

EvoTrak lite – Metallic connector for medium power applications Main catalog

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 330 A (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	500 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

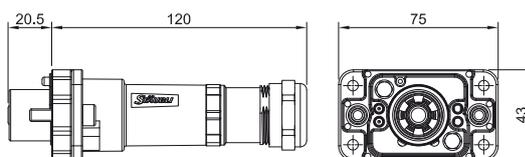
COMBINATIONS

EvoTrak lite 1 pole

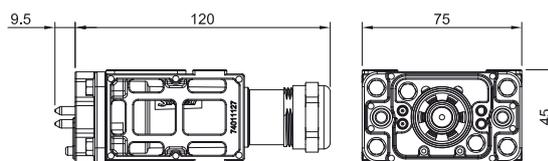
Connectors will be delivered without contacts, cable glands and accessories.

Straight configuration

LITE-S-M-1P

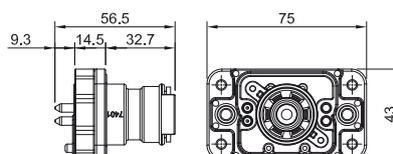


LITE-S-F-1P



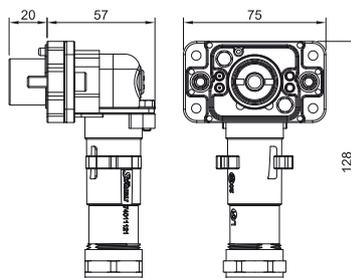
Panel configuration

LITE-X-F-1P

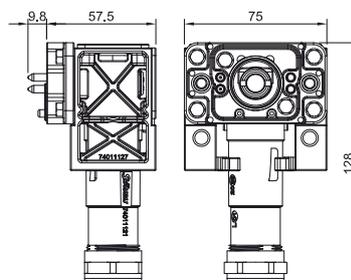


Angled configuration

LITE-B-M-1P



LITE-B-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
74100314	LITE-B-M-1P	EvoTrak lite mobile angled part male 1 pole
74101313	LITE-B-F-1P	EvoTrak lite fixed angled part female 1 pole



Contacts, see page 12

Cable glands, see page 14

Accessories, see page 14



Assembly instructions MA425

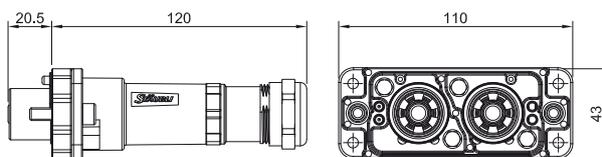
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EvoTrak lite 2 poles

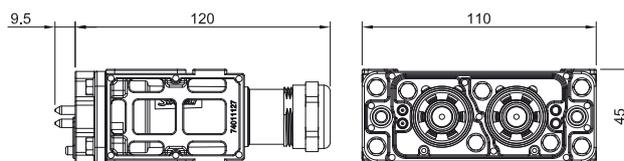
Connectors will be delivered without contacts, cable glands and accessories.

Straight configuration

LITE-S-M-2P

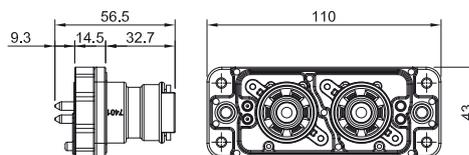


LITE-S-F-2P



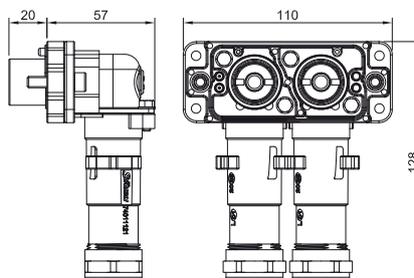
Panel configuration

LITE-X-F-2P

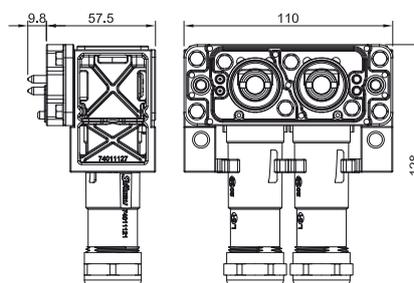


Angled configuration

LITE-B-M-2P



LITE-B-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
74100324	LITE-B-M-2P	EvoTrak lite mobile angled part male 2 poles
74101323	LITE-B-F-2P	EvoTrak lite fixed angled part female 2 poles



