Customized Slip Ring Series

With the advancement of technology and the growing demands for intelligent equipment, slip rings are becoming increasingly prevalent across various industries. Consequently, the need for personalized custom slip rings is rising year by year. For over a decade, Hiscience has been providing customized slip ring services to more than 200 customers worldwide, serving sectors such as wind power generation, servo control systems, high-speed working turntables, engineering machinery, CCTV video surveillance, medical equipment, and the radar military industries.

Looking ahead to the next 10 years, Hiscience is poised to address the opportunities and challenges brought by China's economic transformation and comprehensive manufacturing industry upgrade. We will continue to deliver high-quality, high-performance slip ring solutions to serve global markets.

Below are a few selected examples of customized slip rings for your reference.

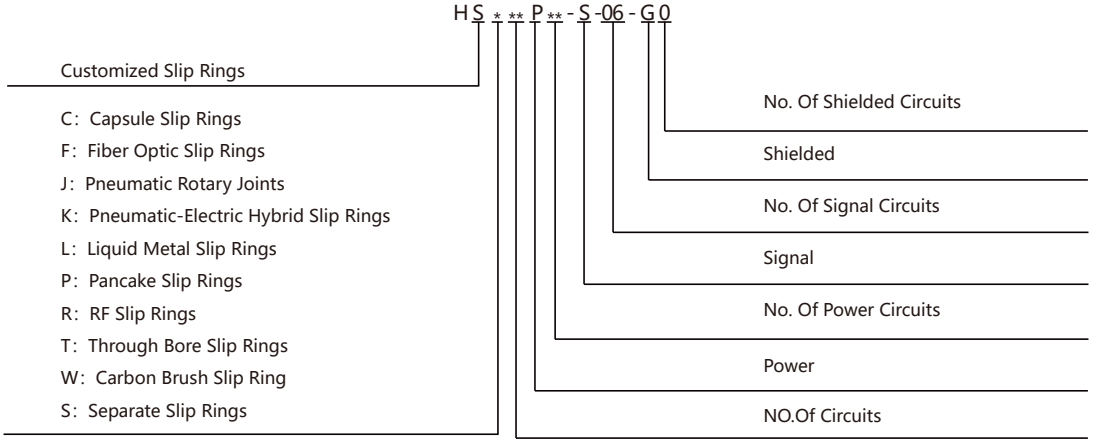
Part Number Description

For example: HST28-P08-S18-G02:

H means Hiscience; S means customized products; 28 circuits through-bore type slip ring;
8 circuits power + 18 circuits signal + 2 circuits shielded

For example: HSK04-P04-J02:

H means Hiscience; S means customized products; K means hybrid pneumatic electric slip ring;
4 circuits power + 4 circuits pnuematic rotary joints.



Customized Slip Ring Series

Custom Product Introduction

In the slip ring industry, those that need to transmit 50A or more current are generally referred to as high-current slip rings. These can be divided into two types based on the conductive medium: liquid metal slip rings and carbon brush conductive slip rings.

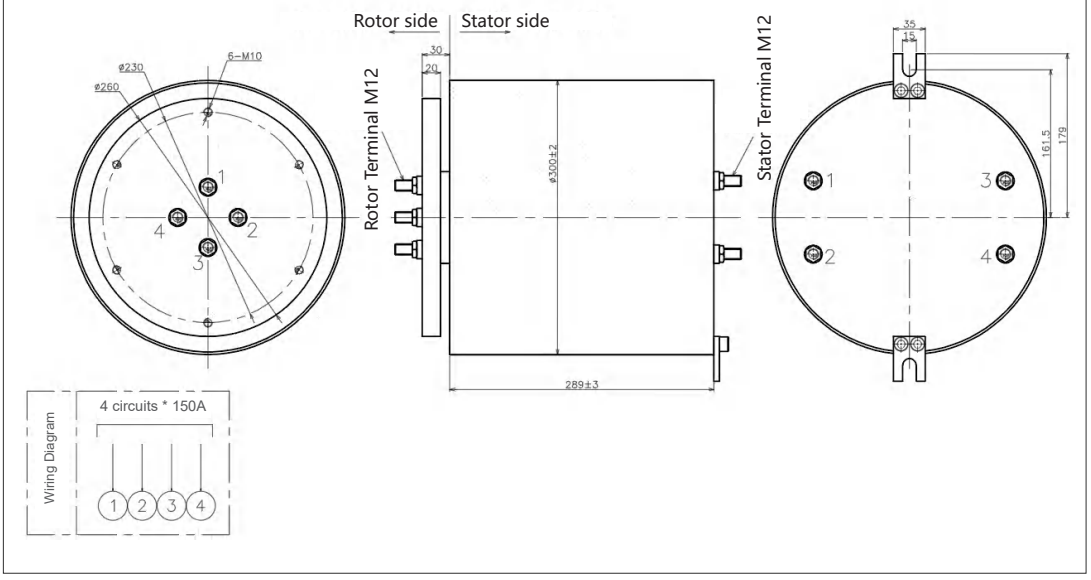
This particular slip ring is a carbon brush conductive slip ring, customized according to specific customer usage scenarios. It features a metal shell and carbon brush contact material. The overall structure is compact, making it suitable for special environments. This design ensures high reliability and performance, ideal for applications requiring robust high-current slip rings, also known as carbon brush slip rings.

