

# RS-P64Q

## Programmable Cube Style Encoder

### DESCRIPTION

The RS-P cube style shaft encoder converts shaft rotation into quadrature square wave output pulses to provide an accurate and reliable means of digitizing position, rate, or length of travel. The number of counts per revolution is determined by setting configuration switches. Various shaft configurations are available including single and double ended with 1/4", 5/16" or 3/8" diameters. When coupled to a mating shaft, a flexible shaft coupling is required to resolve any shaft to shaft misalignment, however slight.

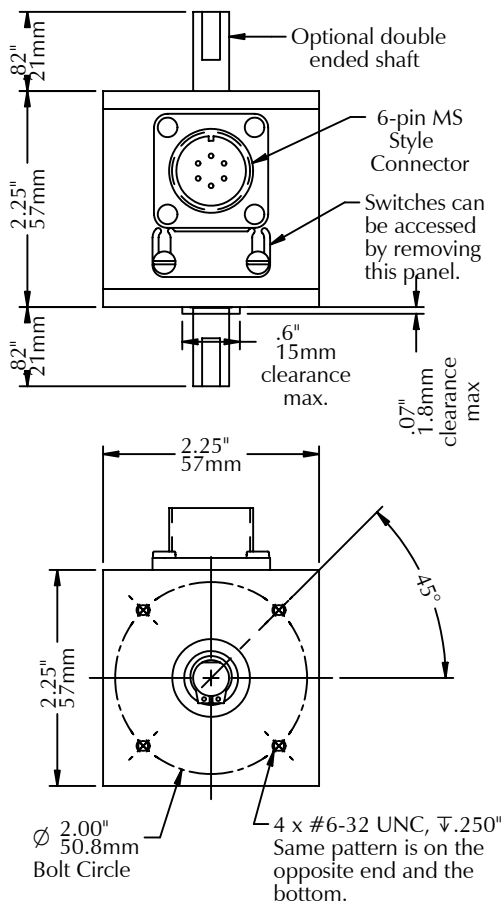
### FEATURES

- Programmable Pulses/Revolution
- Quadrature (A and B) outputs
- 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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### SPECIFICATIONS

#### Electrical

**Supply Voltages (+vdc):** (specify when ordering)

5  $\pm$  5% vdc or 8 to 30 vdc

**Current:** 50 ma max (no load)

100 ma max (line driver)

**Operating Temperature:** -25° to +85° C

**Output Circuit:** (specify when ordering)

Output voltage level is approximately the same as the input voltage level.

**Single Ended:**

— NPN open collector (30vdc/50mA max)

— Push/Pull (50mA max source/sink)

**Differential Line Driver:**

— 7272 line driver (output same as input volts)

— RS422 line driver (regulated 5vdc output)

#### Outputs

**Quadrature Outputs:** Two outputs, A and B, have the selected number of 50/50 duty cycle, square wave pulses per revolution based on the configuration switch settings. A leads B by 90° for clockwise rotation when viewed from shaft end farthest from connector. Both outputs are "Low" when initially powered.

#### Electrical Connections

**Single Ended Outputs:**

MS 6-pin	4-pin M12		Wire
Pin No.	Pin No.	Function	Color
A	3	Common	Black
B	1	+vdc	Red
D	4	Output A	White
E	2	Output B	Green
C, F	-	not used	-

**Differential Line Driver Outputs:**

MS 6-pin	Pin No.	Function	Wire Color
A		Common	Black
B		+vdc	Red
C		Output +A	White
D		Output -A	Blue
E		Output +B	Green
F		Output -B	Brown

#### Mechanical

**Shaft Diameters:** (specify when ordering)

1/4", 5/16", 3/8"

**Shaft Style:** (specify when ordering)

single ended or double ended

**Shaft Loading:** Radial: 25 lb. (11.3 kg.) max

Axial: 15 lbs. (6.8 kg.) max

*A flexible shaft coupling is recommended.*

**Bearing Life:** 36 x 1,000,000/rpm = hours

**Materials:** Case: Aluminum, anodized

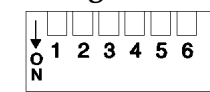
Shaft: 303 Stainless steel

Switch cover: Plastic

**Maximum Operating Speed:** 3,000 rpm

**Weight:** 11 oz. (312 grams)

#### Configuration Switches



**Switch definitions:**

☐ Up (off)

☒ Down (on)

Counts per Revolution Selection					
1	2	3	4	5	6
1	22	23	24	25	26
2	27	28	29	30	31
3	32	33	34	35	36
4	37	38	39	40	41
5	42	43	44	45	46
6	47	48	49	50	51
7	52	53	54	55	56
8	57	58	59	60	61
9	62	63	64	65	66
10	67	68	69	70	71
11	72	73	74	75	76
12	77	78	79	80	81
13	82	83	84	85	86
14	87	88	89	90	91
15	92	93	94	95	96
16	97	98	99	100	101
17	102	103	104	105	106
18	107	108	109	110	111
19	112	113	114	115	116
20	117	118	119	120	121
21	122	123	124	125	126

#### MODEL NUMBER

RS	P	64Q
Model Number	P=Programmable model	Program: name of factory configured program.
Shaft Diameter: A=5/16", B=3/8", C=1/4"		
Shaft Style: leave blank for single ended D=double ended		
Supply Voltage: 5=5vdc, 8-30=8 to 30 vdc		
Output Circuit: leave blank for push/pull C=NPN open collector, DL=RS422 line driver, DH=7272 line driver		
Modification Number: 6-pin MS is standard M131=4-pin 12mm connector Call or see our website for other modifications.		
Accessories: leave blank for no accessories. Call or see our website for more information.		

Example: RSB-P64Q/8-30 - model RS, 3/8" single ended shaft, P64Q program, 8-30vdc, push/pull output, 6-pin MS style connector