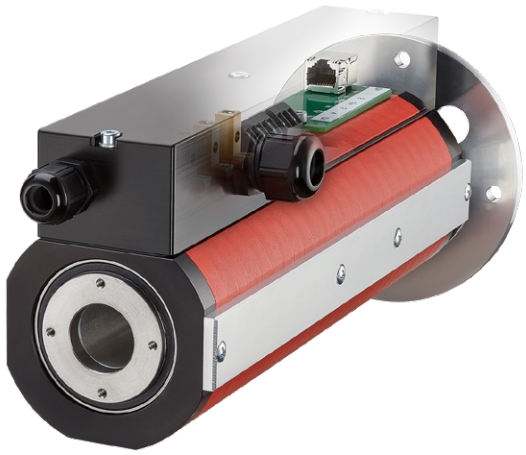
**Modular** | **Industrial Ethernet – 100 MBit/s** | **SR085IE/SR085SE**



**For Industry 4.0 / IIoT concepts.**

Reliable transmission of Industrial Ethernet is now also possible in the 85 mm size.

For this purpose, the SR085IE/SR085SE slip rings from Kübler have been expanded with a Fast Ethernet module that enables a transmission rate of up to 100 MBit/s. The connection for data transmission can be made via a shielded two-wire twisted-pair Ethernet cable. Customer-specific special solutions can also be implemented on request, such as M-type industrial connectors.

EtherNet/IP · Single Pair Ethernet System Alliance · EtherCAT · PROFINET · CANopen · SAE J1939 · IO-Link · PROFIBUS and many more

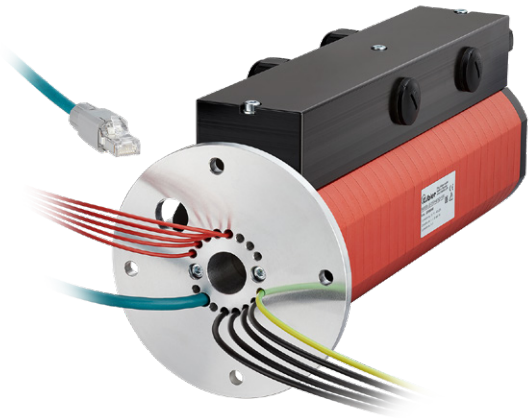
## Features

- Optional Single Pair Ethernet module for the transmission of all common Industrial Ethernet protocols.
- Robust GFK housing in modular design.
- Reliable transmission of loads up to 25 A.
- Flange mounting or simple plug-on via a hollow shaft.

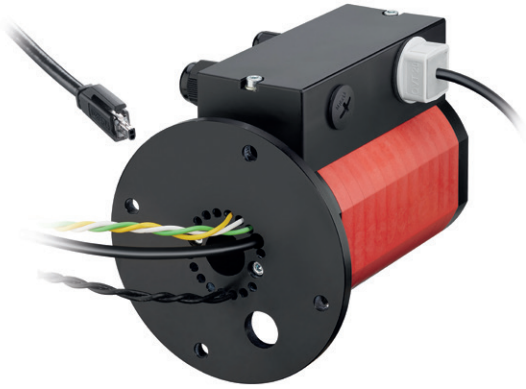
## Benefits

- Transmission of Industrial Ethernet up to 100 Mbit/s
  - Fast connection via RJ45, M12 or Single Pair Ethernet in accordance with IEC 63171-2 (R&M / Phoenix) or IEC 63171-6 (Harting) on the stator side with CAT5e cable
  - Quick and easy replacement by user
- Individual configuration for all applications.
- Prepared for a wide range of applications even with high current load.
- The application determines the mechanical connection - the slip ring adapts.

