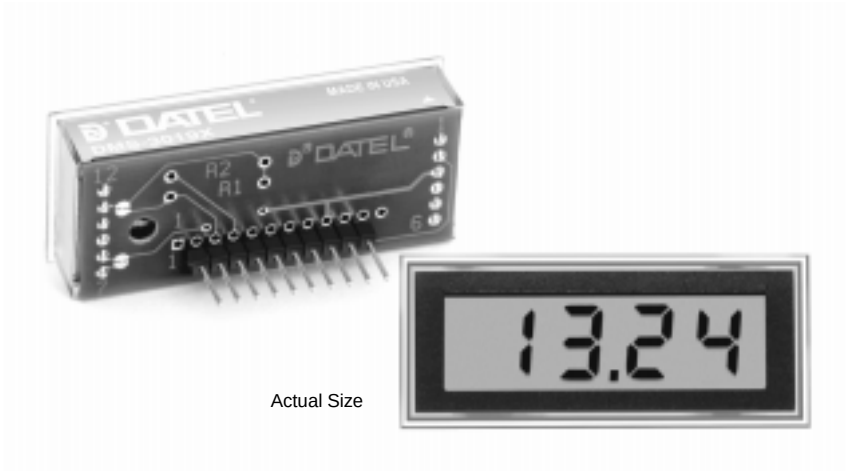
DATEL®
INNOVATION and EXCELLENCE



Actual Size

DMS-3019X Series

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

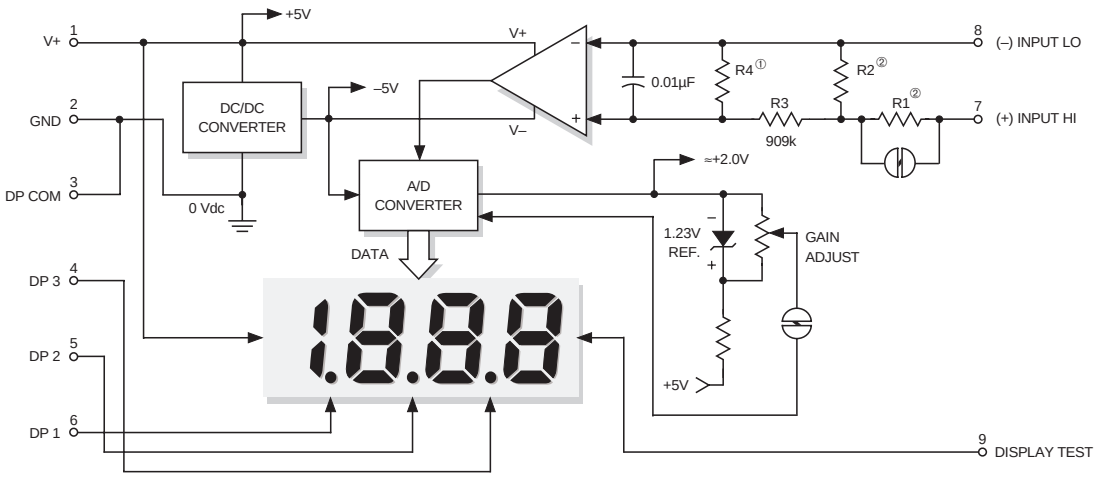
Features

- **Replaces DP-650, DP-652 and DP-654 meters**
- **Connects directly to existing wiring**
- **Available in three input ranges: ±200mV, ±2V and ±20V**
- **Low power consumption**
- **Wider operating temperature range (0 to +60°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: ±200mV (DMS-30193), ±2V (DMS-30194) and ±20V (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!



① R4 is not used on the ±200mV or ±2V models.
R4 = 100k on the ±20V model.

② R1 and R2 are user supplied.

