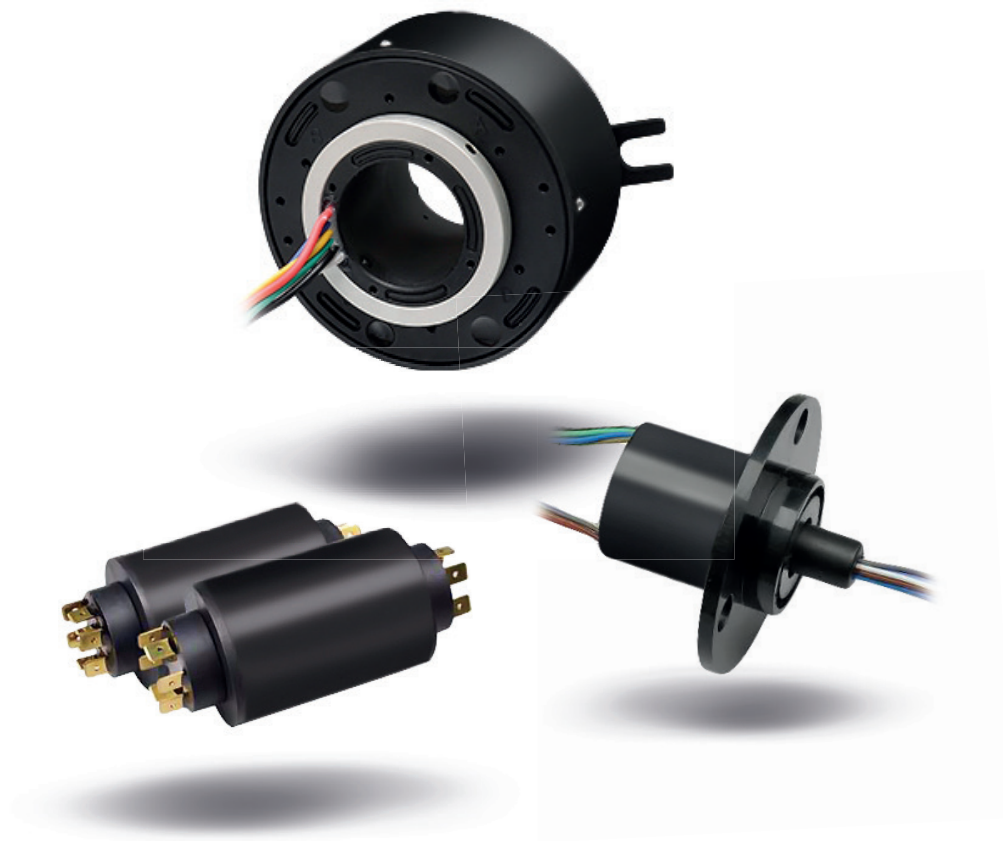


# SLIP RING CATALOG 2019

PSC Series, PSH Series & Modification





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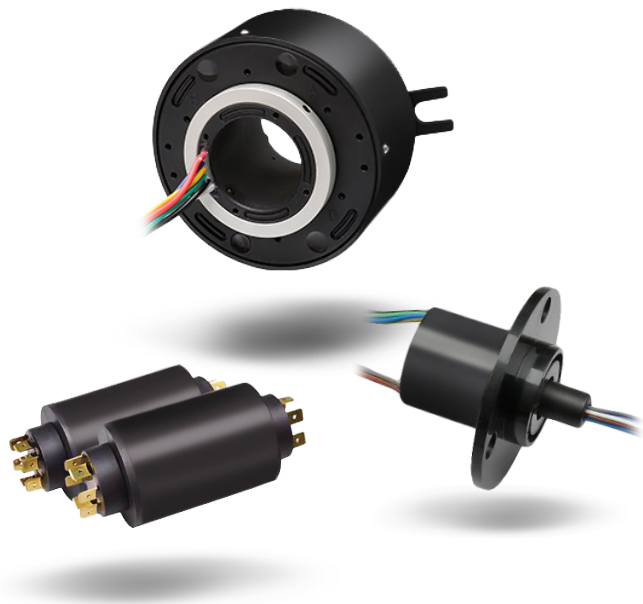
Slip Ring Catalog 2019: PSC Series, PSH Series & Modification /  
Penlink AB.



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## EXPERTISE AT YOUR SERVICE

All-around services and solutions. A product selection and software development are the best proposal for specific applications.

In the automation and motion control industry, Penlink manufactures and proposes unique products based on cutting-edge technologies developed by leading global manufacturers.

The importance of giving a wide range of products guarantees its presence in all sectors of the industry requiring high performances, skilled engineers, reducing machine developing time and offering a service support which grants a reliable partner for your applications.



### COST-EFFECTIVE

A wide range of models and solutions that can fit perfectly your applications, a team of experts able to support you during the design and development, a history from which to draw to develop the future. We can shorten the time to market delivering our experience and thus reducing costs and problems.

### MODIFICATION

Our team of experts can support you in the development of a modified solution: electrical specifications, mechanical design, cables, connectors and more. Furthermore, we can deliver integrated solutions combining fluid, fiber optic, radio frequency, encoders and angle transducers with our rotary joints. This allow us to cover your needs and offer the most innovative technologies with a single partner.

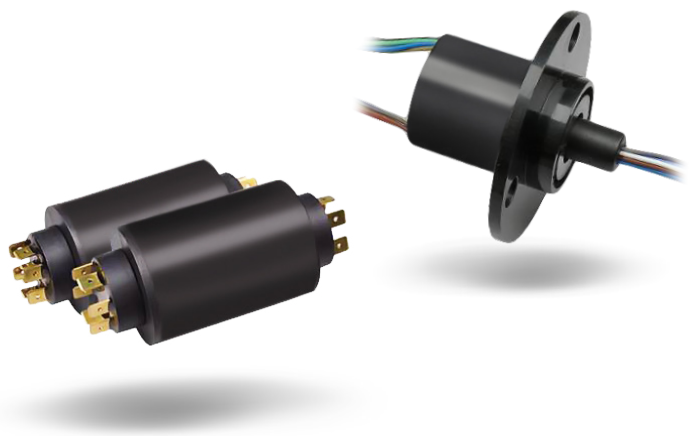
### A WIDE RANGE OF PRODUCTS

More than 500 standard and 400 custom models of electrical rotary joints, 150 standard and 300 custom models of fluid rotary joints and 50 models of fiber optic rotary joints grant us the possibility of an impressive number of combinations. The possibility to easily customize our products and the continuous attention to market needs and trends, constantly increase our proposal to customers.

# PSC-X SERIES

Compact Slip Rings

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## PSC-X12 STANDARD

Slip rings can be used in any system requiring the transmission of electrical and/or power signals to an intermittently or continuously rotating shaft. Thanks to the small ring diameter, the PSC series grants low peripheral speed between brushes and rings, as well as reduced dynamic imbalance what means very low wear. The use of noble metals (gold to gold alloy) assures long lifetime with low resistance, low electrical noise and low interference between circuits.

The very low electrical noise makes the PSC series suited to transmission of critical signals, such as high frequency signals (video, field buses) and weak signals (strain gages, thermocouples, measuring equipment). Versions with up to 2A, 6A or 10A circuits are available.

Designed for a flexible, cost-effective and reliable solution, these units are available in many standard configurations using 6 to 18 circuits. The compact size allows installation into small systems with high performance requirements.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Number Of Circuits    | 6-18 Circuits, or higher on request.  |
| Rated Voltage         | 240VDC/240VAC   |
| Cable Size            | AWG28, color coded, PTFE insulated, silver plated copper                    |
| Cable Length          | 250mm. Standard (other lengths on demand)                                   |
| Dielectric Strength   | 500VAC@50Hz 60s   |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | < 0.01Ω   |
| Operating Speed       | 0~300rpm (For higher speed please contact us)                               |
| Temperature           | -20°C to +80°C (option: -40 to +80°C on AL housing)                         |
| Rating Life           | 12 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Gold on Gold  |
| Protection            | IP51 or higher on request   |

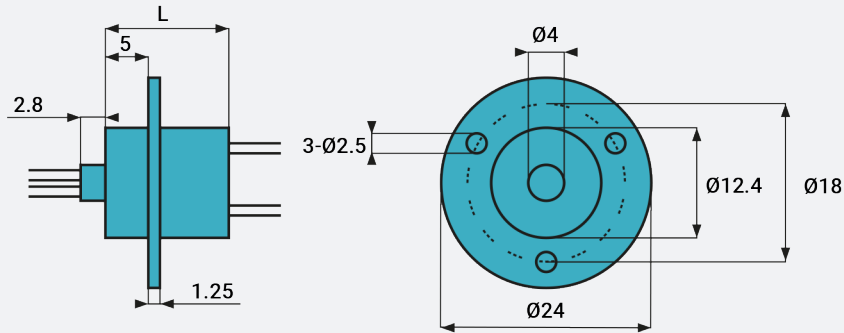
## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Video Systems
- Robotics
- Hose & Cable Reels
- Medical / Pharmaceutical
- Wind Turbines (small)
- Packaging

## STANDARD MODEL PSC-X12 OUTLINE DIMENSIONS



| Model      | No. Of Circuits |         | Possible modification |   | Dimensions |      | Housing |
|------------|-----------------|---------|-----------------------|---|------------|------|---------|
|            | Total           | Signals | Power                 |   | D=mm       | L=mm |         |
| PSC-X12-6  | 6               | 6       | -                     | - | Ø12.4      | 14   | ABS     |
| PSC-X12-12 | 12              | 12      | -                     | - | Ø12.4      | 19.5 | ABS     |
| PSC-X12-18 | 18              | 18      | -                     | - | Ø12.4      | 18.2 | ABS     |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### FLANGE

- Different Mounting
- Slip Ring Inside Flange
- Encoder Shaft Through

### TRANSFER

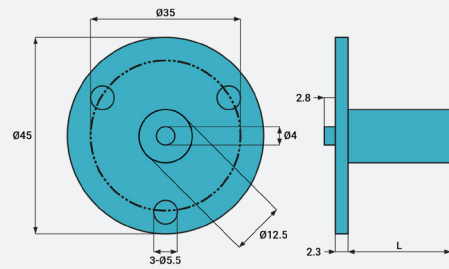
- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel

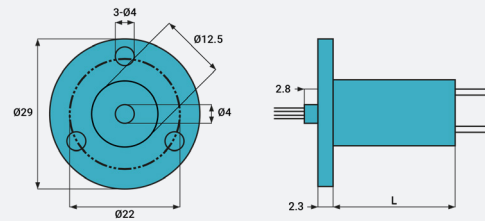
## A MODEL PSC-X12A

OUTLINE DIMENSIONS



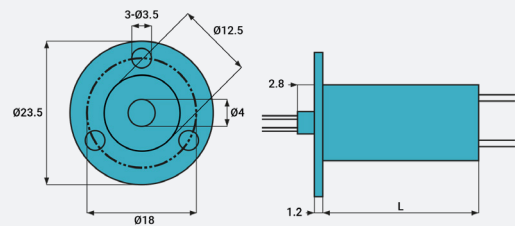
## A MODEL PSC-X12A1

OUTLINE DIMENSIONS



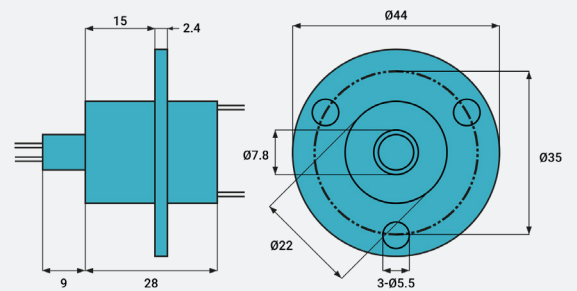
## A MODEL PSC-X12A2

OUTLINE DIMENSIONS



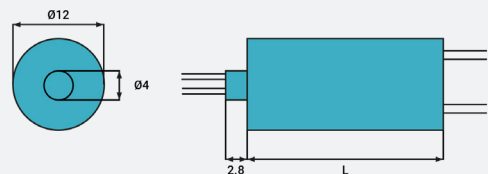
## A MODEL PSC-X12A2

OUTLINE DIMENSIONS



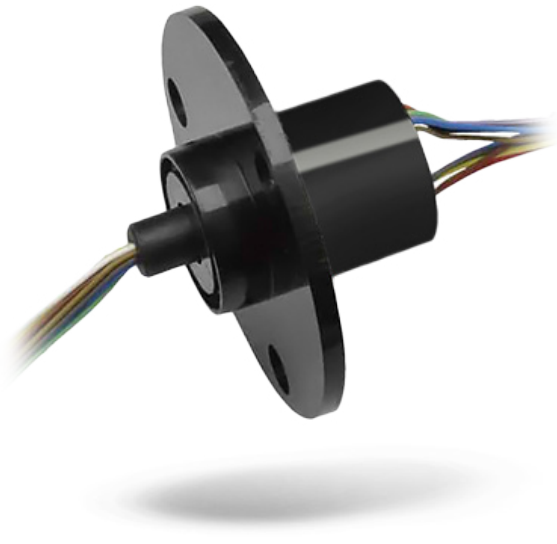
## C MODEL PSC-X12C

OUTLINE DIMENSIONS









## PSC-X18 STANDARD

Slip rings can be used in any system requiring the transmission of electrical and/or power signals to an intermittently or continuously rotating shaft. Thanks to the small ring diameter, the PSC X series grants low peripheral speed between brushes and rings, as well as reduced dynamic imbalance what means very low wear. The use of noble metals (gold to gold alloy) assures long lifetime with low resistance, low electrical noise and low interference between circuits.

The very low electrical noise makes the PSC X series suited to transmission of critical signals, such as high frequency signals (video, field buses) and weak signals (strain gages, thermocouples, measuring equipment). Versions with up to 2A, 6A or 10A circuits are available.

