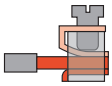
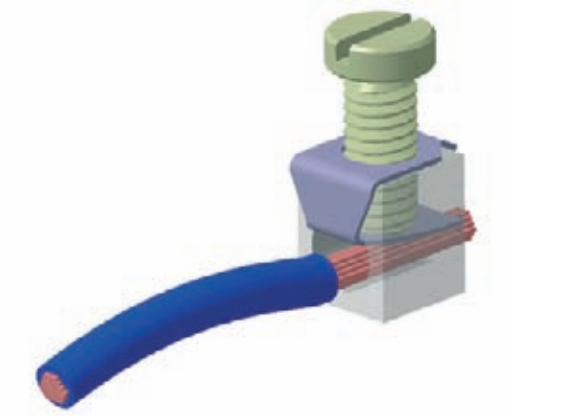
PCB Terminals and Connectors

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.

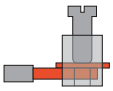


Secure screw connection
High clamping force retains conductors up to 1.5 mm² cross-section.

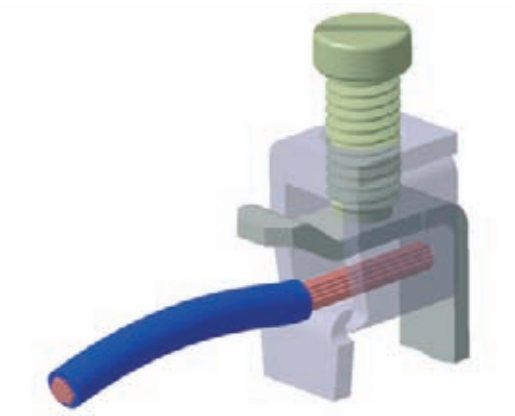
Advantages
Maximum current-carrying capacity in the minimum space.

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

Clamping yoke connection



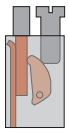
Several billion clamping yoke connections in use worldwide make this the most common system. The best materials are used for the mechanical and electrical functions to ensure the most reliable mechanism for producing a connection. Hardened steel for stability and security with WInQ® coating for optimum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

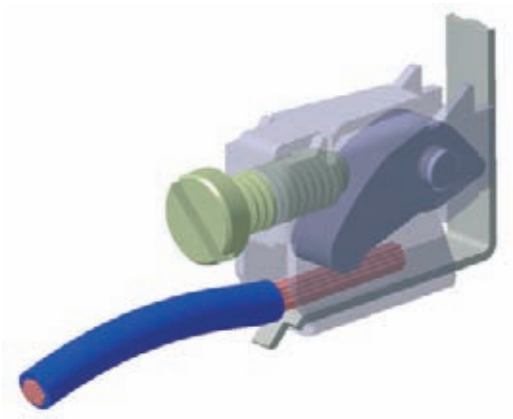
Advantages
The high contact pressure and the choice of the best materials together guarantee a permanent, gas-tight connection.

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

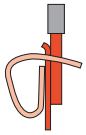
The high contact pressure transmitted by the screw to the steel clamping lever and the choice of the best materials together guarantee a permanent, gas-tight connection.

Advantages

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

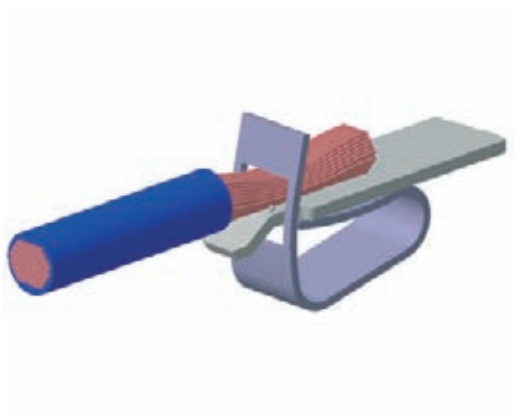
Applications

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.



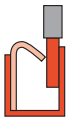
Advantages

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.

