High-quality connectors for industry, transportation and telecommunications.
Connectors must ensure reliable transmission of energy and signals – coping with high voltages, harsh environments and the rough conditions of rail traffic. Connectors from Schaltbau are especially designed to meet these requirements: Where safety and health of human beings are dependent on technology – as in transportation, mechanical engineering, lighting, food processing, battery charging, mining or offshore operations – the rugged heavy-duty connectors from Schaltbau are first choice.
Schaltbau connectors are characterized by: Long life and rugged design, up to 10,000 mating cycles, tightness up to IP69K, high material and temperature resistance as well as resistance to shock and vibration.

This makes them ideally suited to be used for years of continuous operation and under harsh environmental conditions.

For further information visit [www.schaltbau.info/connectors](http://www.schaltbau.info/connectors)
GLOSSARY

Connector  A component which terminates conductors for the purpose of providing connection and disconnection to a suitable mating component.

Connector with breaking capacity (CBC)  Connector specially designed to be engaged or disengaged in normal use when live or under load. The term ‘live’ is used if contacts are under an applied voltage, but not necessarily carrying current. The term ‘load’ is used if a current is flowing through the contacts (IEC 61984.3.2). Replacing the term plug and socket device (PSD).

Modular connector  Connector of modular design that can be adapted to various applications.

Contact arrangement  Selections are adapted to various applications.

Contact holder  The individual contact elements are accommodated by the contact holder, which acts coincident as an insulator. Contact holder and connector housing may be one part.

Contact cavity  A defined hole in the connector insulator into which the contacts fit. The cavities are generally marked with a unique designation or number for ease of identification.

Contact  The element in a connector that makes the actual electrical connection. Also the parts of a connector that actually carry the electrical current, and are touched together or separated to control the flow. In Schaltbau connectors high-quality contacts are used:

- Screw-machine contacts
- Spring-loaded contacts

First-make last-break contact  A contact which is longer than a standard contact or which sits in the insulator in such a way that it mates with the opposing connector half before any of the other contacts. Useful to ensure a ground connection between the connector halves before, and breaks after any of the other contacts.

Termination techniques  Methods for connecting a wire to an electromechanical component, e.g. solderless connections according to IEC 61984, such as clipped, crimped, pressed-in, insulation displacement, spring clamp or screwed and soldered connections.

Solderless connection  A solder less electrical connection made by crimping. The crimping zone of the crimp barrel with the conductor inside is deformed or re-shaped by means of a crimping tool to establish a firm gas-tight connection between contact and conductor. Solid or stranded wires can be crimped. The production of crimped connections can be effected by hand crimping tool or by semi-automatic or fully automatic crimping machines. Stripping of wires and crimping can be accomplished in one step.

Soldered connection  An electrical connection made by soldering. It is a limited detachable connection technique. Solder contacts are normally bonded into the insulator and cannot be removed by the user.

Screw connection  In a screw connection the stripped wire is clamped to the termination of the connector by a screw. This clamping screw may act both in the longitudinal axis of the conductor or transverse to it and may be loosened in a simple way.

Cycling  Various types of connecting mechanisms exist to lock two mating connectors together.

Threaded coupling  – A means of coupling by engaging threads present on the mating connector.

Bayonet coupling  – A quick coupling device utilising bayonet pins riding in ramps and providing jacking and locking features with limited rotation.

Integrated locking  – A quick coupling device utilising projections that lock in place.

Break-away connector  – A connector designed to separate when a specified force is applied to the cable, without damage to the cable or the connector.

Cycles of mechanical operation  Number of mating cycles prior to abrasion of the conductive contact surface and which do not result in a significant rise of the contact resistance. Tests and measurements according to IEC60529-2 test 9a.

Contact resistance  The electrical resistance of a mated set of contacts under specified conditions. Tests and measurements according to IEC 60603-2, tests 2a, 2c.

Insulation resistance  The resistance of the insulation between two conductive elements, in particular the resistance between two contacts or between a contact and a metallic housing or shield. Tests and measurements according to IEC 60603-2, test 3a.

Electromagnetic interference (EMI)  As far as connectors are concerned, undesirable electromagnetic interference of the cables to be connected or of the environment is prevented by shielding. Shielded connectors normally provide means to connect screens of attached cables.