Electrical& Electronics			
Circuits & Current	4/150A	Lead Wire Size	M12 Terminal Block
Voltage	0~380VAC / VDC	Dielectric Strength	≥1500V@50Hz
Insulation Resistance	800MΩ@800VDC	Dynamic Contact Resistance	≤10mΩ
Mechanical Parameter			
Working Speed	0~10RPM	Contact Material	Copper Graphite
Protection(IP Grade)	IP51	Working Temperature	0℃~+200℃
Maintainability	Maintenance Regularly	Housing Material	Aluminum Alloy+Stainless Steel
Product Weight: 30KG(±5)		Package Size: L:520mm W:420mm H:400mm	

Features

- High Current Capacity: Single channel supports up to 150A
- Highly Sealed Structure: Ensures durability and reliability in demanding conditions
- High Temperature Resistance: Can withstand temperatures up to 200℃
- Humidity Tolerance: Suitable for high humidity environments up to 85% RH
- Protection (IP Grade): Rated IP65 for excellent dust and water resistance

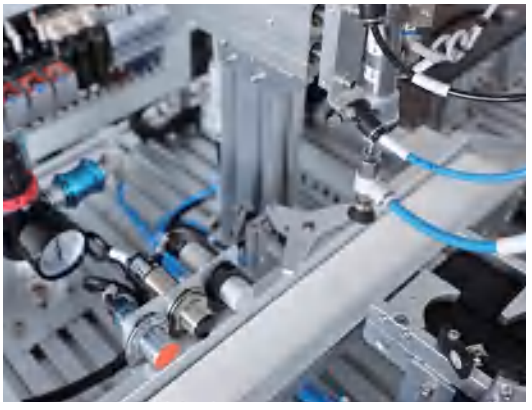
HW300-P04150 Dimensions



Applications

These high-current slip rings are ideal for a wide range of industries and applications, including:

Automated Equipment, Agricultural Machinery, Automatic Brewing Systems, Lifting Equipment, Engineering Machinery, Cable Reels, Wind Power Generation Equipment, Hydropower Generation Equipment, Amusement Park Rides, Military Applications.



Customized Slip Ring Series

Custom product Introduction

The Fiber Optic Slip Ring, also known as an optical slip ring or fiber optic rotary joint, is a 360-degree rotating joint created using non-contact rotary coupling or coaxial collimator technology. It is specifically designed for the transmission of optical signals.

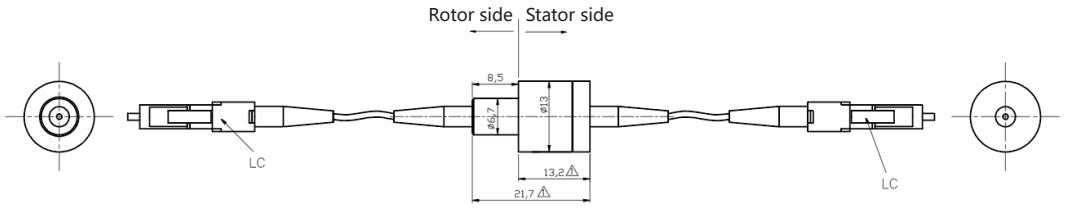
This slip ring ensures reliable transmission of optical signals during rotation, free from limitations imposed by rotation angle or speed. It boasts advantages such as high-speed transmission, low loss, no electromagnetic interference, and corrosion resistance. Despite the material and processing constraints typically associated with fiber optic slip rings, which often result in higher costs (with single-mode single-channel units priced above RMB 1,000), Hiscience's fiber optic slip ring offers a cost-effective solution. This model is specially customized for specific use cases in the security industry, providing excellent cost performance.

