

DESCRIPTION

The model PF5 provides a dc output which is linearly proportional to the phase angle difference between voltage and current of an ac power system. The polarity of the bi-polar output indicates leading or lagging conditions.

Balanced load conditions are necessary in three-phase systems. Deviation from sine wave conditions leads to inaccuracies with all transducers since angle measurement is based on time difference between zero crossings.

FEATURES

- The bi-polar output of the model PF5 is directly proportional to the 0 to 60° leading or lagging phase angle of the input signal. A leading phase angle is represented by a negative output signal. A lagging phase angle is represented by a positive output signal.

APPLICATION

- Provides an accurate means for calculating power factor, $PF = \cos \theta$

SINGLE-PHASE, TWO WIRE MODELS

INPUT AC VOLTS LINE-TO-LINE	INPUT AC AMPS	STANDARD OUTPUTS MODEL PF5-			
		± 1mA _{dc}	± 10V _{dc}	4-20mA*	4-12-20mA*
95 to 135	0.2 to 5.0	001A	001C	001E	001EM
	0.3 to 10.0	010A	010C	010E	010EM
	1.0 to 20.0	019A	019C	019E	019EM
200 to 300	0.2 to 5.0	002A	002C	002E	002EM
	0.3 to 10.0	011A	011C	011E	011EM
	1.0 to 20.0	020A	020C	020E	020EM
410 to 550	0.2 to 5.0	003A	003C	003E	003EM
	0.3 to 10.0	012A	012C	012E	012EM
	1.0 to 20.0	021A	021C	021E	021EM



THREE-PHASE, THREE WIRE OR THREE-PHASE, FOUR-WIRE MODELS

INPUT AC VOLTS LINE-TO-LINE	INPUT AC AMPS	STANDARD OUTPUTS MODEL PF5-			
		± 1mA _{dc}	± 10V _{dc}	4-20mA*	4-12-20mA*
95 to 135	0.2 to 5.0	004A	004C	004E	004EM
	0.3 to 10.0	013A	013C	013E	013EM
	1.0 to 20.0	022A	022C	022E	022EM
200 to 300	0.2 to 5.0	005A	005C	005E	005EM
	0.3 to 10.0	014A	014C	014E	014EM
	1.0 to 20.0	023A	023C	023E	023EM
410 to 550	0.2 to 5.0	006A	006C	006E	006EM
	0.3 to 10.0	015A	015C	015E	015EM
	1.0 to 20.0	024A	024C	024E	024EM

ORDERING INFORMATION

Example: Three-Phase, Four-Wire 208Vac, 10 Amp Input with ±10V_{dc} Output
PF5-014C

5 YEAR WARRANTY

*4-20mA, 4-12-20mA models require 85-135Vac instrument power.

All other models are self-powered from monitored line.

4-20mA models for use **only on lagging Power Factor.**

Higher current ranges available - Consult factory

SPECIFICATIONS

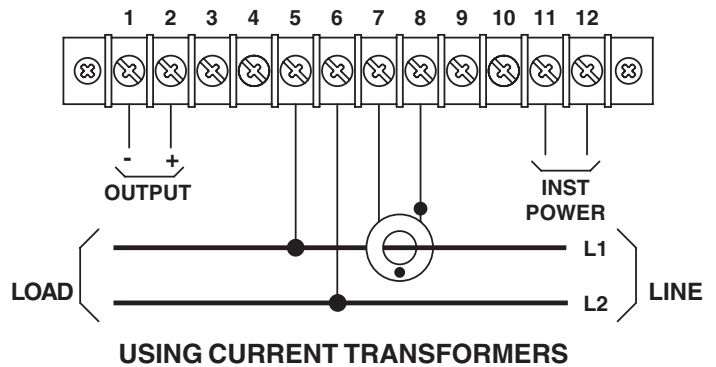
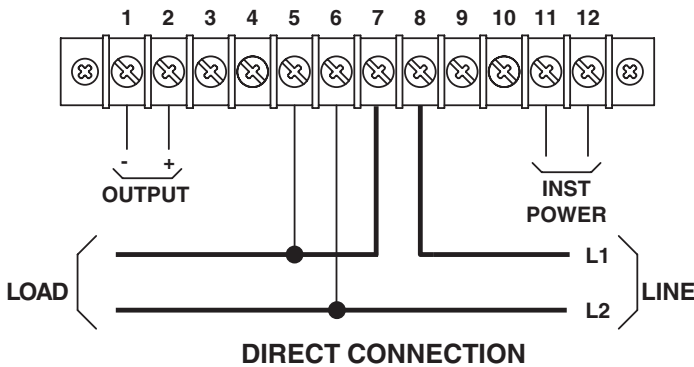
INPUT

