

# WATT TRANSDUCERS

## DC TO 400HZ WATT TRANSDUCER

**MODEL PC8**

### SINGLE PHASE DC TO 400 HERTZ

#### FEATURES

- Accurate from dc to 400 Hz., factory calibration traceable to **NIST**.
- Input/output isolation.
- Real-time indication of power
- Transient response **less than 50 microSeconds**.

#### APPLICATIONS

- Accurate monitoring of power that contains dc and non-sinusoidal AC components.
- Ideal for use in SCR and other AC or dc switching circuitry.
- Bi-directional output.



#### SINGLE PHASE (ONE ELEMENT)

| INPUT VOLTAGE |             |
|---------------|-------------|
| RANGE         | DESIGNATION |
| 0- 25         | 001         |
| 0- 50         | 002         |
| 0-150         | 003         |
| 0-300         | 004         |
| 0-400         | 005         |
| 0-500         | 006         |
| 0-600         | 007         |

| INPUT CURRENT |             | SENSOR SIZE |
|---------------|-------------|-------------|
| RANGE         | DESIGNATION |             |
| 0- 5          | 08          | INTEGRAL    |
| 0- 100        | 01          | C           |
| 0- 200        | 02          | D           |
| 0- 300        | 03          | D           |
| 0- 400        | 04          | D           |
| 0- 600        | 05          | E           |
| 0-1000        | 06          | E           |
| 0-2000        | 07          | E           |

| STANDARD OUTPUTS MODEL PC8-   |                               |                               |                                |                                |
|-------------------------------|-------------------------------|-------------------------------|--------------------------------|--------------------------------|
| +/- 1mA                       | +/- 10Vdc                     | 4-20mA                        | 4-12-20mA                      | +/- 5Vdc                       |
| ADD SUFFIX "B" TO PART NUMBER | ADD SUFFIX "D" TO PART NUMBER | ADD SUFFIX "E" TO PART NUMBER | ADD SUFFIX "EM" TO PART NUMBER | ADD SUFFIX "X5" TO PART NUMBER |

Highlighted models, (5A), can be used with current transformers in 25 to 400 Hz applications.  
 All units require 85-135VAC instrument power, (50-400 Hz.).  
 Full scale power (Watts) can be determined by the product of full scale input voltage and full scale input current.

OPTIONAL SPLIT-CORE CURRENT SENSOR AVAILABLE WITH UNITS OF 100 AMPS OR GREATER-ADD SUFFIX "S".  
 LOWER CURRENT RANGES AVAILABLE-CONSULT FACTORY

**ORDERING INFORMATION**  
 Example: 150V, 100A input with split-core sensor and +/- 5Vdc output, proportional to 0-15000 Watts  
**PC8-003-01-X5S**

### MODEL PC8 SPECIFICATIONS

#### INPUT

Voltage ..... See tables  
 Current ..... See tables  
 Frequency Range ..... dc to 400 Hz.  
 Power Factor ..... Any  
 Response...(Trans. 90%) ..... < 50 microSeconds  
 Burden (OHMS)  
     Voltage  
         Models under 50V ..... > 100K  
         Models over 50V ..... > 1M  
 Overload  
     Voltage ..... 2 times full scale.  
     Current  
         Using integral sensor ..... 2 times full scale.  
         Using sensors C, D, E ..... 50 times full scale.  
 Dielectric Test...(Input/Output/Case) ..... 1000Vdc Surge  
 Surge ..... Withstands IEEE SWC test

#### OUTPUT

Output Ripple ..... Less than 1.0% F.S. at 60 Hz.  
 Output Loading (OHMS)  
     ± 1mA ..... 0-10K  
     ± 10Vdc ..... 2K min.  
     4-20mA, 4-12-20mA ..... 0-500  
     ± 5Vdc ..... 2K min.  
 Response Time (90%) ..... < 250 milliSeconds  
 Field Adjustable Cal. .... ±10%  
**ACCURACY ..... ± 1.0% F.S.**  
 Includes combined effects of voltage, current, load and power factor.  
 Temperature Effect ..... (0°C to 40°C)  
     ..... ±1.0% of Rdg., ±0.1% F.S. output  
 Instrument Power ..... 85-135VAC, 50 to 400 Hz., 10VA

