

Topydic Series Shaft Incremental EC50A



Descriptions:

Topydic series shaft incremental encoder EC50A , 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
- Wide range of shaft diameter, $\Phi 8\sim\Phi 15\text{mm}$
- 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
- The power indicator on the back cover ensures correct power supply
- Optional output types-with cable, M12 connector and M23 connector
- Reverse connection and short circuit protection to ensure the safety ¹⁾

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	<0.01Nm (IP65) <0.05Nm (IP67)
Body material	Al-alloy
Housing material	Al-alloy
Operating temperature	$-40\sim+85\text{ }^{\circ}\text{C}$
Storage temperature	$-45\sim+90\text{ }^{\circ}\text{C}$
Weight	approx. 400g

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	Push-pull 7272	NPN open collector
Supply voltage (VDC)	5 ± 0.25 or 5~30	10~30	5~30	5~30
Power consumption (no load)	typ. 40mA max. 90mA	typ. 50mA max. 100mA	typ. 50mA max. 100mA	typ. 40mA max. 90mA
Permissible load (channel)	max. $\pm 20\text{mA}$	max. $\pm 30\text{mA}$	max. $\pm 20\text{mA}$	max. $\pm 20\text{mA}$
Pulse frequency	max. 300kHz	max. 300kHz	max. 300kHz	max. 300kHz
Signal level high	min. 2.5V	min. $U_b - 1\text{V}$	min. $U_b - 1\text{V}$	min. $U_b - 2.5\text{V}$
Signal level low	max. 0.5V	max. 0.5V	max. 0.5V	max. 0.5V
Rise time T_r	max. 200ns	max. 1 μs	max. 1 μs	max. 1 μs
Fall time T_f	max. 200ns	max. 1 μs	max. 1 μs	max. 1 μs

Terminal Configuration :

Signal	0V	+U _b	A	\bar{A}	B	\bar{B}	Z	\bar{Z}	0V Sen	+U _b 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

Product Series

Encoder Principle

EA Absolute Series

EB Easydic Series Incremental Series

EC Topydic Series Incremental Series

EV Heavyduty Series Heavy Duty Series

EX Ex-proof Series Incremental Encoders

ET/ECT Special Temperature Series

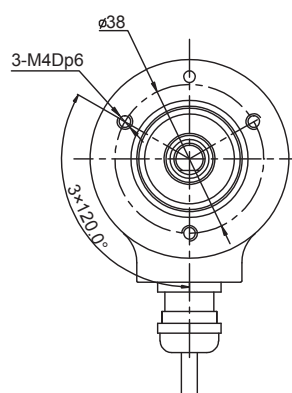
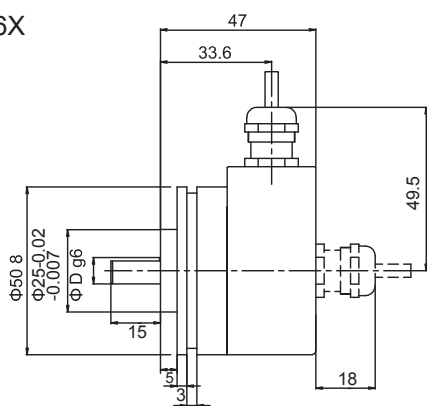
Signal Splitter and Draw Wire Measurement

Accessories

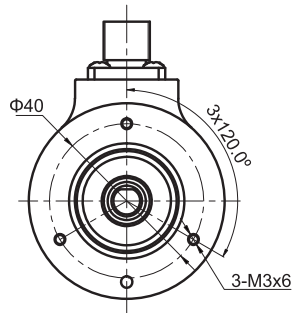
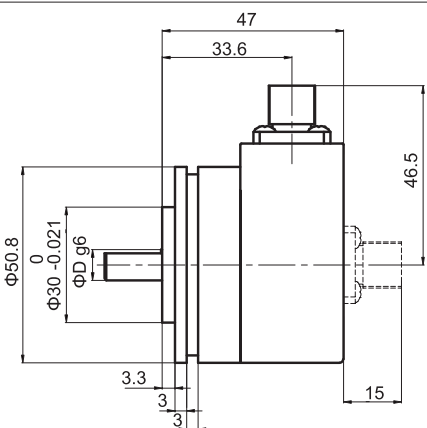
Topydic Series Shaft Incremental EC50A

Dimensions (mm)

