

Connecting element CLAMPLAM

Slide-inline | Industrial Connectors



STÄUBLI ELECTRICAL CONNECTORS

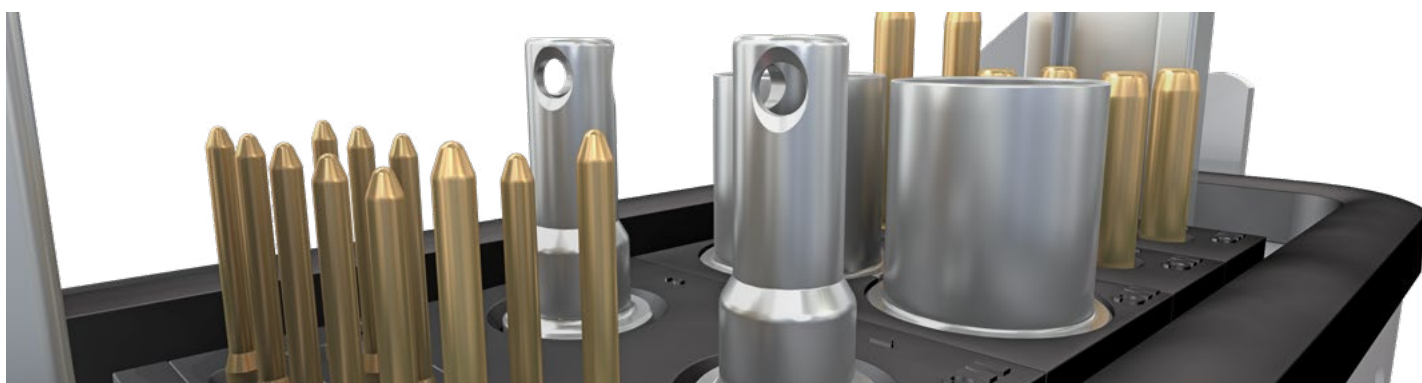
Long-term solutions – Expert connections



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.

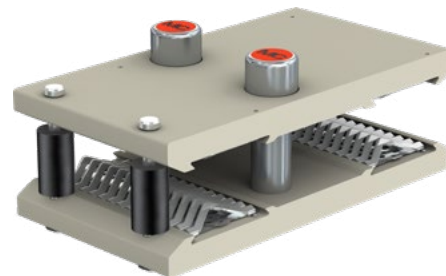
Stäubli develops, produces, sells and maintains products for markets with high productivity standards. As recognized specialists, our focus is always on solutions and customers. Many new developments got their start here and have begun to make their way around the world.

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.



UNLIMITED POSSIBILITIES FOR CONTACT SOLUTIONS

MULTILAM Technology



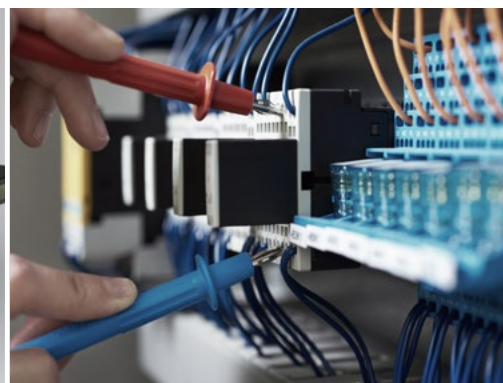
MULTILAM are specially formed and resilient contact elements. All Stäubli Electrical Connectors products benefit from the unique and outstanding performance of the **MULTILAM Technology**.

Thanks to their constant spring pressure, MULTILAM louvers ensure continuous contact with the contact surface, resulting in a constantly low contact resistance.

MULTILAM Technology allows to find solutions for connectors within the severest constraints and in certain products for up to 1 million mating cycles.