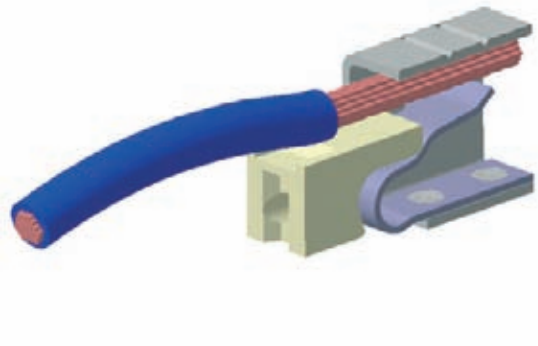
Applications

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

Push In spring connection



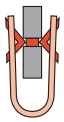
In the Push In system the stripped conductor is simply fully inserted into the clamping point – and that's it! The lever only has to be actuated for small cross-sections, highly flexible strands or to release the connection. Even flexible conductors with crimped wire end ferrules are easy to connect. 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.



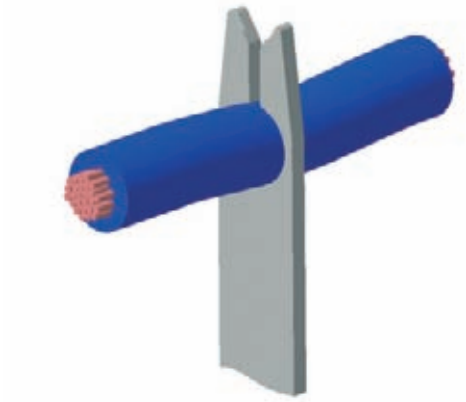
Advantages
Higher conductor pull-out forces than with the tension clamp system.
Connections quickly and easily made without tools.
Intuitive use prevents incorrect connections.

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

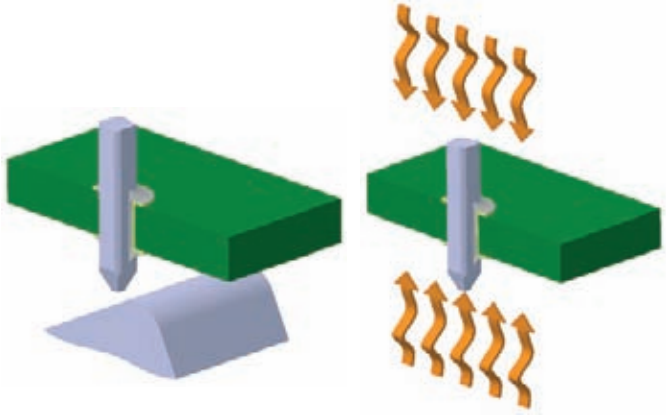
The flat blade system is a widely used form of connection complying with DIN 46247 and can be used to connect pre-assembled, insulated and uninsulated receptacles by simply pushing the spade onto a standardised flat blade in terminal blocks.

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.

Recognising and setting trends: the new benchmark for high ambient temperatures

The future of connection technology is here. The trend towards ever smaller electronic components is continuing unabated:
- Electronic devices are getting smaller and smaller
- The complexity and integration of modules are increasing
- Integration density demands higher packing density for PCBs

At the same time, the market is making growing demands of the performance and reliability of electronics. Components have to withstand higher ambient temperatures as a result of reduced space between components on the circuit board.

In the design phase, this calls for the specification of materials and components of the highest quality.
If you want to succeed in the midst of tough competition, you have to master these challenges. Weidmüller can support you with an innovative solution: PCB terminals made of Wemid.

Well equipped for the future

We are now drawing on our expertise and experience in using our tried and tested thermoplastic Wemid for PCB terminals. This offers you a pioneering product concept which sets new standards:
- Wemid – the tried and tested insulation material: increased continuous running temperature of 120 °C
- Range of colours and versions: unrestricted design
- Plus/minus screw: safe operation

Profit from Weidmüller's new high-performance class and get ahead in terms of costs and efficiency to secure yourself a competitive edge!

