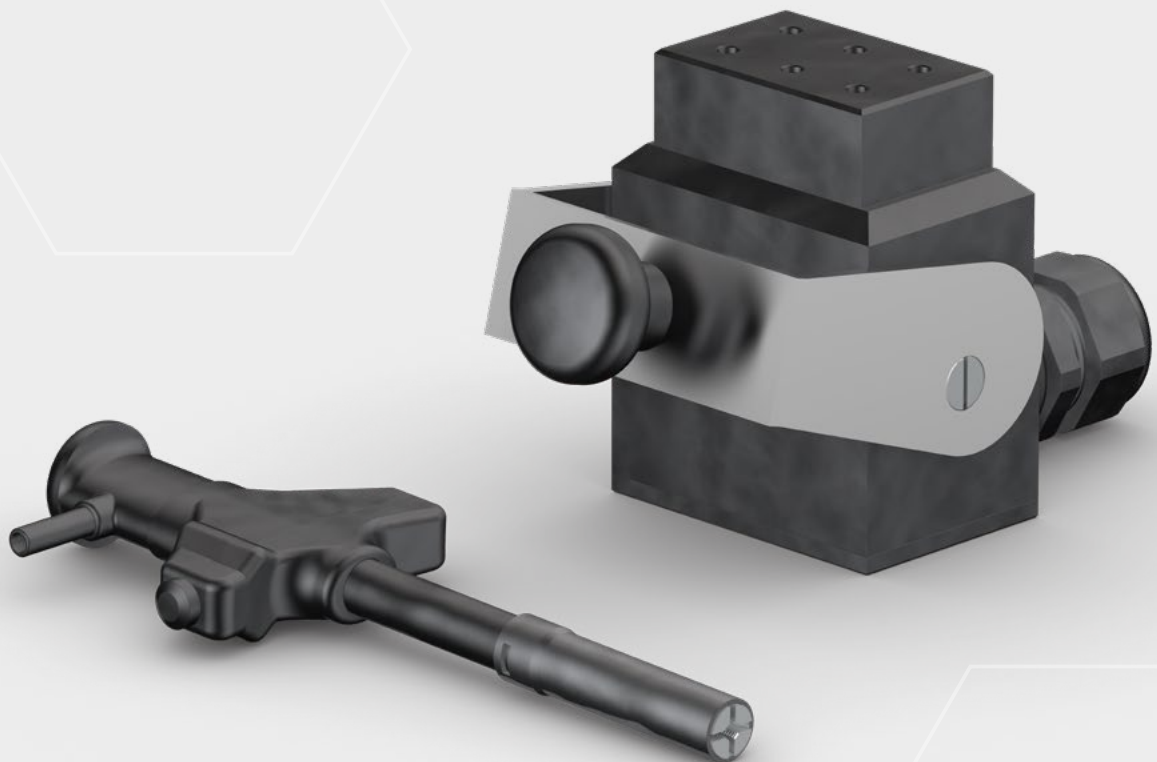


Motor terminal plug Main catalog

Motorline | Industrial Connectors



STÄUBLI ELECTRICAL CONNECTORS

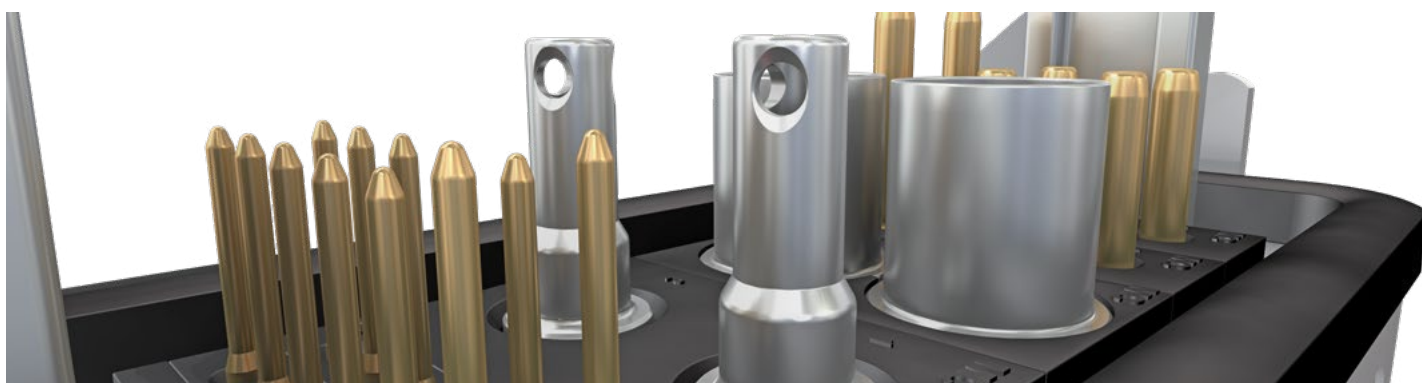
Long-term solutions – Expert connections



Stäubli Electrical Connectors is a leading international manufacturer of high-quality electrical connector systems. We are part of the Stäubli Group which offers mechatronics solutions for electrical connectors, liquid and gas couplings, robots and textile machinery.

