

Topydic Series Large Hollow Shaft Incremental Encoder EV150P



Description

Topydic series large hollow shaft encoders EV150P are widely used in industrial environments in which direct installation on the drive shaft for speed feedback is required. It delivers excellent performance in withstanding mechanical shock and higher axial and radial loads. Hollow shaft structure could be directly installed onto the drive shaft, and crutch arm or block-pin accessories provide greater flexibility to prolong the usability of the encoder. EV150P delivers resolution up to 2048ppr, and guarantee both precise measurement control and safety in loading. It is the most recommended product for its high quality and affordability.

Features

- Crutch arm or block-pin accessories provide the greatest flexibility
- Resolution 2048ppr, IP64 guarantees precision and safety
- Compact hollow shaft design is both a space and cost-saver
- Metal housing for greater shock resistance, compact structure is suited for confined mounting space
- Stainless steel hollow shaft $\Phi 60H7$ — $\Phi 80H7$, "C" lock ring
- Cable output or connector is flexible and easy for maintenance
- The waterproof rubber ends ensures safety
- Reverse connection protection. Short circuit protection

Mechanical Characteristics

Hollow shaft diameter (mm)	$\Phi 60H7$... $\Phi 80H7$
Protection acc. to EN 60529	IP64
Speed	3000RPM
Max load capacity of the shaft	100N axial
	200N radial
Shock resistance	50G/11ms
Vibration resistance	10G 10...2000Hz
Bearing life	10^9 revolution
Moment of inertia	$<15 \times 10^{-6} \text{kgm}^2$
Starting torque	$<0.25 \text{Nm max.}$
Body material	AL-alloy
Housing material	AL-alloy + green paint
Operating temperature	-20°C...+90°C
Storage temperature	-40°C...+100°C
Weight	1800g

Resolution: 1000, 1024, 2048

Attention: Bold part is in stock, others on request.

Electrical Characteristics

Output circuit	RS422	Push-pull	Push-pull	Push-pull7272
Resolution	Max. 2048ppr	Max. 2048ppr	Max. 2048ppr	Max. 2048ppr
Supply voltage(Vdc)	5 \pm 0.25 or 5(10)-30	10-30	5-30	5-30
Power consumption (no load)	$\leq 80 \text{mA}$	$\leq 125 \text{mA}$	$\leq 125 \text{mA}$	$\leq 125 \text{mA}$
Permissible load (channel)	$\pm 50 \text{mA}$	$\pm 80 \text{mA}$	$\pm 80 \text{mA}$	$\pm 80 \text{mA}$
Pulse frequency	Max. 800kHz	Max. 800kHz	Max. 800kHz	Max. 800kHz
Signal level high	Min. 3.4V	Min. $U_b - 1.8$	Min. $U_b - 1.8$	Min. $U_b - 2.5$
Signal level low	Max. 0.4V	Max. 2.0V	Max. 0.4V	Max. 0.4V
Rise time T_r	Max. 200ns	Max. 1 μ s	Max. 1 μ s	Max. 1 μ s
Fall time T_f	Max. 200ns	Max. 1 μ s	Max. 1 μ s	Max. 1 μ s

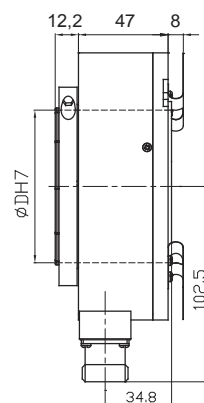
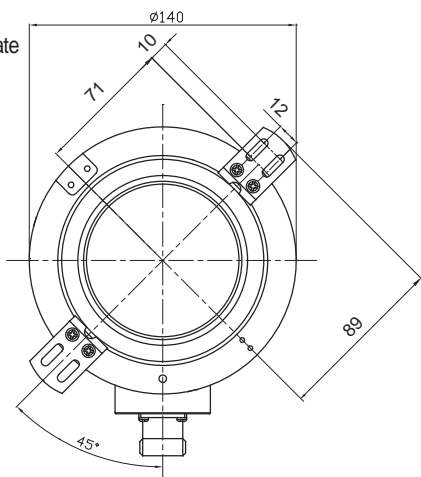
Terminal Assignment

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	$\frac{\square}{\square}$
Pin	10	12	5	6	8	1	3	4	11	2	PH

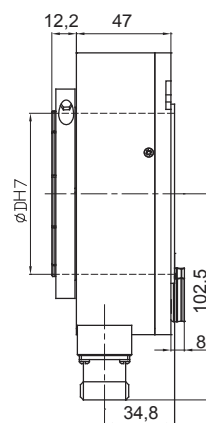
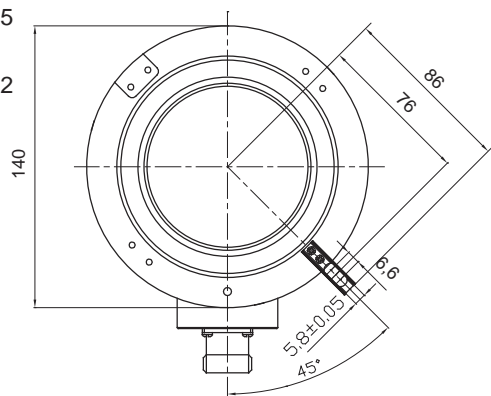
Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Dimension (mm)

