

## Connectors



**Short Form  
Catalogue**



## Components for electrical engineering

Schaltbau connectors nowadays ensure good "connections" in all areas of electrical engineering.

The product line ranges from miniature connectors for telecommunications to power connectors for rail vehicles and passenger coaches.

Multi-pole industrial circular connectors represent priority styles. Main areas of application are engine and apparatus construction, instrumentation, industrial process measurement and control, as well as drive, power, and traffic engineering.

Schaltbau has newly developed an easily operable charging connector with integrated air passage and pilot contacts for battery-powered electric vehicles.

Connectors with spring-loaded contacts for stationary radio equipment and special industrial applications supplement the product range.



Series	M	G	GA	GM	NF	PT	LB-L	LV	MT	UIC 558	EP	UIC 552	B	R
Max. number of contacts	12+PE	48+PE	14+PE	64+PE	10	61	2+4	2+4	19	22	9	1	59+PE	12
Protection degree	IP67	IP67	IP67	IP67	IP67	IP67	IP23	IP23	IP67	IP54	IP66	IP54	IP54	IP67
Max. rated current	50 A	100 A	50A	35 A	0,5 A	13 A	320 A	400 A	30 A	63 A	50 A	800 A	400 A	120 A
Rated voltage	400 V	500 V	400 V	400 V	50 V	50 V	150 V	150 V	25 V	115 V	250 V	3 kV	2 kV	600 V
Metal housing		•	•		•	•						•	•	•
Featuring contacts of various sizes	•		•				•	•	•	•	•		•	•
Spring-loaded contacts					•									
EMC shielding					•	•								
Integrated filter					•	•								
Coding	•	•	•	•	•	•	•	•					•	
Locking	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Shock and vibration resistance					•	•				•	•	•	•	•
Acid resistance	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Air passage							•	•						
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Quality you can count on

**M Series**



Modern M Connectors

Catalogue A10e

**G Series**



G Series Connectors

Catalogue A20e

**Features**

- ▶ Modular design
- ▶ Rugged fiber glass reinforced PA housing
  - M1: PA6.6 GF30, halogen-free (UL94-V0)
  - M3: PA6 GF30 (UL94-V0)
- ▶ Functional thread locking
- ▶ Fully insulated to IEC 60664-1
- ▶ Mechanical endurance > 5,000 operating cycles
- ▶ Electrical and mechanical characteristics to IEC 61984
- ▶ SEV approval, Germanic Lloyd, сертификат Nemko, UL

**Features**

- ▶ Modular design
- ▶ Metal housing made of aluminium die-cast
- ▶ Mechanical endurance > 5,000 operating cycles
- ▶ Electrical and mechanical characteristics to IEC 61984
- ▶ SEV approval, Germanic Lloyd, mining approval

**Technical Data**

Series	M1 / M3
Number of contacts	4 + PE ... 12 + PE
Rated current	up to 50 A
Rated voltage	25 V ... 400 V
Wire gauge	AWG 20 ... AWG 9
Terminal type	Crimp
Contact material	Copper alloy, silver or gold plated
Test voltage	1,500 V / 2,500 V
Temperature range	-25°C ... +100°C
Protection, IEC 60529	IP67
Housing material	PA6 GF30 and PA6.6 GF30 resp.
Locking	Threaded coupling

**Technical Data**

Series	G18 / G28 / G42 / G57
Number of contacts	2 + PE ... 48 + PE
Rated current	up to 100 A
Rated voltage	25 V ... 500 V
Wire gauge	AWG 20 ... AWG 2
Terminal type	Crimp, solder, screw
Contact material	Copper alloy, silver plated
Test voltage	2,500 V
Temperature range	-25°C ... +100°C
Protection, IEC 60529	IP54 / IP67
Housing material	aluminium die-cast
Locking	Bayonet and Threaded coupling resp.

