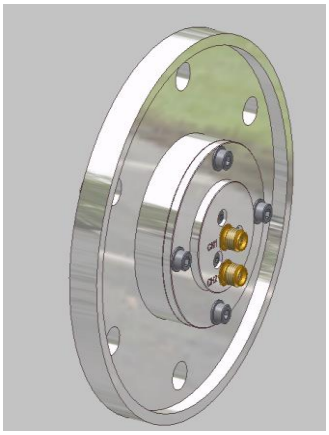
Rotary Joint || BN 153192



Radio frequency characteristics

Channel designation	Inner channel (CH1)	Outer channel (CH2)
Interface type / material / surface finish	SMA-f (50 Ω) / copper alloy / gold plated	SMA-f (50 Ω) / copper alloy / gold plated
Interface orientation	style I	style I
Frequency range	DC to 18 GHz	DC to 18 GHz
Peak power capability	1 kW	1 kW
Average power capability	100 W @ DC to 2 GHz / 60 W @ 2 to 4 GHz 35 W @ 4 to 8 GHz / 25 W @ 8 to 12 GHz 17 W @ 12 to 18 GHz	10 W
VSWR, max.	1.35 @ DC to 8 GHz 1.5 @ 8 to 18 GHz	2.0 @ DC to 4 GHz / 2.5 @ 4 to 8 GHz 3.5 @ 8 to 12 GHz / 4.5 @ 12 to 18 GHz
VSWR variation over rotation, max.	0.1	0.1 @ DC to 4 GHz / 0.4 @ 4 to 8 GHz 0.8 @ 8 to 12 GHz / 2.0 @ 12 to 18 GHz
Insertion loss, max.	0.4 dB @ DC to 8 GHz 1.0 dB @ 8 to 18 GHz	0.5 dB @ DC to 4 GHz / 1.0 dB @ 4 to 8 GHz 2.0 dB @ 8 to 12 GHz / 3.5 dB @ 12 to 18 GHz
Insertion loss variation over rotation, max.	0.06 dB	0.1 dB @ DC to 4 GHz / 0.35 dB @ 4 to 8 GHz 0.7 dB @ 8 to 12 GHz / 1.5 dB @ 12 to 18 GHz
Phase variation over rotation, max.	0.5 deg. @ DC to 8 GHz 1.0 deg. @ 8 to 18 GHz	4 deg. @ DC to 8 GHz 10 deg. @ 8 to 12 GHz 25 deg. @ 12 to 18 GHz
Isolation, min.	50 dB	
DC carrying capability	0.5 A, 48 VDC @ full RF avg. power 2 A, 48 VDC @ RF avg. power 5 W 5 A*, 48 VDC @ RF avg. power 5 W	0.5 A, 24 VDC @ full RF avg. power

Conditions: *DC applied to one channel only*
** applied for max. 1 x 10E6 revolutions or 50 h*

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Mechanical characteristics

Rotating speed, max. / nominal	60 / 30 rpm
Life, min.	5 x 10^6 revolutions
Torque (room / min. temperature), max.	0.05 Nm / - @ start-up 0.05 Nm / - @ rotation
Interface loads, max.	±5 N in axial direction ±5 N in radial direction
Case material	aluminum alloy
Case surface finish	chromate conversion coat per MIL-DTL-5541 type 1 or type 2
IP protection level	IP64
Weight, approx.	0.3 kg
Marking	adhesive label

Environmental conditions

Operation	
Ambient temperature range	-40 to +71°C
Relative humidity, max.	95% (non-condensing)
Storage	
Ambient temperature range	-55 to +85°C
Relative humidity, max.	95% (non-condensing)

Applicable Documents

Drawing	153192-0E Issue C
Technical information	“Rotary Joints – Glossary”, Technical Document TD-00021, Spinner GmbH