

# 3½ DIGIT AC POWER LINE MONITOR

1/8 DIN

 OMEGA®

## DP301AN-AC



DP301AN-AC5 shown  
actual size.

- ✓ 1,999 Count Display Span
- ✓ 50.0 to 199.9 Vac Range (100 mV Resolution)
- ✓ 50 to 650 Vac Range (1V Resolution)
- ✓ Bright, 14 mm (0.56") LED Display
- ✓ Automatic Zero
- ✓ Display Hold and Test
- ✓ Screw-Terminal Barrier Strip
- ✓ Short 104 mm (4.1") Deep 1/8 DIN Case
- ✓ RoHS 2 Compliant

### Options

- ✓ Isolated 9 to 32 Vdc Power
- ✓ Isolated 26 to 56 Vdc Power
- ✓ NEMA 4 (IP65) Splash Proof Lens Cover

The DP301AN-AC is a low-cost, compact 3½ digit panel meter for AC power line monitoring. It uses a half-wave rectifier calibrated to read the RMS value of sinusoidal signals.

Two input ranges are jumper-selectable: 50.0 to 199.9 Vac with 100 mV resolution and accuracy optimized for 115 Vac, and 50 to 650V with 1V resolution and accuracy optimized for 230 Vac. The meter fits a standard 1/8 DIN panel cutout 92 x 45 mm (3.62 x 1.77") and requires a depth of less than 104 mm (4.1") behind the panel. A screw-terminal barrier strip for signal and power is standard.

Mechanical options include a board-edge connector display TEST, display HOLD, +4.7V and -4.7V outputs splash-proof lens cover which meets NEMA 4 (IP65) requirement is available for industrial environments. Power options isolated 9 to 32 Vdc and 26 to 56 Vdc.

### SPECIFICATIONS

#### Noise Rejection (AC GND to SIG GND)

CMR: 120 dB, DC to 60 Hz

CMV: 1500 Vp per HV test, 354 Vp per IEC spacing

#### Accuracy at 25°C (10 to 100% of Full-Scale Range)

Maximum Error (Reading-Actual): 50.0 to 199.9 V range: ±0.006 (R-115 V) ±0.1 V and 50 to 650 V range: ±0.006 (R-230 V) ±1 V

Span Tempo: ±0.01% of reading/°C

Step Response: 1 s

Warmup to Rated Accuracy: 10 min

#### Signal Input

Configuration: Half-wave average, RMS-calibrated

Zero: Automatic

Frequency: 49 to 440 Hz

#### Display

Type: 7-segment, red LED

Height: 14.2 mm (0.56")

Symbols: 1.8.8.8

Decimal Points: Three positions programmable internally or at connector, 10 mA average sink

Overrange Indication: Three least-significant digits blank

#### Power

AC Voltages: 115 or 230 Vac ±15%

AC Frequency: 49 to 440 Hz

DC Voltages: 9 to 32 Vdc, isolated to 300 Vp; 26 to 56 Vdc, isolated to 300 Vp

Power Consumption: 2.4 W (nominal)

Output Voltages: 4.7 Vdc and -4.6 Vdc ±5%, 10 mA max

**Environmental**

**Operating Temperature:** 0 to 60°C

**Storage Temperature:** -40 to 85°C

**Relative Humidity:** 95% at 40°C  
(non-condensing)

**Analog-to-Digital Conversion**

**Technique:** Dual-slope, average-value

**Read Rate:** 2.5/s

**Integration Period:** 100 ms

**Digital Controls**

**HOLD and TEST Inputs:** TTL or 5 V  
CMOS compatible

**Mechanical**

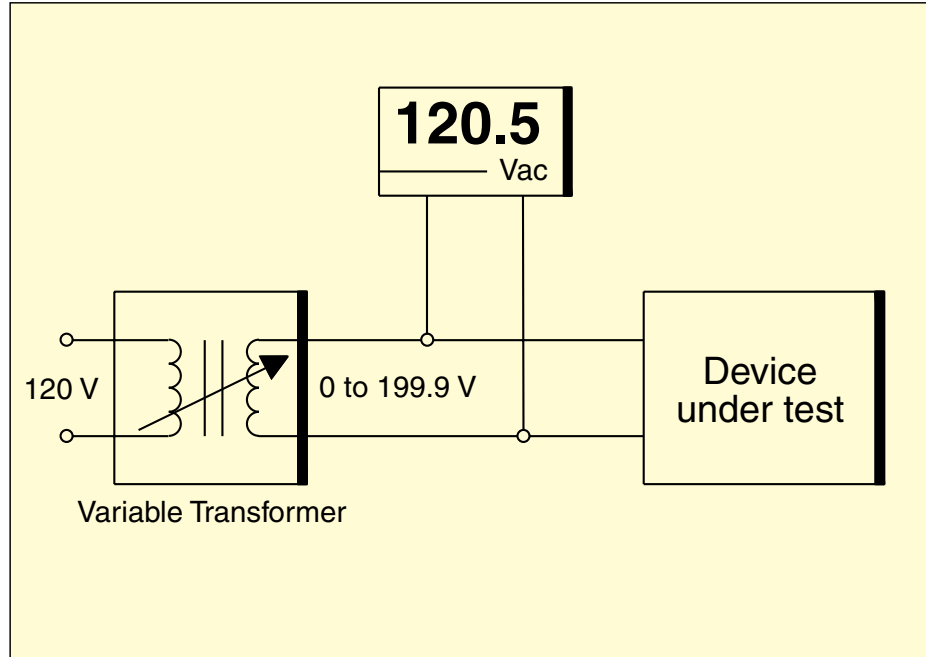
**Bezel:** 96 W x 48 H x 5.1 mm D  
(3.78 x 1.89 x 0.20")

**Depth Behind Bezel:** 104 mm (4.09")

**Panel Cutout:** 92 W x 45 mm H  
(3.62 x 1.77")

**Weight:** 14 oz (400 g)

**Case Material:** 94V-0 UL-rated  
polycarbonate



**Signal Input**

RANGE	RESOLUTION	OVERVOLTAGE PROTECTION	INPUT RESISTANCE	BIAS CURRENT
199.9 Vac	100 mV	650 Vac	1 MΩ	1 pA
650 Vac	1V	650 Vac	1 MΩ	1 pA

**To Order**

MODEL NO.	DESCRIPTION
DP301AN	3½ digit AC power line monitor
-AC5	50 to 199.9 Vac (includes D4 connector)
-AC6	50 to 650 Vac (includes D4 connector)
*	(Nothing, leave field blank) 115 Vac, 50/60 Hz power
-C1	230 Vac, 50/60 Hz
-C3C	Isolated 9 to 32 Vdc
-C3E	Isolated 26 to 56 Vdc
*	(Nothing, leave field blank) red LED display
-G	Green LED display

**NOTE:** All combinations may not be valid, check online for valid part numbers.

**Ordering Examples:** DP301AN-AC5, 3½ digit AC power line monitor with 199.9 Vac input, 115 Vac power, screw terminal barrier strip.