

OSI DC and VARIABLE-FREQUENCY WATT TRANSDUCER MODEL PC8-

DC WATTS

DESCRIPTION

PC8 units are designed to provide accurate power measurement of dc, sinusoidal, chopped, pulsed, variable frequency or combination waveforms. Basic four-quadrant multiplier response of dc to 2kHz allows measurement to include at least the fifth harmonic for dc to 400Hz applications.

Bidirectional outputs indicate power consumption (positive polarity) or power generation (negative polarity).

Standard voltage ranges of 25 to 600V and current ranges from 5 to 2000A are available.



FEATURES

- Accurate from dc to 400 Hz.
- Factory calibration traceable to NIST.
- Input/output/case isolation.
- Real-time indication of power with transient response of less than 50 microseconds.

5 YEAR WARRANTY

APPLICATIONS

- Accurate power monitoring in dc, ac, variable frequency or combination applications.
- Accurate power monitoring in SCR and other ac or dc switching circuitry.
- Measurement of both consumed and generated power.

MODEL SELECTION

PC8 — — (NO DASH) (S) (-22) (Y18)

	INPUT VOLTAGE	INPUT CURRENT	SENSOR SIZE	OUTPUT OPTIONS
001	0 - 25V	08 0 - 5A	(internal)	B 0 - ±1mAdc
002	0 - 50V	09 0 - 10A	(internal)	D 0 - ±10Vdc
003	0 - 150V	10 0 - 15A	(internal)	E 4 - 20mAdc
004	0 - 300V	11 0 - 20A	(internal)	EM 4/12/20mAdc
005	0 - 400V	12 0 - 25A	(internal)	X5 0 - ±5Vdc
006	0 - 500V	01 0 - 100A	C	
007	0 - 600V	02 0 - 200A	D	
		03 0 - 300A	D	
		04 0 - 400A	D	
		05 0 - 600A	E	
		06 0 - 1000A	E	
		07 0 - 2000A	E	

ORDERING INFORMATION

Example:
0 - 150V and 0 - 100A Inputs
Split-Core Sensor
0 - ±15000W In = 0-±5Vdc Out

PC8-003-01X5S

Options: Split-core sensor (≥100A) - add suffix "S"
230Vac instrument power - add suffix "-22"
DC optimized calibration - add suffix "Y18"

Measurement range, in Watts, is equal to the product of full-scale input voltage and current ratings.

SPECIFICATIONS

INPUT

Voltage..... See Table
Current..... See Table
Frequency Range dc to 400Hz
Power Factor..... Any
Response (Transient 90%) ... Internal sensor 100µs
External sensor 50µs

Burden

Voltage 25 to 50V models ≥100kΩ
150 to 600V models ≥1MΩ

Current Internal sensor ≤1.25VA

Overload (continuous w/o damage)

Voltage 2 X F.S. or 600Vac/850Vdc maximum
Current Internal sensor 2 X F.S. or 30A maximum
External sensors 50 X F.S.

DIELECTRIC TEST

Input/Output/Case..... 1000Vdc
Surge Withstands IEEE SWC test

OUTPUT

Loading

"B" models (0-±1mAdc) ≤10kΩ
"E", "EM" models ... (4-20mAdc, 4-12-20mAdc)..... ≤500Ω
"X5", "D" models (0-±5Vdc, 0-±10Vdc) ≥2kΩ

Response Time (to 90%)..... ≤500ms

Field Adjustable Cal. ±10%

ACCURACY "Y18" Option ±0.5% F.S. @dc
Standard ±1.0% F.S.

(Includes effects of voltage, current, frequency and power factor)

Output Ripple ≤1.0% F.S. @60Hz

INSTRUMENT POWER

Standard 115Vac ±15%, 50/60Hz, 10VA
"-22" Option 230Vac ±15%, 50/60Hz, 10VA

TEMPERATURE

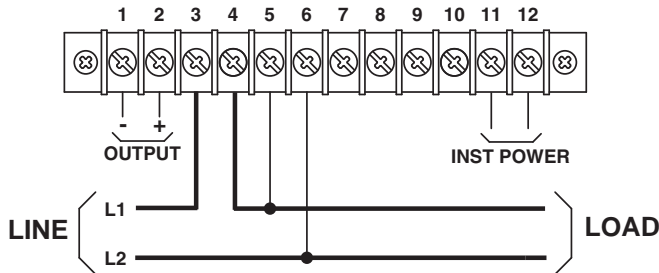
Temperature..... Range..... 0°C to 40°C
Effect ±1.0% Rdg, ±0.1% F.S.

