

AUROTAC® Slip Ring



AUROTAC® is a **slip ring** designed and manufactured by Elet.Ca. The mechanical and electrical solutions used in this product are the result of the expertise acquired by Elet.Ca throughout its many years of experience with similar products for the military sector. The continuous research and testing supported by

Elet.Ca is helping to achieve an **optimal configuration** for this product, which offers **excellent operational guarantees**.

The various types of interfaces that the AUROTAC® slip ring can be equipped with make it suitable for multiple applications.

TECHNOLOGY

AUROTAC® slip rings are made entirely of aluminum. An IP65-grade protection enables it to withstand the most severe environmental conditions, including those associated with temperature, vibrations, shocks and/or the presence of aggressive atmospheres. Tefzel cables (with the exception of AUROTAC® Faston) guarantee use in temperature conditions of -30 °C to +85 °C, a high degree of insulation and low induction between the cables thanks to the excellent dielectric. The movable and fixed parts are joined through a robust shaft that acts as a ring support that is connected to the case by precise ball bearings to ensure smooth and fluid movement. The core of the product has the brush/ring coupling which, thanks to research, now allows us to work with some of the best total circuit resistance, dynamic contact resistance (noise) and cross-talk parameters in its category. The use of pure copper and gold/gold couplings guarantees the maintenance of these parameters over time, even at operating speeds in excess of 500 rpm (1000 rpm Max).

APPLICATIONS

The AUROTAC® slip ring in its standard version, the characteristics of which are provided below, has a range of use that includes the transfer of continuous or modulated signals to and from a wide range of peripheral devices; instrumentation in general, coils, thermocouples, robotics, turntables, data buses, cameras, etc., with the limitations related to the materials provided in this configuration. The use of 4/20 mA current conversion modules is recommended for signal transfer applications of thermocouples and RTDs (resistance temperature detectors).

OPTIONAL

According to need, or to increase in general the frequency bandwidth in which the slip ring can operate, the product can be equipped with specific cables and accessories, shielding and whatever else may be necessary for the specific use (depending on the customer's needs). Connectors and protective headset can be supplied for the AUROTAC® FASTON terminal line.

LIMITS ON THE USE OF DIGITAL SYSTEMS

The physical limits of impedance, operating frequency and data rate of traditional cables can be largely overcome through the use of twisted cables that meet structured cabling standards conforming to categories 5, 5e, 6 in accordance with IEEE 802.3 and which are capable of being used in Gigabit Ethernet networks.

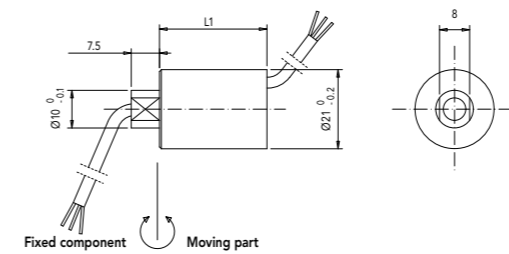


SERIES 21 • Signal

Channels	Type	4x3A	8x3A
Elet.Ca Code	02	154C9402	154C9802
	04	154C9404	154C9804

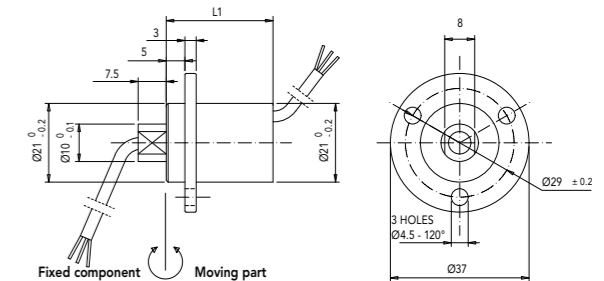


Type 02



DIMENSIONS (mm)		
Channels	4X3A	8X3A
L1	28.5	43

Type 04



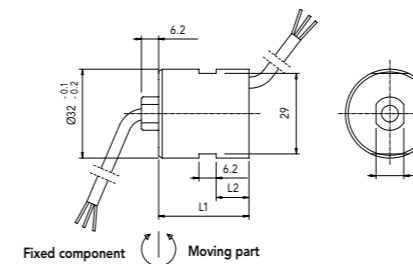
DIMENSIONS (mm)		
Channels	4X3A	8X3A
L1	28.5	43



