidity (non-condensing)085%	Physical/Environmental				
Humidity (non-condensing)0—85%	Operating Temperature	-25		+60	°C
	Storage Temperature	-40	_	+75	°C
Dimensions Model dependent; see product datasheet.	Humidity (non-condensing)	0		85	%
	Dimensions	Model dependent; see product datasheet.			
Weight: 1.3 Ounces (36 grams) nominal	Weight:	1.3 Ounces (36 grams) nominal			

① Specified accuracy applies to inputs with crest factors (CF) up to 2.0, where CF = Vpeak/Vrms. Crest factors of 2 to 5 introduce an additional error of  $\pm 3\%$  of full scale. Voltmeters are calibrated with a near full-scale, 60Hz sine-wave input.

② Specified maximum power supply currents are steady state; larger surge currents can occur at initial application of power.



#### **ORDERING INFORMATION**

DMS-20RM-1-AC1-R-C	0 to 19.99Vac, AC Powered
DM3-20NM-1-ACT-N-C	0 to 19.99vac, AC FOWEIEU
DMS-20RM-2-AC1-R-C	0 to 199.9Vac, AC Powered
DMS-20RM-3-AC1-R-C	0 to 300Vac, AC Powered
DMS-20RM-1-DC2-R-C	0 to 19.99Vac, DC Powered
DMS-20RM-2-DC2-R-C	0 to 199.9Vac, DC Powered
DMS-20RM-3-DC2-R-C	0 to 300Vac, DC Powered

A DMS-BZL4-C bezel assembly with sealing gasket is supplied with each meter.

**IMPORTANT!** To ensure safe and reliable operation, DMS-20RM ac voltmeters must be installed and serviced by qualified technical personnel. Contact Murata Power Solutions if there is any doubt regarding installation and/or operation.

#### **TECHNICAL NOTES**

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- 1. Measurement Type: DMS-20RM series ac voltmeters employ a precision rms-to-dc converter and a high-precision voltage reference to measure and display the rms value of complex ac waveforms. Please note, the rear-mounted potential transformer is used to isolate the input signal being measured (TB2) from the ammeter's operating power source connected to TB1. Do not pass any conductors through this transformer's center hole as this will introduce significant measurement errors.
- 2. Wiring: All power supply and input signal wiring must be rated for the voltages and currents they will carry and must comply with any code or application-mandated requirements pertaining to the user's specific installation.
- 3. Power Supply Polarity, Fusing, and Grounding: As shown in Figures 1A, 1B, and 2, the two power supply inputs, TB1-A and TB1-B, on ac-powered DMS-20RM voltmeters ("-AC1" suffix) are not polarity sensitive, that is, they have no "AC LO" or "AC HI" designations. Also, ac-powered models do not include or require a connection to earth/ chassis ground. DC-powered models ("-DC2" suffix) are reverse-polarity protected, and must be connected as shown in Figure 2 for proper operation.

DMS-20RM voltmeters are not internally fused. Terminal block TB1 is to be used only for powering the power meter's internal circuitry; it must not be used to supply power to external loads. The supply wires feeding these power meters must be fused with a 0.25A/250V time delay/time lag fuse, in accordance with applicable regulatory codes.

Wire insulation must be stripped to within  $\pm 10\%$  of the stated dimensions, and wires should be inserted into TB1 such that their insulation is not pinched by the screw terminal. See the Functional Specifications section of this data sheet for wire sizes and tightening torque for TB1's screw terminals.

4. Calibration: Periodic recalibration of DMS-20RM voltmeters is not required under normal, indoor operating environments. If calibration is necessary, it should only be performed by qualified technical personnel. Calibration is performed with potentially lethal voltages applied to the DMS-20RM and its associated wiring. A plastic, fully-insulated adjusting tool must be used to access the recessed calibration potentiometer located on the back of the unit (see Mechanical Specifications). Contact Murata Power Solutions if additional information is required regarding calibration, setup, or any other technical issue pertaining to DMS-20RM ac voltmeters.

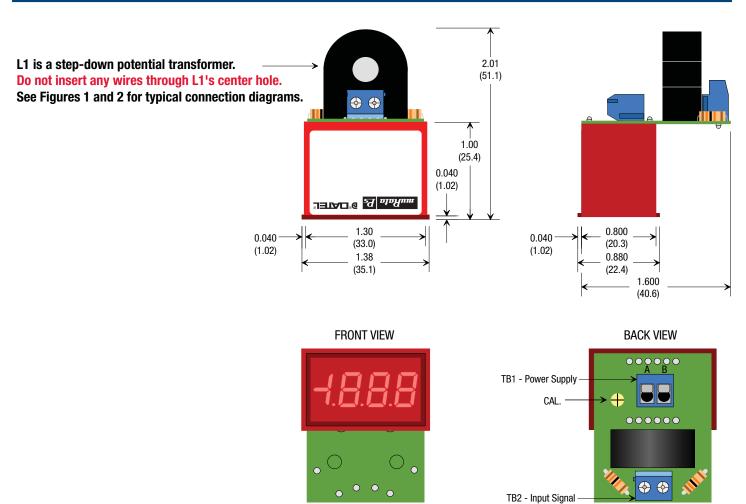
email: sales@murata-ps.com



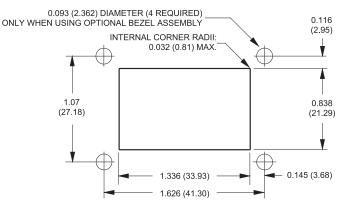
# **DMS-20RM Series**

## True-rms ac Voltmeters with Isolated Inputs

MECHANICAL SPECIFICATIONS



#### RECOMMENDED DRILL AND PANEL CUTOUT



#### RECOMMENDED DRILL AND PANEL CUTOUT DIMENSIONS

-

FRONT VIEW

#2-56 INSERT 0.156 (3.96) DEEP

1.826 (46.38)

0.187

(4.75)

1.280

(32.51)



## muRata Ps Murata Power Solutions

# **DMS-20RM Series**

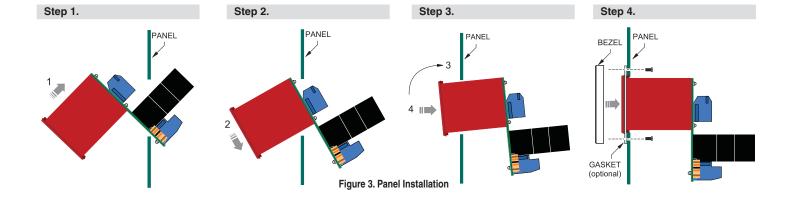
### True-rms ac Voltmeters with Isolated Inputs

#### **Panel Installation**

All connections to DMS-20RM ac voltmeters must be made after the meter is securely attached to the panel, with all associated ac supply power sources de-energized (off). The installed wire positions should be such that minimal forces are applied to terminal blocks TB1 and TB2. In high-vibration environments, proper strain reliefs must be used for all wiring.

To ensure a secure panel-mount installation, MPS recommends using the DMS-BZL4-C bezel assembly (with sealing gasket) supplied with each DMS-20RM voltmeter. See the 'Mechanical Specifications' section for detailed cutout and voltmeter dimensions.

Following the four-step sequence shown in Figure 3 — being careful not to apply excessive force or twisting motions — insert the DMS-20RM into the panel opening. When using the DMS-BZL4-C, install its sealing gasket so it is positioned between the voltmeter's front flange and panel front surface (see Mechanical Specifications). Be sure to use and securely tighten all four screws supplied with the bezel assembly.



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



www.murata-ps.com/locations

email: sales@murata-ps.com

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