Connectors and connecting leads for potential equalization according to DIN 42801

The IEC 60364-7-710 standard requires that additional protective equipotential bonding be provided in all Group 1 and 2 medical locations.
The purpose of additional potential equalization is to equalise potentials between different metal parts that can be touched simultaneously, or to reduce differences of potential which can occur during operation between the bodies of medical electrical devices and conductive parts of other objects.

The Stäubli connector is specially shaped so as to prevent chance disconnection when used as intended, while allowing the lead to be removed without the need for tools.
The items for potential equalization listed in the catalog take into account the requirements on potential equalization conductors set in IEC 60601-1 and are also tested according to the DIN 42801 TÜV type.

The terminals are marked with symbol

in accordance with IEC 60417-5021, and with in the colors green-yellow.

TÜV Rheinland has tested this product to verify whether it meets the relevant safety requirements.
To ensure that products that have been tested and certified continue to be produced at the same level of quality, TÜV Rheinland inspects the production facility at regular intervals.

It verifies processes at the manufacturing facility, including e.g. the procurement of parts (supplier evaluation), individual processing steps, and inspection of finished products.

Relevant standards:

EC/DIN EN 60601-1:
Medical electrical equipment
– General requirements for safety.

IEC 60364-7-710:
Electrical installations of buildings – Requirements for special installations or locations – Medical locations.

DIN EN 793 (VDE 0750 Part 211):
Particular requirements for safety of medical supply units.

DIN 42801:
Connection bolts for equipotential bonding conductors.

DIN 42801 part 2:
Equipotential bonding conductors; connection sockets.

Medical standards:

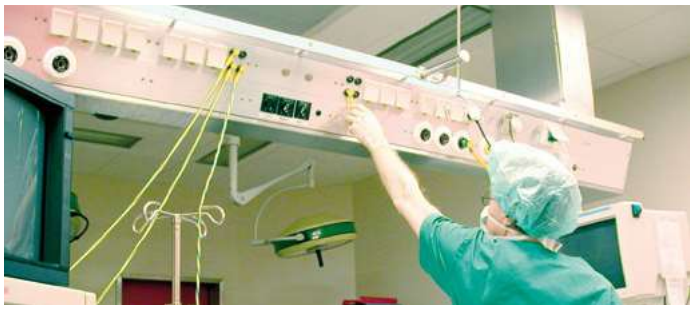
To place a medical device on the market in any given country, it must be shown that the device is safe and reliable.
The usual process for this involves the use of established international standards.
For medical devices, the relevant standard is IEC 60601-1 and any supplements that apply in individual countries.

(USA: AAMI ES 60601-1
Canada: CSA C22.2 No. 60601-1
and in EU countries: EN 60601-1)

Connecting leads for potential equalization in accordance with DIN 42801

The purpose of additional potential equalization is to equalise potentials between different metal parts that can be touched simultaneously, or to reduce differences of potential which can occur during operation between the bodies of medical electrical devices and conductive parts of other objects.

Our POAG socket is designed for screw lead termination so that no special tools (crimping pliers) are needed.



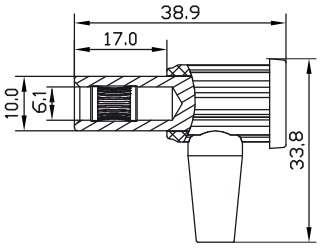
The use of high-quality components ensures dependable potential equalization in places where it is particularly important: in hospital facilities and medical practices.
We supply the new POAG socket separately for the self-assembly of potential equalization leads, as well as leads ready assembled with this socket.

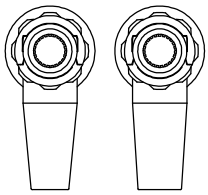
The features of the new POAG socket at a glance:

- Screw connection is simply effected by means of a standard Allen key (no special tool needed)
- Good price-performance ratio of the POAG sockets and assembled leads
- Nickel-plated socket and gold-plated MULTILAM for dependable, durable contact
- Design in accordance with DIN 42801 part 2

POAG-KBT6-EC/...