SERIES 32 • Power and Power + Signal

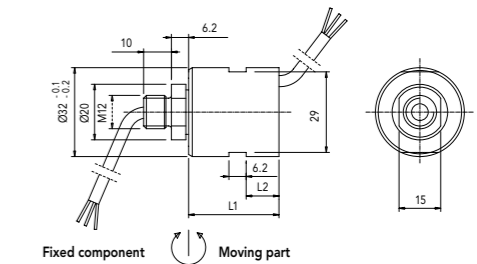
Channels	Type	2x25A + 2x5A	2x25A	4x25A	4x25A + 4x5A	4x25A + 8x5A	6x25A
Elet.Ca Code	02	150C9202	150C9102	150C9402	150C9802	150C9002	150C9602
	03	150C9203	150C9103	150C9403	150C9803	150C9003	150C9603
	04	150C9204	150C9104	150C9404	150C9804	150C9004	150C9604

Type 02



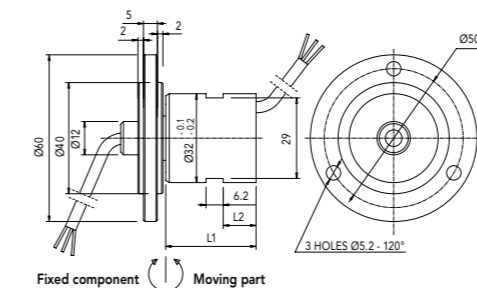
DIMENSIONS (mm)						
Channels	2x25A+2x5A	2x25A	4x25A	4x25A+4x5A	4x25A+8x5A	6x25A
L1	38	30	42	58	74	54
L2	14	11	18	30	42	25

Type 03



DIMENSIONS (mm)						
Channels	2x25A+2x5A	2x25A	4x25A	4x25A+4x5A	4x25A+8x5A	6x25A
L1	39.5	31.5	43.5	59.5	75.5	55.5
L2	14	11	18	30	42	25

Type 04

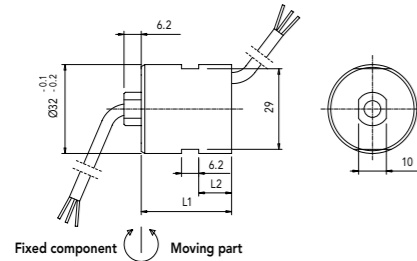


DIMENSIONS (mm)						
Channels	2x25A+2x5A	2x25A	4x25A	4x25A+4x5A	4x25A+8x5A	6x25A
L1	39.5	31.5	43.5	59.5	75.5	55.5
L2	14	11	18	30	42	25

SERIES 32 • Signal

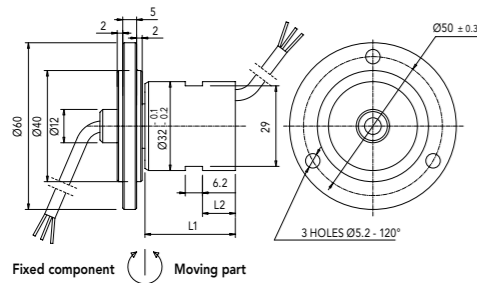
Channels	Type	2x5A	3x5A	6x5A	9x5A	12x5A
Elet.Ca Code	10	150C9210	150C9310	150C9610	150C9910	150C9010
	15	150C9115	150C9315	150C9615	150C9915	150C9015
	16	-	150C9316	150C9616	150C9916	150C9016

