

50A

SLIP RING COLLECTOR

The 50A slip ring collectors are sets of rings coupled with brushes designed to allow current to pass from a fixed to a rotating part. The 50A series is used to supply crane motors, cable winders etc.

FEATURES

These units are suitable only for transmitting currents with 50/60 Hz supply frequency.
The 50A slip ring collectors have 50A line rings (maximum 16

rings) and they are supplied either with or without protection. The protection has small downward holes to allow air circulation and the lower support plate is provided with three holes to drain the moisture which may form inside the unit.

MATERIALS

Slip ring collectors have a shock-resistant thermoplastic protection to prevent accidental contacts with live parts.



**CONSTRUCTION
LIFTING**



**INDUSTRIAL
AUTOMATION**

STANDARDS - MARKINGS - HOMOLOGATIONS

- Conformity to Community Directives:

2006/95/CE: Low Voltage Directive

2006/42/CE: Machinery Directive

- Conformity to Standards:

EN 60204-1 Safety of machinery - Electrical equipment of machines

EN 60309-1 Plugs, socket-outlets and couplers for industrial purposes

- General requirements

EN 60529 Degrees of protection provided by enclosures

- Markings and homologations: **CE**

GENERAL TECHNICAL SPECIFICATIONS

- Storage ambient temperature: $-40^{\circ}\text{C}/+70^{\circ}\text{C}$

- Operational ambient temperature: $-25^{\circ}\text{C}/+70^{\circ}\text{C}$

- Protection degree:

IP 22 (collector with protection)

IP 00 (collector without protection)

- Insulation category: Class I

- Cable entry: cable clamps M20 - M25

- Operating positions: any position

- Markings and homologations: **CE EAC**

ELECTRICAL SPECIFICATIONS

- Rated operational current: 50 A

- Rated operational voltage: 400 V

- Rated insulation voltage: 660 V

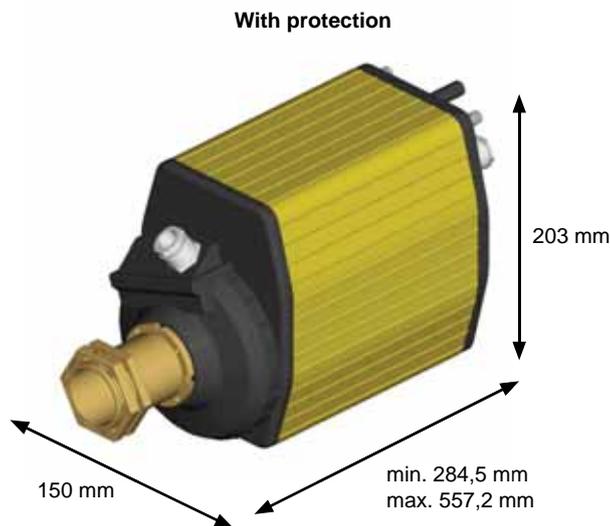
- Max. speed: 3 rev./min

- Connections:

clamps with M6 screw accepting eyelet terminals

- Markings and homologations: **CE**

OVERALL DIMENSIONS

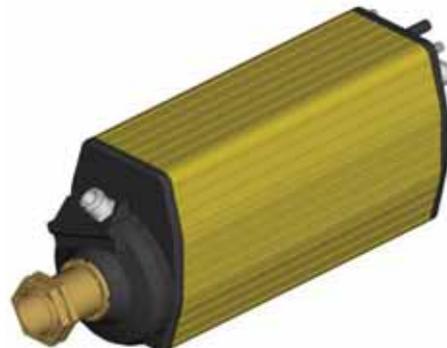


POSSIBLE ASSEMBLIES

Standard (sectional view)