Contacts, see page 12

Cable glands, see page 14

Accessories, see page 14



Assembly instructions MA425

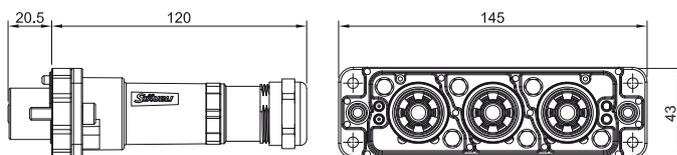
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EvoTrak lite 3 poles

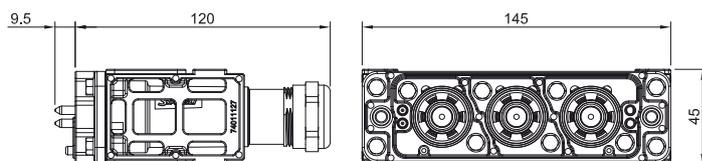
Connectors will be delivered without contacts, cable glands and accessories.

Straight configuration

LITE-S-M-3P

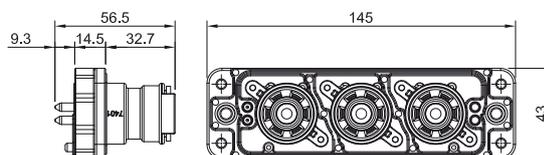


LITE-S-F-3P



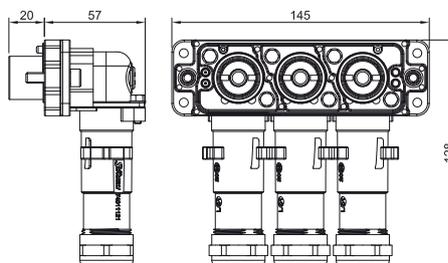
Panel configuration

LITE-X-F-3P

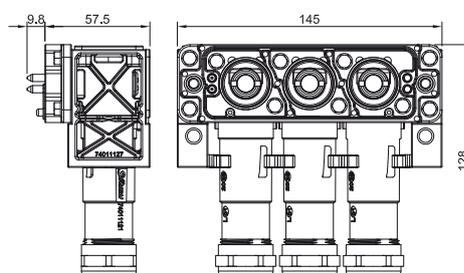


Angled configuration

LITE-B-M-3P



LITE-B-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
74100334	LITE-B-M-3P	EvoTrak lite mobile angled part male 3 poles
74101333	LITE-B-F-3P	EvoTrak lite fixed angled part female 3 poles



Contacts, see page 12

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Accessories, see page 14



Assembly instructions MA425

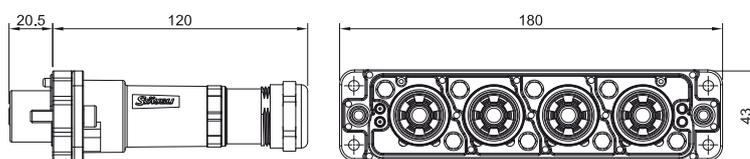
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EvoTrak lite 4 poles

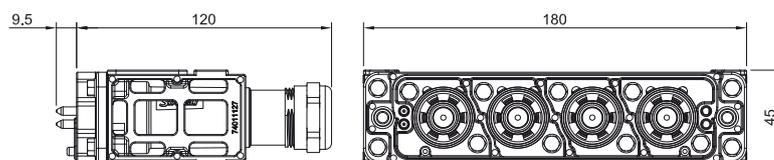
Connectors will be delivered without contacts, cable glands and accessories.

