

BIZON®

Solder-free press-fit technology -
process-reliable and flexible.

- | Stamped contacts
- | Single pin insertion
- | Pin header
- | Overmolded plastic housings
- | High-current busbars

ALAC
systems

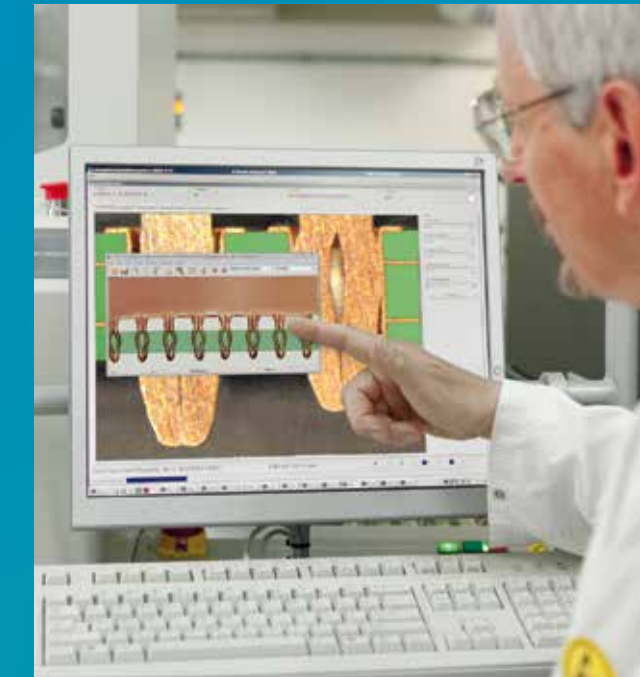
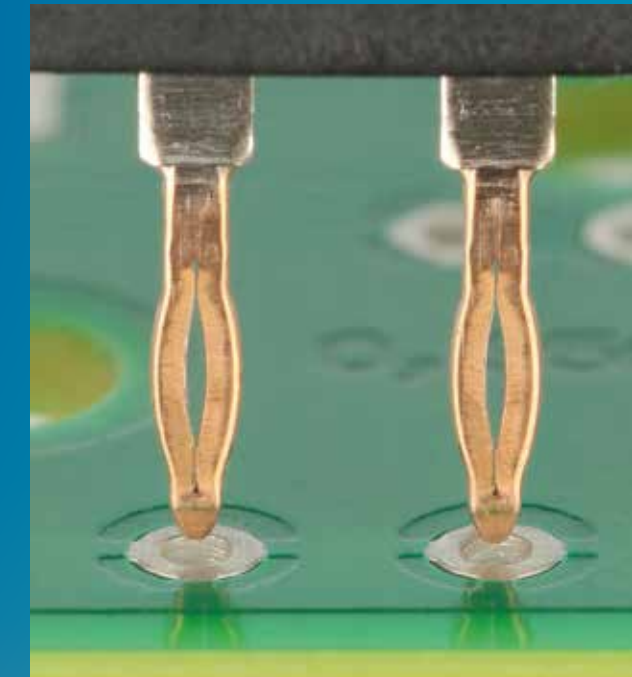
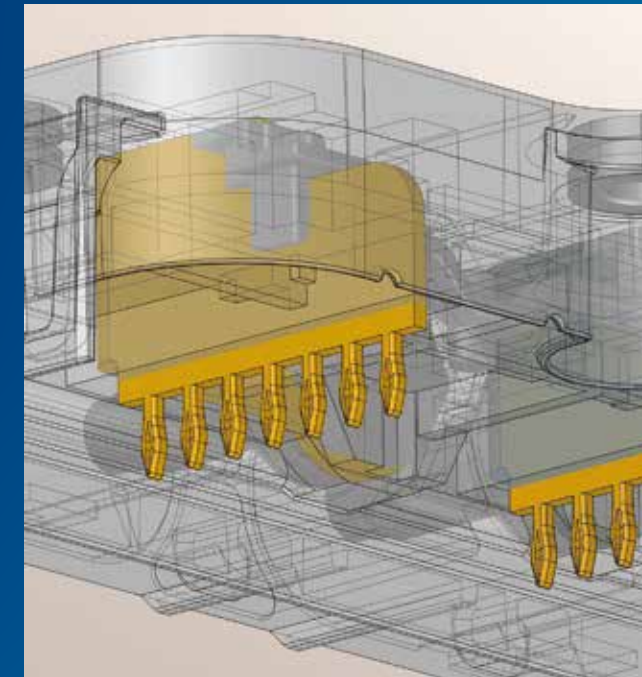
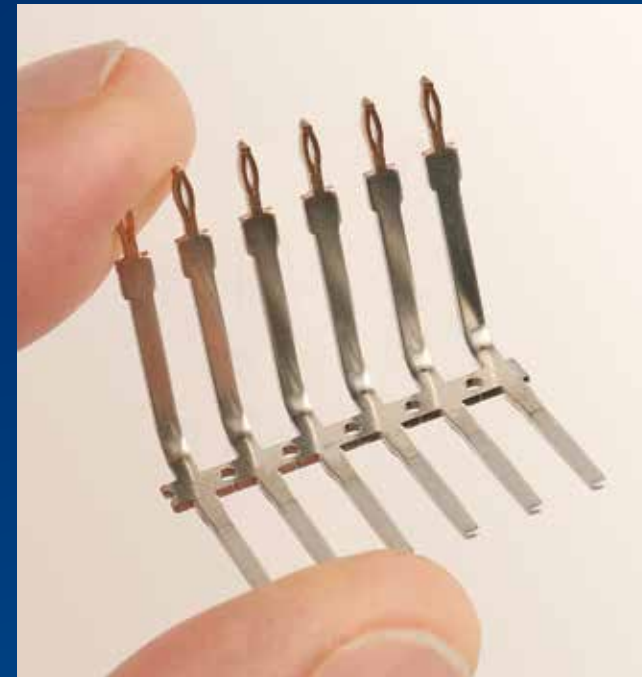
ELECTRIFIES
AND CONNECTS
since 1993

