

Actual Size



DMS-3019X Series

Alternate Source for DP-650 Series, 3½ Digit, LCD Display Digital Panel Voltmeters

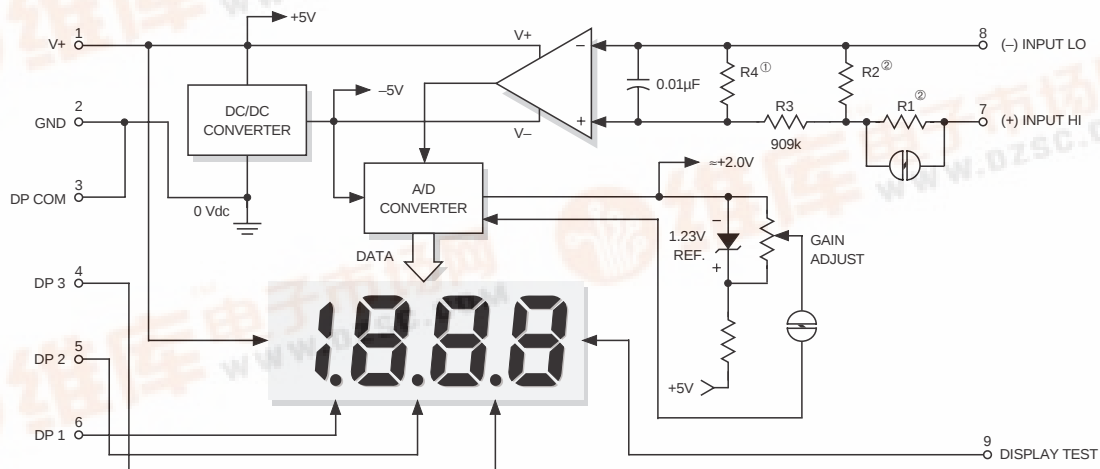
Features

- Replaces DP-650, DP-652 and DP-654 meters
- Connects directly to existing wiring
- Available in three input ranges: $\pm 200\text{mV}$, $\pm 2\text{V}$ and $\pm 20\text{V}$
- Low power consumption
- Wider operating temperature range (0 to $+60^\circ\text{C}$)
- Rugged, epoxy-encapsulated plastic packages
- Large ($0.4"/10.2\text{mm}$) LCD displays
- Made in the USA!

DATEL's new DMS-3019X Series, 3½ Digit, LCD Display, Digital Panel Voltmeters provide DP-650 users with a superior-quality alternate source. The DMS-3019X Series input/output connector is pin-compatible with nearly all DP-650 applications. Only minor sheet-metal modifications are needed to attain all the advantages offered by the DMS-3019X Series digital voltmeters.

Three differential, high-impedance, input voltage ranges are available: $\pm 200\text{mV}$ (DMS-30193), $\pm 2\text{V}$ (DMS-30194) and $\pm 20\text{V}$ (DMS-30195). Provisions are also included for the addition of custom input-scaling resistors—a feature found only on DMS-3019X meters. Autozero calibration, autopolarity changeover and a factory-calibrated ultra-stable reference circuit are standard. A reliable, epoxy-encapsulated DMS-30LCD digital voltmeter, with large ($0.4"/10.2\text{mm}$) LCD digits, is used in all three models. All internal and external connections are 100% soldered—no elastomeric connectors are used.

The DMS-3019X Series offers many noteworthy improvements over its competitors: wider operating temperature range, lower power consumption and higher input impedance, to name a few. And, most importantly, all DATEL digital panel meters are designed and manufactured in the USA!



① R4 is not used on the $\pm 200\text{mV}$ or $\pm 2\text{V}$ models.
R4 = 100k on the $\pm 20\text{V}$ model.

② R1 and R2 are user supplied.