Standard Fast Ethernet transmission 100 Mbit/s



Fast Ethernet transmission with SPE (Single-Pair-Ethernet) 100 MBit/s



## Modular | Industrial Ethernet – 100 MBit/s | SR085IE/SR085SE

### Order code

| SR085 | XX | - | XX | - | XX | - | X | X | - | X | 0 | X | X | 2 | - | V100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | z | | a | | b | | c | d | | e | f | g | h | i | | k |

**z** *Ethernet transmission*
IE = four wire Ethernet
100BASE-TX to IEEE 802.3
SE= two wire SPE
100BASE-T1 to IEEE 802.3 bw

**a** *Type of mounting*
00 = flange mounting
(hollow shaft on request)

**b** *Number of signal/data channels (0, 2, 4, 6, 8, 10)*
00 = no signal/data channels
02 = 2 signal/data channels
...
10 = 10 signal/data channels
(other options on request)

**c** *Number of PE channels*
0 = none
A = 1 PE channel
B = 2 PE channels
(other options on request)

**d** *Number of load channels*
0 = none
1 = 1 load channel
2 = 2 load channels
...
9 = 9 load channels
A = 10 load channels
B = 11 load channels
(other options on request)

**e** *Max. load current*
0 = no load channel
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

**f** *Mounting position*
0 = any

**g** *Contact material for signal/data channels*
0 = no signal channels
3 = silver / precious metal
(others on request)

**h** *Media rotary feedthrough (rotor connection)*
0 = none

*Air, rotation screw connection*
C = tube Ø 12 mm
D = tube Ø 10 mm
E = tube Ø 8 mm

**i** *Protection*
2 = IP64

**k** *Version number*
V100 = standard (without options)

Other options on request:
- M12 connector
- SPE connector

### Technical data [1]

| | |
|---|---|
| **Overall length** | dep. on the number of transmission paths |
| **Flange diameter** | 120 mm [4.72“] |
| **Hollow shaft** | on request |
| **Type of connection** stator | screw terminal / RJ45 female connector |
| rotor | single wires, 1 m [3.28´] / RJ45 male connector (towards the assembly flange) |
| **Voltage/current loading** | |
| load channels | 240 V AC/DC, max. 16 A<br>240 V AC/DC, max. 25 A<br>400 V AC/DC, max. 10 A<br>400 V AC/DC, max. 20 A |
| signal channels | 48 V AC/DC, max. 2 A |
| **Contact resistance** | |
| load channels | ≤ 1 Ohm (dynamic) [2] |
| signal / data channels | ≤ 0.1 Ohm (silver / precious metal) [3] |
| **Insulation resistance** | $10^3$ MOhm, at 500 V DC |
| **Dialectric strength** | 1000 V eff. (60 sec.) |
| **Speed max. (signal / data channels)** | 800 $min^{-1}$<br>(depends on operating conditions and numbers of channels) |
| **Service life (signal / data channels)** | typ. 500 million revolutions [4]<br>(at room temperature)<br>depends on operating conditions |
| **Maintenance cycles** | first maintenance after 50 million revolutions, all further maintenance intervals after 100 million revolutions |
| **Maintenance** | contact oil not required |
| **Material pairing** | |
| load channels | copper / brass |
| signal / data channels | silver / precious metal |
| **Operating temperature** | -35 °C ... +85 °C [-31 °F ... +185 °F] |
| **Protection** acc. to EN 60529 | max. IP64 |
| **Transmission paths** | max. 13 (> 13 on request) |

### Rotatable connector, air

| | |
|---|---|
| **Air pressure max.** | 10 bar (150 psi) |
| **For tube diameter** | 8 mm ... 12 mm [0.31 ... 0.47“] |

### Approvals

**CE compliant** in accordance with
Low Voltage Directive 2014/35/EU

1) Data correspond to typical values. However, these may vary considerably depending on the installation situation and application.
2) Voltage measurement, ambient temperature, DC series connection, ohmic load, min. 4 A test current.
3) 2-wire resistance measurement, ambient temperature, 6.5-digit digital multimeter or similar, values without testing cable.
4) Typical values, may vary considerably depending on installation situation and application.