Designed for a flexible, cost-effective and reliable solution, these units are available in many standard configurations using 6 to 14 circuits. The compact size allows installation into small systems with high performance requirements.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Number Of Circuits    | 6-14 Circuits   |
| Rated Voltage         | 240VDC/240VAC   |
| Cable Size            | AWG28, color coded, FEP insulated, silver plated copper.                    |
| Cable Length          | 250mm. Standard (other lengths on demand)                                   |
| Dielectric Strength   | 500VAC@50Hz 60s   |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | < 0.01Ω   |
| Operating Speed       | 0~300rpm (For higher speed please contact us)                               |
| Temperature           | -20°C to +80°C (option: -40 to +80°C on AL housing)                         |
| Rating Life           | 12 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious Metals   |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

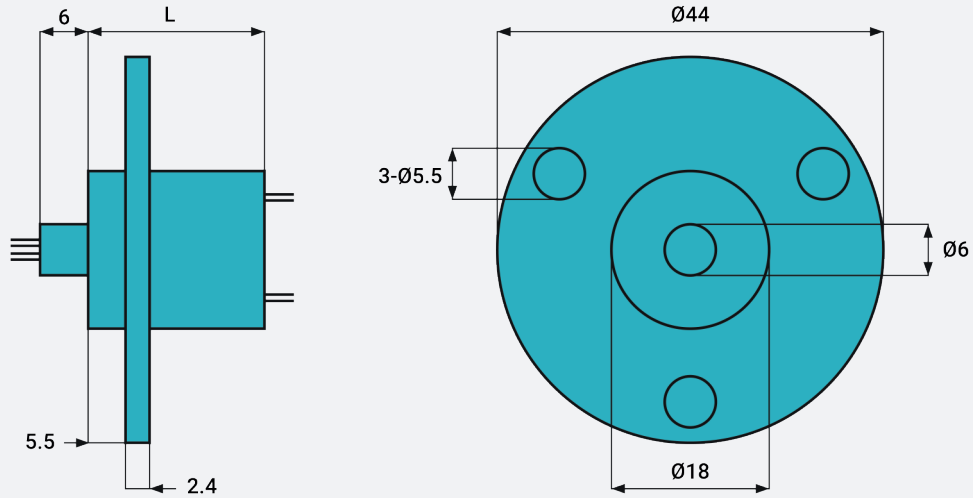
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Video Systems
- Robotics
- Hose & Cable Reels
- Medical / Pharmaceutical
- Wind Turbines (small)
- Packaging

## STANDARD MODEL PSC-X18

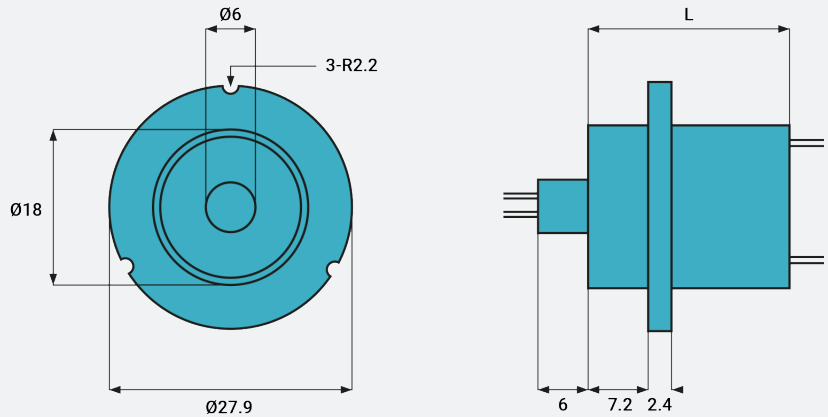
### OUTLINE DIMENSIONS



| Model      | No. Of Circuits |         | Possible modification |     | Dimensions |      | Housing |
|------------|-----------------|---------|-----------------------|-----|------------|------|---------|
|            | Total           | Signals | Power                 |     | D=mm       | L=mm |         |
| PSC-X18-6  | 6               | 6       | 6A                    | 10A | Ø18        | 15.9 | ABS     |
| PSC-X18-12 | 12              | 12      | -                     | -   | Ø18        | 23.7 | ABS     |
| PSC-X18-14 | 14              | 14      | -                     | -   | Ø18        | 25.5 | ABS     |

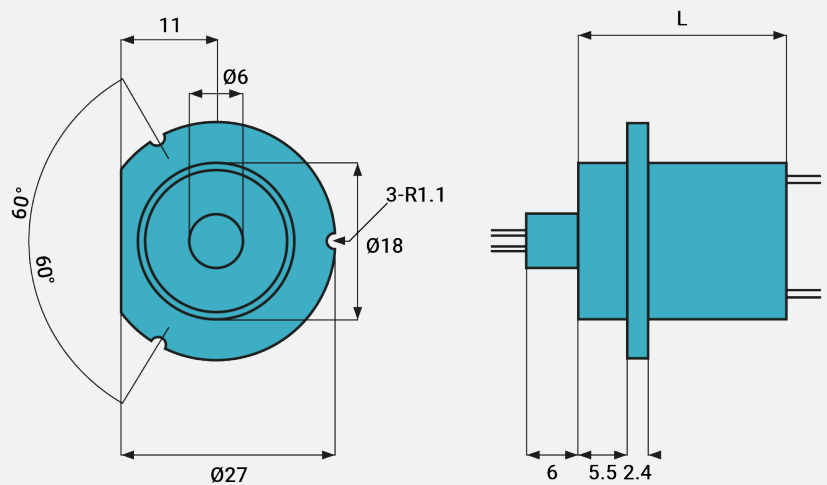
## A MODEL PSC-X18A1

OUTLINE DIMENSIONS



## B MODEL PSC-X18B

OUTLINE DIMENSIONS



## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### FLANGE

- Different Mounting
- Slip Ring Inside Flange
- Encoder Shaft Through

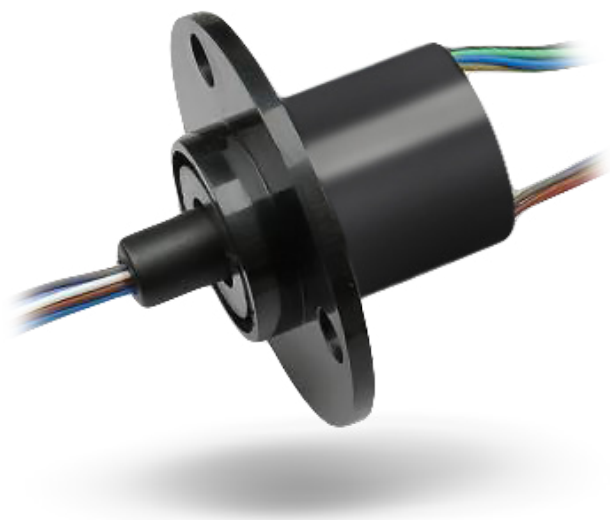
### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel





## PSC-X22 STANDARD

Slip Rings can be used in any system requiring the transmission of electrical and/or power signals to an intermittently or continuously rotating shaft. Thanks to the small ring diameter, the PSC X Series, grants low peripheral speed between brushes and rings, as well as reduced dynamic imbalance what means very low wear. Moreover, the use of noble metals (gold to gold alloy) assures long lasting using life, reduced electric noise and interferences among circuits, low contact electric resistance.

The above features make the PSC X Series specially suited to transmission of critical signals, such as hi frequency signals (video, field buses, etc.), very low currents and voltages (strain gages, thermocouples, measuring equipment etc.), even versions with 2A circuits are available. For higher than 2A please contact us.

Conceived to deliver a flexible, cost-effective, reliable and hi-quality solution, These units are available in many standard configurations and with 6 to 36 circuits. Their compact size allows installation into small systems thus requiring high performances.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Number Of Circuits    | 6-36 Circuits   |
| Rated Voltage         | 240VDC/240VAC   |
| Cable Size            | AWG26, color coded, FEP insulated, silver plated copper.                    |
| Cable Length          | 250mm. Standard (other lengths on demand)                                   |
| Dielectric Strength   | 500VAC@50Hz 60s   |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | < 0.01Ω   |
| Operating Speed       | 0~300rpm (For higher speed please contact us)                               |
| Temperature           | -20°C to +80°C (option: -40 to +80°C on AL housing)                         |
| Rating Life           | 12 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious Metals   |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

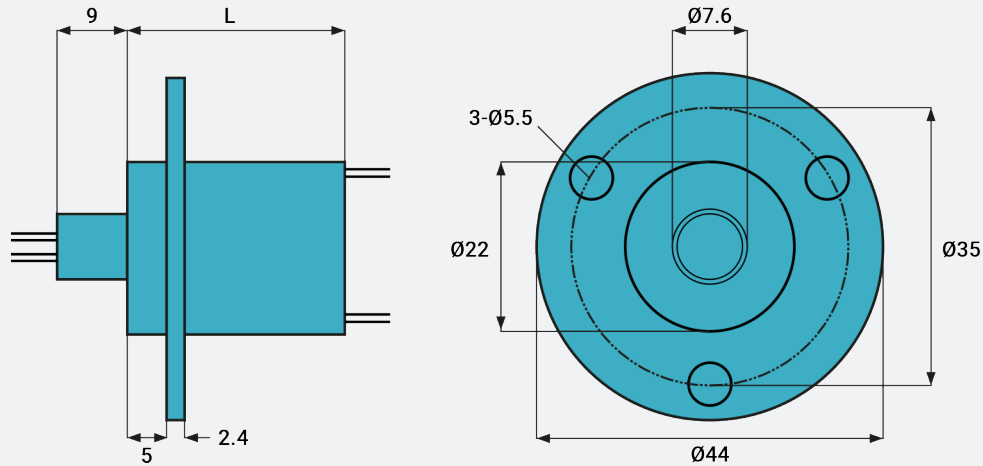
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Video Systems
- Robotics
- Hose & Cable Reels
- Medical / Pharmaceutical
- Wind Turbines (small)
- Packaging

## STANDARD MODEL PSC-X22

### OUTLINE DIMENSIONS



| Model            | No. Of Circuits |                 | Possible modification |     | Dimensions |      | Housing |
|------------------|-----------------|-----------------|-----------------------|-----|------------|------|---------|
|                  | Total           | Signals<br>1-2A | Power<br>6A           | 10A | D=mm       | L=mm |         |
| PSC-X22-6        | 6               | 6               | -                     | -   | Ø22        | 19   | ABS     |
| PSC-X22-7        | 7               | 7               | -                     | -   | Ø22        | 19   | ABS     |
| PSC-X22-12       | 12              | 12              | -                     | -   | Ø22        | 28   | ABS     |
| PSC-X22-12-2P/2S | 4               | 2               | 2                     | -   | Ø22        | 28   | ABS     |
| PSC-X22-15       | 15              | 15              | -                     | -   | Ø22        | 29.5 | ABS     |
| PSC-X22-18       | 18              | 18              | -                     | -   | Ø22        | 33.4 | ABS     |
| PSC-X22-18-3P    | 3               | -               | -                     | 3   | Ø22        | 33.4 | ABS     |
| PSC-X22-24       | 24              | 24              | -                     | -   | Ø22        | 41.2 | ABS     |
| PSC-X22-24-4P/6S | 10              | 6               | 4                     | -   | Ø22        | 41.2 | ABS     |
| PSC-X22-36       | 36              | 36              | -                     | -   | Ø22        | 56.8 | ABS     |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### FLANGE

- Different Mounting
- Slip Ring Inside Flange
- Encoder Shaft Through

### TRANSFER

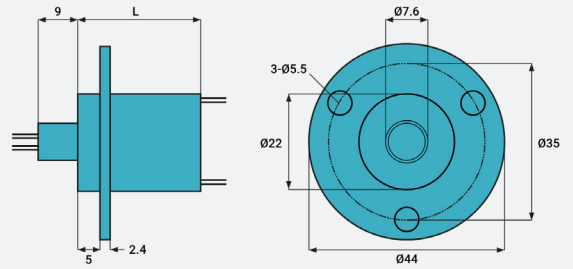
- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel

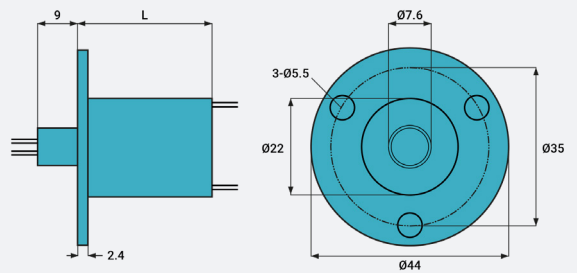
## A MODEL PSC-X22

OUTLINE DIMENSIONS



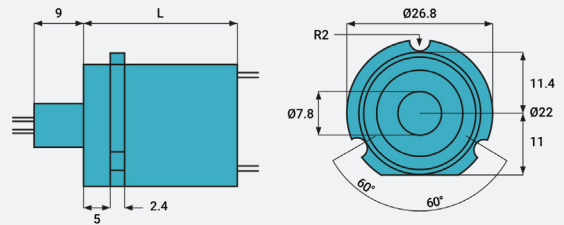
## A MODEL PSC-X22A

OUTLINE DIMENSIONS



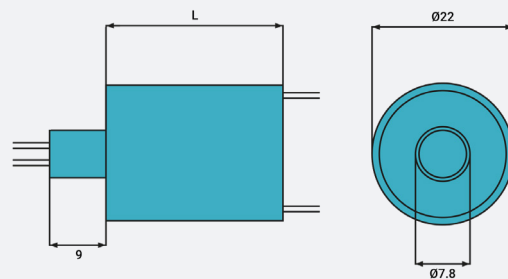
## B MODEL PSC-X22B

OUTLINE DIMENSIONS



## C MODEL PSC-X22C

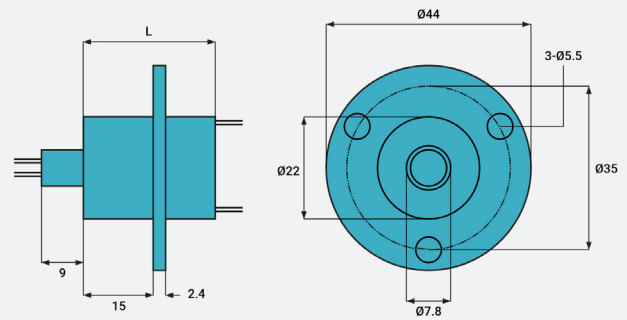
OUTLINE DIMENSIONS





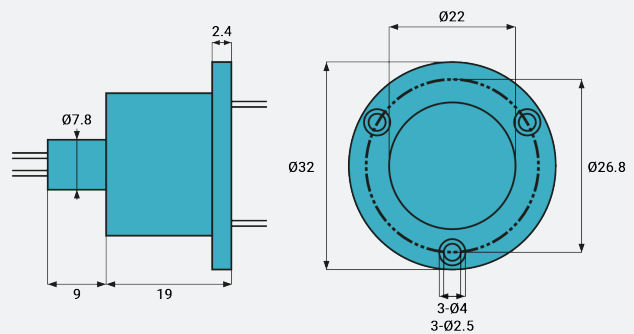
## D MODEL PSC-X22D

OUTLINE DIMENSIONS



## E MODEL PSC-X22E

OUTLINE DIMENSIONS



## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### FLANGE

- Different Mounting
- Slip Ring Inside Flange
- Encoder Shaft Through

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or
- On request.
- Plastic
- Aluminium
- Stainless steel



## PSC-X25 STANDARD

Slip Rings can be used in any system requiring the transmission of electrical and/or power signals to an intermittently or continuously rotating shaft. Thanks to the small ring diameter, the PSC X Series, grants low peripheral speed between brushes and rings, as well as reduced dynamic imbalance what means very low wear. Moreover, the use of noble metals (gold to gold alloy) assures long lasting using life, reduced electric noise and interferences among circuits, low contact electric resistance.

The above features make the PSC X Series specially suited to transmission of critical signals, such as hi frequency signals (video, field buses, etc.), very low currents and voltages (strain gages, thermocouples, measuring equipment etc.), even if versions with up to 2A, 6A and 10A circuits are available.

