

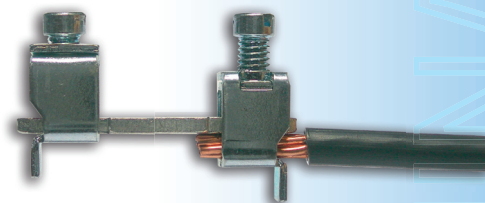
Screw Connection Technology

Screw connection is the most popular of all known methods of connection. Screw connection refers to any connection in which the conductor is stripped of its insulation and clamped without any special preparation. DECA screw clamp system is built in protection against loosening.

When the screw is tightened, the resultant pressure pulls apart both halves of the clamping yoke. This generates a particularly high locking action on the screw. These clamping systems provide excellent vibration resistance.

To establish a high reliable connection between conductors, Deca's screw clamp unit fulfills this function well mechanically and electrically. The following advantages make the screw-clamping unit to preferredly be used by our customers:

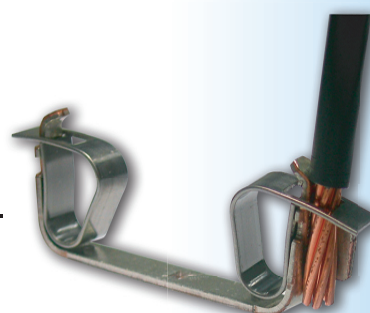
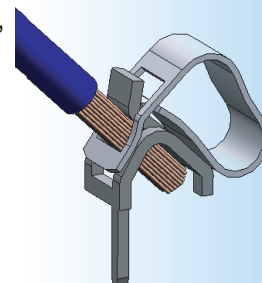
- Suitable for broad range of cross-section and types of wires
- Wires can be connected without any special preparation.
- An excellent vibration proof protection against loosening.
- High reliability and maintenance free.
- Very low contact resistance.



Spring Clamp Technology

The stainless steel spring presses the conductor directly against the current bar. DECA's spring clamp terminal blocks employ top wire system, the space-saving design is suitable for limited operation space. The spring is operated by using a screw driver to provide an access to wire end gets clamped on to the current bar on removal of screw driver. The spring clamp system can guarantee excellent mechanical & electrical functions by reliable wiring. The following advantages make the spring clamp system to preferredly be used by our customers.

- Space-saving design of front connection.
- Vibration proof anti-loosening wire connection with pre-stressed Spring Clamp.
- Easy to operate, fast wiring installation with top wire entry.
- Corrosion-proof terminal points.
- Low contact resistance.



Technical Information

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The Rated Voltage:

The rated voltage of a terminal block is a voltage value which is stated by the manufacturer according to creepage and clearance distance defined in respective EN, VDE, UL and CSA Standards.

Rated Current:

The rated current of a terminal block is a current value, which is indicated by the manufacturer and covered the thermal, electrical and mechanical requirements on using the rated cross-section.

Current Rating with Two Wire/Conductors:

The total current of the two wires / conductors should not exceed the continuous current rating of the terminal block. The continuous current rating is the maximum current the terminal block can conduct without a temperature rise of 45K(as per EN standard) and 30°C (as per UL / CSA standard).

Rated Connecting Capacity:

The manufacturer must specify the rated connecting capacity too, such as the area of the conductor that can be connected, the number of conductors can be connected simultaneously and the necessary preparation of the conductor ends. The conductors can be solid, stranded, and flexible with prepared conductor ends if required. According to standard requirements, the rated connecting capacity of terminal blocks must be minimum two sizes smaller than the rated cross section.

Rated Cross-section:

The rated current of a terminal block is the size-as specified by the manufacturer of the conductor cross-section that can be connected to the terminal, on which certain thermal, mechanical and electrical requirements are based and which is intrinsic to the marking on the terminal.

Derating Curve

The rated current of the terminal blocks must be valid in given temperature values and depend on the insulation material. The rated current value must be reduced when a terminal block is installed in an environment which is having higher temperature than standard one.

To determine the derating curves for practice purposes, the current carrying capacity is determined for the modular terminal blocks according to DIN EN 60 512-5-1.

Terminal Block Materials

All materials used for DECA products conform to industrial standards and are subject to stringent quality control according to ISO 9001. Besides, environmental compatibility is also taken into consideration of the selection of materials.

Metal Materials

The current-carrying materials copper, brass and bronze are characterized by their high conductivity and good mechanical properties. Metal materials are selected, processed and surface treated according to the latest state of engineering. The brass parts are nickel-plated to have a diffusion barrier and this nickel layer effectively prevents the discharge of zinc atoms from the brass.

Insulating Materials

Engineering thermoplastic polyamide 6.6 has excellent electrical, mechanical and chemical characteristics even at temperatures as high as 100°C and contain no cadmium based color pigments. Polyamide (PA) is one of the most frequently used technical plastics. Polyamide absorbs moisture from its surroundings, on average 2.8%. This makes the plastic flexible and resistant to breakage, even at temperature as low as - 40°C. Polyamide 6.6 is difficult to ignite, self-extinguishing, burns only as long as there is a supporting flame and is rated V2 according to UL 94. Good ageing resistance and insensitivity to ultra violet light makes it suitable for tropical and open air applications. Polyamide 6.6 has excellent resistance to fuels, oils, fats and most common solvents like aliphatic and aromatic carbohydrates, ketons and alcohols.

Polyamide 6.6 has long occupied a leading position and is authorized for use by the relevant approval offices such as UL, VDE, SEV, CSA, NEMKO, etc.

CTI – Comparative Tracking Index of Insulation material

The insulation material is divided into four groups according to their CTI (Comparative Tracking Index).

Insulating material group

| |
|--|
| Insulation I : $600 \leq \text{CTI}$ |
| Insulation II : $400 \leq \text{CTI} < 600$ |
| Insulation III a : $175 \leq \text{CTI} < 400$ |
| Insulation III b : $10 \leq \text{CTI} < 175$ |

DECA terminal blocks are molded from UL94-V0 material with excellent flame and shock resistance and mount on a standard 35mm Din Rail. DECA terminals are made of carefully selected standard materials and clamping metal is subjected to strict quality control as required by international standards.

Polyamide 6.6 molded housing absorbs humidity from its surroundings. This insulating material has high mechanical strength is unbreakable.