Stäubli develops, produces, sells and maintains products for markets with high productivity standards. As recognized specialists, our focus is always on solutions and customers. Many new developments got their start here and have begun to make their way around the world.

Businesses and customers count on our commitment and our active support when dealing with unusual problems. With us, you are entering into a long-term partnership built on reliability, dynamism, and exceptional quality in both products and services.



Applications and advantages



Motor terminal plugs from Stäubli Electrical Connectors for quick connection of electric motors in test configurations.

Developed for fast, secure connection of threaded bolts on motor terminal boards of various diameters. Prefabricated single-collet pliers with leads and inserts with special thread upon request.

- Available for a variety of thread sizes
- Single-collet pliers for flexible connection
- Fast, easy connection of different leads (depending on variant, screw connection or 6 mm socket with locking device or 4 mm safety plugs)
- Wide selection of different designs for use in many different applications

Content

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Page 8	Motor terminal plugs MK4 <ul style="list-style-type: none">▪ 20 A, 600 V / 1000 V, M4
Page 9	Motor terminal plugs MK5 <ul style="list-style-type: none">▪ 30 A, 1000 V, M5
Page 10	Motor terminal plugs MK6 <ul style="list-style-type: none">▪ 40 A, 1000 V, M6
Page 11	Motor terminal plugs MK8 <ul style="list-style-type: none">▪ 55 A, 1000 V, M8
Page 12	Motor terminal plugs MK10 <ul style="list-style-type: none">▪ 70 A, 1000 V, M10
Page 13	Screw-on adapters for threaded bolts <ul style="list-style-type: none">▪ GBA...▪ GBSA/M...
Page 15	Single-collet pliers <ul style="list-style-type: none">▪ GRIP-ESZ▪ ESZ...
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General information

Color code

For those items available in various colors, replace the asterisk "*" with the appropriate color code.

20	green-yellow	26	violet
21	black	27	brown
22	red	28	grey
23	blue	29	white
24	yellow	33	transparent
25	green		

Changes / Provisos

All data, illustrations and drawings in the catalog have been carefully checked. They are in accordance with our experience to date, but no responsibility can be accepted for errors.

We also reserve the right to make modifications for design and safety reasons. When designing equipment incorporating our components, it is therefore advisable not to rely solely on the data in the catalog but to consult us to make sure this information is up to date. We shall be pleased to advise you.

Copyright

The use of this catalog for any other purpose, in whatever form, without our prior written consent is not permitted.

RoHS ready

Directive 2011/65/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Symbols



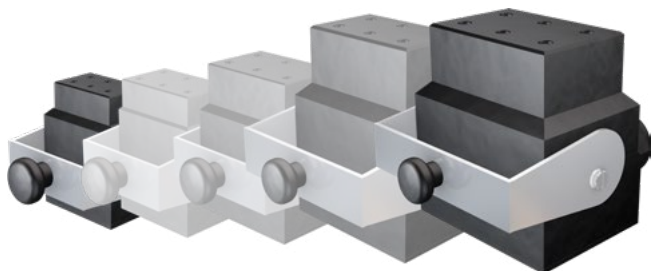
Before use, please read the enclosed user information i000



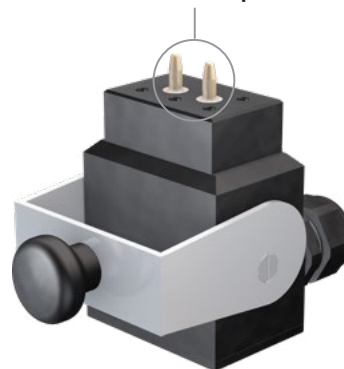
The assembly instruction MA000 is available for this product

Introduction Motor terminal plugs MK...

5 standard models



with 2 earth pins



The **five standard sizes** MK4, MK5, MK6, MK8, and MK10 of the motor terminal plug correspond to the connection thread on the motor (M4, M5, M6, M8, and M10). Due to the different threaded bolt spacings, there

are different types available for each size. Further types are available on request. The motor terminal plugs can be fitted with either one or two leading **earth pins**. They make contact with the fixing bolts of the