Designed for a flexible, cost-effective and reliable solution, these units are available in many standard configurations using 6 to 56 circuits. The compact size allows installation into small systems with high performance requirements. COAX: Can be combined with RG178 50 Ω and RG170 75 Ω.

## TECHNICAL SPECIFICATION

|                       |  |
|-----------------------|--|
| Number Of Circuits    | 6-56 Circuits  |
| Rated Voltage         | 240VDC/240VAC  |
| Cable Size            | AWG28 or AWG26 for 2A; AWG22 for 6A; AWG16 for 10A, color coded, FEP insulated |
| Cable Length          | 250mm. Standard (other lengths on demand)                                      |
| Dielectric Strength   | 500VAC@50Hz 60S  |
| Insulation Resistance | 1000MΩ/500VDC  |
| Noise                 | < 0.01Ω  |
| Operating Speed       | 0~300rpm   |
| Temperature           | -20°C to +80°C   |
| Rating Life           | 12 million revolutions (depending on speed and on environmental conditions)    |
| Contact               | Precious Metals  |
| Protection            | IP51 or higher on request  |

## PRODUCT FEATURES

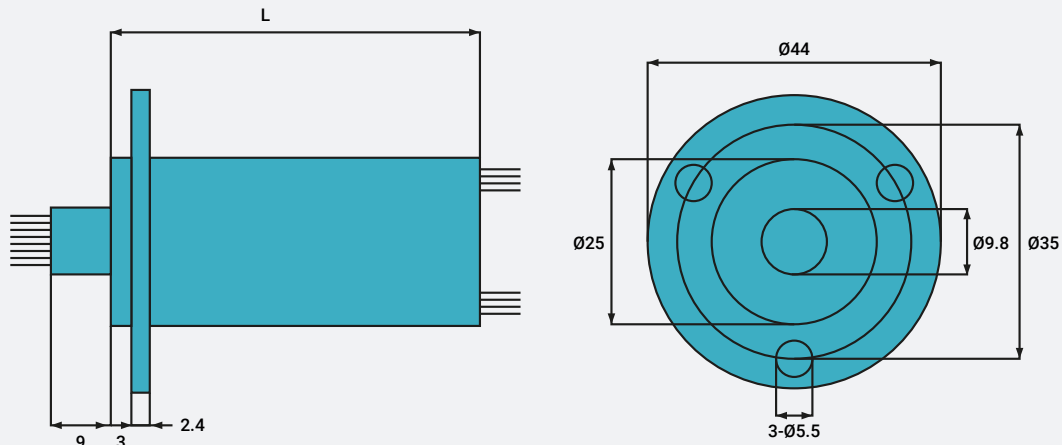
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Video Systems
- Robotics
- Hose & Cable Reels
- Medical / Pharmaceutical
- Wind Turbines (small)
- Packaging

## STANDARD MODEL PSC-X25

### OUTLINE DIMENSIONS



| MODEL      | L=mm |
|------------|------|
| PSC-X25-30 | 51.7 |
| PSC-X25-36 | 59.5 |
| PSC-X25-46 | 72.5 |
| PSC-X25-56 | 85.5 |

| Model                    | No. Of Circuits |     |    |    | RG178 or RG179 |
|--------------------------|-----------------|-----|----|----|----------------|
|                          | Total           | 10A | 6A | 2A |                |
| PSC-X25-30               | 30              | -   | -  | 30 | -              |
| PSC-X25-30-4P/18S        | 22              | -   | 4  | 18 | -              |
| PSC-X25-30-3P/15S        | 18              | 3   | -  | 15 | -              |
| PSC-X25-36               | 36              | -   | -  | 36 | -              |
| PSC-X25-36-4P/24S        | 28              | -   | 4  | 24 | -              |
| PSC-X25-36-4P/20S-2RG178 | 26              | -   | 4  | 20 | 2              |
| PSC-X25-46               | 46              | -   | -  | 46 | -              |
| PSC-X25-46-4P/34S        | 38              | -   | 4  | 34 | -              |
| PSC-X25-46-4P/30S-2RG178 | 36              | -   | 4  | 30 | 2              |
| PSC-X25-56               | 56              | -   | -  | 56 | -              |
| PSC-X25-56-4P/44S        | 48              | -   | 4  | 44 | -              |
| PSC-X25-56-4P/40S-2RG178 | 46              | -   | 4  | 40 | 2              |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### FLANGE

- Different Mounting
- Slip Ring Inside Flange
- Encoder Shaft Through

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PST-X32 STANDARD

The PST X Series is developed initially for the packaging industries and are mostly used by flow pack machines. The slip rings allow high current circuits, combined with signals for sensors, and is suited for high operation speed with a long lifetime. The terminals pins are connected on the slip ring, that allows smooth installation.

PST-X32 has 2 or 3 high currents circuits and can be combined with two circuits for sensors. The PST X32 is also available in an IP65 version suitable to be installed in machines, that needs regular cleaning with water. The PST-X45 Series has 6 power circuits and a model with additional 2 circuits for signals.

Their compact size allows installation into small systems thus requiring high performances.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Number Of Circuits    | 2, 3, 4, 5  |
| Voltage               | 240VDC / 240VAC Max.  |
| Current Rating        | 14A each, Signal circuit 2A each  |
| Connection            | Gold plated Pin connection  |
| Dielectric Strength   | 500VAC at 50Hz 60S  |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | ≤ 10mΩ  |
| Nominal Speed         | 0~400rpm (for higher speed, please contact us)                              |
| Temperature           | -20°C to +80°C (option: -40 to +80°C on AL housing)                         |
| Rating Life           | 10 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious Metals   |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

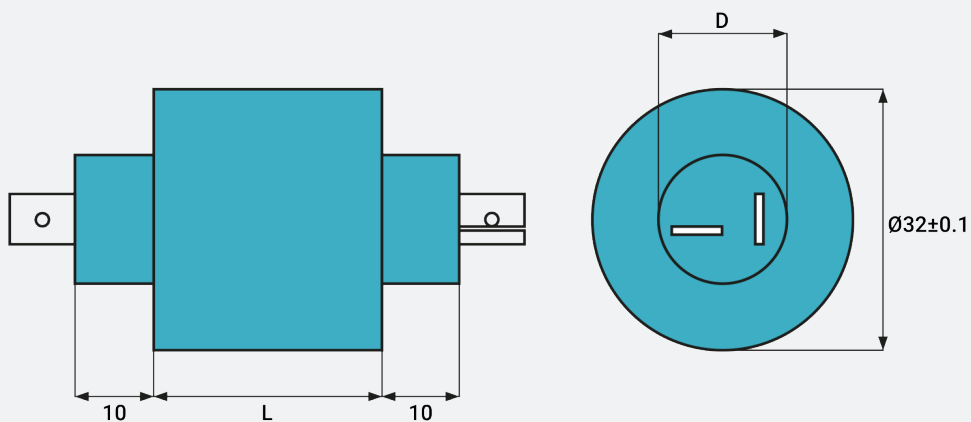
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Flow Pack
- Wind Turbine
- Packaging

## STANDARD MODEL PST-X32-2

### OUTLINE DIMENSIONS



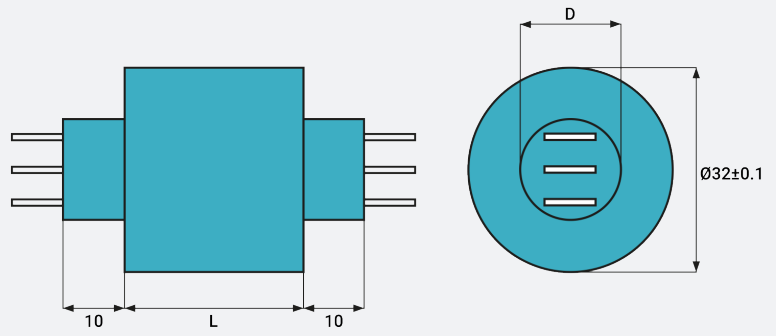
| Model             | No. Of Circuits |       |      | Length  | Diameter     | Terminal     |              |
|-------------------|-----------------|-------|------|---------|--------------|--------------|--------------|
|                   | Total           | Power | 2A   |         |              | Power        | Signal       |
| PST-X32-2 (IP51)  | 2               | 2x14A | -    | 28 mm   | $\text{Ø}32$ | 0.8 x 6.3 mm | -            |
| PST-X32-3 (IP51)  | 3               | 3x14A | -    | 28 mm   | $\text{Ø}32$ | 0.8 x 6.3 mm | -            |
| PST-X32-4 (IP51)  | 4               | 2x14A | 2x2A | 28 mm   | $\text{Ø}32$ | 0.8 x 6.3 mm | 0.8 x 2.8 mm |
| PST-X32-3M (IP65) | 3               | 3x20A | -    | 44.5 mm | $\text{Ø}32$ | 0.8 x 6.3 mm | -            |
| PST-X32-5M (IP65) | 5               | 2x20A | 3x5A | 44.5 mm | $\text{Ø}32$ | 0.8 x 6.3 mm | 0.8 x 2.8 mm |



WATER RESISTANCE IP65

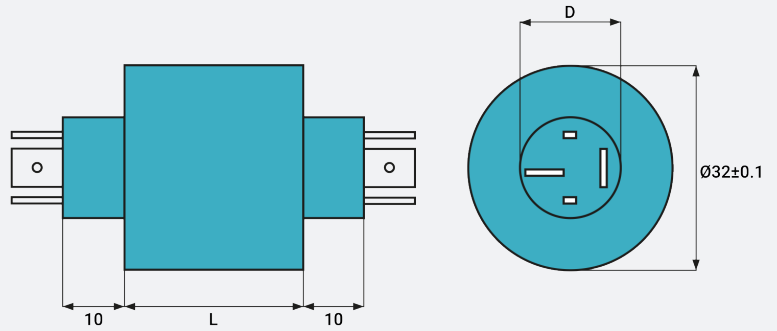
## MODEL PST-X32-3/3M

OUTLINE DIMENSIONS



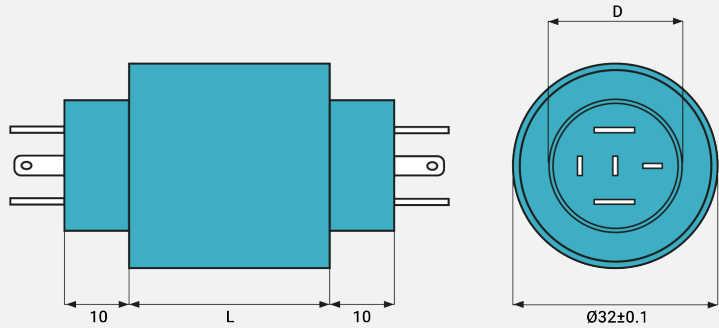
## MODEL PST-X32-4

OUTLINE DIMENSIONS



## MODEL PST-X32-5M

OUTLINE DIMENSIONS







## PST-X45 STANDARD

The PST X Series is developed initially for the packaging industries and are mostly used by flow pack machines. The slip rings allow high current circuits, combined with signals for sensors, and is suited for high operation speed with a long lifetime. The terminals pins are connected on the slip ring, that allows smooth installation.

PST-X32 has 2 or 3 high currents circuits and can be combined with two circuits for sensors. The PST X32 is also available in an IP65 version suitable to be installed in machines, that needs regular cleaning with water. The PST-X45 Series has 6 power circuits and a model with additional 2 circuits for signals.

Their compact size allows installation into small systems thus requiring high performances.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Number Of Circuits    | 6, 8  |
| Voltage               | 240VDC / 240VAC Max.  |
| Current Rating        | 14A each, Signal circuit 2A each  |
| Connection            | Gold plated Pin connection  |
| Dielectric Strength   | 500VAC at 50Hz 60S  |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | ≤ 10mΩ  |
| Nominal Speed         | 0~400rpm (for higher speed, please contact us)                              |
| Temperature           | -20°C to +80°C (option: -40 to +80°C on AL housing)                         |
| Rating Life           | 10 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious Metals   |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

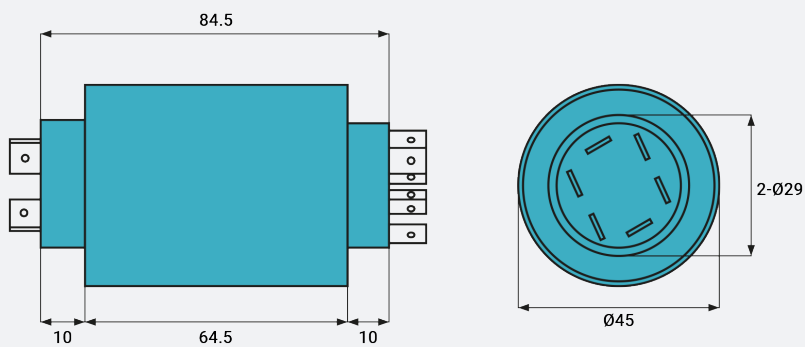
## APPLICATIONS

- Flow Pack
- Wind Turbine
- Packaging



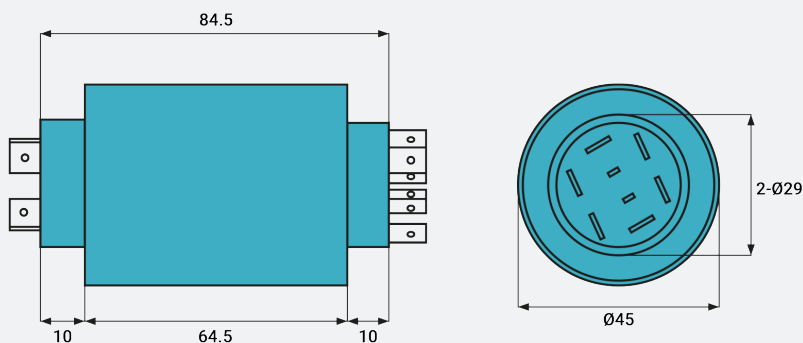
## MODEL PST-X45-6

OUTLINE DIMENSIONS



## MODEL PST-X32-8

OUTLINE DIMENSIONS



| Model           | No. Of Circuits |     |    | Diameter | Length  | Terminal     |              |
|-----------------|-----------------|-----|----|----------|---------|--------------|--------------|
|                 | Total           | 20A | 5A |          |         | Power        | Signal       |
| PST-X45-6       | 6               | 6   | -  | Ø45      | 64.5 mm | 0.8 x 6.3 mm | -            |
| PST-X45-8-6P/2S | 8               | 6   | 2  | Ø45      | 64.5 mm | 0.8 x 6.3 mm | 0.8 x 2.8 mm |



WATER RESISTANCE IP65

# PSC LEAD COLOURS

Standard Colour Codes

PSC SERIES

| Standard Colour Codes |  |                 |               |                  |                |                 |
|-----------------------|--|-----------------|---------------|------------------|----------------|-----------------|
| PSC-X                 | 1.RED  | 2.YELLOW        | 3.BLACK       | 4.BLUE           | 5.GREEN        | 6.WHITE         |
|                       | 7.PURPLE   | 8.GREY          | 9.BROWN       | 10.ORANGE        | 11.DEEP BLUE   | 12.KHAKI        |
|                       | 13.WHITE/RED   | 14.WHITE/BLACK  | 15.WHITE/BLUE | 16.WHITE /PURPLE | 17.WHITE/BROWN | 18.WHITE/GREEN  |
|                       | 19.WHITE/ORANGE  | 20.WHITE/YELLOW | 21.WHITE/GREY | 22.BLACK/RED     | 23.BLACK/BLUE  | 24.YELLOW/GREEN |
|                       | <i>For slip rings with more than 24 circuits, the colours is repeated, and placed in separate identified shrink tubes. Labels can be added on request.</i> |                 |               |                  |                |                 |

## DISCLAIMER

Colour can mismatch depending on configuration and cable type. The colours listed in the table above are standard colour codes, this means that they can change on different models and housing. Please contact Penlink with your PSC model for correct colour coding.

