

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!

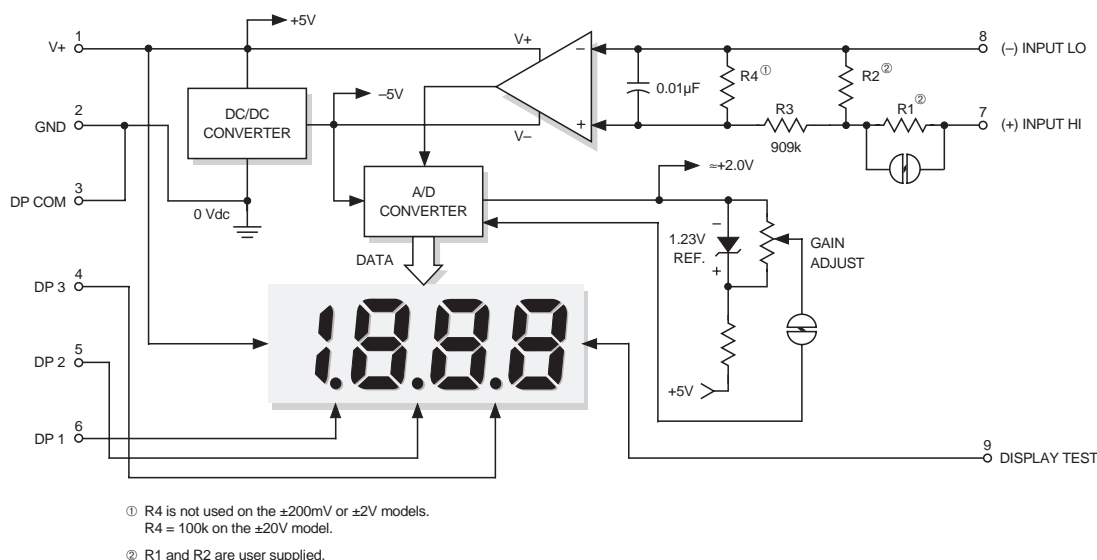
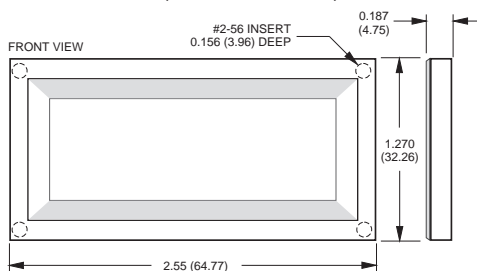


Figure 1. DMS-3019X Simplified Schematic

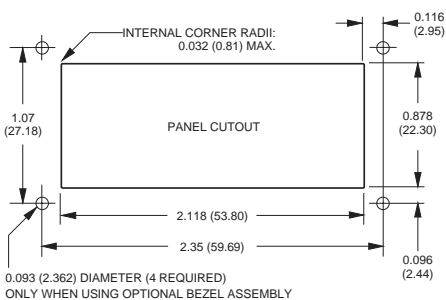
MECHANICAL DIMENSIONS: Inches (mm)

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



RECOMMENDED DRILL AND PANEL CUTOUT DIMENSIONS

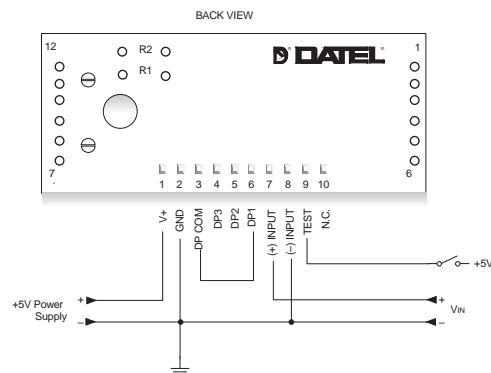


DMS-30193	±200mV input
DMS-30194	±2V input
DMS-30195	±20V input

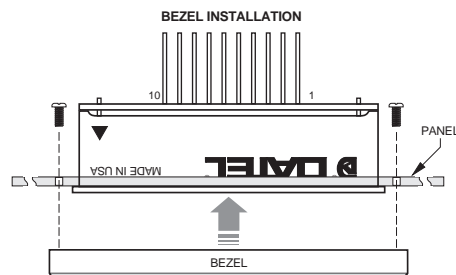
Electrical Specifications

Typical at TA = +25°C and supply voltage = +5V. See DMS-30LCD data sheet for more information.

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



Typical Single-ended Connections



RETAINING CLIP INSTALLATION