Optical Path Parameter			
Fiber Type	Single Mode Optical Fibre	NO.Of Circuits	1
Operating Wavelength	1310~ 1550nm	Insertion Loss	≤3dB
Insertion Loss Variations	≤0.7dB	Connector Type	LC(Optional)
Bending Radius	>R25	Roating Speed	0-1000RPM
Working Temperature	-40℃~ +85℃	Working Life	30-50 Million Turns
Else	Can be sold with optical modules	Lead Length	Rotor:>300mm Stator>300mm

Features

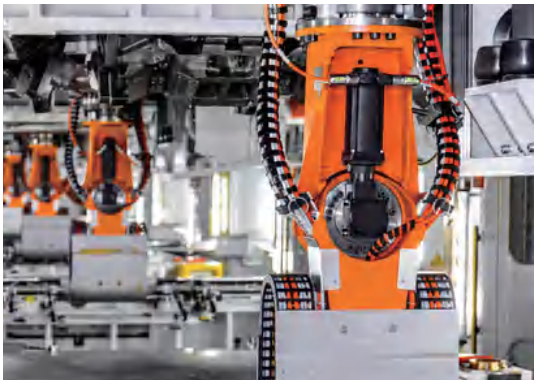
- High Cost Performance: Provides an economical solution without compromising on quality
- High Transmission Efficiency: Ensures reliable and efficient optical signal transmission with low loss
- Compact and Lightweight: Designed to be small and light, making it easy to integrate into various systems
- Long Lifespan: Capable of enduring up to 80 million rotations, ensuring long-term reliability

3KM-F001A Dimensions



Applications

Automated Industrial Equipment, Security Monitoring Systems, Cleaning Robots, Marine Vessels, Marine Detection Equipment, Sonar Detection Equipment, Oil Platforms, Optoelectronic Theodolites, New Energy Equipment, Onboard Systems, High-Altitude Balloons, Security Systems security, Medical Equipment, Military Applications.



Customized Slip Ring Series

Custom product Introduction

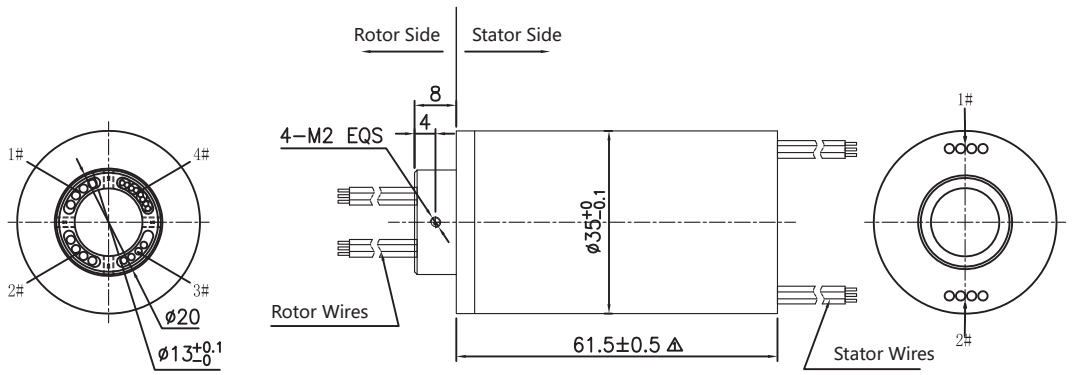
This compact, multi-channel through bore slip ring is specially customized for military turntables. It is designed to be half the size of a regular slip ring. Hiscience offers slip rings as small as 56 channels with an outer diameter of just 2 cm, making them ideal for applications where space is at a premium.

