



PRODUCT RANGE

System supplier for HMI operating units

ENGINEERING | PRODUCTION | LOGISTICS

COMPLETE SOLUTIONS & ASSEMBLIES

KEYBOARDS & BUTTONS

CABLE ASSEMBLIES & CONNECTORS

MOLDED PARTS & TOOLMAKING





ABOUT N&H TECHNOLOGY

Since our founding in 2001, N&H Technology GmbH has established itself as a leading full-service provider of custom electromechanical assemblies and components.

Our focus is on the development and manufacturing of custom input devices (HMIs) that meet the highest standards of quality and efficiency.

We offer comprehensive manufacturing solutions through an established supplier network in Asia, which is project-specific coordinated in collaboration with our subsidiary in Shanghai.

Our partners meet industry-specific standards such as DIN ISO 9001, ISO 14001, IATF 16949, and DIN ISO 13485. Our own testing and inspection laboratory at our location in Willich complements our strict quality control processes.

In 2023, we expanded our expertise in the field of membrane keyboards through the majority acquisition of the highly specialized FoShan SNT Electronics Technology Co., Ltd. in China. This allows us to address our customers' individual requirements even more precisely and offer high-quality solutions.

Our customer base includes leading companies from the automotive, medical technology, telecommunications, industrial automation, building control systems, and other industries. Long-standing partnerships and a high level of customer satisfaction distinguish us.

Our employees are the heart of N&H Technology and the key to our success. We nurture our international, family-oriented team and create an environment that strengthens personal development, innovation, and collaboration.

N&H Technology stands for innovation, quality, and reliability – your trusted partner for electromechanical solutions.



Modernity meets history

Since the turn of the millennium, the site of the former Becker steelworks has been transformed into a diverse business park where carefully restored monuments alternate with modern architecture.

2001

Foundation of N&H Technology GmbH with 4 employees in Krefeld.

2012

Construction of a new company building in Willich with its own test laboratory and logistics warehouse.

2013

Opening of the N&H office in Shanghai.

2021

New warehouse extension with 470 additional pallet spaces.

2023

Majority shareholding in SNT Technology Co., Ltd. Own production of input solutions.

2025

51 employees, 13 of whom hold a university degree.



Your expert for input devices since 2001.



Over 5,000 completed customer projects



Long-standing partnerships with leading companies from various industries.



Own development & exclusive production for maximum flexibility

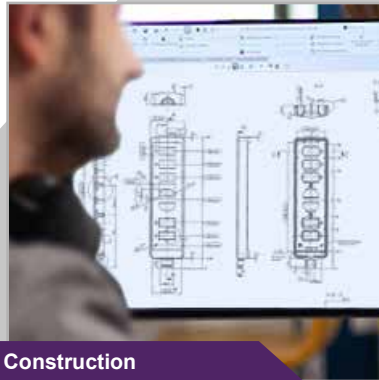


Certified processes for the highest quality.

WHAT WE DO



Engineering support



Construction



Procurement & Production



Buffer storage (option)



Logistical processing



Assembly

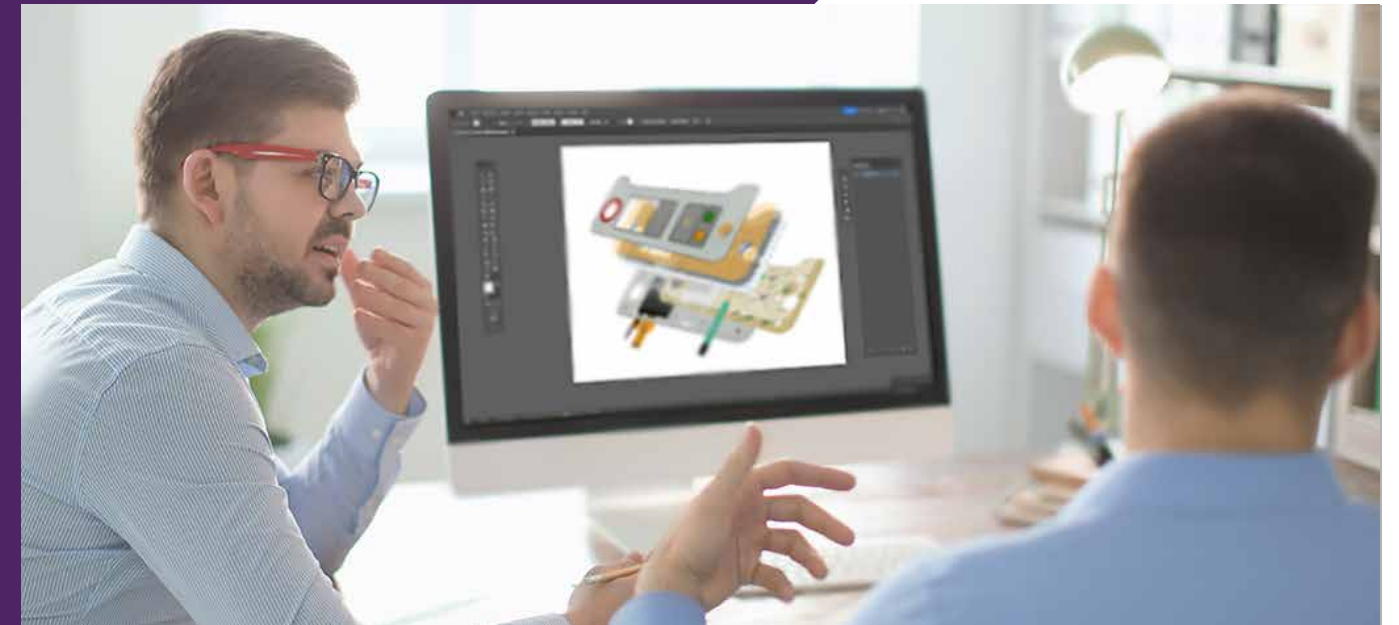


Product



We develop and manufacture customized products for various industries and provide our customers with comprehensive support from the initial idea through to series production. Our portfolio includes electromechanical input units and all components of electronic products, including housings, displays, keyboards and cable assemblies.