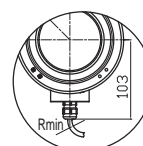
EV150P
Double-wing fixing plate
E41350013



EV150K
Long torque support slot:
E41350035
Block pin:
E41220002

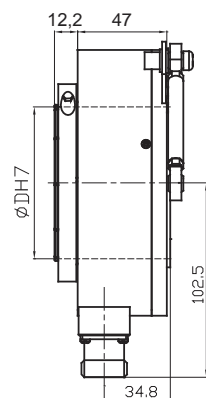
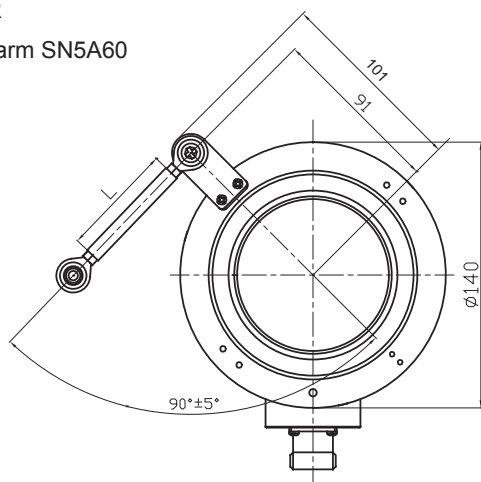


Cable output

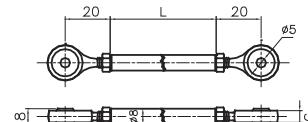


Rmin
Fix installation: 55mm
Draw installation: 70mm

EV150R
Torque arm SN5A60



Crutch arm order
SN5A XX
(30,60,90 means length)



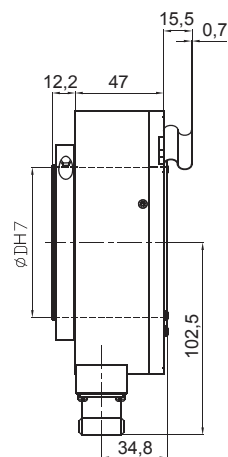
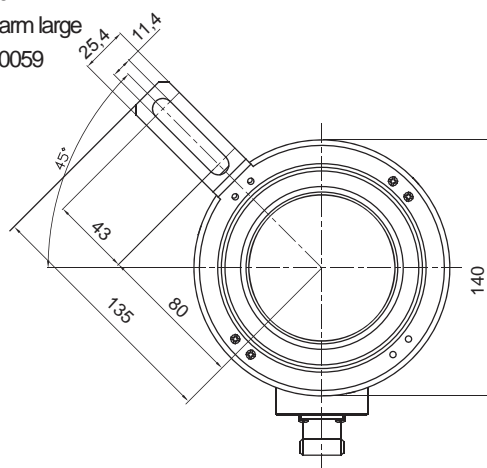
Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Dimension (mm)

EV150H

Tether arm large

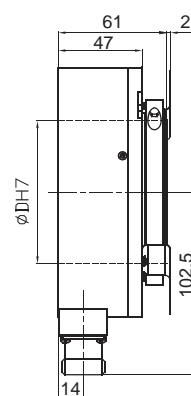
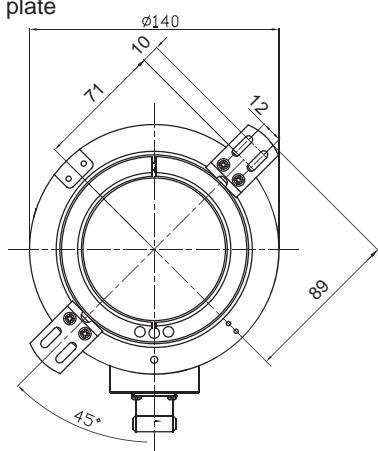
E41350059



EV150RP

Double-wing fixing plate

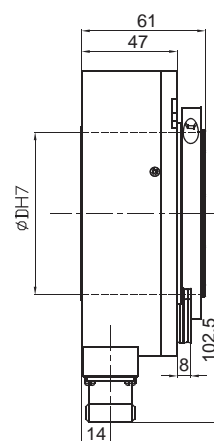
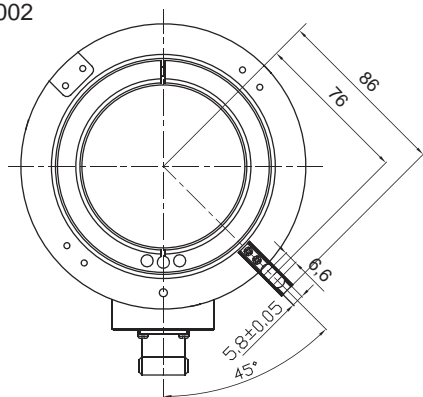
E41350013