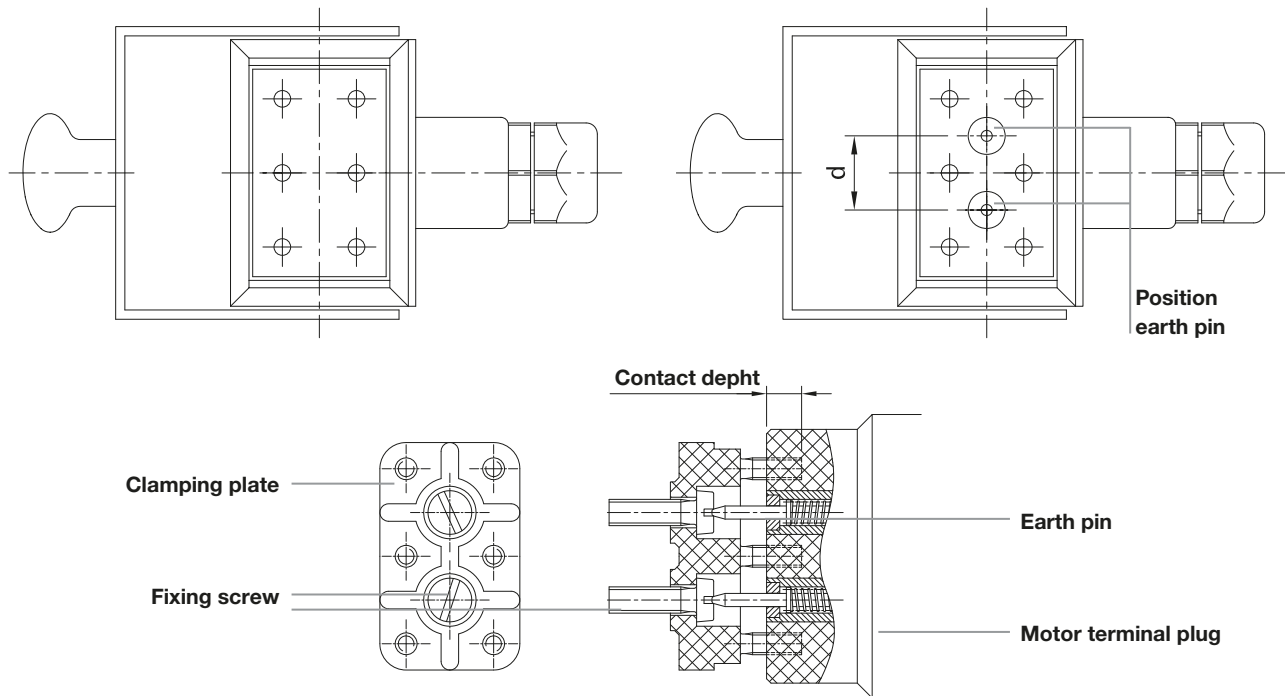
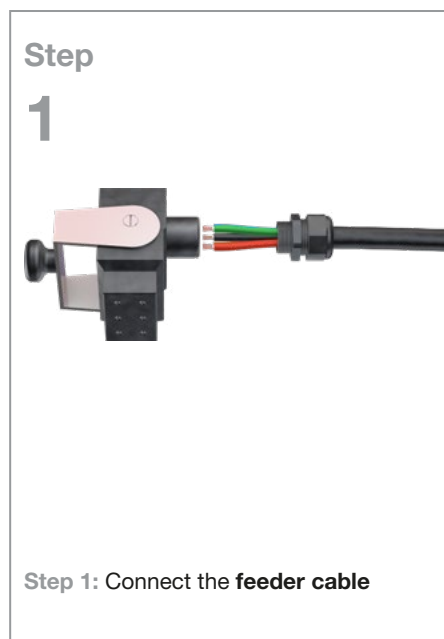
terminal board which must be connected with the machine housing.

Type code example:

MK4-6.15/M25 2PE

MK4-6.15/M25 2PE	Motor terminal board
MK4-6.15/M25 2PE	Bolt thread size (M)
MK4- 6.15 /M25 2PE	Number of threaded bolts
MK4-6. 15 /M25 2PE	Spacing of threaded bolts (mm)
MK4-6.15/ M25 2PE	Cable gland
MK4-6.15/M25 2PE	Number of earth pins

Simple Assembly in 3 Steps



Note

Earthing equipment based on the standard EN 60204-1:2006 (Safety of machinery)

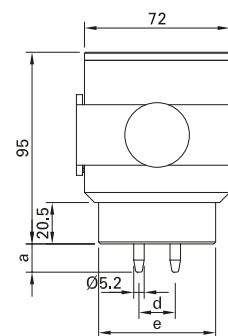
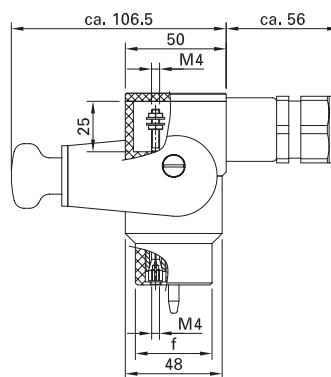
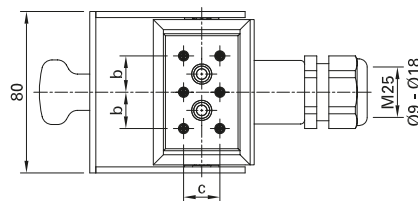
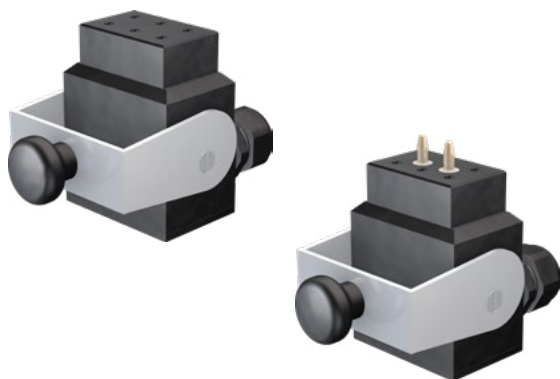