Right-angled sockets for self-assembly of connecting leads for potential equalization. Socket made of nickel-plated brass with MULTILAM made of gold-plated, hard-drawn copper alloy. Screw connection for lead cross sections 4.0 mm² and 6.0 mm².

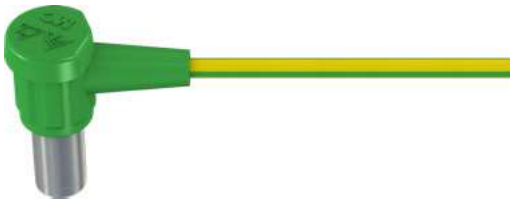


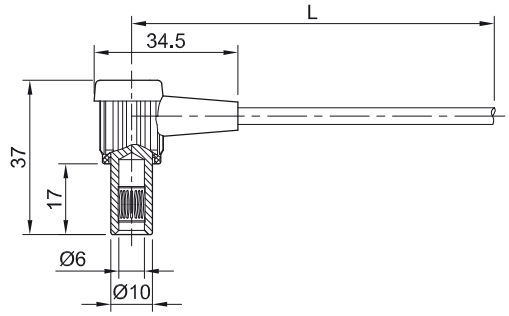


Order No.	Type	Connectable conductor cross-section		Insulation		Color
55.3220-20	POAG-KBT6-EC/4	4.0 mm²	Ø 5.1 mm	PA	Ni TÜV[1)]	20
55.3225-20	POAG-KBT6-EC/6	6.0 mm²	Ø 6.2 mm	PA	Ni TÜV[1)]	20

POAG-EC-.../1 POAG-EC6-.../1

Highly flexible connecting leads with green-yellow insulation for potential equalization. One end with assembled right-angled, spring-loaded socket, other end open lead. Socket made of nickel-plated brass with MULTILAM made of gold-plated, hard-drawn copper alloy. Various lead cross sections available.





Order No.	Type	Lead cross section			Lead lengths L [cm]	Color
55.3232-□20	POAG-EC-.../1	4.0 mm²	max. Ø 5.9 mm	Ni PVC TÜV[1)]	100 200 300 400	20
55.3233-□20	POAG-EC6-.../1	6.0 mm²		Ni PVC TÜV[1)]	100 200 300 400	20

MA

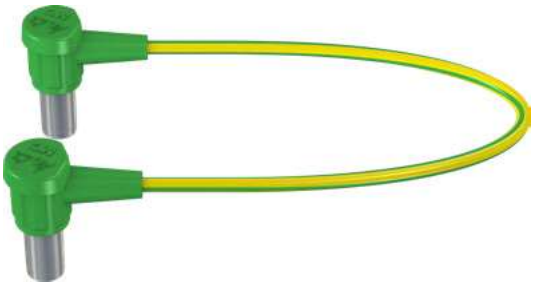
Assembly instructions MA564

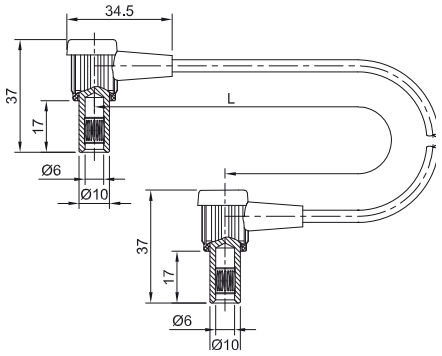
www.staubli.com/electrical

[1)] These parts have been tested by TÜV Rheinland.
Certificate no. R 60116228

POAG-EC-.../2 POAG-EC6-.../2

Highly flexible connecting leads with green-yellow insulation for potential equalization. On both ends with right-angled, spring-loaded sockets with extrusion-moulded insulation. Sockets made of nickel-plated brass with MULTILAM made of gold-plated, hard-drawn copper alloy. Various lead cross sections available.





