

EHK99H series  
Sensing method optical  
Shaft insulation shaft insulation reach to 2.5KV  
Housing size  $\Phi 99.5\text{mm}$   
hollow shaft  $\Phi 12$ 、 $\Phi 16\text{mm}$   
Max. resolution 2500PPR  
Supply voltage 5VDC, 9-30VDC  
Protection IP66

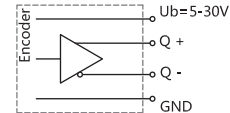
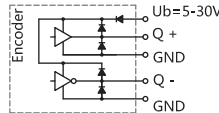
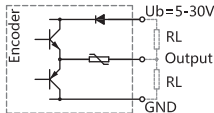


EHK9901H series  
Encoder with redundant signals  
Sensing method optical  
Shaft insulation shaft insulation reach to 2.5KV  
Housing size  $\Phi 99.5\text{mm}$   
hollow shaft  $\Phi 12$ 、 $\Phi 16\text{mm}$   
Max. resolution 2500PPR  
Supply voltage 5VDC, 9-30VDC  
Protection IP66

## Mechanical characteristics

Shaft diameter	$\Phi 12$ 、 $\Phi 16\text{mm}$ axis of cone 17 (1:10)
Protection	IP66
Speed	6000RPM
Shaft loading	Max. 100 N Axial; max. 300 N Radial
Shock resistance	1000m/s <sup>2</sup> (11ms)
Vibration resistance	100m/s <sup>2</sup> (20-2000Hz)
Bearing life	10 <sup>9</sup> turns
Rotor moment of inertia	$\approx 55 \times 10^{-6} \text{kgm}^2$
Starting torque	<0.05Nm
Materials	Materials Flange :PEEK Solid shaft :Aluminium alloy Housing:Aluminium alloy
Working temperature	-40℃...+85℃
Storage temperature	-40℃...+85℃
Weight	Approx. 1.5kg

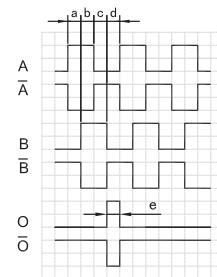
## Electrical characteristics



Output circuit	Push-Pull	Push-Pull Differential	RS422 (TTL Compatible)
Pulse rate	max. 2500P/R	max. 2500P/R	max. 2500P/R
Supply voltage	5-30V	5-30V	5-30V
Power consumption(no load)	max. 125 mA	max. 125 mA	max. 80mA
Permissible load/channel	max. $\pm 80\text{mA}$	max. $\pm 80\text{mA}$	max. $\pm 50\text{mA}$
Pulse frequency	max. 100 KHz	max. 100 KHz	max. 100 KHz
Signal level high	min. $+U_b - 4\text{V}$	min. $+U_b - 4\text{V}$	min. $> 3\text{V}$
Signal level low	max. 0.8V	max. $< 2.5\text{V}$	max. $< 1.15\text{V}$
Rise time Tr	max. 1 $\mu\text{s}$	max. 1 $\mu\text{s}$	max. 1 $\mu\text{s}$
Fall time Tf	max. 1 $\mu\text{s}$	max. 1 $\mu\text{s}$	max. 1 $\mu\text{s}$
Short circuit proof outputs	yes	yes	yes

## Terminal assignment

Signal		OV	+Ub	A	$\bar{A}$	B	$\bar{B}$	O	$\bar{O}$	$\text{⏏}$
Connection terminal		2	1	4	3	5	6	7	8	
Colour		WH	BN	GN	PK	YE	BU	GY	RD	Shield



Shaft turning clockwise, top-view of shaft.  
a、b、c、d =  $T/4 \pm T/8$   
e =  $T/4 \pm T/8$

Note: Positional relationship of O channel and A&B channels is not specified.

Hollow shaft incremental encoder

EHK99H series/EHK9901H series/EHK99HZ series

12cores M23  
Socket CCW  
(9223-2)



10 12 5 6 8 1 3 4 PH<sup>1)</sup>

Note: <sup>1)</sup> PH= connected to housing

12cores M23  
Socket CW  
(9223)



10 12 5 6 8 1 3 4 PH<sup>1)</sup>

Note: <sup>1)</sup> PH= connected to housing

## Ordering information

EHK99 XX H 12 E 1024 A 5-30 R 2 / XXXX

①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧    ⑨    ⑩

① Extended No. Null: Standard 01: Encoder with redundant signals	② Shaft type H: hollow shaft HZ: axis of cone	③ Shaft diameter 12: 12mm <b>16: 16mm</b> <b>17: 17 (1: 10)</b>	④ Channels <b>B: A B</b> C: A B O <b>D: A <math>\bar{A}</math> B <math>\bar{B}</math></b> <b>E: A <math>\bar{A}</math> B <math>\bar{B}</math> O <math>\bar{O}</math></b>	⑤ Pulse rate 600, <b>1024,2048</b> 2500
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⑥ Output circuit F: Push-Pull <b>A: Push-Pull Differential</b> <b>B: RS422 (TTL Compatible)</b>	⑦ Supply voltage <b>5: 5VDC</b> <b>9-30: 9...30VDC</b>	⑧ Exit position R: Radial	⑨ Connection type T1: M20 Radial cable sealing head $\phi$ 11-14 T2: M20 Radial cable sealing head $\phi$ 8-11 Figure: Cable length(m) 9223: M23 plug in clockwise 12 cores 9223-2: M23 plug in anticlockwise 12 cores	⑩ Special code XXXX
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Note: Printed in bold=standard items

Notes: 1, mentioned resolution is in common use, others depend on real situation.

