

RL-P300Q

Programmable Heavy Duty Shaft Encoder

DESCRIPTION

The RL-P encoder converts shaft rotation into quadrature square wave outputs A and B to provide an accurate and reliable means of digitizing position, rate, or length of travel. The number of pulses per each revolution of the shaft is determined by setting configuration switches. This unit indicates distance and direction of shaft rotation to any control device that accepts quadrature A/B inputs. The RL-P is intended to be shaft coupled using a flexible shaft coupling or other means to resolve shaft to shaft misalignment, or using a timing belt and sprocket.

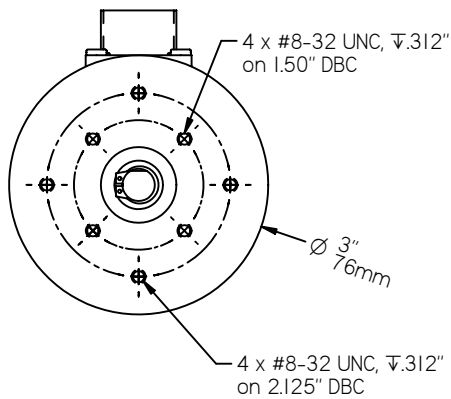
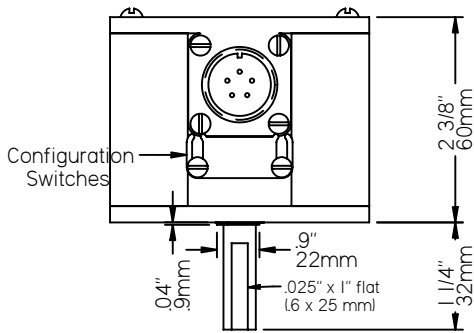
FEATURES

- Programmable Pulses/Revolution
- Quadrature Outputs (A and B)
- ESD / Short Circuit / Reverse Voltage Protected

* CE marking requires Photocraft cable, and surge protection option if cable exceeds 100' (30m) or leaves the building.



DIMENSIONS



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www.photocraftencoders.com

SPECIFICATIONS

Mechanical

Weight: 16.8 oz (475 gm) without cable

Shaft Loading:

Shaft Diameter	Radial Lbs (kg)	Axial Lbs (kg)	Factor (BL)
3/8" / 8mm	40 (18.1)	30 (13.6)	32
1/2" / 10mm	45 (20.4)	35 (15.9)	37
5/8"	50 (22.7)	40 (18.1)	41

Bearing Life: BL x 1,000,000/rpm = hours

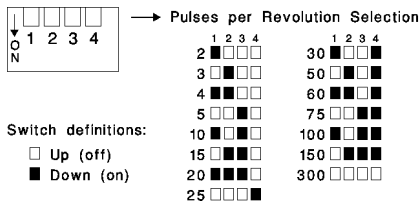
Materials:

- Case: 1/4" Aluminum, anodized
- Shaft: 303 Stainless steel
- Switch cover: ABS plastic

Electrical Connections

Pin No.	Function	Wire Color
A	+vdc	Red
B	Common	Black
C	Output A	White
D	Output B	Green
E	no connection	—

Configuration Switches



Electrical

Supply Voltages (Vin): (specify when ordering)

- 5 ± 5% vdc
- 8 to 30 vdc

Supply Current: 50 ma max (no load)

Output Current (Io): 50ma max source/sink

Output Circuit: (specify when ordering)

- Current sinking NPN open collector (30 vdc max)
- Push/Pull output

Output Protection:

- Short Circuit
- ESD to 8KV direct and 25KV air

Operating Temperature: 0° to 70° C

Maximum Operating Speed: 3,000 rpm

Outputs

Quadrature Outputs: Two outputs, A and B, have the selected number of pulses per revolution by setting switches 1 to 4 (see configuration switches). A leads B by 90° for clockwise rotation when viewed from the shaft end farthest from the connector.

Output Waveform: 50/50 squarewave

- Pulse On-Off Ratio: 50%±10%
- Pulse Interval Jitter: ±10%
- Quadrature deviation: 30° (max)
- Pulse rise time: 2 µsec (max)
- Pulse fall time: 5 µsec (max)
- Voltage (high): Vin-2.5 vdc (min)
- Voltage (low): 1.5 vdc (max)

(600 rpm, Vin=24vdc, 10ma<Io<50ma, 25°C)

MODEL NUMBER

RL	P300Q			
Model Number	Program Name	Supply Voltage: 5=5vdc, 8-30=8-30vdc	Modification Number: optional modification or special feature ID. Call or see our website.	Accessories: leave blank for no accessories. Call or see our website for more information.
blank for 3/8", .5=1/2", .625=5/8", M8=8mm, M10=10mm, D=3/8" double ended	Call or see our website for information about other available programs for this encoder model.	Output Circuit: leave blank for push/pull, C=NPN open collector		

Example: RL-P300Q/8-30 - 3/8" shaft, P300Q program, 8-30vdc, push/pull output