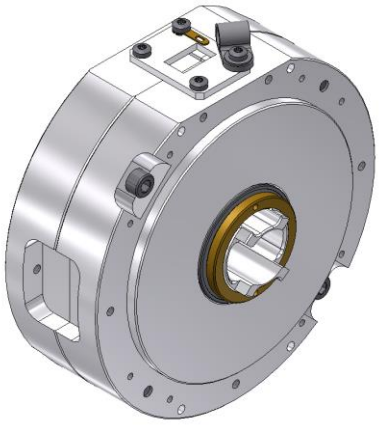
Rotary Joint || BN 636699



Ordering number nomenclature

636699C 0 0 0 1

Mechanical Type
Customized version 0 = Spinner standard portfolio
Additional design modification 0 = all dimensions according to 636699C00YY-0E
Transmission type on “Slot A”: 0 = None 1 = 1000BASE-T Ethernet / Powerlink Channel 2 = 2x 100BASE-TX Ethernet-Channel 3 = CAN-Channel 4 = Profinet IRT (100 Mbit) 5 = EtherCAT 6 = RS 485
Transmission type on “Slot B”: 0 = None 1 = 1000BASE-T Ethernet / Powerlink Channel 2 = 2x 100BASE-TX Ethernet-Channel 3 = CAN-Channel 4 = Profinet IRT (100 Mbit) 5 = EtherCAT 6 = RS 485

Transmission Type 1:
1000BASE-T Ethernet / Powerlink Channel Characteristics

Number of Ethernet-Channels / Type	According to ordering code / Contactless coupler
Supported Ethernet Standards	10BASE-T (IEEE802.3 Clause 14) 100BASE-TX (IEEE802.3 Clause 25) 1000BASE-T (IEEE802.3 Clause 40) Auto negotiation provided to select Ethernet-Standard and full/ half duplex mode automatically
Ethernet Frame Loss Ratio According to RFC2544	$\leq 1 \times 10^{-9}$ ET1) ET3)
Data Interface Connection	4 shielded twisted pairs at rotor and stator side for each channel, AWG28 Cable length: see drawing

Transmission Type 2:
2x 100BASE-TX Ethernet-Channel Characteristics

Number of Ethernet-Channels / Type	According to ordering code / One common contactless coupler for two channels
Supported Ethernet Standards	10BASE-T (IEEE802.3 Clause 14) 100BASE-TX (IEEE802.3 Clause 25) Auto negotiation provided to select Ethernet-Standard and full/ half duplex mode automatically
Ethernet Frame Loss Ratio According to RFC2544	$\leq 1 \times 10^{-9}$ ET2) ET3)
Data Interface Connection	2 shielded twisted pairs at rotor and stator side for each channel, AWG28 Cable length: see drawing

ET1) *Measured @ 1 Gbit/s with 64 byte frames at 99% channel utilization and 800 s measurement time (for 1000BASE-T)*

ET2) *Measured @ 100 Mbit/s with 64 byte frames at 99% channel utilization and 8000 s measurement time (for 100BASE-TX)*

ET3) *Corresponds to BER ≤ 1 x 10 -12*

Transmission Type 3:
CAN Channel Characteristics

Number of CAN-Channels / Type	According to ordering code / Contactless coupler
Supported CAN Standards	ISO 11898-1:2003
CAN-functionality	Repeater (fast mode)
Data Rate, max.	500 Kbit/s
Data Interface Connection	1 shielded twisted pair at rotor and stator side for each channel, AWG28 Cable length: see drawing
Alarm Signal	Open Collector output $V_{CE} \leq 40V$, $I_C < 10mA$ Active if no failure detected Current has to be limited externally
Alarm Signal Connection	1 shielded twisted pair at rotor and stator side for each channel, AWG28 Cable length: see drawing

Functional test of data transmission characteristics can be done electronically. Required software is not included.

Rotary Joint || BN 636699

Transmission Type 4:
Profinet IRT (100 Mbit) Channel Characteristics

Characteristics to be defined

Transmission Type 5:
EtherCat Channel Characteristics

Characteristics to be defined

Transmission Type 6:
RS 485 Channel Characteristics

Characteristics to be defined

Power Requirements for Data transmission

Supply Voltage	21.6 V DC to 28.0 V DC; 0 V is connected to Case Ground internally
Power Supply	Power Supply has to be a SELV type acc. to IEC60950-1 The current must be externally limited to 5 A
Current Consumption, typ. / max.	0.66 A / 1.0 A @ 24 V Supply Voltage
Power Consumption, typ. / max.	16 W / 24 W
Supply Voltage Connection	1 single wire per coupler + 1 common ground wire at rotor and stator side, AWG22 Cable length: see drawing
Applied Regulations and Standards	EMC Directive 2004/108/EC EN 55022:2010 (Class B), EN 55024:2010

Rotary Joint || BN 636699

Mechanical Data

Rotating speed, max.	3000 rpm
Life, min.	200 x 10^6 revolutions
MTBF	300 000 h
Torque (room / min. temperature), max.	0.2 Nm / 0.5 Nm @ start-up 0.2 Nm / 0.5 Nm @ rotation
Interface loads, max.	no loads allowed
Case material	aluminum alloy
Case surface finish	painted black (RAL 9005)
Weight, approx.	1.5 kg
Marking	adhesive label

Environmental Conditions

Operation	
Ambient temperature range	-30 °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 g^2/Hz falling to 0,001 g^2/Hz at 500 Hz in each of 3 orthogonal axes. Duration: 15 min/axis. Compliant to MIL-STD-810G
IP protection level	IP64 per EN 60529 (all interfaces connected with appropriate gaskets)
Maintenance	Not required
Storage	
Ambient temperature range	-40 °C to +85 °C
Relative humidity, max.	95% (non-condensing)

Applicable documents

Drawing	636699CXXYY-0E (XX according to ordering number)
Circuit Diagram	636699CXXYY-CD (YY according to ordering number)
Technical information	“Rotary Joints – Glossary”, Technical Document TD-00021, Spinner GmbH