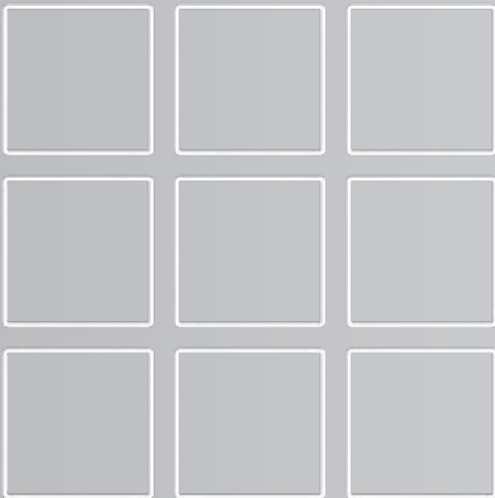


# SCHALTBAU CONNECTIONS

*ALL FROM ONE SOURCE*



# SCHALTBAU CONNECTIONS – PRE-ASSEMBLED CONNECTORS

## Schaltbau connectors – assembled as set

Whether it is for railway vehicles, charging stations of modern li-ion battery-powered forklift fleets or for switchgear cabinets of power stations and substations – with Schaltbau Connections you will keep close connection to the major OEMs of standardised hybrid cables for the transmission of binary data and signals as well as the supply of power. For now you can get the proven rugged Schaltbau connectors for railway and industrial applications pre-assembled as set. Just as you need it: with flexible standard cable, with special connection cable or however you like it, ready assembled - all from one source.



### *Expertise*

Benefit from the Schaltbau know-how.



### *Consulting*

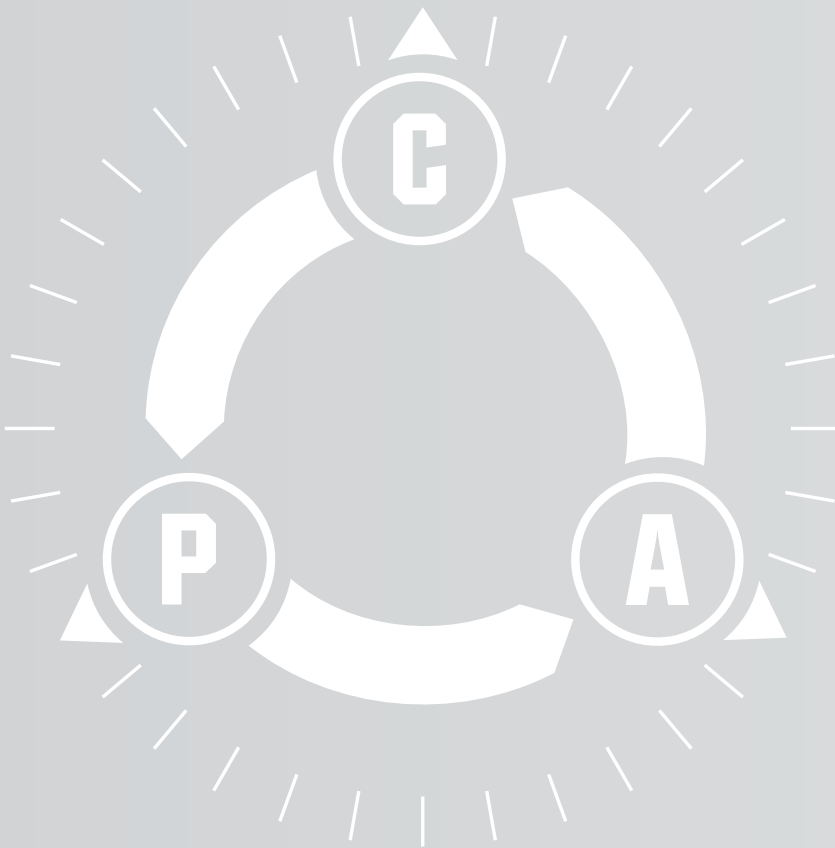
Experienced sales engineers work on-site with you.



### *Solution*

Cooperation spells success.





## **C** Consulting

**Experts are the best consultants.**

Schaltbau is a specialist in electromechanical components and customer specific solutions with decades of experience in development and manufacture.

## **A** Application

**No need to reinvent the wheel.**

Schaltbau sales engineers have access to a treasure trove of knowledge and experience including a host of realized applications. Thus you will benefit from analogies and empirical data that may be of some value for your application.

