Rack-mounted Power Transducers 17-RACK

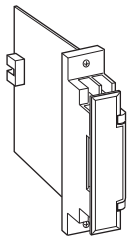
PHASE ANGLE TRANSDUCER

Functions & Features

• Providing a DC output signal in proportion to phase angle
• DC output containing little ripple is ideal for computer input

Typical Applications

• Centralized monitoring and control of power management system in a manufacturing facility or building
• Measuring phase angle for a motor



MODEL: 17PA–1[1][2]6–R

ORDERING INFORMATION

• Code number: 17PA-1[1][2]6-R
Specify a code from below for each [1] and [2].
(e.g. 17PA-11P6-R)

CONFIGURATION

1: 3-phase / 3-wire

[1] INPUT (balanced load)

1: 110 V / 5 A AC
2: 110 V / 1 A AC
3: 220 V / 1 A AC
4: 220 V / 5 A AC

[2] OUTPUT SIGNAL POLARITY

P: Negative in lag, positive in lead
M: Negative in lead, positive in lag

OUTPUT

Voltage

6: 1 – 5 V DC (Load resistance 5000 Ω min.)

AUXILIARY POWER SUPPLY

DC Power

R: 24 V DC
(Operational voltage range 24 V ±10 %, ripple 10 %p-p max.)

GENERAL SPECIFICATIONS

Construction: Rack-mounted; terminal access via screw terminals on the front and connector on the rear; terminal cover provided
Connection
Input: M3.5 screw terminals (torque 0.8 N·m)
Output: Connector
Auxiliary power: Supplied from connector
Screw terminal: Nickel-plated steel
Isolation: Voltage input to current input to output to auxiliary power
Computation: Phase angle detection
Overrange output: Approx. -10 to +120 %
Zero adjustment: -5 to +5 % (front)
Span adjustment: 95 to 105 % (front)

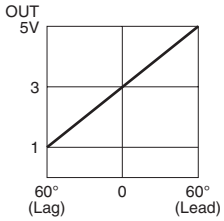
INPUT SPECIFICATIONS

■**INPUT**
Frequency: 50 or 60 Hz
•**Voltage Input**
Input burden: 0.5 VA
Operational range: 85 – 120 % of rating
Overload capacity: 150 % of rating for 10 sec., 120 % continuous
•**Current Input**
Input burden: 0.1 VA (input 1 A)
0.5 VA (input 5 A)
Operational range: 10 – 120 % of rating
Overload capacity: 1000 % of rating for 3 sec., 200 % for 10 sec., 120 % continuous
■ **Input range:**
Lag 60° – 0 – lead 60°
Lead 60° – 0 – lag 60°

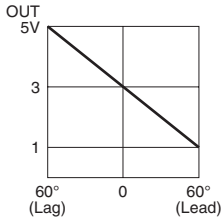
OUTPUT SPECIFICATIONS

■ **OPERATION DIAGRAM (example)**

• Negative in lag, positive in lead



• Negative in lead, positive in lag



Remark: When there is no input voltage or 5% or less of rated input current , the output may become unstable (hunting).

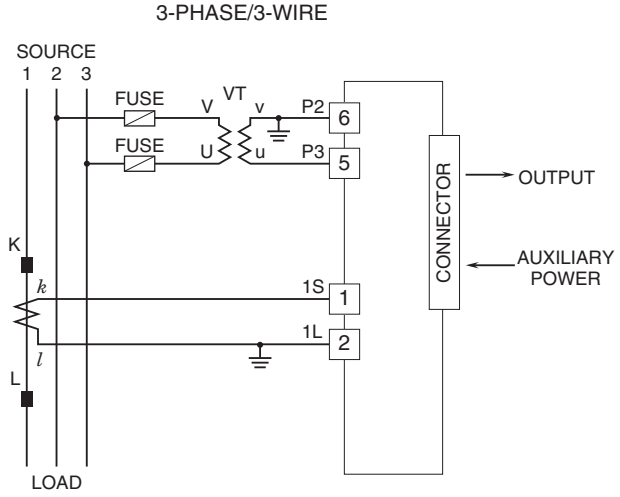
INSTALLATION

Auxiliary power supply
Current consumption: Approx. 40 mA
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 40 to 85 % RH (non-condensing)
Mounting: Standard Rack 17BXE
Weight: 200 g (0.44 lb)

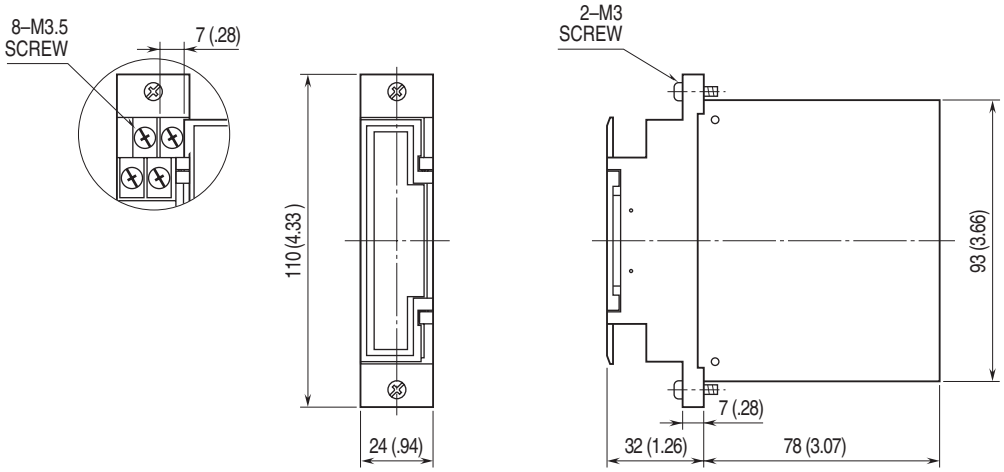
PERFORMANCE in percentage of span

Accuracy: ±2 % with balanced load
(at 23°C ±10°C or 73.4°F ±18°F, 45 – 65 Hz)
Response time: ≤ 2 sec. (0 – 100 % ±1 %)
Ripple: 1 %p-p max.
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 500 V AC @ 1 minute (output to auxiliary power)
2000 V AC @ 1 minute (voltage input to current input to output or auxiliary power)
1500 V AC @1 minute (voltage input or current input or output or auxiliary power to ground)

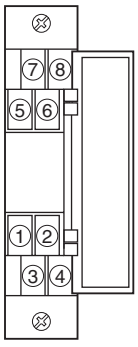
CONNECTION DIAGRAM



DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS



⚠ Specifications are subject to change without notice.