Figure 1. DMS-3019X Simplified Schematic

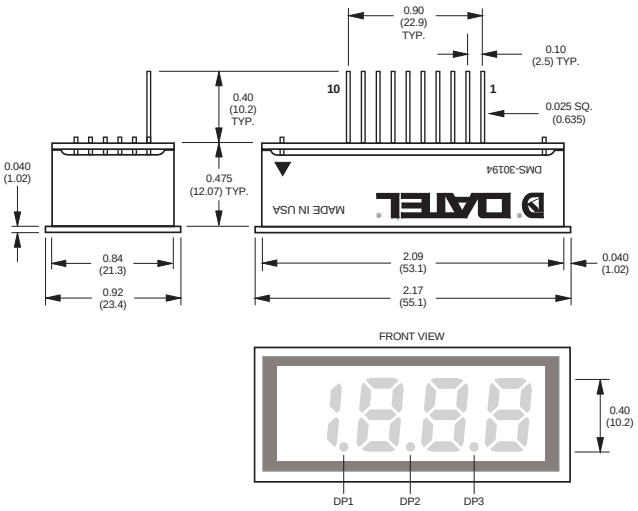
DATEL, Inc., Mansfield, MA 02048 (USA) • Tel: (508)339-3000, (800)233-2765 Fax: (508)339-6356 • E-mail: sales@datel.com • Internet: www.datel.com

Mechanical Specifications

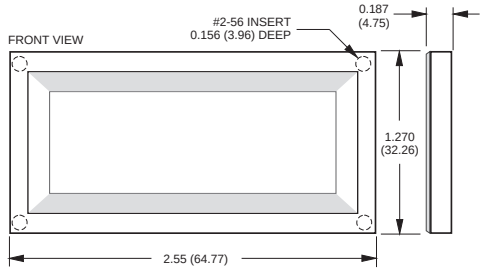
MECHANICAL DIMENSIONS: Inches (mm)

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

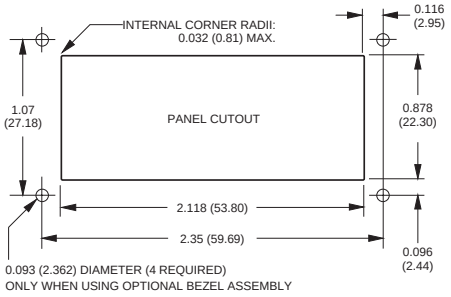
LEAD DIMENSIONS: 0.025 (0.635) x 0.025 (0.635) NOMINAL



OPTIONAL BEZEL (DMS-BZL1 and DMS-BZL2)



RECOMMENDED DRILL AND PANEL CUTOUT DIMENSIONS



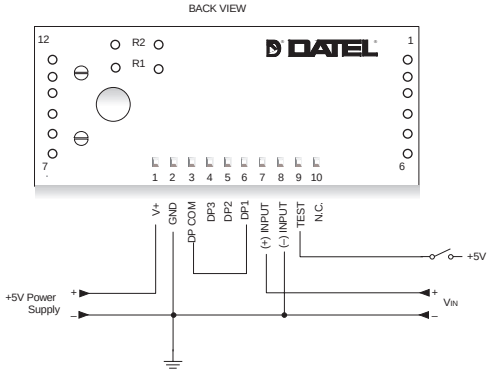
Ordering Information

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

Electrical Specifications

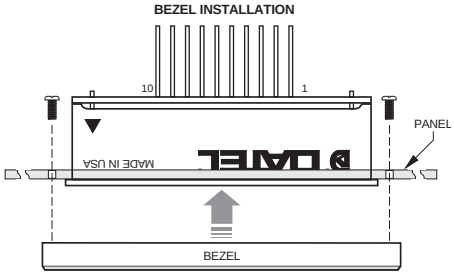
Typical at T_A = +25°C and supply voltage = +5V. See DMS-30LCD data sheet for more information.

Power Supply (V+ to GND)	+5Vdc, ±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. (±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%

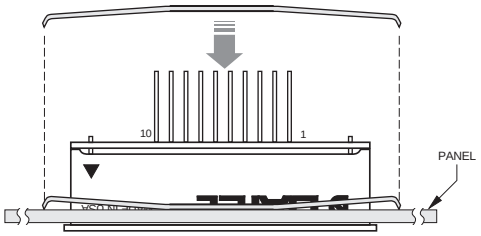


Typical Single-ended Connections

BEZEL INSTALLATION



RETAINING CLIP INSTALLATION



A panel-mount retaining clip is supplied with all models

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DS-0330A 1/98

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