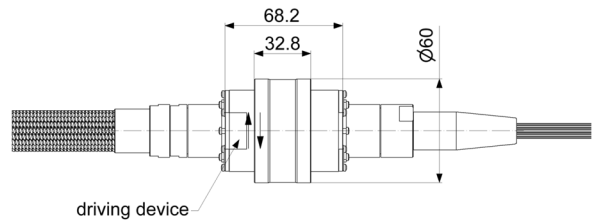
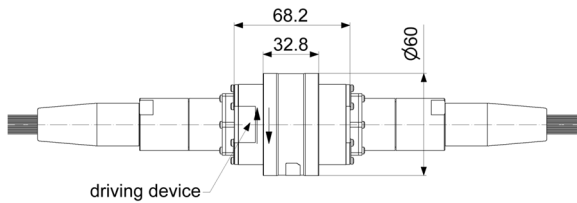
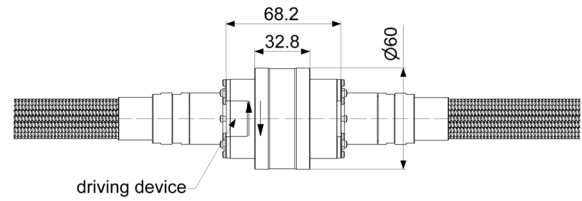


Multi-Channel Fiber Optic Rotary Joints x.60 (FORJ) for Large Number of Fibers

As a technology leader, SPINNER supplies FORJs with up to 109 single-mode channels in a diameter of up to 60 mm. No other FORJ on the world market features this many channels in a comparable housing size. For the operation of systems with specific hazards this FORJ allows the operator for a redundant operation of the data transmission by using two fibers for one data channel in order to reduce the risk. SPINNER's optics department works continually to improve the FORJs, also by incorporating new technologies and using different alignment approaches. As a result, the x.60 paves the way for unprecedented new possibilities and applications. SPINNER can also manufacture customized FLEXIFLANGES for easy integration in your setup.

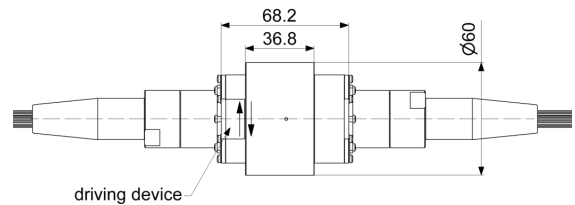
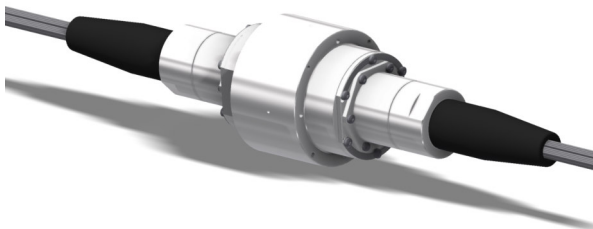
SPINNER FORJ x.60 IP50



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Refer to protection notice ISO 16016.

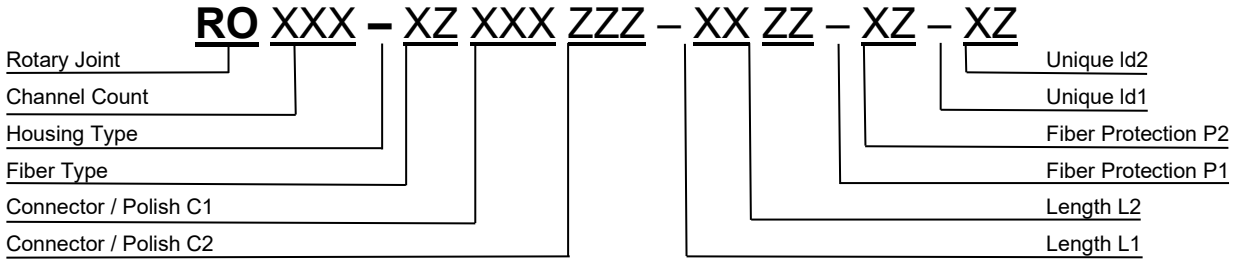
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Schutzvermerk ISO 16016 beachten.

SPINNER FORJ x.60 IP65



Multi-Channel Fiber Optic Rotary Joints x.60 (FORJ) for Large Number of Fibers

Standard series part number explanation



Rotary Joint	Fiber Optic	Channel Count	Housing Type	Fiber Type	Connector Polish C1	Connector Polish C2	Length L1	Length L2	Fiber Protection P1 / P2	Unique ID1	Unique ID2
R	O	XX	- X	Z	- XXX	ZZZ	- XX	ZZ	- XZ	- X	Z
			Ø 60 mm (Type x.60) IP50	M							
			Ø 60 mm (Type x.60) IP65	L							
				Single-mode E9 / 125 (standard OS1)	S						
Connector Type C1 & C2											
Single Mode		Multi Mode									
Connector / Polish		Connector / Polish									
LC / APC (Standard)				LCA	LCA						
LC / UPC				LCU	LCU						
		LC / PC		LCP	LCP						
FC / APC				FCA	FCA						
FC / UPC				FCU	FCU						
FC / PC		FC / PC (Standard)		FCP	FCP						
SC / APC				SCA	SCA						
SC / UPC				SCU	SCU						
SC / PC		SC / PC		SCP	SCP						
ST / UPC				STU	STU						
ST / PC		ST / PC		STP	STP						
Other connectors: LSA, LuxCis, Molex, special, expanded beam etc. unique ID				OTH	OTH						
Length L1 in m [0.2 ... 4.5] (standard 4.5 m for 900µm, 1.5 m for 3 mm and 2 mm)											
Length L2 in m [0.2 ... 4.5] (standard 4.5 m for 900µm, 1.5 m for 3 mm and 2 mm)											
Fiber protective tube 600µm buffer					30 mm bending radius (Standard)					1	
Special protection (e.g. military grade)										X	
FLEXIFLANGE Unique identifier											

Example: 99CHs FORJ 99.60 IP50 type with SMF28, FC/APC and SC/UPC, 1 m length each side with 900 µm
RO99-MS-FCASCU-1010-11--****

Additional information: For total number of channels exceeding 99 and therefore having three digits, please contact SPINNER sales department.

Multi-Channel Fiber Optic Rotary Joints x.60 (FORJ) for Large Number of Fibers

Fiber optic channel characteristics

Channels	Up to 109 CHs
Fiber type	Singlemode
Fiber model	See fiber list
Wavelength (dependent on fiber model)	1250 nm – 1650 nm
Average power capability, max.	500 mW
Return Loss, min. / premium	40 / 50 dB
Insertion loss, max. / premium	Depends on total number of channels 5.0 / 3.0 dB
Insertion loss variation with rotation, max. / premium	1.5 / 0.5 dB

Mechanical characteristics

Rotation speed, max.	Up to 150 rpm
Life, min.	200 x 10 ⁶ revolutions
Torque (room temperature), max.	0.15 Nm (depending on IP protection level)
Interface loads, max.	no loads allowed
Case material	stainless steel, copper alloy (corrosion resistant)
Case surface finish	no finish
IP protection level	IP50/IP65 per EN 60529 (all interfaces connected with appropriate gaskets)
Weight, approx.	1.5 kg

Environmental conditions

Operation	
Ambient temperature range	-40 °C to +85 °C
Relative humidity, max.	95% - 100%
Storage	
Ambient temperature range	-40 °C to +85 °C
Relative humidity, max.	95% - 100%