## **P** Product

**The right solution** may eventually be an item from our product line, a special variant with little need for adaptation, or a completely new design – because customizing is standard with us!

## **EXPERT AT THE CUSTOMER'S SIDE**

### Experience is the best advice



With Schaltbau you have one contact person who will give you all the support and advice you need. Our sales engineers are experienced professionals who closely cooperate with our R&D and design engineers and are perfectly acquainted with all that matters in design, local content and prototype construction.

They will also assist you with country-specific approvals, fire certificates including the associated testing and monitoring equipment together with test reports and test certificates. You will also have access to all manuals, assembly and maintenance instructions and, in addition to that, profit from a state-of-the-art spare parts management.

Thus we provide our customers with individual customized solutions which translate into more competitiveness for them. For because of fast production and delivery times in line with the market, easier storage and logistics our products are immediately operational upon delivery.

### Plug & Play – easy to handle



Ready assembled connectors from Schaltbau are available especially for switchgear cabinets of power stations and substations, for fast charging of li-ion batteries of order pickers, reach trucks and pallet stackers as well as for all sorts of railway vehicles with the focus on UIC compliant railway connectors.

No matter whether it is about the cabling of a switchgear cabinet of a medium-voltage transformer of a substation or about modern li-ion battery storage power plants in the industry for renewables or about electrical connections for data communications in trains and multiple units, pre-assembled connectors from Schaltbau can be adapted to any situation, can be mounted in the most confined spaces, and even lent themselves to customer-specific cabling as well as prototype construction.

The plug & play technology eliminates long installation time, makes testing unnecessary and provides for easy replacement during maintenance and repair. Thus saving time and money.

## Range of services - Schaltbau Connections

Schaltbau Connections offers pre-assembled cable sets for utilities, modern Li-Ion battery-powered forklift fleets and all sorts of rail vehicles the world over. Whether standard or hybrid cables in different lengths and sizes, coming with corrugated pipes or with clamps or terminal lugs, Schaltbau pre-assembled connectors always fit to the purpose and meet the highest quality standards. You get it ready assembled - all from one source.



- Standard cables of different lengths and sizes
- Standardised hybrid cables (UIC Series connectors)
- Cable assemblies and harnesses to customer requirements (minimum quantities apply)
- Corrugated pipes – for assemblies of different types of cables
- Mounting aids (mounting brackets and plates)
- Individual termination of cable end, e.g. RJ45, M12, cable lugs, clamps and others
- Inserts to customer requirements (layouts, contact identification marked on insert)
- Range of accessories: Cable glands, cable sleeves, strain reliefs, shrink boots, and seals
- Prototypes and small batches of standard cable assemblies
- Local Content, country-specific approvals
- EN 45545 fire certificate for cables and components

# RAILWAY CONNECTORS

## Connectors to UIC for electro-pneumatic brakes

This heavy-duty connector is designed to ensure the electrical connection within a train for the electro-pneumatic brakes (EP brakes) as well as the bypass of an electro-pneumatic emergency brake.

Both systems have functions which overlap through their control and monitoring elements. They are fed by a common electrical cable that runs the length of the train. Integrated in the receptacle is a switching element as pilot contact which is used for feedback signalling a plug being mated, whereas the end of train is signalled by means of a pin contact in the dummy receptacle. The connector is designed in accordance with the specifications of the international railway standard UIC 541-5 VE.



