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Cube Style Shaft Encoders**Product Description**

Provides accurate pulse outputs for use with PLCs and counters.

Features

- 5–28 Vdc input power
- 80 mA current draw
- NPN transistor output, 250 mA sinking capacity
- Square wave output; (50-50 duty cycle)
- Single channel and quadrature models
- Up to 600 pulses per revolution
- 3/8 in (9.5 mm) double ended shaft
- ABEC three double sealed ball bearings
- Tapped holes for face or base mounting
- Military style connector

Product Selection**Cube Shaft Encoder****Cube Shaft Encoders**

Description	Normally Stocked Item	Catalog Number
Single Channel		
60 pulses per revolution	—	38150060
100 pulses per revolution	Yes	38150100
120 pulses per revolution	—	38150120
600 pulses per revolution	Yes	38150600
Quadrature		
60 pulses per revolution	—	38151060
100 pulses per revolution	Yes	38151100
120 pulses per revolution	—	38151120
600 pulses per revolution	Yes	38151600

Accessory**Mounting Bracket****Mounting Bracket** ^①

Description	Normally Stocked Item	Catalog Number
Mounting bracket	—	40460402

Note

^① 40460400 is shown, 40460402 has additional mounting plate for encoders.

Technical Data and Specifications**General Specifications**

Description	Specification
Electrical	
Input (38150)	
Voltage	9 to 16 Vdc
Current	60 mA max. at 16 Vdc
Ripple	2%
Input (38151)	
Voltage	5 to 28 Vdc
Current	60 mA nom., 100 mA max.
Ripple	≤2%
Output	
Type	Current sinking transistor with 1.5k ohms pull-up
Sinking current	100 mA max.
Max. voltage at 100 mA	1.3 Vdc
Blocking voltage	40 Vdc max.
Polarity	Positive
Wave shape	Square wave
Pulse rate	
38150	1 to 20,000 pulse per second
38151	1 to 10,000 pulse per second
Rise time	<1 μs
Pulses per rev.	1 to 1270
Accuracy	Within ±0.1°
Environmental	
Operating temperature	32° to 167°F (0° to 75°C)
Vibration	3 Gs at 5 to 1000 cps
Shock	20 Gs, 10 ms
Mechanical	
Shaft speed	6000 RPM max.
Shaft rotation	CW or CCW
Bearings	Sealed ball bearings
Starting torque	0.1 oz-in
Moment of inertia	0.0025 ounce in-sec ²
Radial loading	40 pounds operating
Axial loading	30 pounds operating
Shaft	3/8 in (9.5 mm) dia.
Operating life	Up to 100,000 hours, depending on speed
Housing	Aluminum with black anodized finish. Sealed against dust, oil, vapor and moisture.
Mounting	Bottom or front face
Weight	1 lb (0.5 kg) max.
Connector	MS-3102E-14S-6P
Mating connector	MS-3106A-14S-6S with 10 ft (3m) shielded cable and termination for electronic controls

Dimensions

Approximate Dimensions in Inches (mm)

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