

Slip rings

IST-SR085



In general slip rings are used to transmit power, signals or data, pneumatic and hydraulic, from a stationary to a rotating platform.

The transmission between the stator and rotor takes place via sliding contacts and is extremely reliable.

The construction is modular and offers the greatest flexibility in a variety of applications.

Flexible and Rugged

- Modular construction system, load and signal/data channels can be combined as desired
- Rugged GFPC housing (glass-reinforced polycarbonate), 30% glass-fibre content for industrial usage
- Long service life and long maintenance cycles
- Customised versions easily available

Reliable with Safety-Trans™ Design

- Two-cavity system for load and signal transmission
- Labyrinth seal
- High vibration resistance
- Fieldbus signals such as Profibus, CANopen etc. up to 12 MBit/sec

Application areas for Slip Rings

- Packaging machines
- Textile machines
- Robots and handling equipment
- Cranes
- Pipeline inspection systems
- Video surveillance equipment (CCTV)
- Fairground rides
- Bottling plants
- Rotary tables

Order code

for standard versions

IST - SR085 - XX - XX - XX - XXXXX - VXXX

Type

a

b

c

d

e

f

g

h

i

a Type of mounting

- 00 = flange mounting
- 20 = hollow shaft, ø 20 mm
- 24 = hollow shaft, ø 24 mm
- 25 = hollow shaft, ø 25 mm
- 30 = hollow shaft, ø 30 mm
- IN = hollow shaft, ø 1 Inch (other options on request)

b Number of signal/ data channels ¹⁾

(only in pairs e.g. 2, 4, 6)

c Number of power (load) channels ¹⁾

d Max. load current

- 0 = no power channels
- 1 = 16 A, 240 V AC/DC
- 2 = 25 A, 240 V AC/DC
- 3 = 10 A, 400 V AC/DC
- 4 = 20 A, 400 V AC/DC

e Mounting position

- 0 = any, only with either power or signal channels
- 1 = standing and horizontal (flange down)
- 2 = hanging and horizontal (flange up)

f Contact material for data channels

- 0 = no signal channels
- 1 = gold
- 2 = copper alloy

g Media lead-through

- 0 = none

only flange mounting (00):

- 1 = air, connection 1/4"
- 2 = air, connection 1/2"
- 3 = air, connection 3/8"
- 4 = hydraulics, connection 1/2"
- 5 = hydraulics, connection 3/8"

hollow shaft or shaft mounting:

- 6 = air, rotatable connector (up to 300 min⁻¹)

h Protection rating

- 1 = IP 50
- 2 = IP 64

i Version number (options)

- V 100 = Standard without options

Options on request:

- > 20 channels
- other fixing options
- other types of connection e.g. plug connectors

Accessories

Maintenance set

comprises brush and contact oil for signal contacts

IST-MS-01

¹⁾ 20 combination max., for example 4 data channels and 16 power channels

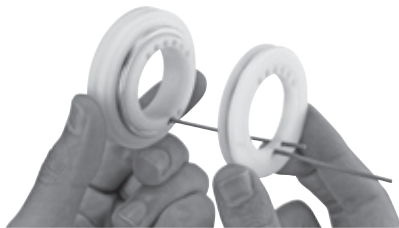
Connection Technology

Slip rings IST-SR085

Technical Data (standard version)	
Dimensions	see drawing
Overall length	dep. on the number of transmission paths
Hollow shaft diameter	up to \varnothing 30 mm
Voltage/current loading	
load channels	240 V AC/DC, max. 16 A (order option 1) 240 V AC/DC, max. 25 A (order option 2) 400 V AC/DC, max. 10 A (order option 3) 400 V AC/DC, max. 20 A (order option 4)
signal channels	48 V AC/DC, max. 2 A
Contact resistance	
load channel	\leq 1 Ohm
signal/data channels	\leq 0,1 Ohm
Insulation resistance	10^3 MOhm, at 500 V DC
Dielectric strength	1000 V eff. (60 sec.)
Speed	max. 800 min ⁻¹
Operating temperature	-30 ... +80 °C
Protection	max. IP 64
Service life	typ. 500 Mio. revolutions (depends on the application conditions)
Maintenance cycles	after max. 50 Mio. revolutions
Transmission ways	max. 20 (> 20 on request)
Standards	EN61010-1 2001, VDE 0110 part 1, VDE 0295/6.92, VDE 0100 part 523

Modular Construction System

Simple installation



Stator ring with copper graphite pick-off spring for load currents, for a long service life



Insulator with slip ring for load currents



Stator ring with gold or copper alloy (90% gold content) pick-off spring for signal currents

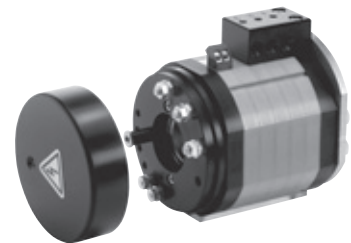


Insulator with slip ring for signal currents, separate signal channels with contact guide