Assembly instructions MA004

www.staubli.com/electrical

Motor terminal plug MK4-6...

For 6-pole terminal boards with M4 connection. The terminal plug housing is made from robust plastic.



Standard		With earth pins										
Order no.	Type	Order no.	Type	Length of earth pin (mm) ¹⁾	Spring deflection of leading earth pin (mm)	Dimensions (mm)					Rated voltage	Rated impulse voltage
						a	b	c	d	e		
10.0741	MK4-6.15/M25	10.0760	MK4-6.15/M25 2PE	14	11	15	15	15	48	32	1000/600 ²⁾	6/4 ²⁾
10.0742	MK4-6.16/M25	10.0761	MK4-6.16/M25 2PE			16	16	16	48	32		
10.0743	MK4-6.17/M25	10.0762	MK4-6.17/M25 2PE			17	17	17	48	32		
10.0744	MK4-6.18/M25	10.0763	MK4-6.18/M25 2PE			18	18	18	58	38		
10.0745	MK4-6.20/M25	10.0764	MK4-6.20/M25 2PE			20	20	20	58	38		
10.0746	MK4-6.22/M25	10.0765	MK4-6.22/M25 2PE			22	22	22	66	42		
10.0747	MK4-6.25/M25	10.0766	MK4-6.25/M25 2PE			25	25	25	66	42		

Technical data

Rated voltage	see table above
Overvoltage category/Pollution degree	CATII/2
Rated current	20 A
Threaded bolt connection	M4
Contact depth of threaded bolt	4 mm-7 mm ³⁾
Insulation material	POM

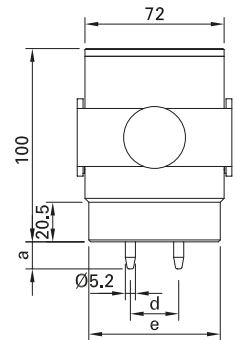
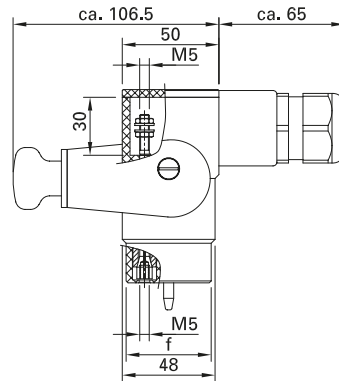
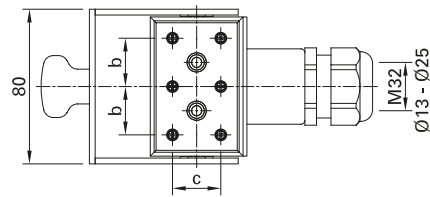
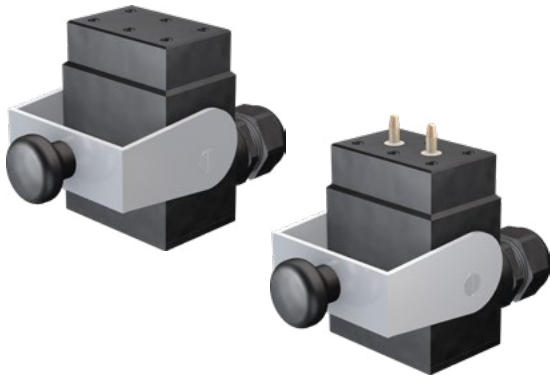
¹⁾ Other lengths on request.

²⁾ The lower value applies to **MK4-6.15/M25 2PE (System voltage 400/690 V)**

³⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed. The free length of bolt thread can be adjusted with nuts and washers.

Motor terminal plug MK5-6...

For 6-pole terminal boards with M5 connection. The terminal plug housing is made from robust plastic.



