10A/30A
Slip Ring Collector

SPRINGER
controls company

Slip ring collector consisting of rings coupled with brushes, designed to allow current to pass from a fixed to a rotating part and used to supply crane motors and cable winders.

FEATURES

- Suitable for transmitting current with 50/60 Hz frequency.
- The enclosure has small downward holes for air circulation and to prevent problems due to moisture.
- The lower support plate is provided with three holes to drain any moisture that may form inside the unit.
- The enclosure is made of shock-resistant thermoplastic material to prevent contact with live electrical parts.
- IP protection degree: collector 10A/30A is classified IP22.
- Extreme temperature resistance: -13°F to +158°F (-25°C to +70°C).

OPTIONS

- Up to 40 rings coupled with brushes.
- Available with 30A line rings only or with 30A line rings and 10A auxiliary rings.
- Fitted with phosphor bronze or graphite brushes.

CERTIFICATIONS

- CE marking and EAC certification.
  Fill in the request form for accurate product configuration.

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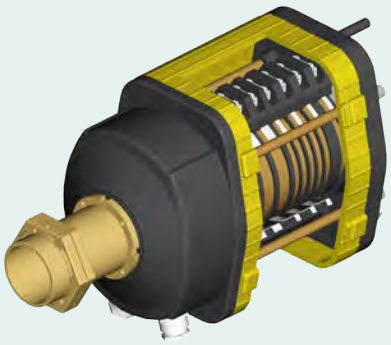
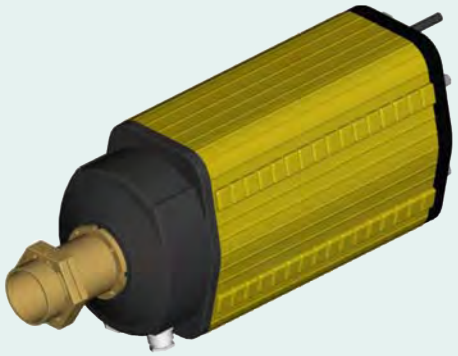
POSSIBLE ASSEMBLIES

Standard (sectional view)



Standard 16 rings



CERTIFICATIONS

Conformity to Community Directives	2014/35/UE Low Voltage Directive
	2006/42/CE Machinery Directive
Conformity to CE 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 EAC

