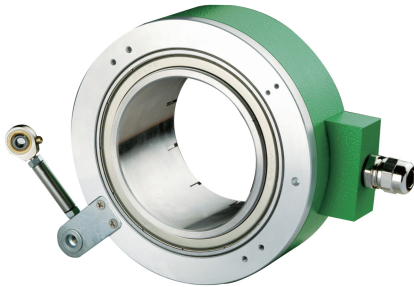


# Encoder

## 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 ensure 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	10 G 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	$-20 \sim +90^\circ \text{C}$
Storage temperature	$-40 \sim +100^\circ \text{C}$
Weight	1800g

Resolution: 1000, 1024, 2048

Attention: Bold part is in stock, others on request

### Electrical Characteristics

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

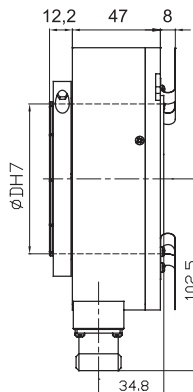
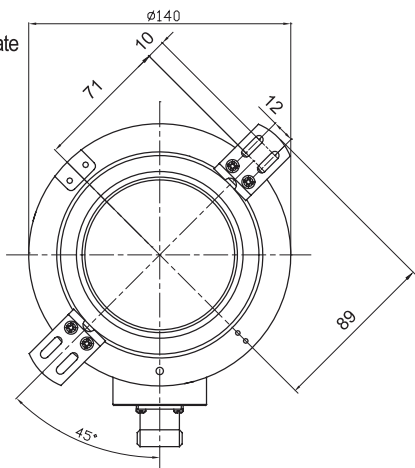
### Terminal Assignment

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	$\perp$
Pin	10	12	5	6	8	1	3	4	11	2	PH

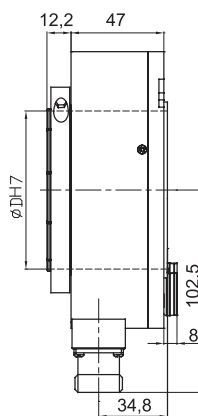
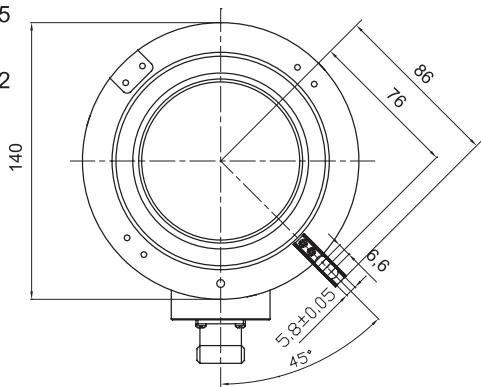
# Topydic Series Large Hollow Shaft Incremental Encoder EV150P

## Dimensions

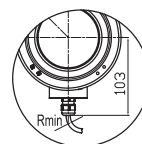
EV150P  
Double-wing fixing plate  
E41350013



EV150K  
Long torque support slot:  
E41350035  
Block pin:  
E41220002

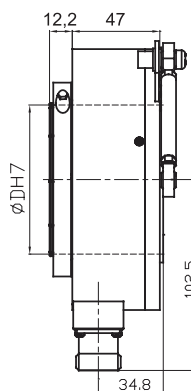
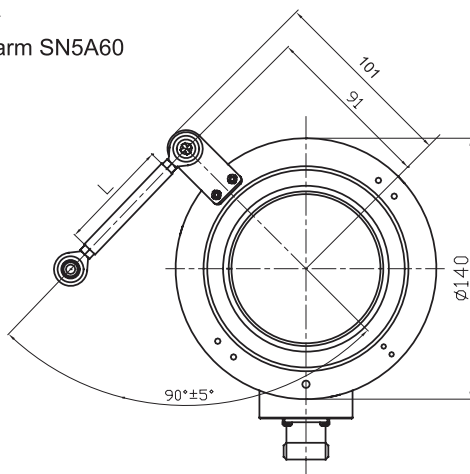


Cable output

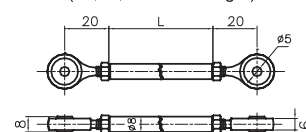


Rmin  
Fix installation: 55mm  
Draw installation: 70mm

EV150R  
Torque arm SN5A60



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



# Encoder

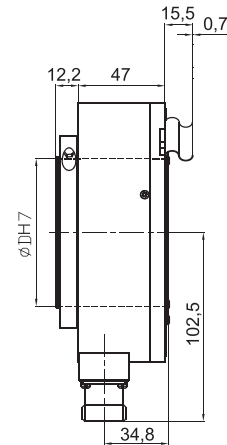
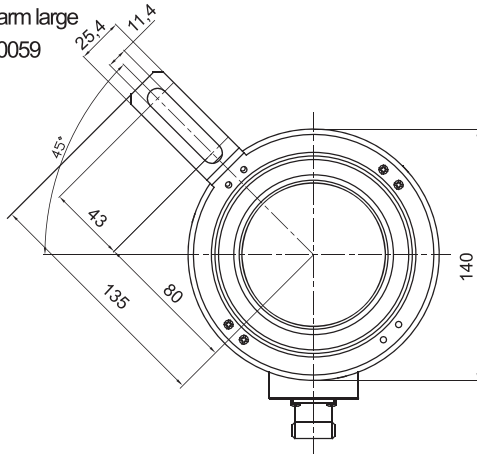
## Topydic Series Large Hollow Shaft Incremental Encoder EV150P

