

HIS – HARTING Integrated Solutions – represents HARTING’s harmonized solutions for customers worldwide. We realize your customized electronic modules, starting with simple interface boards all the way through to complex backplane applications. Based on the “Global Footprint” principle, HARTING has set up a global, standardized development and production infrastructure in the United States, Great Britain and in China. Wherever in the world we develop, produce or assemble your products, identical standards and superior quality embodying a consistent level of perfection are guaranteed.





### FROM IDEAS TO PRODUCTS

- Market and application knowledge for electronic modules
- Technical expertise and tools for PCB design, simulation and signal integrity
- Worldwide material procurement based on strategic partnerships
- Worldwide identical processes to IPC 610 class 3 manufacturing standards
- Automated module and system tests
- Assembly and function tests of completely wired modules
- Worldwide delivery service



## PROJECT MANAGEMENT:

Our field service is your first contact partner in the realization of your electronic modules, supported by HARTING application specialists. Additional support is offered by a team of experts, ensuring professional cooperation throughout all the relevant project phases.

These capabilities are your guarantee of optimal solutions, ranging from development and material procurement, to production and on to delivery.



## PCB DESIGN:

HARTING deploys the most advanced, leading edge EDA software in PCB design. Close and coordinated cooperation secures the high performance and quality you expect from your products. Wherever in the world our expert support is asked for, HARTING PCB designers are always at your service, right from the very first design phases.



## PRODUCTION & ASSEMBLY:

HARTING has set up a global standardized manufacturing infrastructure in Europe, Asia and North America. State of the art equipment and identical standards guarantee a consistent level of perfection.





**ASSEMBLY & SOLDERING:**

HARTING processes PCBs up to large backplane formats on SMD assembly lines. Automated pick-and-place machines, reflow soldering and automated tests ensure a high degree of reliability in this demanding and sophisticated production stage. PIHIR (Pin In Hole Intrusive Reflow) guarantees extremely robust mechanical strength for components such as connectors that are subject to high mechanical load. Traditional wave soldering rounds off the range of options HARTING provides.



**PRESS-FIT TECHNOLOGY:**

Press-fit assembly is a standard technology for processing backplanes with connectors and delivers extremely high mechanical strength. HARTING draws on its own press-fit machines for reliable and enduring contacting. Controlled press-fit forces and recorded force-over-distance diagrams ensure consistent quality.



**HOUSINGS AND MODULE RACKS:**

HARTING offers complete, single source solutions for the development and production of standard or custom housings. Custom design features help reduce costs as well as the number of components.



**INSPECTION AND FUNCTION TEST:**

The function tests and a safety-relevant inspection of the system conclude the production process. The RoBAT system is capable of performing fully automated tests on modules and backplanes. HARTING's Corporate Technology Services (CTS) provide an accredited laboratory for the qualification of product properties and for signal integrity analyses in systems.

Signal integrity is a decisive quality and functionality factor in the development of electronic modules.

The reasons:

Continuously rising bandwidths result in a constant increase of data transmission rates that incur undesired effects such as signal attenuation and distortion, cross-talk and radiation.

Such effects cause a drastic loss of transmission quality in connectors, cables, electronic modules and backplanes.

HARTING counteracts these effects with measurements and simulations in the course of development in order to improve signal integrity at highest transmission rates. As leading provider of connectivity in the telecommunication area, HARTING commands in-depth know-how with regard to signal integrity enabling highest data transmission rates.

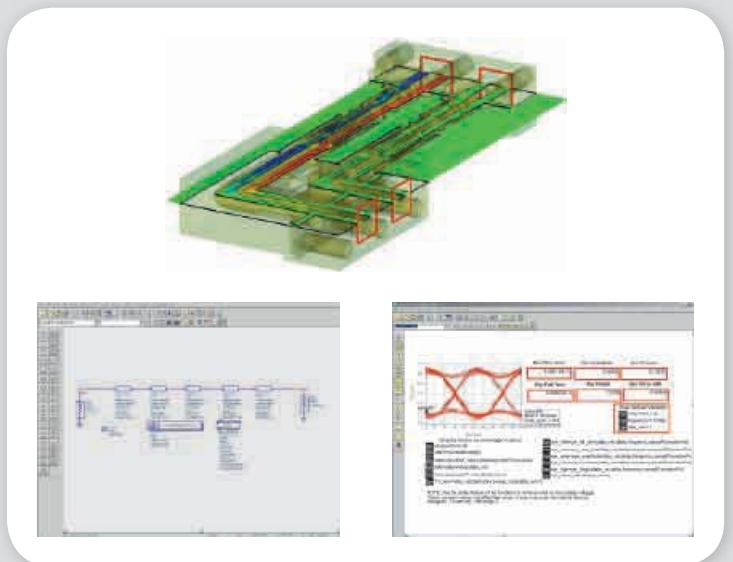
### SIGNAL INTEGRITY ANALYSIS IN THE TIME AND FREQUENCY DOMAIN:

