

RCN0167A

RF Rotary Joint

CENO uses import high elastic wear-resisting material in the internal key contact point of the RF rotary joint and do special plating in the surface for it. It is a connector device to transmit high frequency signal from the static to rotating part. Up to 50 GHz transmission frequency, channel number is as high as 5 channels. Can be integrated with other electrical slip ring, hybrid transmission of high frequency signals, current and other types.

Features

- ◆ Stable performance
- ◆ High reliability
- ◆ Integrated RF rotary joint
- ◆ Long lifetime

Applications

- ◆ Simulation tester
- ◆ Antenna system
- ◆ Traffic control system
- ◆ Robot arms

Optional

- ◆ Gas-liquid rotary joint size
- ◆ Circuit number
- ◆ Installation way
- ◆ Radio frequency range

Radio frequency characteristics

Interface type / material / surface finish	1.85-f (50 Ω) / copper alloy / gold plated
Interface orientation	Style I
Frequency range	DC to 67 GHz
Peak power capability	1 kW @ 2.000 m if not pressurized
Average power capability	10 W @ DC to 10 GHz / 5 W @ 10 to 26 GHz 3 W @ 26 to 50 GHz / 1 W @ 50 to 67 GHz
VSWR, max.	1.1 @ DC to 10 GHz / 1.2 @ 10 to 26 GHz 1.3 @ 26 to 50 GHz / 1.4 @ 50 to 67 GHz
VSWR variation over rotation, max.	0.02 @ DC to 10 GHz / 0.04 @ 10 to 26 GHz 0.08 @ 26 to 50 GHz / 0.10 @ 50 to 67 GHz
Insertion loss, max	0.2 dB @ DC to 10 GHz / 0.3 dB @ 10 to 26 GHz 0.4 dB @ 26 to 50 GHz / 0.5 dB @ 50 to 67 GHz
Insertion loss variation over rotation, max.	0.02 dB @ DC to 10 GHz / 0.04 dB @ 10 to 26 GHz 0.08 dB @ 26 to 50 GHz / 0.10 dB @ 50 to 67 GHz
Phase variation over rotation, max.	1 deg. @ DC to 10 GHz / 2 deg. @ 10 to 26 GHz 3 deg. @ 26 to 50 GHz / 4 deg. @ 50 to 67 GHz
DC carrying capability	0.2 A

Mechanical characteristics

Rotating speed, max. / nominal	300 / 200 rpm
Life, min.	0.2 x 10 ⁶ revolutions
Torque (room / min. temperature), max.	0.5 Ncm / - @ start-up 0.5 Ncm / - @ rotation
Interface loads, max.	±0.5 N in axial direction ±0.5 N in radial direction
Case material	copper alloy and stainless steel
Case surface finish	partially gold plated
IP protection level	IP50
Weight, approx.	0.05 kg
Marking	adhesive label

Environmental conditions

Operation	
Ambient temperature range	-40 to +60°C
Relative humidity, max.	95% (non-condensing)
Storage	
Ambient temperature range	-55 to +80°C
Relative humidity, max.	95% (non-condensing)

Outline Drawing

