WATT TRANSDUCERS

AC WATT/POWER FACTOR/VOLT-AMPERE TRANSDUCER *MODEL* PC20

FEATURES

- True Power measurements for sinusoidal and distorted waveforms.
- Volt-Ampere measurement for sinusoidal and distorted waveforms.
- Power Factor is derived from the ratio of True Power to Apparent Power and remains accurate for SCR controlled or otherwise distorted waveforms.
- Three separate output signals - one each for Watts, Power Factor, Volt-Amperes.
- Wide frequency range - 50 to 400Hz

APPLICATIONS

- Equipment monitoring to determine and/or maintain efficiency.
- Process monitoring and/or controlling to maintain consistent product quality.
- For use with SCR controlled, chopped, or otherwise distorted waveforms.
- **0.25% Accuracy.**

SINGLE PHASE, TWO WIRE (ONE ELEMENT)

INPUTS		F.S.	STANDARD OUTPUTS (W, PF, VA) MODEL PC20-						
AC VOLTS	AC AMPS	(W,VA)	0-1mAdc*	0-1mAdc	0-10Vdc*	0-10Vdc	0-5Vdc*	0-5Vdc	4-20mAdc
0-150	0-1	100	103A	103B	103C	103D	103CX5	103X5	103E
	0-5	500	001A	001B	001C	001D	001CX5	001X5	001E
NOMINAL 115	0-10	1000	010A	010B	010C	010D	010CX5	010X5	010E
	0-20	2000	117A	117B	117C	117D	117CX5	117X5	117E
0-300	0-1	200	104A	104B	104C	104D	104CX5	104X5	104E
	0-5	1000	002A	002B	002C	002D	002CX5	002X5	002E
NOMINAL 230	0-10	2000	011A	011B	011C	011D	011CX5	011X5	011E
	0-20	4000	110A	110B	110C	110D	110CX5	110X5	110E
0-600	0-1	4000	105A	105B	105C	105D	105CX5	105X5	105E
	0-5	2000	003A	003B	003C	003D	003CX5	003X5	003E
NOMINAL 480	0-10	4000	012A	012B	012C	012D	012CX5	012X5	012E
	0-20	8000	111A	111B	111C	111D	111CX5	111X5	111E

THREE PHASE, THREE WIRE (TWO ELEMENT)

INPUTS		F.S.	STANDARD OUTPUTS (W, PF, VA) MODEL PC20-						
AC VOLTS	AC AMPS	(W,VA)	0-1mAdc*	0-1mAdc	0-10Vdc*	0-10Vdc	0-5Vdc*	0-5Vdc	4-20mAdc
0-150	0-1	200	118A	118B	118C	118D	118CX5	118X5	118E
	0-5	1000	004A	004B	004C	004D	004CX5	004X5	004E
NOMINAL 115	0-10	2000	013A	013B	013C	013D	013CX5	013X5	013E
	0-20	4000	112A	112B	112C	112D	112CX5	112X5	112E
0-300	0-1	400	119A	119B	119C	119D	119CX5	119X5	119E
	0-5	2000	005A	005B	005C	005D	005CX5	005X5	005E
NOMINAL 230	0-10	4000	014A	014B	014C	014D	014CX5	014X5	014E
	0-20	8000	113A	113B	113C	113D	113CX5	113X5	113E
0-600	0-1	800	120A	120B	120C	120D	120CX5	120X5	120E
	0-5	4000	006A	006B	006C	006D	006CX5	006X5	006E
NOMINAL 480	0-10	8000	015A	015B	015C	015D	015CX5	015X5	015E
	0-20	16000	114A	114B	114C	114D	114CX5	114X5	114E

DISCONTINUED

Highlighted models (5A) may be used with current transformers.
***Denotes self-powered units. Input voltage ranges limited to:
85-135V for 150Vac models
200-280V for 300Vac models
380-550V for 600Vac models
All others require a separate 120Vac (85 - 135V) instrument power.
Optional 230Vac instrument power - Add suffix **"-22"**
All except "E" Models Outputs are Bi-Directional.

