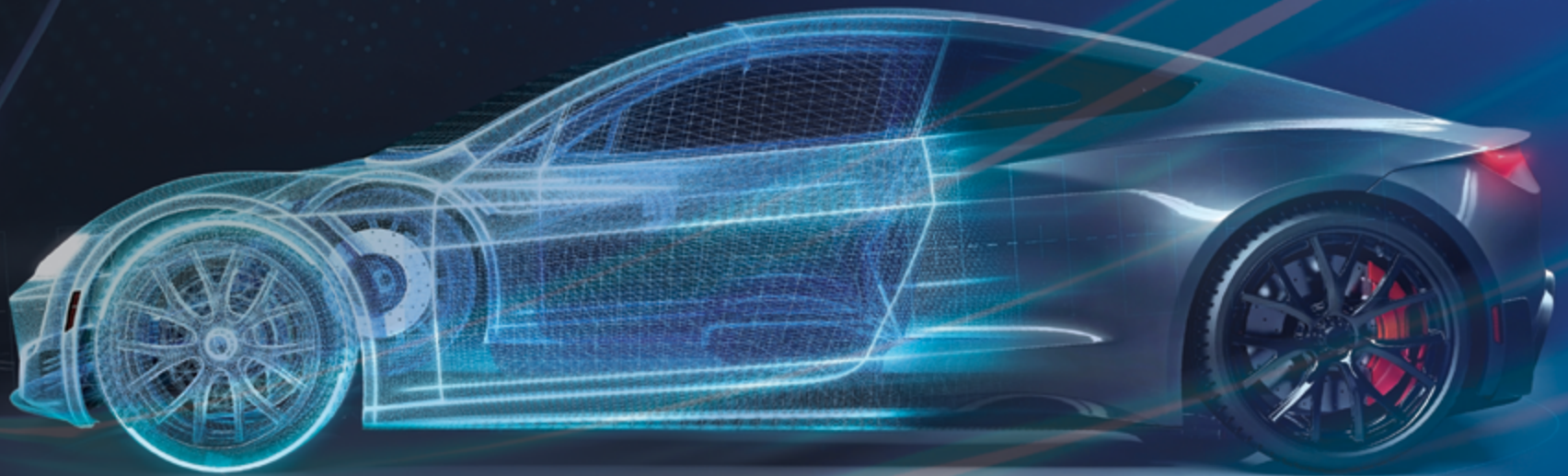


VR TYPE RESOLVER

GS-SERIES

Reliable solution in harsh environments



Global Engineerings Inc.

고정밀 위치센서 | High precision position sensor

고온, 진동, 충격에 강한 고신뢰성 각도 검출기.
회전자에 코일이 없기 때문에 더 높은 성능과 합리적인 비용.
편리하게 장착 가능한 빌트인 구조로 협소한 공간에 설치 가능.

Highly reliable position sensor that is resistant to high temperatures, vibrations, and shocks.
Since there is no coil in the rotor, it performs better and affordable compared to other types of resolver.
Since it is in a built-in structure, our resolvers can be conveniently installed in small spaces.



가혹한 고/저온속에서 안정적 역할 수행
Plays an important role by performing stable under harsh high/low temperatures



끝없이 반복되는 진동과 충격속에 안정적인 역할
Plays an important role by performing stable under vibrations and shocks



