

# EZIO™ P/N type Pulse Width/Pulse Train Module

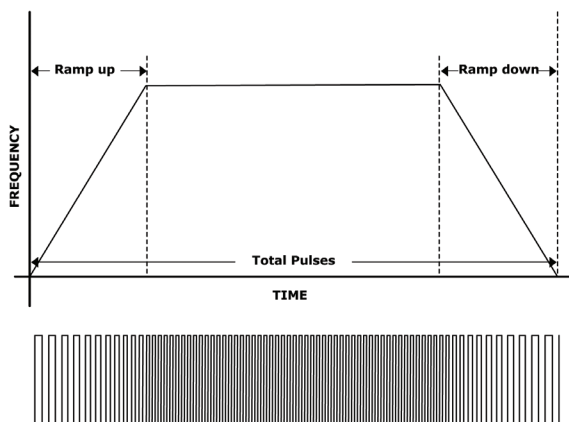
The EZIO-PM module is an intelligent module for use with the EZSeries PLCs and provide either Pulse Train Output (PTO) or Pulse Width Modulator (PWM) outputs. The module offers 2 channels of outputs. Each channel can be independently programmed to be either PTO or PWM. “P” type or sourcing outputs are provided for EZIO-PM-P model and Differential outputs are provided for EZIO-PM-D model. Please note that the “D” differential model has only one output.



**EZIO-PM-P**  
**EZIO-PM-N**  
Screw-down

## Pulse train Output (PTO) Function

In PTO mode, user specifies Ramp-up and Ramp-down time, total number of pulses to output (includes those generated during ramp up and down), and the frequency at run time. The module generates a pulse train output that ramps up from a minimum frequency (approx 40 Hz) to the user programmed maximum frequency within the ramp-up time. The module would ramp down at such a time so that the total number of pulses generated equals programmed number of pulses. In addition to the PTO output, the module provides a user controlled Direction output for each channel.



**Pulse Train Output**

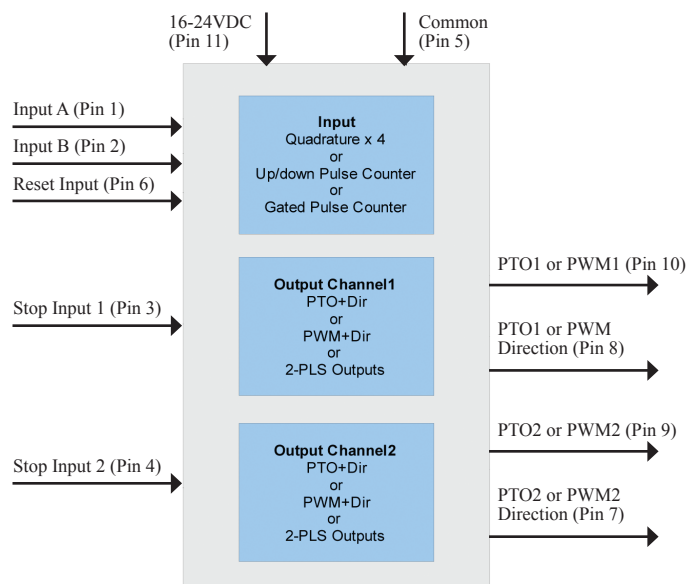
## Quadrature Encoder Input

The module also accepts a quadrature input upto a frequency of 100KHz. the count can be multiplied by 2 or 4.  $2^{32}$  number of counts are allowed. The module allows internal start or stop functions for PTO or PWM function based upon count value.

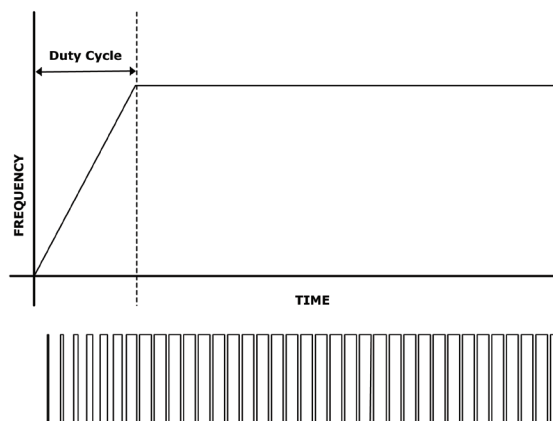
## Pulse Width Modulation (PWM) Function

In PWM mode, the module generates a Pulse output with varying duty cycle. The Ramp-up time, frequency and duty cycle is specified by the user, and the module generates a pulse outputs waveform with the specified parameters. The duty cycle goes from 0 to the programmed value within the ramp up time. User also has control over Direction output for each channel.

## Functional Block Diagram



\* Differential output module has only one output  
\* Outputs use ET1727 10-30V output chips with 20mA drive and short circuit protection  
\* Pins 10 & 8 become positive and Pins 9 & 7 become negative terminals in case of differential outputs.



**Pulse Width Modulation**

For complete details and specifications of this module log on to <http://www.ezautomation.net/pwm>