

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.
- **.25% Accuracy.**



SINGLE PHASE - TWO WIRE (ONE ELEMENT)

INPUTS		F.S. W,VA	STANDARD OUTPUTS (W,PF,VA) PC20 -						
VOLTAGE	CURRENT		*0-1mA	0-1mA	*0-10V	0-10V	*0-5V	0-5V	4-20mA
0-150	0-1A	100	103A	103B	103C	103D	103CX	103X5	103E
	0-5A	500	001A	001B	001C	001D	001CX	001X5	001E
	0-10A	1000	010A	010B	010C	010D	010CX	010X5	010E
	0-20A	2000	117A	117B	117C	117D	117CX	117X5	117E
0-300V	0-1A	200	104A	104B	104C	104D	104CX	104X5	104E
	0-5A	1000	002A	002B	002C	002D	002CX	002X5	002E
	0-10A	2000	011A	011B	011C	011D	011CX	011X5	011E
	0-20A	4000	110A	110B	110C	110D	110CX	110X5	110E
0-600V	0-1A	400	105A	105B	105C	105D	105CX	105X5	105E
	0-5A	2000	003A	003B	003C	003D	003CX	003X5	003E
	0-10A	4000	012A	012B	012C	012D	012CX	012X5	012E
	0-20A	8000	111A	111B	111C	111D	111CX	111X5	111E

THREE PHASE - THREE WIRE (TWO ELEMENT)

INPUTS		F.S. W,VA	STANDARD OUTPUTS (W,PF,VA) PC20-						
VOLTAGE	CURRENT		*0-1mA	0-1mA	*0-10V	0-10V	*0-5V	0-5V	4-20mA
0-150	0-1A	200	118A	118B	118C	118D	118C	118X5	118E
	0-5A	1000	004A	004B	004C	004D	004C	004X5	004E
	0-10A	2000	013A	013B	013C	013D	013C	013X5	013E
	0-20A	4000	112A	112B	112C	112D	112C	112X5	112E
0-300V	0-1A	400	119A	119B	119C	119D	119C	119X5	119E
	0-5A	2000	005A	005B	005C	005D	005C	005X5	005E
	0-10A	4000	014A	014B	014C	014D	014C	014X5	014E
	0-20A	8000	113A	113B	113C	113D	113C	113X5	113E
0-600V	0-1A	800	120A	120B	120C	120D	120C	120X5	120E
	0-5A	4000	006A	006B	006C	006D	006C	006X5	006E
	0-10A	8000	015A	015B	015C	015D	015C	015X5	015E
	0-20A	16000	114A	114B	114C	114D	114C	114X5	114E

CONNECTION DIAGRAMS AND DIMENSIONS SHOWN ON PAGES 93-94

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**MODEL
PC20**

THREE PHASE - FOUR WIRE (THREE ELEMENT)

INPUTS		F.S. W, VA	STANDARD OUTPUTS (W,PF,VA) PC20 -						
VOLTAGE	CURRENT		*0-1mA	0-1mA	*0-10V	0-10V	*0-5V	0-5V	4-20mA
0-150V LINE TO NEUTRAL	0-1A	300	124A	124B	124C	124D	124CX5	124X5	124E
	0-5A	1500	007A	007B	007C	007D	007CX5	007X5	007E
	0-10A	3000	016A	016B	016C	016D	016CX5	016X5	016E
	0-20A	6000	115A	115B	115C	115D	115CX5	115X5	115E
0-300V LINE TO NEUTRAL	0-1A	600	125A	125B	125C	125D	125CX5	125X5	125E
	0-5A	3000	008A	008B	008C	008D	008CX5	008X5	008E
	0-10A	6000	017A	017B	017C	017D	017CX5	017X5	017E
	0-20A	12000	116A	116B	116C	116D	116CX5	116X5	116E

Highlighted models (5A) may be used with current transformers.