Order No.	Type	Lead cross section	Sleeve insulation		Lead lengths L [cm]	Color
55.3200-□20	POAG-EC-.../2	4.0 mm²	TPE	Ni PVC TÜV[1)]	100 200 300 400	20
55.3210-□20	POAG-EC6-..../2	6.0 mm²	TPE	Ni PVC TÜV[1)]	100 200 300 400	20

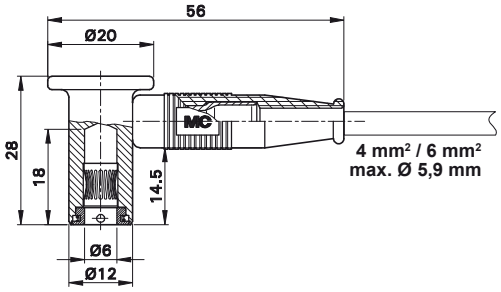
POAG-KBT6DIN

Right-angled socket for self-assembly of connecting leads for potential equalization.

Socket made of nickel-plated brass with MULTILAM made of gold-plated, hard-drawn copper alloy. **Crimp connection.**

POAG-WB6DIN

T-POAG6



Order No.	Type	Connectable conductor cross-section	Outer diameter	Insulation		Color
15.0010	POAG-KBT6DIN	4.0 mm² / 6.0 mm²	Ø 5.9 mm	TPE	Ni TÜV[1)]	24

Component parts

15.5004-24	T-POAG6	Insulator
01.0404	POAG-WB6DIN	Socket

MA

Assembly instructions MA016

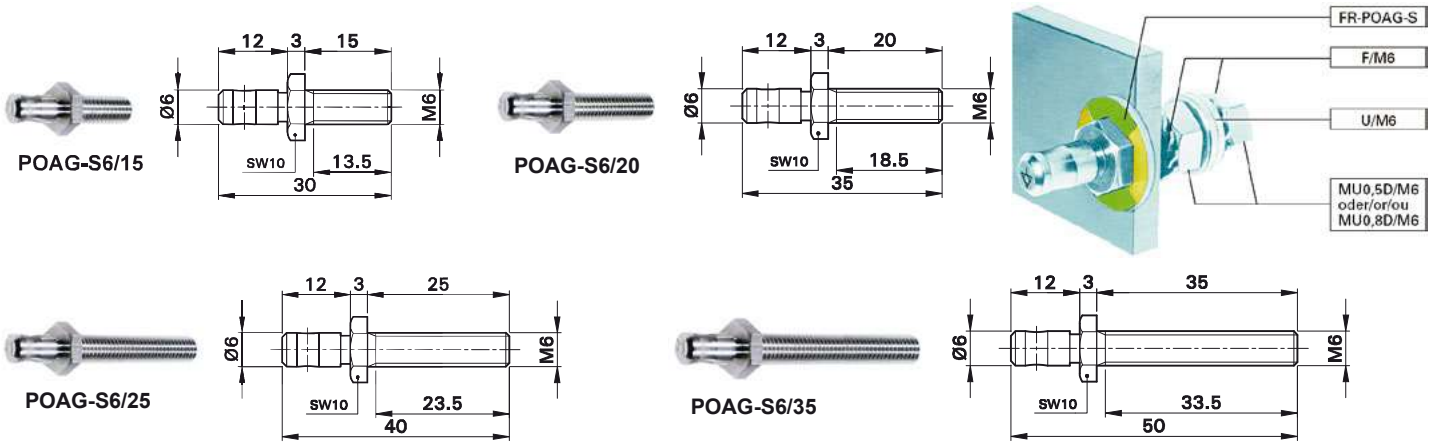
www.staubli.com/electrical

[1)] These parts have been tested by TÜV Rheinland. Certificate no. R 60116228

POAG-S6/...

Ø 6 mm plugs made of nickel-plated brass, to screw into instruments, beds or wall rails for potential equalization. Delivered in four standard lengths, other lengths on request.

The assembly material is not supplied!



