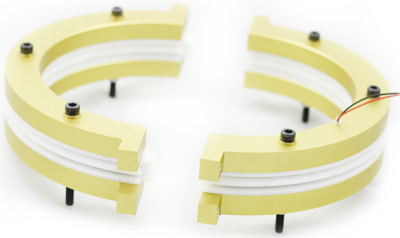


# MSP Separated series slip ring

In some applications, the separated of the rotor and brush bundle can solve the installation problem of the limited size, 2-36 wires are available. Options for 9.5 mm to 100 mm hole or solid. Especially applied to precision instruments, can be customized.



## Features:

- 1) The rotor and stator can be installed separately.
- 2) Save installation space and weight.
- 3) V-groove gold-plated design, anti-oxidation, wearproof.

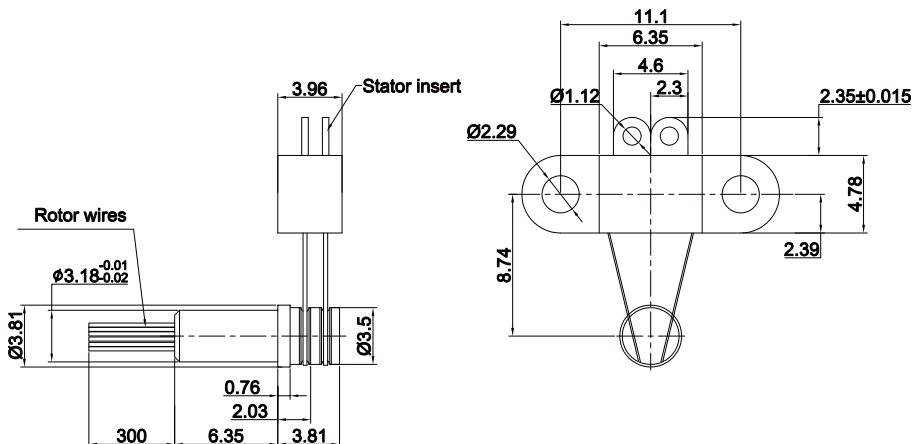
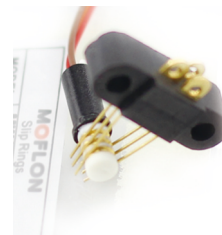
## MSP Series Models

Model#	ID(mm)	OD(mm)	rings	Current(A)	Note
MSP102AC	0	3.5	2	Signal/1A	Super-miniature
MSP104AC	0	3.5	4	Signal/1A	Super-miniature
MSP106AC	0	3.5	6	Signal/1A	Super-miniature
MSP108AC	0	3.5	8	Signal/1A	Super-miniature
MSP110AC	0	3.5	8	Signal/1A	Super-miniature
MSP106	9.5	14.7	6	Signal/2A	Miniature through bore
MSP112	9.5	14.7	12	Signal/2A	Miniature through bore
MSP230	30	64	12	Signal/10A	Common
MSP260	60	94	12	Signal/10A	Common
MSP380	80	118	6	Signal/10A	Two parts

# MSP102AC Separated Slip Rings

## 2 rings\*1A

MSP102AC separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 2 wires for signal or 1A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1029AC is the highest-end version of MSP102, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise <sup>①</sup> @10Rpm
MSP102AC	250RPM	20 million	0.02 N•m	10mΩ
MSP1029AC	1000RPM	100 million	0.005 N•m	4mΩ

### Part# Explanation

MSP102AC Part# Explanation		
Parts#	Signal or 1A	Products Level
MSP102AC	2	Common quality
MSP1029AC	2	High-end quality

Note: N channels 1A rings parallel can be used as 1 channel N\*1A current. For example: 2 rings 1A parallel could be used as 1 wires 2A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~120VAC/VDC	0~120VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	≥150MΩ/150VDC	≥100MΩ/150VDC	Contact Material	Gold-Gold
Lead Wires	AWG30#Teflon	AWG28#Teflon	Torque	1p40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