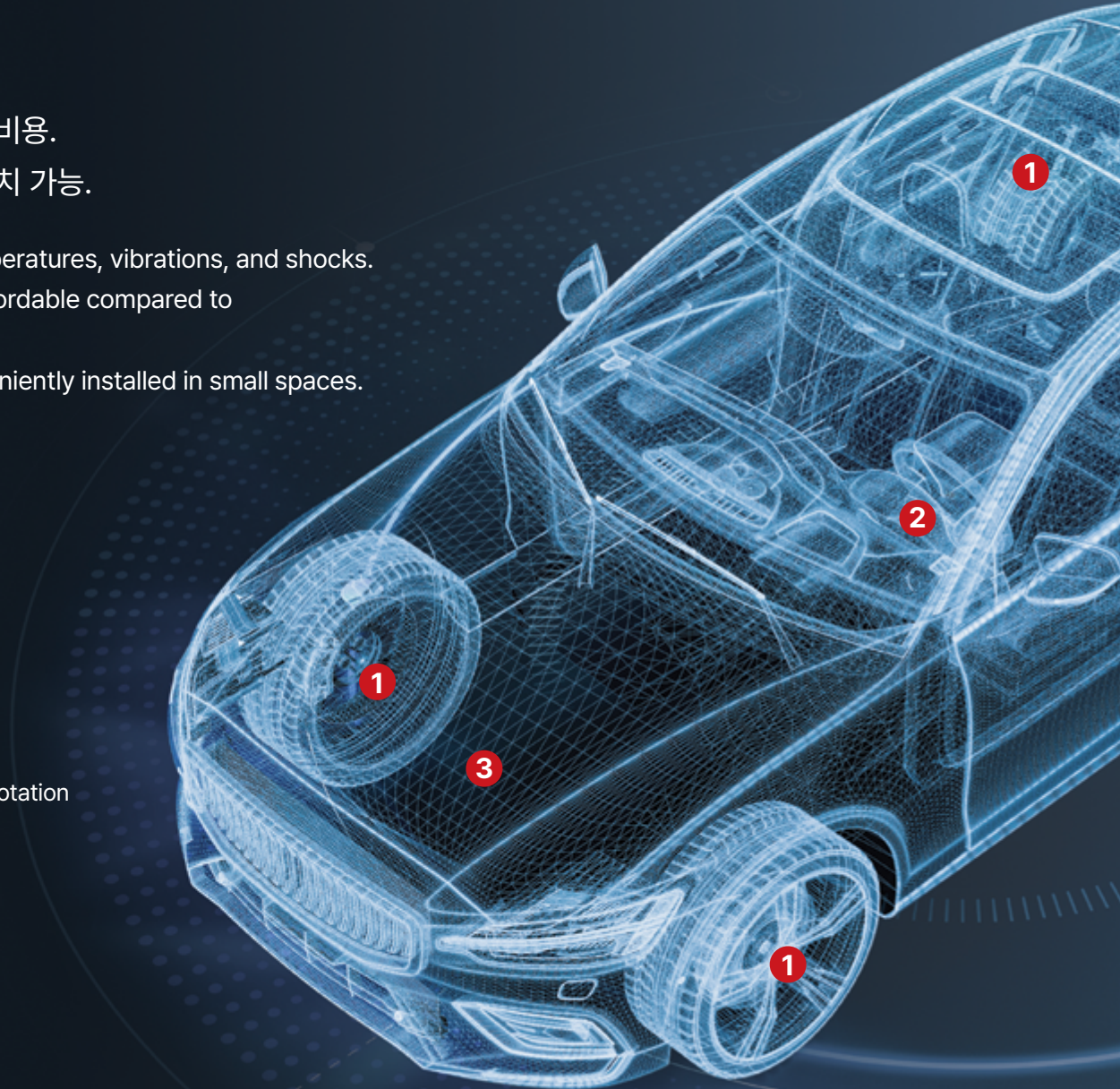
고속 회전속에서도 정밀한 위치 센싱 가능
Precise position sensing is possible even at high-speed rotation

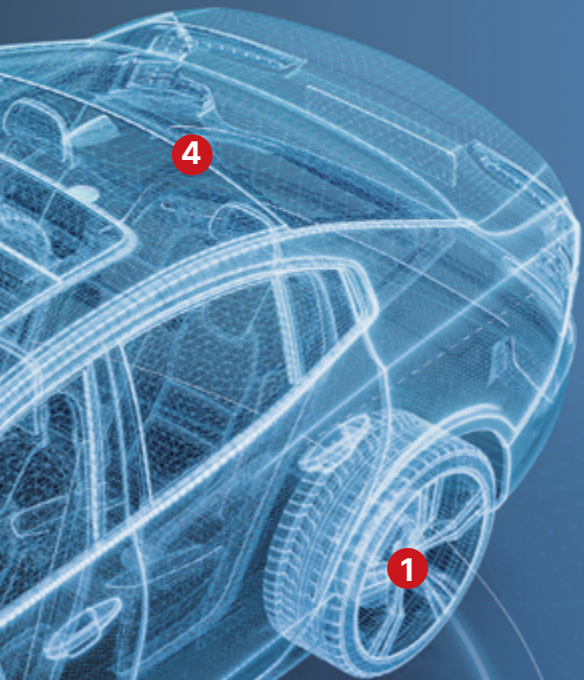


친환경 전기 자동차 구동모터에 최적화
Optimized for eco-friendly electric vehicle drive motors



반 영구적 수명
Semi-permanent life





- 1** 휠 속도 센서
Wheel speed sensors
- 2** Electric power steering 모터 센서
Electric power steering motor sensors
- 3** 구동모터/제네레이터 각도 변환 감시 센서
Drive-motor/Generator angle conversion monitoring sensors
- 4** 후륜 휠 각도 센서
Rear wheel angle sensors