Straight configuration

LITE-S-M-4P

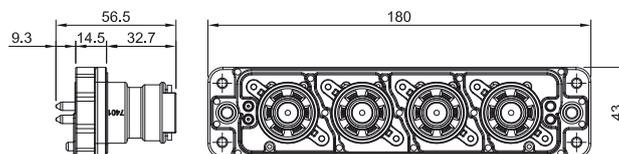


LITE-S-F-4P



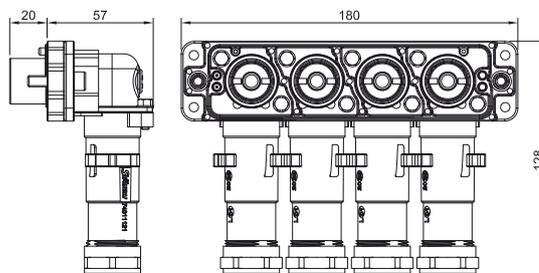
Panel configuration

LITE-X-F-4P

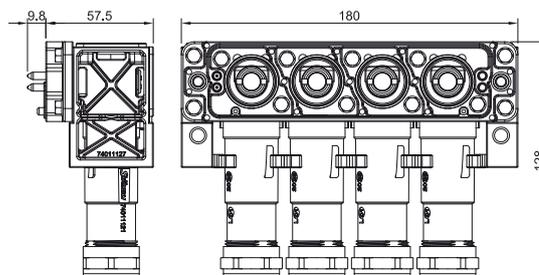


Angled configuration

LITE-B-M-4P



LITE-B-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
74100344	LITE-B-M-4P	EvoTrak lite mobile angled part male 4 poles
74101343	LITE-B-F-4P	EvoTrak lite fixed angled part female 4 poles



Contacts, see page 12

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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

Straight contacts

Contacts for straight and panel connectors.

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 ¹⁾	LITE-X/CT-S10/M8	x		M8	Screw termination ²⁾



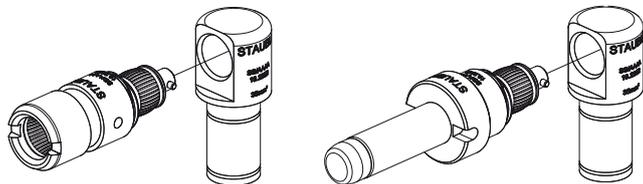
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¹⁾ Only for panel receptacle connector

²⁾ Fastening not included

Angled contacts



Crimping contacts

LITE-B/CT-H10...



Order No.	Type	Cable cross section
19.2264	LITE-B/CT-H10/10 MA	10 mm ²
19.2250	LITE-B/CT-H10/16 MA	16 mm ²
19.2251	LITE-B/CT-H10/25 MA	25 mm ²
19.2252	LITE-B/CT-H10/35 MA	35 mm ²
19.2253	LITE-B/CT-H10/50 MA	50 mm ²
19.2254	LITE-B/CT-H10/70 MA	70 mm ²

Interface contacts

LITE-B/CT-P10-IP2X



LITE-B/CT-S10



Order No.	Type	Socket	Pin
19.2256	LITE-B/CT-P10-IP2X		x
19.2257	LITE-B/CT-S10	x	

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/CGM-N/2



LITE-TO_CT MA



LITE-TO/CT-PSH



LITE-B-TO_MT-CT



LITE-B-TO_MT-PG



Order No.	Type	Tightening range
19.2929	LITE-TO/CGM-N/2	Torque wrench insert for cable gland tightening
19.2916	LITE-TO_CT MA	Removal tool, for disassembling of the contacts
19.2917	LITE-TO_CT-PSH	Pusher, for disassembling of the contacts
19.2918	LITE-B-TO_MT-CT	EvoTrak lite angled contact installation and removing tool
19.2919	LITE-B-TO_MT-PG	EvoTrak lite guiding part for tool, for female angled contact

