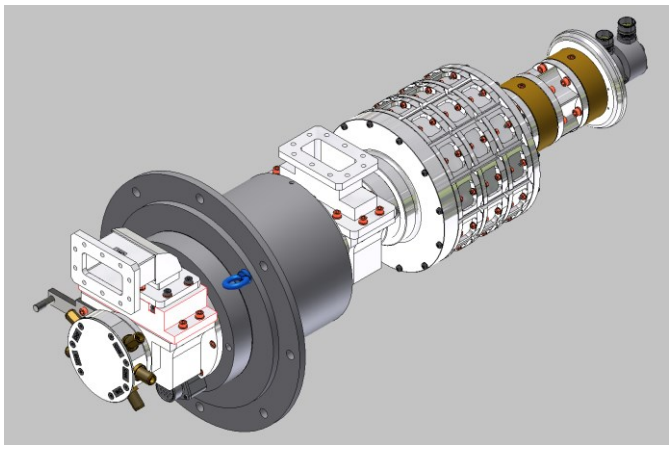
Multi Channel Rotary Joint || BN 532518



Radio frequency channel characteristics

Channel designation	Channel 1	Channel 2	Channel 3	Channel 4	Channel 5	Channel 6
Interface type / material / surface finish	WR-284	N-f (50 Ω) / copper alloy / silver plated	N-f (50 Ω) / copper alloy / silver plated	N-f (50 Ω) / copper alloy / silver plated	N-f (50 Ω) / copper alloy / silver plated	N-f (50 Ω) / copper alloy / silver plated
Frequency range	2.7 to 2.9 GHz	2.7 to 2.9 GHz	2.7 to 2.9 GHz	1.01 to 1.11 GHz	1.01 to 1.11 GHz	1.01 to 1.11 GHz
Peak power capability*	35 kW	5 kW	5 kW	5 kW	5 kW	5 kW
Average power capability	3000 W	75 W	75 W	200 W	200 W	200 W
VSWR, max.	1.2	1.25	1.25	1.25	1.25	1.25
VSWR variation over rotation, max.	0.05	0.05	0.05	0.05	0.05	0.05
Insertion loss, max.	0.15 dB	0.9 dB	1.0 dB	0.75 dB	0.75 dB	0.75 dB
Insertion loss variation over rotation, max.	0.05 dB	0.1 dB	0.1 dB	0.1 dB	0.1 dB	0.1 dB
Phase variation over rotation, max.	2 deg.	2 deg.	2 deg.	2 deg.	2 deg.	2 deg.
Phase tracking over rotation, max.	n/a			± 2 deg.		
Isolation, min.	60 dB					

** Conditions: Operating altitude if not pressurized, max: 20 000 ft*

Encoder Interface characteristics

Type / manufacturer	2 optical incremental encoders DHO5S14/0B/2G29//16384//G6R// / BEI-Sensors, France
Resolution basic / interpolated	4.096 / 16.384 (14bit)
Output signal	Square wave A,A/,B,B/,0,0/ (0 gated A & B)
Interface	radial connector M23 (12-pin) G6R

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Slip ring characteristics

Group designation		A	PE
Circuit diagram		See Circuit Diagram (532518-CD Index D)	
Number of channels		23	1
Number of paths per channel		1	1
Type of circuit		Hazardous voltage	---
Signal type		AC / DC	---
Current,	AC RMS nominal DC nominal	10 A	10 A
Current,	AC RMS peak DC peak	All current paths must tolerate current peaks 12 times the nominal current for not less than 30 ms to protect each path with an appropriate fuse	
Voltage	AC RMS nominal DC nominal	120 VAC ±10% 24 VDC ±10%	
Insulation resistance / 500 V DC		500 MΩ	
Interface type / material / surface finish		Top: MS3102R22-14S MS3102R14S-6S Bottom: MS3102R22-14P MS3102R14S-6P	Thread M6
Class of equipment acc. to DIN EN 61140		I	
AC power distribution system		TBD	
Overvoltage category acc. to DIN EN 60664-1		II	
Electrical safety requirements		Compliant with EN 60950-1 (except all connectors with hazardous voltage)	

Mechanical data

Differential operating pressure, max. / nominal	0.02 MPa (0.2 bar) / 0.014 MPa (0.14 bar)
Leakage rate, max.	25 cm^3/minute @ nominal differential pressure
Rotating speed, max.	15 rpm
Rotating direction (view from the top)	clockwise rotation
Life, min.	50 x 10^6 revolutions
Maintenance period	12.5 x 10^6 revolutions
Torque (room temperature), max.	10 Nm @ start-up 9 Nm @ rotation
Interface loads, max.	no loads allowed
Case material	aluminum alloy
Case surface finish	chromate conversion coat per MIL-DTL-5541 type 1 or type 2 Painted according to customers requirement ---
IP protection level	IP64 per EN 60529 (all interfaces connected with appropriate gaskets) above flange

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	IP53 per EN 60529 (all interfaces connected with appropriate gaskets) below flange
Weight, approx.	54 kg
Marking	adhesive label

Environmental conditions

Operation	
Application	ground, fixed
Operating altitude, max.	5.000 m
Ambient temperature range for rotary joint	-50 °C to +71 °C
Ambient temperature range for encoder	-40 °C to +71 °C
Relative humidity, max.	95% (non-condensing)
Shock	30 g / 11 ms half sine, 3 shocks in each direction of 3 orthogonal axes Compliant to MIL-STD-810G
Vibration	20-50 Hz, PSD of 0.02 g²/Hz falling to 0.001 g²/Hz at 500 Hz in each of 3 orthogonal axes Duration: 15 min/axis Compliant to MIL-STD-810G
Storage	
Ambient temperature range for rotary joint	-55 °C to +85 °C
Ambient temperature range for encoder	-40 °C to +71 °C
Relative humidity, max.	95% (non-condensing)

Applicable documents

Drawing	532518-0E, Issue D
Product manual	M36276
Technical information	“Rotary Joints – Glossary”, Technical Document TD-00021, Spinner GmbH