Our solutions and our team:
**ELECTRIFYING
 AND CONNECTING**

We provide the necessary resources
 for your next great product.

10X | **50%**
 more reliable | space saving

According to the IEC standard, press-fit technology is at least ten times more reliable than solder or insulation displacement connections (first-fit failure rate).



BIZON® PRESS-FIT TECHNOLOGY

Smart, high-performance and
 reliable connection solution

ALACsystems offers an innovative solder-free connection technology with BIZON® press-fit technology for the requirements of the automotive supply industry and industrial electronics. The press-fit techniques are a solder-free electromechanical connecting method, with which elastic workable or solid pins are pressed into metal coated circuit board holes with the aid of a pressing tool.

At the points of contact between the pressing area of the pins and to the metal coated hole in the wall, a permanent gas-tight connection is therefore formed.

The important characteristic here is that the diagonal of the pin cross-section is greater than the diameter of the copper sleeve in the circuit board.

Construction-related freedom, free
 material selection, adaptable

The BIZON® Contact, as an elastic contact, offers the greatest possible cross-section in a circuit board hole with overriding contact characteristics. As a result, it is possible to handle several hundred ampere ranges with standard circuit boards. This has an important price advantage, particularly in the case of motor vehicle applications.

The contact can be produced in every size and sheet-metal thickness, with free material selection.

A unique feature is that, with the same production engineering, both a non-detachable press contact and a detachable plug contact can be manufactured.

Our automobile products for
 demanding applications

Stamped contacts - overmolded or pressed in separately

Male Multipoint blade connectors with circuit board plug connectors equipped with different pins - straight, bent, sealed

Circuit board plug connector with different separations and different pole numbers

Overmolded housing/hybrid component parts which offer special protection against e.g. liquids or gases

Pin header: Pin contacts connected with a simple pin insulator

High-current busbars for the power feed into the circuit board

Advantages

Reliability (up to 30 times more reliable than an SMT solder joint)

Space saving and optimum use of construction space

Economic advantages in working process

Simplification in processing

Material compatibility: Compatibility with automotive specifications (e.g. IMDS, RoHS)

Electrical and mechanical characteristics

High current-carrying capacity with min. space Requirement

Four contact points through square Cross-section

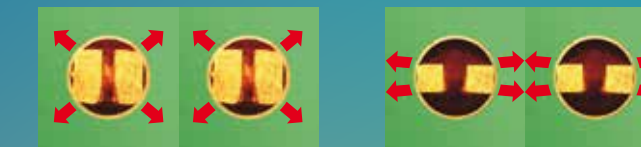
Sheet thickness from 0.2 mm to 2 mm possible