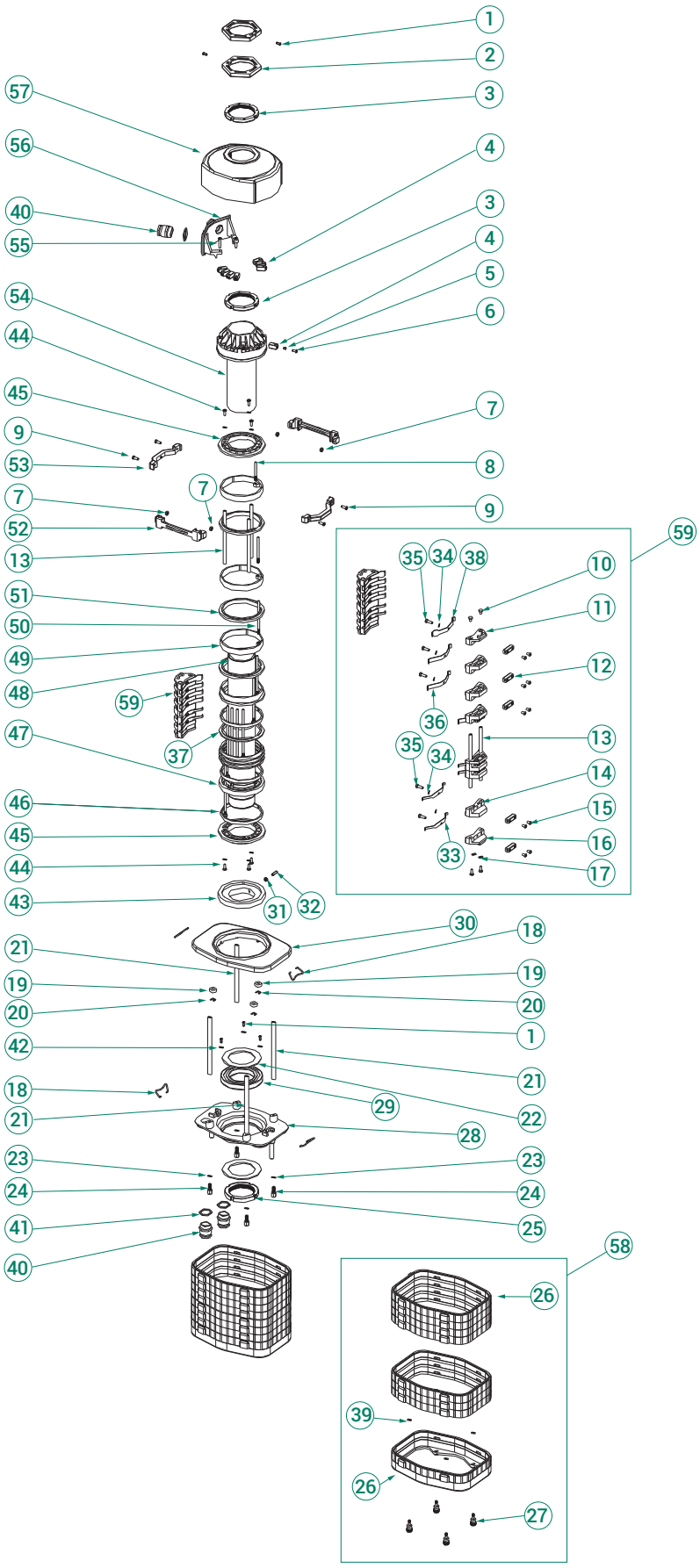
GENERAL TECHNICAL SPECIFICATIONS

Ambient temperature	Storage -40°F/+158°F (-40°C/+70°C)
	Operational -13°F/+158°F (-25°C/+70°C)
IP protection degree	IP 22
Insulation category	Class I
Operating positions	Any position
Cable entry	Cable clamp M20
	Cable clamp M25

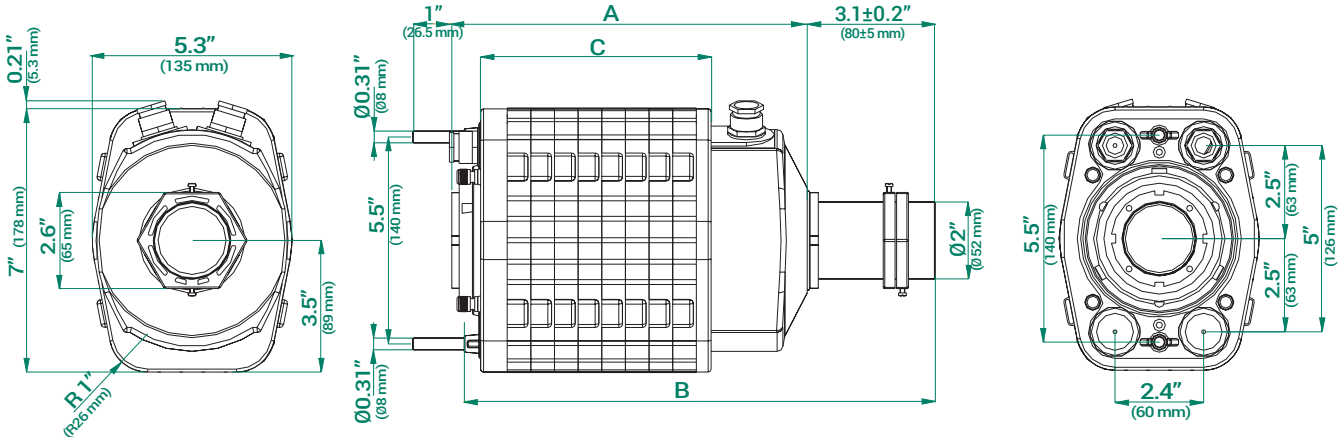
ELECTRICAL SPECIFICATIONS

Rated operational current	10 A - 30 A
Rated operational voltage	400 Vac
Rated insulation voltage	660 Vac
Max. speed	3 rev./min
Connections	Clamp with Ø 0.16" (Ø 4 mm) hole
	Clamp with M4 screw accepting eyelet terminals

