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.

5 YEAR WARRANTY

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

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 115Vac instrument power, 50/60Hz.
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

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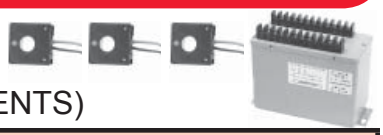
VARIABLE-FREQUENCY AC WATT TRANSDUCER *MODEL* P-



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
	0-2000	600k	E	170B	170D	170E	170EM	170EA	170X5
0-300 L-N	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 ..... 115Vac ±15%, 50/60Hz,15VA
"**-22**" Option ..... 230Vac ±15%, 50/60Hz,15VA

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.

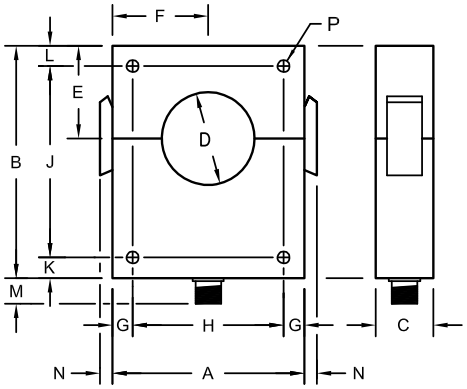
Includes combined effects of linearity, repeatability and frequency.
Output Ripple ..... Less than 1.0% F.S. @ 60Hz

TEMPERATURE

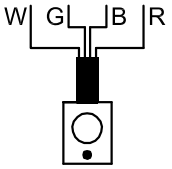
Temperature Range ..... 0ºC to +40ºC
Temperature Effect ..... ±1.0% of Rdg., ±0.1% F.S. Output

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

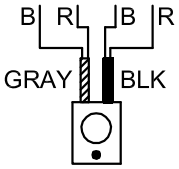
SENSOR DIMENSIONS & CONNECTION DIAGRAMS



SIGNAL	PIN	1-CABLE	PIN	2-CABLE
OUTPUT (-)	A	WHITE	1	GRAY "B"
OUTPUT (+)	B	GREEN	2	GRAY "R"
EXCITATION (-)	C	BLACK	6	BLACK "B"
EXCITATION (+)	D	RED	8	BLACK "R"



ONE-CABLE CURRENT SENSOR



TWO-CABLE CURRENT SENSOR

SENS. SIZE	SENSOR DIMENSIONS (inches)														WT. LBS
	A	B	C	D	E	F	G	H	J	K	L	M	N	P	
C	2	2	3/4	3/4	7/8	1	1/4	1 1/2	NA	1/4	NA	NA	1/4	5/32	0.28
D	3 1/8	4	3/4	1 1/8	1 1/2	1 9/16	1/2	2 1/8	NA	1/2	NA	1/2	1/4	11/64	0.75
E	4 1/8	5	1 1/4	2	2	2 1/16	7/16	3 1/4	4 1/8	7/16	7/16	5/8	5/16	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.

Dwg# 0902-00860-B Rev B

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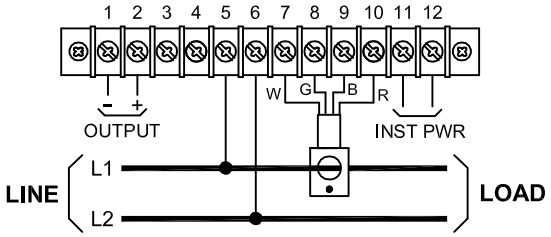
CONNECTION AND CASE DIAGRAMS — MODEL P-

WARNING! SHOCK HAZARD!

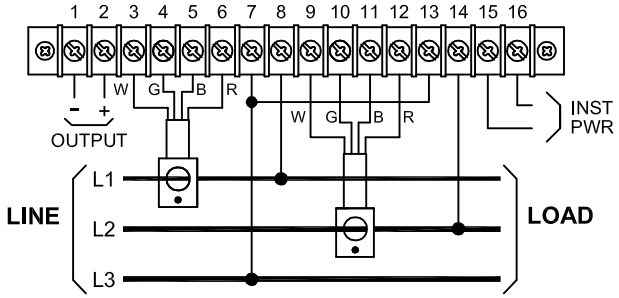
Current Sensor Terminals are at Line Potential.

