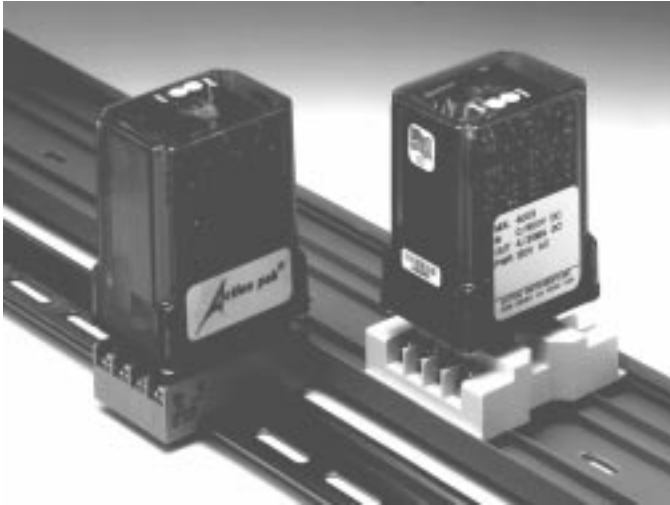


Action Pak®

Potentiometer Input Signal Conditioner

Model AP4003



Provides a DC Output in Proportion to a Potentiometer Position Input

- Constant Voltage Excitation
- 100 to 100K Ohm Potentiometers
- Tank Level and Position Applications
- Easy Plug-in Installation/Low Mean-Time-to-Repair
- AC Line Powered
- Three Year Warranty

APPLICATION

Model AP4003 is useful for converting potentiometer settings to a voltage or current, and in any application where a potentiometer or slidewire is used to determine position, displacement, or rotation. The constant-voltage excitation of the AP4003 allows use with potentiometers or slidewires with total resistances from 100 to 100k Ohms without affecting accuracy.

Input ranges other than 0-100% of the pot are available. Consult factory for assistance.

OPERATION

A precisely regulated excitation voltage is applied across the input potentiometer. The voltage at the wiper, which is proportional to the wiper position, is then fed to the input level shifter/amplifier.

A second amplifier stage drives the output load and also allows adjustment of zero and span.

In units having a current output (e.g. 4-20mA) the output is a constant-current source, controlled by the output stage. With voltage output units (e.g. 0-10V) the output is taken directly from the discrete driver transistor of the output stage.

OPTIONS

- CS** Canadian Standards Association Certification.
- U** Urethane coating of internal circuitry for protection from corrosive atmospheres.

CALIBRATION

Top accessed screwdriver adjustments provide typical $\pm 10\%$ zero and span adjustability. Calibration is referred to input in that adjustments are to correct for input/sensor variations. Zero is adjusted for the specified minimum output with

the input potentiometer at the zero position (fully CCW). Span is adjusted for the specified maximum output with the input potentiometer at the 100% position (fully CW). Repeat adjustments for maximum accuracy.

FACTORY ASSISTANCE:

For additional information on calibration, operation and installation please contact Action's Technical Services Group. Call toll-free:

800-767-5726

OUTPUT RANGES

Table 1 lists the standard DC output ranges. For better resolution non-standard ranges are also available within the limits shown in Table 2.

Table 1: AP4003 Standard Outputs

0-1V	1-5V	4-20mA
0-5V	0-10V	10-50mA

Table 2: AP4003 Output Limits

Minimum Span		Maximum Output	
Voltage	Current	Voltage	Current
100mV	1mA	10V	50mA

SPECIFICATIONS

Input Impedance

> 1 MΩ

Linearity (Best Straight Line)

±0.1% of span, typical

Excitation

500mVDC, nominal

Potentiometer Resistance (End to End)

100Ω (min.) to 100KΩ (max.)

Response Time

100 mSec., typical

Stability

±0.05% of span/°C, typical

Output Ripple

0.2% of span, or 5mV rms, whichever is greater.

Output Impedance

Voltage Output

< 10Ω

Current Output

> 100KΩ

Output Drive

Voltage Output

10mA, max.