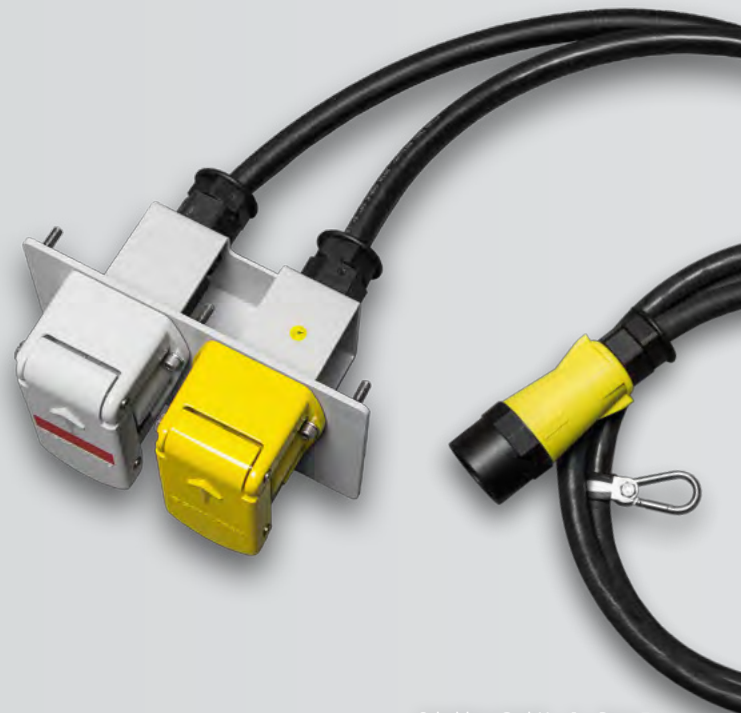
- Pre-assembled single and double ended connecting cables
  - Plug and receptacle without switching element coming with 9 core UIC compliant hybrid cable
  - 11 core cable for receptacle with switching element: No individual wiring of the 2 additional wires for the connection of the switching element and mounting of the protective hose that goes with them
- Receptacle ready mounted on the angle plate with earthing connection and strain relief
  - for direct mounting to the body of the car
  - for connection to junction boxes
- Easy mounting and replacement
- No costly tests as with individual wiring

## Connectors to UIC for reliable data communications in trains

With their 8 pole Gigabit Ethernet module and optional 16 signal contacts, the rugged, durable UIC-IT Series connectors (yellow) stand for high transmission rates as required for today's automatic passenger count systems and on-board video surveillance as well as on-board services for passengers, such as WiFi and multimedia. Schaltbau offers the right connector system for data communications which is likely to set a standard for data connections in railway vehicles.

Likewise, the connectors to UIC 558 VE (light grey) are also superbly suitable for binary data transmission, as for instance via CAN bus or WTB (wire train bus). The rugged jumpers typically connect lines used for the remote control of lights and train doors or for public address systems in passenger coaches of trains or diesel and electric multiple units. The break-away connector ensures, provided the receptacle is installed in the correct position, a non-destructive separation of plug and receptacle when two electrically not decoupled vehicles move apart.

- Pre-assembled single and double ended connecting cables
  - Individual cables laid inside corrugated pipe
  - UIC-compliant hybrid cables
- Complete sets for mounting of UIC series
  - for direct mounting to the body of the car
  - for connection to junction boxes
- Easy mounting and replacement
- No costly test as with individual wiring



# RAILWAY CONNECTORS

## Jumpers to UIC 552 for train lines

All rail vehicles equipped with a train line, such as trains and multiple units require jumpers to UIC 552. Jumpers provide the electrical connections between the locomotive and the carriages or between the motor cars and the not powered trailer cars of a multiple unit train.

The new ZS552 coupling receptacle now has a symmetrical design and a common terminal for connecting cables entering from the left, right or the rear. The insert can now be replaced from the front without the need of wiring any longer. And for maintenance an optional lock and key is available.

The seal and drainage of the lid have also been improved. Thus the new ZS552 receptacle will provide for more safety and handling comfort.



- Pre-assembled plugs
- Single and double ended connecting cables
- Non-halogen sheathed power supply line for rail vehicles
  - With improved flammability rating and heat resistance following DIN VDE 0250-606 and DIN EN 50624
  - Type designation: NSHXAFMOE 3,6/6kV
  - Cables of different lengths and sizes
  - Wire gauge: 185 mm<sup>2</sup>
- High voltage test up to 13 kV inclusive



## B Series connectors for multiple unit operation

With nominal voltages up to 600 V DC and 400 V AC, the B Series connectors are superbly suited for power and control circuits of road and rail vehicles alike.

To accommodate ridership railcars of public and private railway operators worldwide are usually coupled to form a consist of seven and even more cars. For operating such multiple units instead of the typical connectors to UIC the modular variants of the B Series are preferred for supplying energy and transmitting signals.

With layouts of up to 59+PE, the many control contacts make it possible to realise additional functions, such as an interlocking circuit to protect personnel against contact with live parts with a conductor.