Our services range from advisory development and feasibility studies to cost estimates, prototype construction and material selection, right through to cost optimization and product design. We also create technical drawings and, if required, take on the complete design.



WHAT WE OFFER



Technical support

- Support from the concept phase to series development
Feasibility studies
- Suggestions for improvement
- Advice on material selection and production methods
- Development of cost reduction options



Development & design

- Development of components, molded parts, assemblies and complete solutions
- Sketching, conception and preliminary design
- Design in 3D / 2D CAD
- Optimization of existing customer templates
- Presentation of product views in the form of realistic 3D renderings
- Creation of production documents such as technical drawings and parts lists
- Prototype construction using 3D printing & silicone casting



N&H Laboratories

- Project-specific final testing
- Electromechanical tests
- Optical / acoustic tests
- Material tests
- Surface resistance, volume resistance, conductivity measurements
- Technical problem analysis, also for third-party products



Purchasing

- Outsourcing options for your supply chain
- Procurement of third-party components



Logistics

- Complete logistics handling
- Buffer storage possible at N&H Technology in Willich / Germany

YOUR PROJECT



We are your reliable partner in every phase of your project - from the initial design to series production. Our aim is to provide you with comprehensive support and ensure the success of your project.

YOUR REQUEST

We would be happy to provide you with a non-binding quote tailored to your individual project. We need the following information:

- Technical drawings, sketches or samples
- Technical specifications
- Details of the desired equipment extras
- Required quantity, annual requirement or term

As soon as we have received this information, one of our experienced engineers will contact you as soon as possible. To protect your sensitive data, it is necessary to sign a Confidentiality agreement (NDA) is a matter of course for us.

PERSONAL ADVICE AND MEETINGS

We are always available for technical advice - by telephone or in person by appointment. A personal meeting is often particularly valuable for complex or new projects in order to precisely understand your requirements and needs and offer you the best solution.

Flexible meeting options:

- Visit us in Willich, or we will be happy to come to you.
- If you prefer an online meeting, we offer flexible options via various platforms for efficient communication.

We look forward to supporting you in the implementation of your projects and achieving success together.

N&H Technology GmbH

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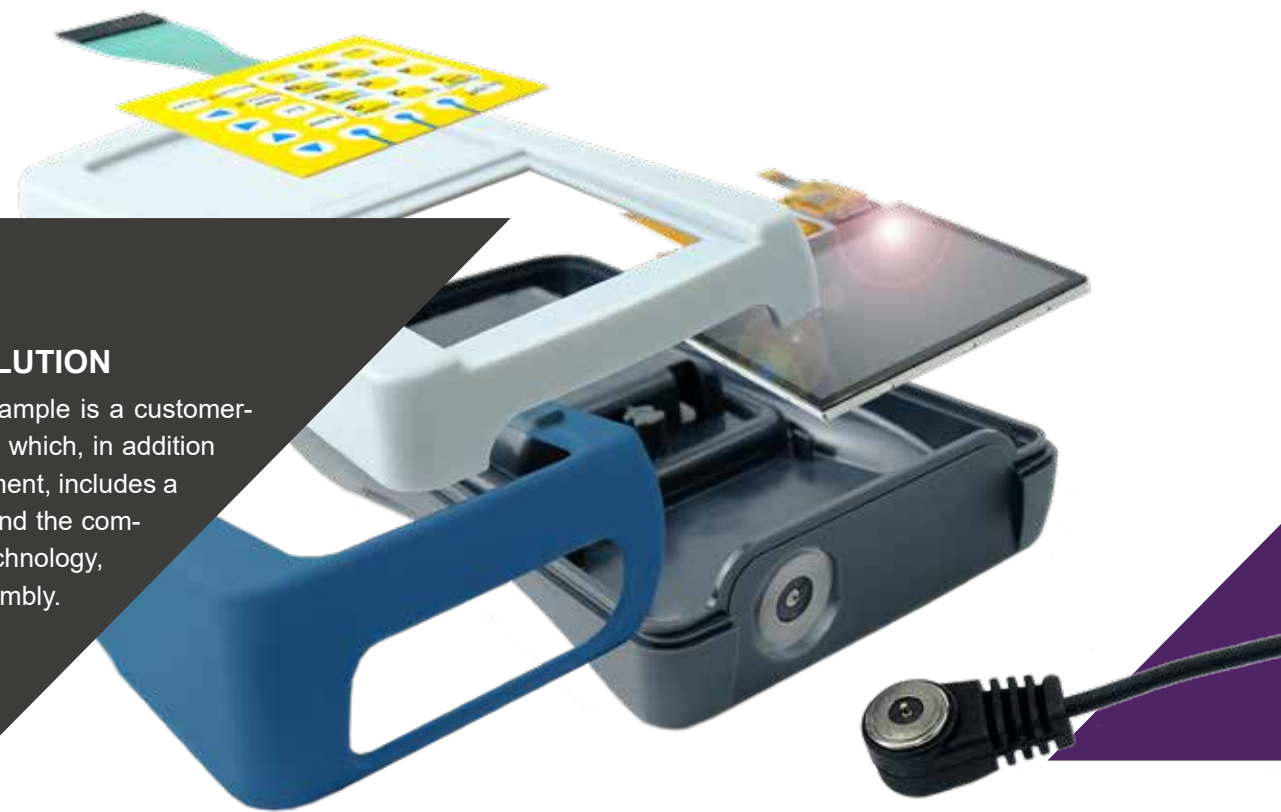
REFERENCES

Our customer list includes well-known companies from various sectors, including the automotive industry, medical technology, telecommunications, industrial automation, building control technology and many more. We have a successful, long-standing working relationship with many of them.