EXPLODED DRAWING



STANDARD SLIP RING COLECTORS AND OVERALL DIMENSIONS



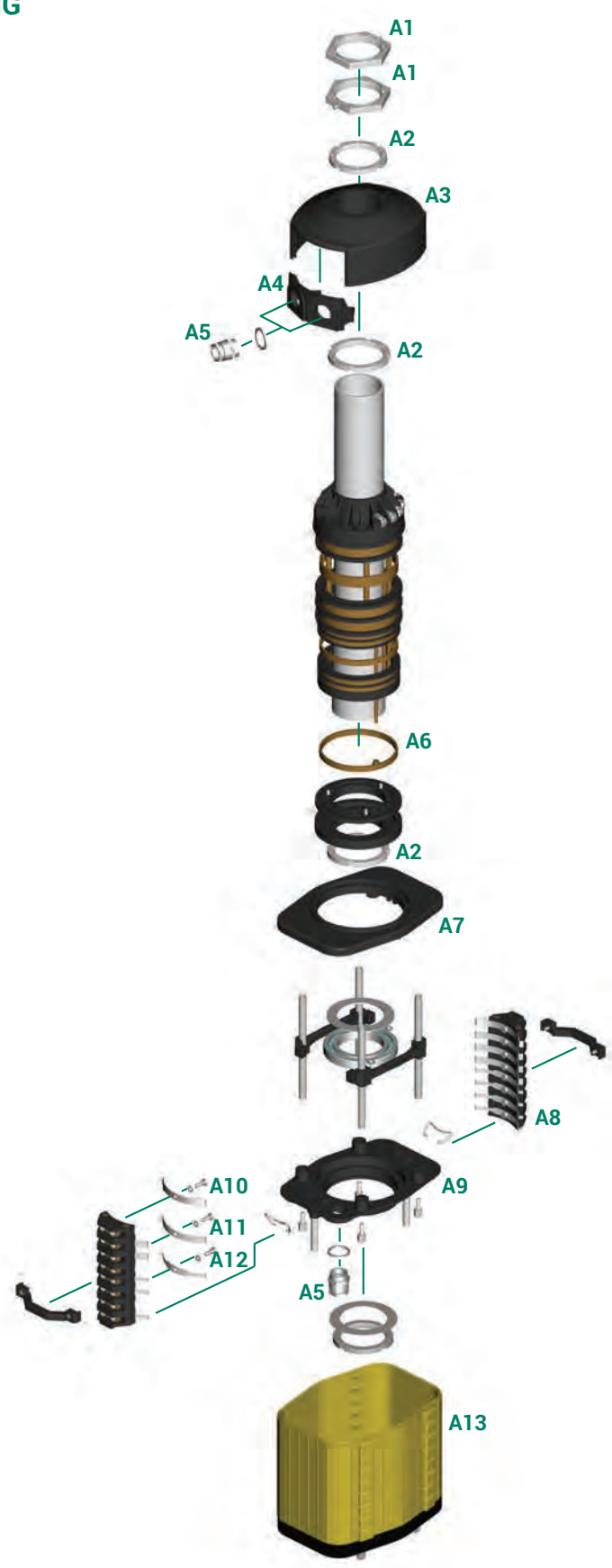
10A and 30A rings

No. of rings 10A	No. rings 30A	Code	Dimensions		
			A	B	C
1	4	PF2305B001	7.7" (195 mm)	10.4" (265 mm)	4.25" (108 mm)
2	4	PF2306B003	8.8" (211 mm)	11.1" (281 mm)	4.9" (124 mm)
3	4	PF2307B002	8.8" (211 mm)	11.1" (281 mm)	4.9" (124 mm)
4	4	PF2308B001	8.9" (227 mm)	11.7" (297 mm)	5.5" (140 mm)
5	4	PF2309B001	8.9" (227 mm)	11.7" (297 mm)	5.5" (140 mm)
6	4	PF2310B001	9.6" (243 mm)	12.3" (313 mm)	6.1" (156 mm)
7	4	PF2311B001	9.6" (243 mm)	12.3" (313 mm)	6.1" (156 mm)
8	4	PF2312B001	10.1" (259 mm)	13" (329 mm)	6.8" (172 mm)
9	4	PF2313B002	10.1" (259 mm)	13" (329 mm)	6.8" (172 mm)
10	4	PF2314B001	10.8" (275 mm)	13.6" (345 mm)	7.4" (188 mm)
11	4	PF2315B002	10.8" (275 mm)	13.6" (345 mm)	7.4" (188 mm)
12	4	PF2316B001	11.5" (291 mm)	14.2" (361 mm)	8" (204 mm)
Max No. of rings: 40.			19" (483 mm)	21.8" (553 mm)	15.6" (396 mm)

30A rings

No. of rings 30A	Code	Dimensions		
		A	B	C
3	PF2303B001	7" (179 mm)	9.8" (249 mm)	3.6" (92 mm)
4	PF2304B001	7.7" (195 mm)	10.4" (265 mm)	4.25" (108 mm)
5	PF2305B002	8.3" (211 mm)	11.1" (281 mm)	4.9" (124 mm)
6	PF2306B002	8.9" (227 mm)	11.7" (297 mm)	5.5" (140 mm)
7	PF2307B001	9.6" (243 mm)	12.3" (313 mm)	6.1" (156 mm)