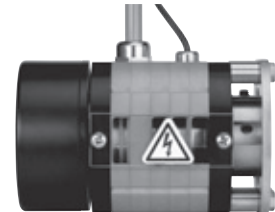


Technology in detail

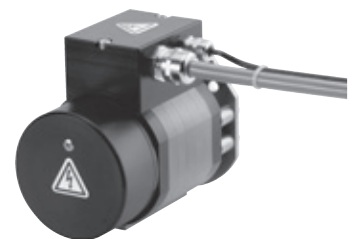
Easily accessible connections



Practical maintenance window



IP 64 version with rotor and stator protective cover



Hollow shaft mounting with pneumatic rotatable connector



Version with media leadthrough (air, hydraulics)



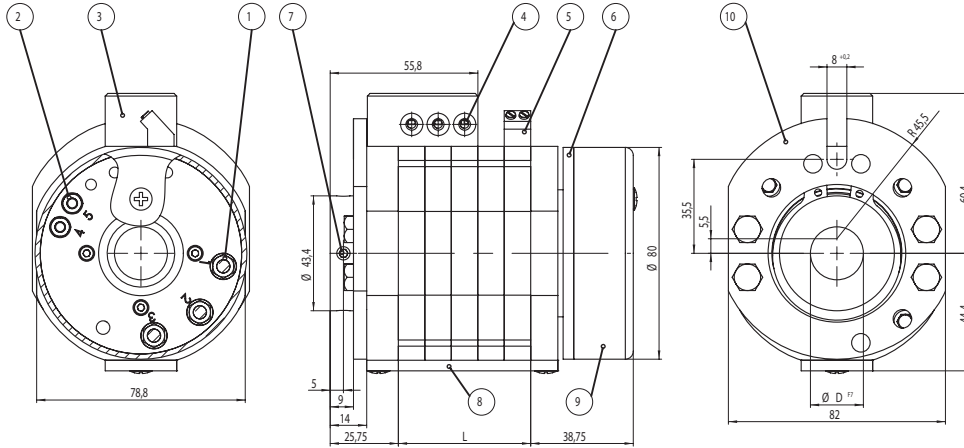
Slip rings

IST-SR085

Dimensions

Standard version

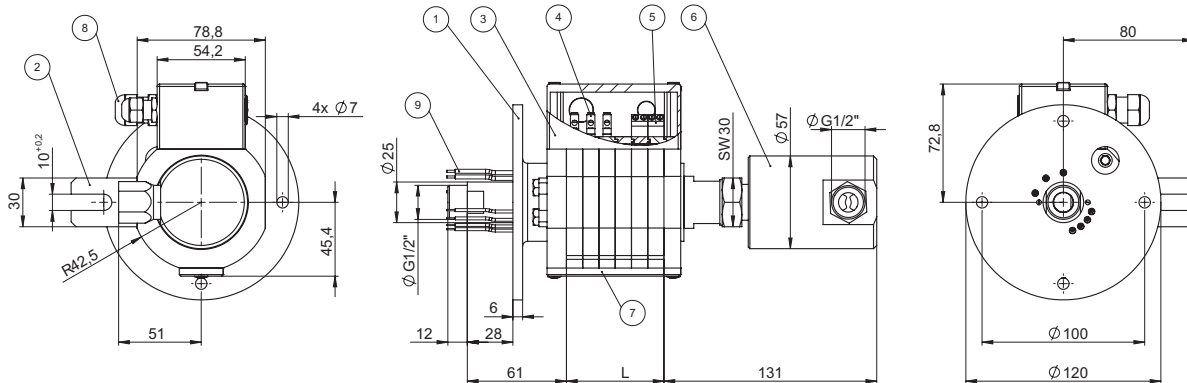
Example: Type IST-SR085-25-02-03-11101-V100
(2 data channels, 3 power channels)



- | | | |
|---|--|--------------------------------------|
| 1 – Screw terminal M5 for load transmission | 4 – Wire lead-in for load possible on both sides | 8 – Maintenance window |
| 2 – Screw terminal for signal transmission | 5 – Terminal clamp for signal transmission | 9 – Protective cover for connections |
| 3 – Terminal clamp for load without wire protection, with shock-hazard touch protection | 6 – Rotating connection ring | 10 – Torque stop |
| | 7 – 4 x socket set screw DIN 914 M6 | |

Air lead-through versions

Example: Type IST-SR085-00-04-03-11122-V100



- | | | |
|-----------------------------|---------------------------|------------------------|
| 1 – Mounting flange | 4 – Terminal clamp load | 7 – Maintenance window |
| 2 – Torque stop | 5 – Terminal clamp signal | 8 – Cable gland |
| 3 – Stator protective cover | 6 – Media lead-through | 9 – Connection wires |

Calculation of the overall length

Basic dimensions	
slip ring with hollow shaft	64,5 mm
slip ring with flange mounting and media lead-through 1/2" or 3/8"	185 mm
slip ring with flange mounting and media lead-through 1/4"	168 mm
Additional dimensions	
+ number of signal/data channels	+ 10 mm / 2 data channels
+ number of power channels, order options 1 and 2	+ 10 mm per power channel
+ number of power channels, order options 3 and 4 (10 or 20 A, 400 V)	+ 20 mm per power channel, if only power + 10 mm
+ labyrinth isolation ring for power and signal transmission	+ 10 mm