

MODEL PULSED RIVER™

FOR TACHOMETER SIGNALS

ICP® PREAMPLIFIER / DIVIDER

- Simplifies the connection of tachometers to data acquisition systems
- Offers versatility with versions available for both magnetic and optical tachometer pickups
- Eliminates need to oversample all channels due to high frequency tach signal
- Simplifies cable management for dynamic testing of rotating equipment

The PulseDriver™ conditions a voltage pulsetrain from a magnetic pickup or similar sensor for input to standard ICP sensor signal conditioners. In addition, PulseDriver includes an adjustable divider circuit to compensate for 'N per revolution' pulse patterns. Rather than boosting data acquisition sample rates to accommodate the high frequency content of these high frequency pulse patterns (thus losing spectral resolution in the important vibration frequency range), test engineers can divide the pulse train down to a square wave with a fundamental frequency equal to the shaft speed. Front-panel rotary switches adjust the divide frequency of the unit by up to 255.

Standard BNC input and output connectors connect the PulseDriver to a tachometer pickup and ICP sensor signal conditioner. Either stand-alone ICP sensor signal conditioners from PCB Piezotronics or embedded signal conditioning common to most data acquisition front ends may be used to power a PulseDriver preamplifier. This allows test engineers to acquire tachometer or speed sensor data using the same signal conditioning system used for vibration and acoustic data, simplifying their test setup and equipment configuration.

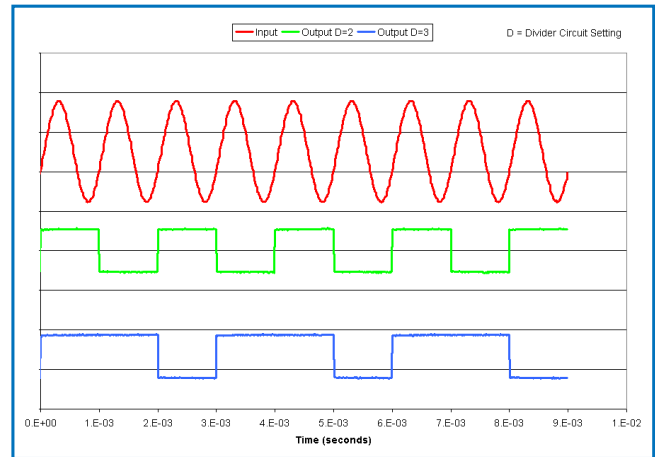
SPECIFICATIONS	
Performance	
Frequency Response	0.1 to 20k input pulses / second
Input Signal Detection Threshold	0.125 Vpk
Divider Circuit Range	1 to 255
Output Signal (Square Wave Approximation)	1 Vpp
Oscillator Output Amplitude	500 mVpk
Physical	
Operating Temperature Range	32 °F–176 °F (0 °C–80 °C)
Storage Temperature Range	32 °F–176 °F (0 °C–80 °C)
Excitation Voltage	18 VDC-30 VDC
Constant Current Excitation	2 mA-20 mA
Input Impedance	1100 kΩ @ 0 Hz, 100 kΩ @ 100 Hz
Max Input Voltage	20 Vpk
Dimensions (H x W x D)	1.18 in x 3.67 in x 1.33 in (30.0 mm x 93.2 mm x 33.8 mm)
Weight	5.8 oz (165 gm)
Input Connector	BNC jack
Output Connector	BNC plug

Multiple Pulse Compensation

The PulseDriver outputs a ± 1.5 V square wave pulse. If 1 pulse per shaft revolution is required, the divider settings on the front panel can be set to the number of input pulses per revolution.

For example, for a measurement made on a 60 tooth gear, setting the divider to 60 will result in 1 pulse per rev to the data acquisition system.

Example waveforms are shown below.



System Schematic

PulseDriver conditioners are designed to connect directly to ICP® sensor signal conditioners such as the standalone units offered by PCB Piezotronics, or the constant current supply circuitry built-in to common DSA's (Digital Signal Analyzers).

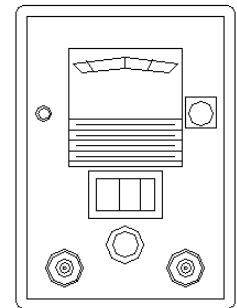


Tachometer / Speed Sensor

Coax Cable



PulseDriver Conditioner



ICP Sensor Signal Conditioner