## GA Series



GA Series Connectors

Catalogue A25e

## GM Series



GM Series Connectors

Catalogue A20

### Features

- ▶ High-quality metal housing
- ▶ Tight receptacle when open
- ▶ Resistant to many aggressive liquids
- ▶ Functional thread locking
- ▶ Electrical and mechanical characteristics to IEC 61984

### Features

- ▶ Modular design
- ▶ Rugged fiber glass reinforced PA housing for the use of G series contact inserts
- ▶ Mechanical endurance > 5,000 operating cycles
- ▶ Functional thread locking
- ▶ Electrical and mechanical characteristics to IEC 61984
- ▶ Flame retardant to UL94-V0

### Technical Data

Series	GA
Number of contacts	3 + PE + 11
Rated current	50 A / 10 A
Rated voltage	400 V AC / 60 V DC
Wire gauge	AWG 20 ... AWG 9
Terminal type	Solder (receptacle) / crimp (plug)
Contact material	Copper alloy, silver plated
Test voltage	2,500 V / 500 V
Temperature range	-25°C ... +100°C
Protection, IEC 60529	IP67
Housing material	aluminium
Locking	Threaded coupling

### Technical Data

Series	GM42 / GM57
Number of contacts	4 + PE ... 64 + PE
Rated current	up to 35 A
Rated voltage	25 V ... 400 V
Wire gauge	AWG 20 ... AWG 9
Terminal type	Crimp, solder
Contact material	Copper alloy, silver plated
Test voltage	1,500 V / 2,500 V
Temperature range	-25°C ... +100°C
Protection, IEC 60529	IP67
Housing material	Polyamide 6 GF 30
Locking	Threaded coupling

NF Series



NF Series Connectors

Catalogue A58e

PT Series



Series discontinued  
Only special designs available on request

PT Series Connectors

Features

- ▶ Audio miniature connector to VG 95351 and VG 96934
- ▶ Audio miniature filter connector based on VG
- ▶ Both, plug and receptacle tight when open
- ▶ Shock- and vibration-proof; spring-loaded contacts
- ▶ Mechanical endurance > 5,000 operating cycles
- ▶ Shielding effect  $\geq 70$  dB (10 kHz to 10 MHz)

Features

- ▶ Connector to VG 95328
- ▶ Waterproof, gas-proof and airtight
- ▶ aluminium alloy housing parts
- ▶ RF-proof version by 360° mass contact ring
- ▶ Bayonet locking
- ▶ Coding by different positions of inserts towards guide slot/nose of housing. 5 guide slots/noses for coding purpose on mating side of housing prevent wrong mating

Technical Data

Series	NF
Number of contacts	7 or 10
Rated current	6 $\mu$ A ... 2.5 A
Rated voltage	50 V
Wire gauge	AWG 20
Terminal type	Solder
Contact material	Copper alloy, gold plated
Test voltage	500 V
Temperature range	-55°C ... +100°C
Protection, IEC 60529	IP67 / 0.4 bar
Housing material	Stainless steel / aluminium alloy
Locking	Bayonet

Technical Data

Series	PT
Number of contacts	3 ... 61
Rated current	7.5 A und 13 A
Rated voltage	up to 50 V
Wire gauge	AWG 16 ... AWG 7
Terminal type	Crimp, solder
Contact material	Copper alloy
Test voltage	1,500 V
Temperature range	-55°C ... +125°C
Protection, IEC 60529	IP67 / 0.2 bar
Housing material	aluminium alloy
Locking	Bayonet

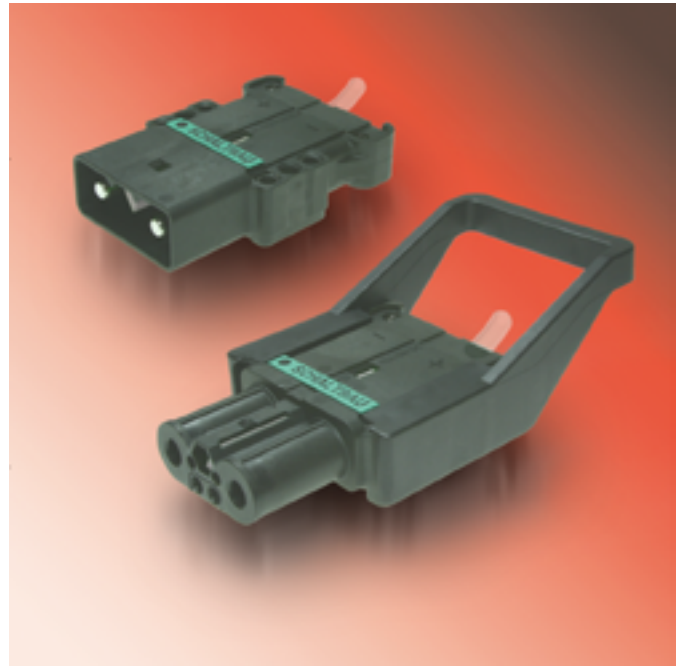


## LB-L Series



LB-L Series Charging Connectors Catalogue A85e

## LV Series



LV Series Charging Connectors Catalogue A84e

### Features

- ▶ Charging connector with or without air passage:
  - Dimensions to DIN 43589-1
  - approved to EN 1175-1
- ▶ Contacts for different wire gauges
- ▶ Tested impact resistance
- ▶ Battery fluid-tightness
- ▶ 2 pilot contacts can be retrofitted
- ▶ No special tool needed for assembly