Voltage specifications for three phase four wire are "Line to Neutral"

* DENOTES SELF-POWERED MODEL - INPUT VOLTAGE RANGES LIMITED AS FOLLOWS:

- 85V - 135V FOR 150V MODELS
- 200V - 280V FOR 300V MODELS
- 380V - 550V FOR 600V MODELS

ALL OTHERS REQUIRE A SEPARATE 120VAC (85 - 135 V) INSTRUMENT POWER.

OPTION 22: 220VAC INSTRUMENT POWER

OPTIONAL 4-20mA LOOP POWERED MODEL - ADD SUFFIX "E3" TO PART NUMBER.

ORDERING INFORMATION

EXAMPLE: THREE PHASE - THREE WIRE, 240V, 5A, 0-10V OUTPUT
PROPORTIONAL TO 0-2000W (VA), WITH SEPARATE 120VAC
INSTRUMENT POWER.
PC20 - 005D



MODEL PC20 SPECIFICATIONS

INPUT

- Voltage See Tables
- Current See Tables
- Frequency 50 to 400 Hz
- Power Factor Any
- Response 1 Millisecond
- Burden
 - Voltage 0.1 VA Per Element
 - Current 0.28 VA Per Element
- Output Amplifier 2.5 VA (Self-powered units)
- Overrange (without Damage)
 - Voltage (cont.)
 - 150V Range 175V
 - 300V Range 350V
 - 600V Range 600V
 - Current (cont.) 1A, 5A, 10A Range 2 X Rated
 - 20A Range 20A
- Dielectric Test.....(Input/Output/Case) 1500 VAC

OUTPUT

- Ripple $\leq \pm 1\%$ FS
- Output Loading (Ohms)
 - 0-1mA 0-10K
 - 0-10V 2K Min
 - 0-5V 2K Min
 - 4-20 mA 0-500
 - Response.....(90%) 250 Milliseconds

ACCURACY

- W/VA 50-60Hz $\pm 0.25\%$ FS
- PF (10%-100% WATTS) 50-60Hz ± 0.005 PF
- W/VA 50-400 Hz $\pm 0.5\%$ FS
- PF (10%-100% WATTS) 50-400 Hz 0.01 PF
- Temperature Effect..(-10° to 60°C) $\pm 1\%$ Rdg, $\pm .1\%$ FS
- Instrument Power 85-135 VAC, 50-400 Hz, 10 VA

