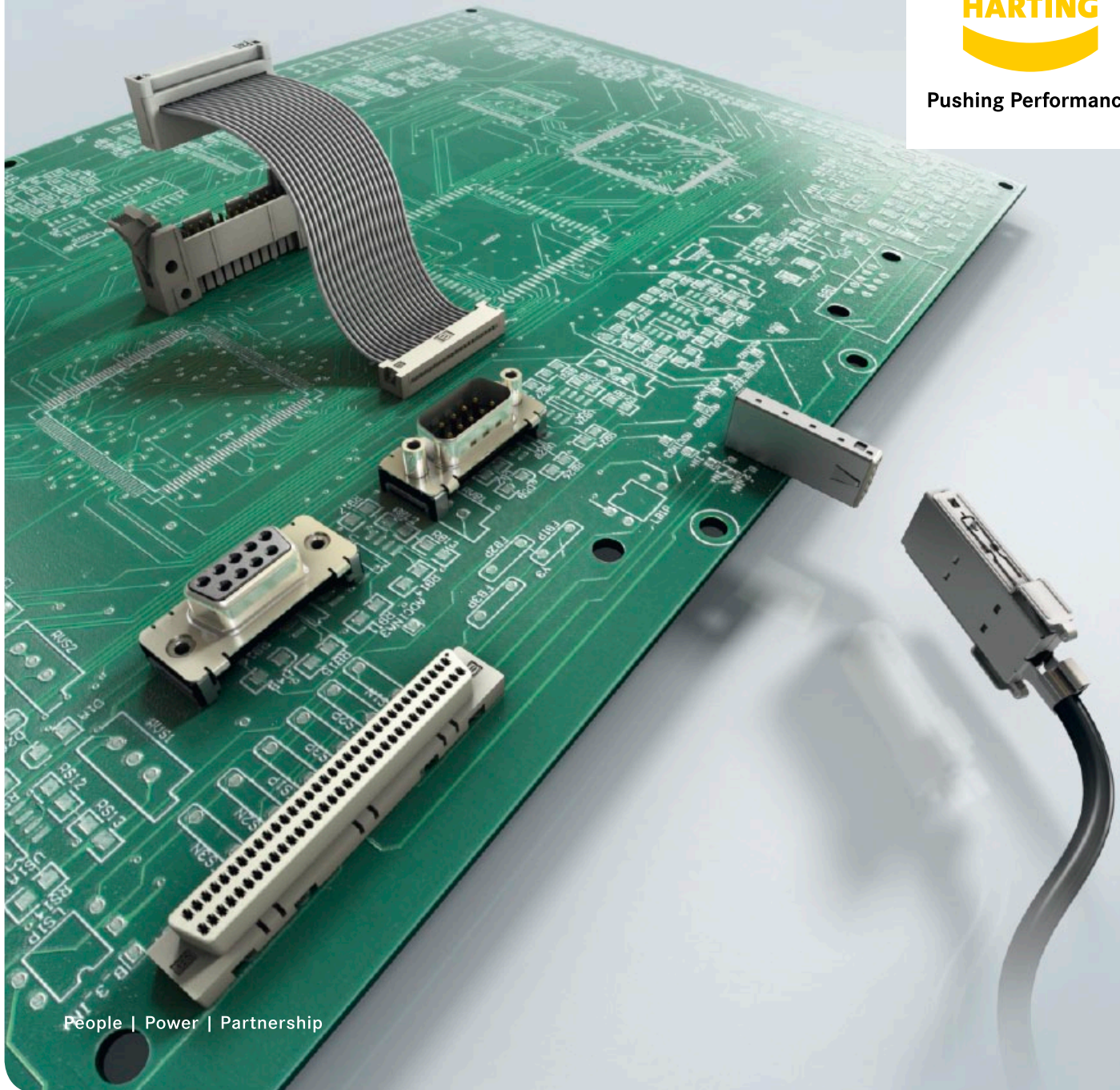




Pushing Performance



People | Power | Partnership

# HARTING

## Interface Connectors

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# Transforming customer wishes into concrete solutions



The HARTING Technology Group is skilled in the fields of electrical, electronic and optical connection, transmission and networking, as well as in manufacturing, mechatronics and software creation. The Group uses these skills to develop customized solutions and products such as connectors for energy and data transmission applications including, for example, mechanical engineering, rail technology, wind energy plants, factory automation and the telecommunications sector. In addition, HARTING also produces electro-magnetic components for the automobile industry and offers solutions in the field of Enclosures and Shop Systems.

The HARTING Group currently comprises 37 subsidiary companies and worldwide distributors employing a total of more than 3,500 staff.

