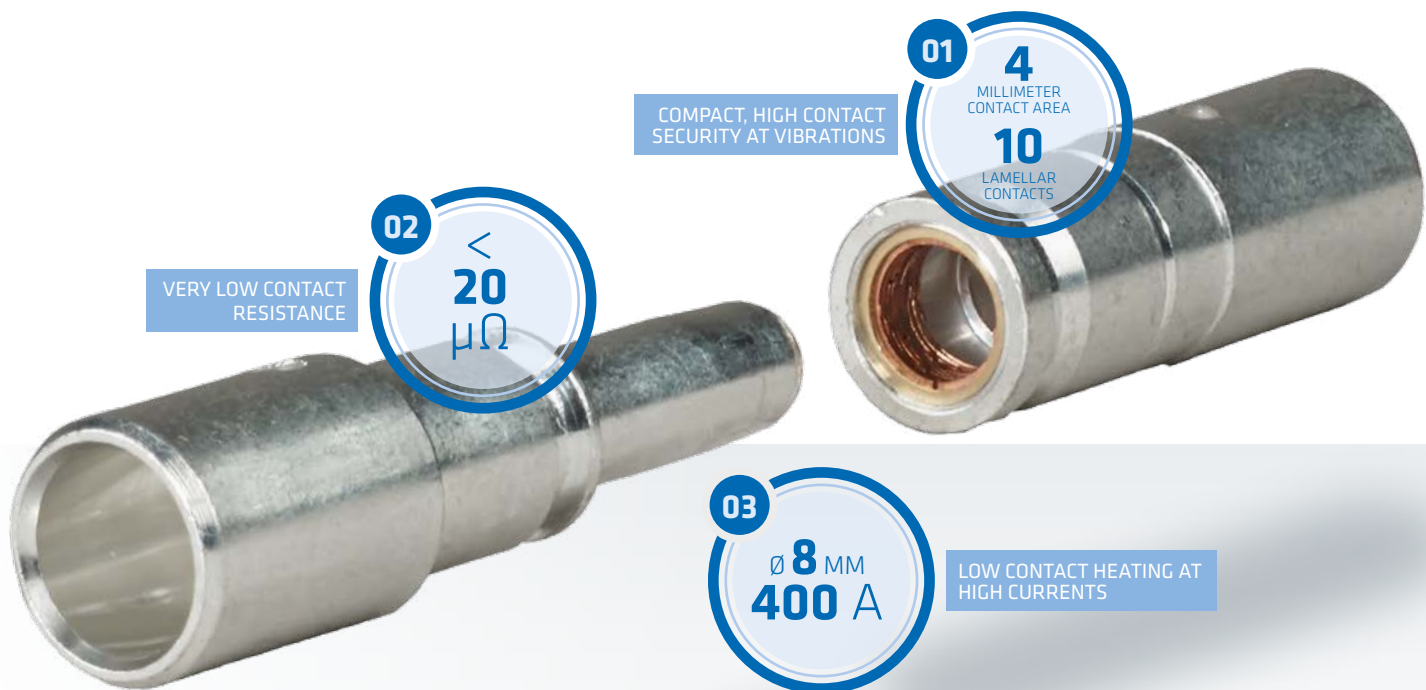




AKNH

HIGH CURRENT CONNECTOR

INNOVATIVE. UNIQUE. PIONEERING.



A GOOD CONNECTION...
...NEEDS RELIABLE CONTACTS

Benefits of AKNH CONTACT TECHNOLOGY

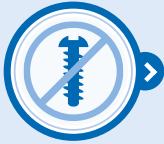
The AKNH high-current plug-in connection is a patented complete solution* based on AKNH contact lamella technology for a variety of application areas.

This contact technology can be used to implement high grade electrical connections with a plug-in system, replacing the previously domi-

nant threaded connections.

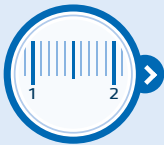
The AKNH plug-in system boasts all the positive, electrical and geometrical properties of threaded fittings. This opens up a number of potential new solutions for small volumes at low cost and with high contact security.

YOUR BENEFITS



New fields of application.

Just plug it in. You can get consistent contact security without threaded connections. Plug in Al-Cu connections.



Compact design.

The AKNH contact lamella principle is combined with high-grade materials to produce the smallest dimensions.



Optimum approved technology.

Low insertion and extraction forces, high contact force, high plugging cycles, no contact interruptions (> 90 ns).



Cost-effective production.