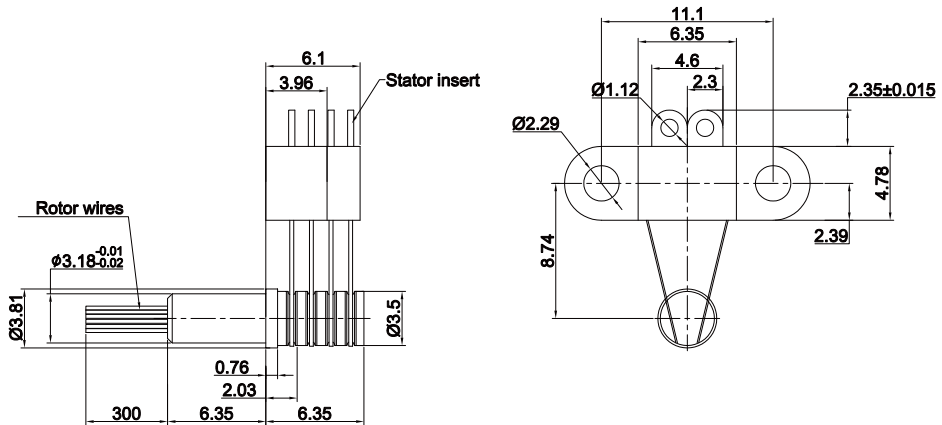
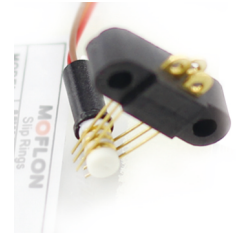
### Lead Wires Color Code

Ring	1	2
Code	BN	RD

# MSP104AC Separated Slip Rings

## 4 rings\*1A

MSP104 separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 4 wires for signal or 1A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1049AC is the highest-end version of MSP104AC, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP104AC	250RPM	20 million	0.02 N·m	10mΩ
MSP1049AC	1000RPM	100 million	0.005 N·m	4mΩ

## Part# Explanation

MSP104 Part# Explanation		
Parts#	Signal or 1A	Products Level
MSP104AC	4	Common quality
MSP1049AC	4	High-end quality

Note: N channels 1A rings parallel can be used as 1 channel N\*1A current. For example: 2 rings 1A parallel could be used as 1 wires 2A

## Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~120VAC/VDC	0~120VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	$\geq 150M\Omega/220VDC$	$\geq 150M\Omega/220VDC$	Contact Material	Gold-Gold
Lead Wires	AWG30#Teflon	AWG30#Teflon	Torque	Ip40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

## Lead Wires Color Code

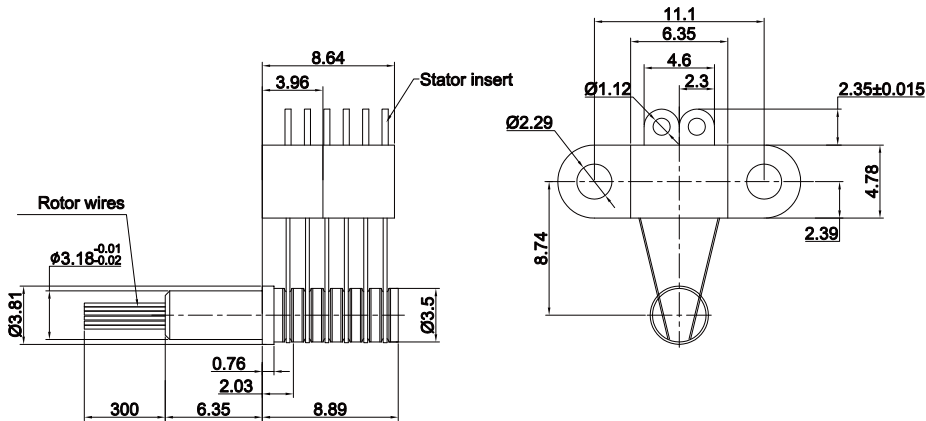
Ring	1	2	3	4
Code	BN	RED	OG	YL

# MSP106AC Separated Slip Rings

## 6 rings\*2A



MSP106AC separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 6 wires for signal or 2A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1069AC is the highest-end version of MSP106AC, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise $\text{①}$ @10Rpm
MSP106AC	250RPM	20 million	0.02 N•m	10m $\Omega$
MSP1069AC	1000RPM	100 million	0.005 N•m	4m $\Omega$