COMPLETE SOLUTION

A typical product example is a customer-specific input device which, in addition to the keyboard element, includes a housing, a display and the complete connection technology, including cable assembly.



PRODUCT RANGE

INFO

KEYPADS / KEYBOARDS	10 - 15
BUTTONS / SWITCHES	16
MOULDED PARTS	18 - 23
CABLE ASSEMBLY	24
CONNECTORS / POGO PINS	26 - 29
FURTHER COMPONENTS	30

Customized components

KEYPADS

- Silicone Rubber Keypad
- Membrane Switch
- Capacitive Keypads
- Touch-Systems

BUTTONS & SWITCHES

- Pushbuttons
- Piezo Buttons
- Status/Signal Lamps
- Microswitches

CABLE ASSEMBLY

- Cable harnesses
- Data cables
- Coaxial cables
- Special cables
- Single cables

CONNECTORS

- Magnetic connectors
- Spring contact plugs
- Special connectors

PCB

- Flex & Rigid Circuits
- Single layer, double layer, multilayer

FURTHER

- Protective bags
- Battery contacts

Customized moulded parts

PLASTICS

- Precision & large parts
- Single and multiple injection molding

RUBBER

- Protective covers
- O-rings, seals
- Precision parts

2K / 3K PARTS

METAL

- Heat sinks
- Die-cast parts
- Stamped, turned and milled parts
- Deep-drawn parts
- Battery contacts

GLASS

- Front Glasses
- Molded Glass Panes



Many standard components can be selected and requested directly from our online catalog!

katalog.nh-technology.de

Standard Components

- Spring contacts / Pogo pins
- Connectors
- High current connectors
- Stainless steel keyboards
- Hygienic keyboards
- Microswitches
- Pushbuttons, Piezo Buttons
- Status Lamps
- LC-Displays (TFT)
- Buzzer, Transducer
- Speaker, Microphones



KEYBOARDS

MEMBRANE SWITCH

We design & manufacture customized Membrane keypads for all industries.

With our many years of experience in the field of membrane switches, we support you in every project phase. Our engineers support you in the design and construction phase, advise you on the best choice of materials and develop cost optimization strategies on request.

We offer targeted suggestions for improvement in order maximize functionality and efficiency. From medical technology to industrial automation, we offer customized solutions for almost all industries.

Our membrane switches are manufactured in our state-of-the-art production facility in Asia, which is with class 1000 clean rooms and state-of-the-art machinery. Highly qualified specialists ensure that every product meets the highest quality standards.

FACTS

- Actuating force: 40g - 750g
1700g with metal dome
- Key stroke: 0.1mm -1.5mm
- Service life at least 1 million cycles
- Current carrying capacity up to 2A
- Resistant to moisture,
Dirt and chemicals

TECHNOLOGY & EQUIPMENT

Tactile Feedback

Metal snap-in domes for precise feedback

Haptic

Key embossing for improved usability

Illumination

LED and LGF technology for illuminated keys

Control elements

Integration of Duraswitch solutions and RFID/NFC functions

Protection

ESD and EMC protection for increased safety

Touch Panels

Capacitive functions for modern operating concepts

Stability

Mounting on customized carrier plates

DESIGN

Screen printing / digital printing
Silicone buttons / silicone overlay
Doming technology
Various surface structures
Slit pockets



Design Guide & Sample

Our sample membrane keyboard combines proven embossing techniques with innovative key designs. Request your sample incl. the design guide for membrane keyboards directly from us. The design guide is also available for download on our website.



KEYBOARDS

SILICONE RUBBER KEYPAD

We design and manufacture customized silicone rubber keypads for all industries.



Silicone rubber keypads are among our core competencies. We provide comprehensive advice on the selection of materials and features and, if desired, we can take over the complete development and design of a customized silicone keypad for your application.

Silicone rubber keypads offer flexibility and reliability. As central switching elements in the electronics and automotive industry, they trigger a direct switching function on the printed circuit board below.

At the same time, they determine the feel, the optical and tactile impression as well as the electrical behavior through integrated contact elements. In addition, they often perform a sealing function for the printed circuit board

Silicone rubber keypads are ideal for devices and instruments that require simple, reliable and noiseless operation, such as remote controls, industrial controls, electronic measuring devices, medical technology and sound engineering.

FACTS

- Actuation force: 20g - 500g
- Key travel 0.3mm - 0.5mm
- Service life at least 10 million cycles
- Current carrying capacity up to 2A
- Resistant to moisture, dirt and chemicals

FEATURES

- Keyboard layout injection-molded onto plastic frame with mounting holes
- Light guides for spot lighting
- Individual key lighting through light channels

KEY DESIGN

- Plastic caps
- Metal caps
- Epoxy coating
- Laser engraving
- Printin

SPECIAL MATERIALS

- Highly transparent silicone
- Phosphorescent silicone



All specifications and design rules can be found in our “Design Guide Silicone Rubber Keypads”, which you can request together with our sample keypad. The design guide is also available for download on our website.



KEYBOARDS

STANDARD KEYBOARDS

We offer a selection of hygienic keyboards with silicone or film surfaces, as well as high-quality stainless steel keyboards.