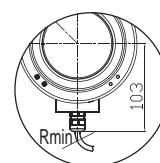
EV150RK

Long torque support slot:E41350035

Block pin:E41220002



Cable output



Rmin

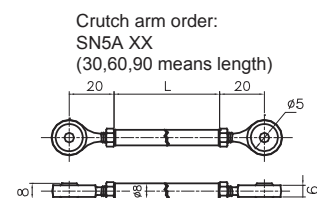
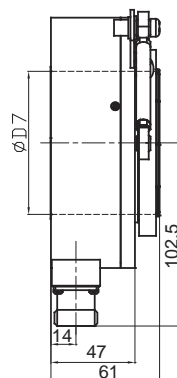
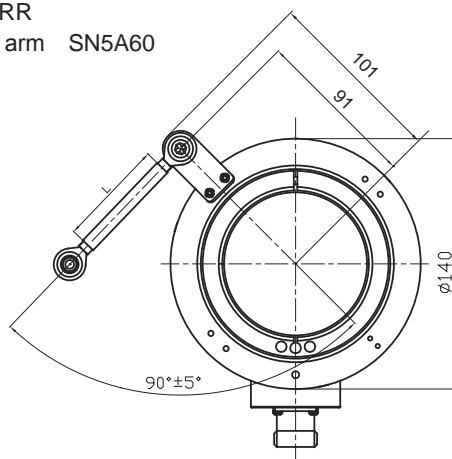
Fix installation: 55mm

Draw installation: 70mm

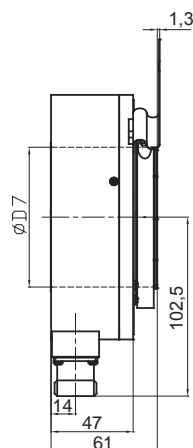
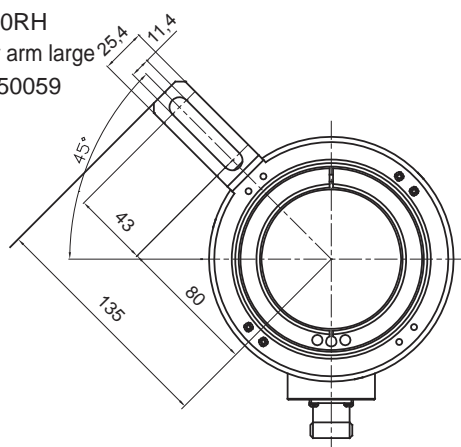
Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Dimension (mm)

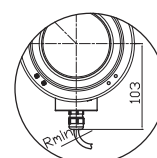
EV150RR
Torque arm SN5A60



EV150RH
Tether arm large
E41350059

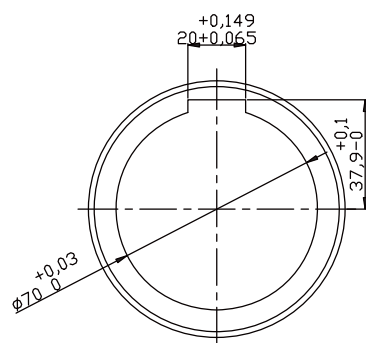


Cable output



Rmin
Fix installation: 55mm
Draw installation: 70mm

Keyway shaft



EV150P Keyway

Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Order Code:

EV	150	P	70	—	L5	T	R	—	1024	XXXX
			<u>Shaft diameter</u> 60=Φ60H7 65=Φ65H7 70=Φ70H7 75=Φ75H7 80=Φ80H7 Adding "K" to a shaft diameter means it is a hollow shaft with keyway, eg. 60K=Φ60F7 keyway (≤70) without fixed lock ring for keyway mounting		<u>Type of connection</u> P=Cable length 1.5m T=M23,12-pin plug without connector (other cable length are available upon request)		<u>Outlet direction</u> R=radial		<u>Resolution</u> Pulse/r ≤2048 Attention: for pulse scale pls contact our company.	
			<u>Flange type</u> P=hollow shaft with spring K=long torque support slot R=universal torque arm (SN5A60) H=tether arm large RP=hollow shaft with spring RK=long torque support slot RR=universal torque arm (SN5A60) RH=tether arm large		<u>Output & Supply voltage</u> ¹⁾ L5=RS422 (with reverse sign) 5Vdc L6=RS422 (with reverse sign) 10...30Vdc H6=Push-pull HTL (with reverse sign) 10...30Vdc P6=Push-pull (without reverse sign) 10...30Vdc E4=Push-pull7272 HTL (with reverse sign) 5...30Vdc				XXXX=Special code Customized cable length CN00XX=cable length e.g. CN0010=1m CN0020=2m	
			<u>Housing diameter</u> 150mm=housing diameter							
<u>Series</u> EV = Topydic incremental										

Diameter	Lock ring	Screw
Φ60	E41230053	M4×16
Φ65	E41230059	M4×16
Φ70	E41230058	M4×16
Φ75	E41230057	M4×16
Φ80	E41230056	M4×16

¹⁾ When the provided power voltage is correct:
 Short-circuit to channel, 0V, or +UB is permitted when UB=5V;
 Short-circuit to channel or 0V is permitted when UB=10...30V.

Connector order:
 Matching "T" connector: TMSP1612F