### Part# Explanation

MSP106AC Part# Explanation		
Parts#	Signal or 2A	Products Level
MSP106AC	6	Common quality
MSP1069AC	6	High-end quality

Note: N channels 2A rings parallel can be used as 1 channel N\*2A current. For example: 2 rings 2A parallel could be used as 1 wires 4A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~120VAC/VDC	0~120VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	$\geq 150\text{M}\Omega/220\text{VDC}$	$\geq 150\text{M}\Omega/220\text{VDC}$	Contact Material	Gold-Gold
Lead Wires	AWG30#Teflon	AWG30#Teflon	Torque	Ip40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01 $\Omega$			

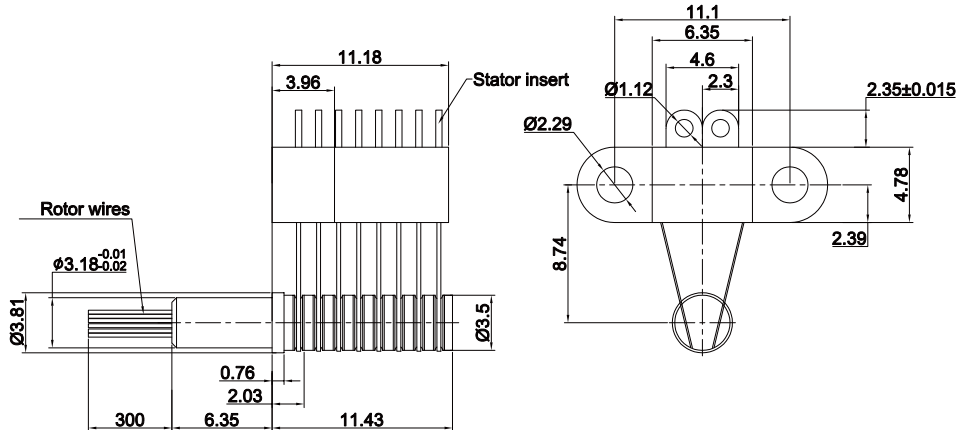
### Lead Wires Color Code

Ring	1	2	3	4	5	6
Code	BN	RD	OG	YL	GU	BU

# MSP108AC Separated Slip Rings

## 8 rings\*1A

MSP108AC separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 8 wires for signal or 1A. The exiting wires in stator and rotor are correspondingly 8 colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1089AC is the highest-end version of MSP108AC, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise@10Rpm
MSP108AC	250RPM	20 million	0.02 N·m	10mΩ
MSP1089AC	1000RPM	100 million	0.005 N·m	4mΩ

## Part# Explanation

MSP108AC Part# Explanation		
Parts#	Signal or 2A	Products Level
MSP108AC	8	Common quality
MSP1089AC	8	High-end quality

Note: N channels 2A rings parallel can be used as 1 channel N\*2A current. For example: 2 rings 2A parallel could be used as 1 wire 4A

## Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal		
Rated Voltage	0~120VAC/VDC	0~120VAC/VDC	Working Temperature	-30°C~80°C
Insulation Resistance	≥150MΩ/220VDC	≥150MΩ/220VDC	Operating Humidity	0~85% RH
Lead Wires	AWG30#Teflon	AWG30#Teflon	Contact Material	Gold-Gold
Lead Length	Standard 300mm (adjustable)		Torque	Ip40
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