Standard		With earth pins								
Order no.	Type	Order no.	Type	Length of earth pin (mm) ¹⁾	Spring deflection of leading earth pin (mm)	Dimensions (mm)				
						a	b	c	d	e
10.0748	MK5-6.18/M32	10.0767	MK5-6.18/M32 2PE	14	11	18	18	18	58	38
10.0749	MK5-6.20/M32	10.0768	MK5-6.20/M32 2PE			20	20	20	58	38
10.0750	MK5-6.23/M32	10.0769	MK5-6.23/M32 2PE			23	23	23	66	42
10.0751	MK5-6.24/M32	10.0770	MK5-6.24/M32 2PE			24	24	24	66	42
10.0752	MK5-6.25/M32	10.0771	MK5-6.25/M32 2PE			25	25	25	68	44

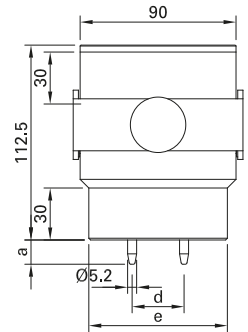
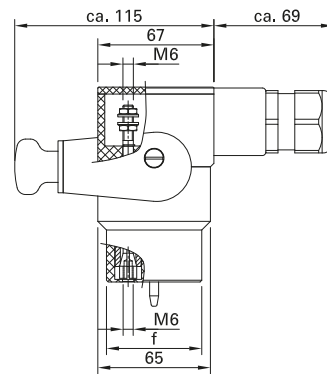
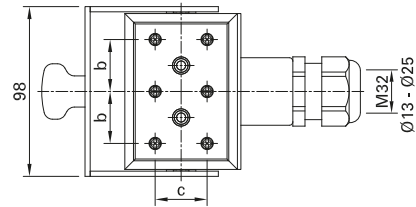
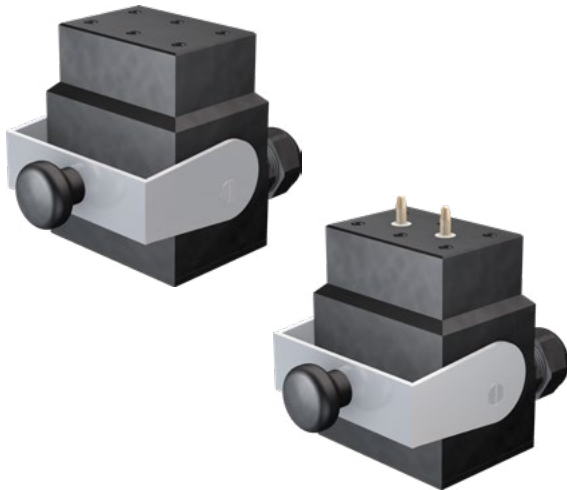
Technical data	
Rated voltage	1000 V
Overvoltage category/Pollution degree	CATII/2
Rated current	30 A
Threaded bolt connection	M5
Contact depth of threaded bolt	4,5 mm-8 mm ²⁾
Insulation material	POM
Rated impulse voltage	6 kV

¹⁾ Other lengths on request.

²⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed. The free length of bolt thread can be adjusted with nuts and washers.

Motor terminal plug MK6-6...

For 6-pole terminal boards with M6 connection. The terminal plug housing is made from robust plastic.



Standard		With earth pins									
Order no.	Type	Order no.	Type	Length of earth pin (mm) ¹⁾	Spring deflection of leading earth pin (mm)	Dimensions (mm)					
						b	c	d	e	f	
10.0753	MK6-6.25/M32	10.0772	MK6-6.25/M32 2PE	14	11	25	25	25	80	55	
10.0754	MK6-6.28/M32	10.0773	MK6-6.28/M32 2PE			28	28	28	80	55	
10.0755	MK6-6.30/M32	10.0774	MK6-6.30/M32 2PE			30	30	30	80	55	

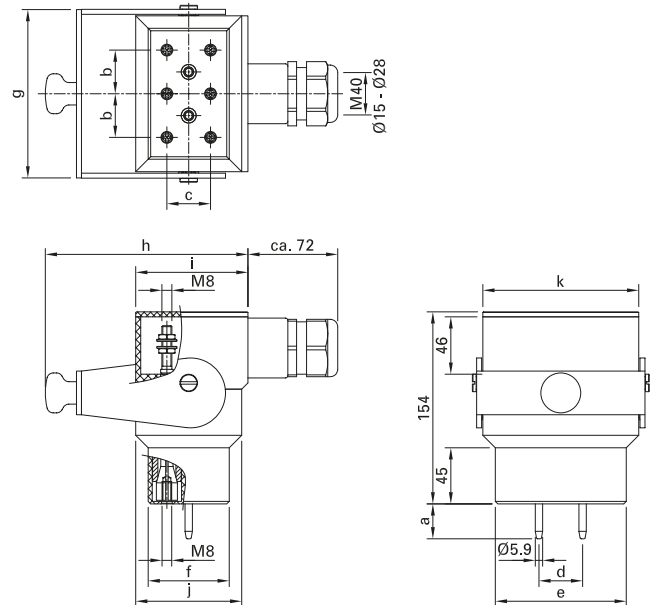
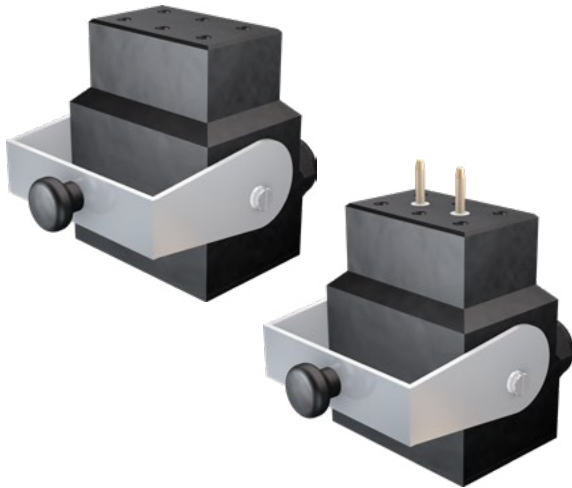
Technical data	
Rated voltage	1000 V
Overvoltage category/Pollution degree	CATII/2
Rated current	40 A
Threaded bolt connection	M6
Contact depth of threaded bolt	5 mm-9 mm ²⁾
Insulation material	POM
Rated impulse voltage	6 kV

