

SE17 Series



- Through Hollow Shaft - Diameter Ø45 ~ Ø60 mm. Accept OEM diameter
- NSK / NACHI made in Japan bearing with heavy axial and radial direction load.
- Inversion of polarity protection.
- 3 Years Warranty.

◆ ORDERING INFORMATION

SE17 <u> </u> - <u> </u> <u> </u> <u> </u> <u> </u> - <u> </u> <u> </u> - <u> </u> <u> </u> <u> </u> <u> </u> # <u> </u> <u> </u>			Model Available							
			1	2	3	4	5	6	7	8
1	Shaft Structure	2 – Key way + Set screw								
2	Resolution (PPR)	1024 – 1024 PPR								
3	Shaft Diameter (mm)	45 – Ø45 47 – Ø47 48 – Ø48 49 – Ø49 50 – Ø50 52 – Ø52 55 – Ø55 56 – Ø56 57 – Ø57								
4	Output Phase	2 – A/B Phase Z – A/B/Z Phase	Supply Voltage	Output	Phase					
					A/B	A/B/Z				
5	Output Circuit	P – Push-Pull L – Line Driver	5V	Voltage	2V	3V				
				Line driver	2L	3L				
			7~24V	Push-Pull	2P	3P*				
				Line driver	2M	3M*				
6	Shield Cable Length	Blank - 0.5M - Standard length E - 7.0M + Y-type terminal 4mm								
7	Accessory Options	0 –Standard accessory								

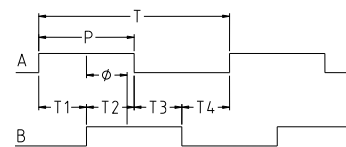
◆ TECHNICAL DATA

Parameter	Unit	Specification			Symbol
ELECTRICAL					
Output circuits		Push-Pull	Line Driver	Voltage Output	
Voltage	V	DC 7~24 V ±10%	DC5V / DC12V ±10%	DC5V ±10%	V _{CC}
High Level Output Voltage	V	V _{CC} - 2.5 Min	2.5 Min	4.0 Min	V _H
Low Level Output Voltage	V	1.5 Max	1.0 Max	0.5 Max	V _L
Rise Time (10% → 90%)	* μsec	0.5 Max	0.2 Max	0.35	T _r
Fall Time (90% → 10%)	* μsec	0.5 Max	0.2 Max	0.35	T _f
Input Current – No Load	mA	45 Max.	100 Max.	50 Max.	
Output Current per Channel	mA	50 Max.			
Resolution	PPR	512 / 1024			
Max. Frequency Response:	kHz	512 / 1024 PPR : 50 kHz			
Output Waveforms		Square Waves			
Pulse Width Error	**	P = T/2±T/10			ΔP
Logic State Width Error	**	T ₁ =T ₂ =T ₃ =T ₄ = T/4±T/10			ΔS
Phase Error	**	∅ = T/4±T/10			Δ∅
Protection		<ul style="list-style-type: none"> ● Reverse polarity protection ● Outputs Short-circuit protection(Excluding Line driver versions) 			
MECHANICAL					
Shaft Diameter	mm	∅45 ~ ∅51		∅52 ~ ∅60	
Moment of inertia	Kg-cm ²	7.8		5.4	
Shaft load - Radial Direction	Kg	20 Max.		20 Max.	
Shaft load - Axial Direction	Kg	10 Max.		10 Max.	
Speed	rpm	1800 Max.			
Starting Torque at 25 °C	kg-cm	1.0 Max.			
Angular acceleration	rad/s ²	10 ⁴ Max.			
Shaft axial end play	mm	0.05 Max.			
Shaft runout (TIR)	mm	0.05 Max.			
Shaft perpendicularity (TIR)	mm	0.15 Max.			
Bearing Life		40000 hr - 1800rpm, 25°C			
Net weight	kg	2.2			
Gross weight		2.4 / 19x18x10			
ENVIRONMENT					
Operating Temperature	°C	-10 ~ +70			
Storage Temperature	°C	-20 ~ +80			
Relative Humidity		95% Max. without condensation			
Shock	***	50G 11ms - 3 times each in X,Y,Z directions			
Vibration	****	10~55Hz 1.5mm(P-P) each in X,Y,Z directions for 2 hrs			
Protection		IP44			

*: see FIG.1
 **: see FIG.2
 ***: According to JIS-C5026
 ****: According to JIS-C5025



