

Incremental Rotary Encoder

EV38 Series



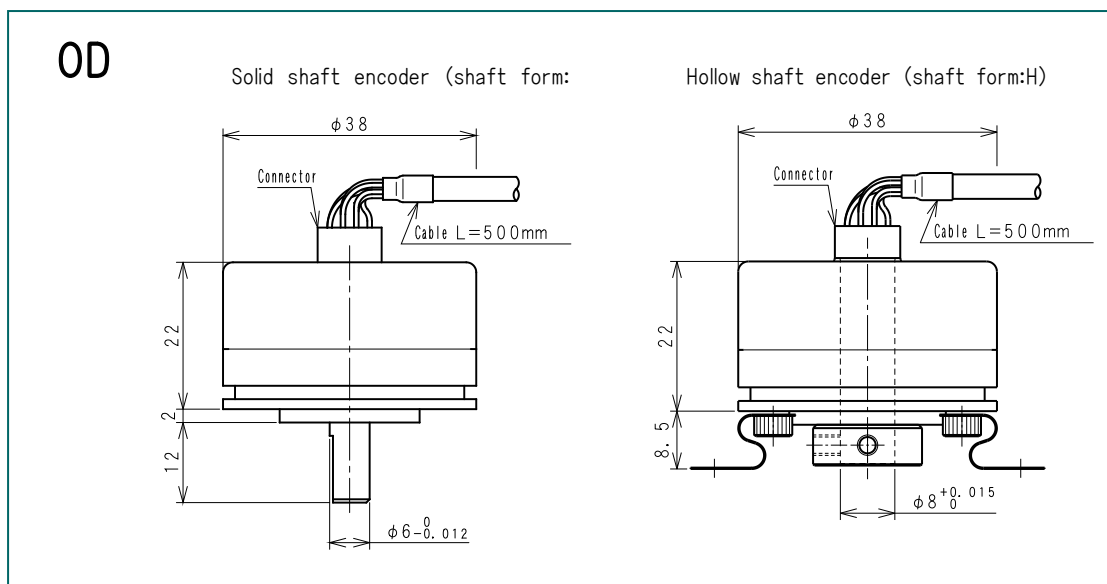
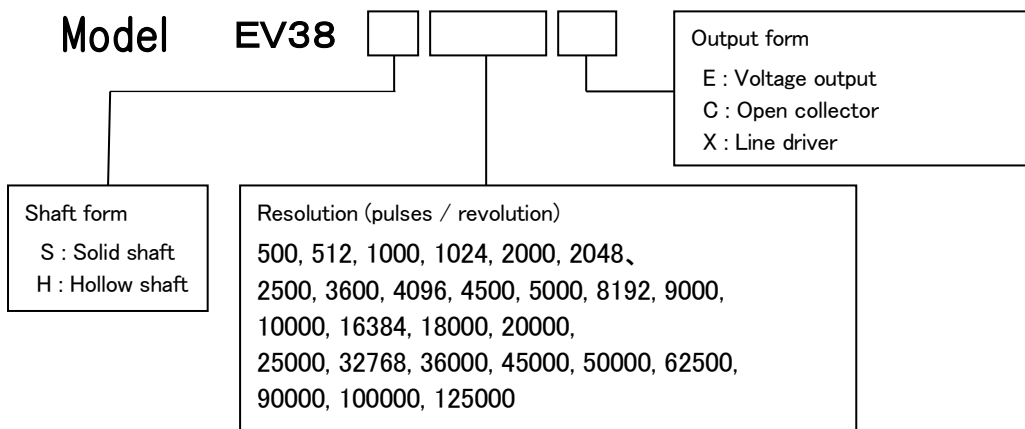
External diameter of **38** mm, depth of **22** mm

Max. **125000** ppr

2 types of shaft form Solid shaft and Hollow shaft

Incremental

A, B, and Z phases



TASHIKA - JAPAN

Input and output specifications

Item	Rating	
Supply voltage	Voltage output	DC5V to 12V±10%
	Open collector	DC5V to 24V±10%
	Line driver	DC5V to 24V±10%
Consumption current	120 mA or less (under no load)	
Detection system	Incremental	
Resolution (pulses/rotation)	500, 512, 1000, 1024, 2000, 2048 2500, 3600, 4096, 4500, 5000, 8192, 9000, 10000, 16384, 18000, 20000, 25000, 32768, 36000, 45000, 50000, 62500, 90000, 100000, 125000	
Output form	Square wave	Voltage output (E) NPN Open collector (C) Line driver (X)
Output phases	Phases A, B, and Z	
Output phase difference	A, B phase difference $90^\circ \pm 45^\circ$ ($T/4 \pm T/8$) Z phase $T \pm T/2$ (see Output Waveform)	
Maximum response frequency	100 kHz (E) (C) 1 MHz (X)	
Starting torque	$3 \times 10^{-3} \text{N}\cdot\text{m}$ (30gf·cm) or less	
Allowable load of shaft (electrical)	Radial Thrust	5000 ppr or less
		More than 8192 ppr
		30N
	20N	10N
Maximum allowable number of revolutions (mechanical)	6000 r/min	
Operating ambient temperature/humidity	0°C~70°C RH 35% to 90% no dewing	
Storage ambient temperature	-20°C to 80°C	
Vibration resistance	Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions	
Impact resistance	Durability 500m/s ² (about 50G) 3 times each in X, Y, and Z directions	
Protective structure	IP50	
Mass	90g	

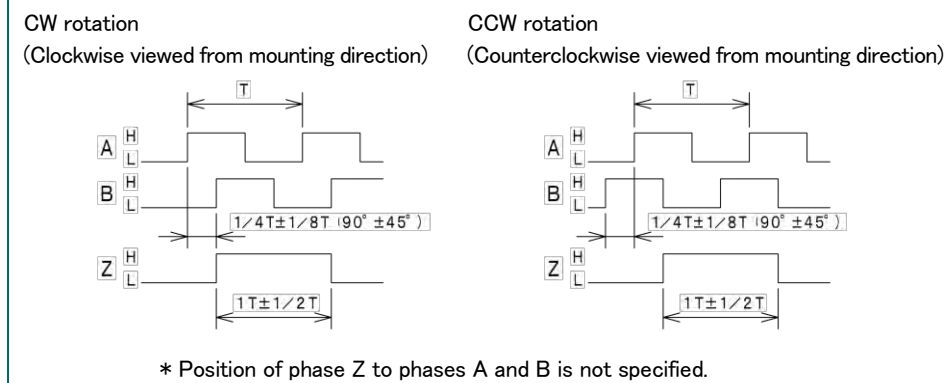
Connection

Color	Voltage output Open collector output	Line driver output
Brown	Power supply	Power supply
Blue	OV	OV
Black	Phase A+	Phase A+
Red	—	Phase A-
White	Phase B+	Phase B+
Green	—	Phase B-
Orange	Phase Z+	Phase Z+
Yellow	—	Phase Z-

Cable

3.6-dia. heat-resistant shielded vinyl cable
(length 500 mm)

Output waveform



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