**We aspire to top performance.**

Connectors ensure functionality. As core elements of electrical and optical wiring, connection and infrastructure technologies, they are essential in enabling the modular construction of devices, machines and systems across a very wide range of industrial applications. Their reliability is a crucial factor guaranteeing smooth functioning in the manufacturing area, in telecommunications, applications in medical technology – in fact, connectors are at work in virtually every conceivable application area. Thanks to the consistent further development of our technologies, customers enjoy investment security and benefit from durable, long term functionality.

**Always at hand, wherever our customers may be.**

Increasing industrialization is creating growing markets characterized by widely diverging demands and requirements. The search for perfection, increasingly efficient processes and reliable technologies is a common factor in all sectors across the globe.

**HARTING** is providing these technologies – in Europe, America and Asia. The **HARTING** professionals at our international subsidiaries engage in close, partnership based interaction with our customers, right from the very early product development phases, in order to realize customer demands and requirements in the best possible manner.

Our people on location form the interface to the centrally coordinated development and production departments. In this way, our customers can rely on consistently high, superior product quality – worldwide.

**Our claim: Pushing Performance.**

**HARTING** provides more than optimally attuned components. In order to serve our customers with the best possible solutions, **HARTING** is able to contribute a great deal more and play a closely integrative role in the value creation process.

From ready assembled cables through to control racks or ready-to-go control desks: Our aim is to generate the maximum benefits for our customers – without compromise!

**Quality creates reliability – and warrants trust.**

The **HARTING** brand stands for superior quality and reliability – worldwide. The standards we set are the result of consistent, stringent quality management that is subject to regular certifications and audits.

EN ISO 9001, the EU Eco-Audit and ISO 14001:2004 are key elements here. We take a proactive stance to new requirements, which is why **HARTING** ranks among the first companies worldwide to have obtained the new IRIS quality certificate for rail vehicles.



**HARTING technology creates added value for customers.** Technologies by HARTING are at work worldwide. HARTING's presence stands for smoothly functioning systems, powered by intelligent connectors, smart infrastructure solutions and mature network systems. In the course of many years of close, trust-based cooperation with its customers, the HARTING Technology Group has advanced to one of the worldwide leading specialists for connector technology. Extending beyond the basic functionalities demanded, we offer individual customers specific and innovative solutions. These tailored solutions deliver sustained effects, provide investment security and enable customers to achieve strong added value.

**Opting for HARTING opens up an innovative, complex world of concepts and ideas.**

In order to develop connectivity and network solutions serving an exceptionally wide range of connector applications and task scopes in a professional and cost optimized manner, HARTING not only commands the full array of conventional tools and basic technologies. Over and beyond these capabilities, HARTING is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that ensure continuity at the same time. In securing this know-how lead, HARTING draws on a wealth of sources from both in-house research and the world of applications alike.

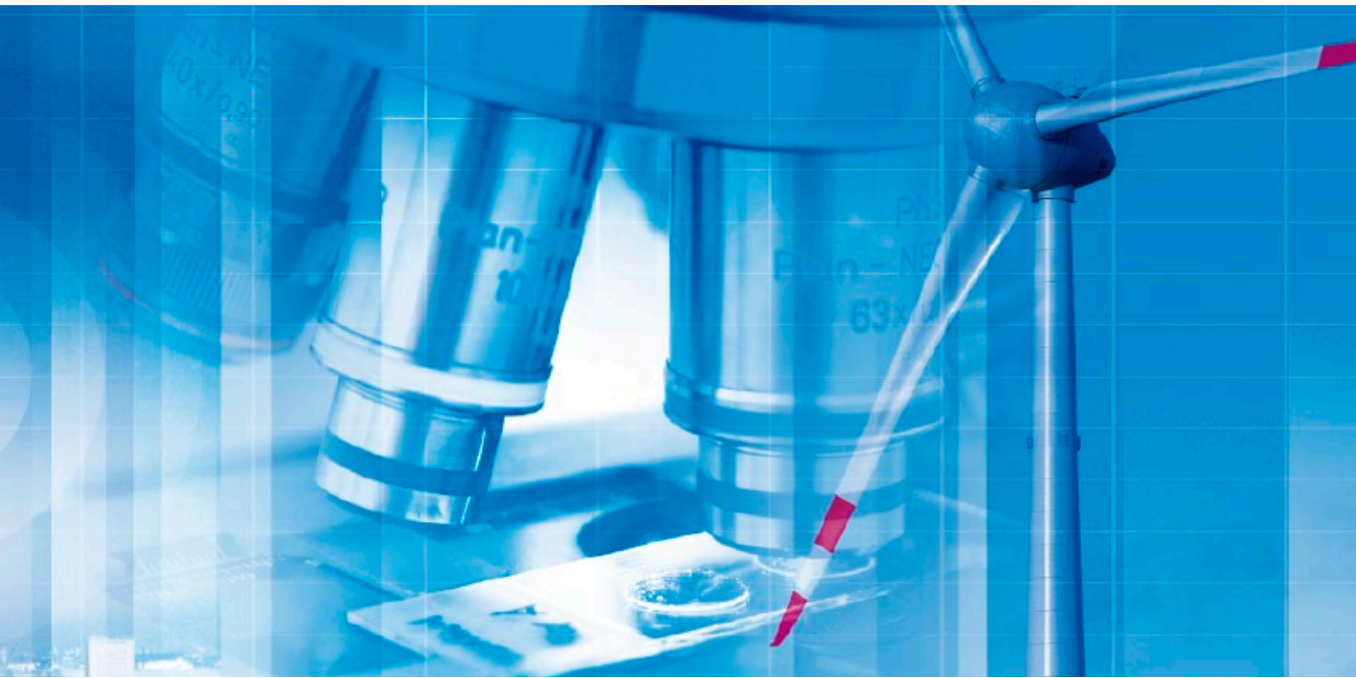
Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and construction technology, as well as high temperature