Standard 16 rings



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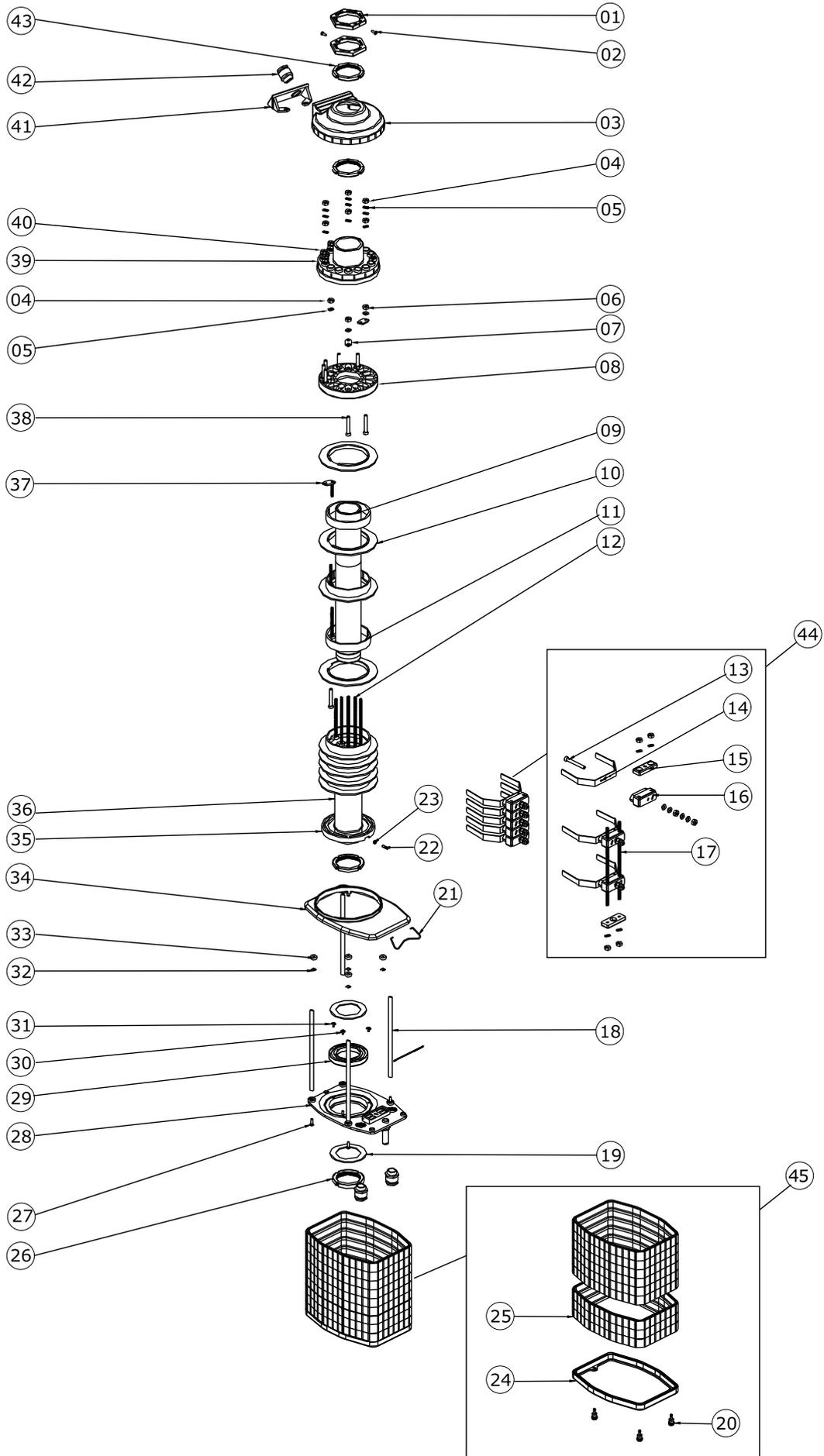
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COMPONENTS

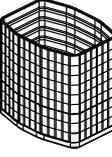
BRUSHES AND RINGS

REF	DRAWING	DESCRIPTION	CODE
11		Ring Ø 92mm (brass)	PRSL4015PE
14		Brush (phosphor bronze)	PRSL4018PI
44		Brush-holder with brushes	Codes on request

CABLE CLAMPS

REF	DRAWING	DESCRIPTION	CODE
42		Cable clamp M20	PRPS1075PE
		Cable clamp M25	PRPS1076PE
41		Cable clamp support	PRSL9066PI

ACCESSORIES

REF	DRAWING	DESCRIPTION	CODE
01		Nut	PRSL4010PE
03		Cover	PRSL5680PI
28		Bearing holder lower plate	PRSL5690PI
34		Upper plate	PRSL5685PI
43		Ring - pitch 1.5	PRSL4001PE
45		Protection	Codes on request