2, pls confirm the model information: model series, axis dimension, output channel, resolution, output form, voltage, outlet, cable length, connect type and special code.

Ordering example : 1、EHK99H16E1024A9-30RT1,, pls specify the special demand at end

Explanation : EHK99H series, shaft diameter 16mm, output A B O, 1024PPR, push-pull, 9-30VDC, M20 Radial cable sealing head  $\phi$ 11-14.

2、EHK9901H16E2048A9-30RT1, pls specify the special demand at end.

Explanation : EHK9901H series, Encoder with redundant signals, output A  $\bar{A}$  B  $\bar{B}$  O  $\bar{O}$ , 2048PPR, push-pull differential, 9-30VDC, M20 Radial cable sealing head  $\phi$ 11-14.

3、EHK99HZ17E2048A9-30R9223, pls specify the special demand at end.

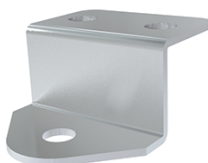
Explanation : EHK99HZ series, axis of cone 17mm, output A  $\bar{A}$  B  $\bar{B}$  O  $\bar{O}$ , 2048PPR, Push-Pull Differential, 9-30VDC, M23 Clockwise 12 pin plug connection.

## Accessories (sold separately) Note: Further stator coupling can be found in the accessories selection table.

Mounting bracket  
Model (normal) : 8166A

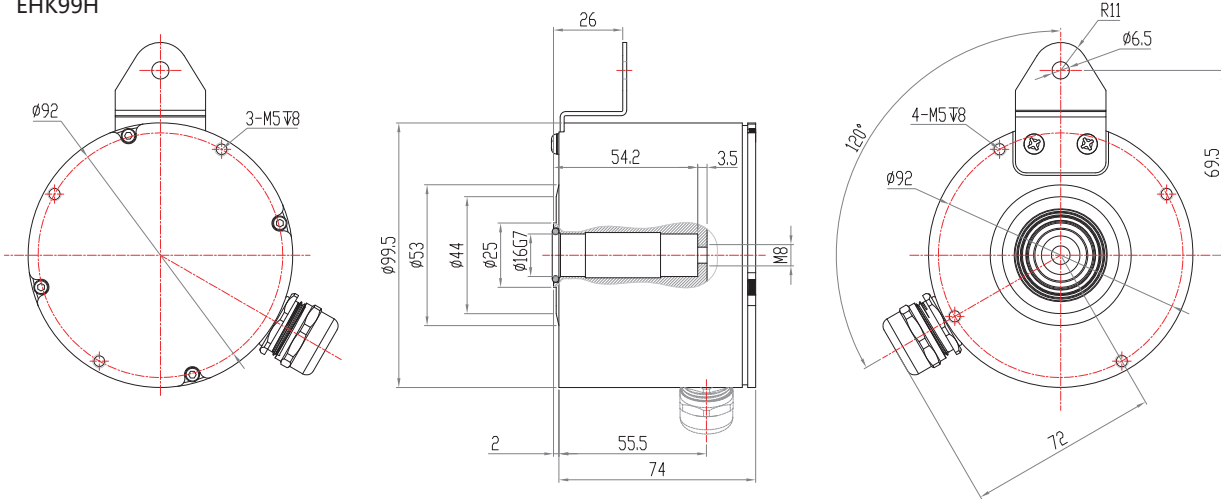
Mounting bracket  
Model (normal) : 8166

Tether arm, long  
Model (normal) : **8561A 6/L=X**

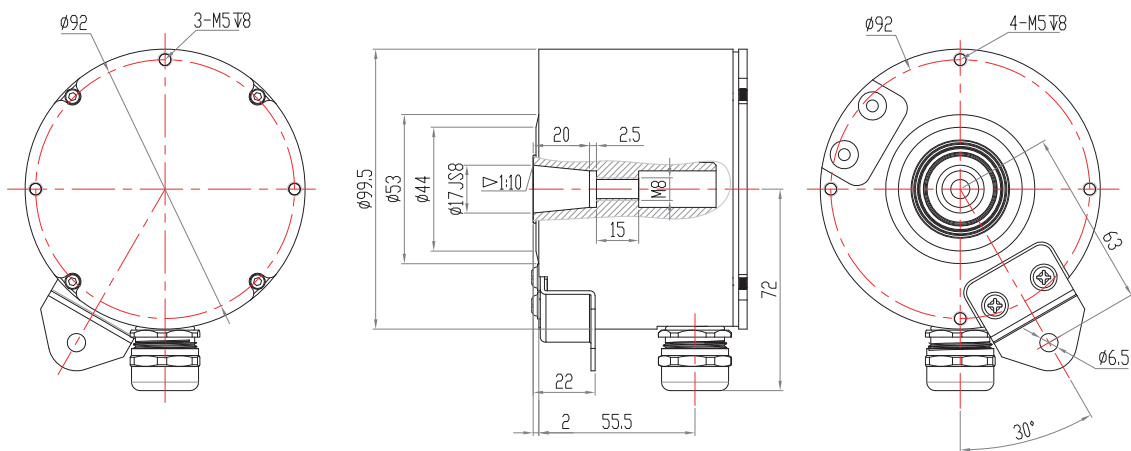


Dimensions

EHK99H



EHK99HZ



EHK9901H