Electrical& Electronics			
Circuits & Current	4circuits 8A+4 circuits signal+1 set +2SDI of Gigabit Ethernet signals	Lead Wire Size	AWG17#/22#/26# Teflon Insulated/CAT5E /RF1.13 Coaxial Cable
Voltage	0-60VAC/VDC	Dielectric Strength	≥200V@50Hz
Insulation Resistance	200MΩ@300VDC	Dynamic Contact Resistance	≤10MΩ
Mechanical Parameter			
Inner Diameter	Ø13mm	Lead Length	Stator:300mm Rotor :300mm
Working Speed	0~120rpm	Protection(IP Grade)	P51
Precious Metal	Precious Metal	Housing Material	Aluminum alloy conductive oxide white/Stainless Steel
Other Parameter			
Working	-55℃~+80℃	Working Humidity	70%RH

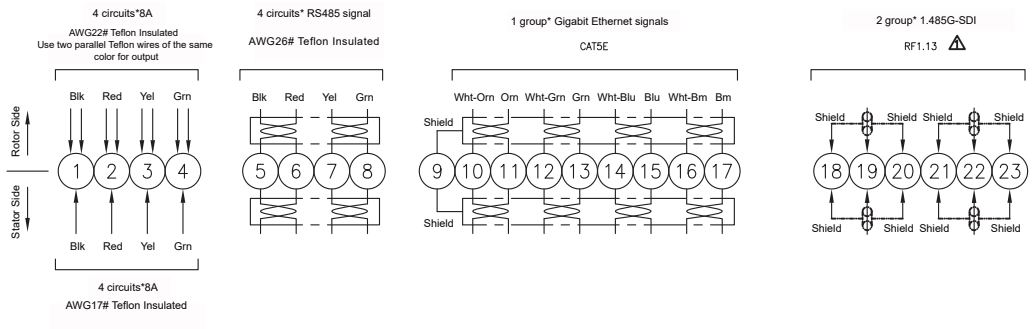
Features

- Specifically Designed for Military Turntables: Tailored to meet the rigorous demands of military applications
- Compact Structure: Optimized for space-constrained environments while ensuring smooth operation
- Small Size with Multiple Channels: Offers a high channel count in a compact form factorLow electrical noise, no electromagnetic interference.
- Low Electrical Noise: Ensures reliable signal transmission without electromagnetic interference
- Smooth Surface Roughness: Achieves a surface roughness of Ra 0.4 for enhanced performance
- Versatile Signal Transmission: Capable of transmitting various signals, including Ethernet
- Military-Grade Durability: Designed for a lifespan of 20 million rotations at 350 RPM.

HST1335-P0408-S22-G04 Dimensions



HST1335-P0408-S22-G04 Wiring Diagram



Remarks:

1、Shipments must include drawings, wiring diagrams, reports, and certificates of conform
2、For the 8A Circuit Rotor Side, use two parallel Teflon wires of the same color for output
3、All network cables need to be stripped for output;
4、Vibration testing during simulated transportation is required.

Outlet:

（Rotor Side）: 1-2Circuits Outlet from the No. 1 outlet hole
3-4 Circuits Outlet from the No. 2 outlet hole
5-8+18-23 Circuits Outlet from the No. 3 outlet hole
9-17 Circuits Outlet from the No. 4 outlet hole
（Stator Side）: 1-8 Circuits Outlet from the No. 1 outlet hole
9-23 Circuits Outlet from the No. 2 outlet hole

Applications

Military Applications，Aerospace，Marine Vessels，High-Speed Military Turntables.

Customized Slip Ring Series

Custom Product Introduction

Our Rotary Unions are meticulously designed and verified through extensive collaboration with customers. Each circuit of the product is engineered to ensure precise signal transmission. We employ a customer simulation platform to validate and replicate real-world usage scenarios, maximizing product reliability and minimizing customer operational and maintenance costs.

