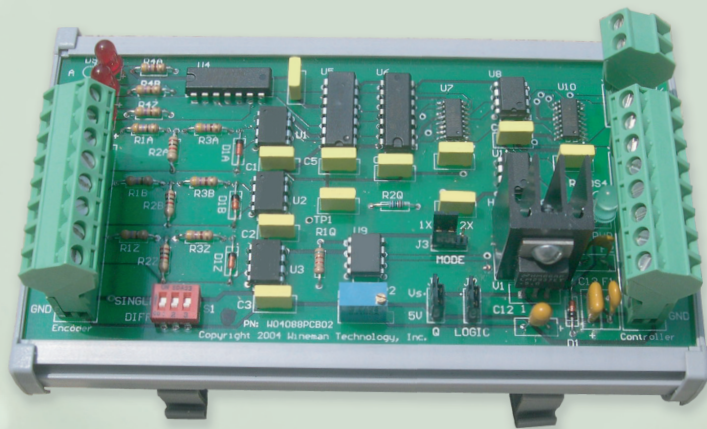


Signal Conditioner

Optical Isolator, Anti-Dither, Quadrature Encoder

WTI Encoder Signal Conditioner

The Wineman Technology, Inc. Optical Isolator, Anti-Dither, Quadrature Encoder module is a versatile device that provides a variety of features. The module optically isolates signals between the encoder and the controller or other input devices. Additionally, the module incorporates anti-dither circuitry that prevents vibrations from interfering with controller circuitry. Finally, the module performs quadrature conversion permitting the A and B encoder outputs to be converted to Clock and Up/Down direction control signals.



Features and Capabilities

- DIN rail mountable
- Removable plugs allow for easier wiring
- Optical isolation of input and output signals
- Several installed safety features protect internal circuitry
- Ability to power an encoder with an available +5VDC power output
- Anti-dither circuitry prevents false counts due to mechanical vibration
- Presence of encoder input signals quickly determined via installed LED Indicators
- Easily select between differential or single ended inputs via dip switches
- Wide range of quadrature clock signal pulse widths available
- Easily select signal out voltage levels of 5 VDC or Vs via jumpers
- Easily select between 1X, 2X, or 4X resolutions via a single jumper

Typical Uses:

- Encoders used in a measurement environment
- Encoder isolation and signal conditioning
- Quadrature clock decode
- Anti-Dither prevention



WTI ENCODER SIGNAL CONDITIONER SPECIFICATIONS

Part Number

WTI Encoder Signal Conditioner	W04088PCB02
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Power Specifications

Input Power Requirements	5-24 VDC Supply
Maximum Total Current Draw	< 500 mA
Nominal Current Draw of Board (when not powering an encoder)	100 mA
Encoder Output Supply Voltage	5 VDC
Maximum Allowable Current Draw of an Encoder	300 mA

Signal Outputs

Signal Output from Encoder	Dual Channel in quadrature (A, B), index (Z), and dual channel quadrature and index compliments
Signal Output Type from Encoder	Differential line driver or single ended line driver Hardware selectable
Signal Output Voltage from Encoder	5 VDC (TTL and RS422)
Signal Outputs from Board	Dual channel in quadrature (A,B), index (Z), dual channel quadrature and index compliments (A',B',Z'), quadrature clock (CLK), and direction(UP/DN)
Signal Output Voltage Levels from Board	5 VDC or Vs Hardware selectable for the dual channel quadrature, index and compliment outputs (A,B,Z,A',B',Z') via jumper J2 Hardware selectable for the CLK and UP/DN outputs via jumper J1

Characteristics

Maximum Frequency Response	1 MHz
Pulse Width Range of Quadrature Clock Output	100 ns to 30 μ s; Hardware adjustable via potentiometer P1
Quadrature Clock Rate	Quadrature clock can be 1X, 2X or 4X Hardware selectable

Safe Guards

Board Protection Circuitry	<ol style="list-style-type: none">1. Supply lines protected against reverse voltage connections and over-voltages up to 72 V.2. Supply lines also protected against over-current draw above 500 mA.3. All board outputs are protected against electrostatic discharge (ESD) and over-voltage conditions up to 30V.
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