

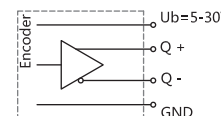
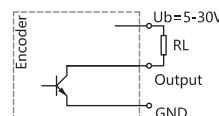
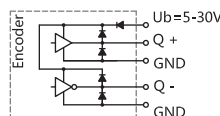
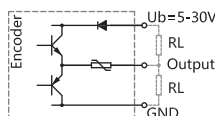


ESK76H Series	
Sensing method	Optical
Housing size	Φ76 mm
Hollow shaft diameter	Φ12、Φ20、Φ25mm
Max. resolution	2048 PPR
Supply voltage	5VDC, 5-30VDC, 9-26VDC
Protection	IP54/ IP65

### Mechanical characteristics

Shaft diameter	Φ12、Φ20、Φ25mm
Protection	IP54/IP65
Speed	max. 6000 min <sup>-1</sup>
Shaft loading	max. 80N Axial ; max. 100N Radial
Shock resistance	100g, 6ms
Vibration resistance	10g, 10...2000HZ
Bearing life	10 <sup>9</sup> turns
Rotor moment of inertia	approx. 1.8×10 <sup>-6</sup> kgm <sup>2</sup>
Starting torque	< 0.05Nm
Materials	Solid shaft : Stainless steel Flange : Aluminum alloy Housing: Aluminum alloy
Working temperature	-40 C ... +85 C
Storage temperature	-40 C ... +85 C
Weight	approx. 320g

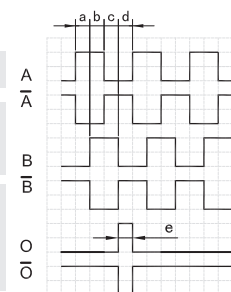
### Electrical characteristics



Output circuit	Push-Pull	Push-Pull Differential	Open Collector	RS422 (TTL Compatible)
Pulse rate	max. 2048 P/R	max. 2048 P/R	max. 2048 P/R	max. 2048 P/R
Supply voltage	5-30V	5-30V	5-30V	5-30V
Power consumption(no load)	max. 125 mA	max. 125 mA	max. 80 mA	max. 80 mA
Permissible load/channel	max. ±80 mA	max. ±80 mA	max. -50 mA	max. ±50 mA
Pulse frequency	max. 100 KHz	max. 100 KHz	max. 100 KHz	max. 100 KHz
Signal level high	min. Ub-2.5V	min. Ub-2.5V	/	min. 2.5V
Signal level low	max. 0.8V	max. 0.8V	/	max. 0.4V
Rise time Tr	max. 1μs	max. 1μs	/	max. 1μs
Fall time Tf	max. 1μs	max. 1μs	/	max. 1μs
Short circuit proof outputs	yes	yes	yes	yes

### Terminal assignment

Signal		OV	+Ub	A	$\bar{A}$	B	$\bar{B}$	O	$\bar{O}$	$\text{⏏}$
Cable Colour		WH	BN	GN	PK	YE	BU	GY	RD	Shield
Sub-Dmale connector, 9-pin (9109)		3	4	2	8	1	9	7	6	5



Shaft turning clockwise, top-view of clamping ring.  
a, b, c, d = T/4 ± T/8  
e = T/4 ± T/8

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

## Ordering information

ESK76 XX H 20 B 1024 F 5-30 R 2 / XXXX

①    ②    ③    ④    ⑤    ⑥    ⑦    ⑧    ⑨    ⑩

① Extended No.  
XX

② Shaft type  
**H: Hollow shaft**  
HK: Hollow shaft with keyway  
HS: Hollow shaft with mounting thread  
KS: Hollow shaft with keyway + mounting thread

③ Shaft diameter<sup>1)</sup>  
12: 12mm  
20: 20mm  
25: 25mm

④ Channels  
**B: A B**  
C: A B O  
D: A A B B  
E: A A B B O O  
F: A B O

⑤ Pulse rate  
**300,400,500,**  
512,**600,720,**  
1000,1024,  
2000,2048

⑥ Output circuit  
F: Push-Pull  
A: Push-Pull Differential  
C: Open Collector  
B: RS422 (TTL Compatible)

⑦ Supply voltage  
5: 5VDC  
5-30: 5...30VDC  
**9-26: 9...26VDC**

⑧ Exit position  
R: Radial

⑨ Connection type  
Figure: Cable length(m)  
9109: Sub-D male connector,9-pin

⑩ Special code  
XXXX

Note: Printed in bold=standard items

Notes: 1, <sup>1)</sup> Shaft diameter available at a short notice (12mm,20mm,25mm) , other shaft diameter on request.

2, Pulse rates available at a short notice (300,400,500,512,600,720,1000,1024,2000,2048) , other pulse rates on request.

3, Please chose the ordering information: Extended No., Shaft type, Shaft diameter, Channels, Pulse rate, Output circuit, Supply voltage, Exit position, Connection type and Special code.

Ordering example: 1、 ESK76H20B1024F9-26R2, special requirements please indicate to the back.

