

Slim Encoder with Diameter of 50 mm

E6C3-AN2E 256P/R 1M

Rotary Encoder, Absolute, External Diameter: 50 dia., Voltage output, 256 P/R, 12 VDC, Binary code, Pre-wired model, 1 m



Image

Encoding method	Absolute Shaft model
Resolution	256 P/R
Output code	Binary code
Control output	Voltage output
Connection method	Pre-wired models (Cable length: 1 m)

Ratings / Performance

As of July 25, 2024

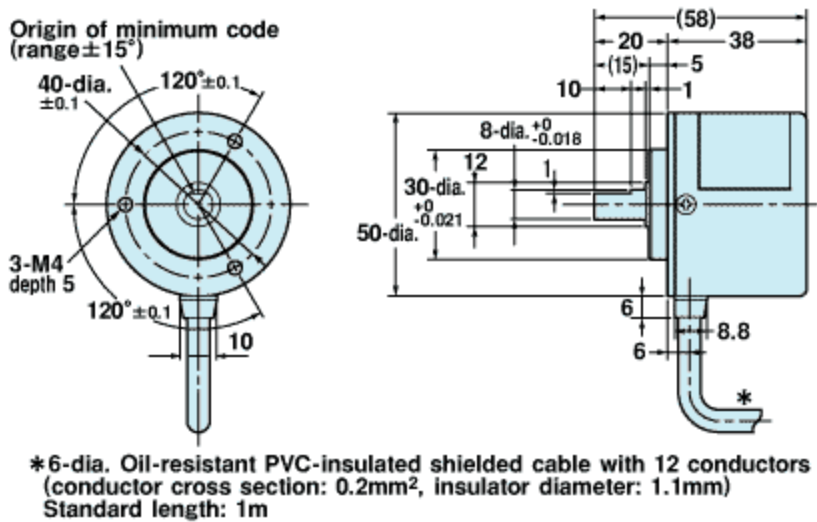
Categorise		Absolute Shaft model
Diameter		50 mm dia.
Power supply voltage		12 VDC±10%
Current consumption		70 mA max.
Resolution		256 P/R
Inrush current		Approx. 6 A (0.8 ms)
Output code		Binary code
Control output	Output type	Voltage output
	Output resistance	8.2 kΩ
	Sink current	35 mA max.
	Residual voltage	0.4 V max. (at sink current 35 mA)
Logic		Positive logic (high = 1, low = 0)
Direction of rotation		Changed using the rotation direction designation input
Positioning signal		None
Strobe signal		None
Parity signal		None
Max. response frequency		10 kHz
Rise and fall times of output		Rise: 10 μs max. Fall: 1 μs max.
Starting torque		Room temperature: 10 mN.m max. Low temperature: 30 mN.m max.

Moment of inertia	2.3 x 10 ⁻⁶ kg.m ² max.
Shaft loading	Radial: 80 N Thrust: 50 N
Max. permissible rotation	5000 r/min
Ambient temperature	Operating: -10 to 70 °C (with no icing) Storage: -25 to 85 °C (with no icing)
Ambient humidity	Operating: 35 to 85 % (with no condensation) Storage: 35 to 85 % (with no condensation)
Insulation resistance	Between charged parts and the case: 20 MΩ or higher (500 VDC megger)
Dielectric strength	Between charged parts and the case: 500 VAC 50/60 Hz 1 min
Vibration resistance	Destruction: 10 to 500 Hz, 2-mm or 150 m/s ² double amplitude for 11 min 3 times each in X, Y, and Z directions
Shock resistance	Destruction: 1000 m/s ² for 3 times each in X, Y, and Z directions
Degree of protection	IEC: IP65 Company standard: Oil resistance
Connection method	Pre-wired models (Cable length: 1 m)
Material	Case: Aluminum Main Unit: Aluminum Shaft: SUS303
Weight	Package: Approx. 300 g
Accessories	Instruction manual