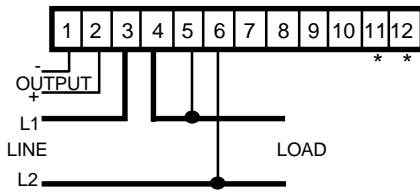
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## CONNECTION DIAGRAMS

MODEL PC8

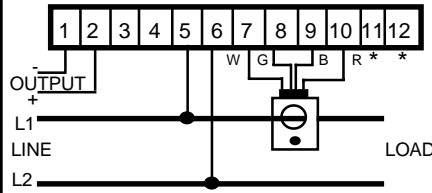
WATT TRANSDUCERS

### MODEL PC8 CONNECTIONS SINGLE PHASE



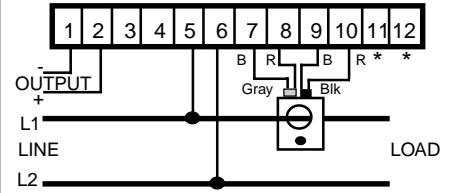
\*AC instrument power-terminals 11, 12.

USING INTEGRAL SENSOR



\*AC instrument power-terminals 11, 12.  
All shields tied to terminal #10

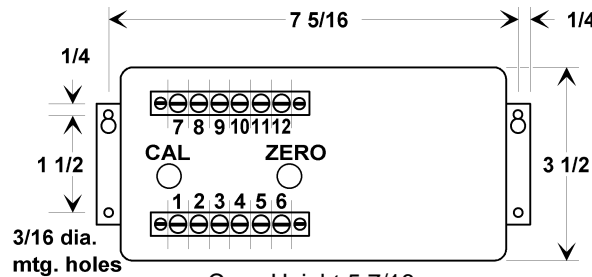
USING EXTERNAL SENSORS  
(600-2000 AMP)



\*AC instrument power-terminals 11, 12.  
All shields tied to terminal #10

USING EXTERNAL SENSORS  
(50-400 AMP)

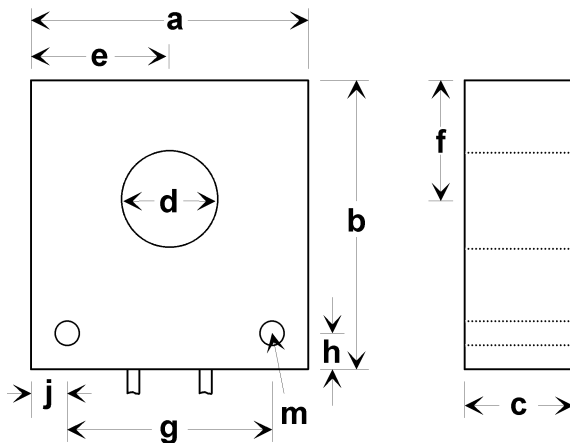
## CASE DIMENSIONS



Case Height 5 7/16  
Weight: 3 Lbs.

ALL DIMENSIONS IN INCHES

## SENSOR DIMENSIONS



Lead length 18 in.

### CURRENT TRANSDUCER

| SENS SIZE | SENSOR DIMENSIONS |   |       |       |        |       |       |      |      |       | WT. LBS. |
|-----------|-------------------|---|-------|-------|--------|-------|-------|------|------|-------|----------|
|           | a                 | b | c     | d     | e      | f     | g     | h    | j    | m     |          |
| C         | 2                 | 2 | 3/4   | 3/4   | 1      | 7/8   | 1 1/2 | 1/4  | 1/4  | 5/32  | 0.28     |
| D         | 3 1/8             | 4 | 3/4   | 1 1/8 | 1 9/16 | 1 1/2 | 2 1/8 | 1/2  | 1/2  | 11/64 | 0.75     |
| E         | 4 1/8             | 5 | 1 1/4 | 2     | 2 1/16 | 2     | 3 1/4 | 7/16 | 7/16 | 17/64 | 2.80     |

ALL DIMENSIONS IN INCHES

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