MEMBRANE KEYBOARDS

The membrane keypads are suitable for indoor and outdoor use and are resistant to windblown dust and rain, splash water and water jets, as well as disinfectants and most chemicals and liquids.

Options

- Front mounting with membrane keypad on 2.0 / 3.0 mm aluminum plate - protection class IP67 / NEMA 4X
- Desktop keypad - protection class IP68 / NEMA 6P



SPECIFICATIONS

Membrane keypads and hygienic keyboards

- Supply voltage: +5V DC +/-5%
- Current: 20mA / 30mA
- Contact technology: Carbon-on-Gold
- Operating temperature: -20°C to +60°C
- „Clean Key“ - for key lock during cleaning
- Optional: Trackball, touchpad
- Optimal with LED backlighting
- Service life: > 10 million actuations
- Interface: USB, PS2 with 2m cable

STAINLESS STEEL KEYBOARDS

The keyboards usually consist of a 1.5 mm thick front plate made of brushed SUS 304 stainless steel and a 3.0 mm aluminum back plate.

The keys are labeled by laser engraving or etching, making the key symbols wear-free. Colored graphics or raised symbols, such as Braille or other customer-specific lettering, are also possible. All common language layouts are also available.

SPECIFICATIONS

- Installation variants: Desktop, front and rear panel installation
- Key variants: raised (2.0mm) and flat (0.45mm)
- Optionally with trackball or touchpad
- LED backlighting (white, blue, red, green)
- Supply voltage: +5V DC +/-5%
- Current: 20mA or 30mA
- Protection class / impact resistance up to IP67 / IK10
- Service life: ~ 10 million operations
- Connection optionally USB, PS2, or RS232, RS485

HYGIENIC KEYBOARDS (SILICONE)

The hygienic keyboards are available as desktop versions with protection class IP68 / NEMA 6P. Thanks to a special antibacterial coating on the silicone surface, the keyboards are resistant to mechanical and chemical influences and are very easy to clean.



Our standard keyboard catalog offers a comprehensive overview of the diverse keyboard portfolio. Download from our website.

All keyboards can also be found at:
katalog.nh-technology.de



BUTTONS / SWITCHES

We offer a wide selection of high-quality switches that can be customized or purchased as proven standard solutions. Our portfolio includes push buttons, piezoelectric buttons, signal transmitters, and micro switches.



PUSH BUTTONS

Our 3 basic series offer over 50,000 possible variations. Use our online configurator to design your customized pushbutton. We also have special types, such as 22mm pushbuttons with a high current carrying capacity of 10A. We also produce fully customized pushbuttons, made according to your wishes in terms of size, material, color, engravings and technical specifications.

Basic Series

- Installation diameter from 12mm - 30mm
- Material: stainless steel, aluminum-zinc alloy
- Protection class IP65 / IP67 / IK08
- Current carrying capacity: 2A / 5A
- LED lighting in various shapes & colors
- Various button shapes & housing colors
- Connection: screw terminal, solder pin, cable, plug connection



PIEZO BUTTONS

Piezoelectric buttons impress with their exceptional reliability and durability, making them ideal for demanding applications. In addition to our standard range, we also offer customized solutions: we can print individual symbols on pressure covers and create special housing designs according to your specifications.

- Aluminum, anodized
- Protection class IP68
- Installation diameter 16mm, 19mm and 22mm
- Vibration resistance 10-500 Hz / 10g
- Actuating force: 2N to 6N
- LED lighting with multicolor effect
- Service life ≥ 50 million cycles



SIGNAL LAMPS

- Installation diameter from 6mm - 25mm
- Front panel mounting
- Protection class IP67 / IK09
- LED lighting in various colors
- Operating temperature -40°C - $+85^{\circ}\text{C}$



MICROSWITCHES

Our range includes high-quality tact switches, slide switches, multi-function switches and rotary switches. Visit our homepage for a detailed overview of the standard range. Alternatively, you can send us your individual specifications and we will be happy to develop a customized solution for you.

EXAMPLE

Our standard tact switches offer an actuating force of 1.6N - 2.6N. For special requirements in the automotive sector, we have developed modified versions that are equipped with an increased actuating force of 4N or 6N for SMD assembly. These switches are designed for switching values of 12VDC 50mA and 16VDC 50mA and guarantee a service life of 100,000 to 200,000 switching cycles, making them particularly durable and reliable.



MOULDED PARTS

We manufacture customized molded parts from plastic, elastomers, metal and glass. Our expertise ranges from miniature precision parts to functional housings and complex multi-component assemblies.

We can offer you attractive terms even for small and medium quantities.



MOULDED PARTS PLASTIC

SERVICE

Our goal is to minimize adjustments and avoid costly changes to tools from the outset.

We support you throughout the entire project and organize the tool and sample production, as well as the manufacturing and optional assembly of the serial parts.

- Design & development of molded parts
- Feasibility studies & suggestions for improvement
- Development of technical options for cost reduction
- Computer-aided simulation (mold flow analysis)
- Prototyping with 3D printers
- Creation of DFM reports
- Tool design & toolmaking



SAMPLE CARD & DESIGN GUIDE

Our sample card is cast in black ABS plastic and shows, from polished to rough, twelve different classifications of SPI surface treatments, as well as the twelve most common VDI 3400 surface textures.

You can request the sample card, including our design guide for plastic molded parts, from us free of charge.

PLASTIC PARTS AND ASSEMBLIES

We develop customized injection-molded plastic parts that can fulfill multiple functions at once through a careful selection of plastic materials and surface finishes.

Starting with the basic protection of your products against environmental influences such as dust and moisture, to product variations with specific printing and exchangeable inserts.

