

Transmissive Optical Encoder Incremental Module

RM61 Series

FEATURES

- Uses optical matrix arrangement technology
- Operating temperature: -40°C to +85°C
- Multiple CPR choices
- Suitable for encoders with an outer diameter of 38mm or more
- C-shaped structure for ease of use
- TTL compatible output
- 5V power supply



PRODUCT DESCRIPTION

The RM61 series is a high-performance, optical three-channel incremental encoder module. It integrates a precision optical grating phase matrix receiving chip and light source. When combined with a code disc, the module can sense rotational position and speed information.

The RM61 series features an optical center of 11mm and offers standard CPR options: 50, 60, 100, 200, 256, 300, 360, 400, 500, 512, 600, 1000, 1024, 1200, 2000, 2048, 2500.

Applications

Typical applications include printers, plotters, servomotors, factory automation, and more.

SPECIFICATIONS

Maximum Environmental Data

Parameter	Specification
Storage Temperature (Ts)	-40°C to +85°C
Operating Temperature (TA)	-40°C to 85°C
Power Supply Voltage (Vcc)	-0.5V to 7V
Soldering Temperature	Not exceeding 260°C for 5 seconds
Operating Frequency (f)	500 kHz
A/B Output, Current per Output(Io)	-1mA to 5mA

Recommended Use Environment

Parameter	Symbol	Range
Operating Temperature	T	-40° C to 85° C
Power Supply	Vcc (Ripple voltage <100mV)	4.5V ~ 5.5V

Electrical Characteristics

Under recommended operating at 25 °C

Parameter	Symbol	Min.	Typ.	Max.	Units	Condition
Operating Current	ICC	40	50	60	mA	
Low Level Output Voltage	VOL	-	0.2	0.5	V	Internal 2kΩ pull-up resistor
High Level Output Voltage	VOH	2.4	4.5	-	V	Internal 2kΩ pull-up resistor
A/B/Z Rising Edge Time	tr	-	120	-	ns	Internal 2kΩ pull-up resistor CL=8PF

A/B/Z Falling Edge Time	tf	-	20	-	ns	Internal 2kΩ pull-up resistor CL=8PF
A/B Duty Cycle	Dt	35	50	65	%	
A/B Phase Difference	θ	60	90	120	° e	
Response Frequency	f			500	KHz	

Pin Definition:

Pin Name	Function	Input/Output
1	Power Ground	Gnd
2	Z Signal/ZUG Output	Z/ZUG
3	B Channel Output, with 2KΩ Pull-up Resistor	B
4	Power Supply Positive	Vcc
5	A Channel Output, with 2KΩ Pull-up Resistor	A