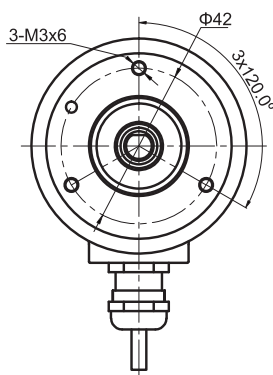
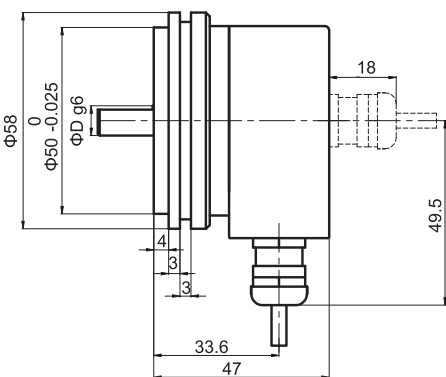
EC50A6X



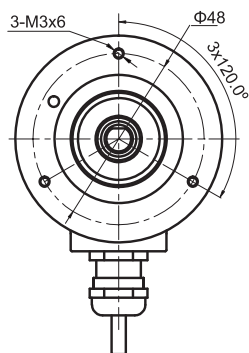
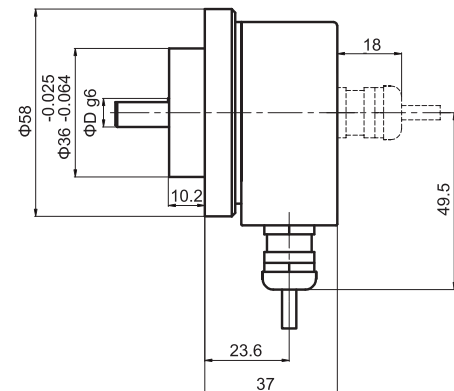
EC50A



EC50B



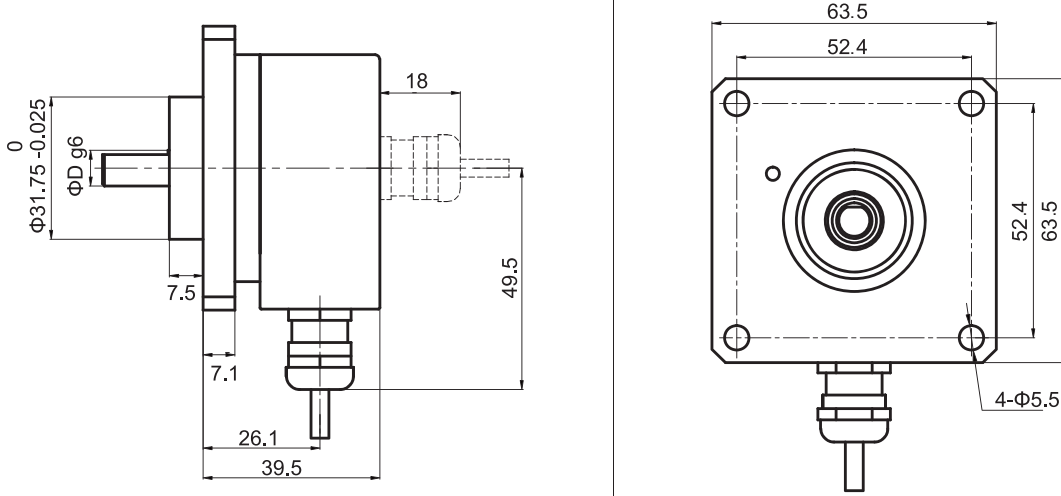
EC50C



Topydic Series Shaft Incremental EC50A

Dimensions (mm)

EC50D



Order Code:

EC
50
B
6
-
L5
T
R
-
1024
XXXX

Shaft diameter

6= $\Phi 6\text{mm} \times 10\text{mm}$
 6X= $\Phi 6\text{mm} \times 15\text{mm}$
 (only for EC50A)
 7= $\Phi 1/4" \times 5/8"$
 8= $\Phi 8\text{mm} \times 15\text{mm}$
 9= $\Phi 3/8" \times 5/8"$
 10= $\Phi 10\text{mm} \times 20\text{mm}$
 12= $\Phi 12\text{mm} \times 20\text{mm}$
 Note: the "R" after the shaft represents protection grade of IP67

Flange type

A= $\Phi 50.8$ synchro flange
 B= $\Phi 58$ synchro flange
 C= $\Phi 58$ clamping flange
 D= $\Phi 63.5$ square flange

Housing diameter

50=Housing diameter

Series

EC=Topydic incremental

Outlets direction

R=radial
 A=axial

Type of connection

P=output cable length 1.5m
 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)

Output & Supply voltage¹⁾

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
E4=Push-pull 7272 HTL (with reverse signal)	5~30Vdc
C6=NPN OC	10~30Vdc

Resolution

Pulse/r: 1-5000
 Note: The "C" after resolution represents low temperature product; for other available pulse options please contact us for further information

XXXX=Special code

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

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