This makes the MULTILAM Technology the best choice for applications with demanding requirements:

- Reliable and longlife operation due to constantly high performance
- Safe operation under highest environmental demands on temperature, vibration and shock
- Suitable for data and signal contacts as well as high-current connectors
- Automated solutions with a high number of mating cycles

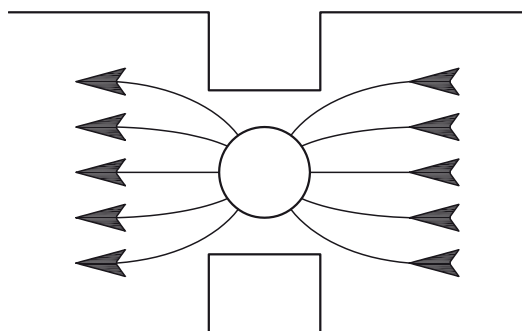


Principle of the ClipLam CL-T

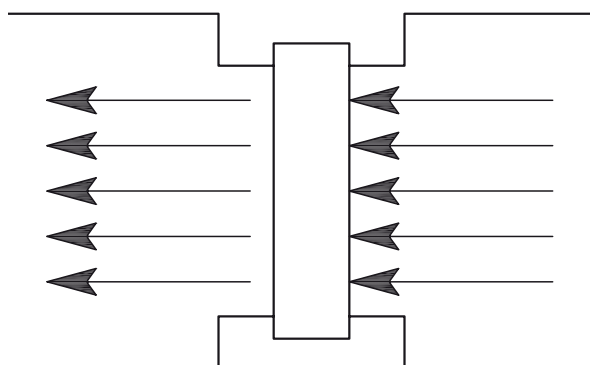
This system has been designed to create a pull-out electrical connection between two systems of double-pole insulated busbars. It is made up of MULTILAM contact element strips, mounted in a plastic frame of variable sizes.

It is a very simple matter to attach the ClipLam by means of two clips to busbars of varying thicknesses (between 2 and 5 mm) that have been silver-plated beforehand. The electrical contact is established by the MULTILAM which form independent lines of current.

The large number of these parallel lines leads to a noticeable reduction in the resistance and the inductance of the electrical connection in comparison with a bolted connection.



Conventional solution (bolted)



ClipLam solution with MULTILAM

Electrical

- Low contact resistance
- Straightening of current lines
- Reduced leakage inductance: 25% less than the leakage inductance with a screw system

Mechanical

- Self-cleaning of contact when mating
- High resistance to vibration and shocks

Installation

- Easy to install: no drilling or special cutting needed
- Fast mounting and assembly: no screws needed
- Saving of space in bottom of bay
- No wiring inversion risks

