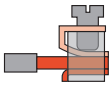
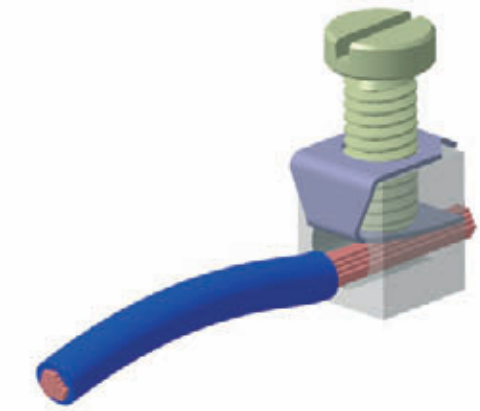
# PCB Terminals and Connectors

# You choose the connection system

## Leaf spring connection



The leaf spring connection is the oldest method of connecting a conductor still on the market. The leaf spring below the screw reliably prevents damage to the conductor upon tightening the terminal.

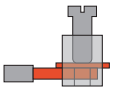


**Secure screw connection**
High clamping force retains conductors up to 1.5 mm² cross-section.

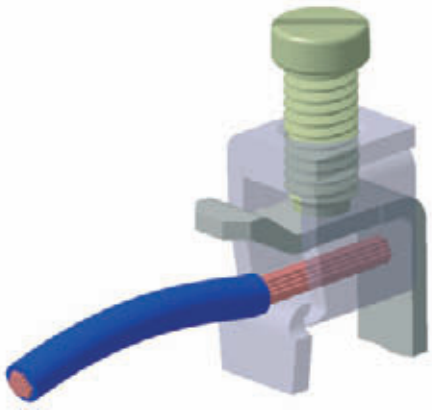
**Advantages**
Maximum current-carrying capacity in the minimum space.

**Applications**
All applications in confined spaces, with the focus on commercial requirements.

## Clamping yoke connection



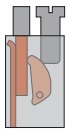
Several billion clamping yoke connections in use worldwide make this the most common system. The best materials are used for the mechanical and electrical functions to ensure the most reliable mechanism for producing a connection. Hardened steel for stability and security with WInQ® coating for optimum corrosion protection. The copper alloy in the contact area ensures good electrical conductivity.



**Vibration-proof clamped connection**
The locking effect in the thread of the yoke guarantees a maintenance-free, permanent connection.

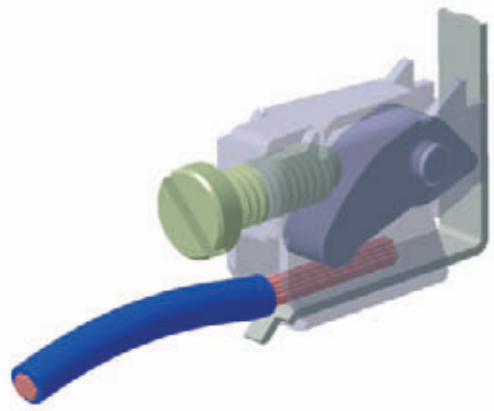
**Advantages**
The high contact pressure and the choice of the best materials together guarantee a permanent, gas-tight connection.

**Applications**
Applications with the highest demands regarding reliability, even under tough conditions.



## TOP clamp connection

Whereas in the traditional screw connection the screw is always positioned at 90° to the direction of the conductor, in the TOP connection the screwdriver is used in the same direction as the conductor. The TOP connection therefore enables maximum density of connections.



### The mechanism

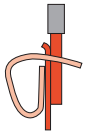
The high contact pressure transmitted by the screw to the steel clamping lever and the choice of the best materials together guarantee a permanent, gas-tight connection.

### Advantages

The equipment design options are considerably enhanced because conductor and clamping screw are on the same side.

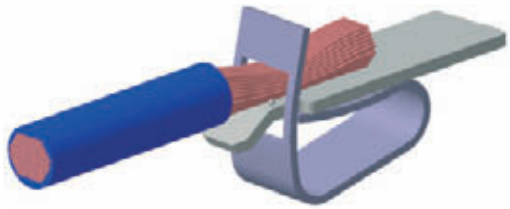
### Applications

Special housing designs or installation conditions, e.g. PCBs in plug-in modules where lack of space precludes a screw at 90° to the conductor.



## Tension clamp connection

The pretensioned spring made from high-quality rustproof and acid-resistant steel pulls the conductor against the electrogalvanised copper current bar, which produces a permanently good, vibration-resistant connection. The surface of the current bar is treated to achieve a low contact resistance and a high corrosion resistance.



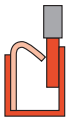
### Advantages

All predefined function parameters are intrinsic to this contact system.
Widely used form of connection.
Simple operation by means of a screwdriver or the integral lever.