리졸버가 사용되는 다양한 예시

Various examples where resolvers are used



GS-Series 표준 9종 제품군 + 맞춤형 제품 가능

9 types of Standard GS-Series lineup + Customized products available



합리적 비용
Reasonable cost

원가절감형 디자인을 통해 비용절감
Reduce costs by reducing the number of parts
through a cost-effective design



고온 저항
High temperature resistance

넓은 온도 범위 -40 ~ +155°C
Wide temperature range -40 to +155°C



내진동 / 내충격
Vibration Resistance / Shock Resistance

진동 : 196 m/sec² (20G) Vibration: 196 m/sec² (20G)
충격 : 980 m/sec² (100G) Impact : 980 m/sec² (100G)
습도 : 90 % RH 이상 Humidity : 90% RH or higher

200 mm

150 mm

100 mm

50 mm

0 mm



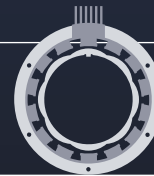
Ø37 mm
GS1503



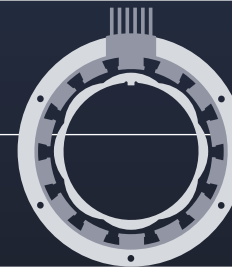
Ø52 mm
GS2102



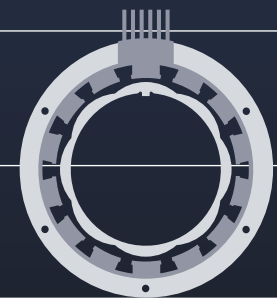
Ø52 mm
GS2103



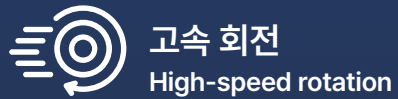
Ø52 mm
GS2104



Ø84.4 mm
GS3304

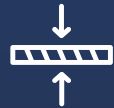


Ø97 mm
GS3804



고속 회전
High-speed rotation

최대 작동 속도 : 20,000 min⁻¹
Maximum operating speed : 20,000 min⁻¹

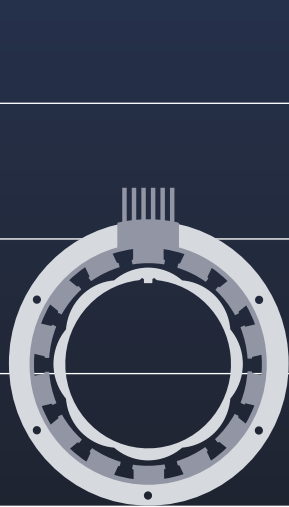


STATOR / ROTOR CORE
형상 최적화
Stator/Rotor Core Shape Optimization

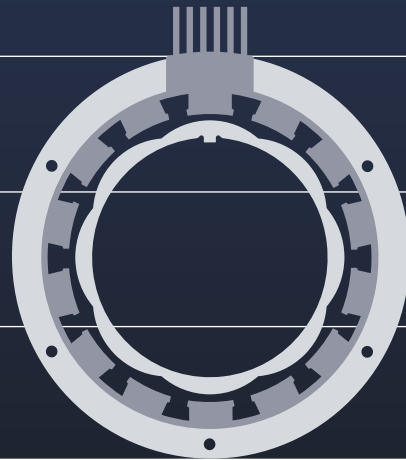
두께가 매우 얇아 협소한 공간에 장착 가능
It is very thin and can be mounted in a small space.