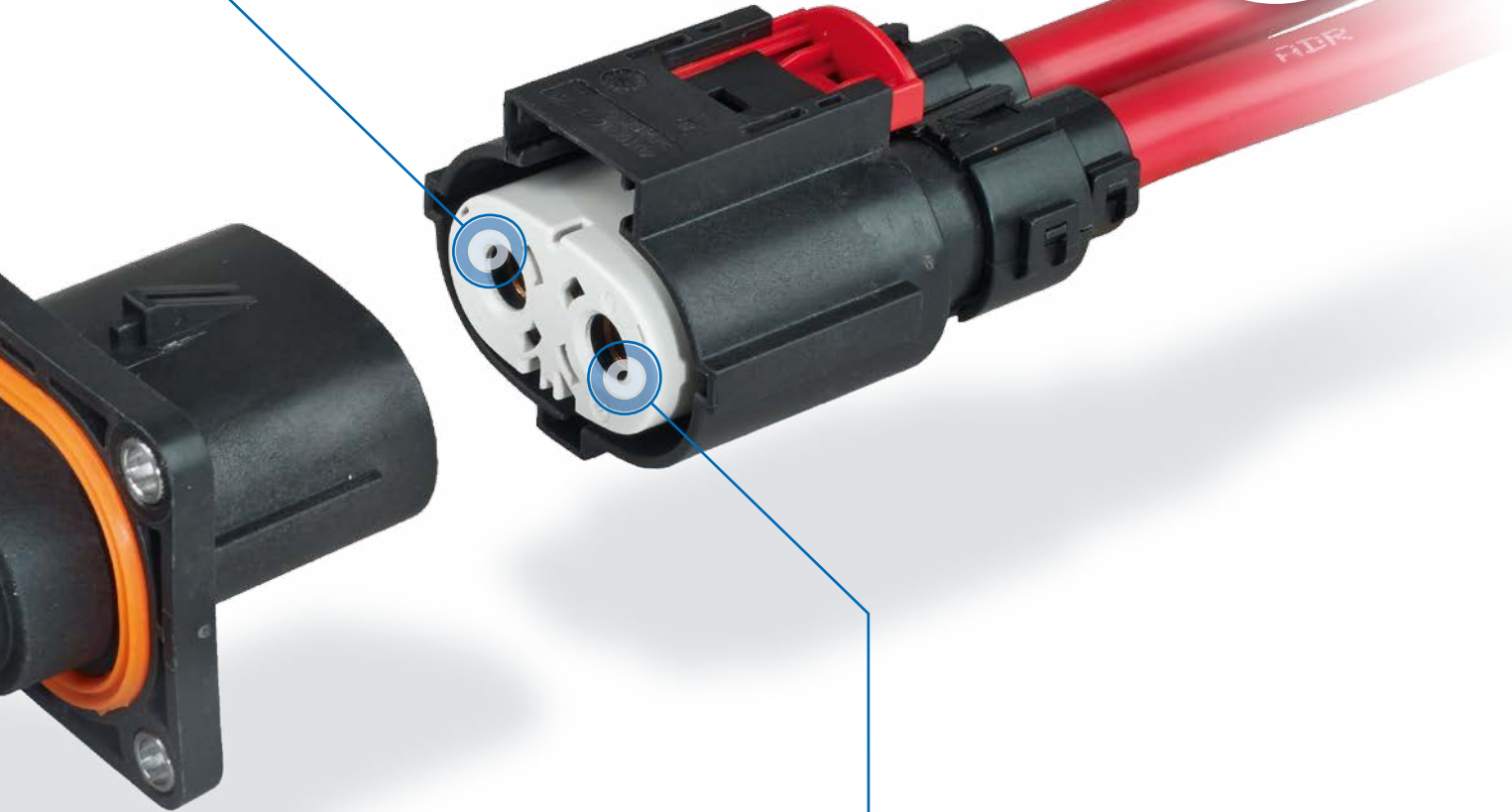
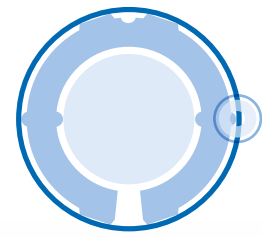
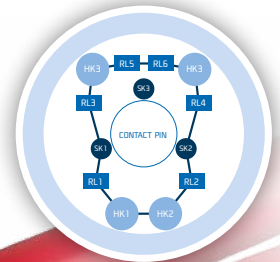
Straightforward design and manufacture thanks to punched and bundled individual lamellar contacts.



Twisted mounting of the round lamellar contacts for optimum contact security

Several contacts indicate a high contact force. These ensure high resistance to shock, impact and vibration.