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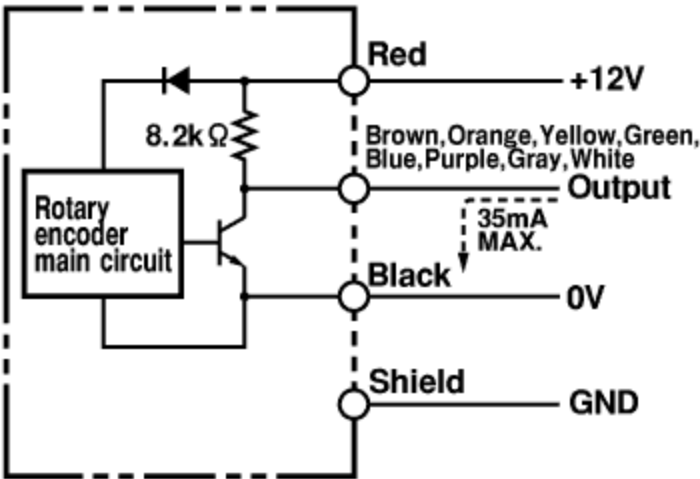
Dimensions

As of July 25, 2024



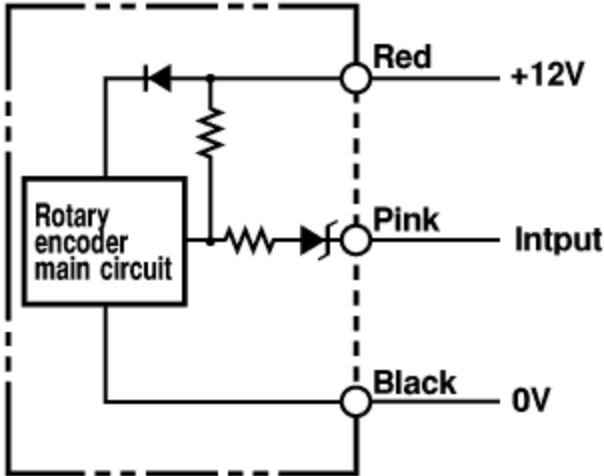
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Output circuit diagram



*The circuit is the same for all bit outputs.

<Rotational direction designation input circuit>



*If the input is connected with Vcc,
the output code increases in the direction of CW.
If the input is connected with 0V,
the output code decreases in the direction of CW.

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Connected specification chart

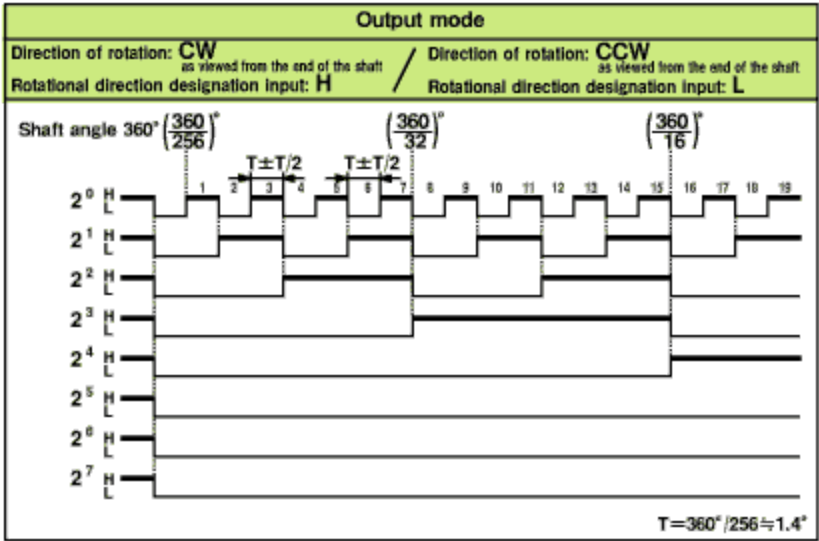
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Wire color	Model
	E6C3-AN1E/-AN2E
	Output signal
8-bit (256)	
Brown	2^0
Orange	2^1
Yellow	2^2
Green	2^3
Blue	2^4
Purple	2^5
Gray	2^6
White	2^7
Pink	Rotation Direction Input
Light blue	Not connected
---	Shield (ground)
Red	5 or 12 VDC
Black	0 V (common)

Note: Normally connect GND to 0 V or to an external ground.

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Timing chart



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