Derating curve (current-carrying capacity curve)  The graphic representation of the current-carrying capacity of a component dependent on the ambient temperature. It shows which currents can be carried simultaneously under a specified ambient temperature through all contacts without the upper limit temperature being exceeded.

Degree of protection (IP code)  A marking system to notify the degree of protection of a housing against access to dangerous parts and ingress by solid substances or water.

Protective conductor (symbol PE)  Conductor required by some measures for protection against electric shock for electrically connecting any of the following parts:

- Exposed conductive parts
- Extraneous conductive parts
- Main earthing terminal
- Earth electrode
- Earthed point of the source or artificial neutral

Materials: shells/contacts  PA6, Thermoset, PA6.6 GF30, black,Al die cast,Aluminium,PA66, PBT GF30 or PP

Cable plugs  PA6.6 GF30, black,Al die cast,Aluminium,PA66, PBT GF30 or PP

Contact insert  UL94V-0,UL94V-0,UL94V-0,UL94V-0

Flammability rating  --- --- --- ---

Temperature  -10°C ... +10°C -25°C ... +10°C -25°C ... +60°C -55°C ... +100°C -30°C ... +90°C -30°C ... +90°C

Connectors for Industrial application  Signal transmission --- --- --- --- --- ---

Industrial trucks  Transportation --- --- --- --- --- ---

SPECIFICATIONS :: CONNECTORS

<table>
<thead>
<tr>
<th>Series</th>
<th>M1, M3</th>
<th>G18, G28, G42, G57</th>
<th>GA</th>
<th>NF07, NF10</th>
<th>LV</th>
<th>LV500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. number of contacts</td>
<td>14 + PE</td>
<td>48 + PE</td>
<td>14 + PE</td>
<td>7 / 10</td>
<td>2 + 2/2</td>
<td>2 + 2/2</td>
</tr>
<tr>
<td>Orientations</td>
<td>2</td>
<td>5 max.</td>
<td>---</td>
<td>5 max.</td>
<td>6</td>
<td>---</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>400 V max.</td>
<td>400 V max.</td>
<td>400 V max.</td>
<td>50 V</td>
<td>150 V DC</td>
<td>150 V DC</td>
</tr>
<tr>
<td>Rated current</td>
<td>50 A max.</td>
<td>100 A max.</td>
<td>50 A max.</td>
<td>2.5 A max.</td>
<td>380 A max.</td>
<td>500 A max.</td>
</tr>
<tr>
<td>Ingress protection rating</td>
<td>IP67 and IP69K</td>
<td>IP67 and IP69K</td>
<td>IP67 and IP69K a)</td>
<td>IP68</td>
<td>IP23</td>
<td>IP23</td>
</tr>
<tr>
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<tr>
<td>EMK</td>
<td>Shielding / Filter</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>Materials: shells/contacts</td>
<td>PA6.6 GF30, black</td>
<td>Al die cast</td>
<td>Al die cast</td>
<td>Steel /Aluminium</td>
<td>PBT GF30 or PP</td>
<td>PBT GF30</td>
</tr>
<tr>
<td>Cable plugs</td>
<td>PA6.6 GF30, black</td>
<td>Aluminium, PA66</td>
<td>Aluminium</td>
<td>Steel /Aluminium</td>
<td>PBT GF30 or PP</td>
<td>PBT GF30</td>
</tr>
<tr>
<td>Contact insert</td>
<td>UL94V-0</td>
<td>UL94V-0</td>
<td>UL94V-0</td>
<td>Thermoplastic /Thermoset</td>
<td>UL94V-0</td>
<td>UL94V-0</td>
</tr>
<tr>
<td>Flammability rating</td>
<td>---</td>
<td>---</td>
<td>---</td>
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<td>---</td>
</tr>
<tr>
<td>Temperature</td>
<td>-50°C ... +100°C</td>
<td>-25°C ... +100°C</td>
<td>-25°C ... +60°C</td>
<td>-55°C ... +100°C</td>
<td>-30°C ... +90°C</td>
<td>-30°C ... +90°C</td>
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</table>

Quoted from the Glossary Connectors of the brochure Connectors, edited by the German Association of the Electrotechnical and Electronic Industry e.V. (ZVEI).

