



INTERFACE SERIES

Installation & Operation Instructions
ATP-R

Phone: 1-888-967-5224
Website: workaci.com

GENERAL INFORMATION

The ATP-R converts an analog signal into a digital pulse output signal. The user can select eight standard analog input ranges to the ATP by changing jumper shunt positions. To select the output pulse range, the ATP has an eight position DIP switch. The output pulse is continuous with a one second off time between pulses.

MOUNTING INSTRUCTIONS

The interface device can be mounted in any position. If circuit board slides out of snap track, a non-conductive "stop" may be required. Use only fingers to remove board from snap track. Slide out of snap track or push up against side of snap track and lift that side of the circuit board to remove. **Do not flex board or use tools.**

WIRING INSTRUCTIONS

PRECAUTIONS

- **Remove power before wiring. Never connect or disconnect wiring with power applied.**
- **When using a shielded cable, ground the shield only at the controller end. Grounding both ends can cause a ground loop.**
- **It is recommended you use an isolated UL-listed class 2 transformer when powering the unit with 24 VAC. Failure to wire the devices with the correct polarity when sharing transformers may result in damage to any device powered by the shared transformer.**
- **If the 24 VDC or 24VAC power is shared with devices that have coils such as relays, solenoids, or other inductors, each coil must have an MOV, DC/AC Transorb, Transient Voltage Suppressor (ACI Part: 142583), or diode placed across the coil or inductor. The cathode, or banded side of the DC Transorb or diode, connects to the positive side of the power supply. Without these snubbers, coils produce very large voltage spikes when de-energizing that can cause malfunction or destruction of electronic circuits.**
- **All wiring must comply with all local and National Electric Codes.**

FIGURE 1: DIMENSIONS

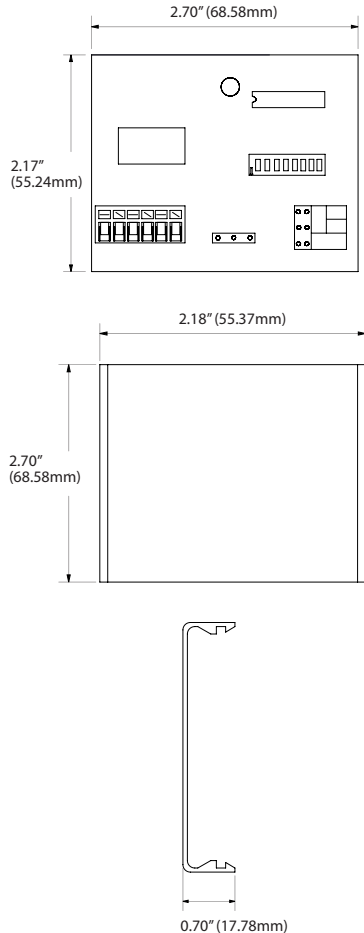
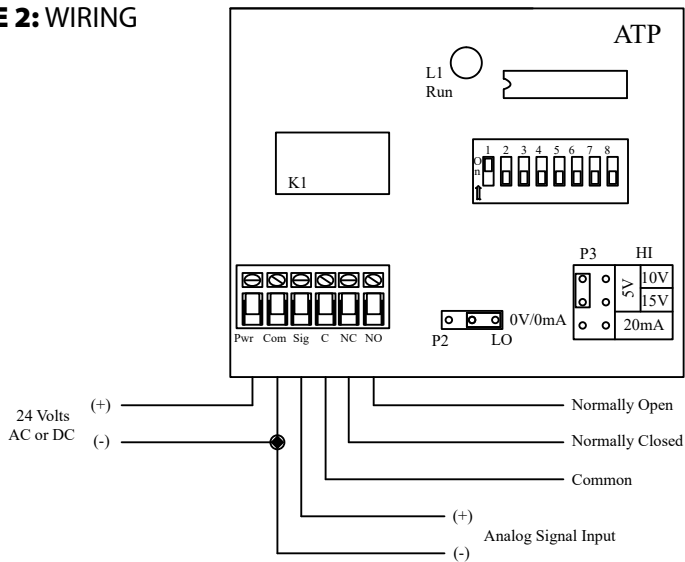


FIGURE 2: WIRING



ATP Pulse Timing

The ATP converts an analog signal into a digital pulse output signal. The range of the analog input signal is selectable by the positions of the jumper shunts P2 and P3 (see **Table 1**).

Pulse timing consists of an “ON” pulse and an “OFF” interval. “OFF” interval is 1 second on standard and custom ranges.

The standard ranges for Version 1 or 2 are selected by dip switch 1 “ON” and proper settings of switches 2 and 3, allows for four different output timing ranges. Switches 4 through 8 are not active when switch 1 is on. Version 2 operates the same as Version 1 except when the input falls at or below 10% of the input signal range, no pulse output occurs, allowing for “OFF” setting of electric heat Solid State Relays (SSR’s).