Current Output

15V compliance @ 20mA

Common Mode Rejection

60 Hz: >100dB

DC: >120dB

Temperature Range

Operating: 0 to 60°C (32 to 140°F)

Storage: -20 to 85°C (-4 to 185°F)

Power

Consumption: 3W typical, 5W max.

Standard: 120VAC (±10%, 50-400Hz)

Available: AC:240V, (±10%, 50-400Hz)

Weight

AP4003 0.48lbs

PIN CONNECTIONS

AP4003

- 1 AC Power (Hot)
- 2 Shield (GND)
- 3 AC Power (Neu)
- 4 Pot CCW/Shield
- 5 Pot W
- 6 Pot CW
- 7 Output (+)
- 8 Output (-)



MOUNTING

All Action Paks feature plug-in installation Model AP4003 uses an 8-pin base, either molded socket (M008) or DIN (MD08) socket.

ORDERING INFORMATION

Specify:

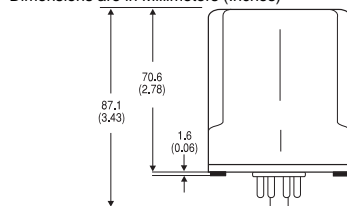
1. Model: AP4003
 2. Output Range (see Tables 1,2)
 3. Options: CS, U (see text)
 4. Line Power (see specs.)
- (All power supplies are transformer-isolated from the internal circuitry.)

ACCESSORIES

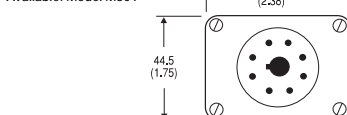
- C008 EP Housing with Socket
M801 Retaining Spring

DIMENSIONS

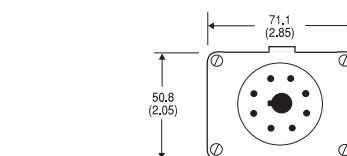
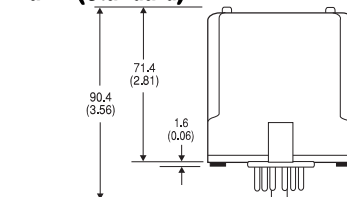
Dimensions are in Millimeters (Inches)



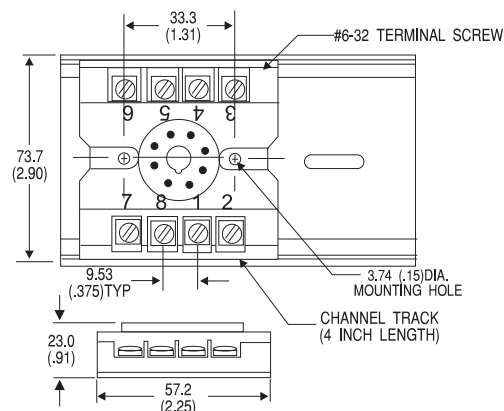
Retaining Spring
Available: Model M801



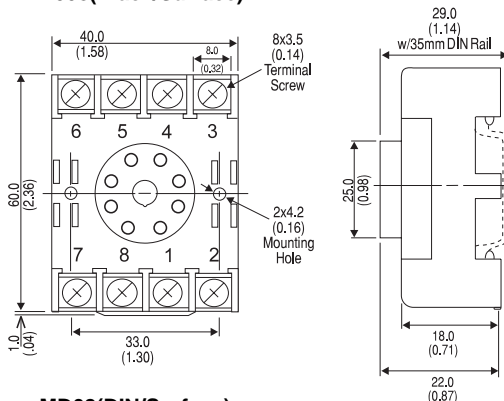
Mark I (Standard)



Mark II (24VDC)



M008(Track/Surface)



MD08(DIN/Surface)

All Prices and Specifications subject to change without notice



PROJETOS - EQUIPAMENTOS - SUPORTE TÉCNICO
RUA ALFREDO PUJOL, 1010 - SANTANA - SÃO PAULO - SP
TEL.: (11) 2950-1834 - FAX: (11) 2979-8980
www.soliton.com.br - e-mail: vendas@soliton.com.br