

Topydic Series Incremental Encoder EC50P



Application

Topydic Series Incremental Encoder EC50P is designed with the duplex bearing structure. Die casting shell as well as perfect mechanical shock resistance, which make EC50A series can be widely used in various industrial environments. With stainless steel hole axis design, and max stainless steel shaft is $\Phi 15\text{mm}$, which could afford higher axial and radial load also can meet various industrial installation requirements. EC50P series also provides reverse-connecting and short-circuit protection in addition to wide voltage supply functionality, which are available for ensuring to reduce the effect on the encoder caused by the wrong connecting.

Characteristic

- Resolution max.5000pulse/r, output frequency up to 300kHz.
- Range of the shaft diameter is from $\Phi 6\text{mm}$ to $\Phi 15\text{mm}$, flexible coupling connection ensures the encoder can adapt to various application requirements.
- The specially designed gear shaft, metal housing as well as the compact structure could meet specific customer requirements.
- Operating temperature range from -40°C to $+85^{\circ}\text{C}$. Protection class IP66.
- Max. thickness of the product is 46.3mm, which is suitable for tight space mounting.
- Various signal output interfaces, which can meet the signal acquisition requirements by different control computers.
- Various output mode is optional. This feature allows the output mode can be selected as cable output, connector M12 or M23 output by customers.
- Reverse-connecting and short-circuit are available for ensuring customers using safely.

Mechanical Characteristics

Shaft diameter (mm)	$\Phi 6/\Phi 8/\Phi 10/\Phi 12/\Phi 14/\Phi 15/\Phi 1/4"/\Phi 3/8"/\Phi 1/2"/\Phi 5/8"$
Protection acc. to EN 60529	IP65 (without oil seal)
	IP67 (with oil seal)
Speed	12000 (without oil seal)
	6000 (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	approx. $6 \times 10^{-6}\text{kgm}^2$
Starting torque	$<0.03\text{Nm}$ (IP65)
Body material	$<0.08\text{Nm}$ (IP67)
Housing material	AL-alloy
Operating temperature	AL-alloy
Storage temperature	$-40 \sim +85^{\circ}\text{C}$
Weight	$-45 \sim +90^{\circ}\text{C}$
	approx. 400g

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

Attention: Bold part is in stock, others on request

Electrical Characteristics

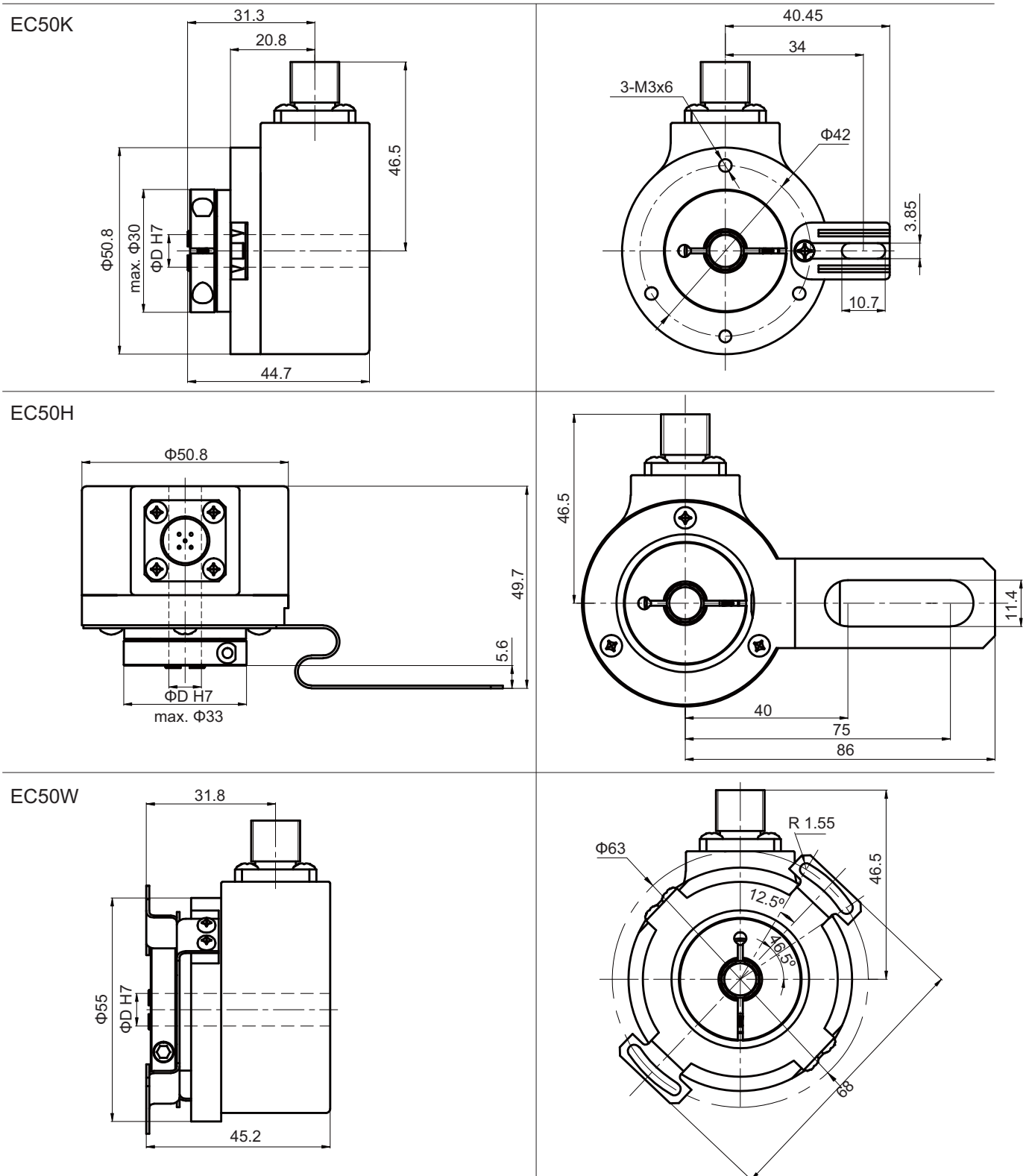
Output circuit	RS422	Push-pull	Push-pull 7272	NPN OC
Supply voltage(VDC)	5 ± 0.25 or 5~30	10~30	5~30	5~30
Power consumption(no load)	typ. 40mA	typ. 50mA	typ. 50mA	typ. 40mA
	max. 90mA	max. 100mA	max. 100mA	max. 90mA
Permissible load(channel)	max. $\pm 20\text{mA}$	max. $\pm 30\text{mA}$	max. $\pm 20\text{mA}$	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