Low pressing force

High retention forces through cold welding

Dismantling possible by mechanical squeezing

Force distribution and directing
 into the circuit board



BIZON

Competition

Four symmetrically-distributed contact surfaces, far apart from each other and defined, mean proper contact pressure

Four similar radial contact forces result in good self-centring and symmetrical support - the contact adapts to the hole

No torque, no tangential movement and no bending in case of minimum hole

Surface force distribution means no summing and no expansion of the circuit board

Therefore no hazard exists for SMD elements nearby

Sheet(strip) thickness and hole table

Sheet thickness	Pin dimensions	Finished hole PCB	Smallest stamping pitch
0,2	0,2 x 0,24	0,3 - 0,38	0,81
0,4	0,4 x 0,5	0,55 - 0,65	1,3
0,6	0,6 x 0,6	0,8 - 0,9	1,2
0,64	0,64 x 0,64	0,9 - 1,0	1,3
0,64 ⁽¹⁾	0,64 x 0,8	1,0 - 1,1	1,45
0,8	0,8 x 0,8	1,05 - 1,15	1,6
0,8 ⁽¹⁾	0,8 x 1,2	1,40 - 1,55	2,0
1,2	1,2 x 1,2	1,52 - 1,67	2,4
1,2 ⁽¹⁾	1,2 x 1,5	1,9 - 2,05	2,7
1,5	1,5 x 1,5	1,9 - 2,05	3,0
2,0	2,0 x 2,0	2,7	4,0

All dimensions in mm. ⁽¹⁾The contact is adapted to historically standard, larger hole diameters.

Qualification

In the phase of product development, we specify the significant influence parameters such as basic material, press-in zone geometry and surface coating, and then monitor these in the series. We advise and support our customers right from the beginning throughout the entire project phase.

In the test laboratory, significant characteristic values according to DIN EN 60352-5 can be tested and validated.

The inspection and measuring equipment required for that is available. Test circuit boards, or on request also your series circuit boards, are used for the test.

Visual and dimension inspection

Press-in and press-out force

Microsection setting and assessment

Forward resistance

Rapid temperature cycling (temperature shock)

Air-conditioning seq. (dry heat, refrigeration & moist, cyclical heat)