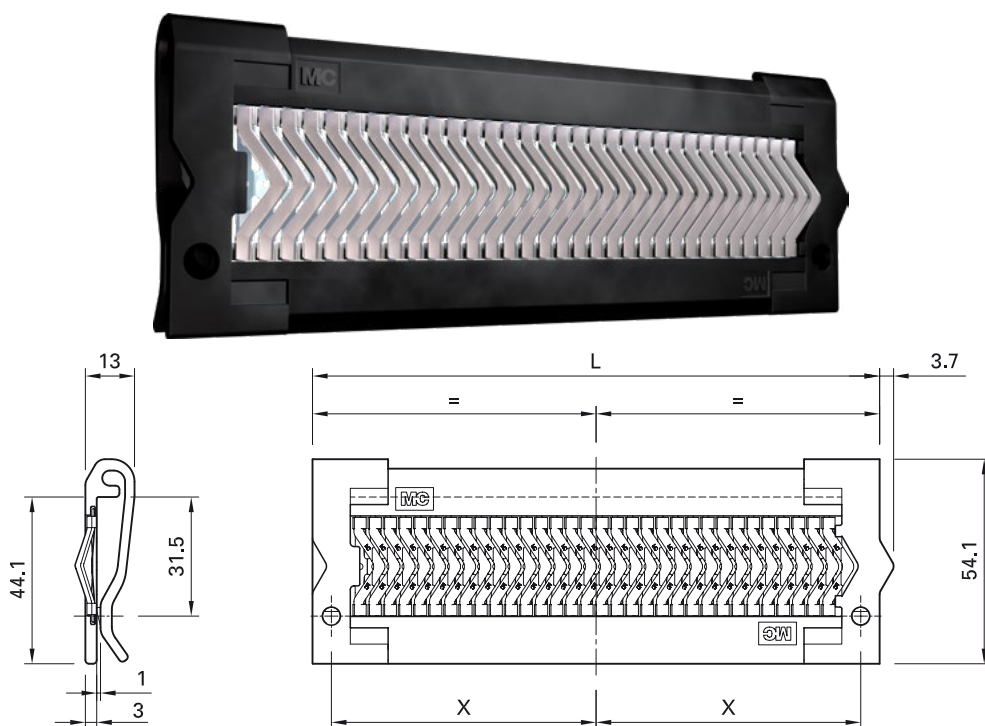
Economic

- Lower raw material consumption (copper)
- Reduces installation and maintenance costs
- Reduced material costs (copper) due to an optimum distribution of the current



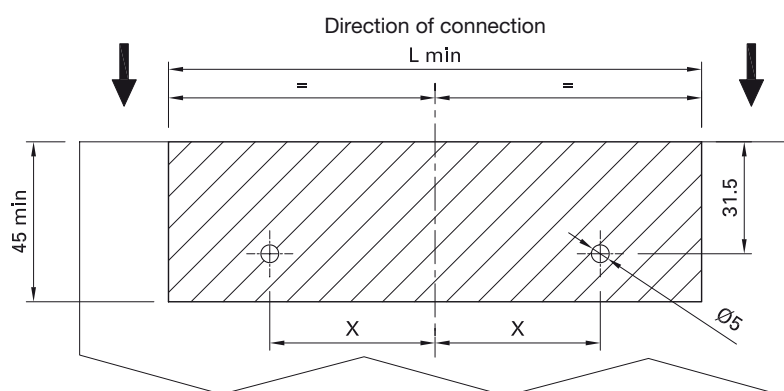
RoHS ready

Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment



| General data | | Dimensions (mm) | | Mechanical and electrical data ¹⁾ | | | | | | |
|--------------|------------|-----------------|----|--|----------------------|----------------------------|----------------------------|------------------------------|---------------------|-------------------------|
| Order No. | Type | | | Rated current | Contact resistance | Short-circuit current (1s) | Short-circuit current (3s) | Rated peak withstand current | Contact force max. | Sliding force (μr 0.35) |
| | | L | X | A | R _k μΩ | I _k kA | I _k kA | I _p kA | F _k N | F _g N |
| 19.9000-54 | CL-08T-54 | 54 | 22 | 400 | 50 | 7.2 | 5.6 | 20 | 90 | 8-16 |
| 19.9000-70 | CL-12T-70 | 70 | 30 | 600 | 33 | 10.8 | 8.4 | 30 | 130 | 12-24 |
| 19.9000-86 | CL-16T-86 | 86 | 38 | 800 | 25 | 14.4 | 11.2 | 40 | 180 | 16-32 |
| 19.9000-102 | CL-20T-102 | 102 | 46 | 1000 | 20 | 18.0 | 14.0 | 50 | 220 | 20-40 |
| 19.9000-118 | CL-24T-118 | 118 | 54 | 1200 | 17 | 21.6 | 16.8 | 60 | 260 | 24-48 |
| 19.9000-134 | CL-28T-134 | 134 | 62 | 1400 | 14 | 25.2 | 19.6 | 70 | 310 | 28-56 |
| 19.9000-150 | CL-32T-150 | 150 | 70 | 1600 | 13 | 28.8 | 22.4 | 80 | 350 | 32-64 |

