

PmodENC™ Reference Manual



Revision: October 31, 2011

Note: This document applies to REV A of the board.

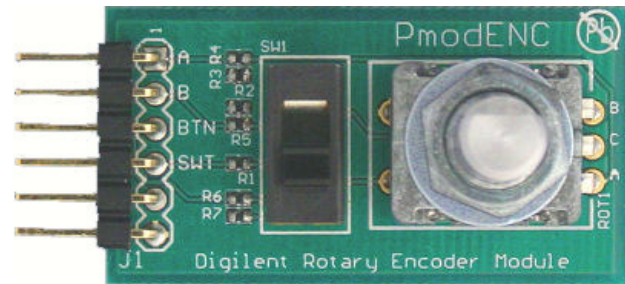
1300 NE Henley Court, Suite 3
Pullman, WA 99163
(509) 334 6306 Voice | (509) 334 6300 Fax

Overview

The PmodENC Rotary Encoder Module features a rotary shaft encoder with integral push-button that provides rotate-right, rotate-left, and button-press outputs. The module also includes a sliding switch that provides an on/off output.

Features include:

- a rotary push-button shaft encoder
- a slide switch with a series resistor
- a 6-pin header
- small form factor (1.5" x 0.75").



<input type="checkbox"/>	1 = A
<input type="checkbox"/>	2 = B
<input type="checkbox"/>	3 = BTN
<input type="checkbox"/>	4 = SWT
<input type="checkbox"/>	5 = GND
<input type="checkbox"/>	6 = VCC

Figure 1 PmodENC Pin Signals

Functional Description

There are four outputs on the PmodENC module, labeled A, B, BTN, and SWT. Outputs A and B are the encoded outputs from the rotary shaft encoder. In principle, the rotary shaft encoder behaves like a cam connected to a central shaft. Rotating the shaft operates two push-button switches, as shown in Figure 2. Depending on which way the shaft is rotated, one of the switches closes before the other. Likewise, as the rotation continues, one switch opens before the other. When the shaft is stationary (the detent position) both switches are open (logic 1).

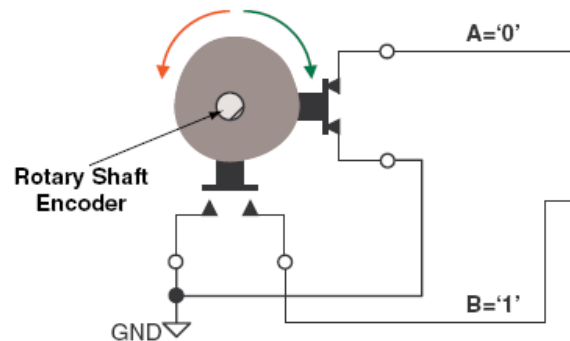


Figure 2 Rotary Shaft Encoder Circuitry

Pressing the rotary push-button shaft encoder will drive the output pin BTN to VCC voltage or a logic level 1. Otherwise BTN is driven to GND voltage or a logic level 0.

Placing the slide switch into the up position on the PmodENC module will drive the output SWT to VCC voltage or a logic level 1. Placing the slide switch in the down position will drive SWT to GND voltage or a logic level 0.

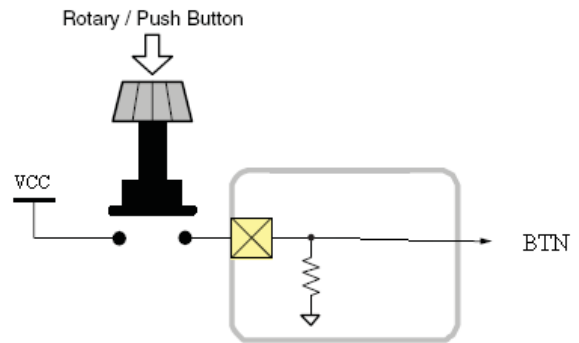


Figure 3 Push-Button Circuitry

Decoding Rotations of the Rotary Shaft

Figure 4 shows a timing diagram of a rotate-right on the rotary push-button shaft of the PmodENC module. Note the logic noise shown with opening and closing of the switches. A rotate-left of the rotary push-button shaft is similar to Figure 4. The only difference is that output B will drop to logic level 0 first, followed by output A.

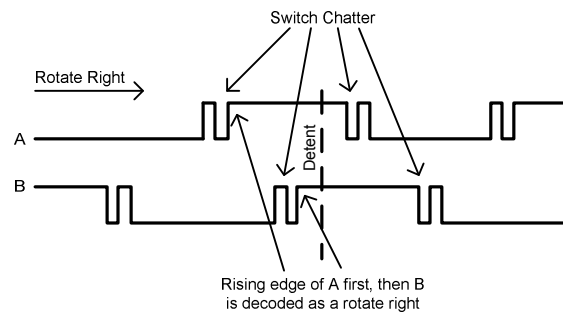


Figure 4 Timing of Outputs A and B

AMEYA360

Components Supply Platform

Authorized Distribution Brand :



Website :

Welcome to visit www.ameya360.com

Contact Us :

➤ Address :

401 Building No.5, JiuGe Business Center, Lane 2301, Yishan Rd
Minhang District, Shanghai , China

➤ Sales :

Direct +86 (21) 6401-6692
Email amall@ameya360.com
QQ 800077892
Skype ameyasales1 ameyasales2

➤ Customer Service :

Email service@ameya360.com

➤ Partnership :

Tel +86 (21) 64016692-8333
Email mkt@ameya360.com