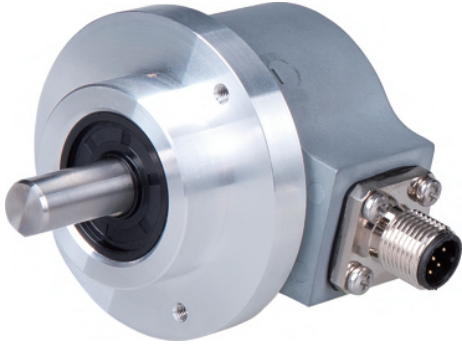


## Topydic Series Shaft Incremental EV50A



### Descriptions

Topydic series shaft incremental encoder EV50A, with double-bearing and casting housing, owns excellent performance to resist mechanical shocks and can be used in various industrial environments; being compatible with standard flange types-50mm and 58mm, it can meet different application requirements; its wide voltage range, reverse connection and short circuit protection can effectively prevent the impact to the encoder due to mis-wiring.

### Features

- Resolution up to 5000ppr; pulse frequency up to 300kHz
- Hollow shaft diameter,  $\Phi 6\sim\Phi 12\text{mm}$
- Be compatible with standard flange types-50mm and 58mm
- $\Phi 50\text{mm}$  metal casting housing for limited installation space
- Operating temperature,  $-40\sim+85\text{ }^{\circ}\text{C}$ ; IP67 protection grade for outdoors application
- Multi signal output interfaces to meet different types of data acquisition of upper computer
- Optional output types-with cable, M12 connector and M23 connector
- Reverse connection and short circuit protection to ensure the safety <sup>1)</sup>

### Mechanical Characteristics

Shaft diameter	$\Phi 6/\Phi 8/\Phi 10/\Phi 12/\Phi 14/\Phi 3/8"$
Protection Grade	IP65 (without oil seal)
	IP67 (with oil seal)
Speed	12000 rpm (without oil seal)
	6000 rpm (with oil seal)
Max. load capacity of the shaft	40N axial
	80N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10~2000HZ
Bearing life	$10^9$ revolution
Moment of inertia	$1.9 \times 10^{-6} \text{ kgm}^2$
Starting torque	$<0.01\text{Nm}$ (IP65)
	$<0.05\text{Nm}$ (IP67)
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	$-40\sim+85\text{ }^{\circ}\text{C}$
Storage temperature	$-45\sim+90\text{ }^{\circ}\text{C}$
	approx. 400g
Weight	

Resolution: 100, 200, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1200, 1250, 2000, 2048, 2500, 3600, 4096, 5000

Attention: the products with above resolutions are standing inventory; others on request.

### Electrical Characteristics

Output circuit	RS422	Push-pull
Supply voltage (VDC)	$5 \pm 0.25$ or $10\sim 30$	$10\sim 30$
Power consumption (no load)	typ. 40mA	typ. 50mA
	max. 90mA	max. 100mA
Permissible load (channel)	max. $\pm 20\text{mA}$	max. $\pm 30\text{mA}$
Pulse frequency	max. 300kHz	max. 300kHz
Signal level high	min. 2.5V	min. $U_b - 1\text{V}$
Signal level low	max. 0.5V	max. 0.5V
Rise time $T_r$	max. 200ns	max. 1 $\mu\text{s}$
Fall time $T_f$	max. 200ns	max. 1 $\mu\text{s}$

### Terminal Configuration

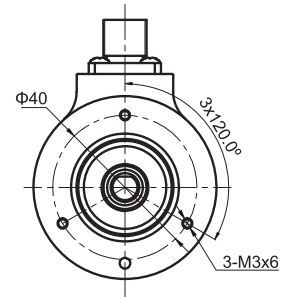
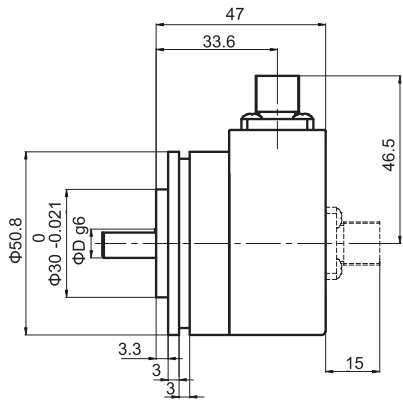
Signal	0V	+U <sub>b</sub>	A	$\bar{A}$	B	$\bar{B}$	Z	$\bar{Z}$	0V Sen	+U <sub>b</sub> Sen	Shield
Color Code	WH	BN	GN	YE	GY	PK	BU	RD	GY/PK	RD/BU	$\perp$
Pin (12-pin)	10	12	5	6	8	1	3	4	11	2	PH
Pin (5-pin)	1	2	3	-	4	-	5	-			PH
Pin (8-pin)	1	2	3	4	5	6	7	8			PH