¹⁾ Other lengths on request.

²⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed. The free length of bolt thread can be adjusted with nuts and washers.

Motor terminal plug MK8-6...

For 6-pole terminal boards with M8 connection. The terminal plug housing is made from robust plastic.



Standard		With earth pins													
Order no.	Type	Order no.	Type	Length of earth pin (mm) ¹⁾	Spring deflection of leading earth pin (mm)	Dimensions (mm)									
						a	b	c	d	e	f	g	h	i	j
10.0756	MK8-6.30/M40	10.0775	MK8-6.30/M40 2PE	28	11	30	30	30	105	65	135,4	162,5	90	85	125
10.0757	MK8-6.35/M40	10.0776	MK8-6.35/M40 2PE			35	35	35	105	65	135,4	162,5	90	85	125
10.0758	MK8-6.42/M40	10.0777	MK8-6.42/M40 2PE			42	42	42	125	85	155,4	172,5	110	105	145

Technical data

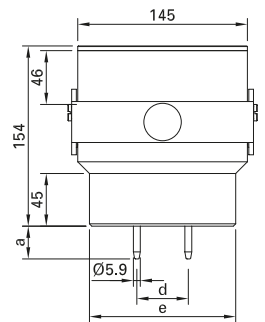
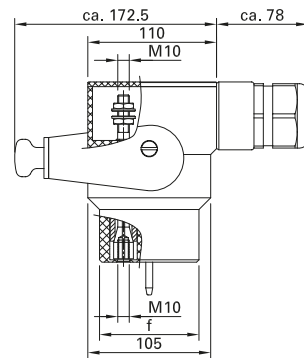
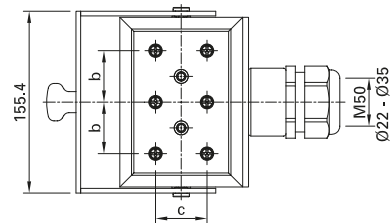
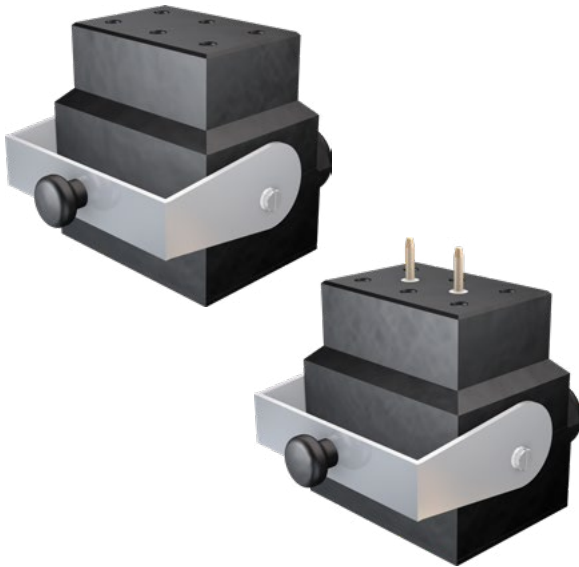
Rated voltage	1000 V
Overvoltage category/Pollution degree	CATII/2
Rated current	55 A
Threaded bolt connection	M8
Contact depth of threaded bolt	7 mm-17 mm ²⁾
Insulation material	POM
Rated impulse voltage	6 kV

¹⁾ Other lengths on request.

²⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed. The free length of bolt thread can be adjusted with nuts and washers.

Motor terminal plug MK10-6...

For 6-pole terminal boards with M10 connection. The terminal plug housing is made from robust plastic.