ONE-CABLE CURRENT SENSORS

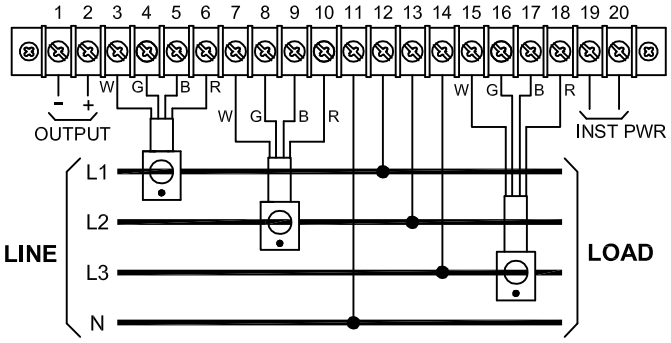
SINGLE-PHASE CONNECTIONS



THREE-PHASE, THREE-WIRE CONNECTIONS

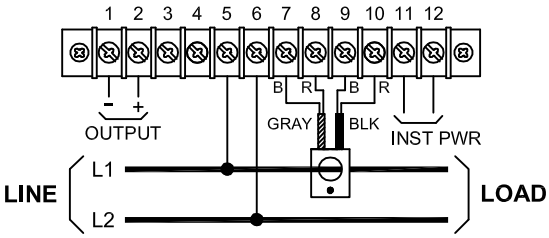


THREE-PHASE, FOUR-WIRE CONNECTIONS

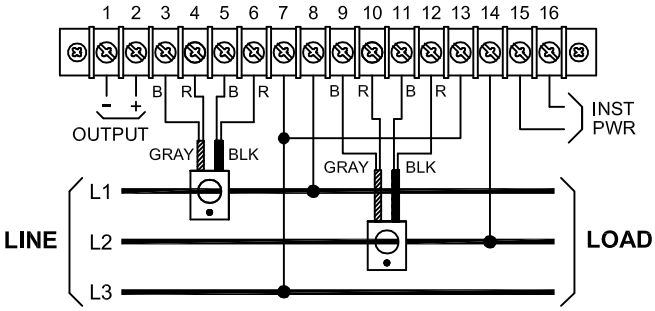


TWO-CABLE CURRENT SENSORS

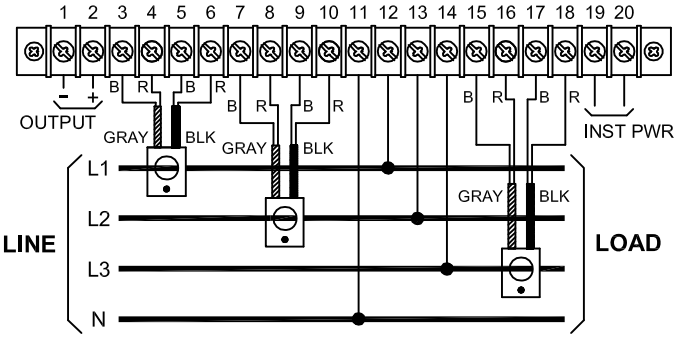
SINGLE-PHASE CONNECTIONS



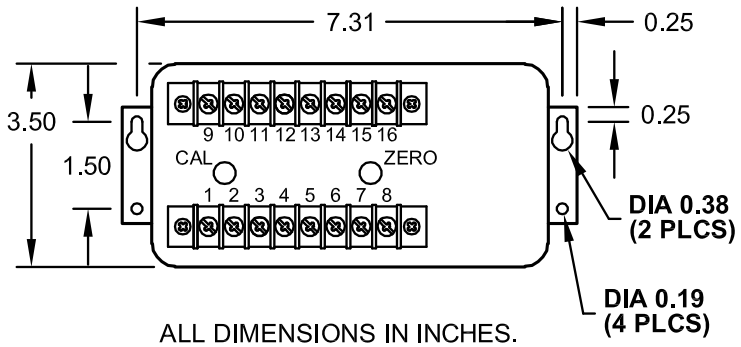
THREE-PHASE, THREE-WIRE CONNECTIONS



THREE-PHASE, FOUR-WIRE CONNECTIONS



CASE DIMENSIONS



ALL DIMENSIONS IN INCHES.

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

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