FIG.1

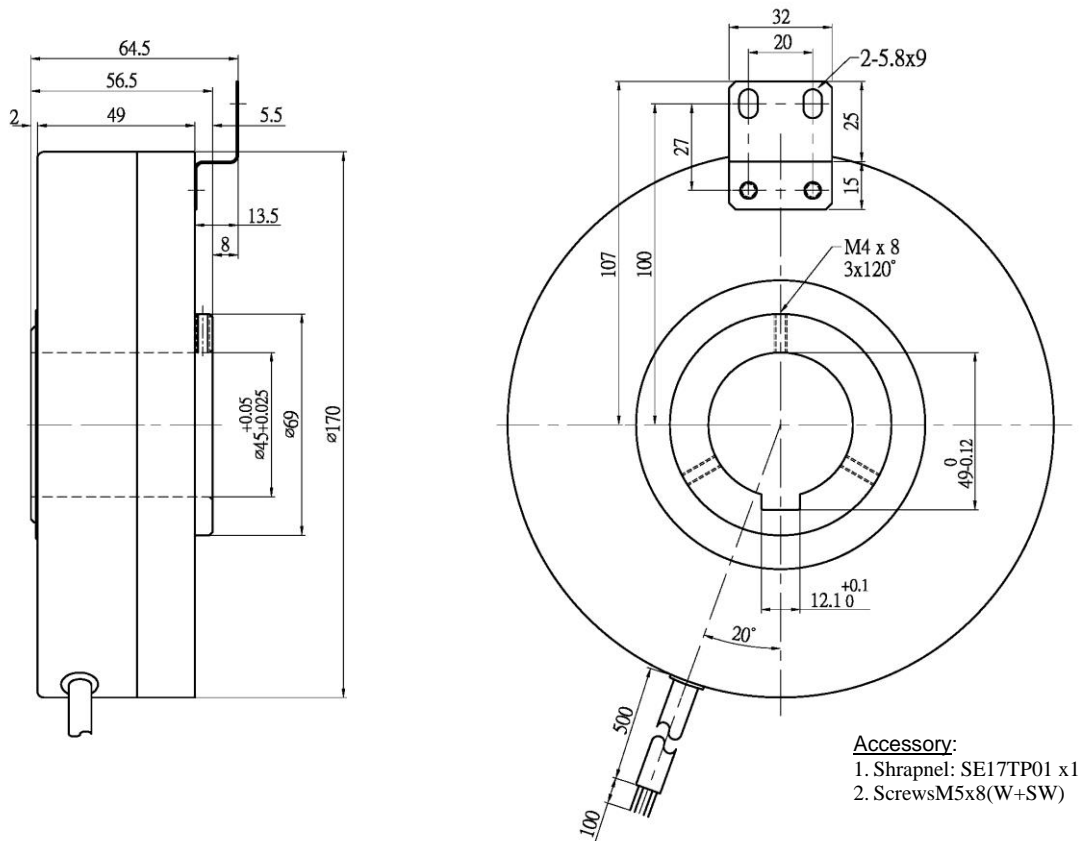


Rotation Direction: Clockwise (CW) - Viewed from the Fixed Side Axis of the Encoder