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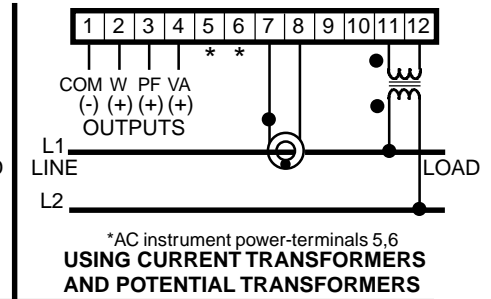
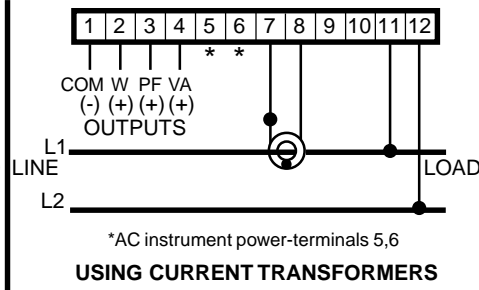
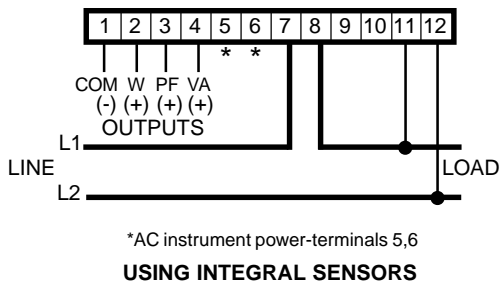
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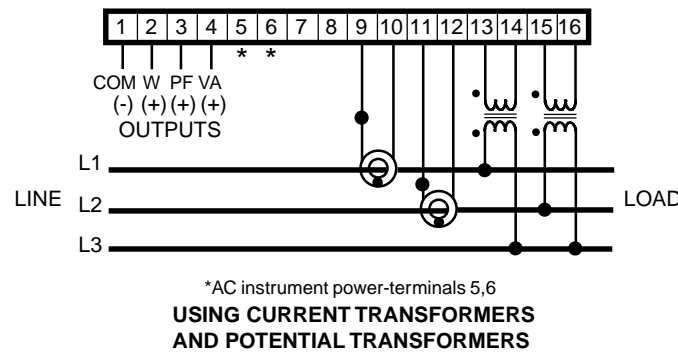
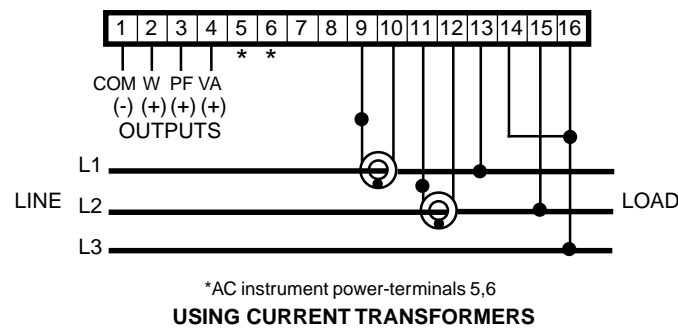
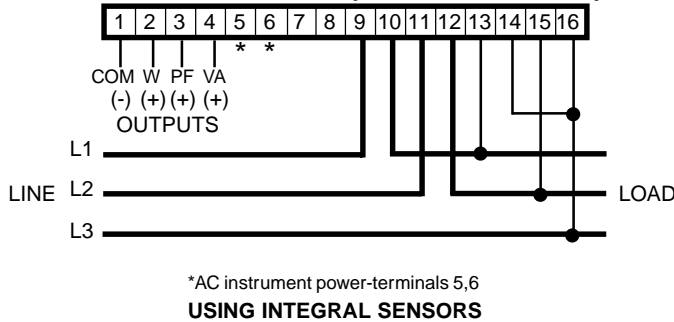
CONNECTION DIAGRAMS

MODEL PC20

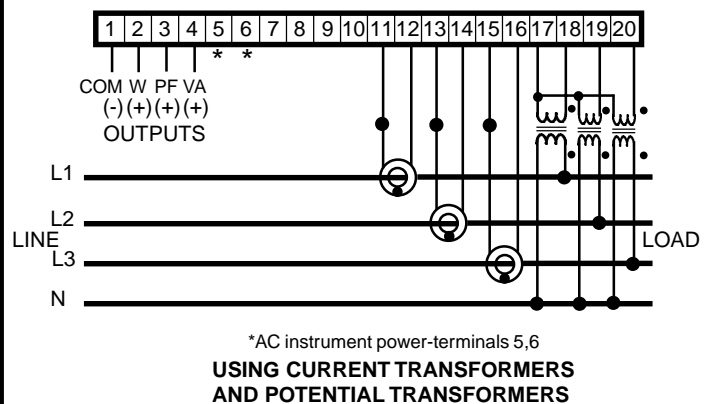
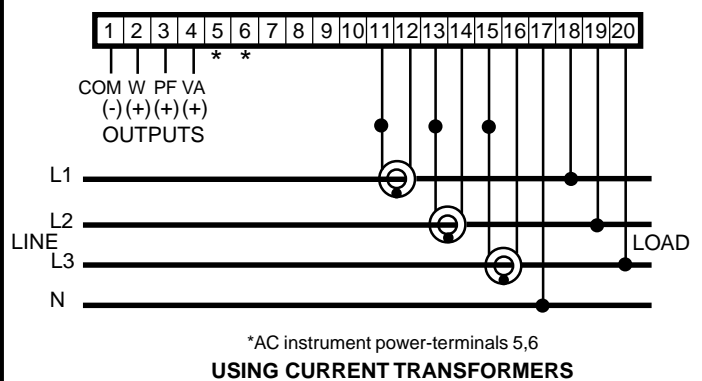
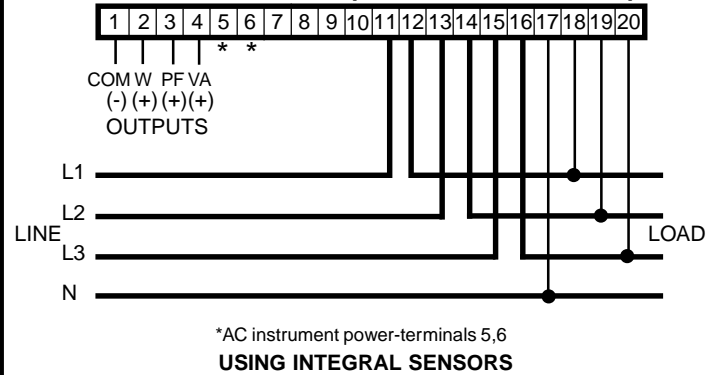
SINGLE PHASE CONNECTIONS (ONE ELEMENT)



