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Bulletin No. RPGN/O/P-E  
 Drawing No. LP0357  
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## MODEL RPGN AND MODEL RPGO - ROTARY PULSE GENERATORS



### Open Collector Output Wiring

The following sensors (RPGN and RPGO) have open collector outputs. An open collector output brings the uncommitted collector of the encoder switching device to the external world. Because the collector element is not associated with the sensor supply voltage, the sensor output collector may be "pulled up" to external voltages different than the encoder supply voltage (40 VDC maximum). NPN open collector outputs are current sinking devices. The output signal can not be observed unless the circuit is completed externally.

### NOTE:

**Red Lion Controls offers the RPGN and RPGO products in METRIC SIZES also. For full details of alternative metric shaft and bore sizes, metric mountings, together with latest pricing information and stock availability, please call Red Lion Controls, USA or Red Lion Controls, BV office, tel: +31 (33) 489 37 93.**

## MODEL RPGN - FLANGE MOUNT ROTARY PULSE GENERATOR

### GENERAL DESCRIPTION

The Model RPGN encoder is designed to suit a wide variety of industrial applications. The rugged housing, double sealed bearings, and sealed connector make it especially useful in harsh industrial environments.

### SPECIFICATIONS

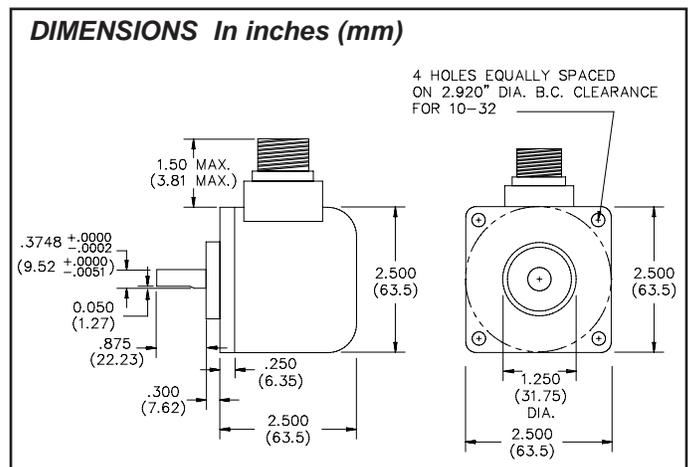
- SUPPLY VOLTAGE:** 5 to 28 VDC, 100 mA max.
- OUTPUTS:** NPN Open Collector Transistor,  $V_{OH} = 40$  VDC max.; 100 mA max. current. Two square waves in quadrature with A leading B for clockwise rotation.
- MAX. PULSE RATE:** 100 KHz
- INDEX:** NPN Open Collector Transistor,  $V_{OH} = 40$  VDC max.; 100 mA max. current. Once per revolution centered over Output Channel A. Index is a positive pulse.
- MAXIMUM MECHANICAL SPEED:** 6000 RPM
- SHAFT DIAMETER:** 0.375" (9.5 mm)
- RADIAL SHAFT LOAD:** 15 lbs. (6.8 kg) operating
- AXIAL SHAFT LOAD:** 15 lbs. (6.8 kg) operating
- BEARINGS:** ABEC3 double sealed ball bearings
- STARTING TORQUE:** 1 oz-in (7.06 N-mm)
- MOMENT OF INERTIA:**  $5.2 \times 10^{-4}$  oz-in-sec<sup>2</sup> ( $3.66 \times 10^{-3}$  N-mm-sec<sup>2</sup>)
- CONNECTOR TYPE:** 7-pin MS type connector 16S-1P-6
- OPERATING TEMPERATURE:** 0°C to +70°C (32°F to 158°F)
- WEIGHT:** 22 oz. (623.7 g)

### CABLE CONNECTIONS

The table below lists the pin connections from the RPGN encoder to the optional CCBRPG cable.

