

EvoTrak lite

Modular connectors for medium power applications

Railway | Modular connectors EvoTrak

EN



EVOTRAK LITE

Modular connectors for medium power railway applications



For applications requiring touch protection, EvoTrak lite offers IP2X ratings, up to 1000 V, as a standard for male contacts and as an option for female contacts.

Thanks to Stäubli's expertise, we can offer a robust modular metal connector that meets the size constraints of new rolling stock perfectly.

Whatever the type of rolling stock, the modular metal connector concept offered by the EvoTrak lite range meets the requirements of rolling stock market:

- Railway standards
- Harsh environment
- Compactness
- Easy mounting and maintenance

EMC Protection

EvoTrak lite is designed with a patented technology for shielded cable applications, eliminating the need for special EMC cable glands.

IP2X Security

For applications requiring touch protection, EvoTrak lite offers IP2X ratings, up to 1000 V, as a standard for male contacts and as an option for female contacts (see page 9).

Tool-free contact mounting:

EvoTrak lite features a new concept for contact retention. The clip is integrated directly into the insert design. With this new feature, additional retaining circlips, and other mounting tools are no longer required.

The EvoTrak lite, compact, rugged and flexible solution is mainly intended for the following rolling stock applications:

- Battery interfaces
- Motor connections
- Auxiliary interface power supplies
 - HVAC
 - Converter
 - Transformer
- Inter-car solutions
 - On roof connections
 - Under car connections
- Car/bogie interfaces

Thanks to the unique and proven MULTILAM Technology, our EvoTrak lite connectors guarantee long life and reliability in the most demanding applications.

Technical data

Technical data Railway applications – IEC 62847	
Number of poles	1 to 4
Nominal current/Temperature rise	up to 300 A/50 K
Nominal voltage	up to 1500 V
Test voltage (r.m.s withstand voltage)	4.6 kV
Cable cross section	10 mm² – 70 mm²
Degree of protection, mated – IEC 60529	IP66/IP67
Personal Safety, unmated - IEC 60529	IP2X (up to 1000 V)
Clearance and creepage distances – EN 50124-1 Overvoltage category and pollution degree – IEC 62497-1	OV3 – PD3
Fire Protection – EN 45545-2	HL3 R22/R23
Type of termination	Crimping and screwing
Vibrations and shocks – EN 61373	Category 2 – bogie mounted
Mating cycles	500
Material Inserts Contacts Screws Metal parts	PA (UL 94V0) Cu (Ag) Stainless steel Zamak
Operating temperature	-40 °C ... +120 °C
Ambient temperature	-50 °C ... +70 °C
Salt spray test – IEC 62847	240 hours

Norms	
Railway applications – Rolling stock – Electrical connectors, requirements and test methods	IEC 62847
Railway rolling stock – Electrical connectors – Generalities.	NF F 61030
Connectors – Safety requirements and tests	EN 61984
Connectors for electronic equipment – Tests and measurements – Part 5-2: Current-carrying capacity tests; Test 5b: Current-temperature derating	EN 60512-5
Railway applications – Insulation coordination – Part 1: basic requirements – Clearances and creepage distances for all electrical and electronic equipment	EN 50124-1
Railway applications – Fire protection on railway vehicles. Part 2: Requirements for fire behaviour of materials and components	EN 45545-2
Railway applications – Rolling stock equipment – Shock and vibration tests	EN 61373



Assembly instructions MA425

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Required tools

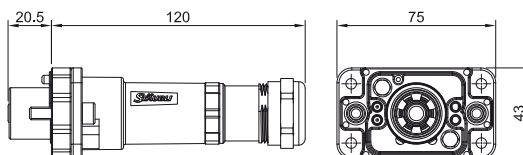
For the required tools please refer to MA425

COMBINATIONS

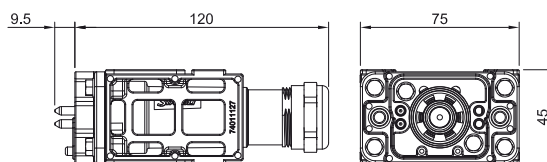
EvoTrak lite 1 pole

Connectors will be delivered without contacts, cable glands and accessories.