Type 10



DIMENSIONS (mm)					
Channels	2x5A	3x5A	6x5A	9x5A	12x5A
L1	26	30	42	54	66
L2	10	11	18	25	29

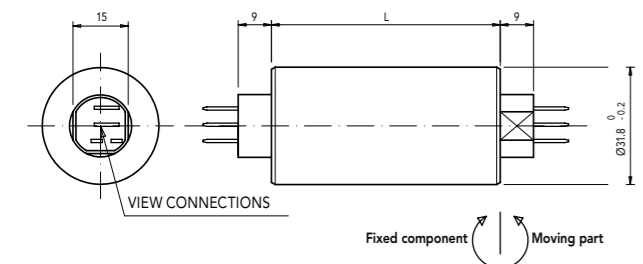
Type 16



DIMENSIONS (mm)				
Channels	3x5A	6x5A	9x5A	12x5A
L1	31.5	43.5	55.5	67.5
L2	11	18	25	29

SERIES 32 Faston • Power and Power + Signal

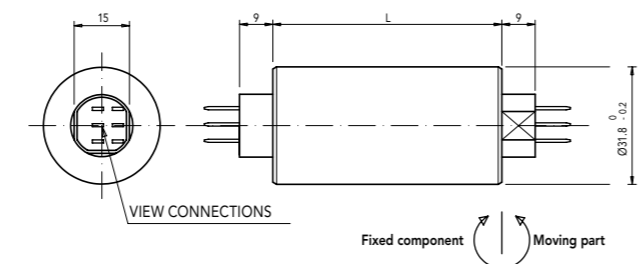
Channels	Elet.Ca Code
2x25A + 2x5A	157C9219
2x25A + 4x5A	157C9619
2x25A	157C9119
3x25A	157C9319
4x25A	157C9419



DIMENSIONS (mm)					
Channels	2x25A + 2x5A	2x25A + 4x5A	2x25A	3x25A	4x25A
L1	50	58	42	54	54

SERIE 32 Faston • Signal

Channels	Elet.Ca Code
4x5A	157C9429
6x5A	157C9629
8x5A	157C9829

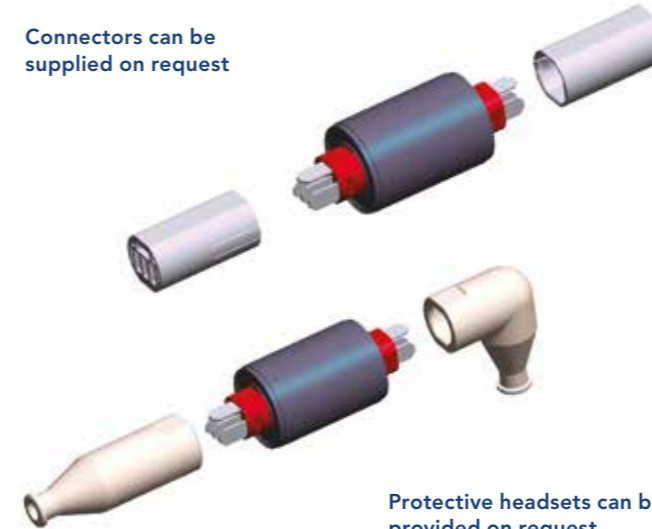


DIMENSIONS (mm)			
Channels	4x5A	6x5A	8x5A
L1	46	54	62

SERIES 32 Faston • Optional equipment

Connectors and protective headsets can be purchased on request. Female FASTON terminals will also be supplied with the connectors. After the FASTON terminals are crimped, they can be inserted into the connector: they are automatic locking.