Explanation: ESK76H Series, Shaft diameter 20mm, Output channels A B, 1024PPR, Push-Pull, DC 9-26V, Radial Output 2m.

2、 ESK76H20E1024A5-30R9109, special requirements please indicate to the back.

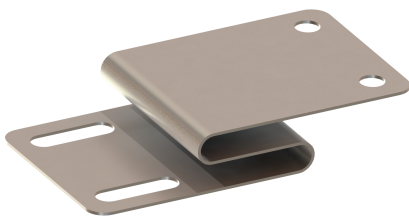
Explanation: ESK76H Series, Shaft diameter 20mm, Output channels A A B B O O, 1024PPR, Push-Pull Differential, 5-30VDC, Radial Output, Sub-D male connector, 9-pin.

## Accessories (sold separately)

Note: Further fixing components can be found in the accessories selection table.

Tether square

Model (common) : 8117



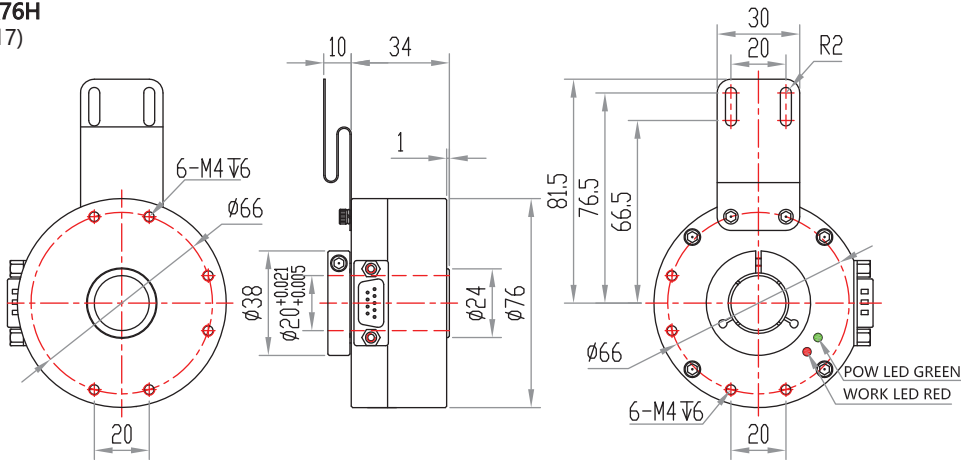
Isolation insert for hollow shaft

Model (common) : 864X

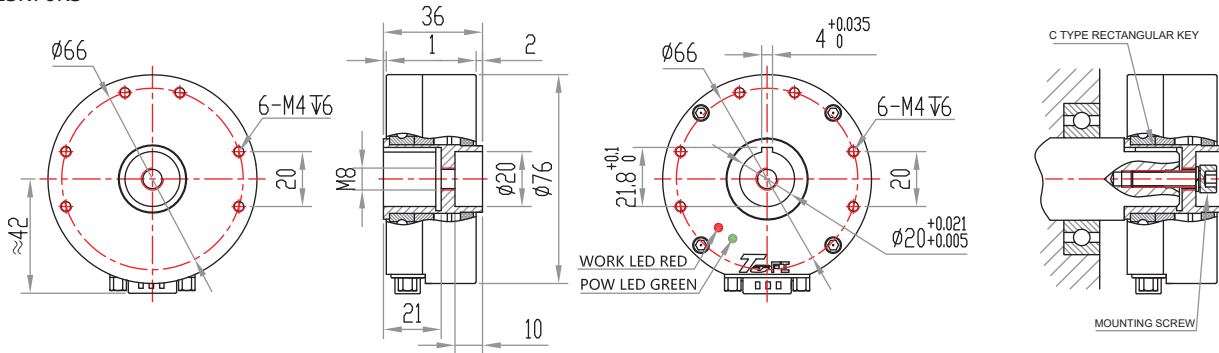


## Dimensions

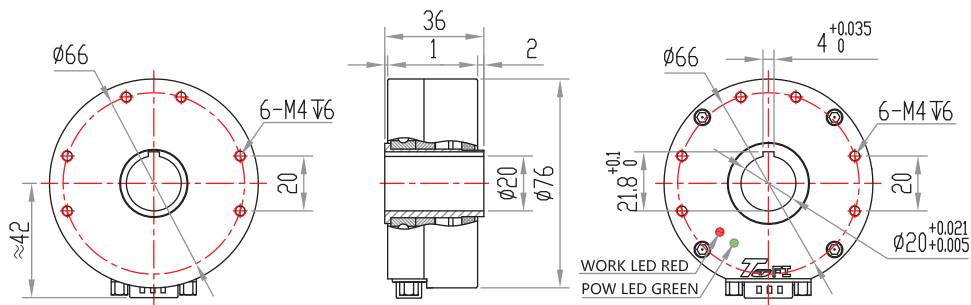
**ESK76H**  
(8117)



**ESK76KS**



**ESK76HK**



**ESK76HS**

