

ACTION PAK[®] AP7800 MODEL

Benefits

- Flexible Pulse or Contact Closure Inputs
- Eliminates Ground Loops
- Full-Scale Count Status LED
- Protects Equipment with 600V Input to Output Isolation
- Easily User Selectable Scaling Ranges: 4080 to 4 x 10⁶ counts for F.S. Output
- AC Line Powered
- Three Year Warranty



Pulse Accumulator

Provides a DC Output in Proportion to Accumulated Pulse Input

APPLICATION

Model AP7800 is useful in any application requiring a ramping analog DC output (i.e., 4-20mA) in proportion to pulse input accumulation. The AP7800 provides user-selectable scaling for maximum input pulses from 4,080 to over 4 million counts and includes 600V input to output isolation for noise reduction and ground loop prevention. Typical applications include pulse or dry contact closure conditioning for electric KW meters, turbine flow meters and other process instrumentation calibrated in pulses-per-unit of measure.

OPERATION

The AP7800 prescales input pulses to the desired working range and generates a continuously increasing analog output. Upon reaching the full scale count the AP7800 will latch and inhibit further accumulation. The top-mounted red LED will illuminate to indicate latched status. Resetting the AP7800 accumulator is accomplished via an external contact closure or a TTL "low" signal.

OPTION

U Urethane coating of internal circuitry for protection from corrosive atmospheres.

CALIBRATION

1. Determine maximum number of pulses for full scale output (e.g., 5000).
2. Determine the Scaling Factor:
$$\text{Scaling Factor} = \frac{4,080}{\text{Full-Scale Count}} \quad \text{Scaling Factor} = \frac{4,080}{5,000} = 0.816$$
3. Set the top-mounted prescaler switches to the calculated Scaling Factor.
4. Reset unit (short pins 7 & 8) and adjust zero to the specified minimum output.
5. Connect a pulse source to the input (pins 4 & 5) until the LED glows (latch).
6. Adjust span to the specified maximum output.
7. Repeat steps 4-6 for maximum accuracy.

Note: For faster span calibration, set the prescaler switches to 0.999. After span adjustment, set switches to desired Scale Factor.



*Protecting the
Integrity of
Industrial
Process Signals*

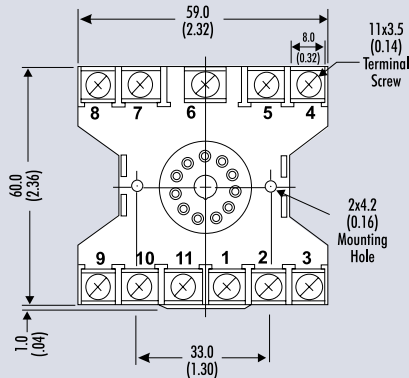


SPECIFICATIONS

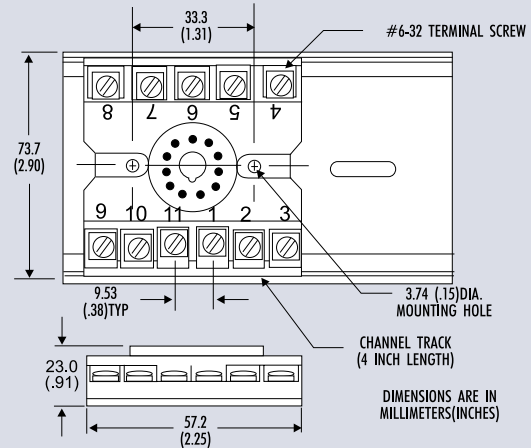
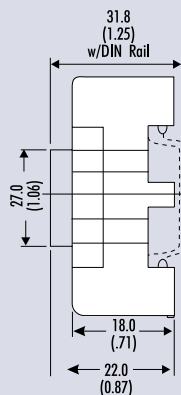
Input Range	Sine wave, square wave or pulse: DC to 100KHz Dry contact closure: DC to 100Hz
Input Amplitude	100V peak, max
Input Impedance	>47K Ω
Scaling Range	Field Adjustable: 0.001 to 0.999
Resolution	4,080 counts (245ppm)
Sensitivity	200mVrms to 5Vrms; sinewave: 0.1Hz to 20KHz
Accuracy (Includes Linearity, Hysteresis and Repeatability)	0.1% of output span, ± 1 count
Stability	0.05% of span/ $^{\circ}$ C
Output Impedance	Voltage Output: < 10 Ω Current Output: > 100K Ω
Output Drive	Voltage Output: 10mA, max (1K Ω , min.@ 10V)

Maximum Output	Current Output: 15V compliance @ 20mA (750 Ω , max) Voltage Output: 10V swing Current Output: 20mA Open Circuit Voltage: 35V, max
Common Mode Rejection	60 Hz: >80dB DC: >100dB
Isolation	600VDC, max
Temperature Range	Operating: 0 to 60 $^{\circ}$ C (32 to 140 $^{\circ}$ F) Storage: -20 to 85 $^{\circ}$ C (-4 to 185 $^{\circ}$ F)
Power	Consumption: 3W typical, 5W max Standard: 120VAC ($\pm 10\%$, 50-400Hz) Available: 240VAC ($\pm 10\%$, 50-400Hz)
Weight	0.62lbs

DIMENSIONS *Dimensions are in mm (inches)*



MD11 (DIN/Surface)



M011 (Track/Surface)

SENSITIVITY

The top-accessed sensitivity adjustment allows the minimum sensitivity to be adjusted from 200mVrms (fully clockwise) to 5Vrms (fully counterclockwise) for optimum noise rejection.

PRODUCT ASSISTANCE

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

800-783-6664

MODELS & ACCESSORIES

Mounting

All Action Paks feature plug-in installation. Model AP7800 uses an 11-pin base using either molded socket M011 or DIN rail MD11 mounting sockets.

Table 1: AP7800 Standard Outputs

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

Table 2: AP7800 Output Limits

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

Ordering Information

Specify:

- Model: **AP7800**
 - Output Range (see Tables 1,2)
 - Option: U (see text)
 - Line Power (see specs)
 - Optional Factory Calibration (C620): specify input range, output range and power.
- (All power supplies are transformer-isolated from the internal circuitry.)

Showing the AP7800 prescaler switches positioned for a .715 scaling factor.

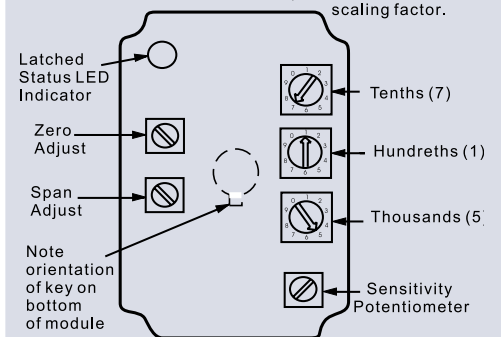


Figure 1: Top View Diagram

Pin Connections

1 AC Power (Hot)	7 Reset (+)
2 Shield (Gnd)	8 Reset (-)
3 AC Power (Neu)	9 Output (+)
4 Input (+)	10 Output (-)
5 Input (-)	11 No Connection
6 Debounce: connect to pin (4) for contact input	

Note: For contact closure reset, short pins (7) & (8)