Connectors can be supplied on request



Protective headsets can be provided on request

Straight headset:
Elet.Ca Code 157C5990

90° headset:
Elet.Ca Code 157C5999

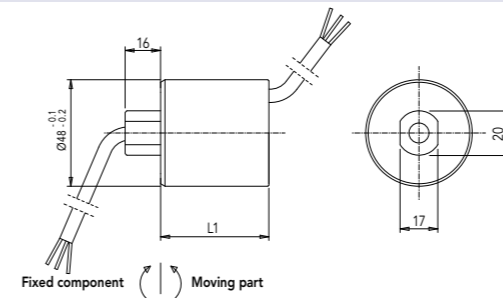
SERIES 32 Faston • Connections

TYPES OF CONTACT	MODEL	TYPES OF FASTON TERMINALS	ELET.CA CONNECTORS
	2 Channels - 25 A	For AWG 16/14 - 6.4mm	157C2019 (including FASTON terminals)
	2 Channels - 5 A	For AWG 22/18 - 2.8mm	157C2019 (including FASTON terminals)
	2 Channels - 25 A	For AWG 16/14 - 6.4mm	157C2919 (including FASTON terminals)
	4 Channels - 5 A	For AWG 22/18 - 2.8mm	157C2919 (including FASTON terminals)
	2 Channels - 25 A	For AWG 16/14 - 6.4mm	157C2919 (including FASTON terminals)
	3 Channels - 25 A	For AWG 16/14 - 6.4mm	157C2919 (including FASTON terminals)
	4 Channels - 25 A	For AWG 16/14 - 6.4mm	157C2919 (including FASTON terminals)
	4 Channels - 5 A	For AWG 22/18 - 2.8mm	157C2029 (including FASTON terminals)
	6 Channels - 5 A	For AWG 22/18 - 2.8mm	157C2029 (including FASTON terminals)
	8 Channels - 5 A	For AWG 22/18 - 2.8mm	157C2029 (including FASTON terminals)

SERIES 48 • Power and Power + Signal

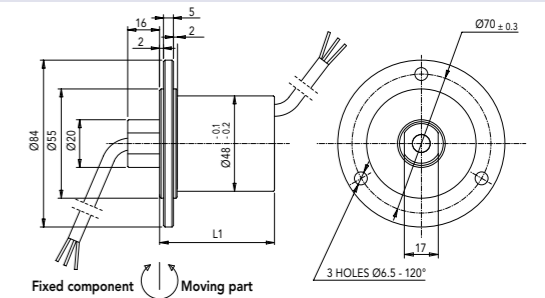
Channels	Type	Power + Signal			Power			Signal		
		6x40A +12x5A	6x40A +18x5A	6x40A	9x40A	12x40A	15x5A	20x5A	25x5A	
Elet.Ca Code	02	152C9182	152C9242	152C9062	152C9092	152C9122	152C9152	152C9202	152C9252	
	04	152C9184	152C9244	152C9064	152C9094	152C9124	152C9154	152C9204	152C9254	

Type 02



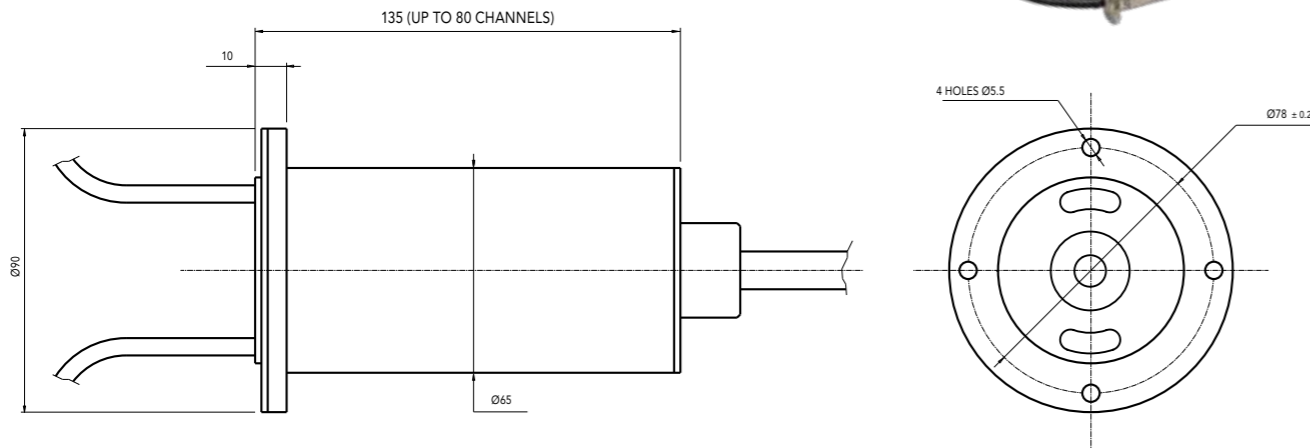
DIMENSIONS (mm)									
Channels	6x40A+12x5A	6x40A+18x5A	6x40A	9x40A	12x40A	15x5A	20x5A	25x5A	
L1	122	139	59	75.5	93.5	93.5	122	139	