or ultrahigh frequency applications that are finding use in telecommunications or automation networks, in the automotive industry, or in industrial sensor and actuator applications, RFID and wireless technologies, in addition to packaging and housing made of plastics, aluminum or stainless steel.

**HARTING solutions extend across technology boundaries.**

Drawing on the comprehensive resources of the group's technology pool, HARTING devises practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication infrastructures, 3D circuit carriers with microstructures, or cable assemblies for high-temperature applications in the automotive industry – HARTING technologies offer far more than components, and represent mature, comprehensive solutions attuned to individual customer requirements and wishes. The range covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.

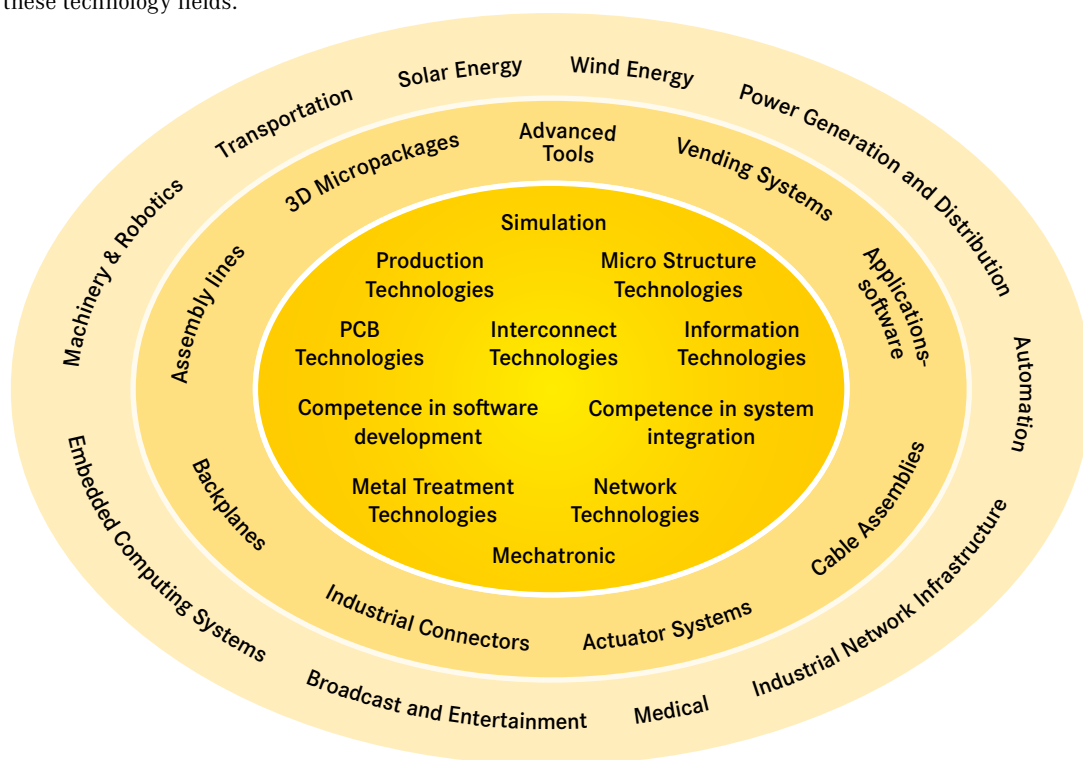
In order to ensure the future proof design of RF- and EMC-compatible interface solutions, the central HARTING laboratory (certified to EN 45001) provides simulation tools, as well as experimental, testing and diagnostics facilities all the way through to scanning electron microscopes. In the selection of materials and processes, lifecycle and environmental aspects play a key role, in addition to product and process capability considerations.