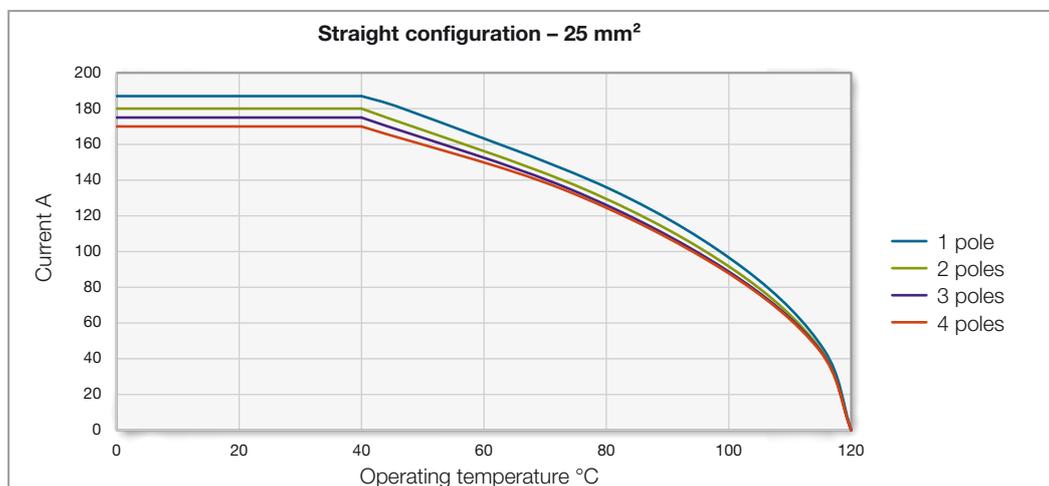
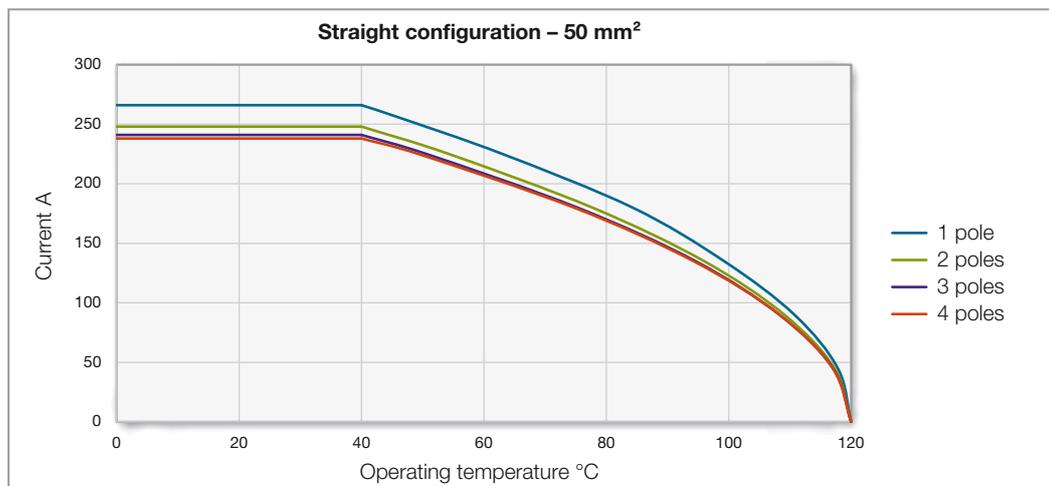
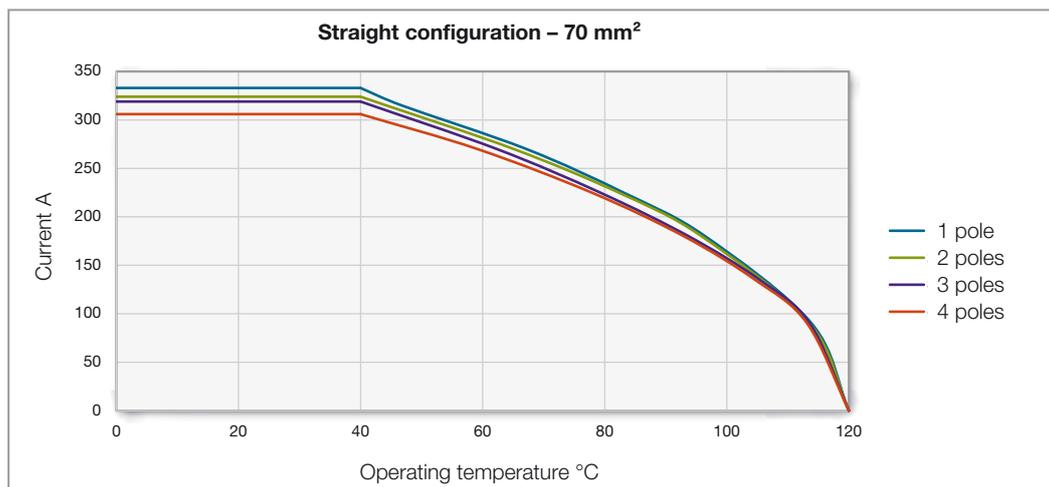
TECHNICAL INFORMATION

