

OSI VARIABLE-FREQUENCY AC WATT TRANSDUCER MODEL P-

VARIABLE FREQUENCY (5-500 HERTZ)

FEATURES

- Accurate from 5 to 500Hz, factory-calibrated.
- Available in both single-phase and three-phase configurations. Bidirectional output.
- Available with split-core current sensors.

APPLICATIONS

- Accurate monitoring of power that contains dc and non-sinusoidal ac components.
- Variable-frequency drives.
- Ideal for use in phase-angle-firing circuits or frequency synthesizers.

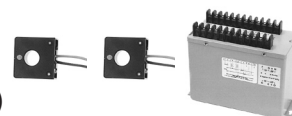


SINGLE-PHASE (ONE-ELEMENT)

| INPUTS | | F.S. (WATTS) | SENSOR SIZE | STANDARD OUTPUTS MODEL P- | | | | | |
|----------|----------|-----------------|----------------|---------------------------|----------|----------|-------------|----------|---------|
| AC VOLTS | AC AMPS | | | 0-±1mAdc | 0-±10Vdc | 4-20mAdc | 4-12-20mAdc | 0-20mAdc | 0-±5Vdc |
| 0 - 150 | 0 - 100 | 10k | C | 121B | 121D | 121E | 121EM | 121EA | 121X5 |
| | 0 - 200 | 20k | D | 124B | 124D | 124E | 124EM | 124EA | 124X5 |
| | 0 - 400 | 40k | D | 127B | 127D | 127E | 127EM | 127EA | 127X5 |
| | 0 - 600 | 60k | E | 130B | 130D | 130E | 130EM | 130EA | 130X5 |
| | 0 - 1000 | 100k | E | 133B | 133D | 133E | 133EM | 133EA | 133X5 |
| | 0 - 2000 | 200k | E | 136B | 136D | 136E | 136EM | 136EA | 136X5 |
| 0 - 300 | 0 - 100 | 20k | C | 122B | 122D | 122E | 122EM | 122EA | 122X5 |
| | 0 - 200 | 40k | D | 125B | 125D | 125E | 125EM | 125EA | 125X5 |
| | 0 - 400 | 80k | D | 128B | 128D | 128E | 128EM | 128EA | 128X5 |
| | 0 - 600 | 120k | E | 131B | 131D | 131E | 131EM | 131EA | 131X5 |
| | 0 - 1000 | 200k | E | 134B | 134D | 134E | 134EM | 134EA | 134X5 |
| | 0 - 2000 | 400k | E | 137B | 137D | 137E | 137EM | 137EA | 137X5 |
| 0 - 600 | 0 - 100 | 40k | C | 123B | 123D | 123E | 123EM | 123EA | 123X5 |
| | 0 - 200 | 80k | D | 126B | 126D | 126E | 126EM | 126EA | 126X5 |
| | 0 - 400 | 160k | D | 129B | 129D | 129E | 129EM | 129EA | 129X5 |
| | 0 - 600 | 240k | E | 132B | 132D | 132E | 132EM | 132EA | 132X5 |
| | 0 - 1000 | 400k | E | 135B | 135D | 135E | 135EM | 135EA | 135X5 |
| | 0 - 2000 | 800k | E | 138B | 138D | 138E | 138EM | 138EA | 138X5 |