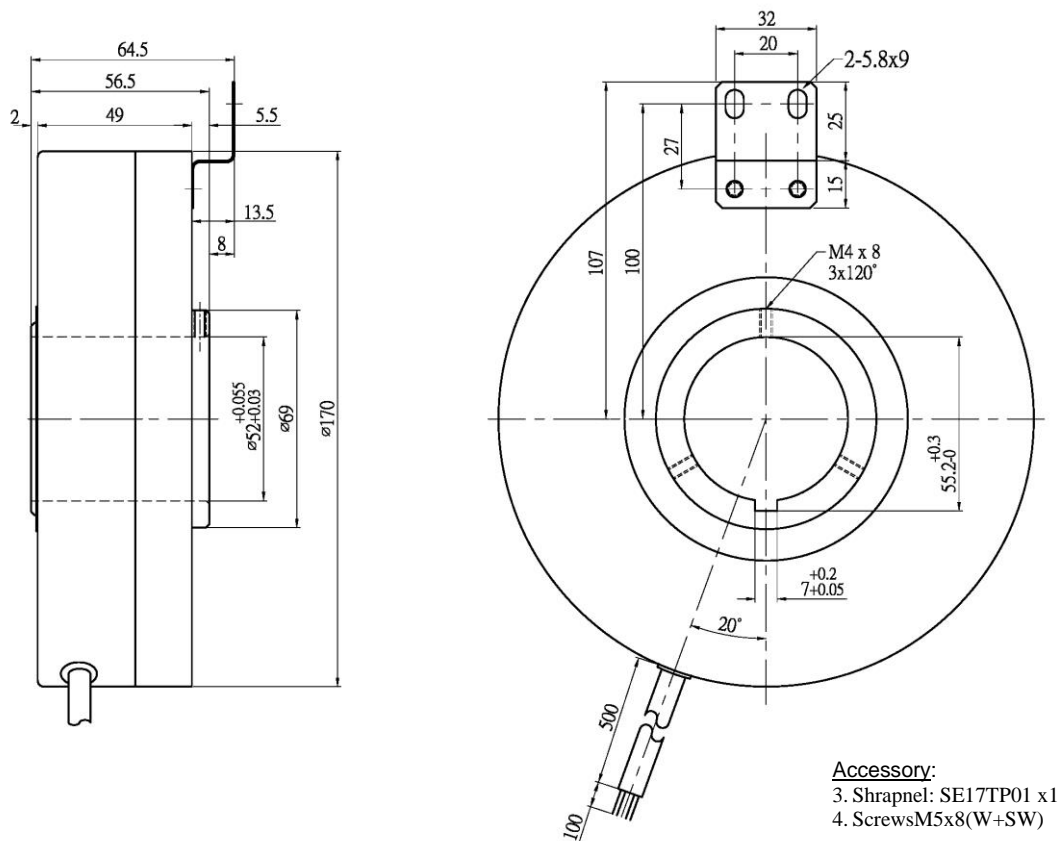
FIG.2

◆ DIMENSION

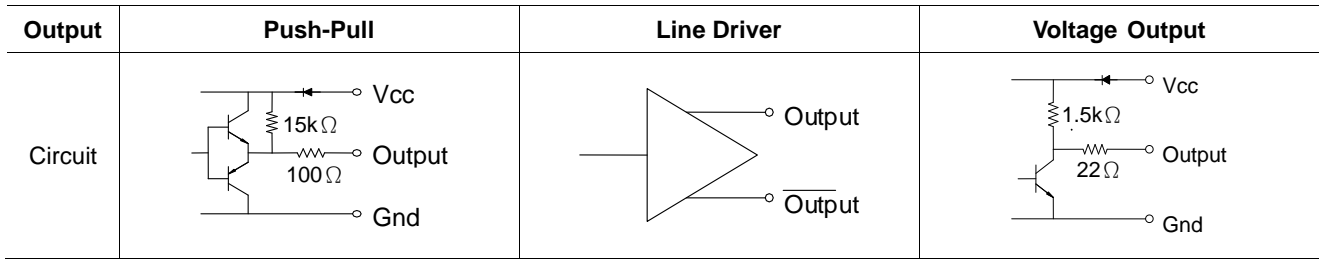
- SE172-XXXX-45 Series



- SE172-XXXX-52 Series



◆ OUTPUT CIRCUIT



◆ CONNECTION

- 2P / 2V – Shield Cable, 4C*22AWG, O.D.: Ø 6mm

Output Circuit	Red	Black	Green	Blue
A/B Phase, Push-Pull	V _{CC}	Gnd	A	B

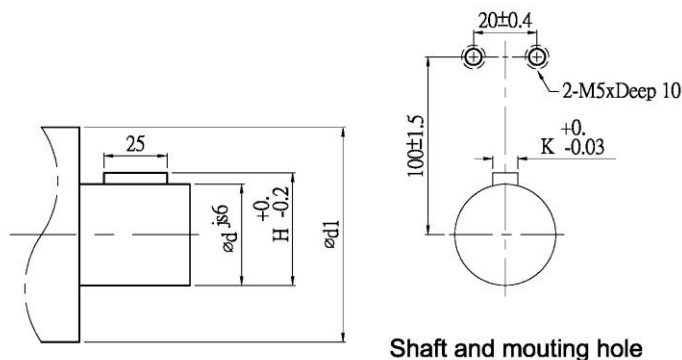
- 2M / 2L – Shield Cable, 6C*24AWG, O.D.: Ø 6mm

Output Circuit	Red	Black	Green	Blue	Yellow	Orange
A/B Phase, Line Driver	V _{CC}	Gnd	A	B	\bar{A}	\bar{B}

- 3P / 3L – Shield Cable, 8C*26AWG, O.D.: Ø 6mm

Output Circuit	Red	Black	Green	Blue	Brown	Yellow	Orange	White
A/B/Z Phase, Push-Pull	V _{CC}	Gnd	A	B	Z	-	-	-
A/B/Z Phase, Line Driver	V _{CC}	Gnd	A	B	Z	\bar{A}	\bar{B}	\bar{Z}

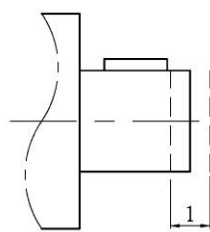
◆ MOUNTING CONSIDERATIONS



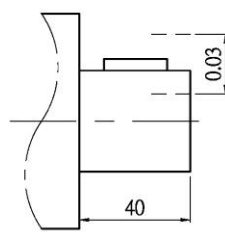
Model	d *	H	d1 min	K
SE172-XXXX-45	45±0.008	48	49	12
SE172-XXXX-52	52±0.009	55	56	7

* : According to JIS B0401

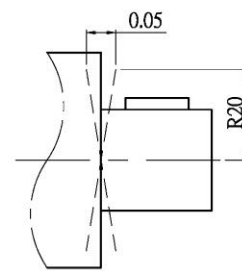
Shaft and mounting hole



Axial end play



Shaft runout



Perpendicularity