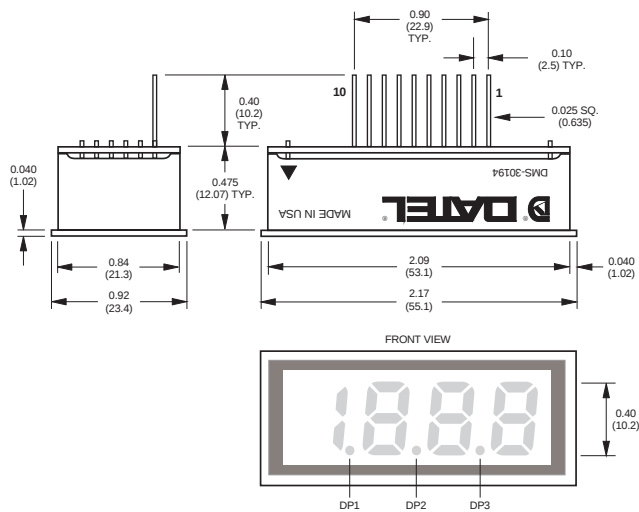
Figure 1. DMS-3019X Simplified Schematic

Mechanical Specifications

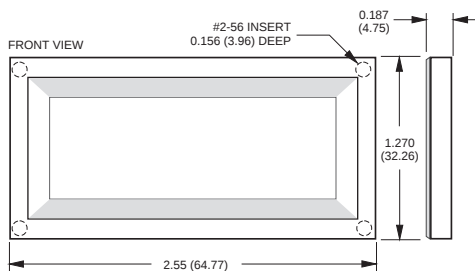
MECHANICAL DIMENSIONS: Inches (mm)

TOLERANCES: 2 PL DEC ± 0.02 (± 0.51) 3 PL DEC ± 0.010 (± 0.254)

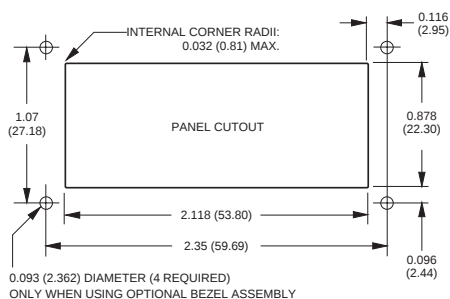
LEAD DIMENSIONS: 0.025 (0.635) x 0.025 (0.635) NOMINAL



OPTIONAL BEZEL (DMS-BZL1 and DMS-BZL2)



RECOMMENDED DRILL AND PANEL CUTOUT DIMENSIONS



Ordering Information

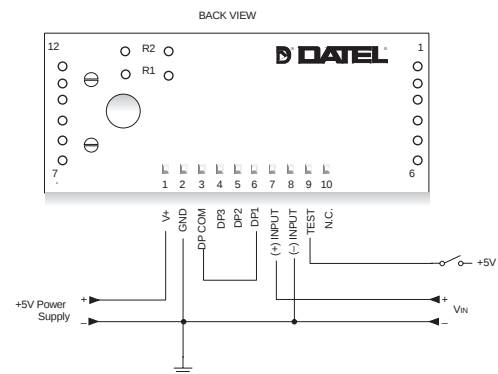
DMS-30193 $\pm 200\text{mV}$ input
 DMS-30194 $\pm 2\text{V}$ input
 DMS-30195 $\pm 20\text{V}$ input

DMS-BZL1 Bezel assembly
 DMS-BZL2 Bezel with gasket
 DMS-30-CP Panel cutout punch

Electrical Specifications

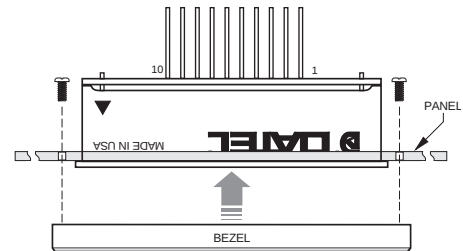
Typical at $T_A = +25^\circ\text{C}$ and supply voltage = $+5\text{V}$. See DMS-30LCD data sheet for more information.

Power Supply (V_+ to GND)	$+5\text{Vdc}$, $\pm 5\%$ @ 1.2mA max.
Full Scale Input	See Ordering Information
Input Impedance	1 Megohm
Sampling Rate	3 Samples per second
Accuracy ($V_{IN} = +0.190\text{V}$)	± 2 Counts max. ($\pm 0.1\%$)
Display Type	3½ Digit LCD, 0.40"/10.2mm high
Operating Temperature	0 to $+60^\circ\text{C}$
Storage Temperature	-20 to $+75^\circ\text{C}$
Humidity (Non-condensing)	0-95%



Typical Single-ended Connections

BEZEL INSTALLATION



RETAINING CLIP INSTALLATION

