

## 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<sup>1)</sup>  
 (only in pairs e.g. 2, 4, 6)

**c** Number of power (load)  
 channels<sup>1)</sup>

**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<sup>-1</sup>)

**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

<sup>1)</sup> 20 combination max., for example 4 data channels and 16 power channels

## Slip rings IST-SR085

Technical Data (standard version)	
<b>Dimensions</b>	see drawing
<b>Overall length</b>	dep. on the number of transmission paths
<b>Hollow shaft diameter</b>	up to $\varnothing$ 30 mm
<b>Voltage/current loading</b>	
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
<b>Contact resistance</b>	
load channel	$\leq$ 1 Ohm
signal/data channels	$\leq$ 0,1 Ohm
<b>Insulation resistance</b>	$10^9$ MOhm, at 500 V DC
<b>Dielectric strength</b>	1000 V eff. (60 sec.)
<b>Speed</b>	max. 800 min <sup>-1</sup>
<b>Operating temperature</b>	-30 ... +80 °C
<b>Protection</b>	max. IP 64
<b>Service life</b>	typ. 500 Mio. revolutions (depends on the application conditions)
<b>Maintenance cycles</b>	after max. 50 Mio. revolutions
<b>Transmission ways</b>	max. 20 (> 20 on request)
<b>Standards</b>	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

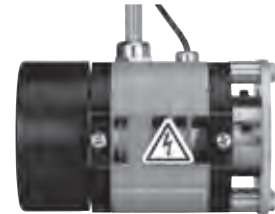


### Technology in detail

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)



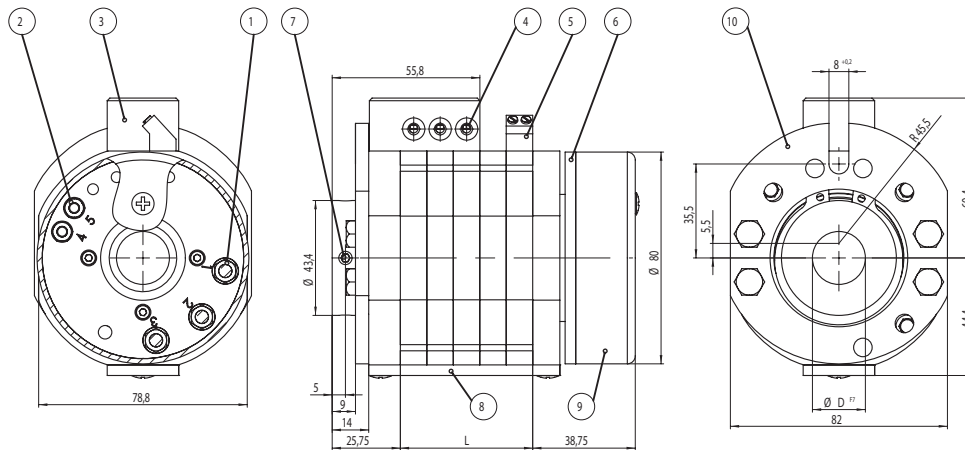
## Slip rings

## IST-SR085

### Dimensions

#### Standard version

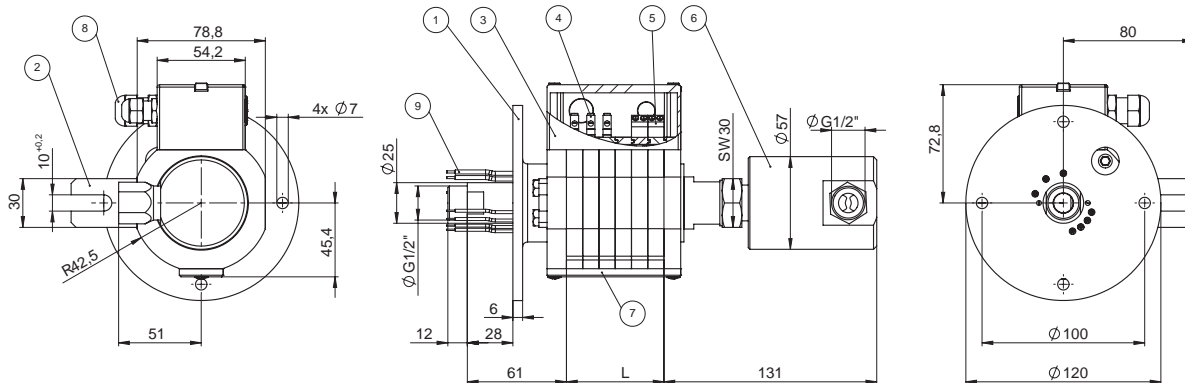
Example: Type IST-SR085-25-02-03-11101-V100  
(2 data channels, 3 power channels)



- |   |  |                                      |
|---|--|--------------------------------------|
| 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