PWM Input to Voltage Output Transducer

Model : PWM-1

Descriptions

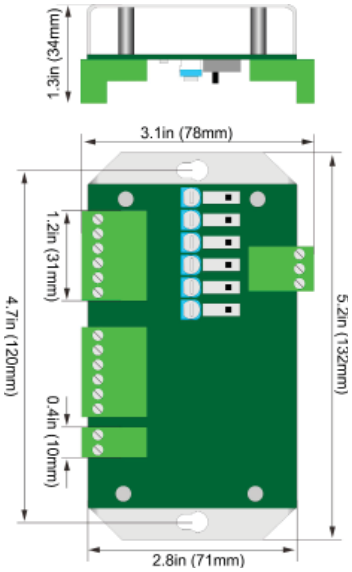
The PWM-1 is a simple to use device that converts a pulsed signal into a voltage. The device will output a modulated voltage proportional to the pulse duration. Precision of the output voltage is up to one-tenth of a volt.

This device can be equipped with a RS-485 serial communication line using Modbus protocol. It has a manual override switch option that allows the voltage output to be adjusted by potentiometers. It is also equipped with a self-programmable chip which allows the unit's firmware to be updated at any time.

Features

Highlights:

- 6 Input channels
- 6 output channels
- Output Selected Manual/OFF/PWM
- Communication RS-485 using Modbus protocol
- Input to Output Signal Isolated
- Input Edge Triggered Activated



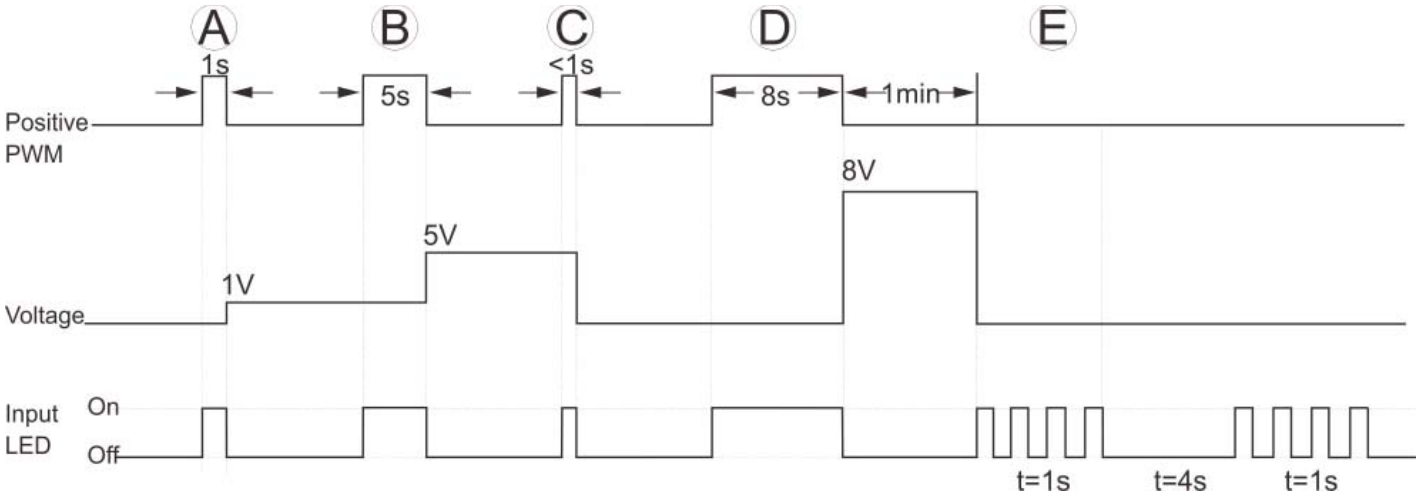
Applications:

- Pulse to Analog Transducer
- Interface to Electric Actuator
- Drive Variable Speed Pump Control
- Drive Variable Frequency Fan Control
- Dial potentiometer for manual override of output

Specifications

Power (Voltage) / Max Power	15-24V AC/DC / 2W
Operating Temperature	32 to 120°F (0 to 49°C)
Storage Temperature	-20 to 150°F (-29 to 65°C)
Operating Humidity	0% to 95% non-condensing
Accuracy	±0.1V
Status Indicators	Red LED - variable intensity to indicate output voltage, dim light indicates 1V and bright light indicates10V. Input LED provides direct status of PWM signal.
Input Specifications	Maximum input voltage is 24V AC/DC. Unit accepts positive or negative AC or DC signal, with a 50-60Hz frequency range. PWM integrator slow rate is at 1V/sec i.e. 10 seconds for 10V. Refresh must be once per 60 seconds otherwise output will failsafe to 0V and input LED for the channel will flash 4 times per second as a fault indicator. If PWM signal is less than 1 second, output is set to 0V.

Input Specifications



A) A 1 second input pulse produces a 1 volt output voltage at the end of the input pulse. The input LED is on for the duration of the input pulse (1 second).

B) A 5 second input pulse results in a 5 volt output voltage with the input LED on during the 5 second input pulse.

C) An input pulse less than 1 second produces an output voltage of 0 volts. The input LED correlates to the input signal.

D) Output voltage changes to 8 volts at the end of an 8 second input pulse. The input LED remains on for the 8 second pulse.

E) After a period of 60 seconds with no input pulse the output voltage faults to 0 volts and the input LED begins a fault cycle of 4 pulses per second followed by 4 second off period. This 5 second fault cycle will repeat until an input signal occurs.

Wiring Diagram

Follow the PWM-1 wiring diagram below.

There are six output channels which can be selected by the switch : hand/ off/ auto. When the switch is at hand, the corresponding output can be adjusted by potentiometer, and the output range is 0-10V. When the switch is at off, the corresponding output is 0V. When the switch is at auto, the output is decided by the corresponding input from the PWM duty cycle.

There are six binary input channels, and the input voltage types are 5VDC, 10VDC, and 24VAC. No jumper is required, the unit will auto detect the signal type.

Analog Output/ Switch	Hand	Adjusted by potentiometer, and the output range is 0-10V
	Off	The corresponding output is 0V
	Auto	The output is decided by the corresponding input from the PWM duty cycle
Binary Input	Voltage supports 0-5VDC, 0-10VDC, and 0-24VAC	

PWM-1

Wiring diagram