Standard		With earth pins								
Order no.	Type	Order no.	Type	Length of earth pin (mm) ¹⁾	Spring deflection of leading earth pin (mm)	Dimensions (mm)				
				a		b	c	d	e	f
10.0759	MK10-6.44/M50	10.0778	MK10-6.44/M50 2PE	28	11	44	44	44	125	85

Technical data	
Rated voltage	1000 V
Overvoltage category/Pollution degree	CATII/2
Rated current	70 A
Threaded bolt connection	M10
Contact depth of threaded bolt	8 mm-17 mm ²⁾
Insulation material	POM
Rated impulse voltage	6 kV

¹⁾ Other lengths on request

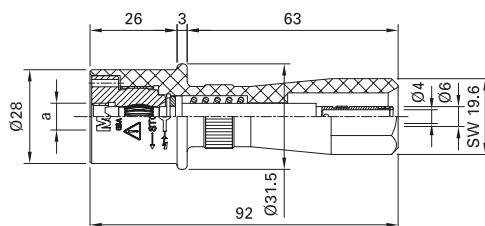
²⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed. The free length of bolt thread can be adjusted with nuts and washers.

Screw-on adapters and Single-collet pliers

Screw-on adapter for threaded bolts GBA...

A rapid and safe voltage and current adapter for M8, M10, M12, M14, M16 threaded bolts and motor terminal boards.

The connection is made by means of a $\varnothing 6$ mm socket with locking device or a $\varnothing 4$ mm safety plug.



Order no.	Type	With insert for threaded bolts	Connection \varnothing
		a	mm
10.1000	GBA8	M8	4/6
10.1001	GBA10	M10	4/6
10.1002	GBA12	M12	4/6
10.1003	GBA14	M14	4/6
10.1004	GBA16	M16	4/6

Individual parts

E-GBA8



E-GBA10



E-GBA12



E-GBA14



E-GBA16



G-GBA8-16



SS-GBA8-16



Order no.	Type	Description
10.1015	E-GBA8	GBA-Insert M8
10.1016	E-GBA10	GBA-Insert M10
10.1017	E-GBA12	GBA-Insert M12
10.1018	E-GBA14	GBA-Insert M14
10.1019	E-GBA16	GBA-Insert M16
10.1010	G-GBA8-16	GBA without insert
10.1030	SS-GBA8-16	Tool

Technical data

Rated voltage	600 V
Rated current	max. 90 A
Ambient temperature range	-40°C...+100°C
Overvoltage category	CATIII
Insulation material	POM



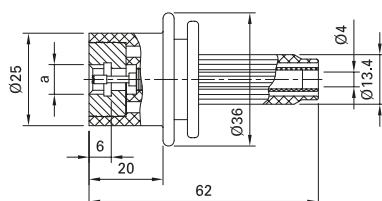
User information **i301**

www.staubli.com/electrical

Screw-on adapter for threaded bolts GBSA/M...

A rapid and safe contact adapter for M8, M12 and M16 threaded bolts. Contact is

made by a spring loaded tip. The connection is made by means of a $\varnothing 4$ mm safety plug.



Order no.	Type	Dimensions	*Colors
		a	
20.2040-*	GBSA/M8	M8	20 21 22 23 24 25 26 27 28 29
20.2000-*	GBSA/M12	M12	20 21 22 23 24 25 26 27 28 29
20.2010-*	GBSA/M16	M16	20 21 22 23 24 25 26 27 28 29

Technical data

Rated voltage	1000 V
Rated current	1 A
Ambient temperature range	-15°C...+80°C
Overvoltage category	CATIV
Insulation material	PA



Spring loaded tip

* Add the desired color code

Single-collet pliers GRIP-ESZ

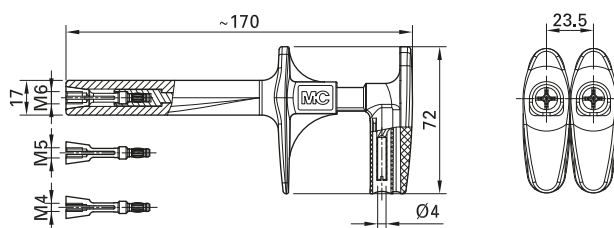
Single-collet pliers for fast and safe contacting to M4, M5 or M6 threaded bolts, for example on motor connections. Thread inserts are replaceable and available separately. The current depends on the thread insert.

- GRIP-ESZ... with a fixed Ø 4 mm socket in the pressure section, to fit spring-loaded Ø 4 mm plugs with rigid insulating sleeve
- GRIP-ESZ/XM...-419 with assembled cable with in-line Ø 4 mm MULTILAM plug and rigid insulating sleeve.

Note:

The single-collet pliers may only be connected or disconnected when the power is off.

GRIP-ESZ...



