

## AFP

## Analog to Floating Point

The AFP allows an analog (voltage or current) signal to control a floating point actuator. It converts an analog signal into two relay contact outputs (one increase/one decrease). The isolated floating point output can be controlled by any one of nine analog input signal ranges (using an offset jumper). Upon power-up, the decrease relay will drive $100 \%$ of the chosen timing range to ensure that the output is at its minimum position. On a loss of power, the output relays will be open and no signal will be generated. The actuator will remain at the last commanded position unless it has "spring return". The AFP output rate of change (sixteen ranges, in eight versions) is DIP switch selectable. In Version 2, upon power-up, the decrease relay will drive $200 \%$ of the chosen timing range to ensure that the output is at its minimum position. At 2 to $5 \%$ or below and 95 to $98 \%$ or higher of the input signal, the up or down contact will drive for an additional $100 \%$ of the chosen timing range. This assures that the control signal and actuator are in synchronization. In Version 4, the relays stay on at minimum and maximum voltage. In Version 5, the AFP relays stays on with 5\% of maximum or minimum input voltage. There is no overshoot on maximum or minimum input voltage. In Version 7, upon power-up, the increase relay will drive $105 \%$ of the chosen timing range to ensure that the output is at its maximum.

Applications: Electric Actuator Control

The AFP is covered by ACI's Two (2) Year Limited Warranty. The warranty can be found in the front of ACI's Sensors \& Transmitters catalog, as well as on ACl's website, www.workaci.com.

## PRODUCT SPECIFICATIONS

| Supply Voltage: | 24 VAC or 24 VDC, (+/- 10\%), 50/60 Hz |
| :---: | :---: |
| Supply Current: | 105 mA maximum without 24 VDC auxiliary output |
|  | 190 mA maximum with 24 VDC auxiliary output |
| Input Voltage Signal Range: | 0-5 VDC, 0-10 VDC, 0-15 VDC |
| Input Current Signal Range: | 0-20 mA |
| Analog Voltage Signal Input Range with Offset Jumper: | 1-5 VDC, 2-10 VDC, 3-15 VDC |
| Analog Current Signal Input Range with Offset Jumper: | 4-20 mA |
| Input Impedances (Nominal): | Voltage @ 10,000 Nominal / Current @ $250 \Omega$ nominal |
| Output (Floating Point): | Two relay contact outputs (Increase / Decrease) |
| Relay Contact Rating: | Dry Contact, Form C, 2A maximum @ 24 VDC |
| Relay Electrical Life: | 100,000 operations minimum |
| Relay Mechanical Life: | 1,000,000 operation |
| Connections: | $90^{\circ}$ 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 $120^{\circ} \mathrm{F}\left(1.7\right.$ to $\left.48.9^{\circ} \mathrm{C}\right)$ |
| Operating Humidity Range: | 10 to 95\% non-condensing |
| Storage Temperature: | -20 to $150^{\circ} \mathrm{F}$ (-28.9 to $65.5^{\circ} \mathrm{C}$ ) |
| Snaptrack Material: | Polyvinyl Chloride (PVC) |
| Snaptrack Flammability Rating: | UL94 V-0 |
| Product Dimensions: | (L) $4.00^{\prime \prime}(\mathrm{W}) 3.25^{\prime \prime}(\mathrm{H}) 1.15^{\prime \prime}(101.6 \times 82.55 \times 29.21 \mathrm{~mm})$ |
| Product Weight: | 0.325 lbs . ( 0.147 Kg ) |
| Agency Approvals: | RoHS2, WEEE |

DIMENSIONAL DRAWING


| STANDARD ORDERING |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Model \# | Item \# | Firmware Version \# | Rate of Change* |  |
| AFP | 106317 | AFP_0101.hex | 30,60,90s | ---- |
| AFP VERSION \#2 | 105626 | AFP_0201.hex | 120, 150, or 180s | Drives actuator down 200\% of range (power reapplied) At 2-5\% or below \& 95-98\% or higher (input signal), the up or down contact will drive an additional $100 \%$ of chosen timing range |
| AFP VERSION \#3 | 129865 | AFP_0301.hex | 14, 16.5, or 19s | ---- |
| AFP VERSION \#4 | 112382 | AFP_0401.hex | 30,60 or 90s | Relay stays on at Min. \& Max. voltage |
| AFP VERSION \#5 | 128283 | AFP_0501.hex | 90, 135 or 180s | Relay stays on with 5\% of Max. or Min. input voltage. No overshoot on Max. or Min. input voltage |
| AFP VERSION \#6 | 130469 | AFP_0601.hex | 18,75 or 360 s | ----- |
| AFP VERSION \#7 | 144859 | AFP_0701.hex | 30,60 or 90s | Drives actuator up 105\% of range (power reapplied) |
| AFP VERSION \#8 | 144604 | AFP_0801.hex | 46,240 or 600s | ---- |

Note*: Rates of Change unit of measurement = seconds

| ACCESSORIES |  |  | A/DO008 ${ }^{\text {- OR- }} 142583$ |
| :---: | :---: | :---: | :---: |
| Model \# | Item \# | Description |  |
| A/D0008 | 142583 | Transient Voltage Suppressor, Bi-directional, 56 VAC/DC, 1500W |  |
| A/DRC 3.88 X 3.25 | 142621 | DIN Rail Adapter Kit |  |