Replacement wiring diagram



Optimum conductance via round lamellar contacts

Made of high-quality copper alloy.
400 A with smallest dimensions, 8.0 mm pin diameter, 4 mm contact area thickness, minimal contact heating.



Parallel mounting of the lamellar contacts

This results in the lowest levels of contact resistance. With 10 round lamellar contacts and a pin diameter of 8.0 mm, the contact resistance is < 20 µohm.

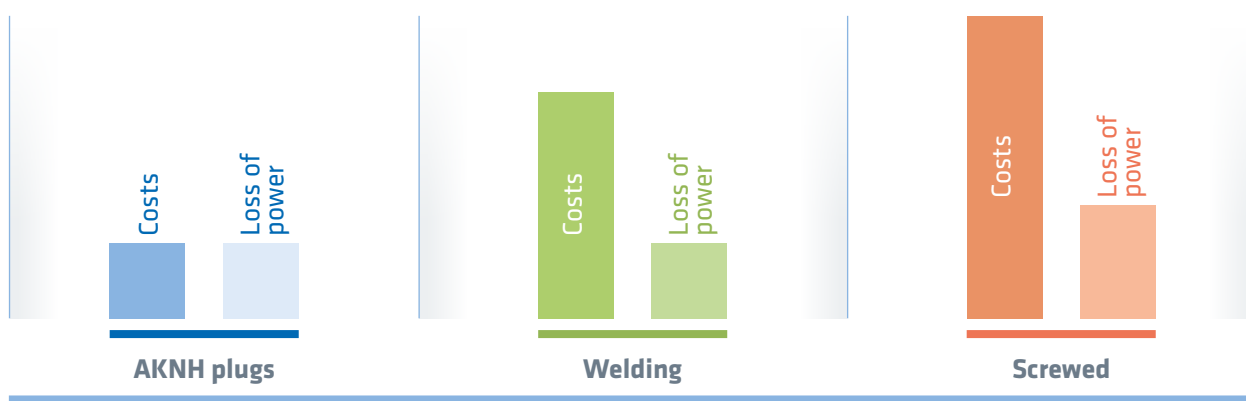
$$\rightarrow \frac{1}{R_{\text{tot}}} = \frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} + \dots \sim 20 \mu\text{ohm}$$

Why NOT JUST **PLUG IT IN** instead of **SCREWING?**

JUST PLUG IN WITHOUT ANY LOSS OF POWER.

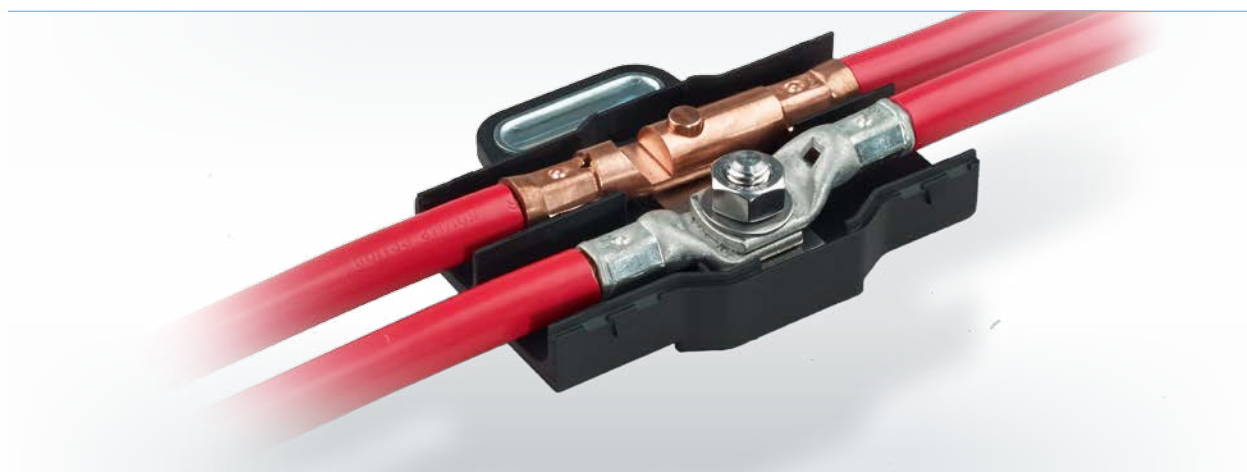
The tables below show the benefits of plug-in connections compared with a threaded or welded con-

nection, both in terms of economy and sheer quality. With the AKNH plug-in connection, costs and power losses are minimal.