8	PF2308B003	10.2" (259 mm)	13" (329 mm)	6.8" (172 mm)
9	PF2309B002	10.8" (275 mm)	13.6" (345 mm)	7.4" (188 mm)
10	PF2310B003	11.5" (291 mm)	14.2" (361 mm)	8" (204 mm)
11	PF2311B002	12.1" (307 mm)	14.8" (377 mm)	8.7" (220 mm)
12	PF2312B002	12.7" (323 mm)	15.5" (393 mm)	9.3" (236 mm)
13	PF2313B003	13.3" (339 mm)	16.1" (409 mm)	9.9" (252 mm)
14	PF2314B003	14" (355 mm)	16.7" (425 mm)	10.6: (268 mm)
15	PF2315B005	14.6" (371 mm)	17.4" (441 mm)	11.2" (284 mm)
16	PF2316B004	15.2" (387 mm)	18" (457 mm)	11.8" (300 mm)
Max No. of rings: 20.		17.8" (451 mm)	17.8" (521 mm)	14.3" (364 mm)

ASSEMBLY DRAWING



COMPONENTS

Brushes and rings

Ref.	Drawing	Description	Code
A6		Auxiliary ring 10A	PRSL4060PE
		Line ring 30A	PRSL4064PE
A8		Brush-holder with brushes	Codes on request
A10		Earth brush	PRSL4062PI
A11		Line brush	PRSL4058PI
A12		Auxiliary brush (phosphor bronze)	PRSL4061PI
		Auxiliary brush (graphite) (2 brushes used as line brush)	PRVV9075PE

Cable clamps

Ref.	Drawing	Description	Code
A4		Cable clamp support	PRSL9060PI
A5		Cable clamp M20	PRPS1075PE
		Cable clamp M25	PRPS1076PE

Accessories

Ref.	Drawing	Description	Code
A1		Nut	PRSL4010PE
A2		Ring - pitch 1.5	PRSL4001PE
A3		1 hole cover	PRSL5665PI
		2 hole cover	PRSL5670PI
A7		Upper plate	PRSL4056PE
A9		Lower plate	PRSL4055PE
A13		Protection	Codes on request