- Pre-assembled plugs
- Single and double ended connecting cables
- Cables of different lengths and sizes
  - Individual cables laid inside corrugated pipe
  - Hybrid cables
  - Pre-assembled to customer requirements
- Modular design with layouts up to 59+PE

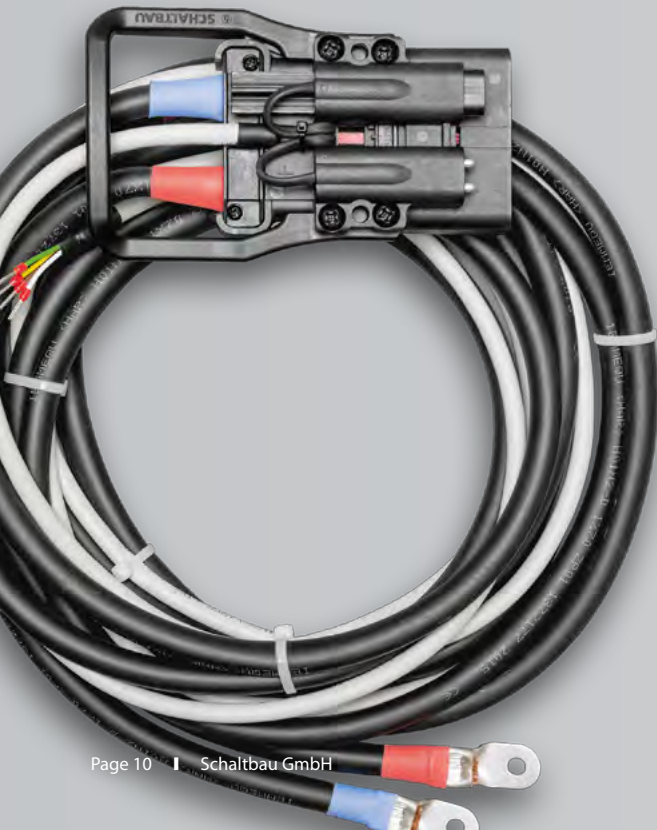


# INDUSTRY CONNECTORS

## LV Series charging connectors for battery storage systems

Plug & play storage systems for traction batteries of today's forklift fleets consist of three parts: software-supported charger, battery and a charging plug as offered by Schaltbau, complete with special adapters for electrolyte circulation and automatic water top up systems. An optional pilot contact is available for use with charge control, thus assuring safe charge termination even if the plug is pulled prematurely. It also reduces contact wear and protects the user from electric shock.

Schaltbau charging connectors are available for use with charging stations in the power range of 1 kW up to 16 kW and for voltages ranging from 250 VAC to 400 VAC – pre-assembled with cables of different lengths and terminal lugs.



- Pre-assembled weld cables with sizes up to 4/0 AWG
- Cable lugs and terminal lugs with sleeves, such as the ones from Flex or Perfect, specially designed for use with batteries
- Optional snap-on adapter suitable for holding up to 4 additional signal contacts. With them it is easy to establish the Bus/CAN connection needed for the charging management of modern li-ion batteries
- Fast charging capacity up to 500 A
- High-quality screw-machine power contacts
- Adapters for use with electrolyte circulation and water top up systems
- Optional pilot and auxiliary contacts

## G Series connectors for switchgear cabinets of utilities

Extension or refurbishment of switchgear for medium voltage transformers usually results in more wiring also, because more signals, for instance, have to be added to the signal cabinet. And here the rugged G Series industry connectors from Schaltbau come in handy, because with layouts ranging from 4 pole up to 32+PE, the connector series offers all the flexibility which is needed to fit the purpose.

Schaltbau Connections now makes it possible that energy supply companies order as a set the connectors pre-assembled with just the kind of cables, lengths and terminal ends they need. The direct benefit is a reduced wiring effort and no acceptance testing at the end of it.

- Receptacles, pre-assembled with individual cables
- Plugs, pre-assembled with hybrid cables  
Type YY (F) 0,6/1 kV – flexible PVC control cable
- Connectors meeting the requirements as specified for switchgear cabinets of utilities
- Layouts of G42 and G57 Series ranging from 4 pole (2 empty cavities) up to 32+PE for 400 V and 120 A max.
- Contact inserts potted for the utmost in sealing
- 5 polarising positions (A, B, C, D, E)
- Bayonet coupling and mechanical interlocking with protective rubber collar and protection cap



## **SCHALTBAU CONNECTIONS**

▶ For detailed information on our products and services visit [www.schaltbau-gmbh.com](http://www.schaltbau-gmbh.com) – or give us a call!

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