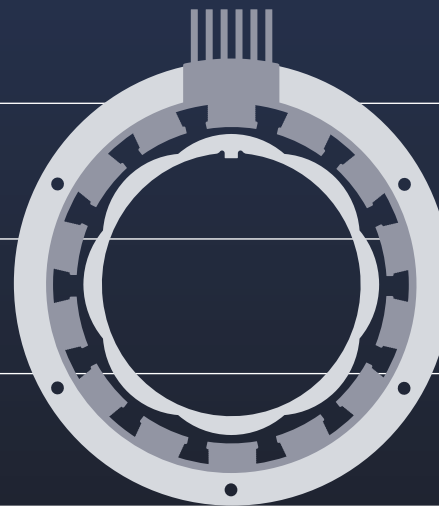
맞춤형 제품 가능
Customized products
available



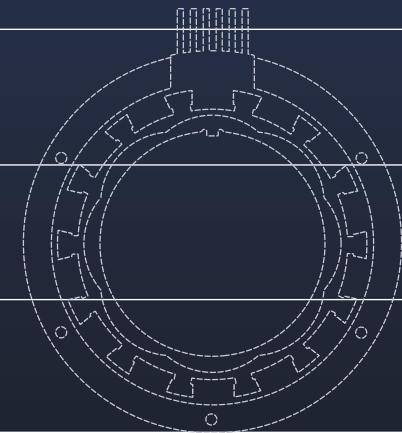
Ø104 mm
GS3904



Ø150 mm
GS5908



Ø158 mm
GS6208



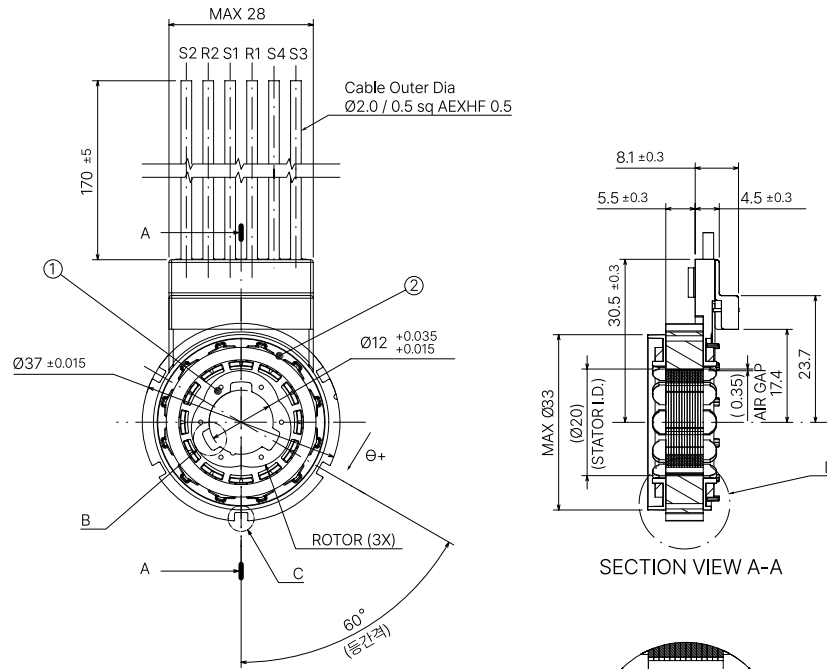
VR Type Resolver | Specifications

Type	GS1503	GS2102	GS2103	GS2104	GS3304	GS3804	GS3904	GS5908	GS6208
Appearance									
Stator Outer Diameter	Ø37	Ø52			Ø84.4	Ø97	Ø104	Ø150	Ø158
Stator Inner Diameter	Ø20	Ø28			Ø47.4	Ø66	Ø61	Ø109.6	Ø114
Rotor Inner Diameter	Ø12	Ø12	Ø12.7	Ø12.7	Ø31	Ø46	Ø41	Ø95	Ø98
Power Source	AC 5Vrms 10kHz	AC 7Vrms 10kHz	AC 7Vrms 10kHz	AC 5Vrms 10kHz	AC 5Vrms 15kHz	AC 7Vrms 10kHz	AC 7Vrms 15kHz	AC 7Vrms 10kHz	AC 5Vrms 10kHz
Transformation Ratio	0.286 ± 10%	0.286 ± 10%			0.286 ± 7%	0.32 ± 8%	0.286 ± 7%	0.19 ± 7%	0.19 ± 10%
Accuracy (Mechanical Angle)	2X	±60 arc-min							
	3X	±45 arc-min		±45 arc-min					
	4X			±30 arc-min		±20 arc-min	±30 arc-min	±20 arc-min	
	8X							±20 arc-min	±20 arc-min
Input Impedance	118Ω ± 12%	120Ω ± 20%	120Ω ± 20%	105Ω ± 20%	110Ω ± 7.7%	105Ω ± 21%	110Ω ± 7%	110Ω ± 7%	110Ω ± 10%
Max Operating Speed	30,000 rpm	30,000 rpm	30,000 rpm	30,000 rpm	20,000 rpm	20,000 rpm	18,000 rpm	15,000 rpm	10,000 rpm
Operating Temp. Range	-40~150°C	-40~150°C	-40~150°C	-40~150°C	-40~150°C	-40~150°C	-40~155°C	-40~155°C	-40~155°C
Mass (Stator)	35.4g		61g		109.2g	123.5g	157.1g	155.5g	246.4g
Mass (Rotor)	6.6g	24.9g	24.6g	24.2g	21.3g	38.5g	37.4g	49.4g	49.4g