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* Other than UIC 558 VE
* Receptacle with pin contacts
* Series G, LV505, LV506, GP 32, receptacle with closed lid

1. Page 6
2. Page 6
3. Page 8
4. Page 8
5. Page 9
6. Page 9
Electromechanical components from Schaltbau are used in all branches of industry in which electrical systems have to be connected, contacted and controlled reliably under the harshest of conditions.

**Connectors manufactured to industry standards**

**Connectors for signal transmission**

**Charging connectors for industrial trucks**

**Connectors for railway and traffic engineering**

---

### G18, G28, G42, G57, GA, M1, M3 Series

Main fields of application for Schaltbau industrial circular connectors are machinery and equipment, measuring, controlling and regulating, as well as drive, power, and traffic engineering. The rugged connectors offer a great variety of contact arrangements to suit a multitude of applications, and always provide for reliable connections.

### NF07, NF10 Series

Schaltbau special connectors for communications engineering meet the requirements of VG 95351 and VG 96934. These circular audio miniature connectors are extremely robust and have a long design life. A technological equivalent of this connector series sets new standards for signal transmission in industrial applications.

### LV80/120, LV160/250, LV320/400, LV500 Series, multifunctional adapters

Schaltbau charging connectors are designed to meet the demands of contemporary battery-powered vehicles and systems. They meet the requirement of DIN VDE 0623-589 also with regard to a higher current-carrying capacity. The state-of-the-art contact technology of our charging connectors results in a permanently low contact resistance and reduced contact heating.

### B, EP, G18, G28, G42, G57, M1, M3, SB, UIC 558 VE, UIC-IT, ZH Series

Schaltbau connectors for railway and traffic engineering can be found in many rail vehicles and special purpose vehicles where they provide for safe and comfortable operation. These include not only the connectors manufactured to UIC standards but also many connector series used for industrial applications. The heavy-duty connectors reliably transmit power and also control signals.

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#### CONNECTORS :: SPECIFICATIONS

<table>
<thead>
<tr>
<th>SB</th>
<th>B</th>
<th>EP</th>
<th>ZH</th>
<th>UIC558</th>
<th>UIC-IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>59 + PE</td>
<td>9 (+2)</td>
<td>1</td>
<td>22 + PE 166</td>
<td>8 Gigabit + 16</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
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</tr>
<tr>
<td>115 V max.</td>
<td>500 V max.</td>
<td>250 V</td>
<td>3 kV</td>
<td>---</td>
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</tr>
<tr>
<td>16 A</td>
<td>400 A max.</td>
<td>35 A max.</td>
<td>800 A</td>
<td>10 A</td>
<td>1 A</td>
</tr>
<tr>
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<td>---</td>
</tr>
<tr>
<td>IP69K</td>
<td>IP67</td>
<td>IP66 and IP69K</td>
<td>IP54</td>
<td>IP54</td>
<td>IP69K</td>
</tr>
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<td>---</td>
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</tr>
<tr>
<td>PA6 GF30 / Al, black</td>
<td>Al die cast, RAL7031</td>
<td>Al die cast, RAL7031</td>
<td>Thermoplasto/Thermoset</td>
<td>PA6 GF30, black</td>
<td>PA6 GF30, yellow/black</td>
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<td>Ul94v0</td>
<td>Ul94v0</td>
<td>Ul94v0</td>
<td>EN45545</td>
<td>EN45545</td>
<td>EN45545</td>
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<td>-40°C to +80°C</td>
<td>-50°C to +80°C</td>
<td>-50°C to +85°C</td>
<td>-50°C to +85°C</td>
<td>-50°C to +85°C</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
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<td>---</td>
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<td>---</td>
</tr>
</tbody>
</table>

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Refer to:

- Electromechanical components from Schaltbau are used in all branches of industry in which electrical systems have to be connected, contacted and controlled reliably under the harshest of conditions.
- Connectors manufactured to industry standards
- Connectors for signal transmission
- Charging connectors for industrial trucks
- Connectors for railway and traffic engineering
Schaltbau M and M3 Series connectors to industry standard are of modular design, thus offering a customized and cost-effective realisation of your application. You best use the rugged modular circular connectors for applications where high reliability under harsh environmental conditions is paramount. Typical applications are, for instance, mining, ship-building, power plant construction, mechanical and traffic engineering, environmental technology and food processing, to name but a few. We hold numerous official approvals.

