

# Slip rings & Rotary Joints general informations

Slip rings and Rotary joints enable signals and/or power to be transmitted from a fixed part (stator) to a mobile part (rotor).

The Electromechanical Solutions Strategic Business Unit at EXXELIA GROUP constantly endeavors to raise performance levels through innovation, and develops high-frequency contact Slip rings (>1 GHz), offering signal transmission capability for new video formats such as HD SDI and 3G SDI and Gigabit Ethernet.

## Applications:

Aeronautics, Defense, Oil exploration, Medical, Space, Telecommunications

## SLIP RINGS

Slip rings transmit information via electric contacts (brushes rubbing against tracks). For over 40 years, the CSA Business Unit at EXXELIA GROUP has developed a wide range of Slip rings available in different versions:

- standard interface,
- hollow shaft interface,
- pancake (monobloc rotor and stator without bearings, rotor guidance being left to the customer),
- rotor and stator sold separately.

EXXELIA GROUP Slip rings can be equipped with different type of position sensors made-in-house (optical encoders, magnetic encoders and precision potentiometric, etc.) to copy positions.

These products can be used in a wide range of applications, from robotic equipment to on-board equipment for civil and military aircraft electronics, armored vehicles, automatic weapon stations, radars, Electro Optronic Systems assemblies, space and exploration instruments used in the Oil and Gas sector.

## Applications:

Aeronautics, Defense, Telecommunications, Space, Oil exploration.

EXXELIA GROUP offers a wide range of standard Slip rings. Most of these products are qualified and proven solutions in the field of defense, Aeronautics, Space, Railway, Medical, Oil exploration...

EXXELIA GROUP standard Slip rings can be divided in four categories:

- Compact standard Slip ring,
- Small standard Slip ring,
- Wide standard Slip ring,
- Very wide standard Slip ring.

## HIGH FREQUENCY ROTARY JOINTS

EXXELIA GROUP also designs and manufactures High Frequency rotary joints (for frequencies > 1 GHz).

These rotary joints can be:

- Coaxial High frequency Rotary Joints.
- IFF Rotary Joint (Identification Friend / Foe).



## COAXIAL HIGH FREQUENCY ROTARY JOINTS

EXXELIA GROUP designs and manufactures coaxial High Frequency rotary joints (for frequencies > 1 GHz).

These rotary joints use contact technology.

EXXELIA GROUP can propose coaxial rotary joints adapted in impedance  $50\Omega$  or  $75\Omega$  which allows to have a bandwidth > 3 GHz (DC / > 3 GHz).

The coaxial rotary joints  $75\Omega$  allows the transmission of video signals under the format 3G SDI (Norm SMPTE 424M).

**Applications:** Aeronautics, Defense (Electro Optical Systems), Telecommunications, Space, Medical, ...

## L-BAND ROTARY JOINTS

EXXELIA GROUP designs and manufactures L-BAND High Frequency rotary joints for a bandwidth closed to 1 GHz.

These L-BAND High Frequency rotary joints use a contactless technology. They are multi-channels.

They can be integrated in a wide range of products and can be integrated inside the EXXELIA GROUP Slip rings.

One of their biggest interests is to be very compact and light compared to their bandwidth and their performances.

**Applications:** Aeronautics, Defense (Electro Optical Systems), Telecommunications, Space, Medical, Transportation...