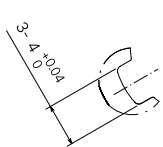
VR Type Resolver | Outline

GS1503

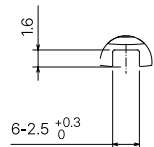
GS2102



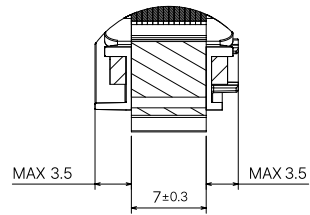
SECTION VIEW A-A



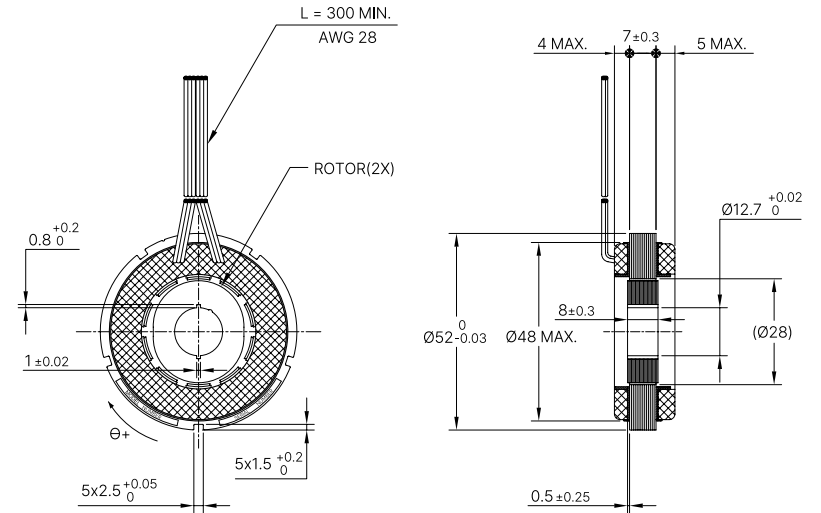
DETAIL B
SCALE 4:1



DETAIL C
SCALE 4:1



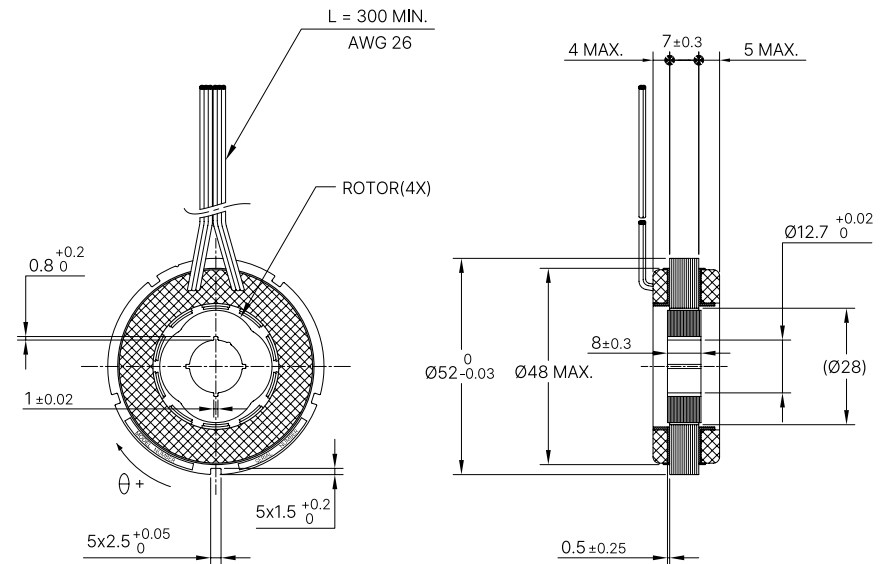
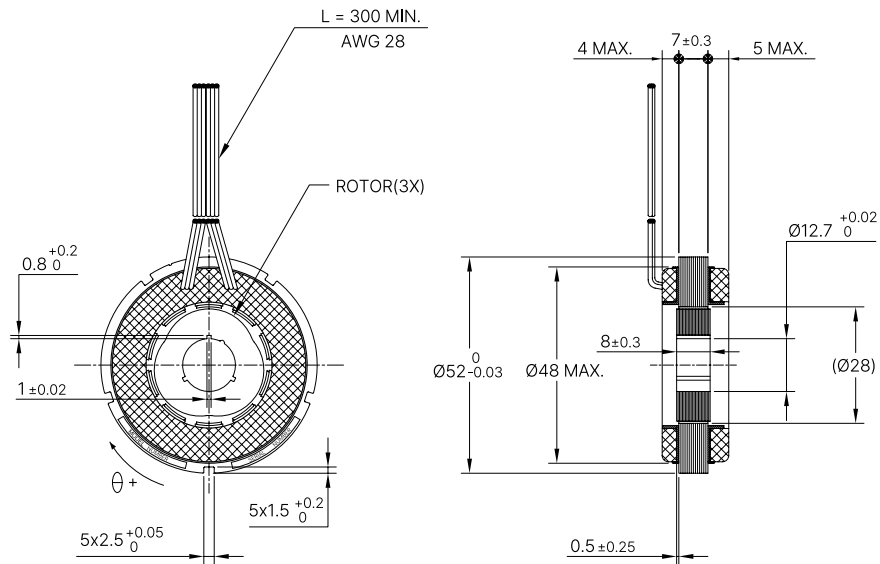
DETAIL D
SCALE 4:1