### Circular modular connectors
**Series M1, M3**

#### Specifications
- **Number of contacts**
  - M1: +PE, 6-PE
  - M3: +PE, 5+3-PE, 12+PE, 7+7-PE
- **Orientations**
  - 2
- **Rated voltage**
  - 400 V max.
- **Rated current**
  - 4x 16 A
- **Contacts**
  - Copper wrought alloy
  - Silver / Gold
- **Material**
  - Copper wrought alloy, brass
- **Finish**
  - Silver
- **Terminal type**
  - Crimp
- **Mechanical endurance**
  - 5,000 cycles
- **Coupling**
  - Threaded coupling

### Circular modular connectors
**Series G18, G28, G42, G57**

Rugged, reliable, and designed for universal use – those are the features of the G Series. Sealed to IP54 and IP67 respectively the connectors are dustproof and impermeable to splash-water. They are also resistant to the effects of most acids and alkalis as well as the extremes of temperature. Series G connectors come in 4 shell sizes and a variety of contact arrangements. The shells made of aluminium die-cast alloy and featuring bayonet or threaded coupling are highly resistant to shock, vibration and the harsh environmental conditions the connector is subjected to.

#### Specifications
- **Number of contacts**
  - G18: max.
  - G28: max.
  - G42: max.
  - G57: max.
- **Orientations**
  - 5 max.
- **Rated voltage**
  - 25 V
  - 400 V max.
  - 500 V max.
  - 400 V max.
- **Rated current**
  - 4x 16 A
  - 6x 25 A
  - 5x 16 A + 3x 50 A
  - 12x 16 A
  - 16 A max.
  - 27.5 A max.
  - 63 A max.
  - 100 A max.
- **Contacts**
  - Copper wrought alloy, brass
  - Silver
  - Crimp, solder, screw-type
- **Material**
  - Copper wrought alloy, brass
  - Silver
- **Finish**
  - Brass
- **Terminal type**
  - Crimp, solder, screw-type
- **Mechanical endurance**
  - 5,000 cycles
- **Coupling**
  - Threaded coupling, bayonet coupling

* Screw-type: Only selected variants of G28 Series
Series GA

Circular connectors
Series GA

The GA Series comprises high-quality special purpose connectors. Made of metal, the series has a contact arrangement of 4 main contacts and 11 control contacts. With inserts and contacts glued in place, the receptacles are water tight even when not mated.

The functional threaded coupling prevents the contacts from touching the insulator, thus making possible a "blind" mating of the connector halves.

- High quality metal shells
- Receptacles sealed to IP67 even when not mated
- Resistant to many aggressive liquids
- Functional threaded coupling
- Electrical and mechanical characteristics to IEC 61984
- Approvals:  

Circular audio miniature connectors
Series NF07, NF10

The proven 7 and 10 pole circular audio miniature connectors NF07 and NF10 are especially designed for communications engineering.

The modular design provides many combinations to suit your particular application. The connectors feature a high degree of protection and are water tight even when not mated.

- Circular audio miniature connectors to VG 95351 and VG 96934
- Optional customized filters
- Plugs and receptacles sealed to IP68 even when not mated
- Spring-loaded contacts: Resistant to shock and vibration
- Bayonet coupling
- Shielding ≥ 70 dB (10 kHz ... 10 MHz)
- Approvals:  

<table>
<thead>
<tr>
<th>GA</th>
<th>NF07</th>
<th>NF10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main contacts: 3+PE, Control contacts: 11</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>4 max.</td>
<td>5</td>
</tr>
<tr>
<td>400 V max.</td>
<td>50 V</td>
<td></td>
</tr>
<tr>
<td>3x 45 A</td>
<td>2.5 A</td>
<td></td>
</tr>
<tr>
<td>11x 10 A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy, spring loaded butt contacts</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>Gold-plated</td>
<td></td>
</tr>
<tr>
<td>Crimp, solder</td>
<td>Solder</td>
<td></td>
</tr>
<tr>
<td>2,000</td>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>Threaded coupling</td>
<td>Bayonet</td>
<td></td>
</tr>
</tbody>
</table>
High-Power Charging Connectors for industrial trucks

