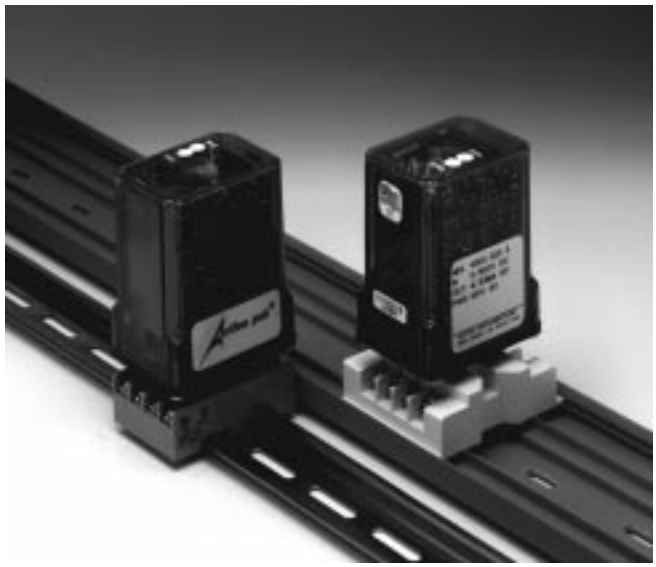
Action Pak®
DC-Input Isolating Signal Conditioner
Model AP4300



Provides a Fully Isolated DC output in Proportion to a DC Input

- **Protects Equipment with 600V Input to Output Isolation**
- **Voltage or Current Input**
- **Eliminates Ground Loops**
- **Easy Plug-in Installation/Low Mean-Time-to-Repair**
- **AC Line Powered (DC Optional)**
- **UL Recognized**
- **CSA Certified**
- **Three-Year Warranty**

APPLICATION

Model AP4300 is useful in eliminating ground loop problems in existing systems, and is a preventive measure in the design of new systems. The DC input/output isolation allows a difference in potential of up to 600V between the input and output ground. This allows the benefits of grounded inputs to be realized, without creating ground loops.

For wide ranging DC isolating signal conditioners offering field configurable input, ouput, ranges and functions refer to Action Instruments' Models AP4380 and AP4390.

OPERATION

The DC input is amplified and filtered before being fed to a comparator. The comparator, in conjunction with a precision-ramp generator, outputs a duty-cycle which in turn drives an optical isolator. The photo-isolator accurately reproduces the duty-cycle and provides an isolated signal. The isolated duty-cycle is then converted back to a DC level proportional to the input. The DC signal is then buffered by an output stage which allows zero and span adjustments. In units having a current output (e.g. 4-20mA) the output is a constant current source, controlled by the output buffer stage. With voltage output units (e.g. 0-10V) the output is taken directly form the discrete driver transistor of the buffer stage. The internal power supplies for the input and output circuitry use independent transformer secondaries to maintain isolation.

OPTIONS

CS Canadian Standards Association Certification (standard power only, consult factory).

U Urethane coating of internal circuitry for protection from corrosive atmospheres

UL UL Recognition.

CALIBRATION

Top-accessed screwdriver adjustments provide typical ±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 at the desired minimum. Span is adjusted for the specified maximum output with the input at the desired maximum. 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

ACTION INSTRUMENTS
...the Industrial I/O Company

Input/Output Ranges

Table 1:AP4300 Standard Inputs

0-10V	4-20mA

Table 2: AP4300 Standard Outputs

0-10V	4-20mA

Table 3: AP4300 Input/Output Limits

Input			
Min. Span Voltage	Min. Span (Current)	Max. Input (Voltage)	Max. Input (Current)
50mV	1mA	250V	1A

Output			
Min. Span Voltage	Min. Span (Current)	Max. Output (Voltage)	Max. Output (Current)
100mV	1mA	10V	50mA

SPECIFICATIONS

Input Impedance
Voltage Input
> 200KΩ
Current Input
10Ω, 200mV shunt (F.S.)

Output Impedance
Voltage Output
< 10Ω
Current Output
> 100kΩ

Accuracy (Including Linearity, Hysteresis, and Repeatability)
±0.1% of span typical

Response Time
100 mSec. typical

Linearity (best straight line and linear input)
±0.05% of span typical

Stability
±0.025%/°C typical

Output Ripple
0.2% of max. span, rms or 2mV whichever is greater
24VDC power, 0.5% of max. span, rms or 5mV whichever is greater

Output Drive
Voltage Output
10mA, max, 1KΩ minimum load
Current Output
15V compliance @ 20mA, 750Ω maximum load

Common Mode Rejection
60 Hz: >120dB
DC: >100dB

Isolation (Input to Output)
600V DC or peak AC

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: 100, 220, 240VAC, (±10%, 50-400Hz)
Optional: 24VDC (±8V, inverter-isolated)

PIN CONNECTIONS

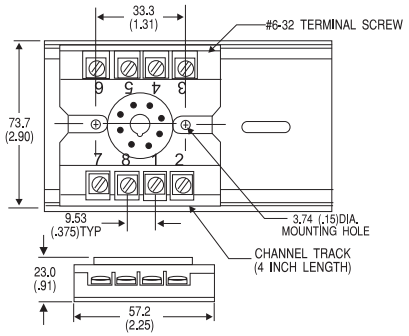
AP4300
1 AC Power (Hot)
2 Shield (Gnd)
3 AC Power (Neu)
4 No Connection
5 Input (+)
6 Input (-)
7 Output (+)
8 Output (-)
DC Power: pin 1= (+); pin3 = (-)

MOUNTING

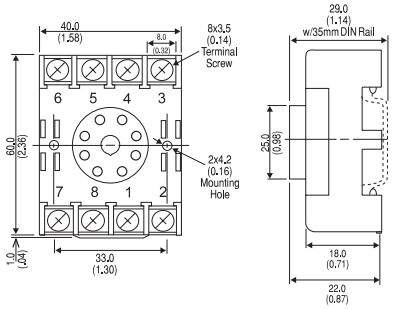
All Action Paks feature plug-in installation using either molded socket (M008) or DIN rail (MD08).

ORDERING INFORMATION

Specify:
1. Model: AP4300
2. Input Range (see tables 1,3)
3. Output Range (see tables 2,3)
4. Options: CS, U, UL (see text)
5. Line Power (see specs)
(All power supplies are trans-former-isolated from the internal circuitry.)



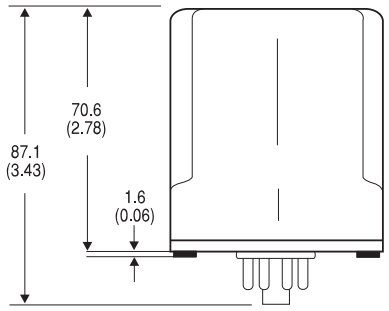
M008 (Track/Surface)



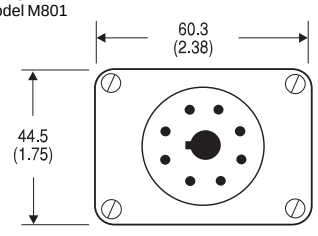
MD08 (DIN)

DIMENSIONS

Dimensions are in Millimeters (Inches)



Retaining Spring
Available: Model M801



All prices and specifications subject to change without notice