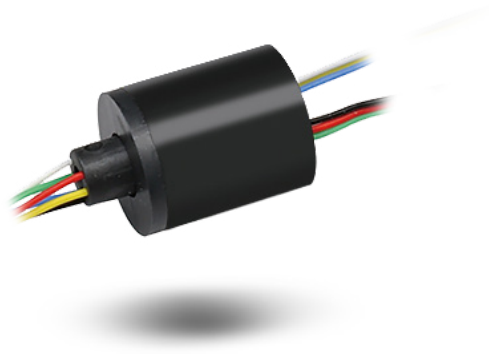


# PSH-X SERIES

Hollow Shaft Slip Rings

|                                  |              |
|----------------------------------|--------------|
| Introduction<br>Who are Penlink? | 6-7          |
| Compact Slip Rings               | 8-9          |
| <i>PSC-X12 Series</i>            | 10-13        |
| <i>PSC-X18 Series</i>            | 14-17        |
| <i>PSC-X22 Series</i>            | 18-21        |
| <i>PSC-X25 Series</i>            | 22-23        |
| <i>PST-X32 Series</i>            | 24-27        |
| <i>PST-X45 Series</i>            | 28-29        |
| PSC Lead Colour                  | 30           |
| Signals & Bus                    | 61           |
| <b>Hollow Shaft Slip Rings</b>   | <b>32-33</b> |
| <i>PSH-X03 Series</i>            | 34-35        |
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| <i>PSH-X25 Series</i>            | 40-41        |
| <i>PSH-X38 Series</i>            | 42-43        |
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## PSH-X03 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø3, Outer: Ø17mm   |
| Number Of Circuits    | 2-8   |
| Current               | 2A  |
| Cable Size            | AWG26, color coded, FEP insulated, silver plated copper                     |
| Cable length          | 250mm (or as request)   |
| Dielectric Strength   | 500VAC@50Hz 60S   |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~250rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Gold on Gold / Silver on Silver   |
| Protection            | IP51 or higher on request   |

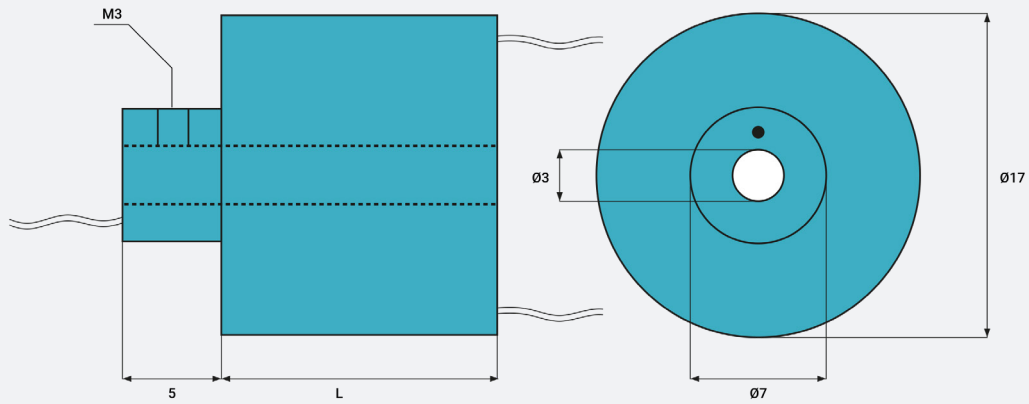
## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X03 OUTLINE DIMENSIONS



| Model   | No. Of Circuits |     |    | Length (mm) |
|---------|-----------------|-----|----|-------------|
|         | Total           | 10A | 2A |             |
| PSH-X03 | 2               | -   | 2  | 13.3-20     |
|         | 3               | -   | 3  | 13.3-20     |
|         | 6               | -   | 6  | 13.3-20     |
|         | 8               | -   | 8  | 13.3-20     |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

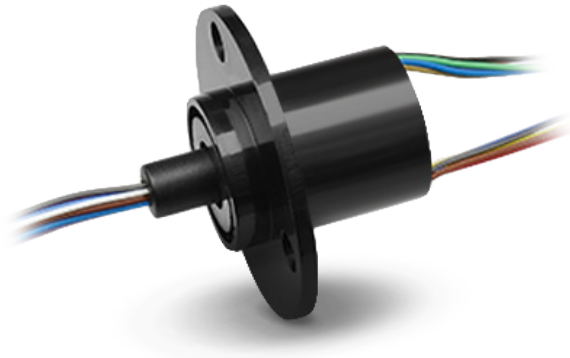
- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PSH-X04 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø4, Outer: Ø22mm   |
| Number Of Circuits    | 8-24  |
| Current               | 2A  |
| Cable Size            | AWG26, color coded, FEP insulated, silver plated copper                     |
| Cable length          | 250mm (or as request)   |
| Dielectric Strength   | 500VAC@50Hz 60S   |
| Insulation Resistance | 1000MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~250rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Gold on Gold / Silver on Silver   |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

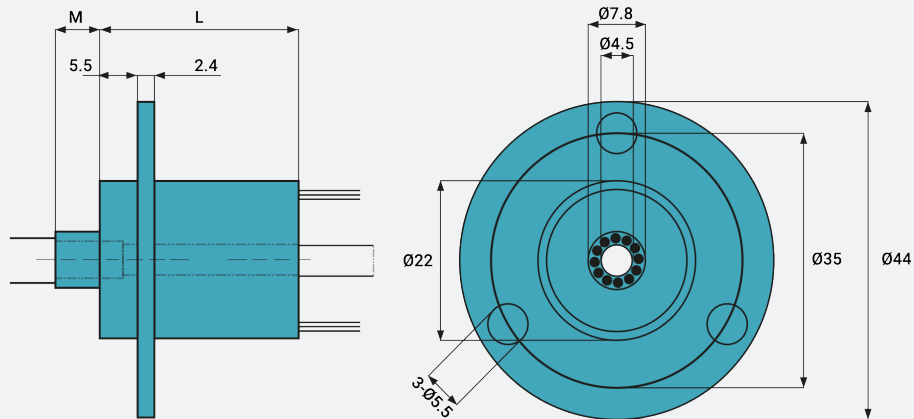
## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines



## STANDARD MODEL PSH-X04

### OUTLINE DIMENSIONS



| Model   | No. Of Circuits |     |    | Length (mm) |
|---------|-----------------|-----|----|-------------|
|         | Total           | 10A | 2A |             |
| PSH-X04 | 8               | -   | 8  | 19.4 - 43   |
|         | 12              | -   | 12 | 19.4 - 43   |
|         | 18              | -   | 18 | 19.4 - 43   |
|         | 24              | -   | 24 | 19.4 - 43   |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PSH-X12 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø12mm, Outer:Ø54mm   |
| Number Of Circuits    | 6-24  |
| Current               | 10A & 2A  |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

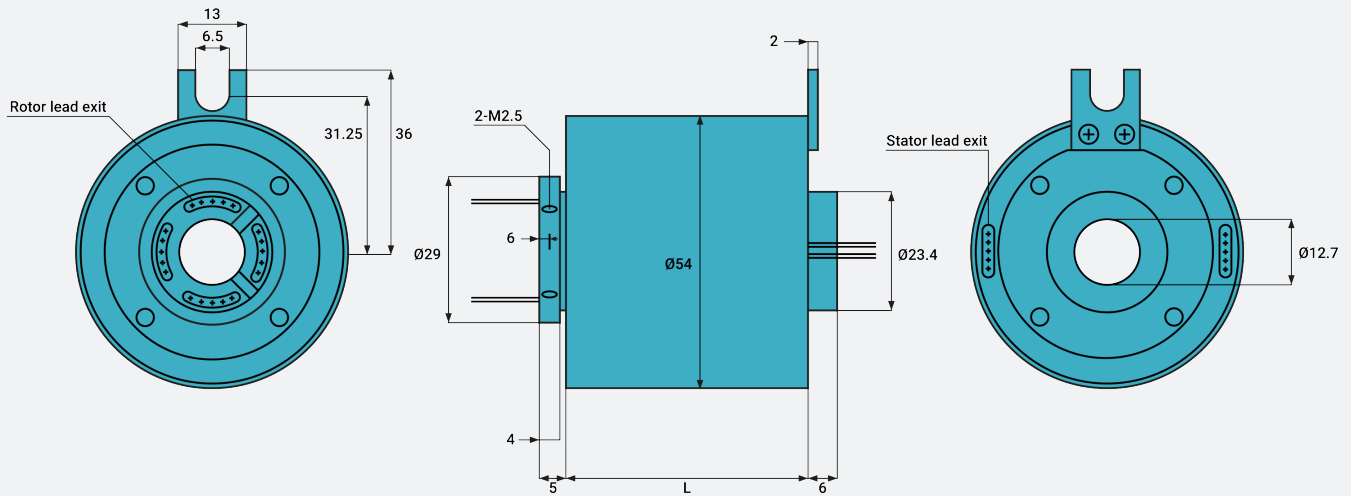
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X12

### OUTLINE DIMENSIONS



| Model      | No. Of Circuits |     |    | Length (mm) |
|------------|-----------------|-----|----|-------------|
|            | Total           | 10A | 2A |             |
| PSH-X12-6  | 6               | 6   | -  | 33.8        |
| PSH-X12-12 | 12              | 12  | -  | 47.3        |
| PSH-X12-18 | 18              | 18  | -  | 61.6        |
| PSH-X12-24 | 24              | 24  | -  | 75.7        |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### TRANSFER

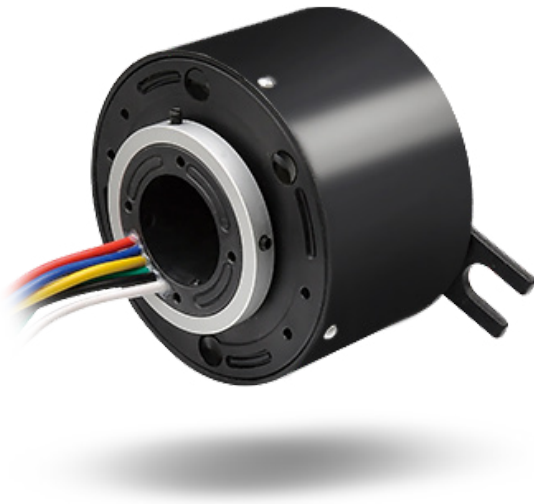
- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PSH-X25 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø25mm, Outer:Ø54mm   |
| Number Of Circuits    | 6-48  |
| Current               | 15A, 10A & 2A   |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

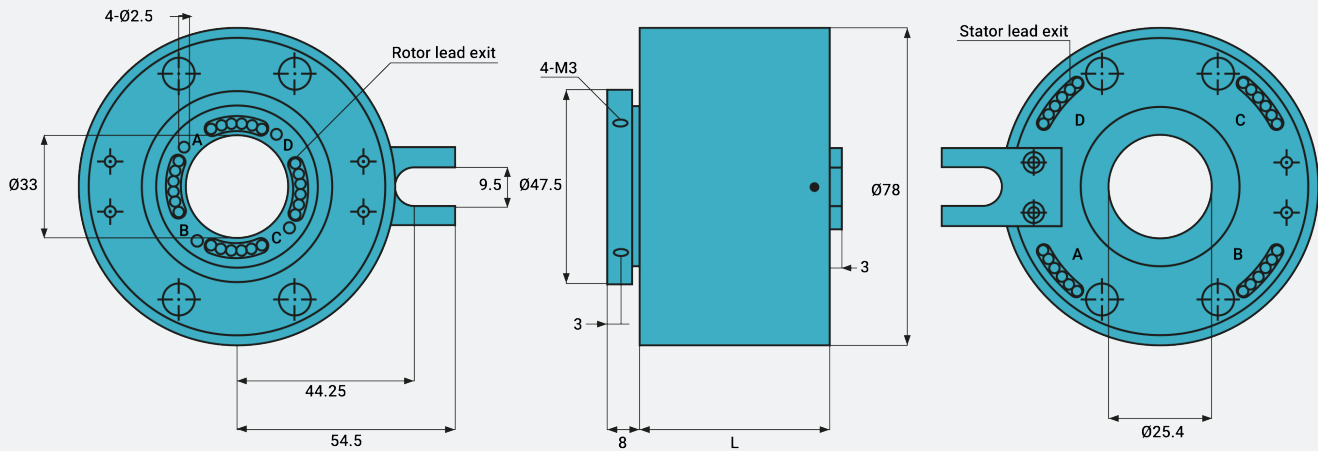
### PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

### APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X25 OUTLINE DIMENSIONS



| Model           | No. Of Circuits |         |    | Length (mm) |
|-----------------|-----------------|---------|----|-------------|
|                 | Total           | 10A/15A | 2A |             |
| PSH-X25-6P      | 6               | 6       | —  | 55          |
| PSH-X25-12S     | 12              | —       | 12 | 55          |
| PSH-X25-12P     | 12              | 12      | —  | 79          |
| PSH-X25-6P/12S  | 18              | 6       | 12 | 79          |
| PSH-X25-24S     | 24              | —       | 24 | 79          |
| PSH-X25-18P     | 18              | 18      | —  | 103         |
| PSH-X25-12P/12S | 24              | 12      | 12 | 103         |
| PSH-X25-6P/24S  | 30              | 6       | 24 | 103         |
| PSH-X25-36S     | 36              | —       | 36 | 103         |
| PSH-X25-24P     | 24              | 24      | —  | 127         |
| PSH-X25-18P/12S | 30              | 18      | 12 | 127         |
| PSH-X25-12P/24S | 36              | 12      | 24 | 127         |
| PSH-X25-6P/36S  | 42              | 6       | 36 | 127         |
| PSH-X25-48S     | 48              | —       | 48 | 127         |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PSH-X38 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø38mm, Outer:Ø99mm   |
| Number Of Circuits    | 6-48  |
| Current               | 15A, 10A & 2A   |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