Schaltbau high power connectors of the LV series meet the requirements of the EN 1175-1 and DIN VDE 0623-589 standard for charging connectors featuring a higher current-carrying capacity. A red keying plug signifies operation at 120, 250 and 380 amperes for charging wet-cell batteries. The LV Series high power connectors are, therefore, ideally suited for modern fast chargers as used for industrial trucks. Thus they cater to the needs of the material handling industry which aims at shortening charging times in order to reduce downtime and save costs.

FEAT URES

- Keying to DIN VDE 0623-589:
  - LV: 120 A, 250 A, 380 A (higher current-carrying capacity: keying plug red)
  - LV: 80 A, 160 A and 320 A (keying plug: grey, green, yellow)
- High-quality cold-formed contacts
- Improved resistance to acids and extremes of temperature
- Air supply for electrolyte circulation systems
- Modular design, safety interlock
- Intermateable with LV Series connectors and those to DIN VDE 0623-589 of other manufacturers
- Approvals: 

High-ampacity charging connectors for modern fast chargers

Delivering maximum performance and working in harsh environmental conditions requires reliable, durable and safe products. It is exactly these requirements that are met by the new Schaltbau LV500 Series charging connectors.

The low-maintenance and high-performance connectors fulfil the expectations of the contemporary user: Modern fast chargers recharge vehicle batteries in short time or traditionally overnight.

FEAT URES

- Fast charging: High-quality cold-formed contacts capable of carrying currents up to 500 A.
- Improved resistance to acids and extremes of temperature
- Air supply for electrolyte circulation systems
- Modular design, safety interlock
- Test according to UL1977
- Approvals: 

<table>
<thead>
<tr>
<th>LV80/120 / LV160/250 / LV320/400</th>
<th>LV500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of contacts</td>
<td>2 main contacts</td>
</tr>
<tr>
<td>Keying</td>
<td>2 aux. contacts, optional: 2 pilot contacts</td>
</tr>
<tr>
<td>Battery type</td>
<td>24 V, 36 V, 48 V, 72 V, 80 V, 96 V</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>Wet-cell: red/grey, dry-cell: green, vehicle: yellow</td>
</tr>
<tr>
<td>Rated current</td>
<td>Higher current-carr. cap. LV: 120 A / 250 A / 380 A / 20 A</td>
</tr>
<tr>
<td>Main contacts</td>
<td>LV: 80 A / 160 A / 320 A</td>
</tr>
<tr>
<td>Aux. and pilot contacts</td>
<td>Silver-plated</td>
</tr>
<tr>
<td>Contacts Material</td>
<td>Main contacts: w/ crimping, aux./pilot contacts: crimping</td>
</tr>
<tr>
<td>Finish</td>
<td>Terminal type</td>
</tr>
<tr>
<td>Mechanical endurance</td>
<td>5,000</td>
</tr>
<tr>
<td>Coupling</td>
<td>Safety interlock</td>
</tr>
</tbody>
</table>
### Multifunctional adapters for LV

- **Pilot contact adapter**: 2 pilot contacts provide a data link between battery and charger.
- **Air tube adapter**: Air blow-in system for batteries with electrolyte circulation.
- **Multifunctional adapter**: Multipurpose adapter for water top up and electrolyte circulation systems. The new feature that the flow of air and/or water is shut off when the connector is unmated ensures that no acid particles enter the interior of the vehicle.

### Series SB

**Circular connectors Series SB for special applications**

Connection of supply line and control cable for automatic train protection systems installed in bogies of railway vehicles. Fitted with silver or gold plated contacts in rubber sealed insulators, the SB series connectors are weather and water proof. The sturdy connectors feature impact resistant shells with threaded coupling for rapid, convenient connections.