### Features

- ▶ Higher ampacity of main contacts
- ▶ Improved resistance to acids and extremes of temperature
- ▶ Option for electrolyte circulation systems
- ▶ 2 aux and 2 pilot contacts possible
- ▶ DIN compliant keying
- ▶ Modular design
- ▶ Intermateable with systems of other manufacturers

### Technical Data

Series	LB-L
Number of contacts	2 main contacts, 2 and 4 pilot contacts resp.
Rated current	160 A / 320 A
Rated voltage	150 V DC
Wire gauge	AWG 3 ... AWG 3/0
Terminal type	Crimp
Contact material	Electrolytic copper, silver plated
Test voltage	4,000 V
Temperature range	-25°C ... +90°C
Protection, IEC 60529	IP23
Housing material	Polyamide 6 GF 30
Locking	additional locking

### Technical Data

Series	LV
Number of contacts	2 main-, 2 aux-, 2 pilot contacts
Rated current	150 A / 250 A / 400 A
Rated voltage	150 V DC
Wire gauge	AWG 7 ... AWG 3/0
Terminal type	Crimp
Contact material	Electrolytic copper, silver plated
Test voltage	4,000 V
Temperature range	-25°C ... +90°C
Protection, IEC 60529	IP23
Housing material	PBT 6 GF 30 (free of PBB and PBDE)
Locking	integrated interlocking

## MT Series



MT Series Connectors

Catalogue A11e

## UIC 558 Series



UIC 558 Series Connectors

Catalogue F120e

### Features

- ▶ For the 19 pole style, a 3-step insulation protection was realised:
  - Plastic contact holder
  - Effective screening
  - Rugged polyamide housing
- ▶ Functional thread locking
- ▶ Shielding effect (19 pole)  $\geq 65$  dB (100 kHz to 10 MHz)
- ▶ Flame retardant to UL94-V0

### Features

- ▶ Rugged design
- ▶ Increased resistance to chemical influences
- ▶ Easy assembly, short mounting time
- ▶ Same basic styles for receptacle and dummy
- ▶ 18 pole receptacle matable with 13 pole plug
- ▶ Coding possibility
- ▶ Receptacle and plug can be fitted to customer specifications on request
- ▶ Rated current 63 A max.

### Technical Data

Series	MT	
Number of contacts	19	3 + PE + 4
Rated current	up to 7.5 A	30 A (50 A)
Rated voltage	25 V	690 V / 25 V
Wire gauge	AWG 26 ... 20	AWG 15 ... 9
Terminal type	Crimp	
Contact material	Copper alloy, silver plated	
Test voltage	1,500 V	2,500 V
Temperature range	-25°C ... +80°C	
Protection, IEC 60529	IP67	
Housing material	Polyamide 6 GF 25	
Locking	Threaded coupling	

### Technical Data

Series	UIC 558	
Number of contacts	6 +2, 13 - 18, 16 + 2 RF, 22	
Rated current	10 A ... 63 A / RF contacts 1.5 A	
Rated voltage	25 V / 115 V AC	
Wire gauge	AWG 18 ... 17 / AWG 13 ... 9	
Terminal type	Crimp	
Contact material	Copper zinc, silver or nickel plated	
Test voltage	2,500 V	
Temperature range	-40°C ... +90°C	
Protection, IEC 60529	IP54	
Housing material	aluminium die-cast or polyamide 6 GF 30	
Locking	Break-away connector	



## EP Series



EP Series Connectors

Catalogue F121e

## UIC 552 Series



UIC 552 Series Connectors

Catalogue F122e

### Features

- ▶ Connector for power and signal transfer
- ▶ Application: Bypass of an electro-pneumatic emergency brake and E-P brakes
- ▶ UIC 541-5 VE
- ▶ Impact resistant metal handle
- ▶ Main contacts 110 B / 50 A
- ▶ 10,000 cycles

### Features

- ▶ Rugged design
- ▶ Contact for wire gauge AWG 6/0 (185 mm<sup>2</sup>)
- ▶ Rated current 800 A max.
- ▶ Interlock
- ▶ Magnetically neutral housing
- ▶ Plug cable with protective screen (earth)