## Lead Wires Color Code

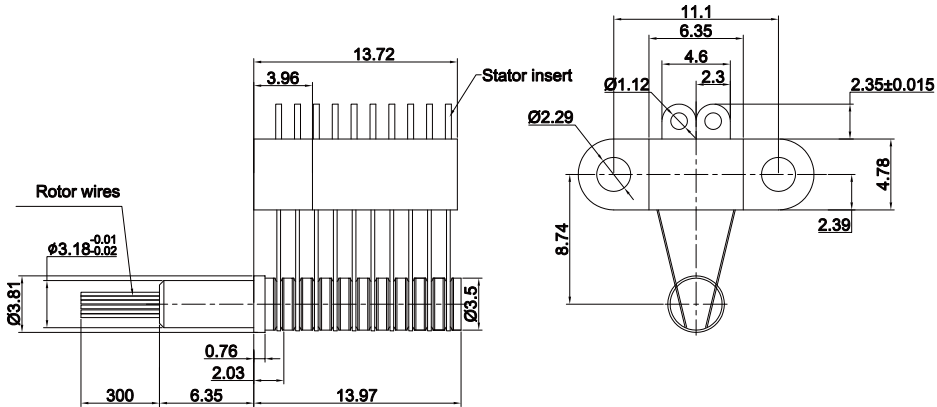
Ring	1	2	3	4	5	6	7	8
Code	BN	RD	OG	YL	GU	BU	PL	GY

# MSP110AC Separated Slip Ring

## 10 rings\*1A



MSP110AC separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 10 wires for signal or 1A. The exiting wires in stator and rotor correspondingly 10 colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1109AC is the highest-end version of MSP110AC, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP110AC	250RPM	20 million	0.02 N·m	10mΩ
MSP1109AC	1000RPM	100 million	0.005 N·m	4mΩ

### Part# Explanation

MSP110AC Part# Explanation		
Parts#	Signal or 2A	Products Level
MSP110AC	10	Common quality
MSP1109AC	10	High-end quality

Note: N channels 2A rings parallel can be used as 1 channel N\*2A current. For example: 2 rings 2A parallel could be used as 1 wires 4A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal		
Rated Voltage	0~120VAC/VDC	0~120VAC/VDC	Working Temperature	-30°C~80°C
Insulation Resistance	≥150MΩ/220VDC	≥150MΩ/220VDC	Operating Humidity	0~85% RH
Lead Wires	AWG32#Teflon	AWG32#Teflon	Contact Material	Gold-Gold
Lead Length	Standard 300mm (adjustable)		Torque	Ip40
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

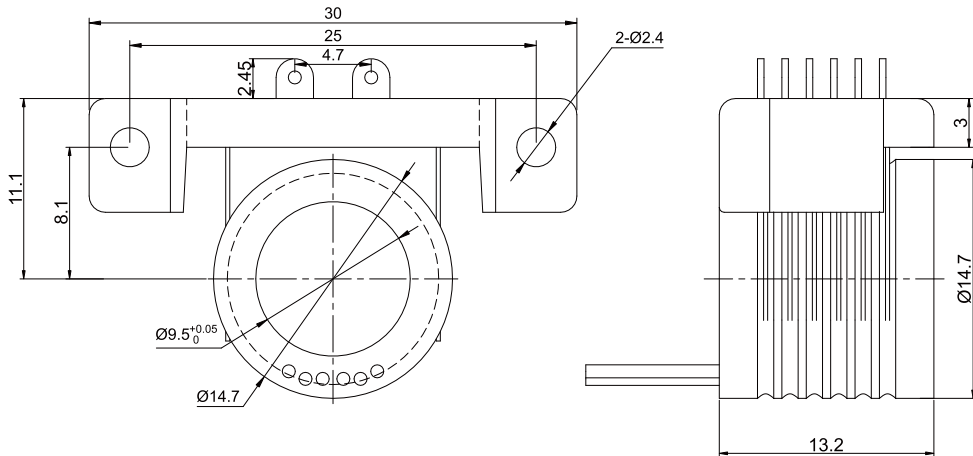
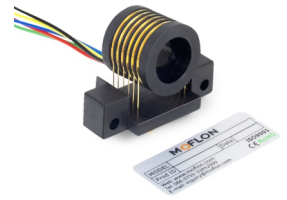
### Lead Wires Color Code

