

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 bidirectional 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 the time difference between zero crossings.

FEATURES

- The bidirectional 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 results in a negative output signal.
- A lagging phase angle results in a positive output signal.

APPLICATIONS

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

1-PHASE, 2-WIRE MODELS

VOLTAGE INPUT (VL-L)	CURRENT INPUT (Aac)	STANDARD OUTPUTS, MODEL PF5-			
		0-1mAdc*	0-10Vdc*	4-20mAdc**	4/12/20mAdc
95 - 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 - 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 - 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

3-PHASE, 3-WIRE OR 3-PHASE, 4-WIRE MODELS

VOLTAGE INPUT (VL-L)	CURRENT INPUT (Aac)	STANDARD OUTPUTS, MODEL PF5-			
		0-1mAdc*	0-10Vdc*	4-20mAdc**	4/12/20mAdc
95 - 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 - 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 - 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

*Denotes self-powered unit. All other models require 85-135Vac instrument power.

4-20mA models for use **only on lagging power factor. (unidirectional output)

Higher current ranges available - consult factory.



5 YEAR WARRANTY

ORDERING INFORMATION

Example:
3Φ4W 208Vac, 10Aac
Input with bidirectional
10Vdc Output

PF5-014C

SPECIFICATIONS

INPUT

Current (See Tables)
Voltage (See Tables)
Frequency Range 50-60Hz
Burden
Voltage 2.0VA
Current 0.4VA
Overload (Continuous)
Voltage 135Vac Range 175Vac
300Vac Range 350Vac
550Vac Range 600Vac
Current 5Aac Range 10Aac
10Aac Range 20Aac
20Aac Range 30Aac

INSTRUMENT POWER

"A" and "C" models Self-Powered
"E" and "EM" models 85-135Vac, 50-400Hz, 3.5VA
"-22" Option 230Vac ±15%, 50/60Hz

DIELECTRIC TEST

Input/Output/Case 1500Vac

OUTPUT

Type (See Tables)
Span (Current In. ref. Volts In.) +60° to 0 to -60°
Current leads Voltage Negative Output
Current lags Voltage Positive Output
Loading "A" models 0-10kΩ
"C" models 2kΩ, min.
"E" & "EM" models 0-500Ω
Response Time (to 90%) 400ms
Field-adjustable Cal. ±10%

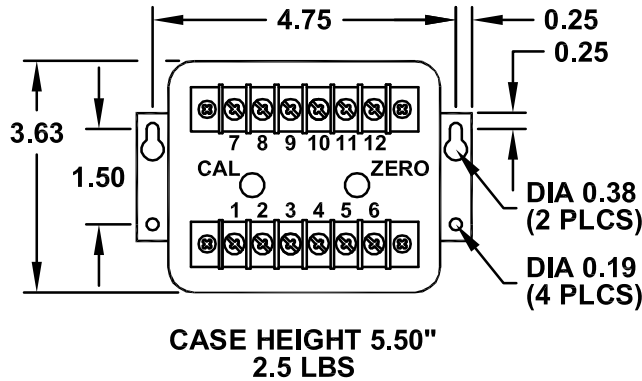
ACCURACY ±0.5% of Span
(includes combined effects of voltage, current & frequency)

TEMPERATURE

Operating Range -20°C to 60°C
Effect ±0.5% F.S.



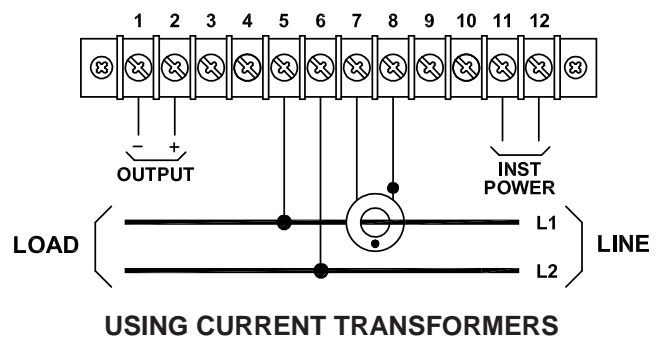
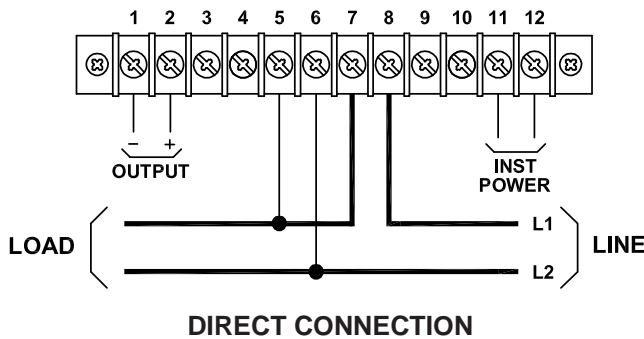
CASE DIMENSIONS



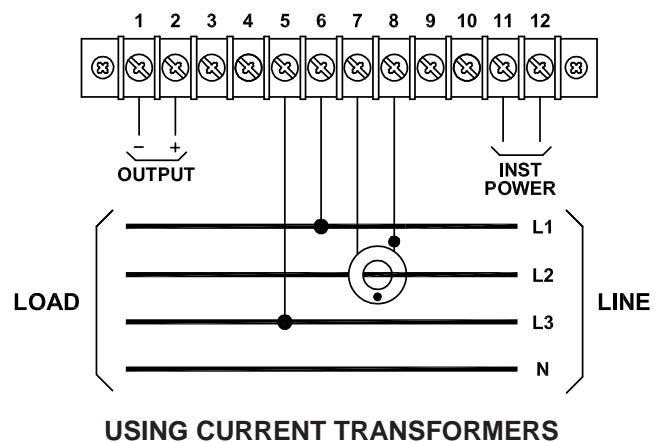
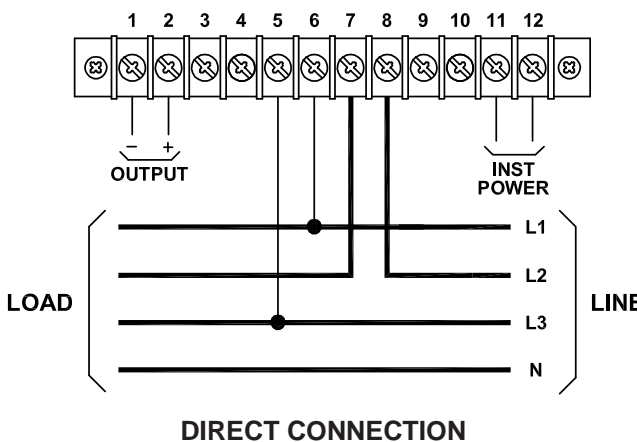
Dwg# 0902-00864-B

CONNECTION DIAGRAMS

SINGLE-PHASE CONNECTIONS



THREE-PHASE 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.