### FEATURES

- Water top up of battery
- Electrolyte circulation: Air blow-in system for batteries can now be shut off when connector is unmated
- Monitoring of battery by means of auxiliary and pilot contacts
- Approvals: [AEC]

### SPECIFICATIONS

<table>
<thead>
<tr>
<th>Multifunctional adapters for LV *</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 pilot contacts</td>
<td>5+PE / 6 pole / 14 pole</td>
</tr>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>150 V</td>
<td>5+PE: 115 V / 6 pole: 42 V / 14 pole: 20 V</td>
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<tr>
<td>20 A</td>
<td>16 A</td>
</tr>
<tr>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy</td>
</tr>
<tr>
<td>Silver Crimp</td>
<td>Silver / Gold Crimp, solder</td>
</tr>
<tr>
<td>5,000</td>
<td>2,000</td>
</tr>
<tr>
<td></td>
<td>Threaded coupling</td>
</tr>
</tbody>
</table>

---

* Except LV500 Series

**Number of contacts**
- **Orientations**
- **Rated voltage**
- **Rated current**
- **Contacts**
- **Material**
- **Finish**
- **Terminal type**
- **Mechanical endurance**
- **Coupling**
**Series B**

B Series connectors have been designed especially for the demanding railcar environment. They are superbly suited for power and control circuits on road and rail vehicles alike. An integrated interlocking circuit ensures that voltage is applied to the power circuit only when all covers are closed and all plugs have been mated or inserted into their respective dummy receptacles.

- Rugged mechanical and electrical design
- Universally usable connectors for power and control circuits
- Easy replacement of components
- Easy assembly resulting in short assembly times
- Mechanically locking connector
- Approvals:

**Series EP**

The connector is designed in accordance with the specifications of the international railway standard UIC 541-5. This heavy-duty connector is designed to ensure the electrical connection within a train for the electropneumatic brakes (EP brakes) as well as an electropneumatic emergency brake override.

- Feedback:
  - Plug being mated: via an optional switching element integrated in the receptacle shell
  - End of train: via a pin contact in the dummy receptacle
- Rugged mechanical and electrical design
- Receptacle shell with metal handle
- Connector for power and signal transmission
- Approvals:

**Series ZH**

Designed in compliance with UIC 552, the proven ZH and ZS Series connectors have been the stock items of the Schaltbau product range for the railway industry since decades. Rail vehicles equipped with a train line, such as passenger trains and multiple units, do need jumpers like these to rely on for smooth operation in the harsh railway environment.

- Rugged mechanical and electrical design
- Receptacle shell with metal handle
- Metal latch locking of mated plug in receptacle
- Pilot contact for feedback: optional switching element integrated in the receptacle is used for feedback signalling a plug being mated
- Optional key lock for locking receptacle and dummy receptacle

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### FEATURES

- Rugged mechanical and electrical design
- Universally usable connectors for power and control circuits
- Easy replacement of components
- Easy assembly resulting in short assembly times
- Mechanically locking connector
- Approvals:

### SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>EP (UIC 541-5 VE)</th>
<th>ZH (UIC 552)</th>
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<tbody>
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</tr>
<tr>
<td>Orientations</td>
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<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Rated voltage</td>
<td>400 V max.</td>
<td>250 V max.</td>
<td>3 kV AC/DC</td>
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<tr>
<td>Rated current</td>
<td>Main contacts 400 A max.</td>
<td>Control contacts 35 A max.</td>
<td>35 A max.</td>
</tr>
<tr>
<td>Contacts</td>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy, brass</td>
<td>Copper wrought alloy, brass</td>
</tr>
<tr>
<td>Material</td>
<td>Silver / Nickel</td>
<td>Silver / Gold</td>
<td>Silver</td>
</tr>
<tr>
<td>Finish</td>
<td>Crimp / solder / screw-type</td>
<td>Crimp</td>
<td>Crimp</td>
</tr>
<tr>
<td>Terminal type</td>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy, brass</td>
<td>Copper wrought alloy, brass</td>
</tr>
<tr>
<td>Mechanical endurance</td>
<td>5,000</td>
<td>10,000</td>
<td>5,000</td>
</tr>
<tr>
<td>Coupling</td>
<td>Interlock circuit (handle)</td>
<td>Interlock circuit (handle)</td>
<td>Insertion force / interlocking</td>
</tr>
</tbody>
</table>
Connectors to UIC 558 VE

The connector complies with railway standard UIC 558 VE. It connects lines used for remote control of lights, doors and public address systems in passenger coaches or multiple unit trains. It is also suitable for transmission of binary data, e.g. CAN bus. A new replacement insert will reduce maintenance and downtime considerably. Usually, if it is necessary to replace worn contacts, you have to cut the old cable in order to replace the insert. Now, there is no need of rewiring any longer. All you need do is exchange the replacement insert of the receptacle.

