

## DIN-RAIL-MOUNTED AC WATT TRANSDUCER

### DESCRIPTION

The Model DW5 provides power measurement to within  $\pm 0.5\%$  of full-scale accuracy in single- or polyphase systems. The electrically-isolated dc output is proportional to the instantaneous power averaged over several cycles. The DW5 is packaged in a DIN-Rail case for easy installation.

Currents up to 5 Amperes and voltages up to 600Vac can be directly connected to the DW5. The DW5 can be used with OSI metering class current transformers for measurements up to 10 kiloamperes.

Specific outputs can be selected to interface with any data acquisition system from a simple recorder to computer-, SCADA-, or PLC-based system.

The DW5 is widely used in a variety of applications, including hydroelectric generator output measurement, end-of-line appliance testing for energy consumption, building automation, energy management, and cogeneration systems. It comes with CE and CSA approvals and is manufactured and tested in accordance with ISO-9001.



**5 YEAR WARRANTY**



### FEATURES

- Accurate regardless of variations in voltage, current, power factor, or load.
- Available with 1-, 2-, or 3-element configurations.
- Some models provide bidirectional operation.
- Accuracy maintained over wide temperature range.

### APPLICATIONS

- Equipment monitoring for process control.
- Integration into energy management systems or a variety of sub-metering applications.
- Measurement using direct-connection, current transformers, and/or potential transformers.
- Best applied to sinusoidal waveforms.

## MODEL SELECTION

### SINGLE- AND THREE-PHASE MODELS WITH INTERNAL SENSOR

| INPUTS      |         | F.S. WATTS | PHASE | NO. OF ELEMENTS | STANDARD OUTPUTS MODEL DW5- |                 |          |                |
|-------------|---------|------------|-------|-----------------|-----------------------------|-----------------|----------|----------------|
| AC VOLTS    | AC AMPS |            |       |                 | 0- $\pm 1$ mAdc             | 0- $\pm 10$ Vdc | 4-20mAdc | 0- $\pm 5$ Vdc |
| 0 - 150     | 0 - 5   | 500        | 1P-2W | 1               | 001B                        | 001D            | 001E     | 001X5          |
| 0 - 300     | 0 - 5   | 1000       | 1P-2W | 1               | 002B                        | 002D            | 002E     | 002X5          |
| 0 - 150     | 0 - 5   | 1000       | 3P-3W | 2               | 004B                        | 004D            | 004E     | 004X5          |
| 0 - 300     | 0 - 5   | 2000       | 3P-3W | 2               | 005B                        | 005D            | 005E     | 005X5          |
| 0 - 600     | 0 - 5   | 4000       | 3P-3W | 2               | 006B                        | 006D            | 006E     | 006X5          |
| 0 - 150 L-N | 0 - 5   | 1500       | 3P-4W | 3               | 007B                        | 007D            | 007E     | 007X5          |
| 0 - 300 L-N | 0 - 5   | 3000       | 3P-4W | 3               | 008B                        | 008D            | 008E     | 008X5          |

## SPECIFICATIONS

### INPUT

Voltage ..... See Table  
 Current ..... See Table  
 Frequency ..... Nominal ..... 60Hz  
                           Option “-50” ..... 50Hz  
 Power Factor ..... Any  
 Burden  
   Voltage ..... 400k $\Omega$ /phase  
   Current ..... 0.01 $\Omega$ /phase  
 Overload  
   Voltage ..... 120% continuous  
   Current ..... 120% continuous

### OUTPUT

Loading  
   “B” models ..... (0- $\pm 1$ mAdc output) ..... 0-15k $\Omega$   
   “D”, “X5” models ..... (0- $\pm 10$ Vdc, 0- $\pm 5$ Vdc) ..... 2.5k $\Omega$  min.  
   “E” models ..... (4-20mAdc) ..... 0-750 $\Omega$   
 Response Time (to 99%) ..... 300ms  
 Open Circuit Voltage ..... <40Vdc

### INSTRUMENT POWER

Standard ..... 85-230Vac/dc, 50/60Hz, 4.5VA  
 Low Voltage  
   Option “-LV” ..... 24Vac  $\pm 15\%$ , 50/60Hz, 24-60Vdc, 4.5VA

### DIELECTRIC TEST

Input to Instrument Power/Output/Case ..... 5550Vac  
 Input to Input ..... 3250Vac  
 Instrument Power to Output/Case ..... 3700Vac  
 Output to Case ..... 490Vac

### ACCURACY

.....  $\pm 0.5\%$  F.S.  
 Output Ripple ..... <1% pk-pk

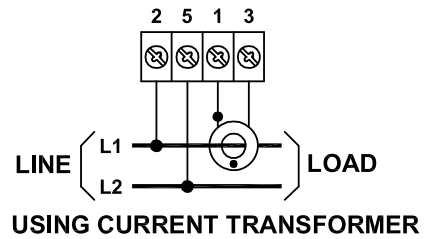
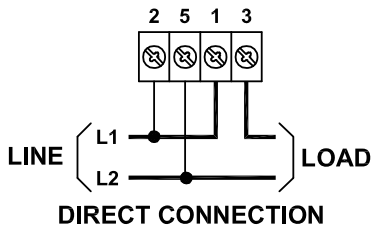
### TEMPERATURE