Adaptations to specific requirements such as ESD shielding, temperature and chemical resistance or UV stability can also be easily implemented – we will find the right solution for your project.

PRODUCTION

Depending on the geometry, complexity and material of the molded part, we develop optimized temperature control and injection systems as early as the tool design phase.

After the tool has been approved for series production, the molded parts are manufactured using the injection molding process. Automatic material feeding, as well as insertion and removal devices, ensure efficient production.

MATERIAL

We process all common engineering thermoplastics and high-performance polymers. In addition, fiber-reinforced and specially formulated compounds are possible to meet the specific requirements of each project.

You can find our design guide for plastic molded parts in the download area on our website!

SURFACE FINISHING

Printing, labeling

- Pad printing, screen printing
- Laser marking, engraving
- Hot stamping

Lacquering

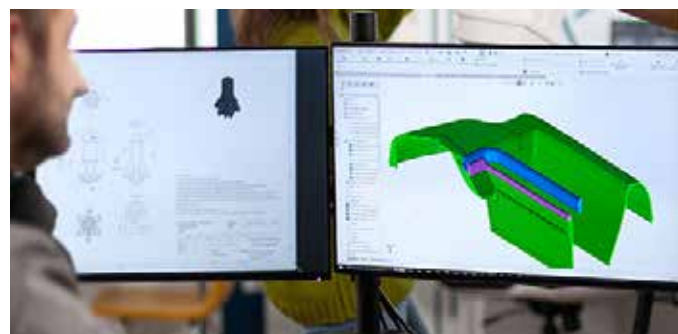
- High gloss, silk matt, matt, soft-touch
- Textured lacquers
- Chrome effect lacquers

Coatings

- Galvanic surface finishing
- PVD and EMC coatings

Tool-applied finishing

- IMD technology
- Structuring / texturing



Reference of a customized housing with a manual switch: plastic housing with metal insert and magnetic cable incl. adapter.



MOULDED PARTS ELASTOMER

Specializing in custom rubber, silicone and elastomer composite parts, we provide expert advice on selecting the ideal material to meet your specific requirements for temperature and chemical resistance and resilience.



SCHUTZHÜLLEN

Our custom-made protective cases made of silicone and LSR provide optimal protection for electronic devices. They protect against dirt and scratches and mitigate damage from falls, while also improving grip.

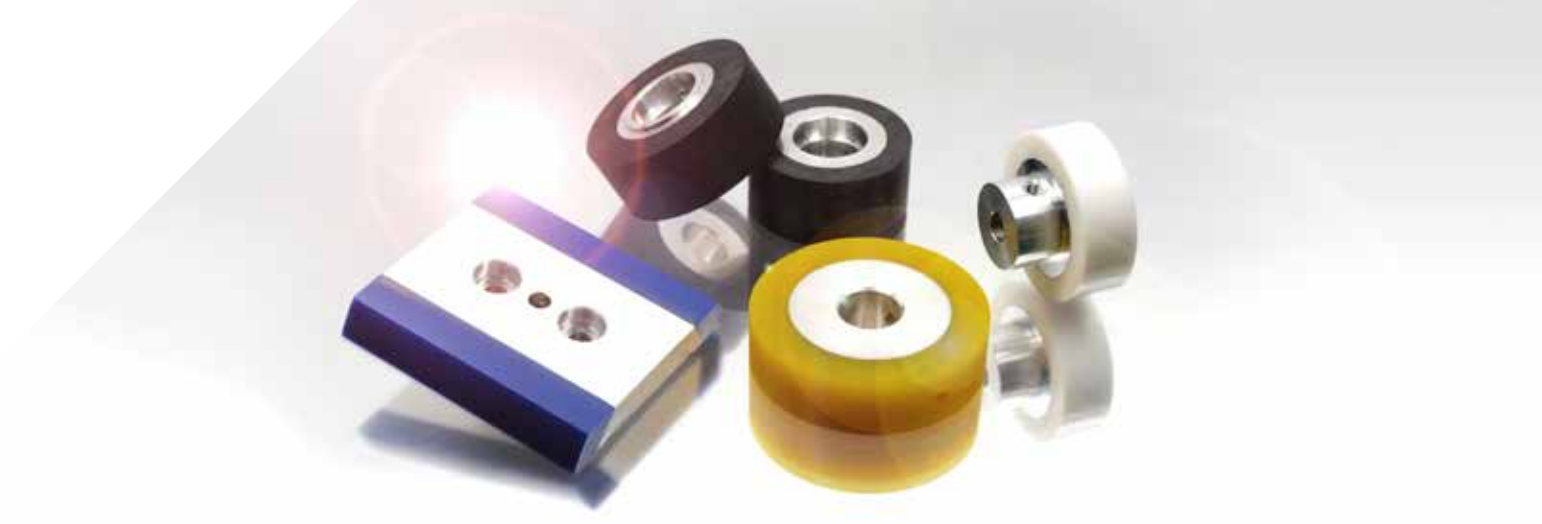
Available in different degrees of hardness (Shore A40–A70), we also offer optional PU coatings. Our silicone cases can be highly customized with a variety of colors, individual lettering and specific markings.

Our product designers will support you in constructing a silicone case. The prerequisite is an existing 3D file of the handset or a reference sample.

