



2-Channel RF Rotary Joint Operating to 4.5 GHz, SMA Female to SMA Female Straight Adapter

RF Rotary Joints Technical Data Sheet

RJ-RF-2C1MAJS-04G-01

Features

- Frequency Range of DC to 4.5 GHz
- Peak power capability:1 kW
- Straight of Connector Shape
- SMA Female Connectors
- LOW VSWR
- Rotation Speed Max(rpm):100

Applications

- Radar Systems
- Military
- Wireless Radio Systems
- Telecom Infrastructure
- Communication Systems
- R&D Labs
- Microwave Radio Systems

Description

The ZOMWAVE RF rotary joint RJ-RF-2C1MAJS-04G-01 is a 2-channel straight rotary joint designed for critical radar and rotating antenna systems. Engineered to exacting radio frequency standards, it ensures reliable signal integrity in demanding applications including air traffic control, maritime, vehicular, and mobile radar platforms. This unit features a robust SMA female to SMA female interface both of CH1 and CH2, providing a consistent and secure connection across its full operational bandwidth. Key performance specifications include a maximum frequency of 4.5 GHz and an excellent voltage standing wave ratio (VSWR) of 1.35:1, minimizing signal loss and reflection for superior system performance.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
Frequency Range	DC		4.5	GHz
Impedance		50		Ohms
Insertion Loss for CH1			0.25	dB
Insertion Loss for CH2			0.35	
VSWR for CH1			1.25:1	
VSWR for CH2			1.35:1	
Rotation Speed Max(rpm)			100	
Peak power capability			1	kW
Avg power capability (CW) for CH1		30W@4.5GHz		
Avg power capability (CW) for CH2		10W@4.5GHz		

Electrical Specification Notes:
Average Power and Actuating Current values at 25°C.

Mechanical Specifications

Size

Length	2.22 in [56.4 mm]
Width	1.25 in [32 mm]
Height	1.25 in [32 mm]

Configuration

Design	Single Channel
Connector Type	SMA Female
Connector Shape	Straight
Starting torque	≤0.5Ncm
Operating Life	5,000,000 Cycles

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Environmental Specifications

Temperature

Temperature range

-45 to +80 deg C

Ambient temperature range

-55 to +85 deg C

Notes:

Values at 25° C, sea level.

Compliance Certifications

RoHS Compliant

REACH Compliant

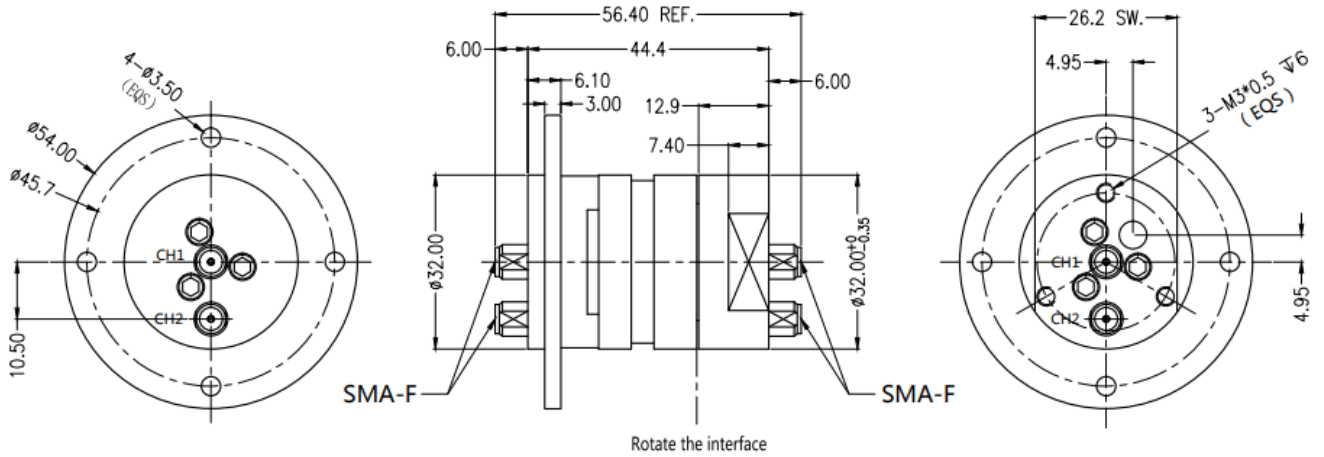
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CAD Drawing



1. Dimensions are in mm [inches]
2. Tolerances: Outline drawing ± 0.2 [0.008] Hole ± 0.2 [0.008]