Wemid – tried and tested standard
- High continuous running temperature of up to 120 °C
- Flammability class V0 acc. UL 94
- Free of hazardous substances (no halogen or phosphorus)
- RoHS-compliant
- Low smoke and fumes

Range of designs
- 4 standard colours
- All standard numbers of poles
- Marking (printed) on request
- All approvals (VDE, UL, CSA)
- Other colours on request

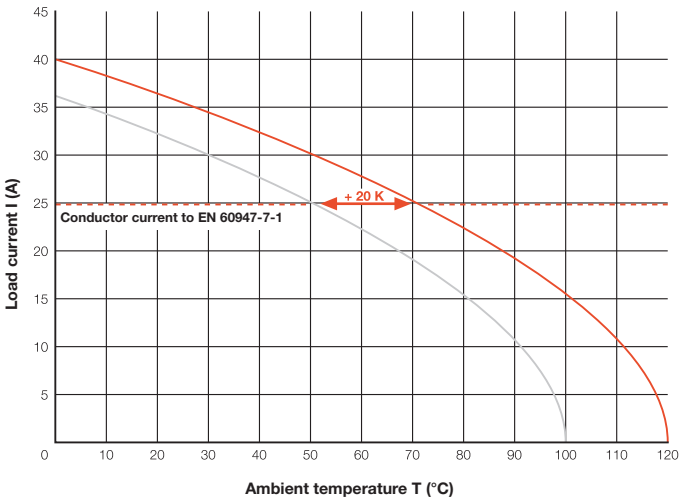
„Plus-/minus“ – a real plus for you
- Universal screw head as standard
- Various tools can be used, e.g. standard flat-blade screwdriver or Pozidrive Z crosshead screwdriver
- Safely transfers the necessary torque
- Better tool centring (e.g. torque driver)

Increased safety and performance

As the leading manufacturer in the field of electrical connection technology, we offer you product developments which are always designed to offer our customers maximum benefits. For our Wemid PCB terminals, that means more advanced performance data for higher demands in industrial environments.

Make the most of these advantages in practice:

- Higher ambient temperatures (+20 Kelvin) with the same current, i.e. improved performance or safety with the same component size
- Higher load currents at a constant ambient temperature, i.e. smaller components with full performance



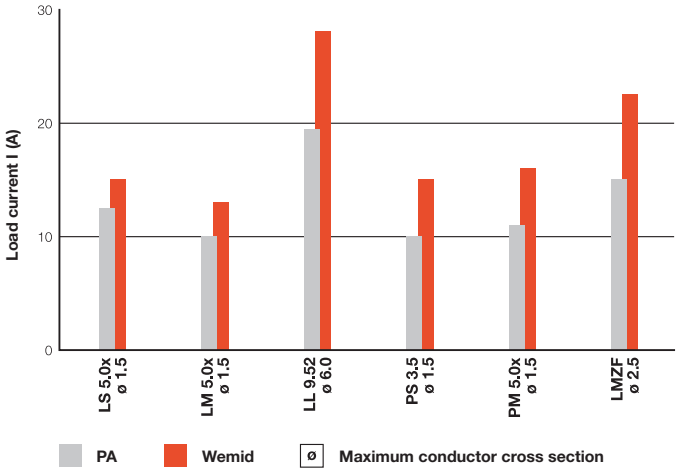
Higher ambient temperatures with the same current (A).

The new standard for PCBs – highly versatile

All our PCB terminals will be made of Wemid in future, meaning more advantages for you. The following models are already available:

- LS 5.0x
  Compact clamping yoke screw connection for conductor cross sections of up to 1.5 mm²
- LM 5.0x
  Large product family with tried and tested clamping yoke screw connection
- LL 9.52
  Powerful with clamping yoke screw connection for conductor cross sections of up to 6.0 mm²
- PS 3.5
  Leaf spring screw connection for conductor cross sections of up to 1.5 mm²
- PM 5.0x
  Leaf spring screw connection for conductor cross sections of up to 2.5 mm²
- LMZF
  Fast tension clamp connection for conductor cross sections of up to 2.5 mm²

This variety caters for a wide range of uses and offers a great degree of flexibility. You can rest assured that this range is a good choice as we will be constantly extending our selection of PCB terminals made of Wemid in future!



Higher load currents at ambient temperatures of 85 °C: improved performance for industrial environments with extreme temperatures.

The new high-performance class is guaranteed to be a success with

- **Continuous running temperatures of up to 120 °C**
- **Higher load currents at higher ambient temperatures**
- **Flammability class V0**
- **All standard numbers of poles in 4 colours**
- **Plus/minus screw throughout**
- **RoHS-compliant**