### Technical Data

Series	EP
Number of contacts	4 + 2 + 2 + 1
Rated current	50 A / 37 A / 10 A / 27 A
Rated voltage	250 V
Wire gauge	AWG 7, 9, 13, 18
Terminal type	Crimp
Contact material	Electrolytic copper, silver plated
Test voltage	2,500 V
Temperature range	-40°C ... +70°C
Protection, IEC 60529	IP66
Housing material	Polyamide or aluminium die-cast
Locking	Interlock circuit

### Technical Data

Series	UIC 552
Number of contacts	1
Rated current	800 A
Rated voltage	3 kV AC / DC
Wire gauge	AWG 6/0
Terminal type	Screw
Contact material	Electrolytic copper
Test voltage	12.5 kV
Temperature range	-40°C ... +85°C
Protection, IEC 60529	IP54
Housing material	aluminium die-cast
Locking	direct

**B Series**



B Series Connectors

Catalogue F160e

**R Series**



Series discontinued  
Only special designs available on request

R Series Connectors

Catalogue F123e

**Features**

- ▶ Specially designed for demanding use in rail vehicles
- ▶ Contact inserts with different contact arrangements for power and control circuits
- ▶ Rated voltages up to 600 B DC / 400 V AC
- ▶ Rated currents up to 400 A
- ▶ Additional control contacts for the realisation of a safety circuit
- ▶ Connector can be interlocked

**Features**

- ▶ Designed for high mechanical requirements, e.g. in rail vehicle bogies
- ▶ Locking by means of M10 screws
- ▶ Rubber-cushioned contacts suitable for extreme shock and vibration

**Technical Data**

Series	B
Number of contacts	59 + PE
Rated current	20 mA ... 400 A
Rated voltage	25 V / 2,000 V
Wire gauge	AWG 3/0 ... AWG 4/0
Terminal type	Crimp, screw
Contact material	Copper alloy, silver or nickel plated
Test voltage	2,500 V
Temperature range	-40°C ... +85°C
Protection, IEC 60529	IP54
Housing material	aluminium die-cast
Locking	Interlock circuit

**Technical Data**

Series	R
Number of contacts	12
Rated current	16 A ... 120 A
Rated voltage	600 V to IEC 60512-25-1
Wire gauge	AWG 15 / AWG 9 / AWG 3
Terminal type	Crimp
Contact material	Copper alloy, silver plated
Test voltage	3,000 V
Temperature range	-40°C ... +85°C
Protection, IEC 60529	IP67
Housing material	aluminium die-cast
Locking	by fixing of 2 screws

## Product information


## Requested by:

Company:	
Name:	
Dept.:	
Street:	

Place / Postcode:	
Phone:	
Fax:	
e-Mail:	

## Line of business / industry:

<input type="checkbox"/>	Mechanical engineering
<input type="checkbox"/>	Energy
<input type="checkbox"/>	Transportation
<input type="checkbox"/>	Instrumentation

<input type="checkbox"/>	Medical technology
<input type="checkbox"/>	Telecommunications
<input type="checkbox"/>	Other:

## I am interested in:

<input type="checkbox"/>	Connectors
<input type="checkbox"/>	Snap-action switches
<input type="checkbox"/>	Contactors
<input type="checkbox"/>	Control devices
<input type="checkbox"/>	Catalogue: <input style="width: 100px;" type="text"/>

## My applications require:

<input type="checkbox"/>	High voltage
<input type="checkbox"/>	High currents
<input type="checkbox"/>	Long service life
<input type="checkbox"/>	Safety and reliability
<input type="checkbox"/>	Harsh ambient conditions

## Please:

<input type="checkbox"/>	Ring me up on: <input style="width: 100px;" type="text"/>
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<input type="checkbox"/>	Fix an appointment
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## 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 stop switches
- Special contactors to suit customer requirements

### Control devices



- Master controllers and reversers for railway applications
- Toggle switch devices
- Handles and foot switches for railway applications (dead-man equipment)
- Switching elements with high breaking capacity
- Emergency brake handles
- Signal devices

### Transportation system equipment



- Power supplies for passenger coaches (electric equipment)
- Battery chargers for locomotives and passenger coaches
- High-voltage equipment for single and multi-phase operation
- Heating devices and heating controls
- Design and engineering services for high-voltage equipment
- Special equipment to suit customer requirements

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