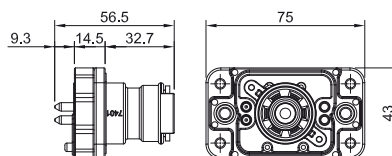
LITE-S-M-1P



LITE-S-F-1P



LITE-X-F-1P



Order No.	Type	Description
74100114	LITE-S-M-1P	EvoTrak lite mobile straight part male 1 pole
74101113	LITE-S-F-1P	EvoTrak lite fixed straight part female 1 pole
74100213	LITE-X-F-1P	EvoTrak lite panel receptacle female 1 pole



Contacts, see page 8

Cable glands, see page 9

Accessories, see page 9



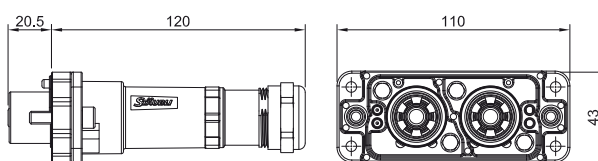
Assembly instructions MA425

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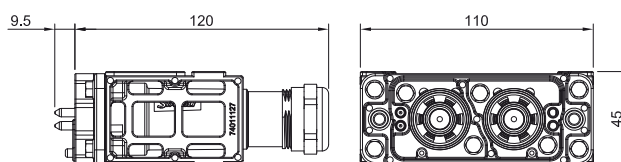
EvoTrak lite 2 poles

Connectors will be delivered without contacts, cable glands and accessories.

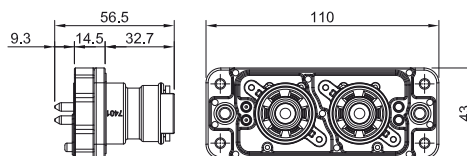
LITE-S-M-2P



LITE-S-F-2P



LITE-X-F-2P



Order No.	Type	Description
74100124	LITE-S-M-2P	EvoTrak lite mobile straight part male 2 poles
74101123	LITE-S-F-2P	EvoTrak lite fixed straight part female 2 poles
74100223	LITE-X-F-2P	EvoTrak lite panel receptacle female 2 poles



Contacts, see page 8

Cable glands, see page 9

Accessories, see page 9



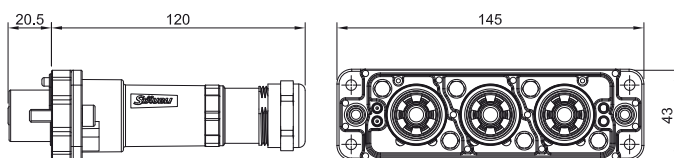
Assembly instructions MA425

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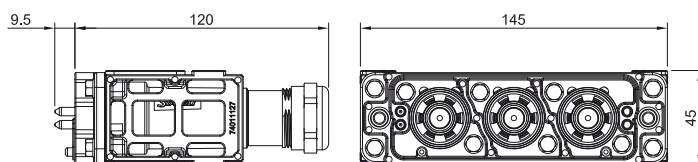
EvoTrak lite 3 poles

Connectors will be delivered without contacts, cable glands and accessories.

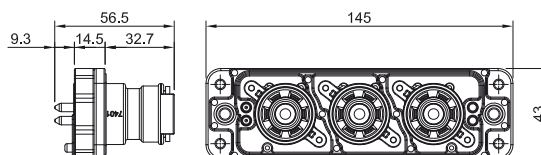
LITE-S-M-3P



LITE-S-F-3P



LITE-X-F-3P



Order No.	Type	Description
74100134	LITE-S-M-3P	EvoTrak lite mobile straight part male 3 poles
74101133	LITE-S-F-3P	EvoTrak lite fixed straight part female 3 poles
74100233	LITE-X-F-3P	EvoTrak lite panel receptacle female 3 poles