Waveform Diagram

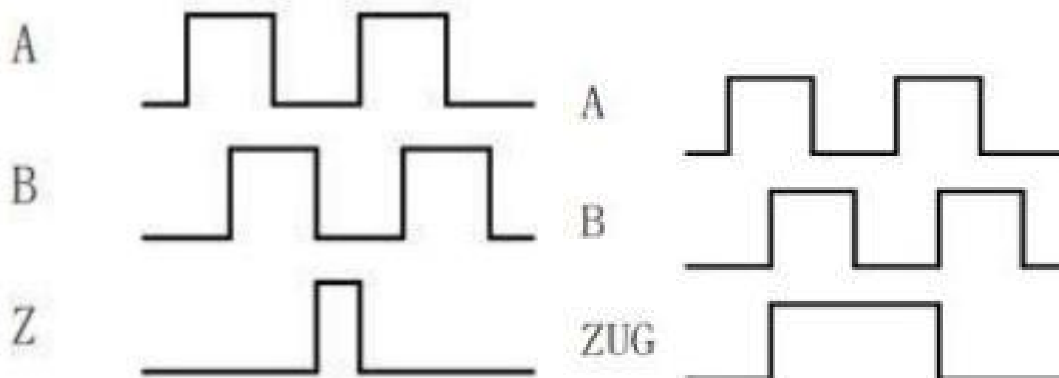


Figure 1: Output waveforms of A/B/Z (1/4T) when rotating clockwise

Figure 2: Output waveforms of A/B/ZUG

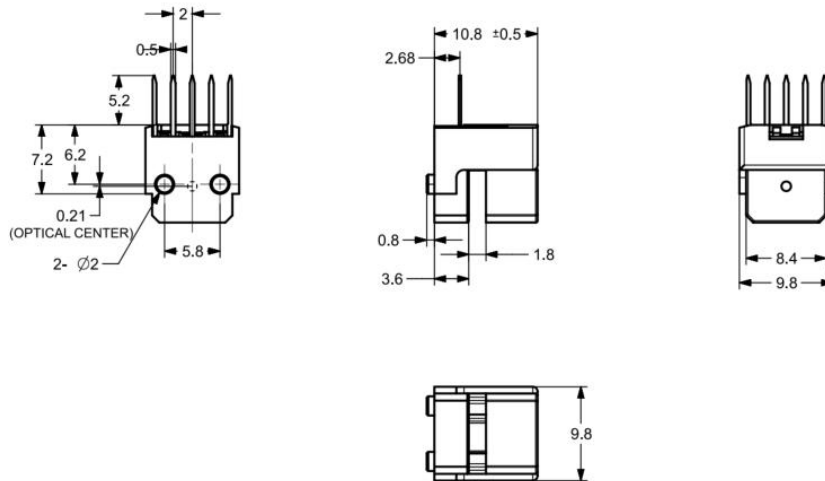
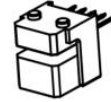
when rotating clockwise

Fig.1 Turn A/B/Z (T/4) In The Direction

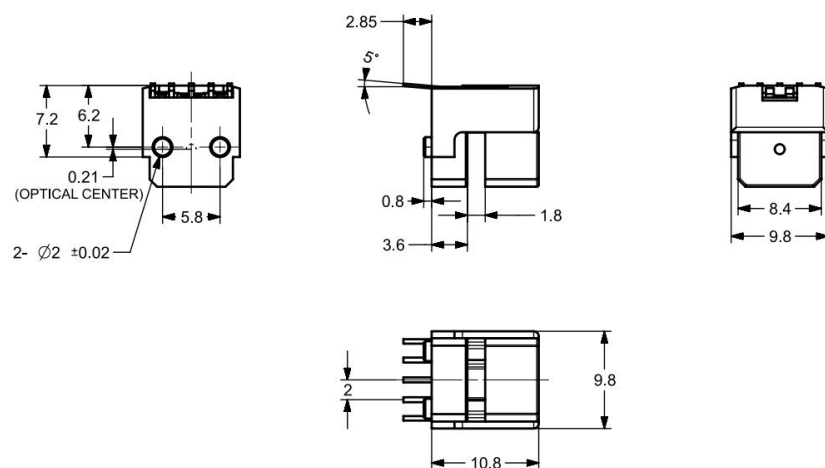
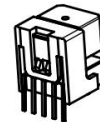
of The Arrow To Output Waveform

MECHANICAL DRAWINGS

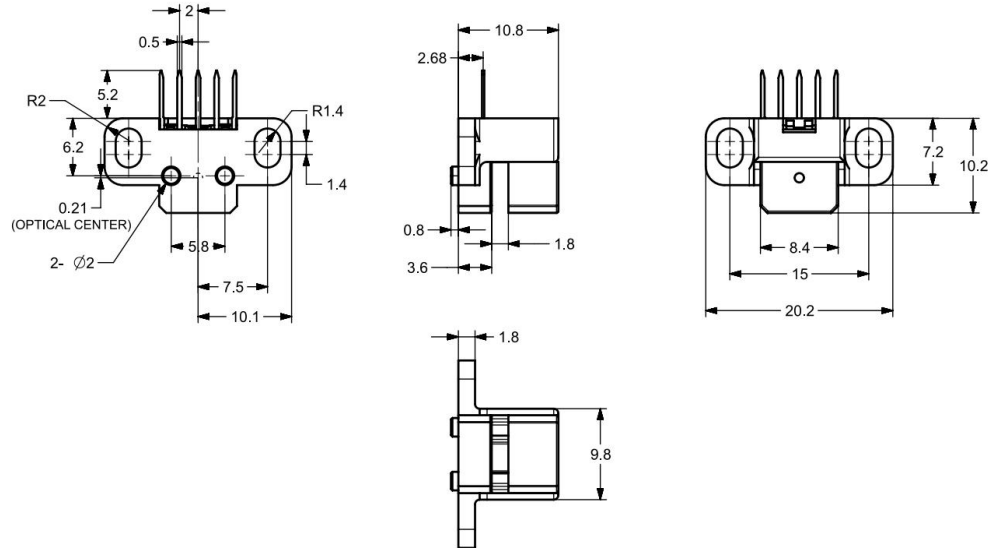
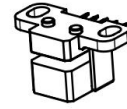
041 RM61 Series_Straight Lead Without Mounting Encoder Module



042 RM61 Series_Bent Lead Without Mounting Encoder Module



043 RM61 Series_Straight Lead With Mounting Encoder Module



044 RM61 Series_Bent Lead With Mounting Encoder Module