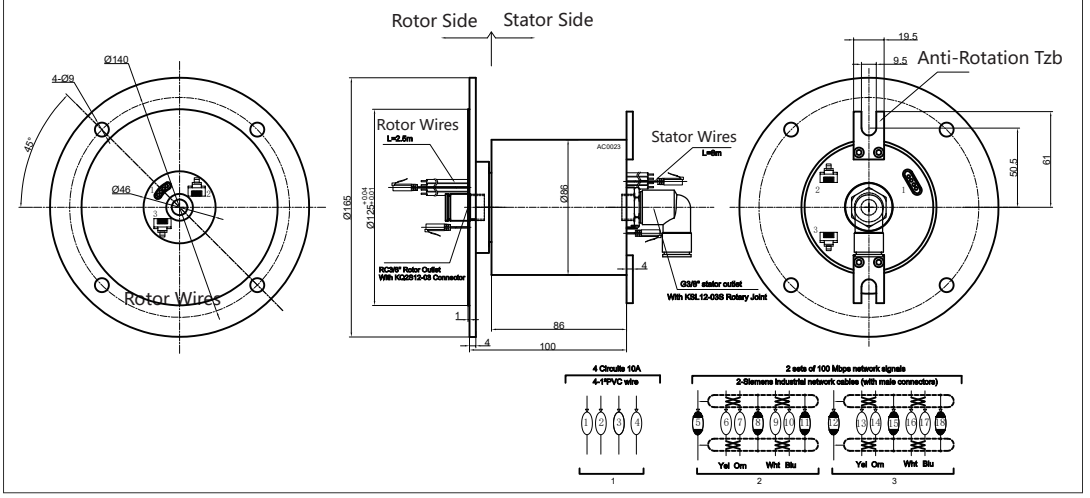
This specific product is a high-speed transmission pneumatic and electrical hybrid slip ring, capable of transmitting gas and 100 Mbps Ethernet. It features 1 passage for gas and multiple electrical circuits (4 circuits of 10A power, 6 circuits of signal transmission, and 2 shielded circuits).

Electrical& Electronics			
NO.of Circuits	4/10A 2 groups of 100M network information	Lead Wire Size	PVC1²mm wire/industrial network cable
Voltage	0-380VAC/DC	Dielectric Strength	≥500V@50Hz
Insulation Resistance	500MΩ@500VDC	Dynamic Contact Resistance	≤10MΩ
Mechanical Parameter			
Lead Length	Stator:2.5m Rotor :8m	Working Speed	0~250rpm
Protection(IP Grade)	IP51	Working Temperature	-30℃~+80℃
Precious Metal	Precious Metal	Housing Material	6061 Aluminum Alloy
Other Parameter			
Passages	1	Connection Thread Size	G3/8",12mm
Pressure	<1 Mpa	Torque	T≤0.5 N.M
Transmitting media	Compressed Air		

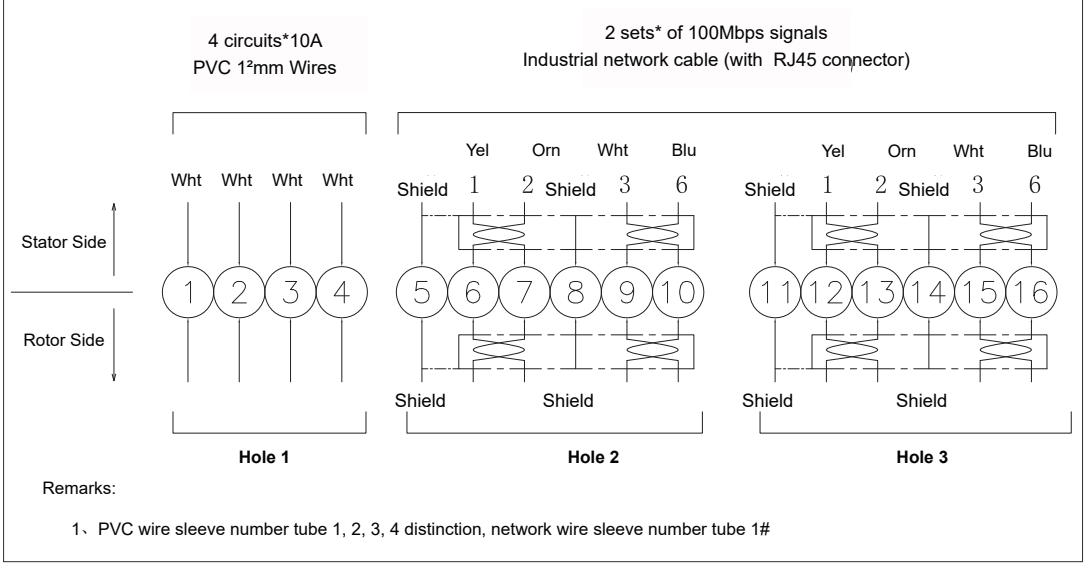
Features

- High-Speed Transmission: Designed for efficient data transfer
- Mixed Medium-to-High Frequency Signals: Capable of handling various signal types effectively
- Port Size: Equipped with G3/8" ports for seamless integration
- 100Mbps Ethernet RJ45 Connector: Includes an RJ45 connector for Ethernet transmission

HST16-P04-S08-G02-J01 Dimensions



HST16-P04-S08-G02-J01 Wiring Diagram



Remarks:

1、PVC wire sleeve number tube 1, 2, 3, 4 distinction, network wire sleeve number tube 1#

Applications

Automated Equipment, Grinding Equipment, Sewing Equipment, Disc Feeders, Laser Welding Machines, Industrial Robots, Rotary Workbenches, Semiconductor Automation Production Lines, New Energy Automation Production Line Equipment, Military Applications.