ORDERING INFORMATION

Example: Three-Phase, Three-Wire,
230V 5A, 0-10V Output,
Proportional to 0-2000W (VA),
with Separate 120Vac Instrument Power.
PC20-005D

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WATT TRANSDUCERS

AC WATT/POWER FACTOR/VOLT-AMPERE TRANSDUCER *MODEL* PC20

THREE PHASE, FOUR WIRE (THREE ELEMENT

INPUTS		F.S.	STANDARD OUTPUTS (W, PF, VA) MODEL PC20-						
AC VOLTS	AC AMPS	(W, VA)	0-1mAdc*	0-1mAdc	0-10Vdc*	0-10Vdc	0-5Vdc*	0-5Vdc	4-20mAdc
0-150 L-N NOMINAL 115	0-1	300	124A	124B	124C	124D	124CX5	124X5	124E
	0-5	1500	007A	007B	007C	007D	007CX5	007X5	007E
	0-10	3000	016A	016B	016C	016D	016CX5	016X5	016E
	0-20	6000	115A	115B	115C	115D	115CX5	115X5	115E
0-300 L-N NOMINAL 277	0-1	600	125A	125B	125C	125D	125CX5	125X5	125E
	0-5	3000	008A	008B	008C	008D	008CX5	008X5	008E
	0-10	6000	017A	017B	017C	017D	017CX5	017X5	017E
	0-20	12000	116A	116B	116C	116D	116CX5	116X5	116E

Voltage Specifications for 3-Phase, 4-Wire are “Line to Neutral”

SPECIFICATIONS

INPUT

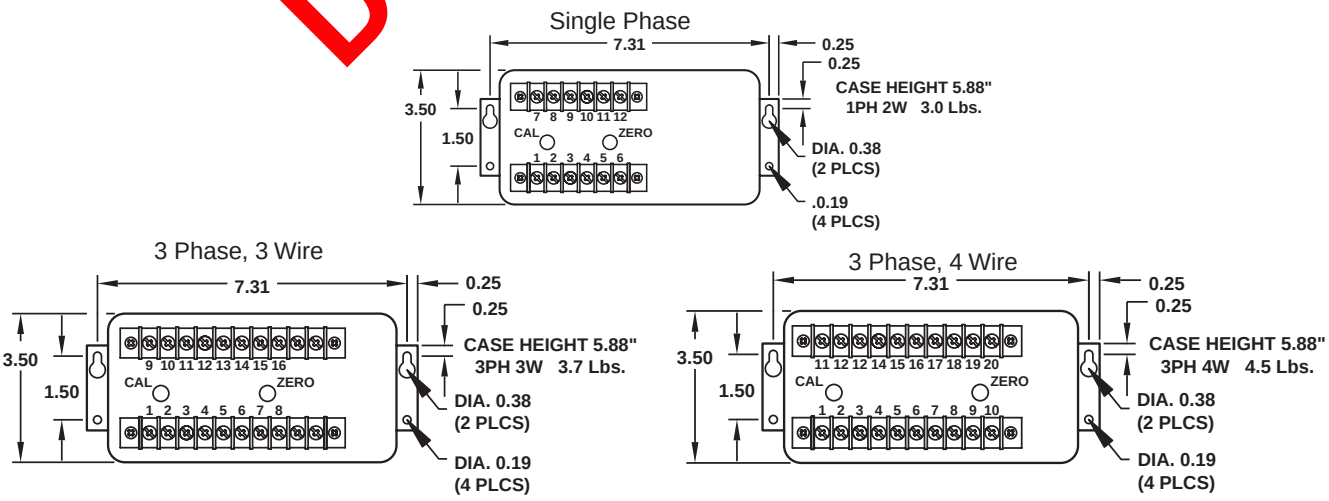
Voltage..... See Tables
Current..... See Tables
Frequency Range ..... 50 to 400Hz
Power Factor..... Any
Response ...(90%)..... 1ms
Burden
Voltage..... 0.1VA/phase
Current..... 0.28VA/phase
Over Range (w/o damage)
Voltage (cont.) ..... 150V Range..... 175V
300V Range..... 350
600V Range..... [illegible]
Current (cont.) ..... 1A, 5A, 10A Range ..... 2 X Rated
20A Range..... 20A
Dielectric Test....(Input/Output/Case)..... 1500Vac
Instrument Power..... 85-135Vac, 50-400Hz, 10VA
“**-22**” Option..... 230Vac, 50/60Hz, ±15%