MATERIALS

All common materials in various hardnesses:

- Standard materials such as NR, NBR, BR, EPDM, CR etc.
- Elastomers such as ACM, CSM, FPM, HNBR etc.
- LSR - liquid silicone rubbers
- TPE, TPU molded parts
- Thermoplastics
- Special compounds



MOULDED PARTS METAL

PORTFOLIO

- Aluminum and other metal housing
- Metal die casting (Zn, AL, MG alloy)
- Stamped, deep-drawn, turned, and milled parts
- Extruded parts and extruded housings
- Electrical contacts, plug contacts, battery contacts
- Combined rubber-metal parts / plastic-metal parts

To complete the metal parts, sealing elements, threaded inserts and bearing bushes are integrated. We also offer cold press-fitting processes and enable high-quality surface finishing.

HEAT SINKS

We manufacture customized aluminum heat sinks that impress with their excellent thermal and mechanical properties. If desired, they can be made of different aluminum alloys or combined with copper. In addition, we offer a variety of surface treatments to optimize performance and design.

Our heat sinks are available in a range of sizes and shapes, from small SMD heat sinks to larger variants for embedded and LED applications.

We adapt the mounting methods to your individual requirements to ensure simple, safe and reliable installation.



MOULDED PARTS GLASS

We offer customized glass parts for industrial, electronic and technical applications, complemented by a wide range of optical coatings and customized painting.



CAPACITIVE GLASS

Our products include:

- Front panels, cover glasses and frames
- Decorative glasses for electronic devices
- Protective glasses for displays
- Capacitive glasses for modern input devices

Our glasses are mainly made of float glass, white glass or thermally hardened ESG glass.

For display protection applications, we also offer ultra-thin chemically strengthened cover glasses.

Thermally tempered glass:

Thickness: 0.55–19 mm

Optional with ITO conductive coating

Chemically tempered glass:

Thickness: 0.3–8.0 mm

Scratch resistance: 9H

Compressive strength: >600 MPa

OPTICAL COATINGS

- Anti-reflex (AR)
- Anti-glare (AG)
- PDP filter glass
- ITO coating, EMI / RFI shielding glass
- Filter coatings to customer specifications

PROCESSING

- Cutting, CNC milling, cut-outs
- Grinding, edge processing
- Drilling, deepening
- Sandblasting, etching
- Varnishing, printing
- Optical bonding

ACRYLGLAS (PMMA)

In addition to glass parts, we also manufacture front covers and front panels made of acrylic glass. Our manufacturing options include:

- CNC milling, lasering and chamfering
- edge polishing and matting
- printing processes for individual designs

With our wide range of materials and processing techniques, we offer customized solutions for a wide range of requirements.



CAPACITIVE INPUT SURFACES

Our main focus is on the development and production of capacitive keyboards with surfaces made of glass and acrylic glass.

Glass, especially tempered glass, offers an elegant, durable and robust solution that meets the highest design and functional requirements.

Acrylic glass, on the other hand, is a light and cost-efficient alternative that also provides a smooth and aesthetic surface.

Depending on your requirements, we also offer capacitive solutions with plastic or metal surfaces.

This technology offers:

- Intuitive operation
- Optimal control via wheels, sliders or touch fields
- Modern: seamless surfaces for a high-quality user experience

APPLICATIONS

Capacitive keypads are ideal for applications that require a harmonious combination of design and functionality.

Typical areas of application include:

- Modern control units in medical technology, industrial automation and consumer electronics
- Elegant control solutions for smart home systems and household appliances
- Precise input concepts in the automotive industry and consumer electronics

CABLES & CONNECTORS

CABLE ASSEMBLY

With our extensive experience and a highly specialized supplier network, we assemble cables for a wide range of applications and industries. Our broad spectrum of cable assembly covers all sectors – from automotive engineering to medical technology and industrial applications.



WIR KONFEKTIONIEREN

CABLE HARNESESSES

- Integration of components
- Sheathing and tying
- Protective braiding and shielding
- Complete, single strands, measuring strands

HYBRID CABLE, SPECIAL CABLE

MINIATURE CABLE

COAXIAL CABLE

- HF-Cables:
N, MCX, NMCX, SMA, SMB, F, FME, TNC, BNC
- Antenna cables, measuring cables, sensor cables, monitor RGB cables

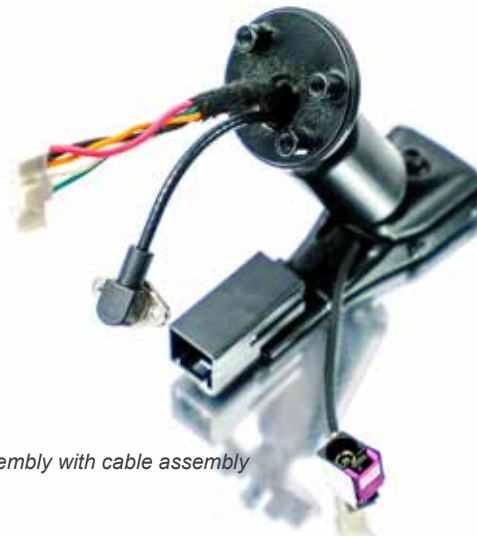
NETWORK CABLE

- Slim-SAS HD cable (internal / external)
- Single-pair cables
- with twisted pairs, - also with ferrite and strain relief
- Flat ribbon (FFC)
- D-SUB (9 - 62-pin), HD D-SUB, USB, ATA, S-ATA, IDE, DVI, VGA, DMS-59,
- DisplayPort, CAT (up to CAT. 7) etc.
- EMC shielding

LCD CABLE

LVDS, HDMI

SPIRAL CABLE



Assembly with cable assembly



MAGNETIC CONNECTOR

We realize magnetic plug connectors including cable assembly for all sectors and industries. We are happy to take on the design and development.