# Encoder

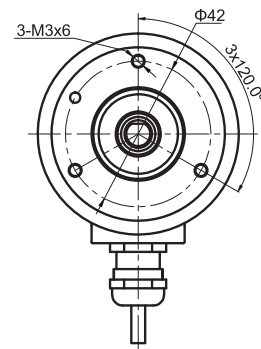
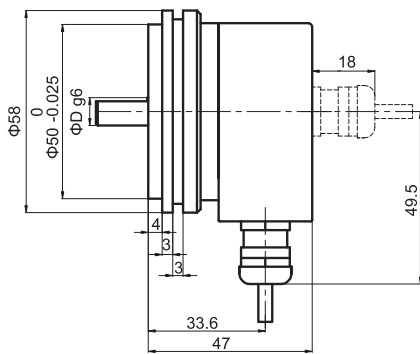
## Topydic Series Shaft Incremental EV50A

### Dimensions (mm)

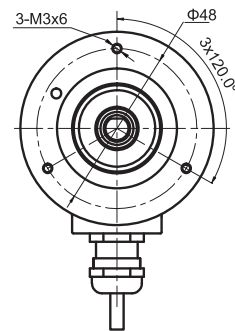
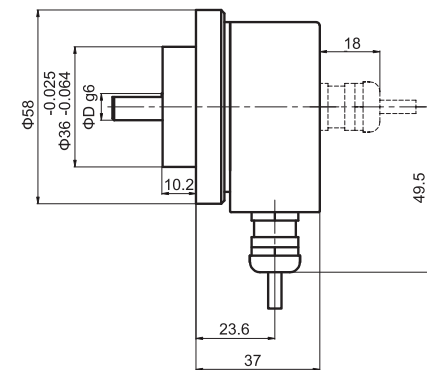
EV50A



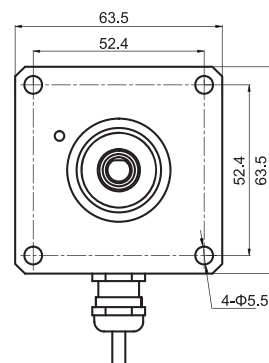
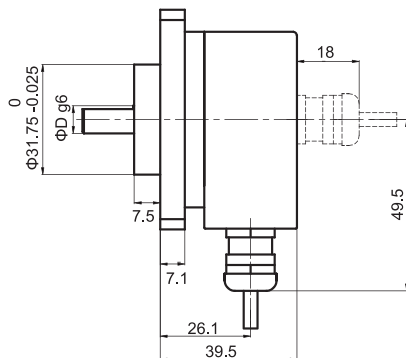
EV50B



EV50C



EV50D



## Topydic Series Shaft Incremental EV50A

Order Code:

EV	50	B	6	—	L5	P	R	—	1024	XX	. XXXX
Series EV=Topydic incremental	Housing diameter 50=Housing diameter	Flange type A=Φ50.8 synchro flange B=Φ58 synchro flange C=Φ58 clamping flange D=Φ63.5 square flange	Shaft diameter 6= Φ6mm x 10mm 7= Φ1/4" x 5/8" 8= Φ8mm x 15mm 9= Φ3/8" x 5/8" 10= Φ10mm x 20mm 12= Φ12mm x 20mm (8R,9R,10R,12R=IP67)	Standard cable length P=1.5m	Outlets direction R=radial A=axial	Resolution Pulse/r: 1-5000	Optional functions M5=M12, 5-pin plug without connector M8=M12, 8-pin plug without connector T=M23, 12-pin plug without connector (for other cable length, it's on requested)	XXXX= Special code Customized cable length CN00XX=cable length e.g. CN0010=1m CN0020=2m			
Output & Supply voltage <sup>1)</sup>											
						L5=RS422 (with reverse signal)		5Vdc			
						L6=RS422 (with reverse signal)		10~30Vdc			
						H6=Push-pull HTL (with reverse signal)		10~30Vdc			
						P6=Push-pull HTL (without reverse signal)		10~30Vdc			

Top view of pin plug:

Connector Type	5-pin M12 Connector	8-pin M12 Connector	12-pin M23 Connector	5-pin M12 Connector	8-pin M12 Connector
Pin plug					
Matched connector	M125PSF-0020-W 5-core pre-molded connector with 2m PUR cable	M128PSF-0020-W 5-core pre-molded connector with 2m PUR cable	TMSP1612F Field attachable connector	TMSP125PF Field attachable connector	TMSP128PF Field attachable connector