¹⁾ The rated values are specific to the contact and apply only to silver-plated copper bars. The customer is responsible for thermal dimensioning with regard to selecting bars of the appropriate thickness, and for mechanical dimensioning with regard to maintaining the spacing of the bars provided with ClipLams within the tolerances recommended by Stäubli. Operating current max. 120°C

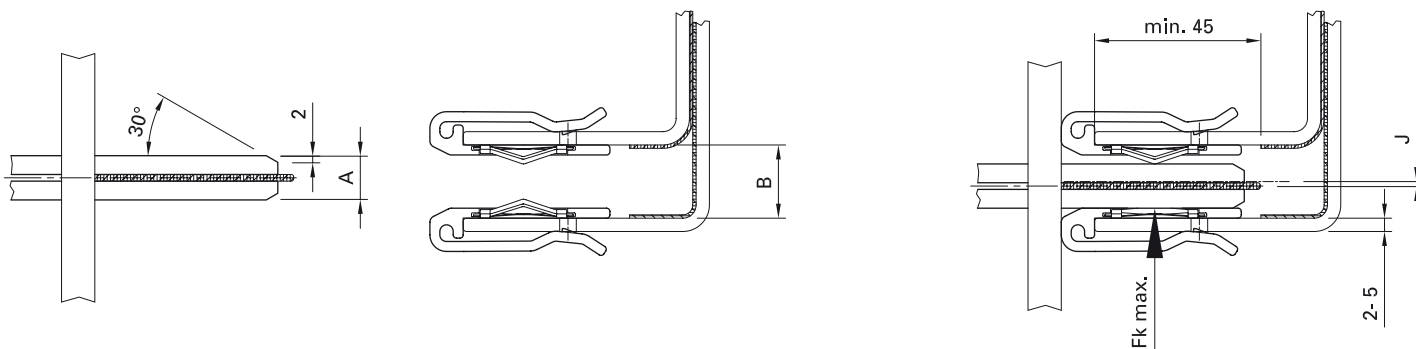


Silver plated area occupied by ClipLam on busbar

Tolerance

| B \ A | ±0.1 mm | ±0.2 mm | ±0.3 mm | ±0.4 mm |
|---------|--|--|--|--|
| ±0.1 mm | $B = A + 7.7 \text{ mm} / J = \pm 0.55 \text{ mm}$ | $B = A + 7.6 \text{ mm} / J = \pm 0.50 \text{ mm}$ | $B = A + 7.5 \text{ mm} / J = \pm 0.45 \text{ mm}$ | $B = A + 7.4 \text{ mm} / J = \pm 0.40 \text{ mm}$ |
| ±0.2 mm | $B = A + 7.6 \text{ mm} / J = \pm 0.50 \text{ mm}$ | $B = A + 7.5 \text{ mm} / J = \pm 0.45 \text{ mm}$ | $B = A + 7.4 \text{ mm} / J = \pm 0.40 \text{ mm}$ | $B = A + 7.3 \text{ mm} / J = \pm 0.35 \text{ mm}$ |
| ±0.3 mm | $B = A + 7.5 \text{ mm} / J = \pm 0.45 \text{ mm}$ | $B = A + 7.4 \text{ mm} / J = \pm 0.40 \text{ mm}$ | $B = A + 7.3 \text{ mm} / J = \pm 0.35 \text{ mm}$ | $B = A + 7.2 \text{ mm} / J = \pm 0.30 \text{ mm}$ |
| ±0.4 mm | $B = A + 7.4 \text{ mm} / J = \pm 0.40 \text{ mm}$ | $B = A + 7.3 \text{ mm} / J = \pm 0.35 \text{ mm}$ | $B = A + 7.2 \text{ mm} / J = \pm 0.30 \text{ mm}$ | $B = A + 7.1 \text{ mm} / J = \pm 0.25 \text{ mm}$ |

J = max. axial displacement depends on the busbar tolerances





■ Stäubli Units ○ Agents

Global presence of the Stäubli Group

www.staubli.com