5 YEAR WARRANTY

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



| INPUTS | | F.S. (WATTS) | SENSOR SIZE | STANDARD OUTPUTS MODEL P- | | | | | |
|----------|----------|-----------------|----------------|---------------------------|----------|----------|-------------|----------|---------|
| AC VOLTS | AC AMPS | | | 0-±1mAdc | 0-±10Vdc | 4-20mAdc | 4-12-20mAdc | 0-20mAdc | 0-±5Vdc |
| 0 - 150 | 0 - 100 | 20k | C | 142B | 142D | 142E | 142EM | 142EA | 142X5 |
| | 0 - 200 | 40k | D | 145B | 145D | 145E | 145EM | 145EA | 145X5 |
| | 0 - 400 | 80k | D | 148B | 148D | 148E | 148EM | 148EA | 148X5 |
| | 0 - 600 | 120k | E | 151B | 151D | 151E | 151EM | 151EA | 151X5 |
| | 0 - 1000 | 200k | E | 154B | 154D | 154E | 154EM | 154EA | 154X5 |
| | 0 - 2000 | 400k | E | 157B | 157D | 157E | 157EM | 157EA | 157X5 |
| 0 - 300 | 0 - 100 | 40k | C | 143B | 143D | 143E | 143EM | 143EA | 143X5 |
| | 0 - 200 | 80k | D | 146B | 146D | 146E | 146EM | 146EA | 146X5 |
| | 0 - 400 | 160k | D | 149B | 149D | 149E | 149EM | 149EA | 149X5 |
| | 0 - 600 | 240k | E | 152B | 152D | 152E | 152EM | 152EA | 152X5 |
| | 0 - 1000 | 400k | E | 155B | 155D | 155E | 155EM | 155EA | 155X5 |
| | 0 - 2000 | 800k | E | 158B | 158D | 158E | 158EM | 158EA | 158X5 |
| 0 - 600 | 0 - 100 | 80k | C | 144B | 144D | 144E | 144EM | 144EA | 144X5 |
| | 0 - 200 | 160k | D | 147B | 147D | 147E | 147EM | 147EA | 147X5 |
| | 0 - 400 | 320k | D | 150B | 150D | 150E | 150EM | 150EA | 150X5 |
| | 0 - 600 | 480k | E | 153B | 153D | 153E | 153EM | 153EA | 153X5 |
| | 0 - 1000 | 800k | E | 156B | 156D | 156E | 156EM | 156EA | 156X5 |
| | 0 - 2000 | 1600k | E | 159B | 159D | 159E | 159EM | 159EA | 159X5 |

All units require 85-135Vac instrument power, 50-400Hz.

Optional 230Vac instrument power - add suffix "-22"

**FOR OPTIONAL SPLIT-CORE CURRENT SENSOR,
ADD SUFFIX "S" TO PART NUMBER.**

**ADDITIONAL CURRENT RANGES AVAILABLE.
CONSULT FACTORY.**

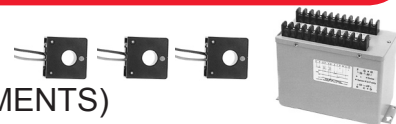
SENSOR SIZES SHOWN ON FOLLOWING PAGE.

ORDERING INFORMATION

Example: Three-Phase, Three-Wire, 120V,
100A Input, Split-Core Sensor,
with 0-±5Vdc Output, Proportional to 0-±20kW.
P-142X5S

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

OSI VARIABLE-FREQUENCY AC WATT TRANSDUCER MODEL P-



THREE-PHASE, FOUR-WIRE (THREE ELEMENTS)

| INPUTS | | F.S. (WATTS) | SENSOR SIZE | STANDARD OUTPUTS MODEL P- | | | | | |
|----------------|----------|-----------------|----------------|---------------------------|----------|----------|-------------|----------|---------|
| AC VOLTS | AC AMPS | | | 0-±1mAdc | 0-±10Vdc | 4-20mAdc | 4-12-20mAdc | 0-20mAdc | 0-±5Vdc |
| 0 - 150 L-N | 0 - 100 | 30k | C | 160B | 160D | 160E | 160EM | 160EA | 160X5 |
| | 0 - 200 | 60k | D | 162B | 162D | 162E | 162EM | 162EA | 162X5 |
| | 0 - 400 | 120k | D | 164B | 164D | 164E | 164EM | 164EA | 164X5 |
| | 0 - 600 | 180k | E | 166B | 166D | 166E | 166EM | 166EA | 166X5 |
| | 0 - 1000 | 300k | E | 168B | 168D | 168E | 168EM | 168EA | 168X5 |
| 0 - 300 L-N | 0 - 2000 | 600k | E | 170B | 170D | 170E | 170EM | 170EA | 170X5 |
| | 0 - 100 | 60k | C | 161B | 161D | 161E | 161EM | 161EA | 161X5 |
| | 0 - 200 | 120k | D | 163B | 163D | 163E | 163EM | 163EA | 163X5 |
| | 0 - 400 | 240k | D | 165B | 165D | 165E | 165EM | 165EA | 165X5 |
| | 0 - 600 | 360k | E | 167B | 167D | 167E | 167EM | 167EA | 167X5 |
| 0 - 1000 | 600k | E | 169B | 169D | 169E | 169EM | 169EA | 169X5 | |
| | 0 - 2000 | 1200k | E | 171B | 171D | 171E | 171EM | 171EA | 171X5 |

