



Separate Light Path 2x2 Fiber-Optic Rotary Joint

User Manual

Version 1.0.4

Contents

1	System Overview	3
2	Operations Guide	5
2.1	Rotary Joint fixation	5
2.2	FC Connector Installation	5
3	Specifications	7
4	Support	8
4.1	Maintenance	8
4.2	Warranty	8
4.3	Contact us	8

System Overview



(a) Connectorized 2x2 Rotary Joint



(b) Pigtailed 2x2 Rotary Joint

Figure 1.1: Separate Light Path 2x2 Fiber-optic Rotary Joint

The Doric Separate Light Path 2x2 Fiber-optic Rotary Joint (Fig. 1.1) is designed to enable the rotation of two different optical fiber while maintaining optical transmission from both light path. It consists of high precision bearings and an optical system allowing rotation-insensitive power transfer. It is composed of a Stator, which stays immobile, and a Rotor that moves (Fig. 1.2). It is a device intended for fundamental research such as optogenetics. This product can be either connectorized, with FC connectors at the input and M3 connectors at the output (Fig. 1.1a), or pigtailed (Fig. 1.1b). This rotary joint comes with an integrated holder.

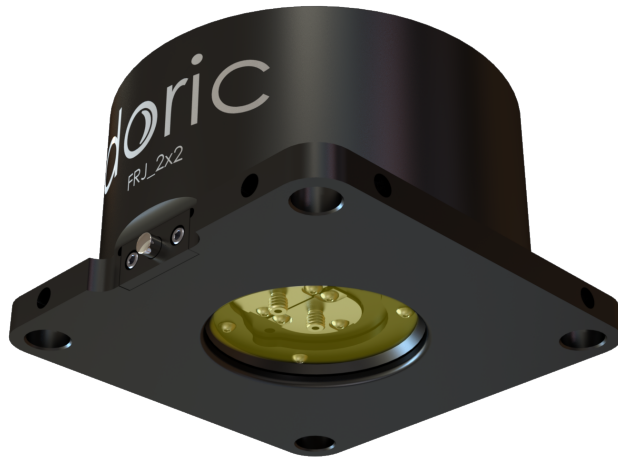


Figure 1.2: Rotary Joint Elements; Stator (Black), Rotor (Yellow)

Operations Guide

2.1 Rotary Joint fixation

When using the rotary joint, it can be secured in an experimental setup using two 1/4 screws (Fig. 2.1). It's also possible to immobilize it by using at least 3 of the 8-32 holes.

