

Modular Industrial Application

Configurator for Industrial Slip Rings



SCHLEIFRING



MIA – Modular Industrial Slip Rings

The basis of our MIA configuration system is the gold-on-gold contact technology. It serves the transmission of power (up to 630 V and 63 A), signals (up to 30 V and 3 A) and data (Profibus, CAN bus, Ethernet, Drive-CLIQ, and CC-Link). In total, **up to 120 transmission paths** can be configured via the different functional units. You can select these using the configurator. An overview of the functional units can be found in the table *Functional units in the MIA slip ring*.

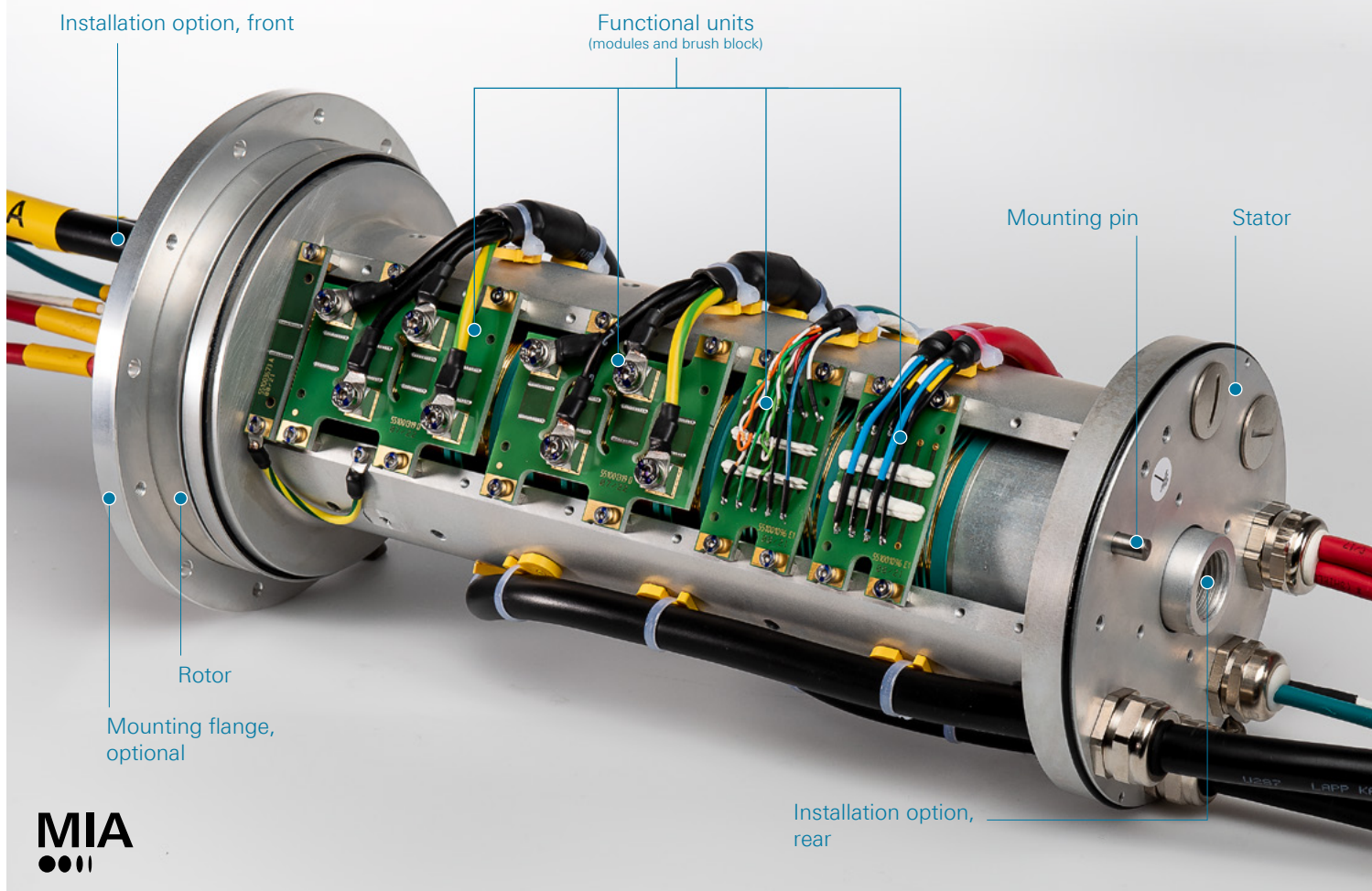
Our MIAs have a **housing diameter of 90 mm or 140 mm** depending on the functional unit selected. The slip ring's housing length corresponds to the sum of all selected functional units (116 mm to 399 mm). The standard cable length on the rotor and on the stator is 3 meters. Optionally, this can be lengthened to 6, 12 or 15 meters. The MIA slip rings are supplied without connectors.