Whisker test

Etching techniques

DIN EN IEC 60352-5
 Hella-Standard, Siemens-Standard, ZF-Standard

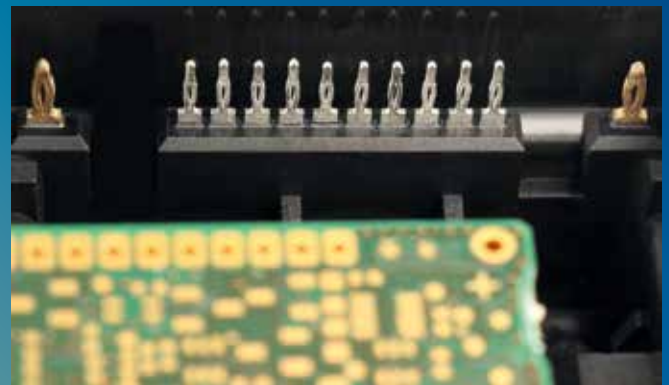
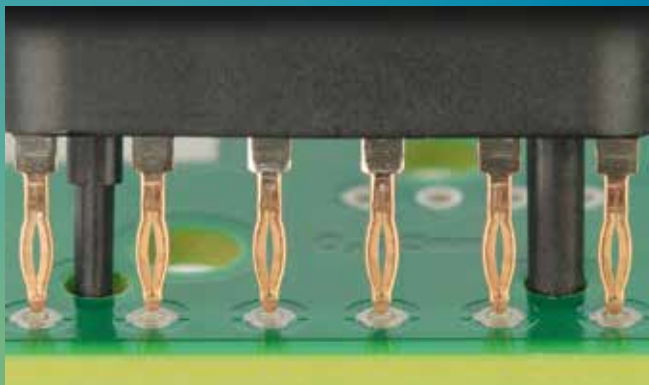
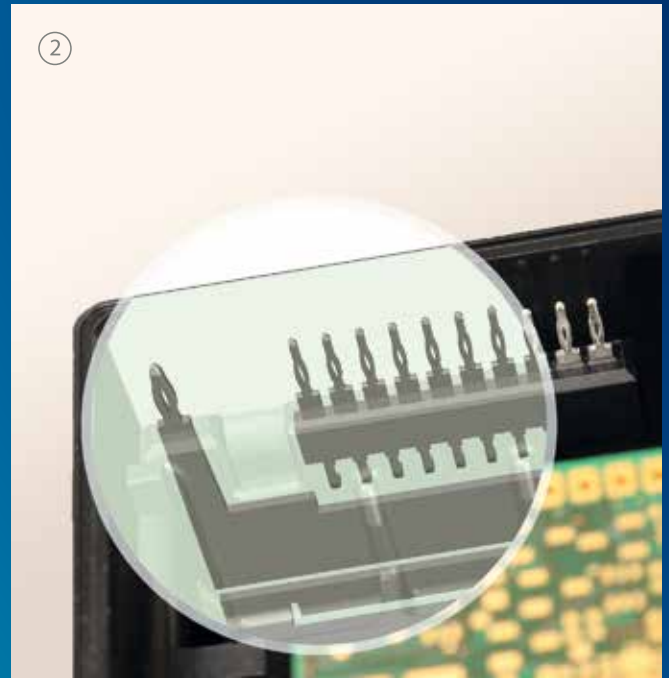
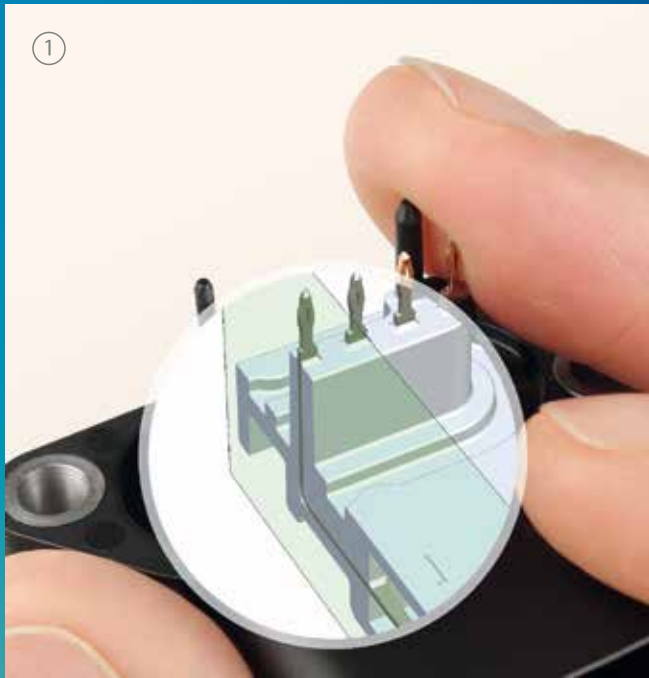


ALAC GmbH is certified according to:
 ISO9001:2015

AEO-DE AEOF 118110

Serial production according to:
 IATF 16949





PLASTIC MEETS METAL

Current applications for the automotive and industrial sectors

In close cooperation with our customers, we develop and manufacture technological metal and plastic components that function reliably and safely in a wide variety of applications. In this way, you get exactly the product that suits your project and your requirements.

① Custom connector

The LV connector is installed in an active damper control and used in control electronics that send signals (12 volts) to the engine.

Overmoulding of 6 BIZON[®]s, made of 0.6mm thick sheet metal be punched

② Waterproof telematics unit

Molded antennas for connecting the circuit board and Battery with 0.6 BIZON[®]

Design of the signal contacts with 0.4 BIZON[®]

The BIZON[®] contacts are of the same length to ensure that the circuit board is guided when pressed in

Installation space optimization and assembly optimization by simply pressing the contacts

Waterproof housing (8x4x2cm) thanks to laser-welded cover



Your innovative partner for

DEVELOPMENT AND MANUFACTURING

From concept to series production

- | Customized Connectors
- | Wire Harnesses
- | Overmolded housing / Hybrid Components
- | Electronic sub-assemblies
- | Inductive Components



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