Contacts, see page 8

Cable glands, see page 9

Accessories, see page 9



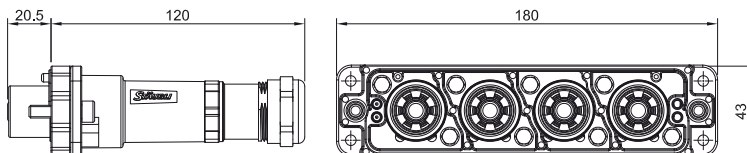
Assembly instructions MA425

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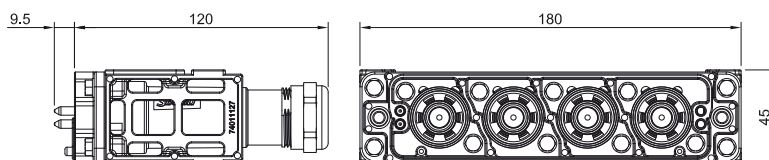
EvoTrak lite 4 poles

Connectors will be delivered without contacts, cable glands and accessories.

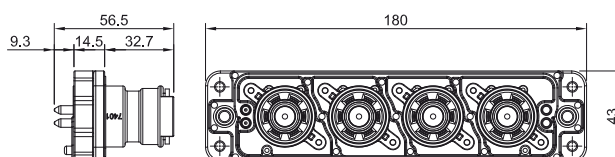
LITE-S-M-4P



LITE-S-F-4P



LITE-X-F-4P



Order No.	Type	Description
74100144	LITE-S-M-4P	EvoTrak lite mobile straight part male 4 poles
74101143	LITE-S-F-4P	EvoTrak lite fixed straight part female 4 poles
74100243	LITE-X-F-4P	EvoTrak lite panel receptacle female 4 poles



Contacts, see page 8

Cable glands, see page 9

Accessories, see page 9



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CONTACTS

Ø 10 mm contacts

Power contacts Ø 10 mm, suited for cables with cross sections from 10 mm² to 70 mm², with a maximum current capacity of 300 A. The contacts are designed for mecatraction crimping tools.

Characteristics

- Crimp or screw connection
- CU, silver plated
- IP2X touch protection for male contacts (female: optional)
- No tools needed for mounting operations

LITE-SX/CT-S10...



LITE-SX/CT-P10/...-IP2X



Order No.	Type	Socket	Pin	Cable cross section	Type of termination
19.3506 19.3520	LITE-SX/CT-P10/10-IP2X LITE-SX/CT-S10/10	x	x	10 mm ²	Crimp termination
19.3507 19.3521	LITE-SX/CT-P10/16-IP2X LITE-SX/CT-S10/16	x	x	16 mm ²	Crimp termination
19.3508 19.3522	LITE-SX/CT-P10/25-IP2X LITE-SX/CT-S10/25	x	x	25 mm ²	Crimp termination
19.3509 19.3523	LITE-SX/CT-P10/35-IP2X LITE-SX/CT-S10/35	x	x	35 mm ²	Crimp termination
19.3510 19.3524	LITE-SX/CT-P10/50-IP2X LITE-SX/CT-S10/50	x	x	50 mm ²	Crimp termination
19.3511 19.3525	LITE-SX/CT-P10/70-IP2X LITE-SX/CT-S10/70	x	x	70 mm ²	Crimp termination
19.3526	LITE-X/CT-S10/M8	x		M8	Screw termination ¹⁾

¹⁾ Fastening not included



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ACCESSOIRES

M25 Cable gland inserts – IP66/IP67

LITE/CG-...