Depending on the material and internal structure of the spring contact pin, currents of up to 15A per pin are possible. The implementation of magnets ensures a self-guiding, shock- and vibration-resistant connection between the plug and the device. The polarity of the magnets prevents incorrect connection, and the magnetic force can be customized using different magnets.

For demanding installation situations, protection classes up to IPx7 are possible. To achieve this, the plugs are equipped with an O-ring seal or are directly overmolded with plastic and/or sealed with elastomer materials.



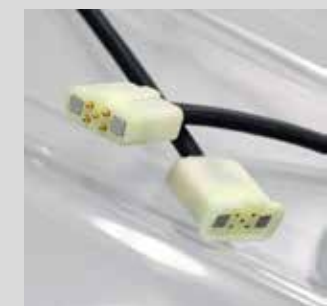
Reference:
Screw-in magnetic connector



PROTOTYPES

With the help of 3D printing and manual finishing, we can create individual magnetic connectors as prototypes for customer-specific applications.

This "mini-series" of up to 20 samples enables initial assembly tests and magnetic force tests. This method allows necessary changes to be identified and implemented as early as the design phase.



CABLES & CONNECTORS

POGO PINS

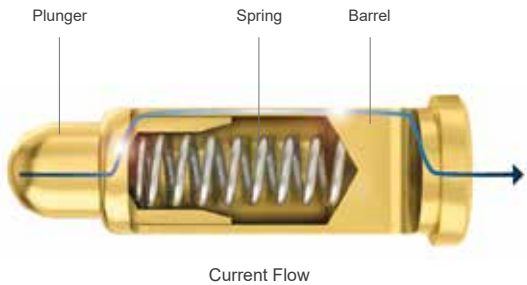
We offer a wide range of high-quality spring contacts that guarantee safe and efficient transmission of power and signal currents. In addition to standard spring contacts and connectors, we also offer customized solutions.

ADVANTAGES

- high durability
- adjustable and measurable spring force
- space-saving – small grid size possible
- predominantly suitable for SMD assembly
- good performance in high-frequency applications
- RoHS compliant and halogen-free

CONSTRUCTION

A spring contact probe consists of three key components: a plunger, a spring and a barrel. The electrical current flows from the plunger via the edge of the pin sleeve to the contact. The contact pressure is largely dependent on the spring.



MATERIAL

As standard, the piston and the pin sleeve are made of high-quality brass, while the springs are made of stainless steel. Of course, we also offer other materials such as beryllium copper or phosphor bronze.

Part	Material
Plunger	Brass (Standard) Beryllium Copper Phosphor-Bronze SK4 - Steel
Barrel	Brass (Standard) Beryllium Copper Phosphor-Bronze
Spring	Stainless Steel
Housing	Polyoxyethylen (Standard) HTN, LCP, PBT, PA10T

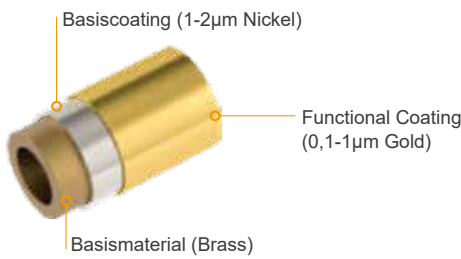
ELECTRICAL SPECIFICATIONS

Rated Current:
1A / 2A for the standard version
up to max.15A due to special design

Contact resistance:
< 100mΩ (depending on the design)

COATING

The gold plating of the spring contacts not only ensures excellent electrical conductivity, but also protects against corrosion and oxidation. The plunger and the pin sleeve are typically coated twice, first with nickel (1-2μm) and then with gold (0.1-1μm). Other coatings are also possible for special applications, as is partial coating of individual components.



Plating	Hardness (HV)	Function	Color
Gold	200	Low resistance	gold
Super AP	400	Superior corrosion resistance, low electrical resistance	silver
Nickel	150 - 200	Low cost, corrosion resistant	silver
Palladium-Nickel	330 - 380	Improved signal transmission	silver
Red Brass (CuSnZn)	600	Replace Nickel	silver
Palladium Cobalt	450 - 600	Replace Pd-Ni	silver
Palladium Cobalt	600 - 800	Black color requirement	black



CONSTRUCTION VARIANTS

- 1 **BACK-DRILL DESIGN**
For small spring contacts under 3.5mm in length, where the spring is longer than the hollow plunger to achieve the desired spring force.
- 2 **BIAS-DESIGN**
Standard for spring contacts over 3.5 mm in length. The end of the plunger is beveled up to 18° to ensure 100% contact with the pin sleeve.
- 3 **4P-DESIGN / HIGH-CURRENT DESIGN**
For demanding applications that require high currents (>3A) and vibrations. The bias design is supplemented here by the 4P design, whereby a **stainless steel ball** is integrated as a fourth component to prevent the compression spring from overheating at high currents.
- 4 For applications from 5A up to a maximum of 15A, the **4P design with cap** is used, which offers a reinforced piston shell and a special internal structure to increase the contact area.

DESIGN VARIANTS

- 2 **DOULBE ENDED PIN**
Spring contact with two spring-loaded plungers, for contacting two or more PCBs, for example.
- 5 **360° ROLLING PIN DESIGN**
An integrated ball in the pin tip ensures continuous contacting, even with 360° rotation. The spring-loaded ball reduces possible transmission interference caused by movements, vibrations or shocks.
- SCREW-DESIGN**
6 The design with integrated screw thread saves space and significantly reduces assembly time. It can be integrated into all spring contacts with a piston length from 3.5 mm. In addition to its function as a screw, power and signal currents can also be transmitted.
- 8 **BENDING TYPE**
The right-angled spring contact with bent end piece offers more space-saving options when mounting on a PCB.