SIZE MATTERS...

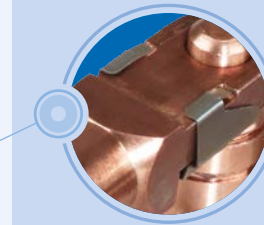
Our plug-in connection does not lead to any loss of space – on the contrary, less space is required in the context of consistent or improved contact security of the connection.



SINGLE-POLE and **RADIAL** plug-in solutions

BATTERY TERMINAL SOLUTIONS

The outstanding contact security, low loss of power, low contact heating at high currents and high vibration resistance enable use with batteries or other vehicle applications.

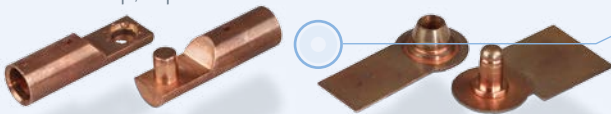


INTEGRATED LOCKING

The integrated locking carriage on the contact socket element enables direct locking without the need for additional components. This makes it possible to quickly and securely connect the plug-in connection in the narrowest of spaces and without using assembly tools, ensuring process reliability. Plug-in can also be performed 'blind'.

ADDITIONAL RADIAL CONTACT SOLUTIONS

The radial plug-in connection via the pin and contact socket enables a plug-in connection with high axial tensile strength. The contact elements can be implemented as a crimp, squeeze or welded connection.

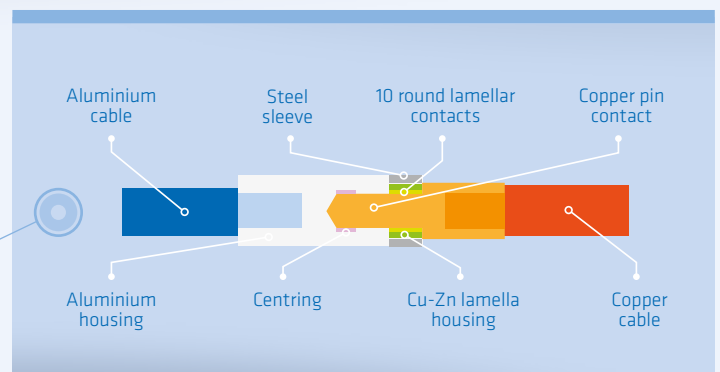


ROTATABLE CONNECTIONS

The compact round lamella stack featuring a number of contact points allows the use of rotatable plug-in connections. This in turn permits high flexibility in the cable routing.

PLUG-IN CONNECTION FOR COPPER AND ALUMINIUM CABLES

Our new patented procedure* enables an electrically isolated plug-in connection between copper and aluminium cables. The aluminium parts are not directly connected to the copper elements. 300 A with 10 round lamellar contacts.



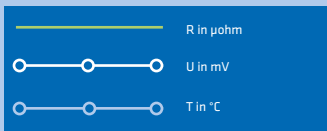
No empty PROMISES. What we say **STACKS UP**

Higher temperatures always result in increased contact resistance. Our high-current plug-in connection provides constant conduc-

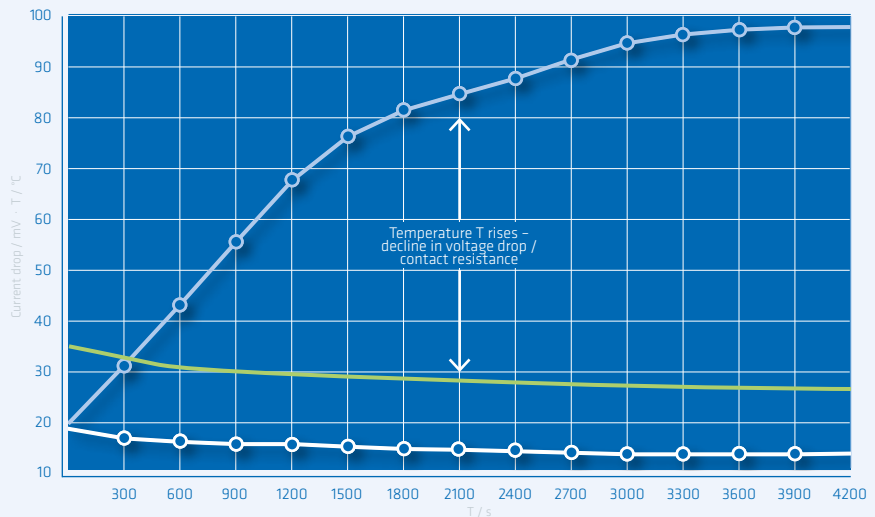
tivity even at high temperatures. This sets it apart from other plug-in connections.