Ring	1	2	3	4	5	6	7	8	9	10
Code	BN	RD	OG	YL	GU	BU	PL	GY	WT	BK

# MSP106 Separated Slip Rings

## 6 rings\*2A

MSP106 separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 6 wires for signal or 2A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1069 is the highest-end version of MSP106, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise@10Rpm
MSP106	250RPM	20 million	0.02 N·m	10mΩ
MSP1069	1000RPM	100 million	0.005 N·m	4mΩ

### Part# Explanation

MSP106 Part# Explanation		
Parts#	Signal or 2A	Products Level
MSP106	6	Common quality
MSP1069	6	High-end quality

Note: N channels 2A rings parallel can be used as 1 channel N\*2A current. For example: 2 rings 2A parallel could be used as 1 wire 4A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~240VAC/VDC	0~240VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	≥500MΩ/500VDC	≥500MΩ/500VDC	Contact Material	Gold-Gold
Lead Wires	AWG28#Teflon	AWG28#Teflon	Torque	IP40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	100VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

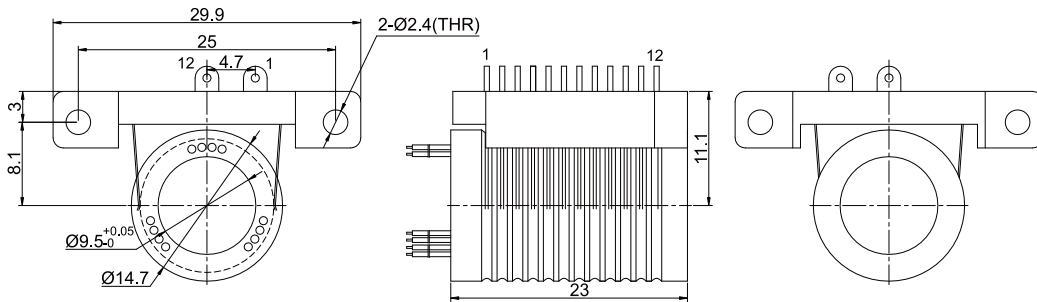
### Lead Wires Color Code

Ring	1	2	3	4	5	6
Code	BLK	RED	YLW	GRN	BLU	WHT

# MSP112 Separated Slip Rings

## 12 rings\*2A

MSP112 separated slip ring is a type of minitype slip rings. It adopts a separated rotor and contact brushes combination, supporting 12 wires for signal or 2A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP1129 is the highest-end version of MSP112, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP112	250RPM	20 million	0.02 N•m	10mΩ
MSP1129	1000RPM	100 million	0.005 N•m	4mΩ

### Part# Explanation

MSP112 Part# Explanation		
Parts#	Signal or 2A	Products Level
MSP112	12	Common quality
MSP1129	12	High-end quality

Note: N channels 2A rings parallel can be used as 1 channel N\*2A current. For example: 2 rings 2A parallel could be used as 1 wires 4A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~240VAC/VD	0~240VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	≥1000MΩ/500VDC	≥1000MΩ/500VDC	Contact Material	Gold-Gold
Lead Wires	AWG26#Teflon	AWG26#Teflon	Torque	IP40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	500VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

### Lead Wires Color Code

Ring	1	2	3	4	5	6	7	8	9	10	11	12
Code	BK	BN	RD	OG	YL	GN	DARK BLUE	PL	GY	ET	PK	BU

Note: 6 wires for 1 group color, from 7-12, repeat the same color as 1...6, indicated with number code pipe.

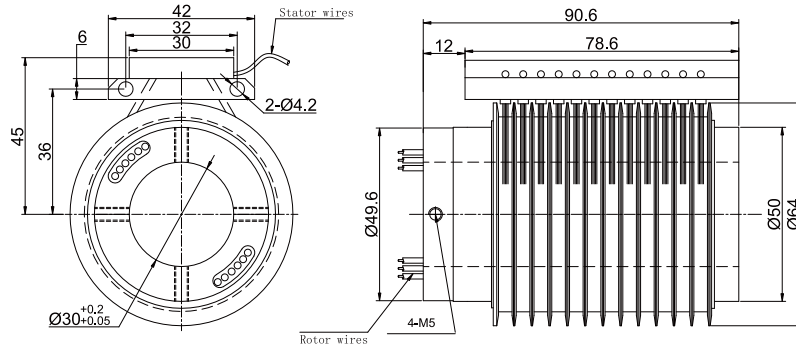


# MSP230 Separated Slip Rings

Bore size 30mm, 12 rings\*10A

(Noted: It can be customized for the bore size and rings number according to customer's requirements)