Derating diagrams

Straight configuration

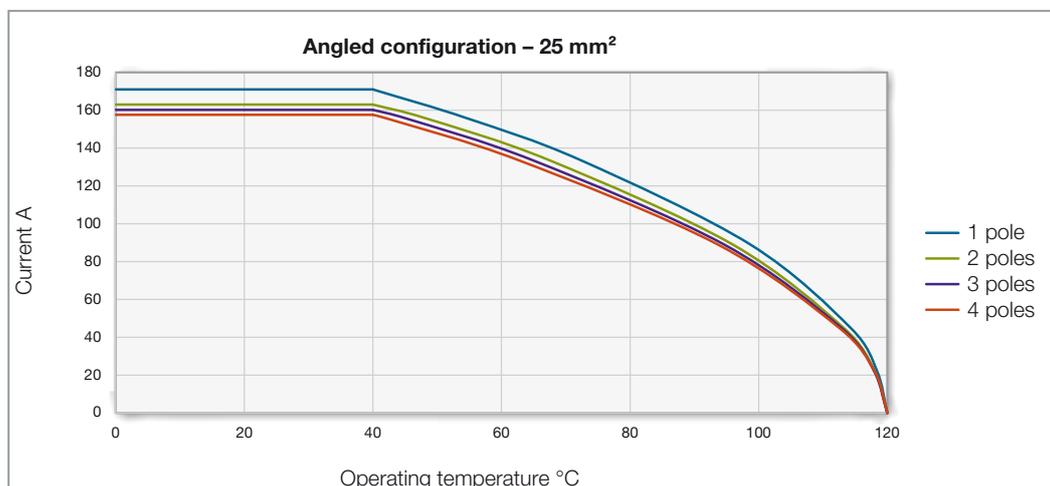
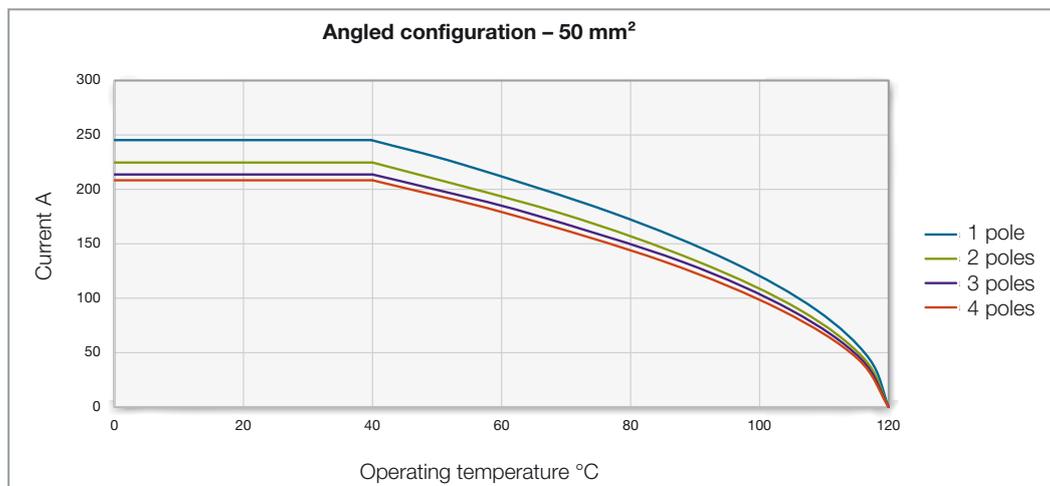
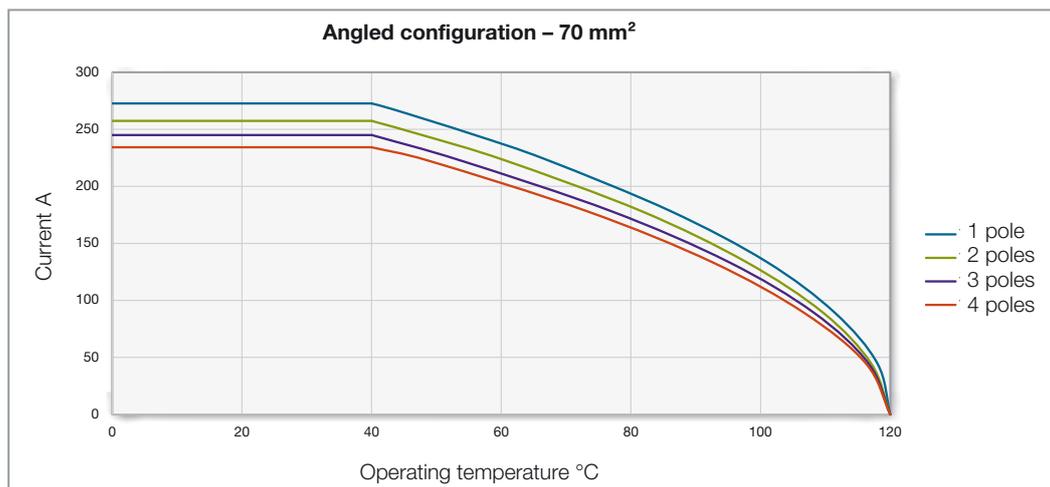
- Limiting current curve according to EN 60512-5-2 (2002)

