

ENCY MANUAL

ENCODER SPLITTER/RE-DRIVER

V1.2

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Table of Contents

GENERAL	1
DESCRIPTION	1
CONNECTORS	2
CONNECTOR AND SIGNAL LOCATIONS	2
INPUT CONNECTOR	3
OUTPUT CONNECTOR	3
OPERATION	
INPUT MODE	4
POWER	4
MONITOR LEADS	4
OUTPUTS	4
SPECIFICATIONS	6

GENERAL

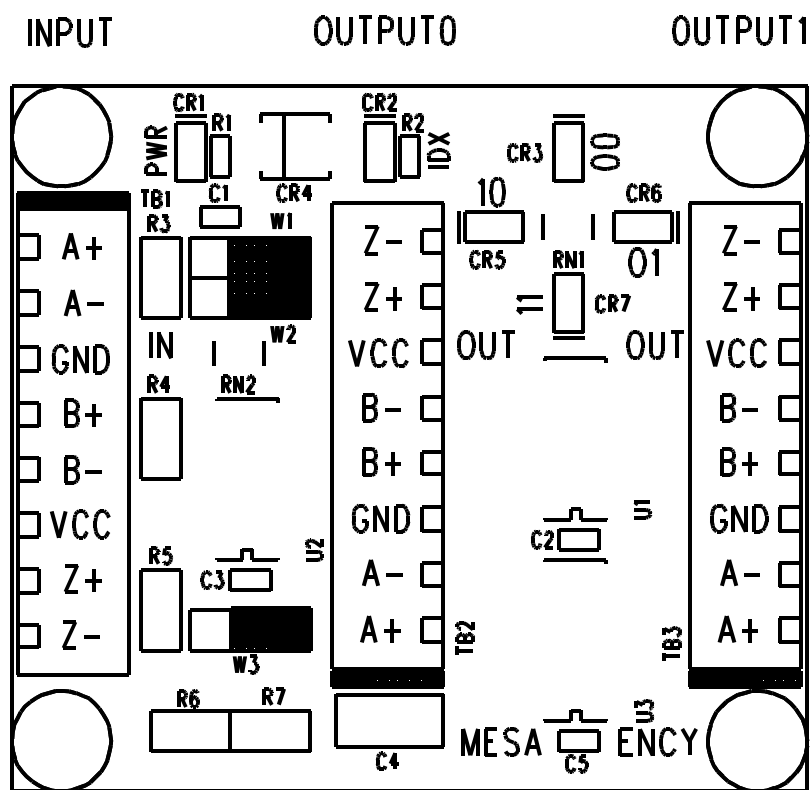
DESCRIPTION

The ENCY is a quadrature encoder signal splitter that allows tapping onto encoder signals without compromising signal integrity.

The ENCY can also be used as a re-driver. The ENCY has a single encoder input connector which will accept TTL or differential inputs, and two sets of differential encoder outputs. Status LEDs are provided for power, index and quadrature state. The quadrature state LEDs also provide a simple visual way to test quadrature connections.

CONNECTORS

CONNECTOR AND SIGNAL LOCATIONS



CONNECTORS

INPUT CONNECTOR

8 pin 3.5 MM terminal block TB1 is used for the ENCY's encoder input connections.

PIN	FUNCTION	DIRECTION
1	A+	IN
2	A-	IN
3	GND	IN/OUT POWER
4	B+	IN
5	B-	IN
6	VCC	IN/OUT POWER
7	Z+	IN
8	Z-	IN

OUTPUT CONNECTORS

8 pin 3.5 MM terminal blocks TB2 and TB3 are used for the ENCY's encoder output connections.

PIN	FUNCTION	DIRECTION
1	A+	OUT
2	A-	OUT
3	GND	IN/OUT POWER
4	B+	OUT
5	B-	OUT
6	VCC	IN/OUT POWER
7	Z+	OUT
8	Z-	OUT

OPERATION

INPUT MODE

The encoder input (TB1) can be jumpered for TTL or differential mode encoders. Jumpers W1, W2, and W3 select the input mode. When the jumpers are in the right hand position, differential input mode is chosen. When in the left hand position, TTL input mode is chosen. When TTL input mode is used, only the A+, B+, Z+ inputs are connected. The A-, B-, Z- inputs must be left open.

POWER

The ENCY requires ~20 mA of 5V power for operation with no external loads. External loads / termination on the outputs will increase this power requirement. This is can be supplied on the VCC and GND pins of any terminal block. The ENCY has a reverse polarity protection diode. The ENCY can be powered from 3.3V if differential signaling is used.

MONITOR LEDES

Monitor LEDs are provided on the power (yellow), index (blue) and quadrature state. (4 green LEDs) The quadrature state display can be used to verify at a glance if all quadrature states are present when turning.

OUTPUTS

The ENCY outputs 2 sets of differential encoder signals. If single ended outputs are required you can simply chose the output of the pair with the desired polarity. Unloaded outputs have full rail-rail voltage swings so can interface with TTL or CMOS level interfaces.

SPECIFICATIONS

	MIN	MAX	UNITS
POWER SUPPLY	3V	5.5	VDC
POWER CONSUMPTION (No external loads)	---	30	mA
DIFFERENTIAL TERMINATION (from A+ to A-, B+ to B-, Z+ to Z-)	118	122	Ohms
TTL INPUT THRESHOLD (5V power only)	1.45V	1.85	Volts
INPUT COMMON MODE VOLTAGE	-7	+12	Volts
ABSOLUTE MAX INPUT VOLTAGE	-9	+13	
MAXIMUM SIGNAL BANDWIDTH	20	—	Mbits/Sec
MINIMUM DIFFERENTIAL INPUT SIGNAL	-200	+200	mV
DIFF OUT 3V VCC 100 OHM LOAD	2	VCC	Volts
DIFF OUT 5V VCC 100 OHM LOAD	3	VCC	Volts
OPERATING TEMP. (-I version)	-40	+85	°C
OPERATION HUMIDITY	0	95%	NON-COND

REFERENCE INFORMATION

CARD DIMENSIONS

