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FORJ: Ultra-compact multi-channel fiber optic rotary joint (ZJn series, SM & MM)



ZJ2-155-28

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Princetel's relentless drive for small size has resulted in our ZJn series multi-pass Fiberoptic Rotary Joints (FORJs). They have taken place of the MXn series FORJs as the most compact multi-channel products. Up to four independent fiber channels can be simultaneously connected through the ZJn. They are ideal when combined with electrical slip rings or RF rotary joints or when space is tight in general. The extreme small size does not mean that there is any compromise on performance. They still feature low insertion loss, low crosstalk (<60 dB), and high return loss performance. Singlemode or multimode fibers can be mixed in one device.

Note: All insertion loss and return loss measurements are performed by joining the FORJ to the light source through fusion splice (without the use of connectors). Insertion loss of all receptacle type of FORJs, such as RST, RFC, and RFCX, are measured with connectors of similar type. Their return loss is not measured.

SPECIFICATIONS

PARAMETERS	VALUES
Wavelength	1270-1610 nm for SM; 850 and 1310 nm for MM
Insertion loss	<5 dB (typical: 2-3 dB)
Insertion loss ripple	~+/-0.5 to 1 dB
Return loss (SM)	>45 dB
Crosstalk	>50 dB (typical: 63 dB)
Chromatic dispersion	<0.01 ps/nm
Polarization mode dispersion	<0.01 ps
Maximum speed	400 rpm
Pulling strength	10 N
Start up torque	<1 Nm
Estimated life cycle	100-200 million revolutions
Optical power handling	23 dBm
Working temperature	-20 to 65 C
Storage temperature	-25 to 75 C
Package style	Pigtails
Housing material	Stainless steel
Fiber types	SM or MM w/3 mm jacket (Kevlar/PVC or armor)
Connector types	FC, SC, ST, SMA, LC or /APCs
Dimensions	25 mm dia. x 120 mm length
Weight	~0.5 kg
Vibration	MIL-STD-167-1
Mechanical shock	MIL-STD-810F
IP rating	IP60 (ZJn); IP65 (ZJnL)

CREATE YOUR PART NUMBER

ZJn (n=2-4)- [wavelength code](#)- [fiber code](#)- [connector code](#)
 ZJnL (IP65 rated; n=2-4)- [wavelength code](#)- [fiber code](#)- [connector code](#)

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