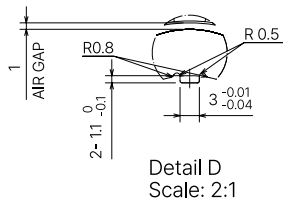
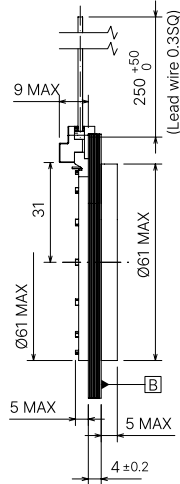
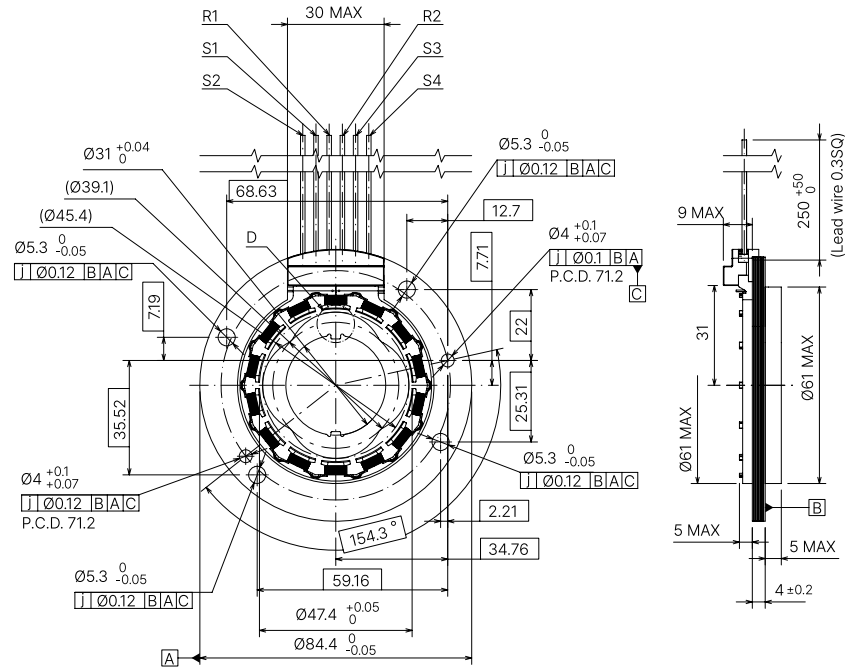
VR Type Resolver | Outline

GS2103

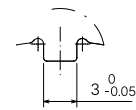
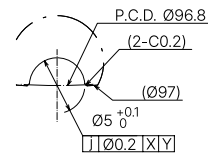
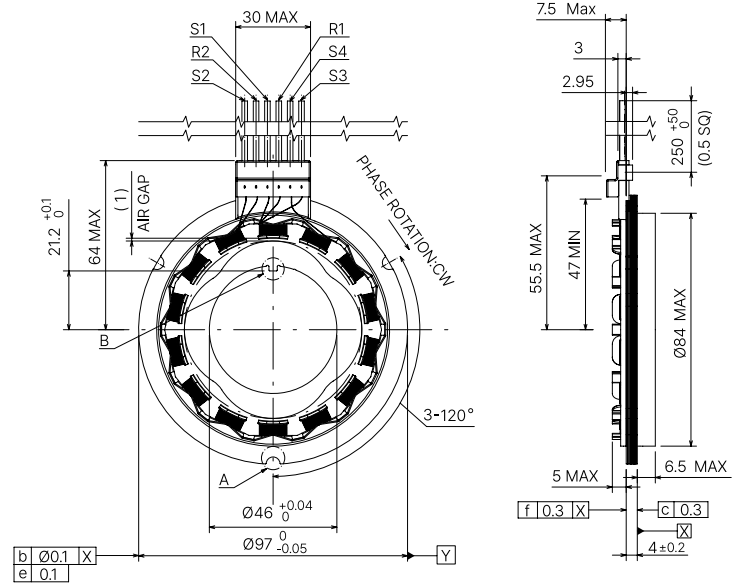
GS2104