Type 04



DIMENSIONS (mm)									
Channels	6x40A+12x5A	6x40A+18x5A	6x40A	9x40A	12x40A	15x5A	20x5A	25x5A	
L1	122	139	59	75.5	93.5	93.5	122	139	

SERIES 65



ASSEMBLY INSTRUCTIONS

Ensure that the slip ring is mechanically secured and correctly earthed as shown in the "installation examples". Ensure that the mechanical play between the fixed and moving parts of the slip ring is less than ± 0.2 mm during installation in order to minimize mechanical stress from induced vibrations that shorten its useful life. Cables must be stripped with special tools and sharp blades in order not to damage the strands or, in the case of shielded cables, the braid. Avoid stresses or tensions between the manifold body and the output cables and ensure the correct connection on the outlets. Damaged cables impair the operation of the slip ring.

- AUROTAC® can be installed both horizontally and vertically.
- It is advisable to use fuses to protect the slip ring from possible power surges. Overcurrent states can cause the manifold to fail.

ATTENTION:

The aluminum body may be electrically charged after the fault, so it is advisable to disconnect the power supply before touching the slip ring.

MAINTENANCE

No maintenance is required as the electrical coupling is dry and there is no need for lubricants.

USEFUL LIFE

The stated useful life data are derived from internal laboratory tests and are to be understood as indicative; they do not exactly reproduce conditions of use. Nor should they be understood as a limitation.

The actual life span of any system is dependent on a combination of variables:

- type of movement (alternating and/or continuous)
- n° of daily operating hours
- presence of higher or lower mechanical vibrations
- play between fixed and movable parts
- operating environment
- operating temperature and/or temperature fluctuations
- type of final application.

WARRANTY: The slip rings are guaranteed for one year from the date of purchase. The product will only be replaced in the event of a fault with the slip ring. No guarantee will be given for defects caused by improper use or mistreatment of the slip ring. The declarations and technical information issued by the manufacturer shall be made in good faith.

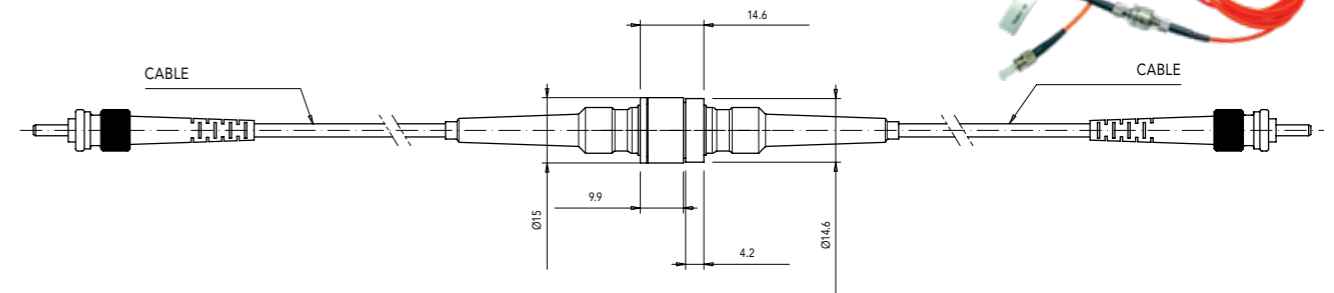
The user shall be responsible for determining the suitability of the product for its intended use. The manufacturer shall not be liable for any damage, loss or breakdown caused directly or as a consequence of improper use of the product.