CONSTANT CONTACT RESISTANCE AT HIGH TEMPERATURES

The effect of the different elongation coefficients of the materials used is that, when the temperature rises, the contact force also increases.

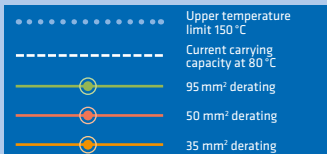


Voltage drop / contact resistance and temperature curve at 500 A

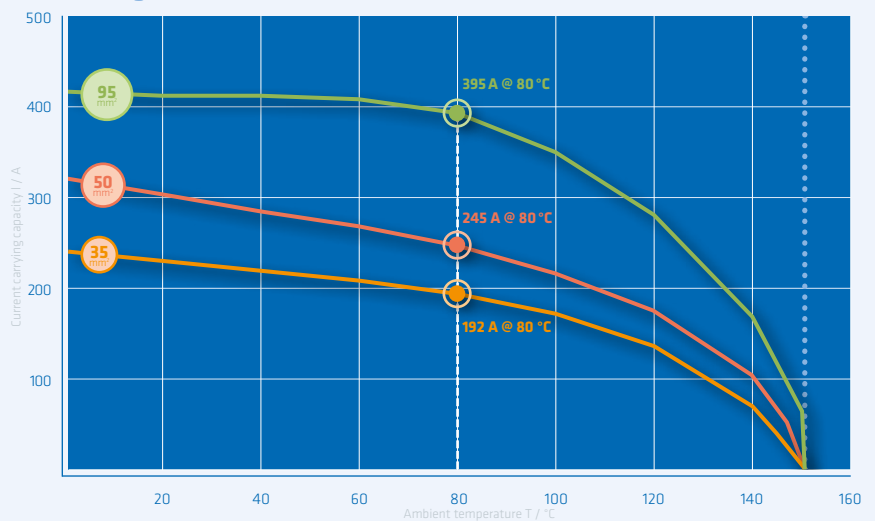


DERATING CURVE ACCORDING TO DIN EN 60512-5-2, REDUCED BASE CURVE 80 %

395 A at
80 °C



Derating curve



HIGH-CURRENT CONNECTOR IP6K9K

Our 2-pole plug-in connection consists of a number of top grade components whose combined individual functions form a genuine high-end product. The high protection rating IP6K9K is achieved at the cable end via a single-wire seal and additional plastic covers. In the plug, it is attained by means of a lamella seal. The installation of the contact elements ensures process re-

liability through a locking function in the casings with additional secondary components. The pin casing features a flange design and is equipped with a lamella seal and sockets. Robust locking of the plug-in connection with integrated secondary locking enables secure connection and prevents accidental disconnection.



DESIGNATION	CONNECTOR CROSS-SECTION 35 mm ²	CONNECTOR CROSS-SECTION 50 mm ²
Plug, complete, socket side	AK 401 001 006	AK 401 001 002
Plug, complete, pin side	AK 402 001 008	AK 402 001 002
Female contact, single	AK 032 300 004	AK 032 300 002
Male contact, single	AK 031 300 002	AK 031 300 001
Single-wire seal	AK 055 006 104	AK 055 006 103

FURTHER CUSTOMISED DESIGNS AND CROSS-SECTIONS AVAILABLE ON REQUEST. PLUGS CAN ALSO BE SUPPLIED WITH CABLES INCLUDED.

FOR OVER 90 YEARS QUALITY FROM KIRCHHEIM-TECK



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T +49 (0)7021 97009 0

E info@ak-teck.de

INFORMATION ON FURTHER PRODUCTS

AT WWW.AK-TECK.DE



● **AK Frenštát s.r.o**
CZ-74401 Frenštát
T +420 556 840 110
F +420 556 840 111
E akfrenstat@akfrenstat.cz
www.akfrenstat.cz

● **AK Auto Electric Systems
(India) Pvt. Ltd.**
Plot No. W-110, S-Block,
MIDC Bhosari, Pune 411026,
Maharashtra
T +91 20 271 209 44
www.ak-teck.in



APPARATEBAU KIRCHHEIM-TECK GMBH

ALLEENSTRASSE 36 · D-73230 KIRCHHEIM-TECK

T +49 (0)7021 97009 0 · F +49 (0)7021 97009 30

INFO@AK-TECK.DE · www.ak-teck.de