Order no.	Type	Rated voltage/current	Pliers insert	Thread	Contact depth of threaded bolt ¹⁾		Colors
					mm		
66.9446-21	GRIP-ESZ4	1000 V, CAT IV / 20 A	Z4	M4	3 – 6	CE	21
66.9447-21	GRIP-ESZ5	1000 V, CAT IV / 30 A	Z5	M5	3 – 6	CE	21
66.9448-21	GRIP-ESZ6	1000 V, CAT IV / 32 A	Z6	M6	3 – 6	CE	21
66.9445-21	GRIP-ESZ	1000 V, CAT IV / max. 32 A	without	–	3 – 6	CE	21

Individual parts, see page 17

¹⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed



User information **i112**

www.staubli.com/electrical



Assembly instructions **MA041**

www.staubli.com/electrical

Single-collet pliers ESZ...

Swift and safe connection of M4, M5, and M6 threaded bolts to motor terminal boards. The flexible construction of the single-collet pliers allows an easy connection to closely spaced threaded bolts.

Lead connection:

- Ø 4 mm socket (B) for ESZ...-B4 pliers
- Screw connection (S) for ESZ... pliers for customized configurations

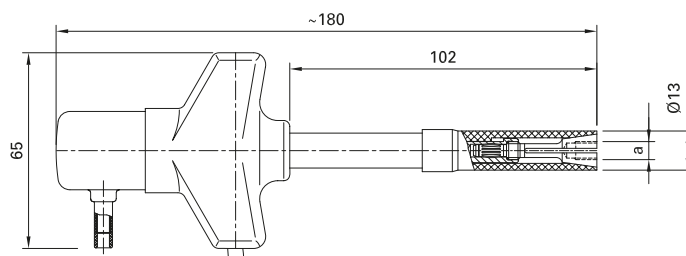
Note:

The single-collet pliers may only be connected or disconnected when the power is off.

ESZ...-B4
E-ESZ456-B4



ESZ...
E-ESZ456



Technical data

Ambient temperature range	-15°C...+80°C
Material metal parts	CuZn/CuBe/Ag
Insulation material	PA/PC

Order no.	Type	Collet for threaded bolt	Rated current	Contact depth of threaded bolt ¹⁾	Conductor cross section Cu	Lead connection	Rated voltage	Overvoltage category	Test voltage 50Hz 1min.	Insulation coordination
		a	A	mm	mm ²		V		kV	kV/2
10.0811	ESZ4-B4	Z4/M4	20	3 – 6	–	B	600	CATIII	5.2	6
10.0812	ESZ5-B4	Z5/M5	30		–					
10.0813	ESZ6-B4	Z6/M6	32		–					
10.0801	ESZ4	Z4/M4	20	3 – 6	4.0	S	600	CATII	3.5	4
10.0802	ESZ5	Z5/M5	30		4.0					
10.0803	ESZ6	Z6/M6	32		6.0					
10.0810	E-ESZ456-B4	²⁾	–	–	–	B	600	CATIII	5.2	6
10.0800	E-ESZ456	²⁾	–	–	–	S	600	CATII	3.5	4

Individual parts

Z4/M4



Z5/M5



Z6/M6



ESZ-WZ



10.0804	Z4	–	20	Collet M4
10.0805	Z5	–	30	Collet M5
10.0806	Z6	–	32	Collet M6
10.0807	ESZ-WZ	–	–	Cross-slotted screw-driver

Complete Sets

Order no.	Type	Set consisting of
10.0814	ESZ-B4-SET	10.0804, 10.0805, 10.0806, 10.0807, 10.0810
10.0808	ESZ-SET	10.0800, 10.0804, 10.0805, 10.0806, 10.0807



Assembly instructions MA005, MA041

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User information i302

www.staubli.com/electrical

¹⁾ For a faultless function of the terminal plug, the defined plug-in depth has to be observed

²⁾ Without collet

Technical information

Rated current (IEC 61984) (VDE 0627)

Current value determined by Stäubli which the connector can carry continuously (without interruption) and simultaneously through all its contacts wired with the largest specified conductor, at an ambient temperature of 40 °C, without the upper limiting temperature being exceeded.

Rated voltage (IEC 61984)

Voltage assigned by Stäubli to the connector and to which the operation and performance characteristics refer.

Note: A connector may have more than one rated voltage value.

Test voltage-Power frequency withstand voltage

The voltage withstood by a plug connector under predetermined test conditions, without breakdown or flashover.

Insulation coordination according to IEC 60664-1 (VDE 0110-1)

The values in the tables indicate the rated surge voltage in kV and the degree of pollution.

Screw terminations

When flexible or highly flexible leads are connected, use wire end ferrules.

Lead and cable assemblies

Stäubli also manufactures cable assemblies complete with connectors on request.

Symbol	Material description	Temperature
PA	Polyamide	-40°C...+80°C
POM	Polyoxymethylene	-40°C...+100°C
PVC	Polyvinyl chloride	-15°C...+60°C
PC	Polycarbonate	-80°C...+125°C

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ESZ4-B4	17
ESZ5	17
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GBA8	13
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