MSP230 separated slip ring adopts a separated rotor and contact brushes combination, supporting 12 wires for signal or 10A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP2309 is the highest-end version of MSP230, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP230	150RPM	10 million	0.1 N•m	10mΩ
MSP2309	400RPM	30 million	0.05 N•m	6mΩ

## Part# Explanation

MSP230 Part# Explanation		
Part#	Signal or 10A	Products Level
MSP230	12	Common quality
MSP2309	12	High-end quality

Note: N channels 10A rings parallel can be used as 1 channel N\*10A current. For example: 2 rings 10A parallel could be used as 1 wires 20A

## Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal		
Rated Voltage	0~440VAC/VDC	0~440VAC/VDC	Working Temperature	-30°C~80°C
Insulation Resistance	≥1000MΩ/500VDC	≥1000MΩ/500VDC	Operating Humidity	0~85% RH
Lead Wires	AWG16#Teflon	AWG22#Teflon	Contact Material	Gold-Gold
Lead Length	Standard 300mm (adjustable)		Torque	Ip40
Dielectric Strength	500VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

## Lead Wires Color Code

Ring	1	2	3	4	5	6	7	8	9	10	11	12
Code	BLK	RED	YLW	GRN	BLU	WHT	BLK	RED	YLW	GRN	BLU	WHT

(6 wires for 1 group color, from 7-12, repeat the same color as 1...6, indicated with number code pipe)

## Options for custom slip ring

Note: it can be customized as below requirements. lead time would increase 3~15 days, price would increase 5%~50%. Most basic parts of slip ring are standard and modularized, which saved costs and lead time.

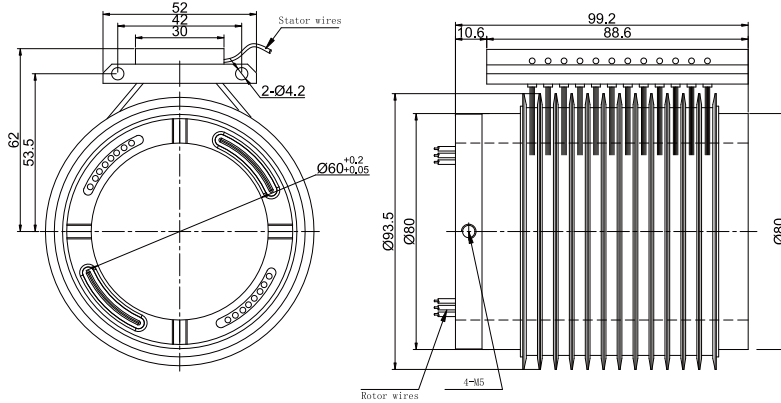
- 1) Bore size
- 2) Circuits number
- 3) High temperature, high speed etc.

# MSP260 Separated Slip Rings

Bore size 60mm, 12 rings\*10A

(Noted: It can be customized for the bore size and rings number according to customer's requirements)

MSP260 separated slip ring adopts a separated rotor and contact brushes combination, supporting 12 wires for signal or 10A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP2609 is the highest-end version of MSP260, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP260	150RPM	10 million	0.1 N·m	10mΩ
MSP2609	400RPM	30 million	0.05 N·m	4mΩ

## Part# Explanation

MSP260 Part# Explanation		
Part#	Signal or 10A	Products Level
MSP260	12	Common quality
MSP2609	12	High-end quality

Note: N channels 10A rings parallel can be used as 1 channel N\*10A current. For example: 2 rings 10A parallel could be used as 1 wires 20A

## Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal		
Rated Voltage	0~440VAC/VDC	0~440VAC/VDC	Working Temperature	-30°C~80°C
Insulation Resistance	≥1000MΩ/500VDC	≥1000MΩ/500VDC	Operating Humidity	0~85% RH
Lead Wires	AWG16#Teflon	AWG22#Teflon	Contact Material	Gold-Gold
Lead Length	Standard 300mm (adjustable)		Torque	IP40
Dielectric Strength	500VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

## Lead Wires Color Code

Ring	1	2	3	4	5	6	7	8	9	10	11	12
Code	BLK	RED	YLW	GRN	BLU	WHT	BLK	RED	YLW	GRN	BLU	WHT

(6 wires for 1 group color, from 7-12, repeat the same color as 1...6, indicated with number code pipe)

## Options for custom slip ring

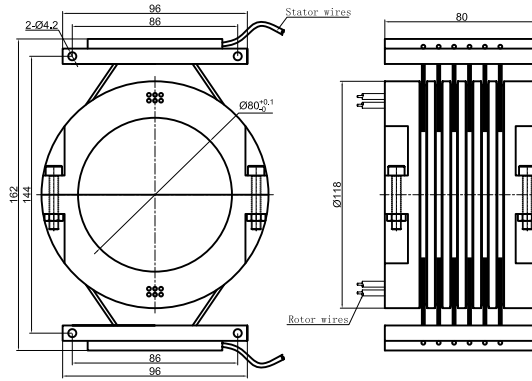
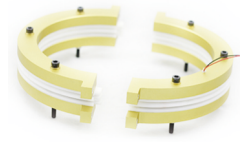
Note: it can be customized as below requirements. lead time would increase 3~15 days, price would increase 5%~50%. Most basic parts of slip ring are standard and modularized, which saved costs and lead time.

- 1) Bore size
- 2) Circuits number
- 3) High temperature, high speed etc.

# MSP380 –Two Parts Separated Slip Rings

## Bore size 80mm, 6 rings\*10A

MSP380 is separated slip ring, suitable for the situation where the slip ring can't be put into from the end. It adopts a separated rotor and contact brushes combination, supporting 6 wires for signal or 10A. The exiting wires in stator and rotor are correspondingly six colored wires, it can simplify the electrical connection. The 90-degree angle V-groove design has the characteristics of smooth rotation, low torque and low electrical noise, which can exceed ordinary slip ring products.



MSP3809 is the highest-end version of MSP380, which is used for military, aerospace, etc., differences as below

Parts#	Max working speed	Working life	Torque	Electrical noise①@10Rpm
MSP380	150RPM	5 million	0.1 N•m	20mΩ
MSP3809	500RPM	10 million	0.05 N•m	10mΩ

### Part# Explanation

MSP380 Part# Explanation		
Part#	Signal or 10A	Products Level
MSP380	6	Common quality
MSP3809	6	High-end quality

Note: N channels 10A rings parallel can be used as 1 channel N\*10A current. For example: 2 rings 10A parallel could be used as 1 wires 20A

### Specifications

Electrical Data			Mechanical Data	
Parameter	Value		Parameter	Value
	Power	Signal	Working Temperature	-30°C~80°C
Rated Voltage	0~440VAC/VDC	0~440VAC/VDC	Operating Humidity	0~85% RH
Insulation Resistance	≥1000MΩ/500VDC	≥1000MΩ/500VDC	Contact Material	Gold-Gold
Lead Wires	AWG16#Teflon	AWG22#Teflon	Torque	IP40
Lead Length	Standard 300mm (adjustable)			
Dielectric Strength	500VAC@50Hz, 60s			
Electrical Noise	<0.01Ω			

### Lead Wires Color Code

Ring	1	2	3	4	5	6	7	8	9	10	11	12
Code	BLK	RED	YLW	GRN	BLU	WHT	BLK	RED	YLW	GRN	BLU	WHT

(6 wires for 1 group color, from 7-12, repeat the same color as 1...6, indicated with number code pipe)

### Options for custom slip ring

Note: it can be customized as below requirements, lead time would increase 3~15 days, price would increase 5%~50%. Most basic parts of slip ring are standard and modularized, which saved costs and lead time.

- 1) Bore size
- 2) Circuits number
- 3) High temperature, high speed etc.