The MIA slip rings are suitable for **ambient temperatures from -20 °C to +70 °C** and have protection class **IP50**.

The passivated aluminium housing with free internal diameter (8 mm or 13 mm depending on the outside diameter of the slip ring) enables the conduction of media or routing of fibre optic cables.

The modular system can be extended by a **power unit**, a **Gigabit Ethernet unit** or by various **media rotary joints**. These add-on components can also be ordered separately.

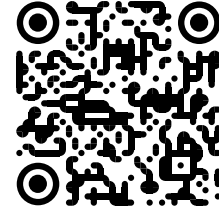
No maintenance is required. The service life of all components is designed for up to **50 million revolutions**. In the short term, rotational speed up to 400 rpm (for Ø 90 mm) or 300 rpm (for Ø 140 mm) can be achieved.



MIA – Configuration Options

		Installation option, rear	
Single-channel MRJ*	Gigabit Ethernet unit		
		MIA slip ring	
MIA 1 (Ø 90 mm)	MIA 2 (Ø 140 mm)		
			Installation option, front
Power unit	Two-channel MRJ*	Four-channel MRJ*	
			Mounting flange**

Scan the barcode to directly access our MIA bestsellers:



Example configuration includes (FLTR):

- Media rotary joint
- Adapter
- MIA 2
- Gigabit Ethernet unit



*MRJ: media rotary joint. Only in combination with adapter for MIA with two- or four-channel MRJs.
 ** If the front installation option is selected, the flange can also be attached directly to the slip ring.
 The slip ring as well as all add-on components can be ordered separately or as a complete system.

Table of MIA slip ring sizes

	Code	Number of functional units	Slip ring length
MIA 1 Ø 90mm	M 1	1–2	116 mm
	M 2	3–4	192 mm
MIA 2 Ø 140mm	M 3	1-3	171 mm
	M 4	4–5	247 mm
	M 5	6–7	323 mm
	M 6	8–9	399 mm

The modules A, B, F, and G automatically set the MIA 2 as the basic slip ring and require two functional units. (Refer to Table *Functional units in the MIA slip ring.*) Codes M1 to M6 can be found in the configuration code.

Advantages of the MIA slip rings

- Compact design
- High level of contact reliability
- Good insulation against crosstalk
- Low electrical noise
- Almost no wear, hence long service life
- Reliable operation when subject to shock, vibration and temperature fluctuations

Installation Options

Power unit

If higher power is to be transmitted, for high-performance drive motors for example, the MIA series' power unit can be used.

The power unit is connected to the MIA slip ring via an adapter. Alternatively, it can be connected to a Gigabit Ethernet unit.

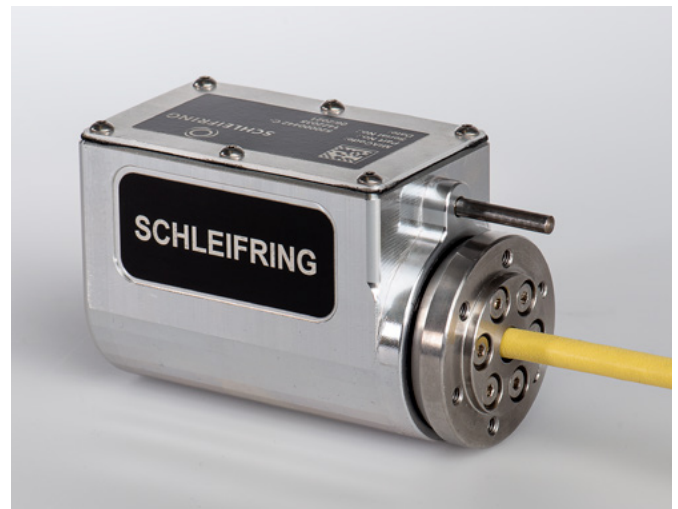
The cables of the MIA components as well as all other additional components can be routed through the free inner diameter of 53 mm.



Gigabit Ethernet unit

The Gigabit Ethernet unit creates a new dimension in the field of contacting data transmission. There is no adaptation, user-defined adaptation or special ESD treatment required – simply plug and play. With the **M12 circular connector**: CAT6A har-speed with female panel mount connector.