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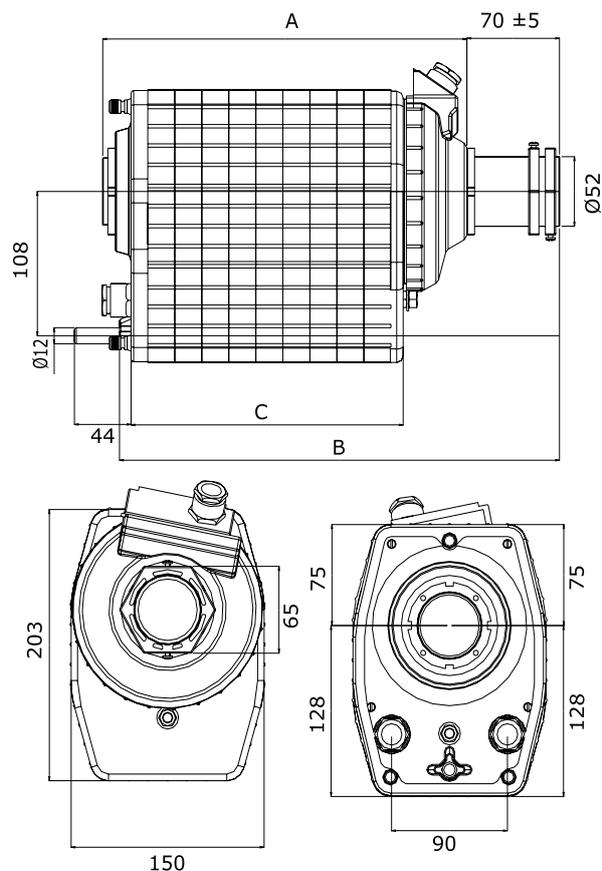
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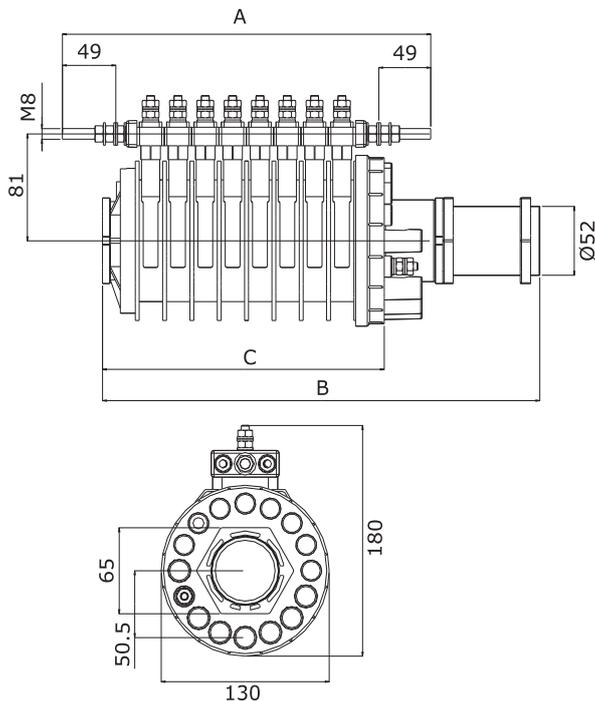
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OVERALL DIMENSIONS (MM)

With protection



Without protection



WITH PROTECTION

N° RINGS 50A	CODE	DIMENSIONS (MM)		
		A	B	C
3	PF2203P001	174	249	106
4	PF2204P001	195	270	127
5	PF2205P001	216	291	148
6	PF2206P001	237	312	169
7	PF2207P001	258	333	190
8	PF2208P001	279	354	211
9	PF2209P003	300	375	232
10	PF2210P001	321	396	253
11	PF2211P002	342	417	274
12	PF2212P001	363	438	295
13	PF2213P001	384	459	316
14	PF2214P001	405	480	337
15	PF2215P001	426	501	358
16	PF2216P001	447	522	379

Max No. of rings: 16

WITHOUT PROTECTION

N° RINGS 50A	CODE	DIMENSIONS (MM)		
		A	B	C
3	PF2203N001	200	220	106
4	PF2204N001	221	235	127
5	PF2205N001	242	235	148
6	PF2206N001	263	375	169
7	PF2207N001	284	290	190
8	PF2208N001	305	340	211
9	PF2209N001	326	340	232
10	PF2210N001	347	355	253
11	PF2211N001	368	385	274
12	PF2212N002	389	405	295
13	PF2213N001	410	420	316
14	PF2214N002	431	450	337
15	PF2215N001	452	565	358
16	PF2216N002	473	485	379

Max No. of rings: 16

USE AND MAINTENANCE INSTRUCTIONS

The slip ring collector 50A is an electromechanical device for low voltage control circuits (EN 60947-1, EN 60947-5-1) for use as electric equipment on machines (EN 60204-1) in compliance with the essential requisites of the Low Voltage Directive 2006/95/CE and the Machine Directive 2006/42/CE.

The collector is designed for use in industrial environments with even very severe climatic conditions (working temperatures from -25°C to +70°C and is suitable for use in tropical environments). The equipment is not suitable for use in environments with a potentially explosive atmosphere, in the presence of corrosive agents or high percentage of sodium chloride (saline mist). Contact with oil, acids and solvents may damage the equipment.

We recommend cleaning the rings on the collector during routine maintenance to remove any dust, usually metallic.