Order No.	Type	Tightening range
19.2753	LITE/CG-N9HT	Stopper
19.2746	LITE/CG-N5HT	6 mm – 9 mm
19.2747	LITE/CG-N4HT	8 mm – 13.5 mm
19.2749	LITE/CG-N2HT	12 mm – 16 mm
19.2748	LITE/CG-N3HT	14 mm – 18 mm
19.2745	LITE/CG-N1HT	16 mm – 20 mm

IP2X retaining ring, coding pin, shielding

LITE/IP2X-S10



LITE/CP



LITE/...-SHLD



Order No.	Type	Description
19.3549	LITE/IP2X-S10	EvoTrak lite female protection IP2X
19.3548	LITE/CP	EvoTrak lite coding pin

Shielding flange, for shielded cables (please order both parts)

19.2258	LITE/CT-SHLD	EvoTrak lite shielding braid connection
19.2259	LITE/RR-SHLD	EvoTrak lite clamp for shielding braid



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TOOLS

Special tools

LITE-TO/CGM25



LITE-TO/CT



LITE-TO/CT-PSH



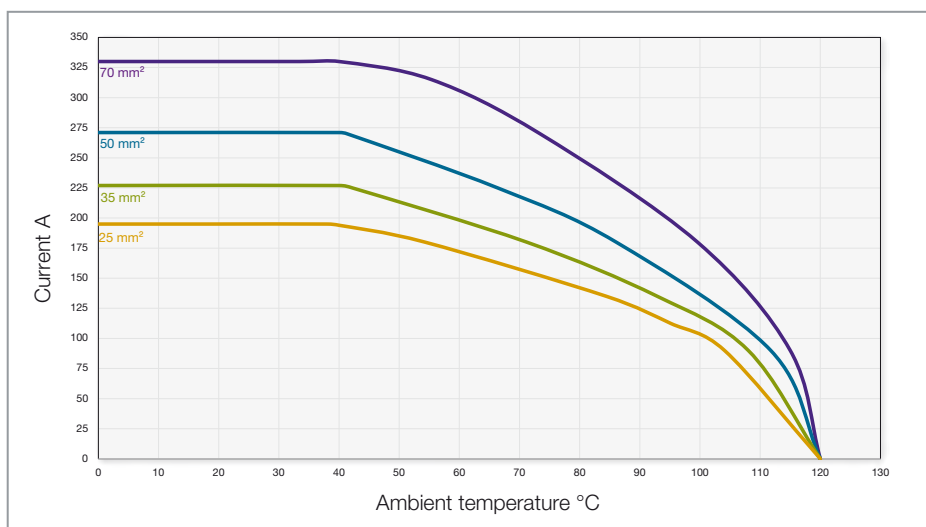
Order No.	Type	Tightening range
19.2929	LITE-TO/CGM25	Torque wrench insert for cable gland tightening
19.2916	LITE-TO/CT	Removal tool, for disassembling of the contacts
19.2917	LITE-TO/CT-PSH	Pusher, for disassembling of the contacts

TECHNICAL INFORMATION

Derating diagrams

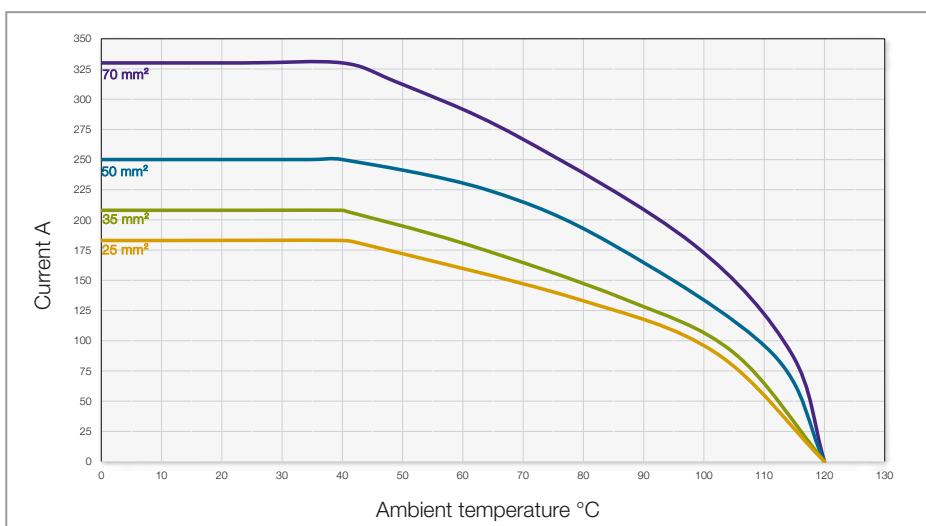
EvoTrak (1 pole)