10A/30A - REQUEST FORM FOR NON STANDARD SLIP RING COLLECTOR

Rings

No. of 30A rings _____

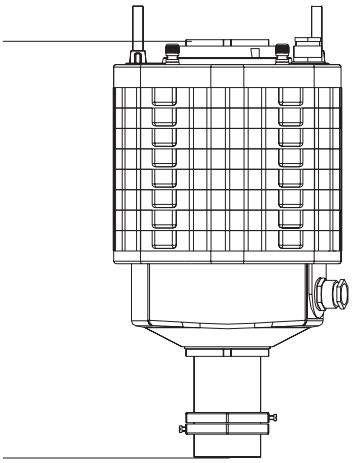
No. of 10A rings _____

Brushes

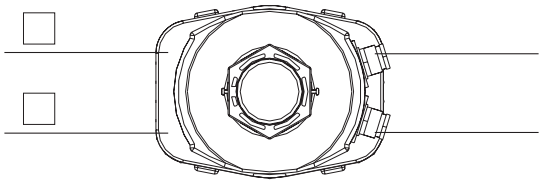
☐ Graphite

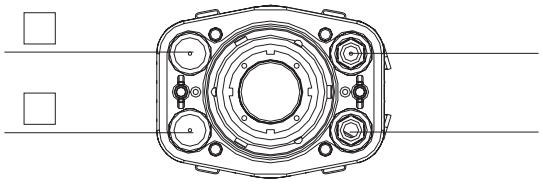
☐ Phosphor bronze

Tube length



Cable clamps





☐ 1 M20

☐ 2 M25

Instructions

- Write the number of 30A and 10A rings and the type of brushes required.
- Write the input and output length of the tube required, when different from the length showed in the overall dimensions.
- Write the type of cable clamps required on the upper cover and on the lower plate.

USE AND MAINTENANCE INSTRUCTIONS

The slip ring collector 10A/30A 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 2014/35/UE 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 -13°F to +158°F (-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; avoid using them for cleaning.

We recommend cleaning the device during routine maintenance to remove the residues of metallic dust that may deposit on the rings.

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

- Unscrew the two fastening lockrings (2)* and remove the lockring closing the cap (3), remove the protective cap (57) and insert the mobile electric connecting wire in the wire clamp (40).
- 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 (57) and manually tighten the closing lockring (2); and the wire clamps (40).

NOTE: tighten the lockring (3) manually so as not to damage the insulating cap.

- Unscrew the four closing screws (27) and remove the guard(s), insert the wire in the wire clamps (40) and proceed to wire the brushes separately, 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 (33) adhere to the rings (51) and that the wires do not interfere with any mechanical parts in motion.
- Fit the guard (26) back in place and manually tighten the closing screws (27); tighten the wire clamps (40).
- Fasten the rotor (or mobile part) on a cylindrical structure (max diameter 52.5mm) using the two hexagonal dowels (2) after adjusting the correct position and tighten the fastening screws (1).
- 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.

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 (27) of the guard (26) and remove the guard(s).
- Blow jets of compressed air to remove residues due to wear, and check for wear on the brushes (33) and rings (51). If one or more brushes appear worn and/or damaged, replace them as follows: loosen the wire clamps (40) on the bottom plate (28) and create some slack in the wires, loosen the two springs (18) 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 product.

- Return the brush unit to its place and fasten it with the two springs (18), 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: 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 (26) back in place and fasten it with the four screws (27).
- Loosen the wire clamps (40) on the cap (57) and unscrew the lockring (03), raise the cap (57) and check that the terminals are securely fastened and the wires are in the correct position. Replace the cap (57), manually tighten the lockring (3) and tighten the wire clamps (40).

NOTE: tighten the lockring (3) 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.

Springer Controls and/or TER are not liable for damages caused by improper use of the device and installation which is not made correctly.

* Please refer to the exploded drawing in the catalog.