

## 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"/10.2mm) 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"/10.2mm) 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!

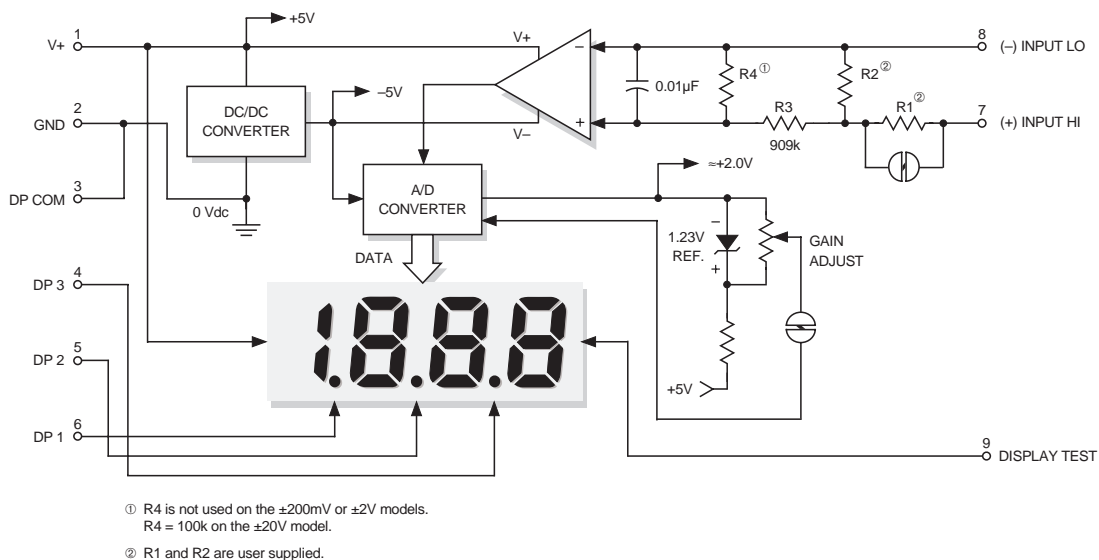
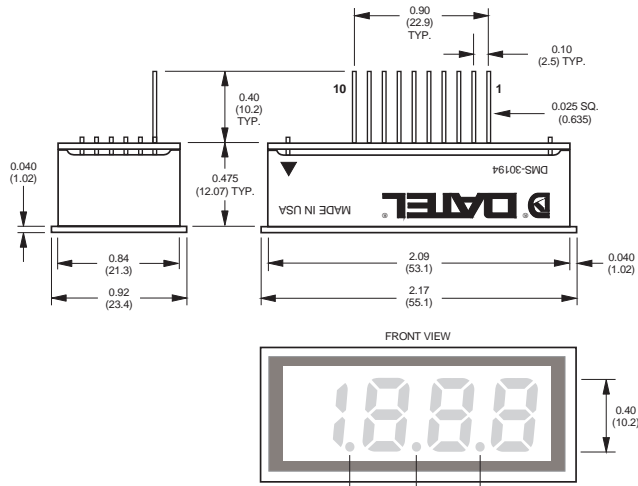


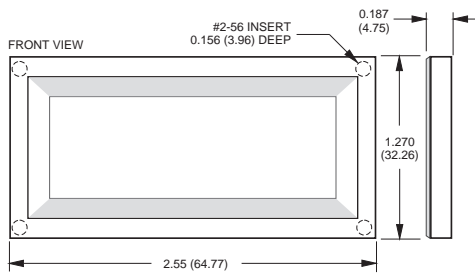
Figure 1. DMS-3019X Simplified Schematic

**Mechanical Specifications**

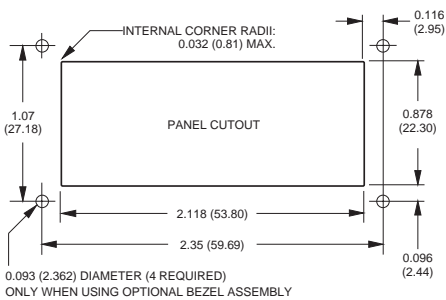
MECHANICAL DIMENSIONS: Inches (mm)  
 TOLERANCES: 2 PL DEC ±0.02 (±0.51) 3 PL DEC ±0.010 (±0.254)  
 LEAD DIMENSIONS: 0.025 (0.635) x 0.025 (0.635) NOMINAL



**OPTIONAL BEZEL (DMS-BZL1 and DMS-BZL2)**



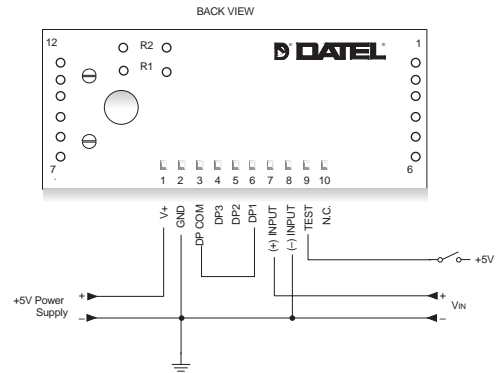
**RECOMMENDED DRILL AND PANEL CUTOUT DIMENSIONS**



**Electrical Specifications**

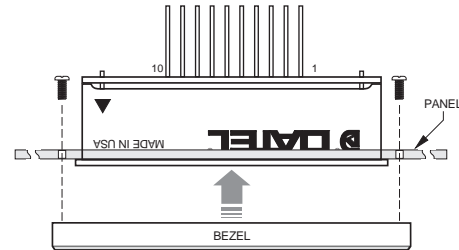
Typical at TA = +25°C and supply voltage = +5V. See DMS-30LCD data sheet for more information.

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

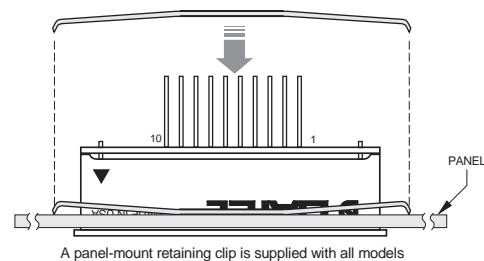


Typical Single-ended Connections

**BEZEL INSTALLATION**



**RETAINING CLIP INSTALLATION**



**Ordering Information**

<b>DMS-30193</b>	±200mV input	<b>DMS-BZL1</b>	Bezel assembly
<b>DMS-30194</b>	±2V input	<b>DMS-BZL2</b>	Bezel with gasket
<b>DMS-30195</b>	±20V input	<b>DMS-30-CP</b>	Panel cutout punch