This device is available as an independent unit but can also be coupled to an MIA slip ring or a power unit.



Media rotary joint (MRJ)

Various media rotary joints are available to transport physical media (compressed air / vacuum, water, oil). Adapted to their individual intended use, they are mounted on the MIA or can also be ordered separately.

	Single-channel	Two-channel	Four-channel
Connection*	1/4" or 1/2"	1/4" and 1/2"	
Pressure [bar]	max. 70	max. 10	
Medium	Compressed air, vacuum or hydraulic fluid	Compressed air, vacuum or water	
Temperature [°C]	max. 120	max. 70	
Rotational speed [min⁻¹]	max. 3500	max. 200	
Material	Aluminium Steel	Stainless steel	



*For single-channel MRJs, the possible connection size depends on the corresponding MIA slip ring (Ø 90 mm = 1/4" or Ø 140 mm = 1/2").

Technical data | MIA slip rings and add-on devices

Data	MIA 1	MIA 2	Power unit	Gigabit unit
Mechanical data				
Housing	Aluminium, SurTec® surface finish			
Outside diameter	90 mm	140 mm	199 mm	64 mm
Free internal diameter	8 mm	13 mm	53 mm	0 mm
Installation length	M1, M2	M3 - M6	200 mm	110 mm
Rotational speed	200 rpm	150 rpm	200 rpm	200 rpm
Max. rotational speed	short-term 400 rpm	short-term 300 rpm	short-term 400 rpm	short-term 400 rpm
Protection class	vertical or horizontal IP 50			
Permissible operating temperature ¹	-20 °C to +70 °C			
Torque ²	< 2 Nm	< 2 Nm	< 2 Nm	< 1 Nm
Service life	up to 50 million revolutions			
Electrical data				
Path selection	up to 56	up to 102	5	13
Current intensity	max. 16 A	max. 25 A	max. 63 A	1A
Peak values	max. 2 × Inom for 1s	max. 2 × Inom for 1s	max. 2 × Inom for 1s	100 Mbit/s – max. 1 Gbit/s
Rated voltage	max. 250 V AC	max. 630 V AC	max. 630 V AC	max. 24 V AC
Stator/rotor interface	up to 15 m cable	up to 15 m cable	3 m cable	Connector for 3 m cable
Protective earthing present	> 50 V AC / 120 V DC	> 50 V AC / 120 V DC	present	not present
Insulation resistance	100 MΩ at 500 V DC			
Bit error rate				< 10 ⁻⁹
Cable	see functional units		4 + PE x 16 mm ²	M12 X-coded CAT6

The specified values are maximum values and can only be used for some of the versions listed.

¹ Not at maximum constant current load.

² Without media rotary joint.

Technical data | Functional units in the MIA slip ring

Functional unit	Application	Paths	Voltage (V)	Current intensity (A)	Cable
PE	Protective earth	1	0	25	Connecting bolt
A ¹	Power	4	630	25	3 + PE x 4 mm ²
B ¹	Power	5	400	18	4 + PE x 2.5 mm ²
C	Power	4	250	16	4 x 1.5 mm ²
D	Power	6	125	9	6 x 0.75 mm ² , shielded
E	Signal	14+S	30	3	14 x 0.25 mm ² , shielded
F ¹	Signal	16	125	6	16 x 0.5 mm ²
G ¹	Signal	22	125	3	22 x 0.5 mm ²
I	Profibus	3+8	30	3	Profibus cable + 8 x 0.34 mm ² , shielded
K	Signal	10+S	30	3	10 x 0.34 mm ²
M	CAN bus	5+6	30	3	CAN bus cable + 6 x 0.34 mm ² , shielded
P	Ethernet 100Base-TX	7+4	30	3	Ethernet cable CAT5e + 4 x 0.34 mm ² , shielded
Q	Drive-CLIQ	9	30	3	Drive-CLIQ cable
R	CC-Link	2x (3+S)	30	3	2x CC-Link cable

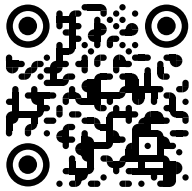
¹ Module is only suitable for the series MIA 2.

Correct use:

A slip ring is a partially complete machine within the meaning of Article 1(1) of the Machinery Directive 2006/42/EC and according to Article 1 of the new Machinery Regulation (EU) 2023/1230.

Do you have any questions about MIA or do you require further information?
Contact our team of experts: support@schleifringonline.com

Visit us directly in the shop:



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