Cleaning should be done regularly on the basis of the use of the device (number of working hours per day, rotation speed). After about 250 working hours clean the rings.

Installation of collector with guard

- Unscrew the two fastening lockrings (01)* and remove the lockring closing the cap (43), remove the protective cap (03) and insert the mobile electric connecting wire in the wire clamps (42).
 - Tighten the electric wires starting with the ground wire and continuing clockwise (seen from the front of the terminals). After completing electric connection of the terminals, replace the cap (03) and manually tighten the closing lockring (43); and the wire clamps (42).
- NOTE: tighten the lockring (43) manually so as not to damage the insulating cap.
- Unscrew the four closing screws (20) and remove the guard(s) (25), insert the wire in the wire clamps and proceed to wire the brushes separately (14), taking care not to leave any sections of bare wire in sight or in contact with the mechanical parts of the product.
 - Turn the rotor manually and make sure the brushes (14) adhere to the rings (11) and that the wires do not interfere with any mechanical parts in motion.
 - Fit the guard (25) back in place and manually tighten the closing screws (20); tighten the wire clamps.
 - Fasten the rotor (or mobile part) on a cylindrical structure (max diameter 52.5mm) using the two hexagonal dowels (01) after adjusting the correct position and tighten the fastening screws (02).
 - Fasten the fixed part by the drive pins on the bottom plate (28).

NOTE: the degree of protection is IP22, so you must isolate the device electrically during operations of installation and maintenance.

We recommend that you do all wiring in a workmanlike manner, taking care not to force the wires into tight bends and to keep the wires isolated in the device. On completion of the work, make sure the electric wires DO NOT interfere with active parts of the machine.

Failure to follow these instructions will endanger operation of the product.

After completing the installation make sure the system functions normally.

Installation of collector without guard

- Fasten the rotor mechanically using the two fastening lockrings (01), fasten the drive pins to the relative moving part.
- Proceed with electric wiring of the terminals starting with the ground wire and continuing clockwise (seen from the front of the cap).

NOTE: the degree of protection is IP00, so you must isolate the device electrically during operations of installation and maintenance, and ascertain that the active parts of the machine do not interfere or come into contact with the parts of the collector.

We recommend that you do all wiring in a workmanlike manner, taking care not to force the wires into tight bends and to keep the wires isolated in the device. On completion of the work, make sure the electric wires DO NOT interfere with active parts of the machine. Failure to follow these instructions will endanger operation of the product.

After completing the installation make sure the system functions normally.

Maintenance

NOTE: the degree of protection is IP22, so you must isolate the device electrically during operations of installation and maintenance, and ascertain that the active parts of the machine do not interfere or come into contact with the parts of the collector.

- The device should be checked and inspected every 250 working hours, as follows.
- Detach the collector from the mechanical fastenings, unscrew the four fastening screws (20) of the guard fastener (25) and remove the guard(s).
- Blow jets of compressed air to remove residues due to wear, and check for wear on the brushes (14) and rings (11). If one or more brushes appear worn and/or damaged, replace them as follows: loosen the wire clamps on the bottom plate (28) and create some slack in the wires, loosen the two springs (21) and remove the entire brush unit, replacing any that are no longer suitable for use.

NOTE: it is a good rule to replace all the brushes. If one or more rings are excessively worn, replace the collector.

NOTE: the brushes and rings should not be lubricated or greased.

- Return the brush unit to its place and fasten it with the two springs (21), making sure that it is securely fastened and that vibrations and/or impacts will not loosen it.
 - Make sure the terminals are properly tightened and the wires are in place without any bare parts in sight.
 - Control of bearing (29): make sure the bearing is intact and allows fluid rotation of the rotor. If the device is particularly noisy, inspect the bearing with care. Once a year, lubricate the bearing with special grease for revolving bearings, such as Arcanol, or lithium-based grease taking care to let the grease penetrate among the spheres. Do not use too much grease to prevent it from depositing on the rings and brushes.
 - Fit the guard (25) back in place and fasten it with the four screws (20).
 - Loosen the wire clamps (42) on the cap (03) and unscrew the lockring (43), raise the cap (03) and check that the terminals are securely fastened and the wires are in the correct position. Replace the cap (03), manually tighten the lockring (43) and tighten the wire clamps (42).
- NOTE: tighten the lockring (43) manually so as not to damage the insulating cap.
- Fasten the collector mechanically to the fixed and mobile ends.

Any change to parts of the collector will invalidate the rating plate data and identification of the device, and render the warranty null and void. In case of replacement of any part, use only original replacements.

TER is not liable for damages caused by improper use of the device and installation which is not made correctly.

* Please refer to the detailed drawing in the catalogue.