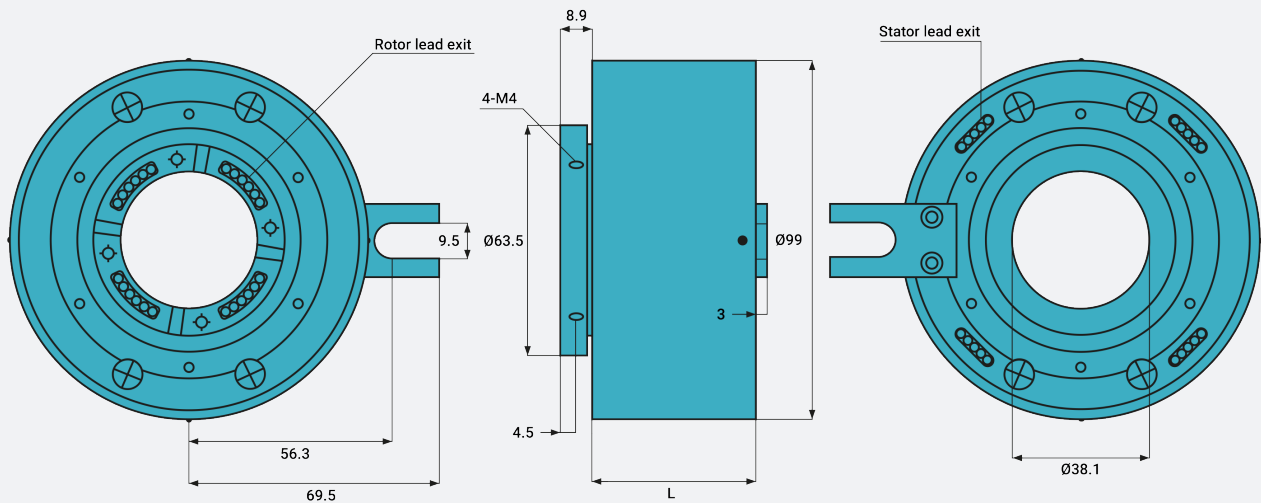
## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X38 OUTLINE DIMENSIONS



| Model           | No. Of Circuits |         |    | Length<br>(mm) |
|-----------------|-----------------|---------|----|----------------|
|                 | Total           | 10A/15A | 2A |                |
| PSH-X38-6P      | 6               | 6       | —  | 54.1           |
| PSH-X38-12S     | 12              | —       | 12 | 54.1           |
| PSH-X38-12P     | 12              | 12      | —  | 77.9           |
| PSH-X38-6P/12S  | 18              | 6       | 12 | 77.9           |
| PSH-X38-24S     | 24              | —       | 24 | 77.9           |
| PSH-X38-18P     | 18              | 18      | —  | 101.7          |
| PSH-X38-12P/12S | 24              | 12      | 12 | 101.7          |
| PSH-X38-6P/24S  | 30              | 6       | 24 | 101.7          |
| PSH-X38-36S     | 36              | —       | 36 | 101.7          |
| PSH-X38-24P     | 24              | 24      | —  | 125.5          |
| PSH-X38-18P/12S | 30              | 18      | 12 | 125.5          |
| PSH-X38-12P/24S | 36              | 12      | 24 | 125.5          |
| PSH-X38-6P/36S  | 42              | 6       | 36 | 125.5          |
| PSH-X38-48S     | 48              | —       | 48 | 125.5          |

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



## PSH-X50 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø50mm, Outer:Ø120mm  |
| Number Of Circuits    | 6-72  |
| Current               | 15A, 10A & 5A   |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

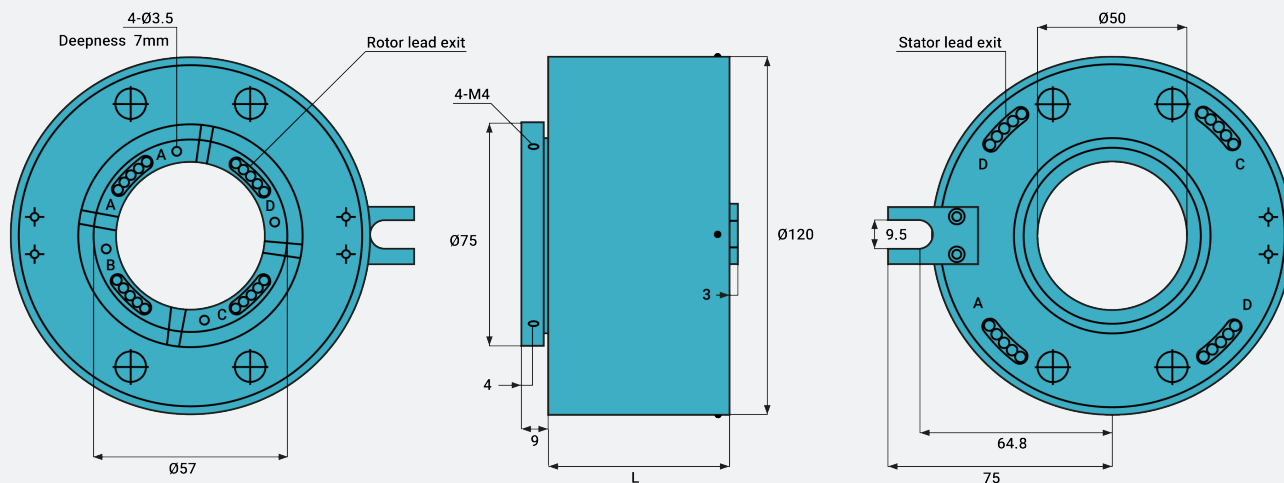
## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines



## STANDARD MODEL PSH-X50

### OUTLINE DIMENSIONS



| Model           | No. Of Circuits |         |    | Length (mm) |
|-----------------|-----------------|---------|----|-------------|
|                 | Total           | 10A/15A | 5A |             |
| PSH-X50-6P      | 6               | 6       | —  | 70          |
| PSH-X50-12S     | 12              | —       | 12 | 70          |
| PSH-X50-12P     | 12              | 12      | —  | 100         |
| PSH-X50-6P/12S  | 18              | 6       | 12 | 100         |
| PSH-X50-24S     | 24              | —       | 24 | 100         |
| PSH-X50-18P     | 18              | 18      | —  | 130         |
| PSH-X50-12P/12S | 24              | 12      | 12 | 130         |
| PSH-X50-6P/24S  | 30              | 6       | 24 | 130         |
| PSH-X50-36S     | 36              | —       | 36 | 130         |
| PSH-X50-24P     | 24              | 24      | —  | 160         |
| PSH-X50-18P/12S | 30              | 18      | 12 | 160         |
| PSH-X50-12P/24S | 36              | 12      | 24 | 160         |
| PSH-X50-6P/36S  | 42              | 6       | 36 | 160         |
| PSH-X50-48S     | 48              | —       | 48 | 160         |
| PSH-X50-30P     | 30              | 30      | —  | 190         |
| PSH-X50-24P/12S | 36              | 24      | 12 | 190         |
| PSH-X50-18P/24S | 42              | 18      | 24 | 190         |
| PSH-X50-12P/36S | 48              | 12      | 36 | 190         |
| PSH-X50-6P/48S  | 54              | 6       | 48 | 190         |
| PSH-X50-60S     | 60              | —       | 60 | 190         |
| PSH-X50-36P     | 36              | 36      | —  | 220         |
| PSH-X50-30P/12S | 42              | 30      | 12 | 220         |
| PSH-X50-24P/24S | 48              | 24      | 24 | 220         |
| PSH-X50-18P/36S | 54              | 18      | 36 | 220         |
| PSH-X50-12P/48S | 60              | 12      | 48 | 220         |
| PSH-X50-6P/60S  | 66              | 6       | 60 | 220         |
| PSH-X50-72S     | 72              | —       | 72 | 220         |

## Lead Colour Codes

Contact Penlink with your drawing for more information on Lead Colour Codes.

## Signal and Bus Compliances

See page 61 for signal possibilities and modifications on our standard PSH slip rings.

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel





## PSH-X60 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø60mm, Outer:Ø135mm  |
| Number Of Circuits    | 6-96  |
| Current               | 20A, 15A, 10A & 5A  |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

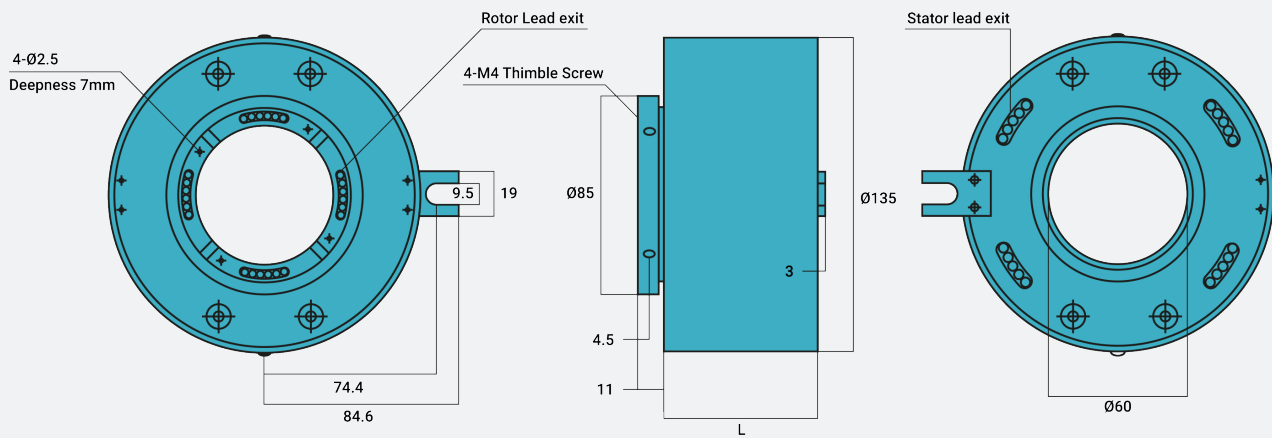
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X60

### OUTLINE DIMENSIONS



| Model           | No. Of Circuits |             |    | Length (mm) |
|-----------------|-----------------|-------------|----|-------------|
|                 | Total           | 10A/15A/20A | 5A |             |
| PSH-X60-6P      | 6               | 6           | —  | 77.5        |
| PSH-X60-12S     | 12              | —           | 12 | 77.5        |
| PSH-X60-12P     | 12              | 12          | —  | 107.5       |
| PSH-X60-6P/12S  | 18              | 6           | 12 | 107.5       |
| PSH-X60-24S     | 24              | —           | 24 | 107.5       |
| PSH-X60-18P     | 18              | 18          | —  | 137.5       |
| PSH-X60-12P/12S | 24              | 12          | 12 | 137.5       |
| PSH-X60-6P/24S  | 30              | 6           | 24 | 137.5       |
| PSH-X60-36S     | 36              | —           | 36 | 137.5       |
| PSH-X60-24P     | 24              | 24          | —  | 167.5       |
| PSH-X60-18P/12S | 30              | 18          | 12 | 167.5       |
| PSH-X60-12P/24S | 36              | 12          | 24 | 167.5       |
| PSH-X60-6P/36S  | 42              | 6           | 36 | 167.5       |
| PSH-X60-48S     | 48              | —           | 48 | 167.5       |
| PSH-X60-30P     | 30              | 30          | —  | 197.5       |
| PSH-X60-24P/12S | 36              | 24          | 12 | 197.5       |
| PSH-X60-18P/24S | 42              | 18          | 24 | 197.5       |
| PSH-X60-12P/36S | 48              | 12          | 36 | 197.5       |
| PSH-X60-6P/48S  | 54              | 6           | 48 | 197.5       |
| PSH-X60-60S     | 60              | —           | 60 | 197.5       |
| PSH-X60-36P     | 36              | 36          | —  | 227.5       |
| PSH-X60-30P/12S | 42              | 30          | 12 | 227.5       |
| PSH-X60-24P/24S | 48              | 24          | 24 | 227.5       |
| PSH-X60-18P/36S | 54              | 18          | 36 | 227.5       |
| PSH-X60-12P/48S | 60              | 12          | 48 | 227.5       |
| PSH-X60-6P/60S  | 66              | 6           | 60 | 227.5       |
| PSH-X60-72S     | 72              | —           | 72 | 227.5       |
| PSH-X60-42P     | 42              | 42          | —  | 257.5       |
| PSH-X60-36P/12S | 48              | 36          | 12 | 257.5       |
| PSH-X60-30P/24S | 54              | 30          | 24 | 257.5       |
| PSH-X60-24P/36S | 60              | 24          | 36 | 257.5       |
| PSH-X60-18P/48S | 66              | 18          | 48 | 257.5       |
| PSH-X60-12P/60S | 72              | 12          | 60 | 257.5       |

| Model           | No. Of Circuits |             |    | Length<br>(mm) |
|-----------------|-----------------|-------------|----|----------------|
|                 | Total           | 10A/15A/20A | 5A |                |
| PSH-X60-6P/72S  | 78              | 6           | 72 | 257.5          |
| PSH-X60-84S     | 84              | –           | 84 | 257.5          |
| PSH-X60-48P     | 48              | 48          | –  | 287.5          |
| PSH-X60-42P/12S | 54              | 42          | 12 | 287.5          |
| PSH-X60-36P/24S | 60              | 36          | 24 | 287.5          |
| PSH-X60-30P/36S | 66              | 30          | 36 | 287.5          |
| PSH-X60-24P/48S | 72              | 24          | 48 | 287.5          |
| PSH-X60-18P/60S | 78              | 18          | 60 | 287.5          |
| PSH-X60-12P/72S | 84              | 12          | 72 | 287.5          |
| PSH-X60-6P/84S  | 90              | 6           | 84 | 287.5          |
| PSH-X60-96S     | 96              | –           | 96 | 287.5          |

## Lead Colour Codes

Contact Penlink with your drawing for more information on Lead Colour Codes.

## Signal and Bus Compliances

See page 61 for signal possibilities and modifications on our standard PSH slip rings.

