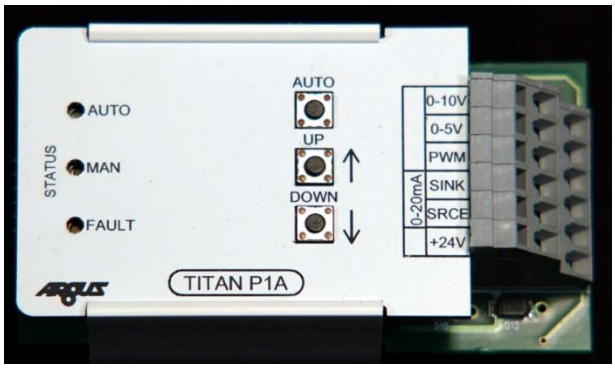
P1A Proportional Output Module

The P1A Proportional Output module produces a single proportional output signal that is selectable between:

- *Current*
- *Voltage*
- *Frequency*
- *PWM (pulse-width-modulation)*

Applications



The P1A can be used to provide high-resolution modulating control for a wide variety of equipment including variable speed pumps and fans, as well as analog current controlled valves and damper actuators.

Up to four P1A modules can be operated from a single Titan I/O module. The style of output is configured through the Titan System software and the selection of output terminals used to connect the field wiring.

Alternatives

Argus provides a range of relay boards for modulating and digital equipment control. Contact Argus for details.

Features

- **Automatic Button -** Switches the P1A to Automatic operation and uses the value sent from the Titan Controller through the I/O Module to generate the output signal.
- **Automatic LED -** Blinks when the P1A module is being controlled by the Titan control system.
- **Up/Down Buttons -** Switches to manual operation. Desired amount can be increased or decreased in by depressing the buttons: < 0.5 seconds (=1%) or > 0.5 seconds (=10%) increments.
- **Manual LED -** If manual control is locked out by settings in the Titan Controller, the Manual LED will flash rapidly 6 times whenever the Up or Down buttons are pressed.
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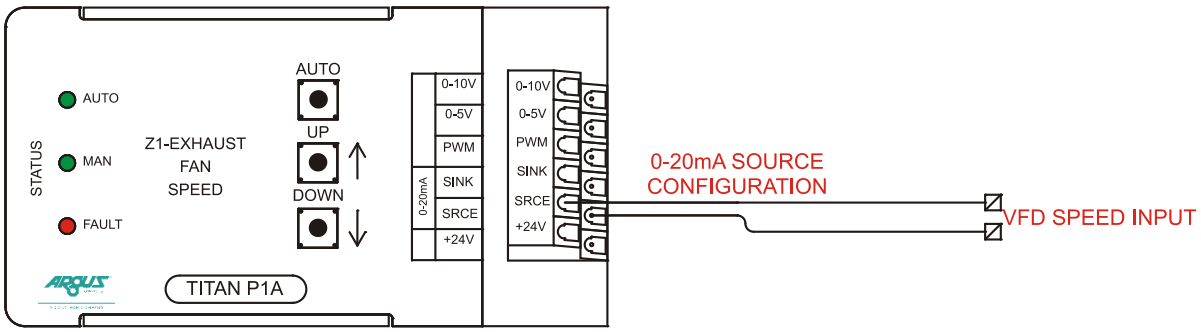
- **Output Fault Detection LED -** The P1A module performs an independent measurement of the generated output signal to verify proper operation. The red colored Output Fault LED blinks when there are problems with the setup or operation of the P1A module.

Specifications

Dimensions	4”X2”X1.5” (Length x Width x Height)
Current Mode	The current output produces values from 0 to 20mA with 12-bit (1 part in 4096, which is approximately 5uA) resolution. Typically, the output start will be set to 4mA to produce the industry standard 4 to 20mA range. Output terminals are provided to allow both sinking and sourcing of the current. Sinking is used when power for the current loop is provided externally. When sourcing current, the P1 provides 24 Volts of isolated DC power to the current loop.
Voltage Outputs	0 - 5V: 12-bit resolution: 1.22mV; 6mA current output 0 - 10V: 12-bit resolution: 2.44mV; 10mA current output Caution: *Applying external voltages to these outputs may permanently blow the 500mA fuse.*
Frequency	The Frequency Output generates a 50% duty cycle signal using one of four selectable ranges: (0 to 65535 Hz), (0.0 to 6553.5Hz), (0.00 to 655.35Hz), (0.000 to 65.535Hz)
PWM	Pulse Voltage: Shorted: 0 VDC; Open: 5 VDC The Pulse Width Modulation Output generates pulses to 0.001 second resolution using modulation periods from 0.01 to 655.35 Seconds with 0.01 second resolution. There are two polarities of PWM; positive and negative. When positive is selected for 25% PWM, the output will be active (shorted) for 25% of the modulation period and inactive (open) for the remaining 75%. When negative is selected the output will be inactive (open) for 25% of the modulation period and active (shorted) for the remaining 75%.

Wiring Details



Typical Wiring Example
For installation, refer to the custom wiring diagrams supplied with each part.

Additional Information

For more information, please contact Argus.

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