TABLE 1: JUMPER SHUNTS

Analog Input	P2 (Offset)	P3 (Maximum)
0 - 5V		
0 - 10V		
0 - 15V		
0 - 20mA		
1 - 5V		
2 - 10V		
3 - 15V		
4 - 20mA		

TABLE 2: ATP PULSE TIMING

Input Signal									Standard Output Range			
0-5V	1-5V	0-10V	2-10V	0-15V	3-15V	0-20mA	4-20mA	Steps	Dip:1,3 20ms/Step ON	Dip:1 23ms/Step ON	Dip:1,2 100ms/Step ON	Dip:1,2,3 9ms/Step ON
0	1	0	2	0	3	0	4	0	0	0	0.1	0.59
1.25	2	2.5	4	3.75	6	5	8	64	1.3	1.5	6.5	1.18
2.5	3	5	6	7.5	9	10	12	128	2.5	3	12.8	1.76
3.75	4	7.5	8	11.25	12	15	16	191	3.8	4.5	19.2	2.35
5	5	10	10	15	15	20	20	255	5	6	25.5	2.93
No pulse is output when Version 2 input falls at or below 10% of the input signal range.								A/D converter	Johnson	Solidyne	Andover	Novar

The custom mode (refer to **Table 3**) allows for 128 pulse timing ranges. The custom mode, selected by dip switch 1 “OFF”, allows switches 2 through 8 to select “ON” pulse timing ranges. These “ON” times are cumulative and multiple switches can be selected.

Example: 0-10V signal input to an output pulse range of 150 milliseconds (ms) to 38.4 seconds.

1. To obtain a starting pulse signal of 150ms, turn switches 2 & 3 ON, all others OFF (dipswitch 2 on = 50ms at 0 volts, and dipswitch 3 on = 100ms at 0 volts).
2. By looking at the bottom chart note that at 10 volts input signal, the values for switches 2 & 3 “ON” are 12.8 and 25.6 seconds respectively, totaling 38.4 seconds.

The output range selected is now 150ms to 38.4 seconds.

All times on the charts are shown in seconds (or portion of) with a maximum 6.4 seconds. A pulsing “RUN” LED on the ATP indicates a pulse width signal output.

TABLE 3: ATP PULSE TIMING (CUSTOM)

Input Signal								
0-5V	1-5V	0-10V	2-10V	0-15V	3-15V	0-20mA	4-20mA	Steps
0	1	0	2	0	3	0	4	0
1.25	2	2.5	4	3.75	6	5	8	64
2.5	3	5	6	7.5	9	10	12	128
3.75	4	7.5	8	11.25	12	15	16	191
5	5	10	10	15	15	20	20	255

Custom Output Range (DIP Switch Values if ON)							
Dip:2 50ms/Step ON	Dip:3 100ms/Step ON	Dip:4 200ms/Step ON	Dip:5 400ms/Step ON	Dip:6 800ms/Step ON	Dip:7 1.6s/Step ON	Dip:8 3.2s/Step ON	Dip:2-8 6.35s/Step ON
0.05	0.1	0.2	0.4	0.8	1.6	3.2	6.4
3.3	6.5	13	26	52	104	208	413
6.5	12.9	25.8	52	103	206	413	819
9.6	19.2	38.4	77	154	307	614	1219
12.8	25.6	51.2	102	205	410	819	1626

PRODUCT SPECIFICATIONS

NON-SPECIFIC INFORMATION	
Supply Voltage:	24 VAC or 24VDC, (+/- 10%), 50/60 Hz
Supply Current:	50 mA maximum
Input Voltage Signal Range (@ Impedance):	0-5 VDC, 0-10 VDC, 0-15 VDC, 1-5 VDC, 2-10 VDC, 3-15 VDC @ 1,000,000Ω
Input Current Signal Range (@ Impedance):	0-20 mA, 4-20 mA @ 250Ω
Output Pulse Timing Ranges (Standard Mode):	Solidyne™ (0.023-6s) Andover™ (0.1-25.5s) Johnson™ (0.02-5s) Novar™ (0.59-2.93s)
Output Pulse Timing Ranges (Custom Mode):	Allows for 128 pulse timing ranges
Output Digital Type, Relay Version (ATP-R, ATP-Y):	Form "C" Relay
Relay Contact Rating:	2A @ 24 VAC or 24 VDC
Relay Electrical Life:	100,000 operations @ 1A, 24 VDC
Relay Mechanical Life:	10,000,000 operations
Output Digital Type, Triac Version (ATP-Y):	3A @ 24 VAC only (22-28V)
Connections:	90° Pluggable Screw Terminal Blocks
Wire Size:	16 (1.31 mm²) to 26 AWG (0.129 mm²)
Terminal Block Torque Rating:	0.5 Nm (Minimum); 0.6 Nm (Maximum)
Operating Temperature Range:	35 to 120°F (1.7 to 48.9°C)
Operating Humidity Range:	10 to 95% non-condensing
Storage Temperature:	-20 to 150°F (-28.9 to 65.5°C)

WARRANTY

The ACI ATP Series is covered by ACI's Two (2) Year Limited Warranty, which is located in the front of ACI'S SENSORS & TRANSMITTERS CATALOG or can be found on ACI's website: www.workaci.com.

W.E.E.E. DIRECTIVE

At the end of their useful life the packaging and product should be disposed of via a suitable recycling centre. Do not dispose of with household waste. Do not burn.