Features

Manifold + cable	SERIES 21 (Ø21)	SERIES 32 (Ø32) and SERIES 32 Faston	SERIES 48 (Ø48)	SERIES 65 (modular) from 40 to 80 channels (at the customer's request)
Circuit resistance	< 90 milliohm	< 90 milliohm (Signal) < 45 milliohm (Power)	< 90 milliohm (Signal) < 45 milliohm (Power)	< 110 milliohm
Contact resistance	< 10 milliohm	< 10 milliohm	< 10 milliohm	< 10 milliohm
Insulation resistance (500 VDC)	> 500 Mohm	> 500 Mohm	> 500 Mohm	> 500 Mohm
Dielectric strength (500/750 VAC)	< 1 mA	< 1 mA	< 1 mA	< 1 mA
Current	3 A Max (1 Channel)	25 A* Max (1 Channel) 5 A Max (1 Channel)	40 A** Max (1 Channel) 5 A Max (1 Channel)	5 A Max (1 Channel)
Max voltage	250 Ac/Dc	400 Ac/Dc	400 Ac/Dc	150 Ac/Dc
Cross talk	> 40 db 2 Mhz	> 40 db 2 Mhz	> 40 db 2 Mhz	> 40 db 2 Mhz
Speed (bi-directional)	2000 Rpm Max	1000 Rpm Max	1000 Rpm Max	100 Rpm Max
Operating temperature	-30 °C to +85 °C	-30 °C to +85 °C	-30 °C to +85 °C	-30 °C to +85 °C
Protection	IP 65	IP 65	IP 65	IP 54
Material	Aluminum with Surtec 650	Black anodized aluminum	Aluminum with Surtec 650	Aluminum with Surtec 650
Cables	TEFZEL AWG 22 L= 0,5 m	TEFZEL AWG 14 L=0,5 m AWG 22 L=0,5 m***	TEFZEL AWG 14 L= 1 m AWG 22 L= 1 m	TEFZEL AWG 24 L= da 0.5 a 2.5 m (at the customer's request)
Rotating system	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Torque	1-2 cN/m	1-5 cN/m	1-5 cN/m	1-2 cN/m

* 15 A Continuous (25 A peak) ** 30 Continuous (40 A peak) *** not present on FASTON terminal SERIES

FIBER OPTIC MANIFOLD

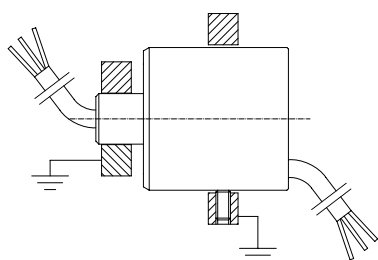


Features

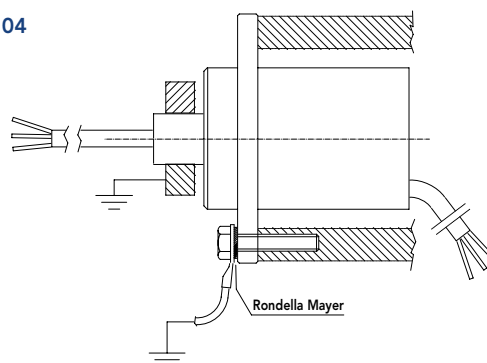
Channels	Single
Housing	AISI steel
Type of fiber	62.5 / 125 micron
Connecting fiber	Cable 2 m
Connector	ST
Weight	70 gr $\pm 10\%$
Wavelength	850 to 1300 nm
Maximum Loss	1.5 DB
Operating temperature	- 40 °C to +85 °C
Storage temperature	- 40 °C to +85 °C
Protection	IP 40
Life	100,000,000 rpm (1000 rpm / 25 °C)
Minimum radius of curvature (cable)	30 mm
Maximum optical output power	500 mW (27dbm Class I Eye Safe)