THREE PHASE THREE WIRE CONNECTIONS (TWO ELEMENT)



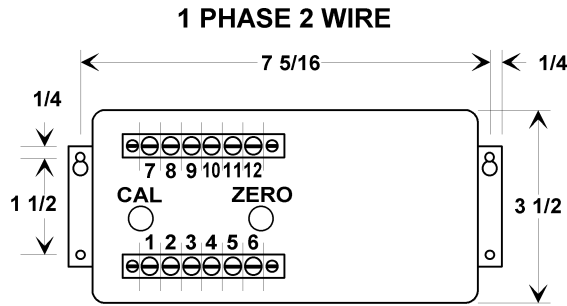
THREE PHASE FOUR WIRE CONNECTIONS (THREE ELEMENT)



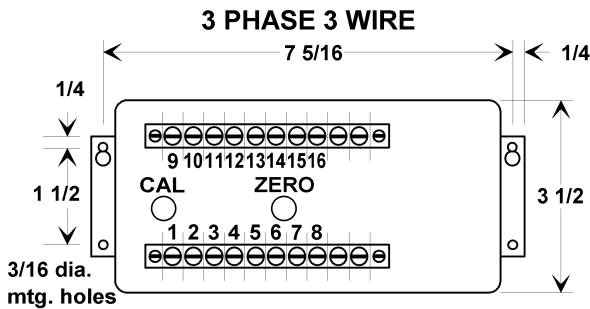
WATT TRANSDUCERS

CASE DIMENSIONS

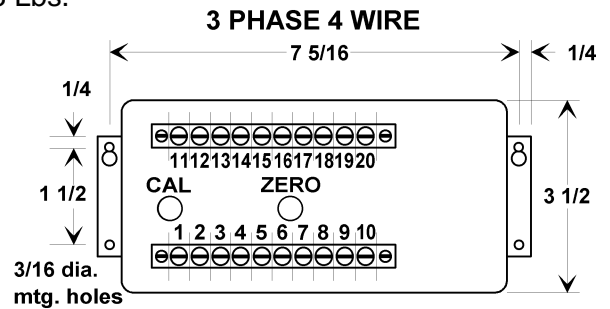
MODEL PC20



CASE HEIGHT 6"
3/16 DIA. MTG. HOLES
Weight: 3 Lbs.



CASE HEIGHT 6"
Weight: 3.7 Lbs.



CASE HEIGHT 6"
Weight: 4.5 Lbs.

ALL DIMENSIONS IN INCHES