INSTALLATION VARIANTS

	Type	Length (mm)	Spring Force	Installation
A	FLAT TYPE	1,6 - 21,5	25g - 400g	SMT
B	PLUG-IN TYPE	1,39 - 19,5	35g - 500g	THT
7 C	RIGHT ANGLE TYPE	4,9 - 5,6	80g - 120g	SMT



In our online catalog you will find over 300 standard spring contacts and connectors, which you can request directly from us with just a few clicks:
katalog.nh-technology.de

POGO PINS

CUSTOMIZED

We offer you the opportunity to customize our products to your specific requirements in order to achieve optimal results for your applications.



CUSTOMIZATION OF POGO PINS

Our customization options include, among other things:

Adjustment of nominal current and spring force:

We optimize amperage and spring force to your exact requirements. Spring contacts can be designed for currents from a few milliamperes up to 15A, while the spring force can be customized from a light 20g to 900g. This is how we ensure a reliable electrical connection and the optimal balance between contact stability and mechanical stress.

Customization of the surface coating:

By selecting the appropriate coatings, we can optimally adjust the protection and electrical conductivity of your spring contacts. In addition to standard coatings, we also offer special coatings such as Super-AP for improved corrosion resistance and conductivity. Partial coatings are also possible to optimize specific contact areas.

Modification of the connection type:

Terminal shapes can be customized for seamless integration and easy installation. We offer a variety of connection options, including solder terminals, cable terminals, crimp terminals, screw threads or special solutions.

CUSTOMIZED CONNECTORS

Several spring contact probes can be combined in a plastic housing to form a customized connector.

This allows for customized solutions in terms of:

- Grid spacing, number of pins
- Housing dimensions and shape
- Connection form

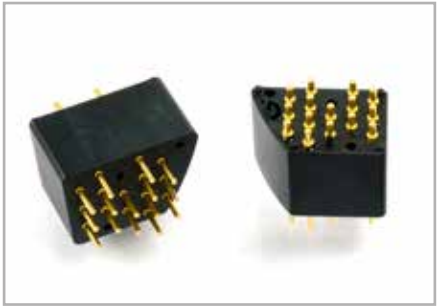
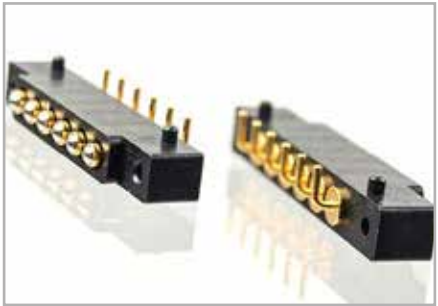
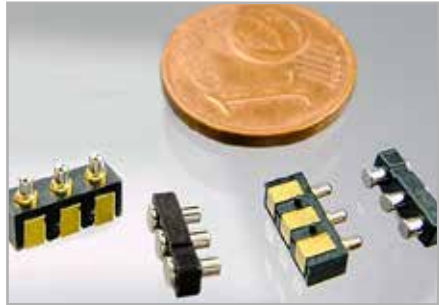
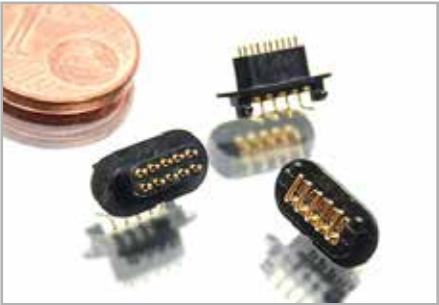
Our spring contact connectors are available in a variety of connection types, making them ideal for a range of mounting options on PCBs that can be fitted with SMD components. We also offer precise cable assembly.

The wide range of spring contacts allows for:

- Compact connectors for space-critical applications
- Waterproof solutions with IPx7 or IPx8 protection class
- High-frequency applications
- High-current applications
- Magnetic connectors

Simply let us know your requirements – we will find the optimal solution for your application!

REFERENCES FOR CUSTOMIZED SPRING CONTACTS AND PLUGS



Find out more about spring contacts

The catalog is a comprehensive technical document about spring contacts. It provides detailed information about the various types of spring contacts, their applications, technical specifications and customization options. Download it from our website.

FURTHER COMPONENTS

To complement our broad spectrum of HMI components, we offer a wide range of additional products. These include, for example, signal transmitters and optoelectronic components such as high-quality TFT displays.

Many of these components are available in standard specifications and can be easily selected and requested in our online catalog. Customizations are also possible on request.



ACOUSTIC COMPONENTS

- Buzzer & Transducer
 - Piezoelectric, Magnetic
 - for SMD / THT Assembly
- Loudspeakers and sirens
- Microphones and receivers



LCD & OPTO-ELECTRONICS

- TFT displays from 0.96" to 10.4"
- with integrated touch panel
- LC displays DSTN, FSTN and STN
- Alphanumeric and graphic
- EL, LED or CCFL backlighting
- Backlights
- LED modules



CIRCUIT BOARDS & ASSEMBLY

- Flexible, rigid and rigid-flex circuits
- Single and double-sided multilayers
- Hotmelt molding process
- customized assembly



POWER SUPPLIES & BATTERIES

- Primary batteries - lithium button cells also with customized solder connections
- Battery contacts (nickel-plated / gold-plated)



SERVICE

Our product-specific catalogs contain detailed information, technical specifications and design recommendations to help you select the right product. They are available on request in printed form or can be conveniently downloaded from www.nh-technology.de.



NO PRODUCT FOUND?

If you cannot find the right product in our product portfolio, please do not hesitate to contact us. Thanks to our extensive supplier network, we are able to offer you a solution that meets your requirements.

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