- 10 mm power contacts configuration.
- Rating factor 0.9



Angled configuration

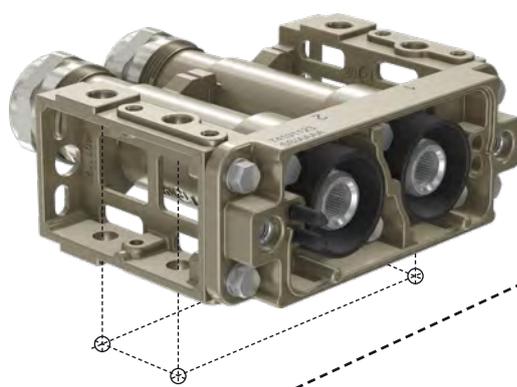
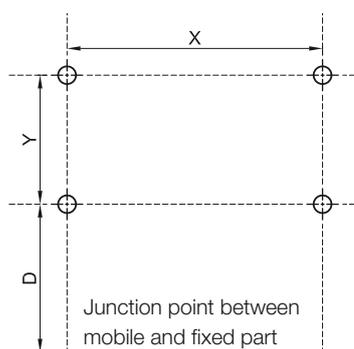
- Limiting current curve according to EN 60512-5-2 (2002)
- 10 mm power contacts configuration.
- Rating factor 0.9



Drilling plans

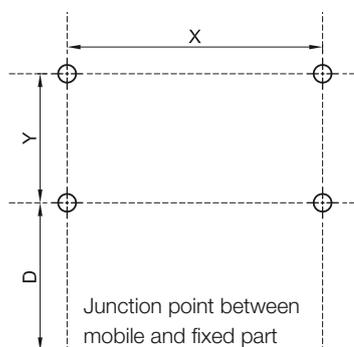
Straight version

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		



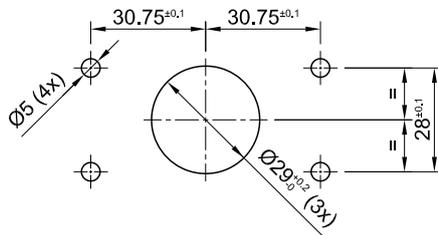
Angled version

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		

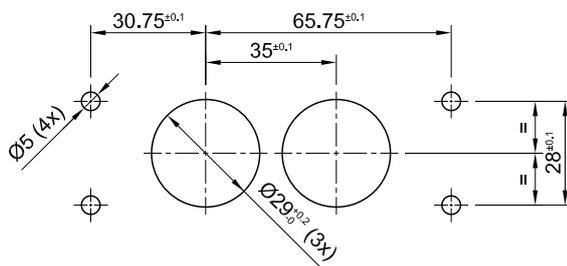


Panel receptacle version

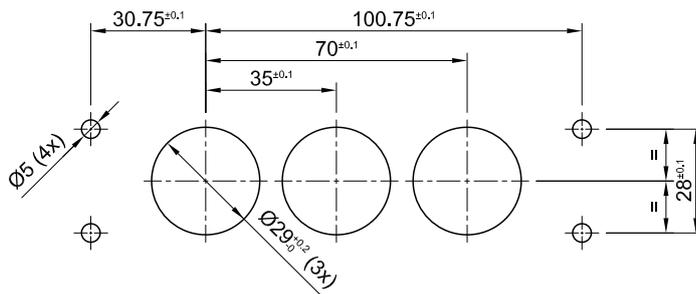
1 pole



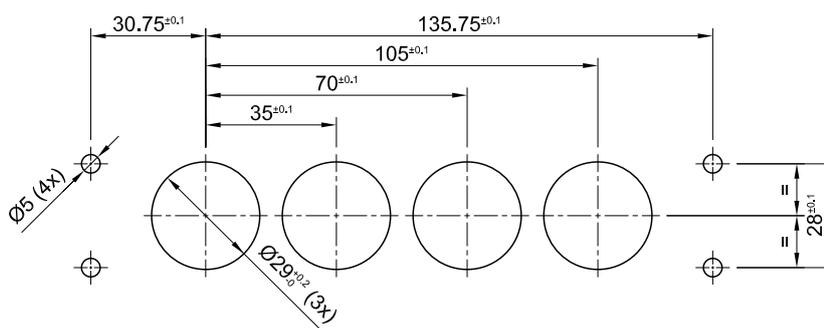
2 poles



3 poles



4 poles





● Staubli Units ○ Representatives/Agents

Global presence of the Staubli Group

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