OHIO SEMITRONICS, INC.

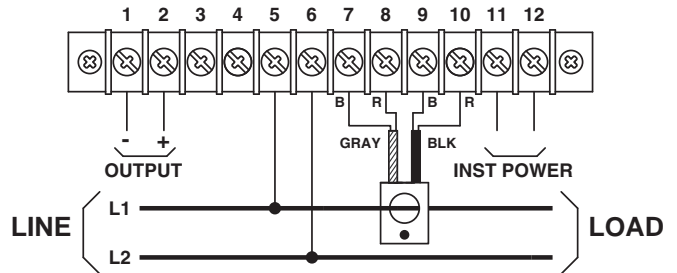
4242 REYNOLDS DRIVE * HILLIARD, OHIO * 43026-1264
PHONE: (614) 777-1005 * FAX: (614) 777-4511
WWW.OHIOSEMITRONICS.COM * 1-800-537-6732

CONNECTION DIAGRAMS

INTERNAL CURRENT SENSOR



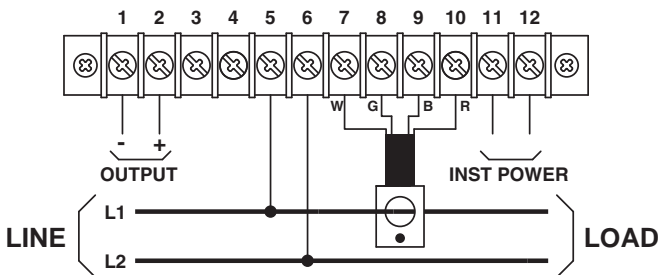
EXTERNAL CURRENT SENSOR WITH TWO CABLES.



Warning! Shock Hazard!

Current Sensor Terminals are at Line Potential.

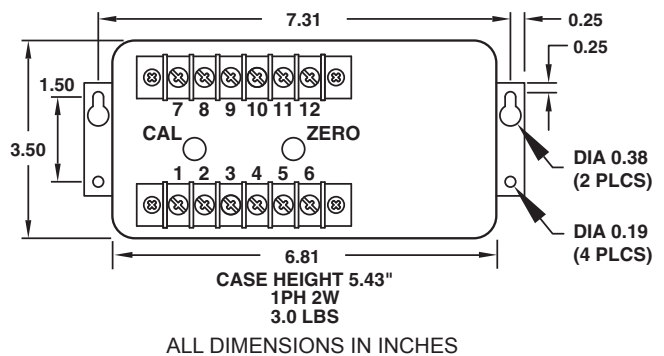
EXTERNAL CURRENT SENSOR WITH ONE CABLE.



Warning! Shock Hazard!

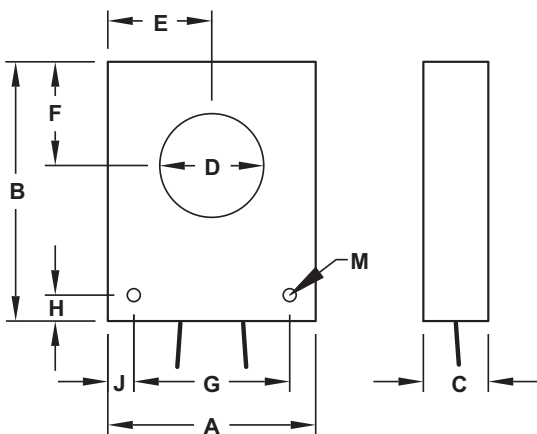
Current Sensor Terminals are at Line Potential.

CASE DIMENSIONS



Dwg# 0902-00554-B Rev --

SENSOR DIMENSIONS



SENS. SIZE	SENSOR DIMENSIONS (inches)										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

Cable lengths:

Solid-core models: .Standard C and D = 18in. non-detachable

E = 8ft. detachable

Split-core models: ...“S” Option C = 8ft. non-detachable

D and E = 8ft. detachable

Non-detachable cables include 2each 2conductor cables (gray and black)
Detachable cables include a single 4conductor cable (black)