GS3304



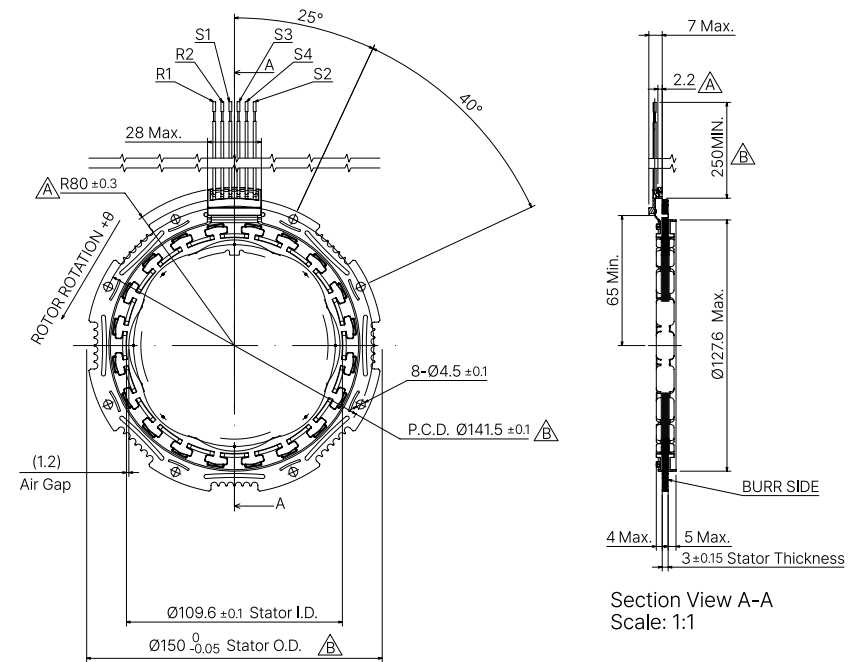
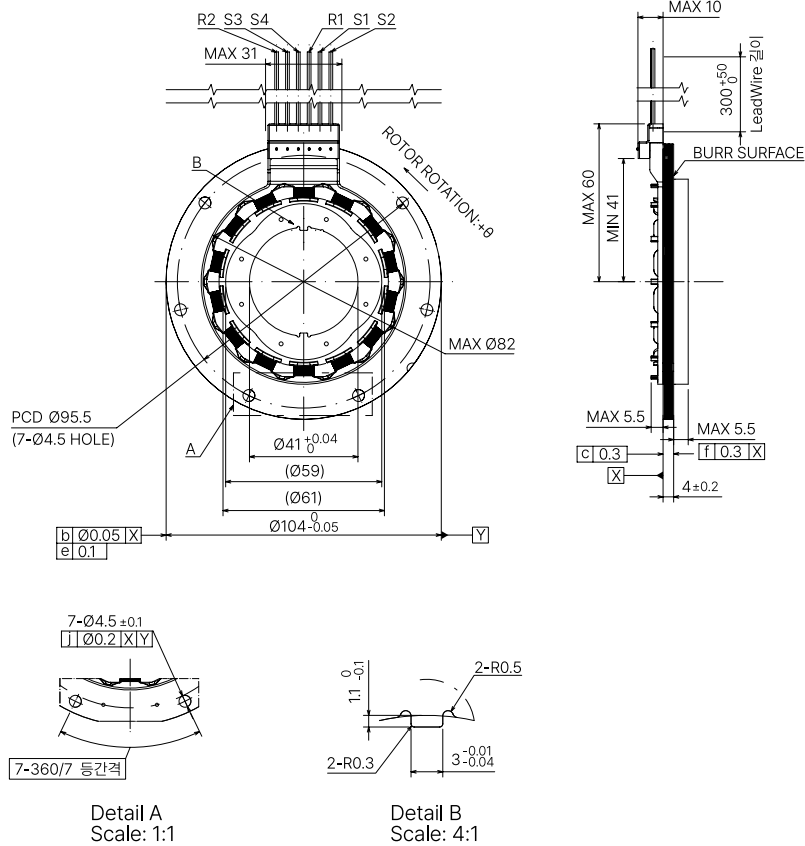
GS3804