**HARTING knowledge is practical know-how generating synergy effects.**

**HARTING** commands decades of experience with regard to the applications conditions of connectors in telecommunications, computer and network technologies and medical technologies, as well as industrial automation technologies, such as the mechanical engineering and plant engineering areas, in addition to the power generation industry or the transportation sector. **HARTING** is highly conversant with the specific application areas in all of these technology fields.

The key focus is on applications in every solution approach. In this context, uncompromising, superior quality is our hallmark. Every new solution found will invariably flow back into the **HARTING** technology pool, thereby enriching our resources. And every new solution we go on to create will draw on this wealth of resources in order to optimize each and every individual solution. In this way, **HARTING** is synergy in action.



### The next generation of D-Sub SMT with straight surface mounts

HARTING has announced the launch of a range of straight D-Sub SMT connectors to complement its established angled product portfolio. Meeting HARTING's high quality standards, this new series of connectors offers an optimized design that

ensures a high level of dependability and optimal processing characteristics. It enables surface mounting thus simplifying PCB assembly significantly and broadening its range of applications.

100% co-planarity is achieved through the use of stamped contacts and the specially designed insulator. This robust solution is capable of withstanding all normal handling processes. Two variants are available – a connector for standard applications with flat, solderable pads to withstand plug-in and withdrawal forces and a variant for more demanding requirements with a solderable assembly pin in addition to the flat pads.

The black insulator, which is designed for improved camera detection, includes two positioning pegs for improved pick and place process reliability. Also included is a large removable cover for a 10 mm vacuum pipette. All connectors are available with 9 to 37 contacts and are supplied with the option of M3 and 4-40 UNC threaded inserts and fixed female screw locks. Performance level 2 and 3 are standard. PL1 can be delivered upon request. In addition to 140-piece reels suitable for automatic assembly, these products can be delivered in other special packaging depending on customer requirements.

Details you can find in chapter 21.



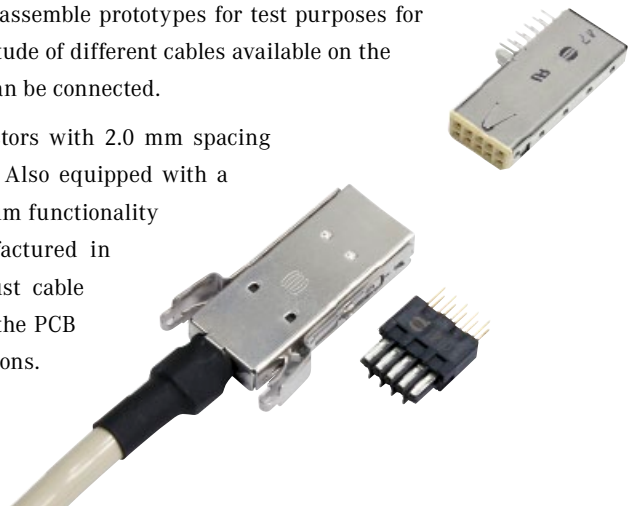
#### D-Sub SMT straight

### HARTING *har-link*<sup>®</sup>: Now also with solder buckets

HARTING is expanding its space-saving, *har-link*<sup>®</sup> metric product range with a version with solder buckets. Up to now, connectors were supplied on the cable side only with an insulation displacement termination. The new *har-link*<sup>®</sup> with solder buckets now enables the customer to assemble prototypes for test purposes for easy and rapid assembly. With these new contacts, the multitude of different cables available on the market with wire gauges ranging from AWG 30 to AWG 24 can be connected.

HARTING's modular and compact *har-link*<sup>®</sup> interface connectors with 2.0 mm spacing can transmit data of up to 2 GBit/s per twisted conductor. Also equipped with a special screening concept, *har-link*<sup>®</sup> reliably delivers optimum functionality in areas affected electromagnetically. *har-link*<sup>®</sup> is manufactured in accordance with IEC 61076-4-107 and is a compact, robust cable connector which guarantees excellent data transmission to the PCB in high frequency networks and telecommunication applications.

Details you can find in chapter 00.



#### *har-link*<sup>®</sup> with solder buckets