Topydic Series Incremental Encoder EC50P

Terminal Assignment

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

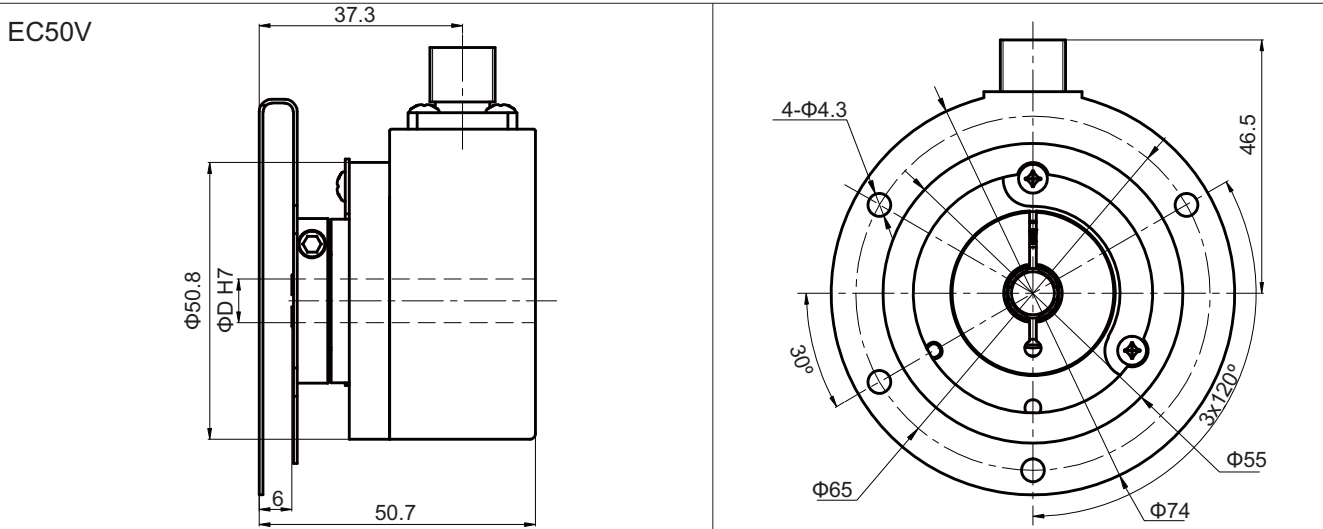
Dimensions



Product Application & Overview
General Description
Absolute
Easydic Incremental
Topydic Incremental
Heavydic Incremental
EX-proof
Special Temperature
Adapter and Speed Switch
Accessories

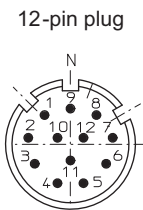
Topydic Series Incremental Encoder EC50P

Dimensions



Order Code

EC	50	W	10	-	L5	T	R	-	1024	XXXX	
Series		Housing diameter		Flange type		Shaft diameter		Type of connection		Resolution	
EC=Topydic incremental		50=housing diameter		K=long torque support slot H=tether arm large W=Double-winged coupling V=Flexible fastening connector		6= Φ6mm 7= Φ1/4" 8= Φ8mm 9= Φ3/8" 10= Φ10mm 12= Φ12mm 13= Φ1/2" 14= Φ14mm 15= Φ15mm 16= Φ5/8" shaft adding "R" means protection class is IP67		R=radial		pulse/r 1-5000 Attention: for pulse scale pls contact our company	
								Output and Supply voltage ¹⁾			
								L5=RS422 (with reverse signal) 5Vdc L4=RS422 (with reverse signal) 5~30Vdc H6=Push-pull HTL (with reverse signal) 10~30Vdc E4=Push-pull 7272 HTL (with reverse signal) 5~30Vdc C4=NPN OC 5~30Vdc			
										XXXX=Special code	



¹⁾ Only one channel allowed to be shorted-out
if UB=5V, short-circuit to channel, 0V, or +UB is permitted
if UB=10...30V, short-circuit to channel or 0V is permitted