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel





## PSH-X70 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø70mm, Outer:Ø155mm  |
| Number Of Circuits    | 6-96  |
| Current               | 20A, 15A, 10A & 5A  |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

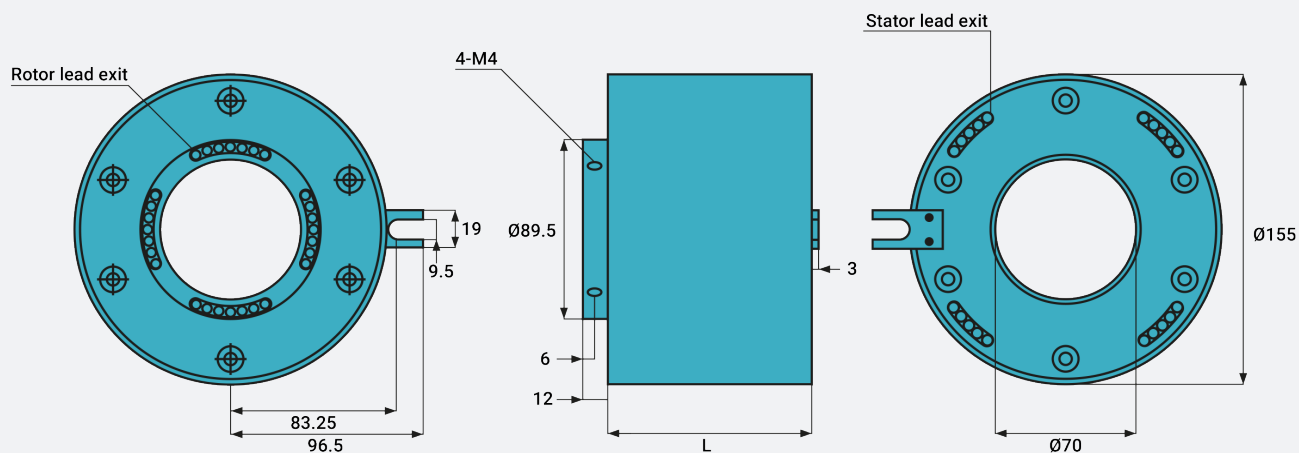
## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines



## STANDARD MODEL PSH-X70

### OUTLINE DIMENSIONS



| Model           | No. Of Circuits |             |    | Length (mm) |
|-----------------|-----------------|-------------|----|-------------|
|                 | Total           | 10A/15A/20A | 5A |             |
| PSH-X70-6P      | 6               | 6           | —  | 80.8        |
| PSH-X70-12S     | 12              | —           | 12 | 80.8        |
| PSH-X70-12P     | 12              | 12          | —  | 110.8       |
| PSH-X70-6P/12S  | 18              | 6           | 12 | 110.8       |
| PSH-X70-24S     | 24              | —           | 24 | 110.8       |
| PSH-X70-18P     | 18              | 18          | —  | 140.8       |
| PSH-X70-12P/12S | 24              | 12          | 12 | 140.8       |
| PSH-X70-6P/24S  | 30              | 6           | 24 | 140.8       |
| PSH-X70-36S     | 36              | —           | 36 | 140.8       |
| PSH-X70-24P     | 24              | 24          | —  | 170.8       |
| PSH-X70-18P/12S | 30              | 18          | 12 | 170.8       |
| PSH-X70-12P/24S | 36              | 12          | 24 | 170.8       |
| PSH-X70-6P/36S  | 42              | 6           | 36 | 170.8       |
| PSH-X70-48S     | 48              | —           | 48 | 170.8       |
| PSH-X70-30P     | 30              | 30          | —  | 200.8       |
| PSH-X70-24P/12S | 36              | 24          | 12 | 200.8       |
| PSH-X70-18P/24S | 42              | 18          | 24 | 200.8       |
| PSH-X70-12P/36S | 48              | 12          | 36 | 200.8       |
| PSH-X70-6P/48S  | 54              | 6           | 48 | 200.8       |
| PSH-X70-60S     | 60              | —           | 60 | 200.8       |
| PSH-X70-36P     | 36              | 36          | —  | 230.8       |
| PSH-X70-30P/12S | 42              | 30          | 12 | 230.8       |
| PSH-X70-24P/24S | 48              | 24          | 24 | 230.8       |
| PSH-X70-18P/36S | 54              | 18          | 36 | 230.8       |
| PSH-X70-12P/48S | 60              | 12          | 48 | 230.8       |
| PSH-X70-6P/60S  | 66              | 6           | 60 | 230.8       |
| PSH-X70-72S     | 72              | —           | 72 | 230.8       |
| PSH-X70-42P     | 42              | 42          | —  | 260.8       |
| PSH-X70-36P/12S | 48              | 36          | 12 | 260.8       |
| PSH-X70-30P/24S | 54              | 30          | 24 | 260.8       |
| PSH-X70-24P/36S | 60              | 24          | 36 | 260.8       |
| PSH-X70-18P/48S | 66              | 18          | 48 | 260.8       |
| PSH-X70-12P/60S | 72              | 12          | 60 | 260.8       |
| PSH-X70-6P/72S  | 78              | 6           | 72 | 260.8       |

# PSH-X70 SERIES

Standard Hollow Shaft

PSH SERIES

| Model           | No. Of Circuits |             |    | Length<br>(mm) |
|-----------------|-----------------|-------------|----|----------------|
|                 | Total           | 10A/15A/20A | 5A |                |
| PSH-X70-84S     | 84              | —           | 84 | 260.8          |
| PSH-X70-48P     | 48              | 48          | —  | 290.8          |
| PSH-X70-42P/12S | 54              | 42          | 12 | 290.8          |
| PSH-X70-36P/24S | 60              | 36          | 24 | 290.8          |
| PSH-X70-30P/36S | 66              | 30          | 36 | 290.8          |
| PSH-X70-24P/48S | 72              | 24          | 48 | 290.8          |
| PSH-X70-18P/60S | 78              | 18          | 60 | 290.8          |
| PSH-X70-12P/72S | 84              | 12          | 72 | 290.8          |
| PSH-X70-6P/84S  | 90              | 6           | 84 | 290.8          |
| PSH-X70-96S     | 96              | —           | 96 | 290.8          |

## Lead Colour Codes

Contact Penlink with your drawing for more information on Lead Colour Codes.

## Signal and Bus Compliances

See page 61 for signal possibilities and modifications on our standard PSH slip rings.

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel





## PSH-X80 STANDARD HOLLOW SHAFT

Slip rings can be used in any electromechanical system requiring unrestrained, continuous rotation, while transmitting power and/or data from a stationary to a rotating structure. A slip ring is sometimes referred to as a rotary electrical interface, collector, swivel or rotary joint.

The PSH-X Series uses multiple contact point technology, allowing for low contact electric resistance between brushes and ring. This reduces electrical noise and the slip ring gets a longer lifetime. No lubrication required.

We can also offer modified design. As a customer you have the possibility to specify the slip ring to comply with your needs. We can also offer hybrid units, for example a combined slip ring and fiber optic rotary joint, integrated into one small housing. Other options we can offer inclusion of coax and miniature data bus cables, harnessing of lead wires into chosen crimps and connectors.

## TECHNICAL SPECIFICATION

|                       |   |
|-----------------------|---|
| Dimensions            | Inner: Ø80mm, Outer:Ø180mm  |
| Number Of Circuits    | 6-96  |
| Current               | 20A, 15A, 10A & 5A  |
| Cable Size            | AWG22 silver plated, PTFE insulated   |
| Cable length          | Standard 500mm  |
| Dielectric Strength   | 500VAC/50Hz, 60s  |
| Insulation Resistance | ≥500MΩ/500VDC   |
| Noise                 | ≤10mΩ   |
| Operation Speed       | 0~400rpm  |
| Temperature           | -20°C to +80°C  |
| Rating Life           | 80 million revolutions (depending on speed and on environmental conditions) |
| Contact               | Precious metal  |
| Protection            | IP51 or higher on request   |

## PRODUCT FEATURES

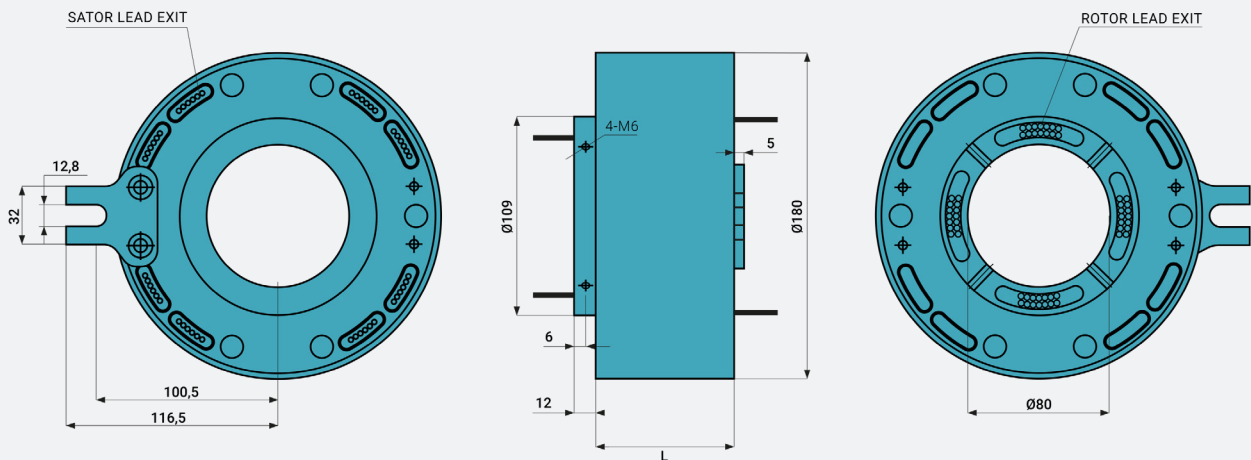
- Quick Delivery
- Low Cost
- Ideal For Video & Digital Signals
- Gold Alloy Rings & Brushes
- High Reliability
- Low Friction Torque
- Smooth Rotation
- In Compliance With Ce & Rohs Standards

## APPLICATIONS

- Cable reels
- Medical equipment
- Packaging machines

## STANDARD MODEL PSH-X80

### OUTLINE DIMENSIONS



| Model           | No. Of Circuits |             |    | Length (mm) |
|-----------------|-----------------|-------------|----|-------------|
|                 | Total           | 10A/15A/20A | 5A |             |
| PSH-X80-6P      | 6               | 6           | —  | 88.5        |
| PSH-X80-12S     | 12              | —           | 12 | 88.5        |
| PSH-X80-12P     | 12              | 12          | —  | 118.5       |
| PSH-X80-6P/12S  | 18              | 6           | 12 | 118.5       |
| PSH-X80-24S     | 24              | —           | 24 | 118.5       |
| PSH-X80-18P     | 18              | 18          | —  | 148.5       |
| PSH-X80-12P/12S | 24              | 12          | 12 | 148.5       |
| PSH-X80-6P/24S  | 30              | 6           | 24 | 148.5       |
| PSH-X80-36S     | 36              | —           | 36 | 148.5       |
| PSH-X80-24P     | 24              | 24          | —  | 178.5       |
| PSH-X80-18P/12S | 30              | 18          | 12 | 178.5       |
| PSH-X80-12P/24S | 36              | 12          | 24 | 178.5       |
| PSH-X80-6P/36S  | 42              | 6           | 36 | 178.5       |
| PSH-X80-48S     | 48              | —           | 48 | 178.5       |
| PSH-X80-30P     | 30              | 30          | —  | 208.5       |
| PSH-X80-24P/12S | 36              | 24          | 12 | 208.5       |
| PSH-X80-18P/24S | 42              | 18          | 24 | 208.5       |
| PSH-X80-12P/36S | 48              | 12          | 36 | 208.5       |
| PSH-X80-6P/48S  | 54              | 6           | 48 | 208.5       |
| PSH-X80-60S     | 60              | —           | 60 | 208.5       |
| PSH-X80-36P     | 36              | 36          | —  | 248.5       |
| PSH-X80-30P/12S | 42              | 30          | 12 | 238.5       |
| PSH-X80-24P/24S | 48              | 24          | 24 | 238.5       |
| PSH-X80-18P/36S | 54              | 18          | 36 | 238.5       |
| PSH-X80-12P/48S | 60              | 12          | 48 | 238.5       |
| PSH-X80-6P/60S  | 66              | 6           | 60 | 238.5       |
| PSH-X80-72S     | 72              | —           | 72 | 238.5       |
| PSH-X80-42P     | 42              | 42          | —  | 268.5       |
| PSH-X80-36P/12S | 48              | 36          | 12 | 268.5       |
| PSH-X80-30P/24S | 54              | 30          | 24 | 268.5       |
| PSH-X80-24P/36S | 60              | 24          | 36 | 268.5       |

| Model           | No. Of Circuits |             |    | Length<br>(mm) |
|-----------------|-----------------|-------------|----|----------------|
|                 | Total           | 10A/15A/20A | 5A |                |
| PSH-X80-18P/48S | 66              | 18          | 48 | 268.5          |
| PSH-X80-12P/60S | 72              | 12          | 60 | 268.5          |
| PSH-X80-6P/72S  | 78              | 6           | 72 | 268.5          |
| PSH-X80-84S     | 84              | —           | 84 | 268.5          |
| PSH-X80-48P     | 48              | 48          | —  | 298.5          |
| PSH-X80-42P/12S | 54              | 42          | 12 | 298.5          |
| PSH-X80-36P/24S | 60              | 36          | 24 | 298.5          |
| PSH-X80-30P/36S | 66              | 30          | 36 | 298.5          |
| PSH-X80-24P/48S | 72              | 24          | 48 | 298.5          |
| PSH-X80-18P/60S | 78              | 18          | 60 | 298.5          |
| PSH-X80-12P/72S | 84              | 12          | 72 | 298.5          |
| PSH-X80-6P/84S  | 90              | 6           | 84 | 298.5          |
| PSH-X80-96S     | 96              | —           | 96 | 298.5          |

## Lead Colour Codes

Contact Penlink with your drawing for more information on Lead Colour Codes.

## Signal and Bus Compliances

See page 61 for signal possibilities and modifications on our standard PSH slip rings.

## MODIFY ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### CABLES

- Twisted Cables
- Colour Coded
- Rg Cable For Video

### HOLLOW SHAFT

- Size according to requirements
- Packing/sealing

### TRANSFER

- EtherCAT
- Profinet
- Powerlink
- Can Bus
- Gigabit Ethernet

### HOUSING

- IP-rating of 51 or Higher on request.
- Plastic
- Aluminium
- Stainless steel



# PSH LEAD COLOURS

Standard Colour Codes

PSH SERIES

| Standard Colour Codes                      |           |           |          |           |              |          |
|--|-----------|-----------|----------|-----------|--------------|----------|
| Circuits 1-6<br>Exit A Red Shrink Tube     | 1.RED     | 2.YELLOW  | 3.BLACK  | 4.BLUE    | 5.GREEN      | 6.WHITE  |
| Circuits 7-12<br>Exit B Black Shrink Tube  | 7.PURPLE  | 8.GRAY    | 9.BROWN  | 10.ORANGE | 11.DEEP BLUE | 12.KHAKI |
| Circuits 13-18<br>Exit C Blue Shrink Tube  | 13.RED    | 14.YELLOW | 15.BLACK | 16.BLUE   | 17.GREEN     | 18.WHITE |
| Circuits 19-24<br>Exit D Green Shrink Tube | 19.PURPLE | 20.GRAY   | 21.BROWN | 22.ORANGE | 23.DEEP BLUE | 24.KHAKI |

## DISCLAIMER

Colour can mismatch depending on configuration. The colours listed in the table above are standard colour codes, this means that they can change on different models and housing. Please contact Penlink with your PSH model to get correct colour coding.



