Rack-mounted DCS Signal Conditioners 18-RACK

PHASE ANGLE TRANSDUCER

Functions & Features

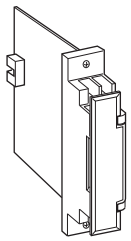
• Providing two DC output signals in proportion to phase angle

• 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: 18PA–1[1][2]66–R

ORDERING INFORMATION

• Code number: 18PA-1[1][2]66-R

Specify a code from below for each of [1] and [2].
(e.g. 18PA-11P66-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 1

Voltage

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

OUTPUT 2

Voltage

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

POWER INPUT

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 1: Connector
Output 2: Connector
Power input: Supplied from connector

Screw terminal: Nickel-plated steel

Isolation: Voltage input to current input to output 1 to output 2 to power

Overrange output: Approx. -10 to +120 % at 1 – 5 V

Zero adjustment: -5 to +5 % (front)

Span adjustment: 95 to 105 % (front)

INPUT SPECIFICATIONS

Frequency: 50 or 60 Hz

• **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

• **Voltage Input**

Input burden: Approx. 0.5 VA

Operational range: 85 – 120 % of rating

Overload capacity: 150 % of rating for 10 sec., 120 % continuous

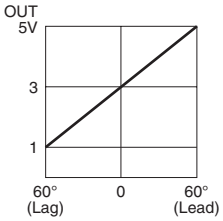
■ **Input range**:

lag 60°– 0 – lead 60°
lead 60°– 0 – lag 60°

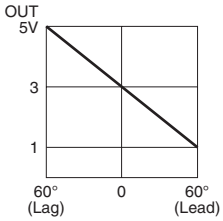
OUTPUT SPECIFICATIONS

■ **OPERATION DIAGRAM (example)**

• Negative in lag, positive in lead



• Negative in lead, positive in lag



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

INSTALLATION

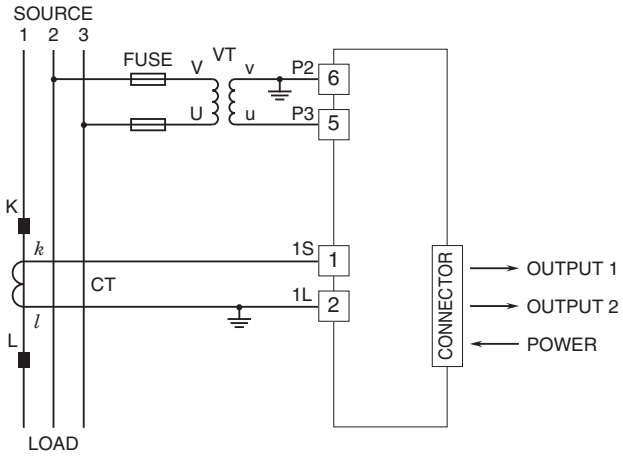
Current consumption: Approx. 80 mA
Operating temperature: -5 to +55°C (23 to 131°F)
Operating humidity: 30 to 90 %RH (non-condensing)
Mounting: Standard Rack 18BXx or 18KBXx
Weight: 200 g (0.44 lb)

PERFORMANCE in percentage of span

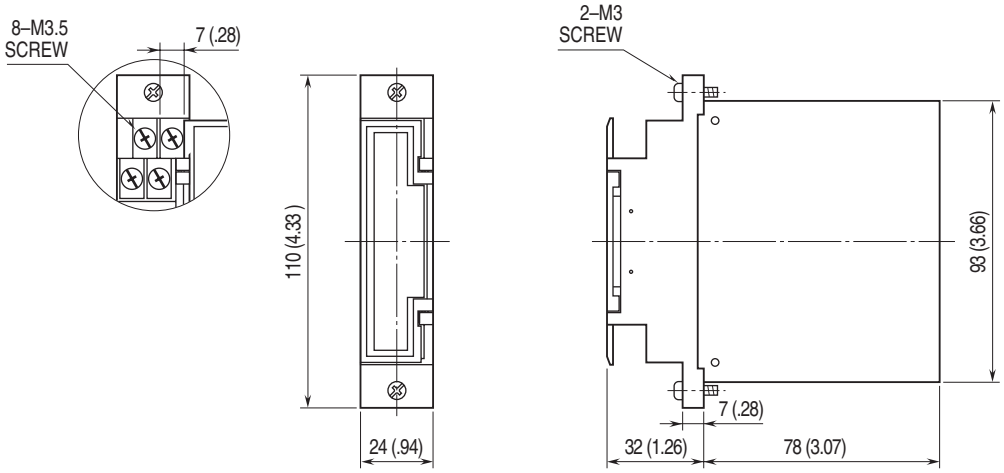
Accuracy: ±2 % with balanced load
Temp. coefficient: ±0.2 %/°C (±0.11 %/°F)
Response time: ≤ 1 sec. (0 – 90 %)
Ripple: 1 %p-p max. (50/60 Hz)
Line voltage effect: ±0.1 % over voltage range
Insulation resistance: ≥ 100 MΩ with 500 V DC
Dielectric strength: 2000 V AC @ 1 minute
(voltage input to current input to output 1 or output 2 or power)
500 V AC @ 1 minute (output 1 to output 2 to power)
2000 V AC @ 1 minute (input or output or power to ground)

CONNECTION DIAGRAM

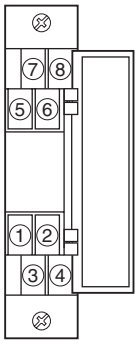
■3-PHASE/3-WIRE



EXTERNAL DIMENSIONS unit: mm (inch)



TERMINAL ASSIGNMENTS



⚠ Specifications are subject to change without notice.