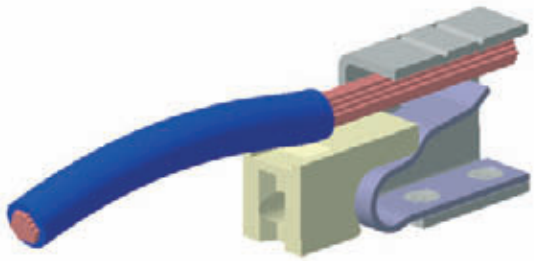
### Applications

Suitable for fast, maintenance-free wiring with high demands on contact stability.

## Push-in spring connection



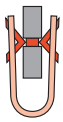
In the push-in system the stripped conductor is simply fully inserted into the clamping point – and that's it! The lever only has to be actuated for small cross-sections, highly flexible strands or to release the connection. Even flexible conductors with crimped wire end ferrules are easy to connect. A stainless steel spring guarantees the high contact force between the conductor and the tinned copper current bar. All the functional parameters are intrinsic to this contact system.



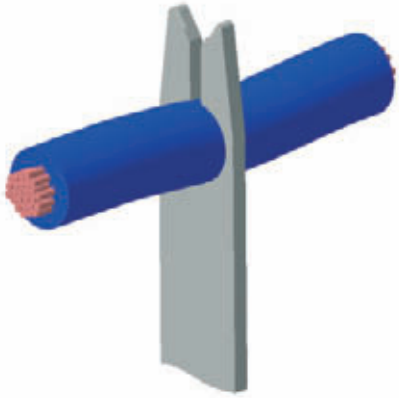
**Advantages**
Higher conductor pull-out forces than with the tension clamp system.
Connections quickly and easily made without tools.
Intuitive use prevents incorrect connections.

**Applications**
For applications requiring the fast wiring of small conductors, and where intuitive use is advantageous.

## Insulation displacement connection (IDC)



The IDC is the fastest way of connecting a conductor. One of the most effective solutions from the viewpoint of secure connections for the user.



**Fast, simple connections**
The unstripped conductor is simply inserted into the cable entry and pressed into position. In doing so, the sharp edges of the terminal cut through the insulation, deform the conductor and create a permanent, gas-tight connection.

**Advantages**
A fast, labour-saving but nevertheless secure solution for connections.

**Applications**
All applications in which a great number of connections have to be produced as quickly as possible and the conductors to be used are specified in advance.

## Crimp connection

The crimp connection enables pre-assembly with hand tools or semi-automatic or fully automatic machines. The contacts then only need to be inserted into their intended housings.

**Advantages**
Fast pre-assembly.
Gas-tight, durable form of connection.
Easy to use.

**Applications**
Applications in which factory prefabrication is to be combined with field wiring.

## Spade connection

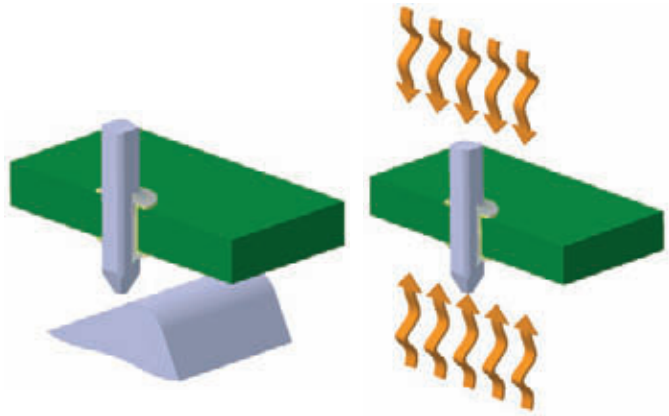
The flat blade system is a widely used form of connection complying with DIN 46247 and can be used to connect pre-assembled, insulated and uninsulated receptacles by simply pushing the spade onto a standardised flat blade in terminal blocks.

**Advantages**
Suitable for 2.8 and 6.3 mm flat blade receptacles.
Suitable for both insulated and uninsulated types.

**Applications**
For applications in which pre-assembled lines have to be quickly connected to the PCB.

## THR solder connection

Reflow products using through-hole technology (THT) represent the best alternative to exclusive surface mount technology (SMT) when higher forces can act on electromechanical PCB components. The component design of Weidmüller products was specifically developed for this situation and considers right from the outset the demands in terms of profile, thermal stability and processing of THT products.



### Advantages

Special plastics with a high thermal stability and a melting point exceeding 300 °C.
Two pin lengths: 1.5 mm for low paste requirements, and 3.2 mm to meet higher quality assurance demands.
Packed in boxes or in antistatic straps as standard, for use in automatic assembly machines.
A comparatively high current-carrying capacity thanks to the high thermal stability of the plastic.

### Applications

Applications in which fast assembly and reliable, stable connections to the PCB are a priority. Reflow, wave or manual soldering with high thermal stability requirements.