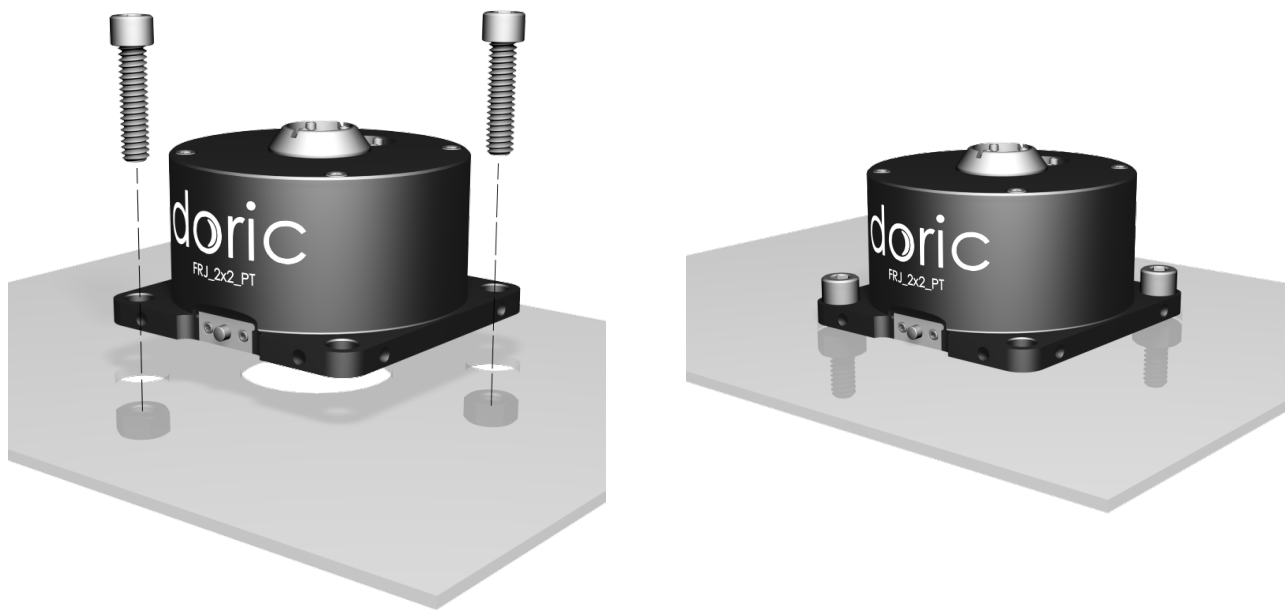


Figure 2.1: Fixation of the FRJ 2x2

2.2 FC Connector Installation

1. Clean the optical fiber connector before insertion. Use isopropanol and a lint-free wipe.
2. With an FC connector, the connector key must be oriented to enter within the receptacle slot to ensure proper connection (Fig. 2.2).

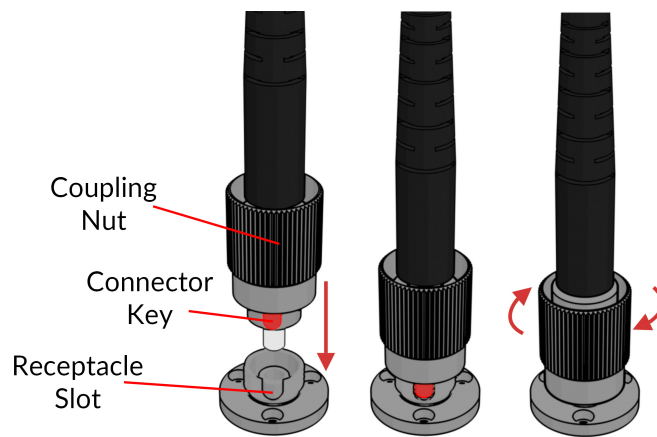


Figure 2.2: FC connector, Fiber Installation



WARNING!

To reduce the risk of eye injury, **it is sound practice to NOT CONNECT/DISCONNECT OPTICAL FIBERS** when the light source is turned on



Specifications

Table 3.1: *General Specifications*

Specification	Value	Note
Transmission	>50% for each channel	Tested with 200 μm core, NA 0.22 fiber
Wavelength Range	450-650 nm	-
Variation	$\pm 3\%$ of the mean per channel	Tested with 200 μm core, NA 0.22 fiber
Start Up Torque	<3mN.m	Typical value, too high for use with mice
Input	NA 0.22	-
Output	NA 0.22	-
Fiber Type	200 μm core, NA 0.22	-
Outer diameter	63.5mm	-
Length	55.2mm	-
Mass	163 g	-

Table 3.2: *Recommended Environmental Specifications*

Specification	Operation	Storage
Use	Indoor	Indoor
Temperature	20 °C to 30 °C	-20 °C to 60 °C
Humidity	40 - 60 % R.H., non condensing	40 - 60 % R.H., non condensing

Support

4.1 Maintenance

The product does not require any maintenance. Do not open the enclosure. Contact Doric Lenses for return instructions if the unit does not work properly and needs to be repaired.

4.2 Warranty

This product is under warranty for a period of 12 months. Contact Doric Lenses for return instructions. This warranty will not be applicable if the unit is damaged or needs to be repaired as a result of improper use or operation outside the conditions stated in this manual. For more information, see our [Website](#).

4.3 Contact us

For any questions or comments, do not hesitate to contact us by:

Phone 1-418-877-5600

Email sales@doriclenses.com

The logo for Doric Lenses, featuring the word "doric" in a lowercase, sans-serif font. The letter 'o' is stylized with a horizontal line through its center, resembling a lens or a reflection.

© 2022 DORIC LENSES INC

357 rue Franquet - Quebec, (Quebec)

G1P 4N7, Canada

Phone: 1-418-877-5600 - Fax: 1-418-877-1008

www.doriclenses.com