Order No.	Type	Tightening torque	
04.0056	POAG-S6/15	max. 3 Nm	Ni TÜV[1)]
04.0057	POAG-S6/20	max. 3 Nm	Ni TÜV[1)]
04.0058	POAG-S6/25	max. 3 Nm	Ni TÜV[1)]
04.0059	POAG-S6/35	max. 3 Nm	Ni TÜV[1)]

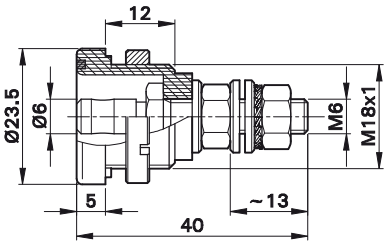
Assembly material

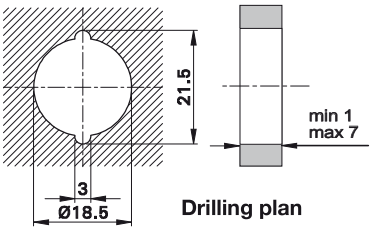
14.5010	FR-POAG-S	Color code washer
08.0704	F/M6	Serrated lock washer (DIN 6798)
08.0501	MU0,5D/M6	Nut (DIN 439)
08.0502	MU0,8D/M6	Nut (DIN 934)
08.0601	U/M6	Washer (DIN 125)

[1)] These parts have been tested by TÜV Rheinland.
Certificate no. R 60116228

POAG-ID6

A black colored panel terminal with a green-yellow colored ring and a built-in plug POAG-S6/25, nickel-plated according to DIN standard. Suitable for mounting in flushtype boxes.





Drilling plan

MA

Assembly instructions MA045

www.staubli.com/electrical

Order No.	Type	Insulation		Color
14.0007	POAG-ID6	POM	Ni TÜV[1)]	20

Supplied component parts

14.5007	IS-POAG	Insulation housing
14.5005	MUID/M18x1	Ring nut, nickel-plated
08.0502	MU0,8D/M6	2 nuts (DIN 934)
08.0601	U/M6	3 washers
08.0704	FM/6	Serrated lock washer (DIN 6798)
14.5004-20	FR6	Color code washer

Accessories

14.5008	SS6	Socket spanner

POAG-K6FS/VMB3/KBT6DIN/100

Highly flexible green-yellow extension lead with triple socket for potential equalization. Fitted at one end with right-angled female plug with spring-loaded MULTILAM (type POAG-KBT6DIN), other end 3 terminals POAG-ID6. Contact parts in nickel-plated brass, MULTILAM of socket in gold-plated hard copper alloy.

Order No.	Type	Lead cross section		Lead lengths L [cm]	Color
15.2017-100	POAG-K6FS/VMB3/KBT6DIN/100	6.0 mm²	Ni PVC TÜV[1)]	100	20

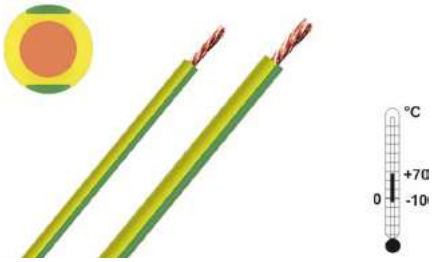
[1)] These parts have been tested by TÜV Rheinland.
Certificate no. R 60116228

Multistrand wires for medical applications

FLEXI-S/POAG-HK...

Highly flexible, reinforced PVC insulated stranded wire. Green-yellow insulation. Super-fine strand, bright-soft, tightly twisted.

Typical Application: Potential equalization, e.g. in the medical engineering field.



Order No.	Type	Nominal cross section	Strand design	Weight of cable	Conductor diameter	Thickness insulation wall	Outer diameter	Rated voltage	Test voltage	Rated current	*Colors
	PVC	mm^2	n × Ø mm	kg/km	mm	mm	mm	V	VAC	A	
15.2010-□20	FLEXI-S/POAG-HK4	4.0	1036 × 0.07	52	3.0	0.90	4.8	600	2500	42	20
15.2015-□20	FLEXI-S/POAG-HK6	6.0	1548 × 0.07	80	3.8	1.05	5.9	600	2500	54	20

If you are interested in our full range of “Cables and multistrand wires”, please ask for a copy of our main catalog!