OUTPUT

ACCURACY

Includes effects of linearity, set point, repeatability and power factor at nominal voltage input @ ±10%
W/VA..... 50/60Hz ..... ± 0.25% F.S.
Power Factor..... 10-100% VA,50/60Hz ..... ± 0.005 P.F.
W/VA..... 50-400Hz ..... ± 0.5% F.S.
Power Factor..... 10%-100%VA, 50-400Hz ..... ±0.01 P.F.
Power Factor..... F.S. at unity, Zero at lead or lag zero
Ripple..... < 1% F.S.
Output Loading (Ω)
1mAdc..... 0-10K
5Vdc, 10Vdc..... 2K min.
4-20mAdc 0-500
Response Time..... (90%) 250ms
Temperature Range..... -10°C to +60°C
Temperature Effect ..... ±1.0% of Rdg., ±0.1% F.S.

DIMENSIONS



All Dimensions In Inches

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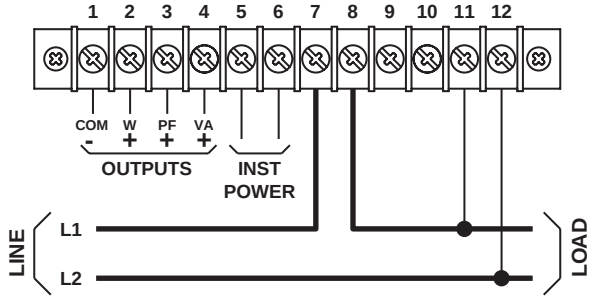
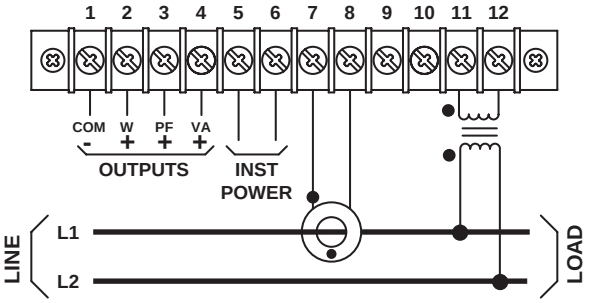
WATT TRANSDUCERS

CONNECTION DIAGRAMS — MODEL PC20

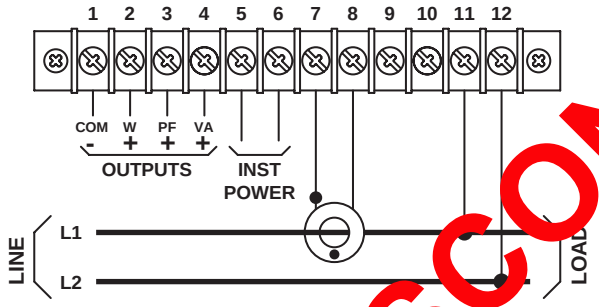
SINGLE PHASE CONNECTIONS
(ONE ELEMENT)