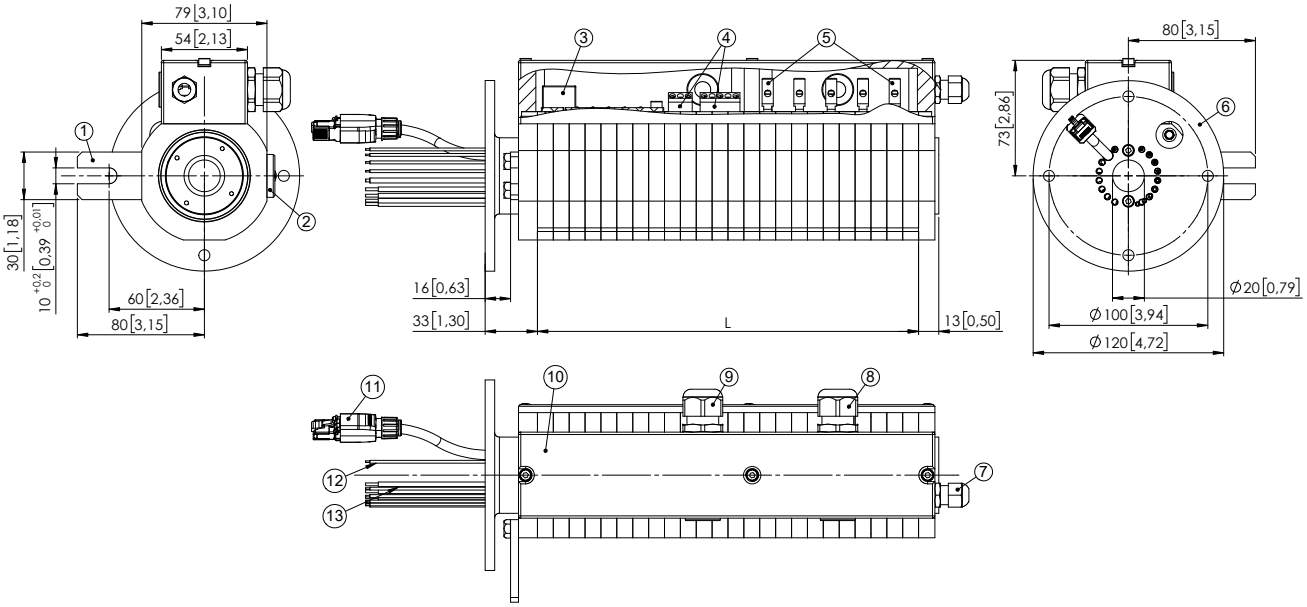
**Modular** | **Industrial Ethernet – 100 MBit/s** | **SR085IE/SR085SE**

## Dimensions

Dimensions in mm [inch]

### Version with flange mounting

Example: SR085IE-00-05-05-42302-V100
(Figure with data, signal and load transfer)




1 – Torque stop
2 – Maintenance window
3 – RJ45 socket
4 – Terminal clamp for signal transmission
5 – Terminal clamp load transmission
6 – Mounting flange
7 – Cable gland for data cable
8 – Cable gland for load cable
9 – Cable gland for signal transmission
10 – Stator protection cover
11 – Data cable with RJ45 connector 1 m (Also with M12 plug connector)
12 – Stranded wire for signal transmission 1 m
13 – Stranded wire for load transmission 1 m

### Calculation of the overall length

**Additional dimensions L**

| | |
|---|---|
| + number of signal/data channels (silver / precious metal) | + 10 mm [0.39“] per data channels |
| + number of load channels, order options 1 and 2 | + 10 mm [0.39“] per load channel |
| + number of load channels, order options 3 and 4 (10 or 20 A, 400 V) | + 20 mm [0.79“] per load channel, if only load + 10 mm [0.39“] |
| + labyrinth isolation ring for load and signal transmission | + 10 mm [0.39“] |