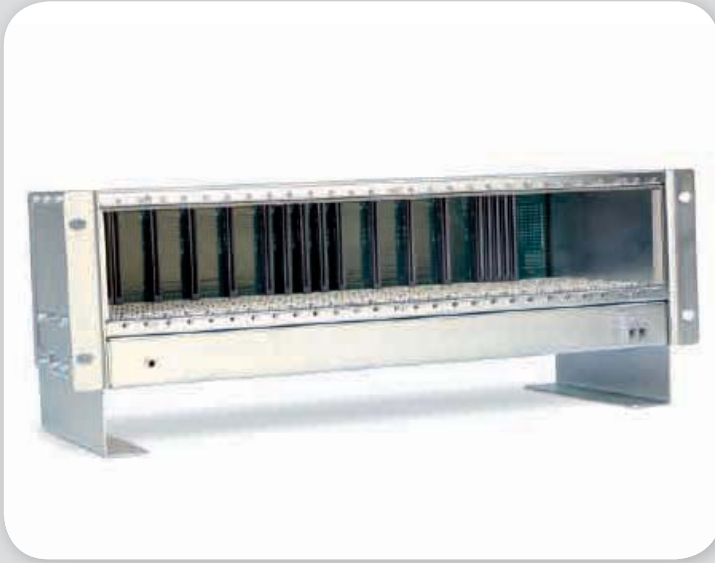
Independent qualification of signal integrity and of the backplane design.



### SIMULATION AND MODELS:

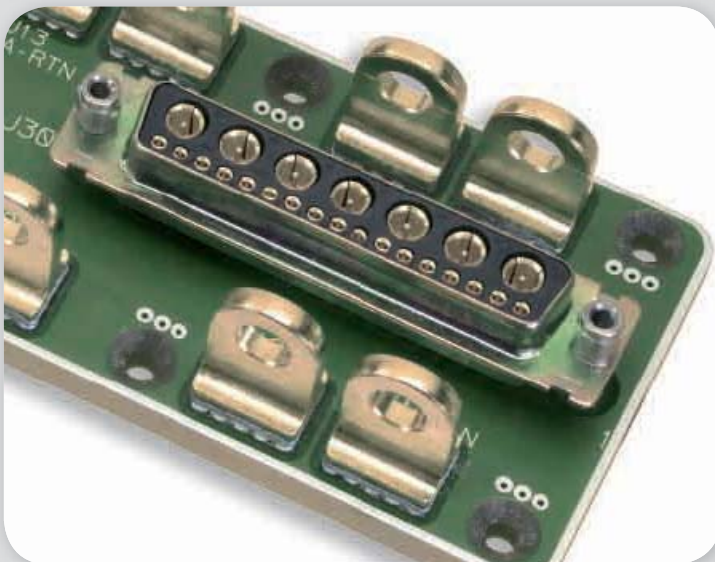
Dynamic 3D FEM simulation and SPICE/IBIS/S-parameter model simulation of multipoint & high-speed point-to-point bus systems.





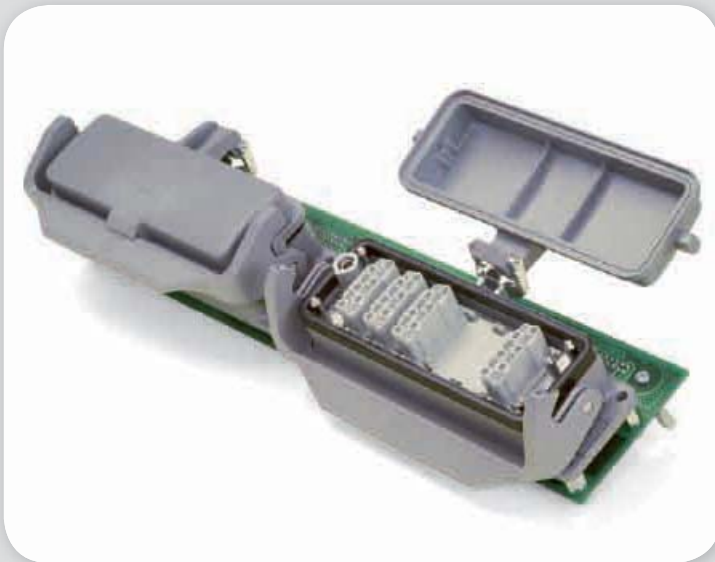
**STANDARD PLATFORMS:**

Standard solutions for MicroTCA™ & AdvancedTCA™ platforms. backplanes or systems are realized according to your requirements.



**CUSTOM MODULES:**

PIHIR assembly, 28-layer-PCB with 6 mm copper planes for 100 A terminals (IP 20).



Connection module Han®-Modular for device integration (IP 65 / IP 67).

## DEVELOPMENT AND PRODUCTION EUROPE

Northampton, England  
 2 000 m<sup>2</sup>  
 Static safe environment  
 ISO9001:2000  
 IPC 610 class 3 assembly standards



## DEVELOPMENT AND PRODUCTION AMERICA

Elgin, Chicago, USA  
 10 000 m<sup>2</sup>  
 Static safe environment  
 ISO9001:2000  
 IPC 610 class 3 assembly standards



## DEVELOPMENT AND PRODUCTION ASIA

Zhuhai, China  
 18 000 m<sup>2</sup>  
 Static safe environment  
 ISO9001:2000  
 IPC 610 class 3 assembly standards



- Harmonized development standards and tools
- Worldwide identical production and test equipment
- Harmonized production and quality standards
- Coordinated Global Project Management
- Global SAP business management system

HIS