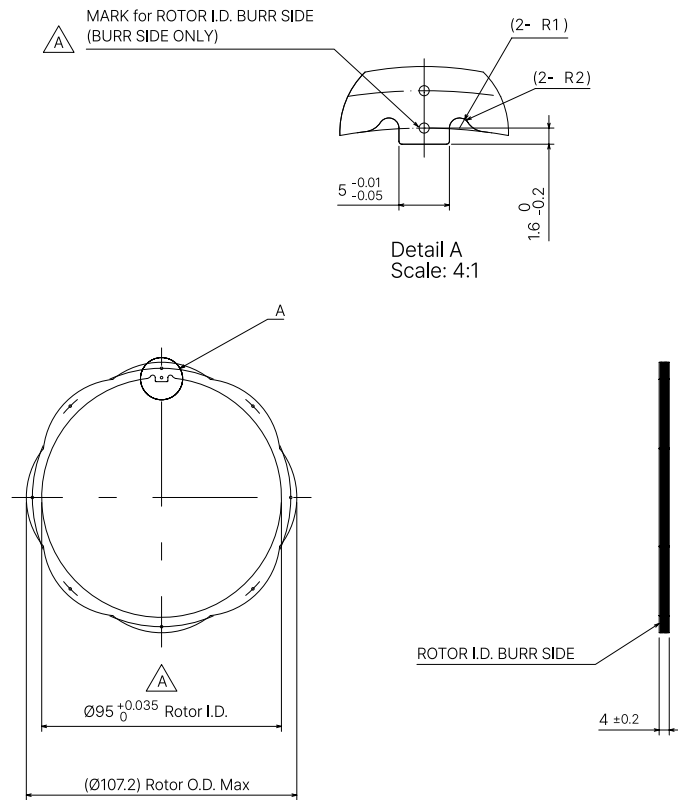
VR Type Resolver | Outline

GS3904

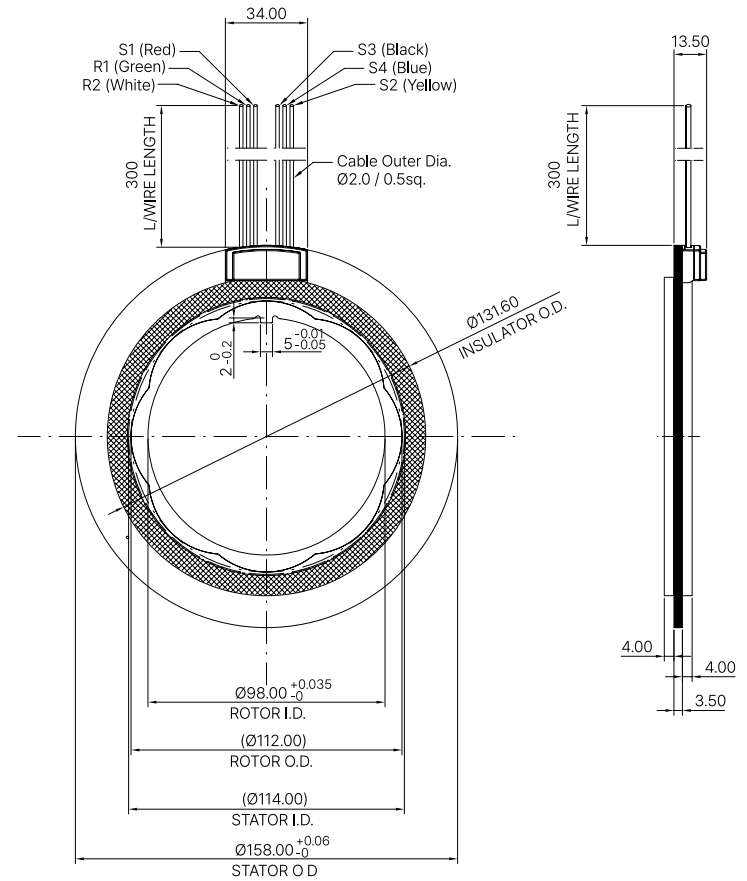
GS5908 (Stator)



GS5908 (Rotor)



GS6208





15-20, Dongtansandan 6-gil, Hwaseong-si, Gyeonggi-do, Korea [18487]

Tel. +82-31-374-9046 Fax. +82-70-7610-9052

E-mail. hgkim@globaleng.co.kr www.globaleng.co.kr



Major Customers of Global Engineering Inc.



Official Supplier of
VR Resolvers
Prototyping Services for
various Traction Motors
Benchmarking Services



Prototyping Services
for EV & HEV
Traction Motors
PE Module assembly
Services



Design services
for Power Transfer
Unit couplings
Gear assembly
Services



Prototyping Services
for HEV Motors



Design services for
Electric Motorcycle
PM Motor



Official supplier of
various Defense
industry products



Various Motor
prototyping Services



Official Supplier for
IPM Motors
Design services for
specially equipped
vehicles