SPECIFICATIONS

INPUT

Voltage..... See Tables
 Current..... See Tables
 Frequency Range 5-500Hz
 Power Factor..... Any
 Response (Transient 90%) 50µs
 Burden
 Voltage..... <0.1VA/phase
 Current..... <0.1VA/phase
 Overload
 Voltage..... 600Vac max.
 Current..... 50 X F.S.

DIELECTRIC TEST

Input/Output/Case..... 1500Vac

INSTRUMENT POWER

Standard 85-135Vac, 50-400Hz, 15VA
 "-22" Option..... 230Vac, 50/60Hz, ±15%

OUTPUT

Loading
 "B" models (0-±1mA output)..... 0-10kΩ
 "D" models..... (0-±10Vdc output)..... 2kΩ min.
 "E", "EM", "EA" models 0-500Ω
 "X5" models (0-±5Vdc output)..... 2kΩ min.
 Response Time (to 90%) 500ms
 Field Adjustable Cal. ±10%

ACCURACY

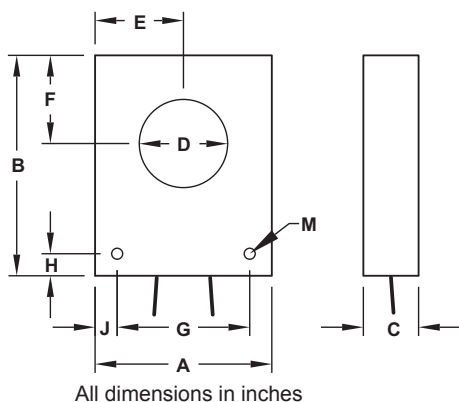
..... ±1.0% F.S.
 Includes combined effects of linearity, repeatability and frequency.
 Output Ripple Less than 1.0% F.S. @ 60Hz

TEMPERATURE

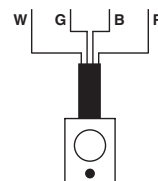
Temperature Range 0°C to +40°C
 Temperature Effect..... ±1.0% of Rdg., ±0.1% F.S. Output

Optional split-core current sensor available - Add suffix "S"

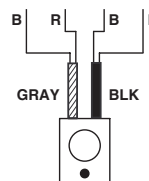
SENSOR DIMENSIONS & CONNECTION DIAGRAM



| 1-CABLE | = | 2-CABLE |
|---------|---|-----------|
| WHITE | = | GRAY "B" |
| GREEN | = | GRAY "R" |
| BLACK | = | BLACK "B" |
| RED | = | BLACK "R" |