Temperature Range ..... -10 $^{\circ}$ C to 55 $^{\circ}$ C

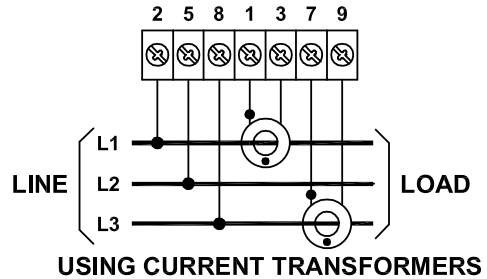
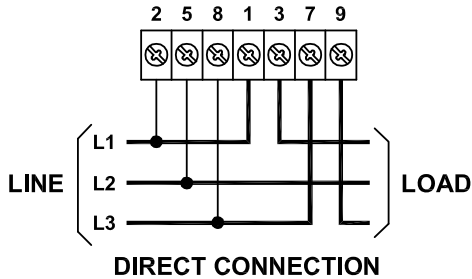
### PHYSICAL

Mean Annual Humidity ..... <75%  
 Net Weight ..... 0.9 lbs.  
 Termination ..... 10 AWG max.

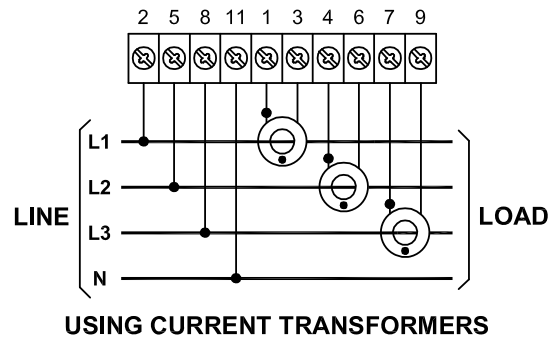
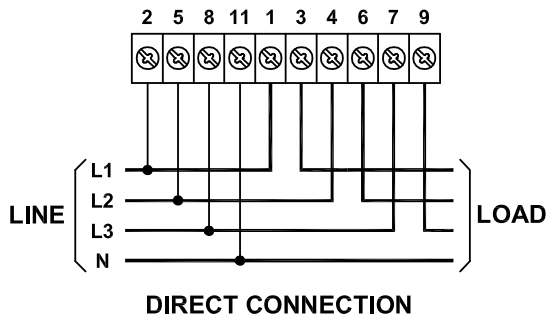
### SINGLE-PHASE CONNECTIONS (ONE-ELEMENT)



### THREE-PHASE, THREE-WIRE CONNECTIONS (TWO-ELEMENT)

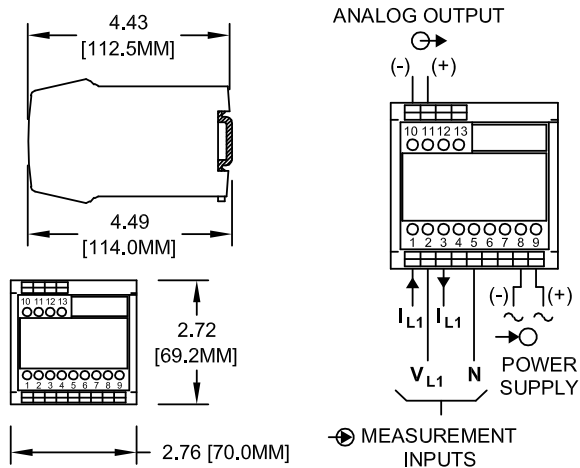


### THREE-PHASE, FOUR-WIRE CONNECTIONS (THREE-ELEMENT)

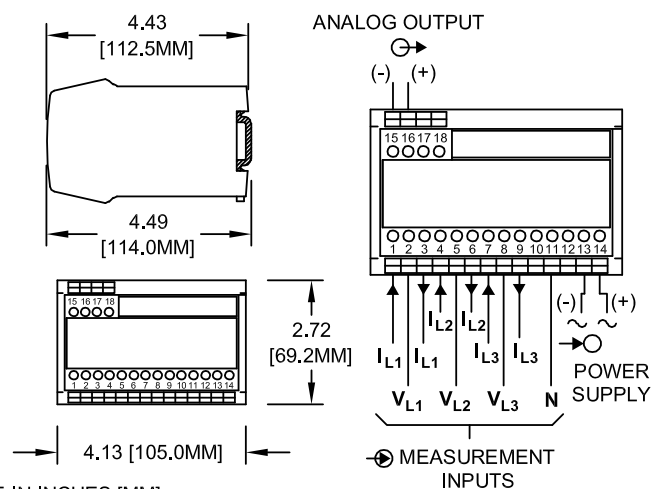


## CASE DIMENSIONS

### SINGLE-PHASE MODELS



### THREE-PHASE MODELS



1. DIMENSIONS ARE IN INCHES [MM].
2. MOUNTED ON 35MM TOP-HAT DIN-RAIL.

Dwg # 0902-00876-B Rev --