Voltage See Tables
 Current See Tables
 Frequency Range 50-60 Hz
 Burden
 Voltage 2.0VA
 Current 0.4VA
 Overload (cont.)
 Voltage 135Vac Range 175Vac
 300Vac Range 350Vac
 550Vac Range 600Vac
 Current 5Aac Range 10Aac
 10Aac Range 20Aac
 20Aac Range 30Aac
 Dielectric Test....(Input/Output/Case) 1500Vac

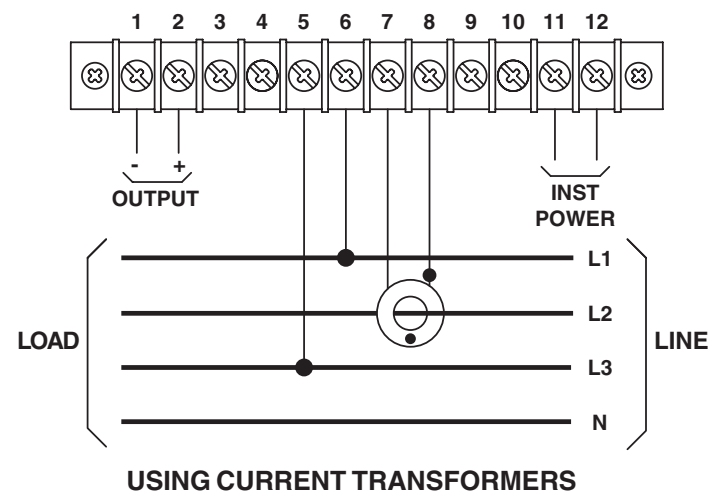
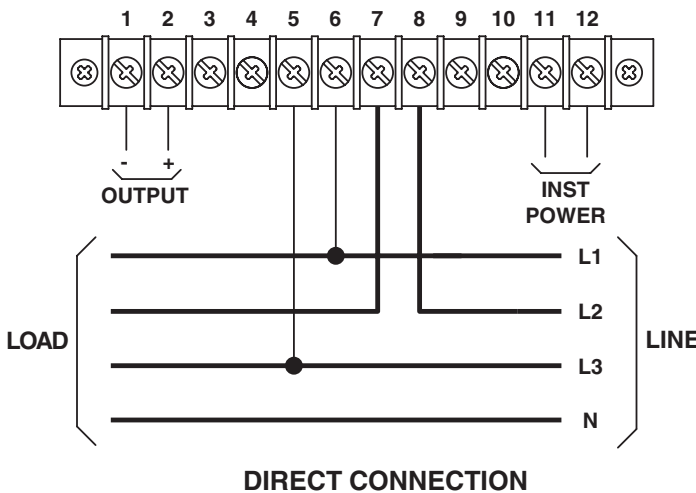
OUTPUT

ACCURACY ± 0.5% of Span
 Includes combined effects of voltage, current and frequency.
 Span (Current inp. ref. Voltage inp.) +60° to 0 to -60°
 Current leads Voltage Negative Output
 Current lags Voltage Positive Output
 Output Loading (Ohms)
 ±1mA 0-10K
 ±10V_{dc} 2K min.
 4-20mA, 4-12-20mA 0-500
 Response Time....(90%) 400 milliseconds
 Field Adjustable Cal. ± 10%
 Temperature Range -20°C to +60°C
 Temperature Effect ±0.5% F.S.
 Instrument Power 85-135Vac, 50-400Hz, 3.5VA
 “-22” Option 230Vac, 50/60Hz, ±15%

SINGLE-PHASE CONNECTIONS



THREE-PHASE, THREE-WIRE AND THREE-PHASE, FOUR-WIRE CONNECTIONS



INSTALLATION NOTE: Proper installation of the Model PF5 phase angle transducer is critical. *The connection diagrams shown above must be followed precisely.* If the application requires the use of current transformers, insure that polarity is correct. Any deviation from the connections shown will result in a locked full-scale output signal.

CASE DIMENSIONS