### Dimensions

EV150H

Tether arm large

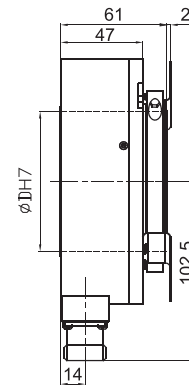
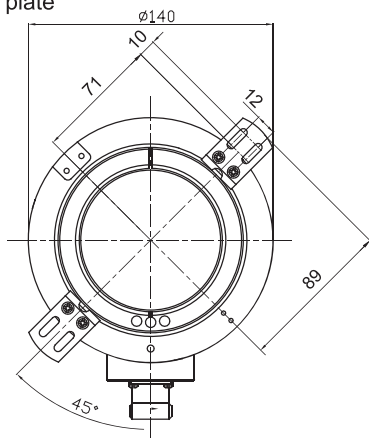
E41350059



EV150RP

Double-wing fixing plate

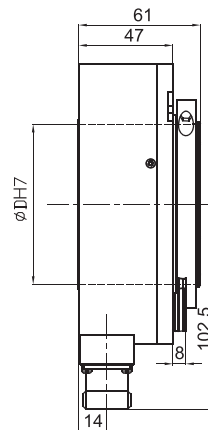
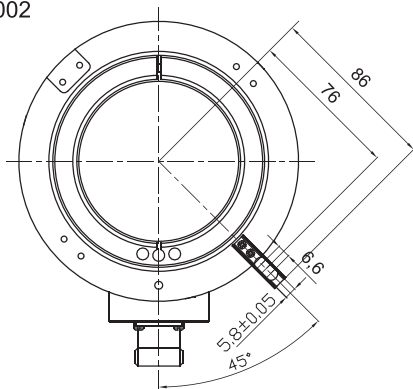
E41350013



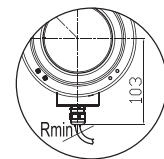
EV150RK

Long torque support slot: E41350035

Block pin: E41220002



Cable output



Rmin

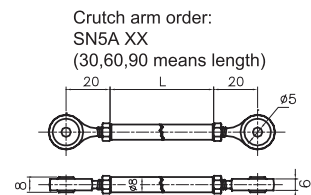
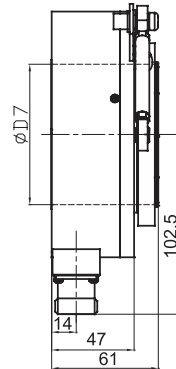
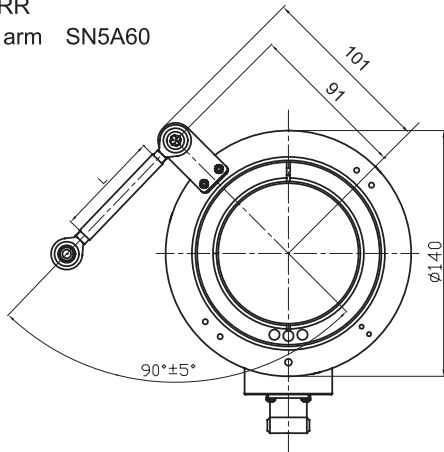
Fix installation: 55mm

Draw installation: 70mm

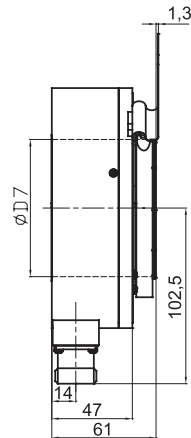
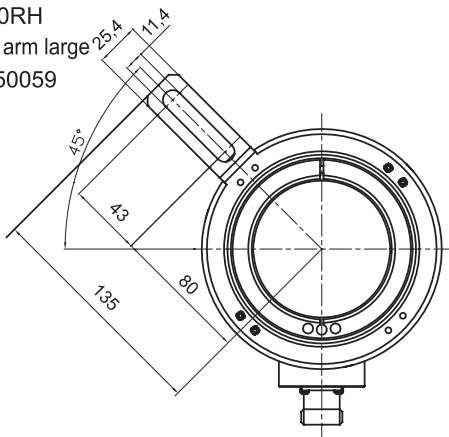
# Topydic Series Large Hollow Shaft Incremental Encoder EV150P

## Dimensions

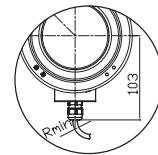
EV150RR  
Torque arm SN5A60



EV150RH  
Tether arm large  
E41350059

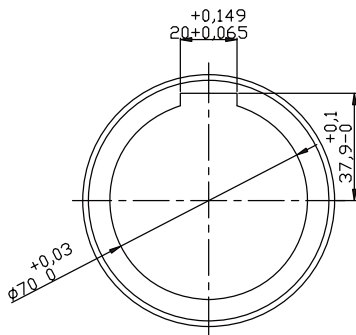


Cable output



Rmin  
Fix installation: 55mm  
Draw installation: 70mm

## Keyway shaft



EV150P Keyway

# Encoder

## Topydic Series Large Hollow Shaft Incremental Encoder EV150P

Order Code:

EV 150 P 70 - L5 T R - 1024 XXXX

**Shaft diameter**

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

**Flange type**

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

**Housing diameter**  
 150=housing diameter

**Series**  
 EV = Topydic incremental

**Outlets direction**  
 R=radial

**Type of connection**  
 P=Cable length 1.5m  
 T=M23, 12-pin plug without connector  
 (other cable length are available upon request)

**Resolution**  
 Pulse/r ≤2048  
 Attention: for pulse scale pls contact our company

**Output & Supply voltage <sup>1)</sup>**

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

**XXXX=Special code**  
 Customized cable length  
 CN00XX=cable length  
 e.g. CN0010=1m  
 CN0020=2m

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

<sup>1)</sup> 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