## SIGNALS & BUS

Our standard slip rings comes with signals for data, video and power transmission. Your transmission requirements are key when picking out the right product. Knowing the transmission will enable us to find the right slip ring for your project.

If you can't find a model with the right transmission we can always modify the slip ring for you. This may alter the design of the slip ring so always get in touch with us for more information regarding your model and specification.

### DATA CIRCUITS

Our slip ring handle up to 1 GB of data (1000Base-X), and can be equipped with different cable to be used for all known industry standard data, as example, Profinet, Can-bus, Profibus, DMX, 100Base-X or similar type. It's even possible to transfer several independent data channels through one slip ring.

### VIDEO SIGNALS

Our slip ring handle both standard and high definition videos, up to SMPTE 424M/2,97 gb/s with 3G HD-SDI. Combined with our optical joint, the slip ring handle up to 24G-SDI.

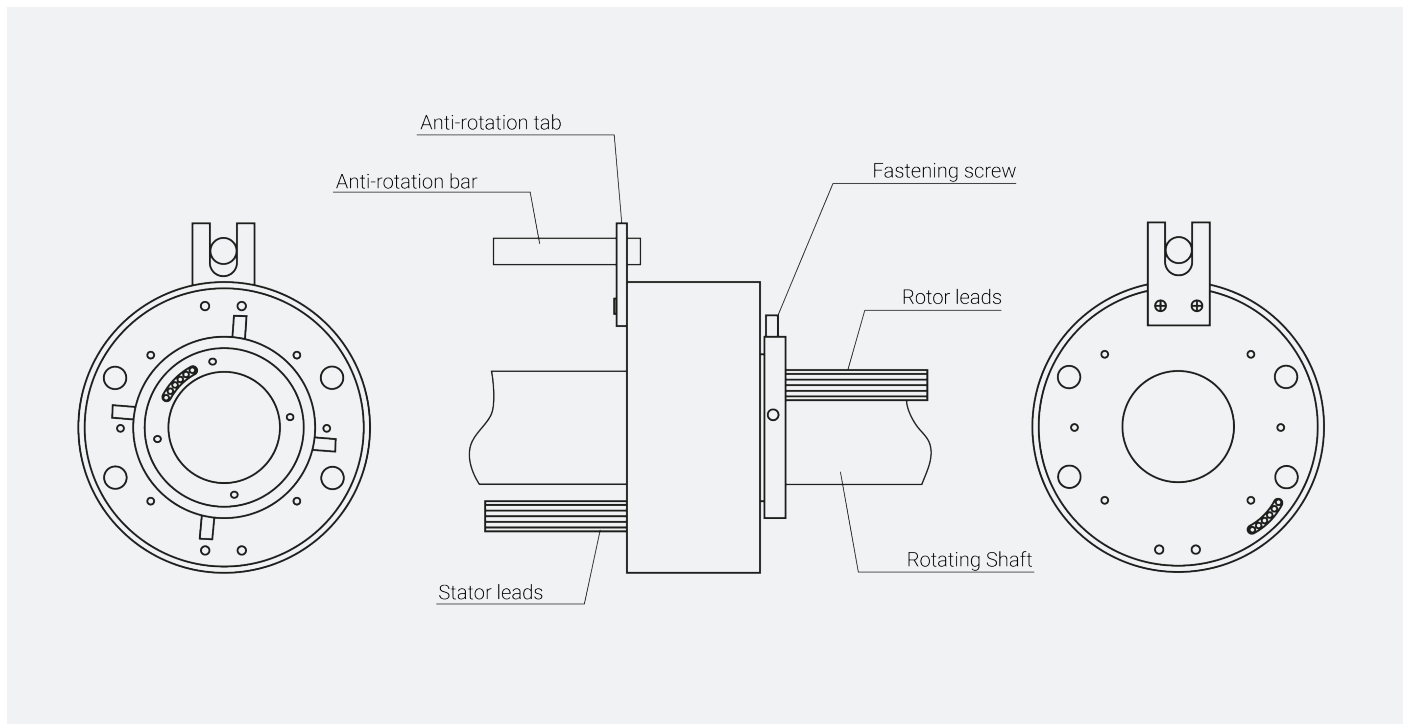
### POWER CIRCUITS

For the compact PSC Series, 2A rings are default, but it can be combined up to 16A depending on your needs and the slip ring configurations. Please contact us for help to specify your slip ring!



# INSTALLATION

## Slip Ring Simple Installation



### IMPORTANT READ BEFORE INSTALLATION

- The slip ring should not be used for load bearing; the cables should not be stressed nor tensed.
- When installing the slip rings, the cables should be well protected.
- The slip ring should be used in dry, low dust environment. If the working environment is harsh, more protection measures should be taken.

*For example it should be modified with a higher IP-rating.*

Please make sure that rotor and stator are aligned properly, it is recommended to use the four set screws to align it with your best ability. The anti-rotation stop is used on the stator side to stop the slip ring rotating on its own axis.

Our slip rings shall not be forcibly fixed as the inertia is low. When forcibly fixed it can shorten expected lifetime significantly.

Contact us for any questions you have regarding installation if you are unsure.



# MODIFICATION

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## PENLINK MODIFIES ACCORDING TO YOUR NEEDS

Our standard range of slip ring can be modified to suit your applications requirement. It is possible to modify the current capacity and signal type through the slip ring, or integrate the electrical slip ring with optical or fluid rotary joint, or why not integrate the slip ring with an angle transducer, or modify the slip ring with mechanical flanges and connectors.

Through modifying our standard slip rings, we can offer a solution that suit your application and fulfils your requirement.

Get in touch with us today to learn more about possibilities, as they are endless. We work hard to bring you the very best and quality that will last.

### MODIFICATION

We offer solutions that handle high shock and vibration, perfect for mobile applications and harsh environments. We supply both hydraulic and electrical swivels.

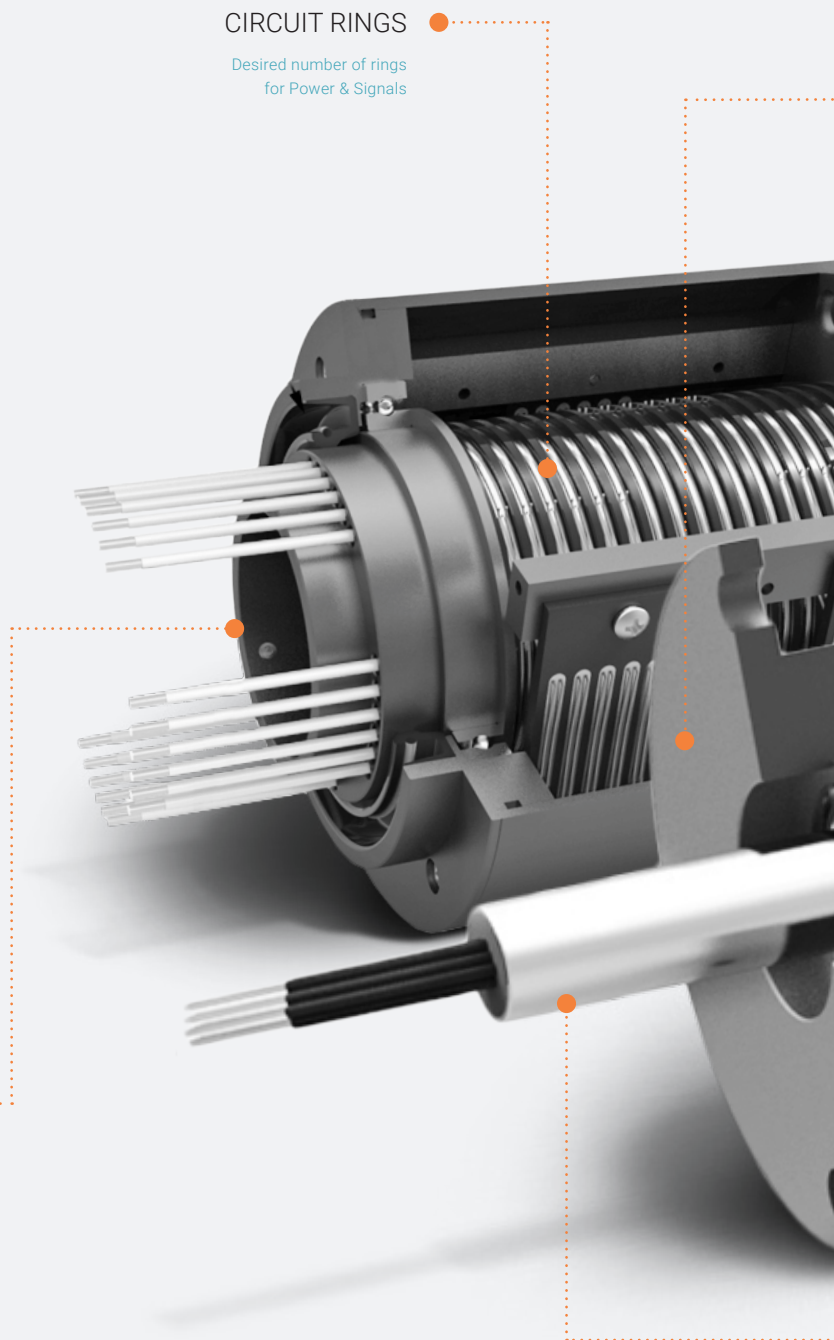
- Different Flanges
- Power and Data signals and properties
- Cable Length and Protection
- Housing Material
- Through Bore/Hollow Shaft
- Protection, High IP-Rating

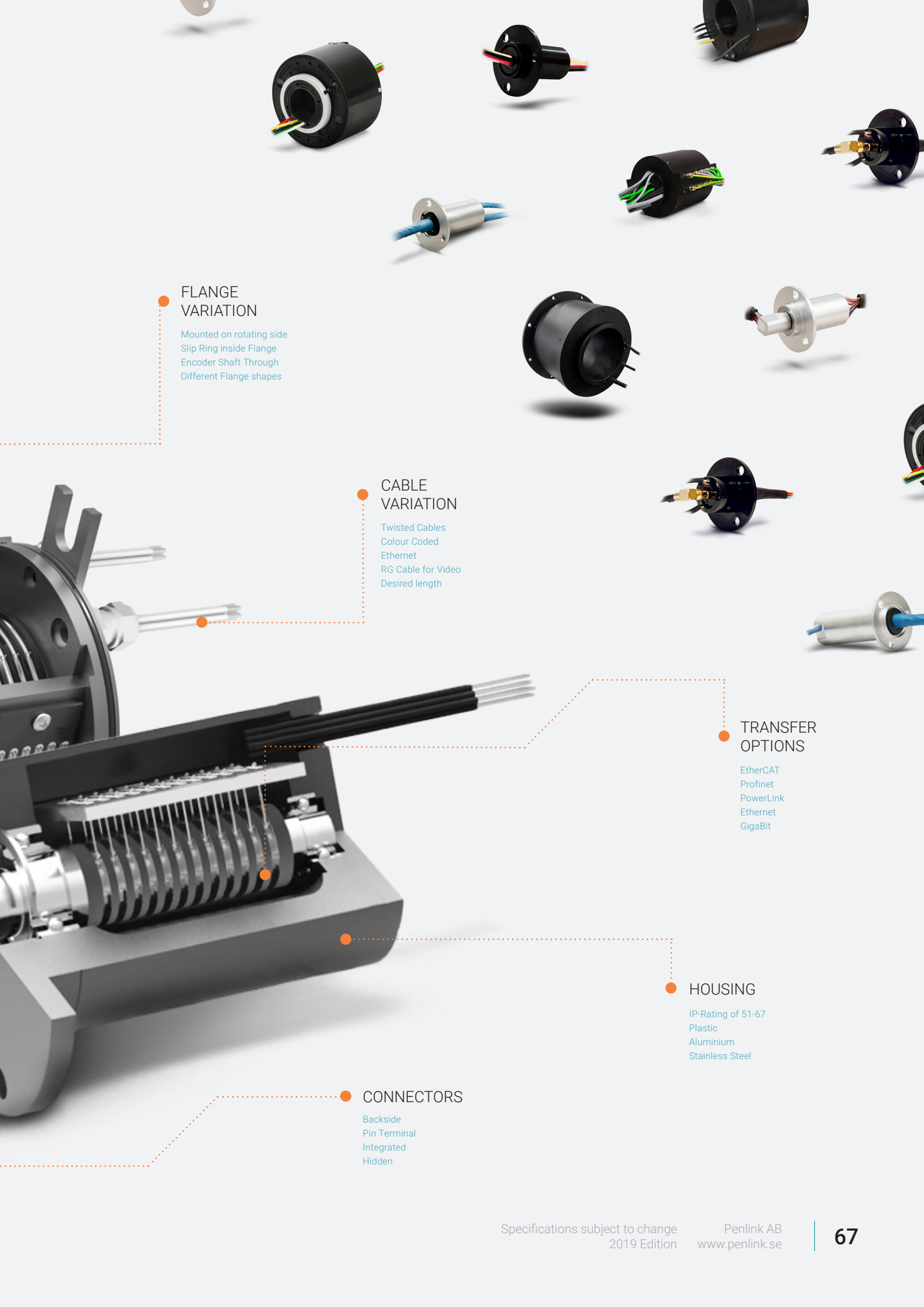
### CIRCUIT RINGS

Desired number of rings for Power & Signals

### HOLLOW SHAFT

Choosing Size  
Closed Off  
Packing/Sealing





## FLANGE VARIATION

Mounted on rotating side  
Slip Ring inside Flange  
Encoder Shaft Through  
Different Flange shapes