ONE CABLE
CURRENT SENSOR

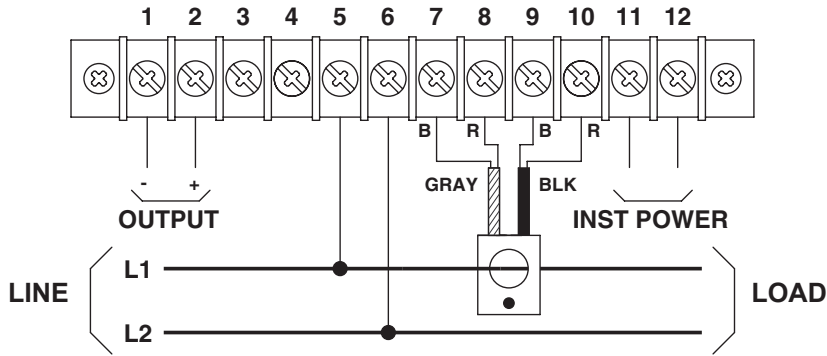


TWO CABLE
CURRENT SENSOR

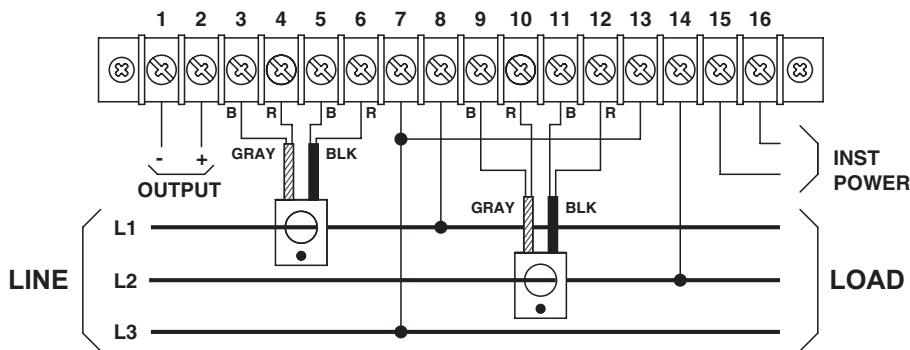
| SENS SIZE | SENSOR DIMENSIONS | | | | | | | | | | WT. LBS. |
|--------------|-------------------|---|-------|-------|--------|-------|-------|------|------|-------|-------------|
| | A | B | C | D | E | F | G | H | J | M | |
| C | 2 | 2 | 3/4 | 3/4 | 1 | 7/8 | 1 1/2 | 1/4 | 1/4 | 5/32 | 0.28 |
| D | 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 |

Solid-core models are supplied with 18-inch cables on sensor sizes C & D. All other solid-core models supplied with detachable 8-foot cable. Sensor size C split-core models are supplied with 8-foot attached cable. All other split-core models are supplied with detachable 8-foot cable. Longer cables are available.

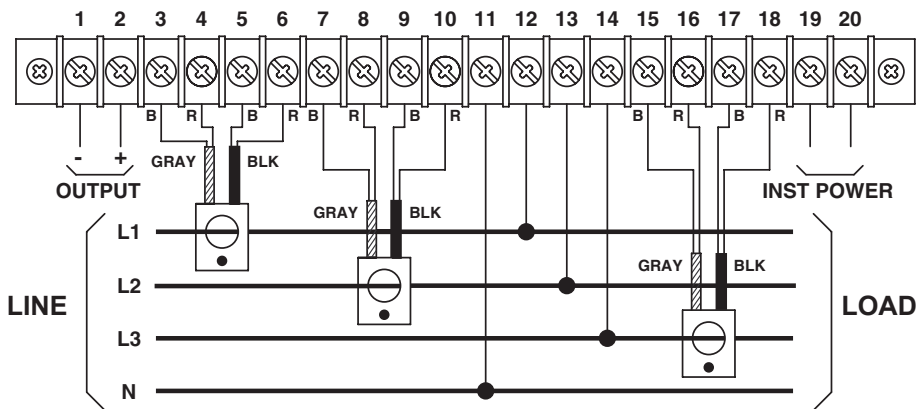
SINGLE-PHASE CONNECTIONS



THREE-PHASE, THREE-WIRE CONNECTIONS

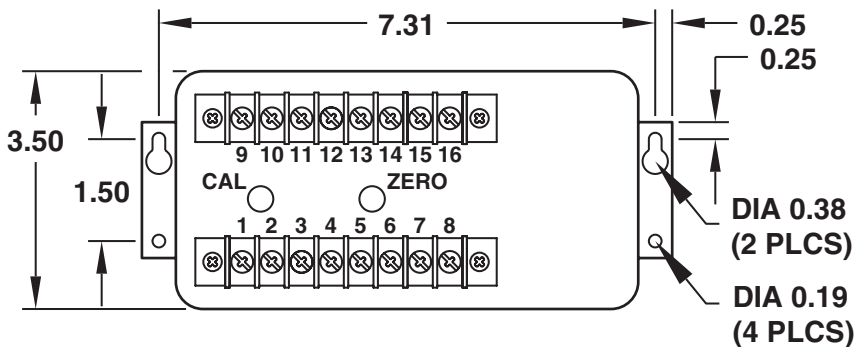


THREE-PHASE, FOUR-WIRE CONNECTIONS



WARNING! SHOCK HAZARD!
Current Sensor Terminals are at Line Potential.

CASE DIMENSIONS



CASE HEIGHT 5.88"
1PH 2W TYP 3.0 LBS
3PH 3W TYP 3.5 LBS
3PH 4W TYP 4.0 LBS

All dimensions in inches