- Break-away connector for a nondestructive separation of plug and receptacle when two electrically not decoupled vehicles move apart
- Increased corrosion resistance to chemicals, in particular to detergents containing acids or alkalis
- Keying prevents connectors from mismating with connectors carrying different inserts
- 13 pole plug intermateable with 18 pole receptacle in accordance with UIC 558 VE
- Approvals: EAC

Series UIC-IT

Connector UIC-IT for fast data communication

The UIC-IT Series connector is fitted with one or two 8 pole Gigabit Ethernet (GbE) module and 16 optional signal contacts providing a highly flexible, universal and reliable Ethernet connection. With a design life that will last for decades it is the best option for the harsh railway environment. It is designed for use with various types of rail vehicles, making it possible to combine rolling stock of different manufacturers and railway operators.

- Interface connector that offers reliable Ethernet data transmission (Ethernet)
- 2x 8-pole Gigabit Ethernet module, shell orange
- 1x 8-pole Gigabit Ethernet module + 16 signal contacts, shell yellow
- 1x 8-pole Gigabit Ethernet module, shell green
- Gigabit Ethernet module: 360° shielded module for 4 data pairs for transmission of 10 GbE in a permanent link with CAT 7 compliant data cables
- Meets the requirements for closed circuit TV, traveller and passenger information systems, automatic passenger counters, voice control systems and diagnosis features
- Break-away connector in compliance with IRS 50558
- Approvals: EAC

**FEATURES**

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>UIC 558 VE</th>
<th>UIC-IT</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 / 18 / 22+PE</td>
<td>8 pole Ethernet insert up to CAT 7. 2x orange, 1x yellow, 1x green 16 signal contacts, yellow only</td>
</tr>
<tr>
<td>---</td>
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</tr>
<tr>
<td>25 V (no PE), 115 V (+ PE)</td>
<td>50V</td>
</tr>
<tr>
<td>10 A</td>
<td>1 A</td>
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<tr>
<td>Copper wrought alloy</td>
<td>Copper wrought alloy</td>
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<tr>
<td>Silver</td>
<td>Silver, gold</td>
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<tr>
<td>Crimp</td>
<td>Crimp</td>
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<td>10,000</td>
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<tr>
<td>Break-away connector</td>
<td>Break-away connector</td>
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<td>Number of contacts</td>
<td>Orientations</td>
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<tr>
<td>Rated voltage</td>
<td>Rated current</td>
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<td>Contacts</td>
<td>Material Finish</td>
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<tr>
<td>Terminal type</td>
<td>Mechanical endurance</td>
</tr>
<tr>
<td>Coupling</td>
<td></td>
</tr>
</tbody>
</table>
Electrical Components and Systems for Railway Engineering and Industrial Applications

Connectors

- Connectors manufactured to industry standards
- Connectors to suit the special requirements of communications engineering (MIL connectors)
- Charging connectors for battery-powered machines and systems
- Connectors for railway engineering, including UIC connectors
- Special connectors to suit customer requirements

Snap-action switches

- Snap-action switches with positive opening operation
- Snap-action switches with self-cleaning contacts
- Enabling switches
- Special switches to suit customer requirements

Contactors

- Single and multi-pole DC contactors
- High-voltage AC/DC contactors
- Contactors for battery powered vehicles and power supplies
- Contactors for railway applications
- Terminal bolts and fuse holders
- DC emergency disconnect switches
- Special contactors to suit customer requirements

Electrics for rolling stock

- Equipment for driver’s cab
- Equipment for passenger use
- High-voltage switchgear
- High-voltage heaters
- High-voltage roof equipment
- Equipment for electric brakes
- Design and engineering of train electrics to customer requirements

We reserve the right to make technical alterations without prior notice. For updated product information visit www.schaltbau.com