RPGN PIN	FUNCTION	CCBRPG WIRE COLOR
A	DATA A	WHITE
B	DATA B	BLUE
C	INDEX Z	ORANGE
D	+ VOLTS DC	RED
E	NO CONNECTION	
F	COMMON	BLACK
G	CASE GROUND	GREEN

### DIMENSIONS In inches (mm)



### ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PPR	PART NUMBER
RPGN	Flange Mount Rotary Pulse Generators	10	4410010
		120	4410120
		1200	4411200
-	Mating Connector 7-Pin		2101200
CCBRPG	7-Pin Conn., 10' of 6 wire cable		CCBRPG01
RPGFC	Flexible Coupling (1" Length) 0.250"-0.375"		RPGFC002
	Flexible Coupling (1" Length) 0.375"-0.375"		RPGFC003

# MODEL RPGO - BUTTERFLY MOUNT ROTARY PULSE GENERATOR

## GENERAL DESCRIPTION

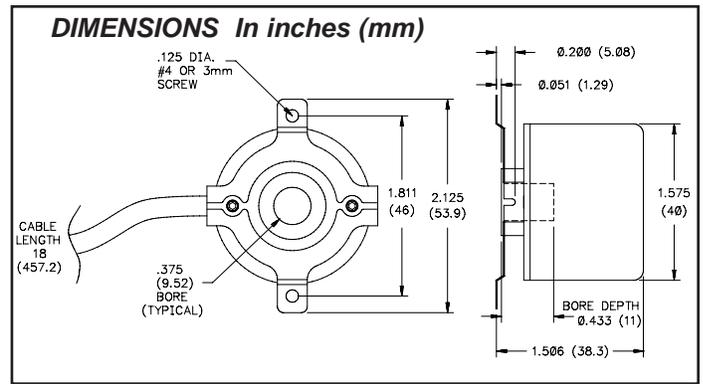
The RPGO encoder is ideal for applications requiring a miniature, high precision, low cost encoder, designed with all metal construction for years of trouble-free operation.

The RPGO encoder has a flexible butterfly mount and blind hollow shaft with a 0.375" (9.5 mm) bore size. This encoder uses two set screws that are 90° apart to clamp the encoder's hub to the motor shaft. The NPN Open Collector outputs are each current limited to 100 mA. The outputs are standard quadrature with index, and are available in resolutions up to 1200 pulses per shaft revolution. The quadrature separation is typically 90 electrical degrees. Output A leads output B for clockwise rotation of the encoder shaft.

## SPECIFICATIONS

1. **SUPPLY VOLTAGE:** 5 to 28 VDC, 100 mA max.
2. **OUTPUTS:** NPN Open Collector Transistor,  $V_{OH} = 40$  VDC max.; 100 mA max. current. Two square waves in quadrature with A leading B for clockwise rotation.
3. **MAX. PULSE RATE:** 100 KHz
4. **INDEX:** NPN Open Collector Transistor,  $V_{OH} = 40$  VDC max.; 100 mA max. current. Once per revolution centered over output Channel A. Index is a positive going pulse.
5. **MAXIMUM MECHANICAL SPEED:** 7500 RPM
6. **BORE SIZE:** 0.375" (9.5 mm)
7. **RADIAL SHAFT LOAD:** 4 lbs. max. (1.8 kg)
8. **AXIAL SHAFT LOAD:** 2 lbs. max. (0.9 kg)
9. **BEARINGS:** ABEC5 double sealed ball bearings
10. **STARTING TORQUE:** 0.14 oz-in (0.99 N-mm)
11. **MOMENT OF INERTIA:**  
 $2.85 \times 10^{-4}$  oz-in-sec<sup>2</sup>  
 $(2.01 \times 10^{-3}$  N-mm-sec<sup>2</sup>)
12. **CABLE CONNECTIONS:**  
 Cable is 18" (457.2 mm) in length
 

Black	Common
White	+VDC
Brown	Data A
Red	Data B
Orange	Index Z
Yellow	N/C
Green	N/C
Blue	N/C
13. **OPERATING TEMPERATURE:**  
 0°C to +70°C (32°F to 158°F)
14. **WEIGHT :** 3.5 oz. (99.2 g)



## ORDERING INFORMATION

MODEL NO.	DESCRIPTION	PPR	PART NUMBER
RPGO	Butterfly Mount Rotary Pulse Generators	10	4210010
		60	4210060
		120	4210120
		1200	4211200