USING INTERNAL SENSORS

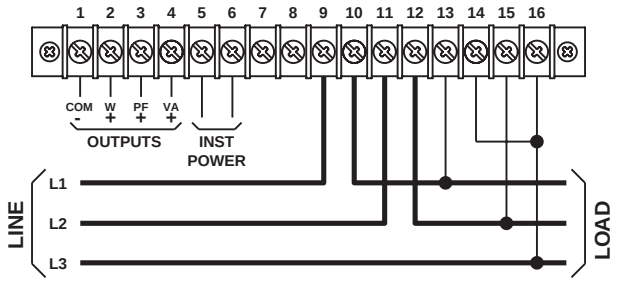


USING CURRENT TRANSFORMERS
AND POTENTIAL TRANSFORMERS

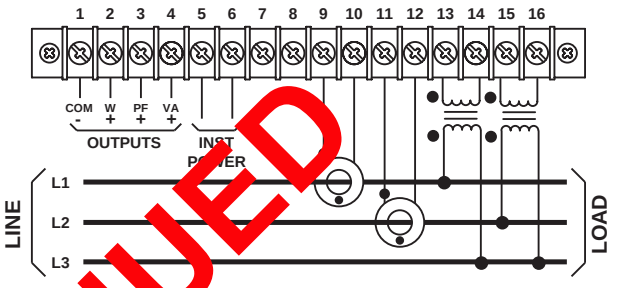


USING CURRENT TRANSFORMERS

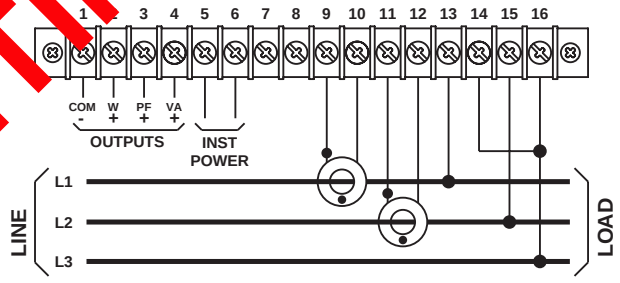
THREE-PHASE, THREE-WIRE CONNECTIONS
(TWO ELEMENT)



USING INTERNAL SENSORS

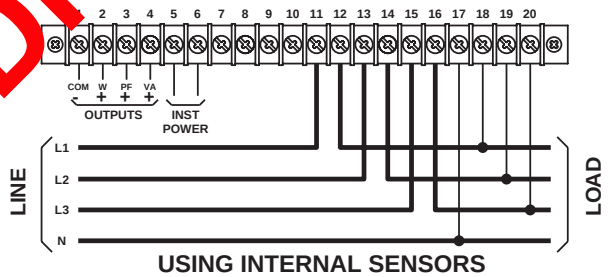


USING CURRENT TRANSFORMERS
AND POTENTIAL TRANSFORMERS



USING CURRENT TRANSFORMERS

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



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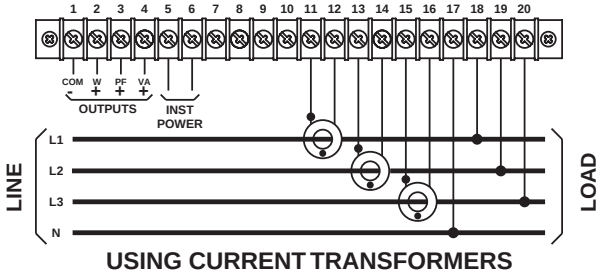
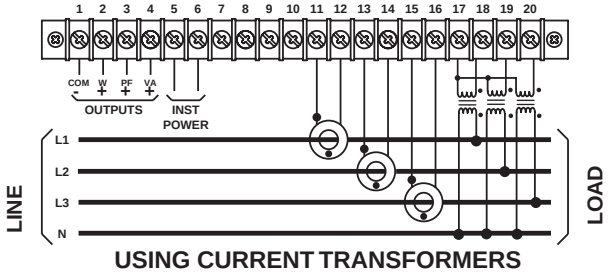


USING CURRENT TRANSFORMERS



USING CURRENT TRANSFORMERS
AND POTENTIAL TRANSFORMERS

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