Customized Slip Ring Series

Custom product Introduction

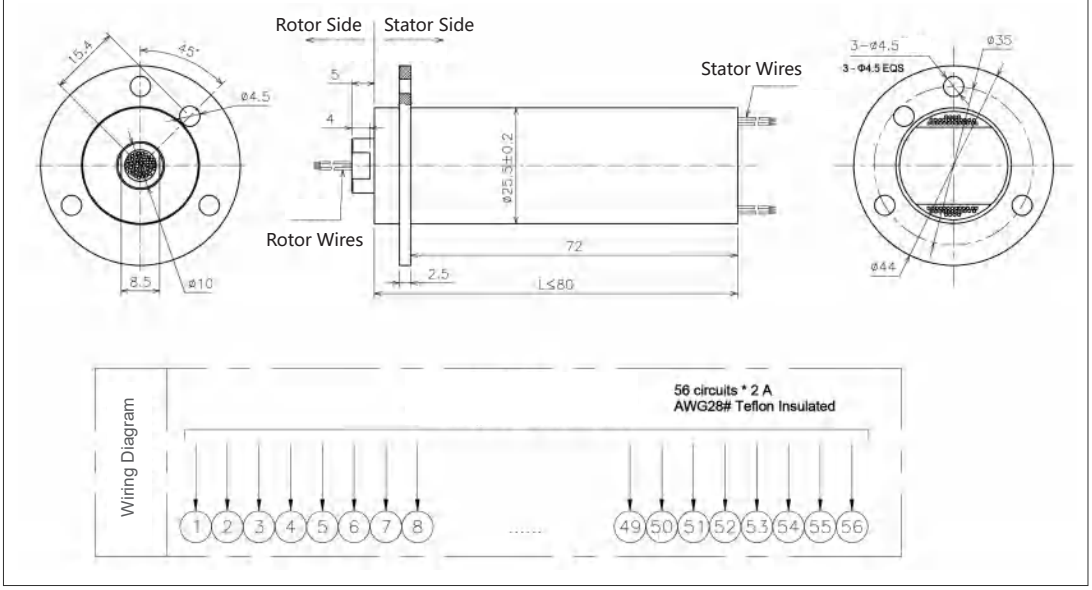
This is a customized ultra-low temperature military turntable slip ring. The low temperature reaches -80 degrees, the outer diameter is 2.5CM, and the number of circuits is up to 56.

Electrical& Electronics			
Circuits & Current	56/2A	Lead Wire Size	AWG28# Teflon Insulated
Voltage	48VAC/DC	Dielectric Strength	≥200V@50Hz
Insulation Resistance	100MΩ@100VDC	Dynamic Contact Resistance	≤35MΩ
Mechanical Parameter			
Working Speed	0~100RPM	Contact Material	Precious Metal
Working Humidity	70%RH及以下	Working Temperature	-80℃~+70℃
Lead Length	Stator:250mm Rotor :700mm	Housing Material	Aluminum Alloy+Stainless Steel

Features

- Specifically Designed for Military Turntables: Tailored to meet the rigorous demands of military applications
- Compact Structure: Optimized for space-constrained environments while ensuring smooth operation
- Small Size with Multiple Channels: Offers a high channel count in a compact form factorLow electrical noise, no electromagnetic interference
- Low Electrical Noise: Ensures reliable signal transmission without electromagnetic interference
- Smooth Surface Roughness: Achieves a surface roughness of Ra 0.4 for enhanced performance
- Versatile Signal Transmission: Capable of transmitting various signals, including Ethernet
- Military-Grade Durability: Designed for a lifespan of 20 million rotations at 350 RPM

HS255-P5602 Dimensions



Applications

Military Applications，Aerospace，Marine Vessels，High-Speed Military Turntables.