Limiting current curve according to EN 60512-5-2 (2002)
 10 mm power contacts configuration.
 Rating factor 0.9



EvoTrak (4 poles)

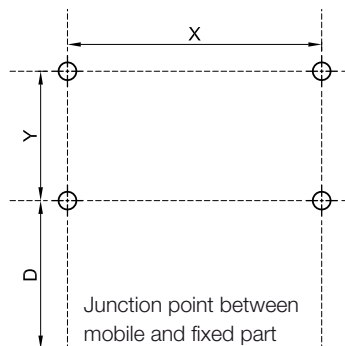
Limiting current curve according to EN 60512-5-2 (2002)
 10 mm power contacts configuration.
 Rating factor 0.9



Drilling plans

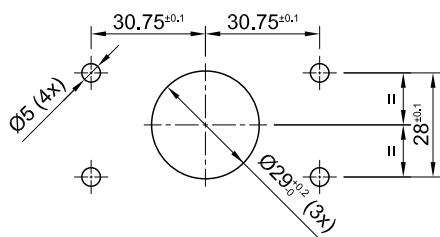
Straight version

Poles	X (mm)	Y (mm)	D (mm)
1	57 ±0.2	29 ±0.2	33.25 ±0.2
2	92 ±0.2		
3	127 ±0.2		
4	162 ±0.2		

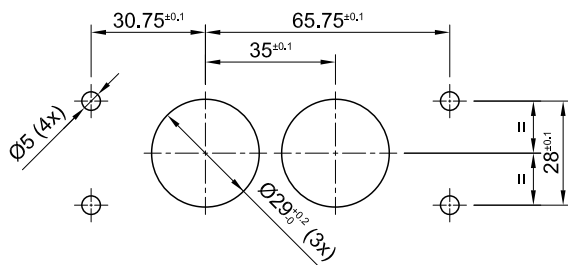


Panel receptacle version

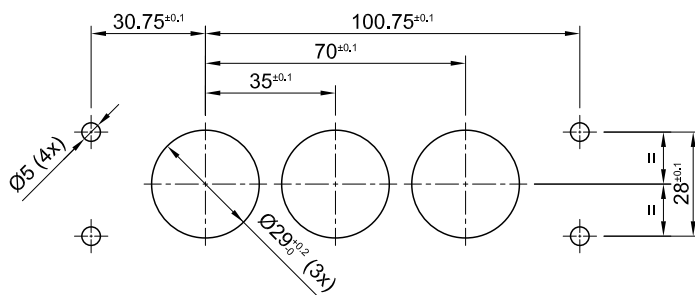
1 pole



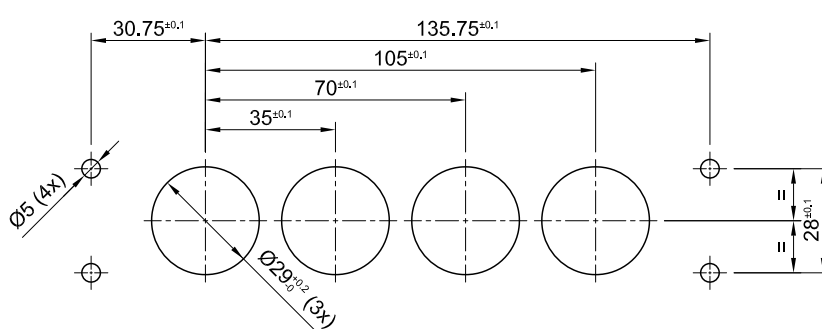
2 poles



3 poles



4 poles





● Staubli Units ○ Representatives/Agents

Global presence of the Staubli Group

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