SERIES 21 • Installation examples

TYPE 02

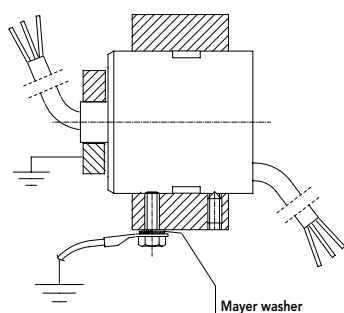


TYPE 04

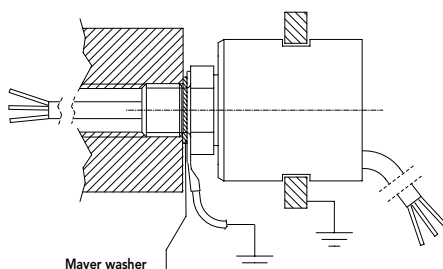


SERIES 32 • Installation examples

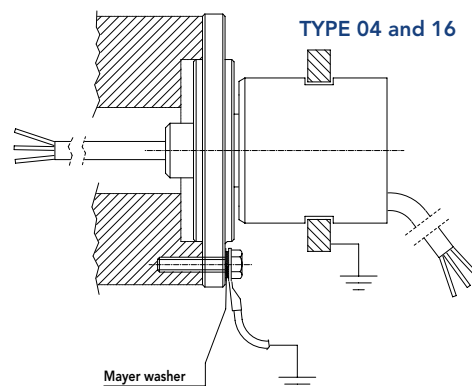
TYPE 02 and 10



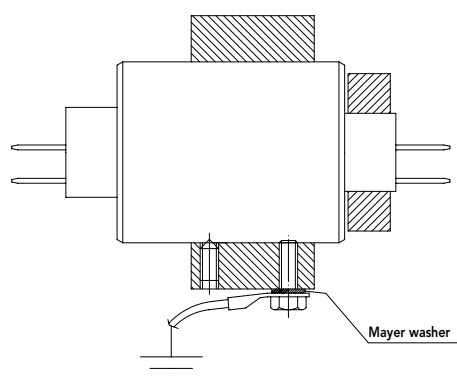
TYPE 03 and 15



TYPE 04 and 16

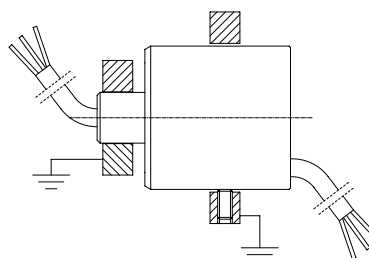


SERIES 32 Faston • Installation examples

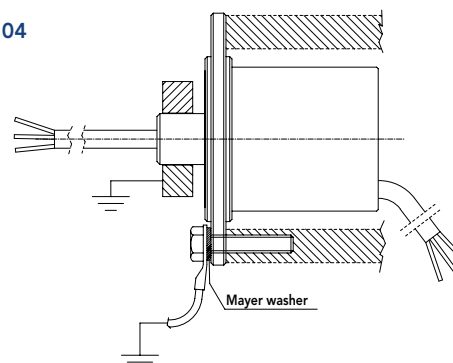


SERIES 48 • Installation examples

TYPE 02



TYPE 04



SERIES 65

Assembly to be evaluated with the customer

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