## CABLE VARIATION

Twisted Cables  
Colour Coded  
Ethernet  
RG Cable for Video  
Desired length

## TRANSFER OPTIONS

EtherCAT  
Profinet  
PowerLink  
Ethernet  
GigaBit

## HOUSING

IP-Rating of 51-67  
Plastic  
Aluminium  
Stainless Steel

## CONNECTORS

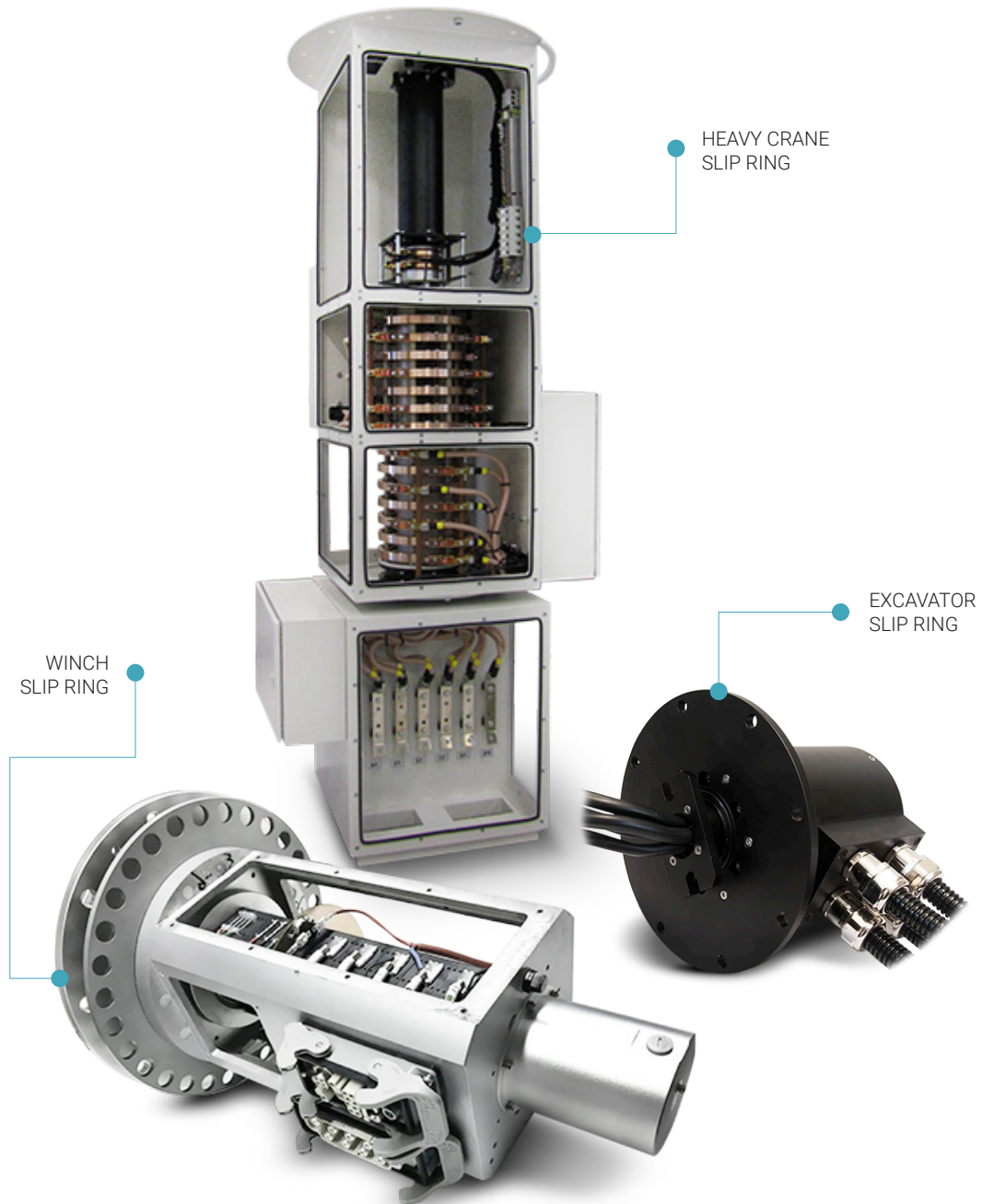
Backside  
Pin Terminal  
Integrated  
Hidden





# APPLICATIONS

Slip Rings for harsh environments



# EXCAVATORS

Slip rings for harsh environments



## EXCAVATORS IN FOCUS

Penlink offers electro hydraulics slip rings and swivels that handle high shock and vibration, perfect for mobile applications and harsh environments. Our custom made electrical slip rings are designed to offer a wide range of power and data signals (CAN Bus, DeviceNET, Ethernet, EtherCAT, PROFIBUS, PROFINET and other protocols on request).

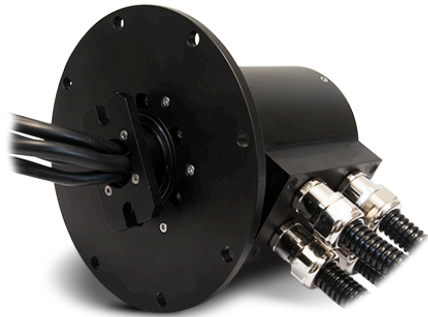
Our slip ring design, allows increased number of rings, meaning more circuits in the same space and a direct 1:1 replacement.

- Available in IP65/67 (dust and water resistance).
- Tolerance to high shock and vibration.
- Service free (80 Million revolutions/ lifetime).
- Modification of mechanical interface for easy installation.
- Very low voltage drop through slip ring increase performance

## WE CAN MODIFY

Penlink offers solutions that handle high shock and vibration, perfect for mobile applications and harsh environments. We also supply hydraulic swivels. Contact us for more information on integration with hydraulic swivels.

- Modified Compact Standard
- Customized Solution
- Modified Compact With High IP
- Modified Solution With Hollow Shaft



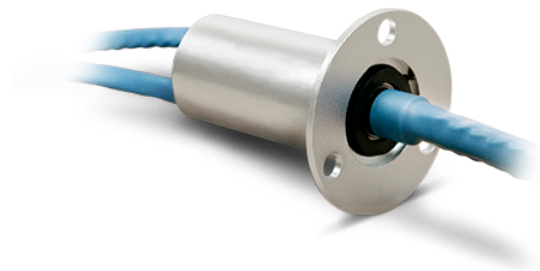
### EXCAVATOR BASE MODEL

Our modular base model can be design to fit a wide range of excavators. The slip ring can also be 1:1 replacement with additional signals / power for additional features like trailer lights.

The base model can be equipped with different flanges and interfaces to suit a wide range of installation.

### COMPACT MODEL FOR SIGNALS & LOW AMPERE

Our compact slip ring for excavators are rated to IP67, and with a compact design of a Ø25 mm housing, the total amount of Ampere and Voltage is lower than our larger slip ring, but with the design, it can be complete integrated inside the hydraulic swivels. As standard model up to 56x2A it can be configured according to yours specifications.



### HOLLOW SHAFT IP65

Our hollow shaft slip ring can be designed to IP65. The Hollow shaft slip ring offers a combination of Power and signals, and have the potentials to adept the design according to your mechanical specifications.



# OFFSHORE SLIP RINGS

Electro optical Slip Rings for Marine Winches



## WINCHES IN FOCUS

Our Offshore Slip Rings are designed to work in extreme harsh environment. The slip ring are in use in both Top side and Submerged operation, and in a wide range of application as ROV, Oceanographic, Seismic, Research vessels and other marine industries. The slip rings are configurable in a wide range of circuits and optical configurations, depending on your applications requirements.

- Flexibility in configurations
- Tolerance to high shock and vibration.
- Service free (80 Million revolutions/ lifetime).
- Modification of mechanical interface for easy installation.
- Modular versions with different configurations

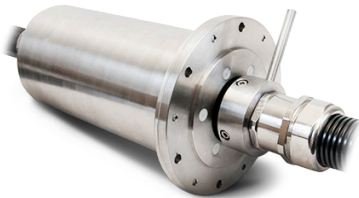
## WE CAN MODIFY

Our different standard series of offshore slip ring offer a wide range and can be combined with different options.

- Compact slip ring with increased VOLTAGE
- ROV slip rings to 5000V
- Research slip ring +10 000V
- Integration with Heaters, encoders, air purging

### COMPACT WINCH SLIP RING Ø72 MM DIAMETER

The smaller model are suitable for smaller ROV, fishing vessel and Oceanographic. This slip ring can have up to 1500V and 10A for each circuits, and can be equipped with up to four independent optical passages.

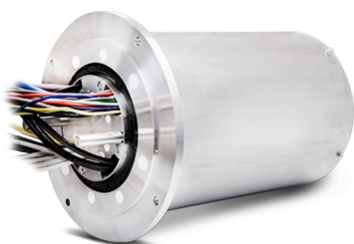


### MODULAR Ø102MM SERIES SLIP RING

Our medium size winch slip ring, has a Ø102 mm housing, this slip ring can have up to 3000V and 20A and be combined with up to four independent optical passages and features as internal heaters. The model is perfect for Medium size ROV with a combination of Power and Data.

### LARGE WINCH SLIP RING WITH Ø140MM

Our full size slip ring is designed for the larger ROV, and can be used with up to 12 optical passages, and the slip ring can be designed with AIR Purge and Internal heaters. The slip ring are also available in a subsea version suitable for oil filling. The slip ring is available in standard configurations 20A Circuits and in a 3300V and 5000V Versions.

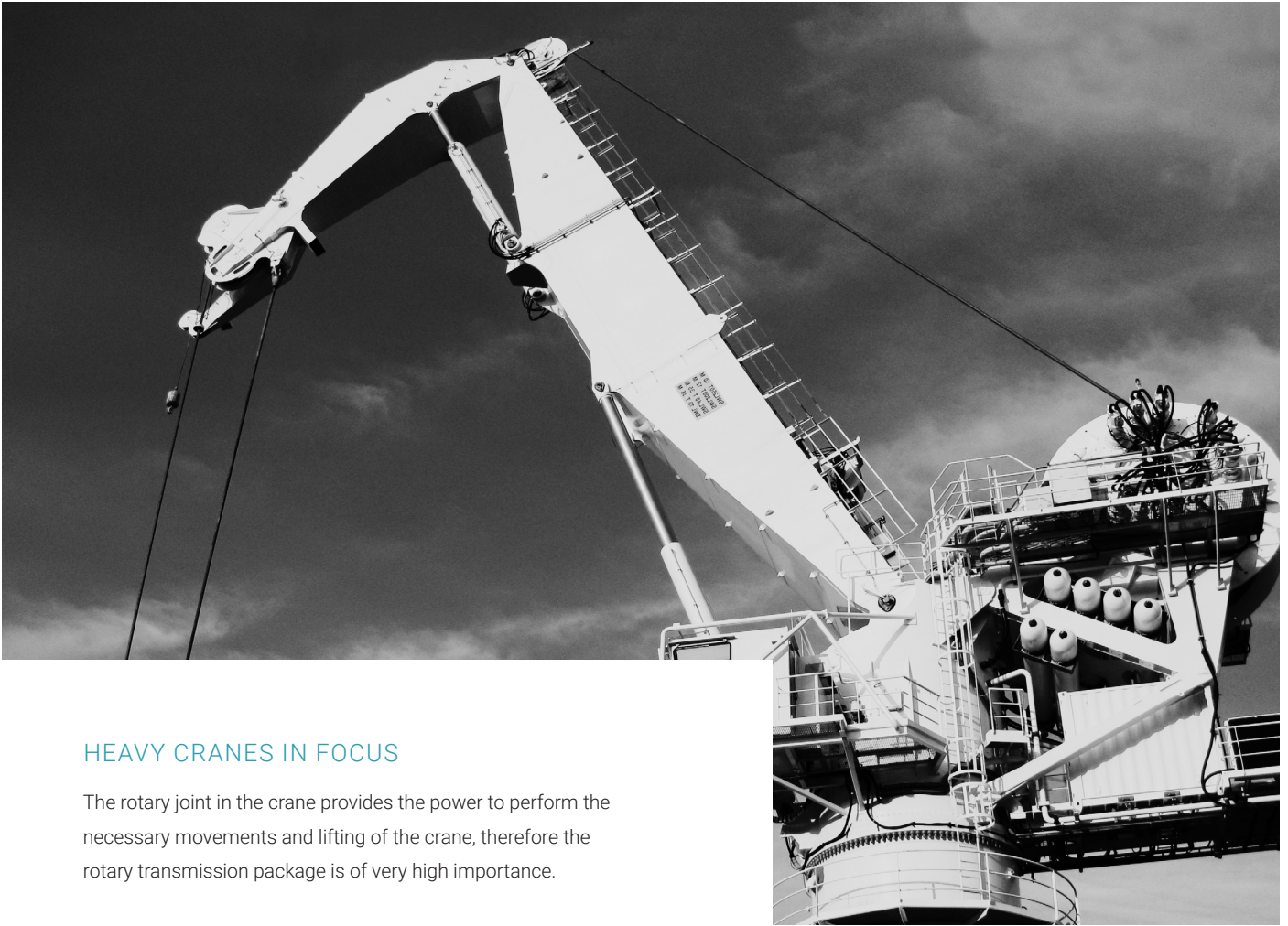


### CUSTOMIZATION

Our Winch slip ring is also available in custom made versions, For research vessel is 10 000V versions available. We can design them as Hollow shaft to be mounted around the shafts.

# HEAVY CRANES

High power Slip Rings



## HEAVY CRANES IN FOCUS

The rotary joint in the crane provides the power to perform the necessary movements and lifting of the crane, therefore the rotary transmission package is of very high importance.

Penlink offers a wide range of solution, both hydraulic rotary unions and electrical slip rings. We can also integrate fiber optical channels and high accuracy encoder (slewing).

If your project require explosion safe products we can offer our ATEX, IECEx certified slip rings. We can also certify custom slip rings for small volume projects. If the crane operates in different zones or it needs to be an emergency use situation, we can design a combined solution using two rotary joints.

Our slip rings can be modified with high data speed on request. We can offer 1Gb/s data transfer in an electrical slip ring module. Our signal slip ring is sealed to make sure carbon dust from power rings doesn't penetrate and disturb signal rings over time.

We offer separated chambers in the slip ring due to new regulations in the industry!

- Available in IP54-65 (dust and water resistance).
- Tolerance to high shock and vibration.
- Modification of mechanical interface for easy installation.

## DNV PRODUCT CERTIFICATE

Penlink's crane slip rings are design according to DNV regulations and can be produced with product certificate according to DNVGL for DP2/DP3 levels.

- DNVGL-RU-SHIP: DNV GL Rules for classifications -Ships.
- DP2/ AUTR
- DP3 / AUTRO



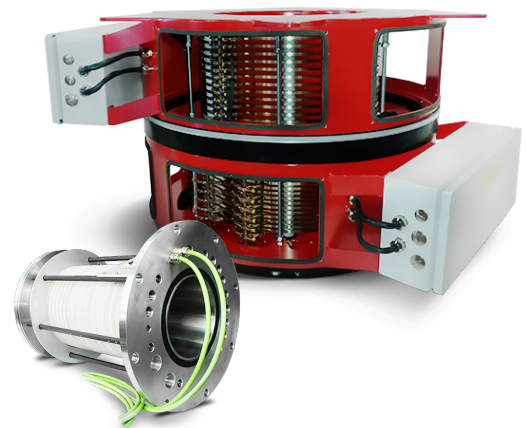


### TOWER SLIP RINGS

Our standardized crane slip ring in a tower design are available in a wide range of configurations with up to 1500A for each power ring through the slip ring. The power rings can be combined with AUX, data slip rings or optical fiber.

### HOLLOW SHAFT SLIP RINGS

Our crane slip rings can be designed with hollow shaft for cranes where the motors is located in the pedestal and the cardan axle need to pass through the slip ring. We have a wide range of sizes available.



### ELECTRO HYDRAULIC CRANES

By combining our hydraulic swivels with electric slip rings, can the hydraulic pump be placed in the Pedestal and the Fluid rotary union transfer the hydraulic oil to the rotating crane. The electric slip ring can supply both the necessary AUX power and the signals for controlling the crane.









**PENLÍNK**