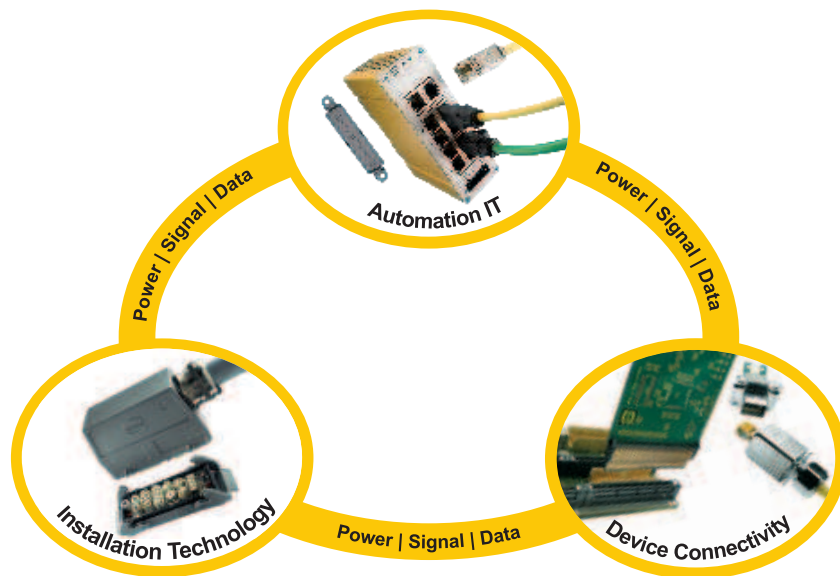# Каталог продукции

на компоненты

компании HARTING

Turning customer wish lists into concrete solutions

The **HARTING** Technology Group, which has its corporate headquarters in Espelkamp, Germany, develops tailored electrical and electronic connector solutions and products for power distribution, data transmission and networking applications. Founded 1945 in Minden, **HARTING** currently has more than 3,300 employees worldwide. As the knowledge and information society continues to evolve, networking with customers, suppliers and technology/business partners plays an increasingly crucial role in the domestic and international marketplace. **HARTING** has subsidiaries in 36 countries, which are located in close proximity to the customer base and markets. A local presence gives **HARTING** the opportunity to keep its ear to the ground and react quickly as situations change and developments move forwards.

Our goal is top performance.
While connectors guarantee functionality, they are by no means mere accessories. They form a core element of today's optical and electrical connectivity and infrastructure technology, and support modular machine and system design in a wide range of user industries. Connector reliability makes a crucial contribution to the problem-free operation of production, telecommunications and medical systems and in a whole host of other applications as well. The ongoing development of our technologies protects customer investment and ensures long-term functionality.

Power | Signal | Data · Automation IT · Power | Signal | Data · Installation Technology · Power | Signal | Data · Device Connectivity

Connectivity & Networks

An intelligent and powerful connectivity technology forms the foundation of industrial application and manufacturing technology. Solutions from the **HARTING** triad – Installation Technology, Device Connectivity and Automation IT – generate clear benefits in applications.

The **HARTING** product and services spectrum covers electrical and electronic connectors, device connection technology and pre-assembled cable and network components. **HARTING** products supply facilities and machines with data, signals and energy. We provide solutions for application areas including automation, wind energy, solar energy, power generation and distribution, industrial network infrastructure, transportation, industrial devices, broadcast and entertainment, medical, embedded computing systems, machinery and telecom.

Installation Technology
Han® connectors are the worldwide connector standard in industry. **Han®** connectors impress with their rugged design, convenient handling and modularity of data, signal and power connections. Worldwide.

Automation IT
With its product series **Ha-VIS**, HARTING offers a consistent range of Ethernet network components and cabling products, which from the communication platform of convergent automation IT networks. Under **Ha-VIS** HARTING offers fully integrated RFID solutions.

Device Connectivity
HARTING's *har*- Device Connectivity technology is a universal and innovative product portfolio of board connector and connection technology for devices in the IP 20 to IP 65 / IP 67 protection categories.
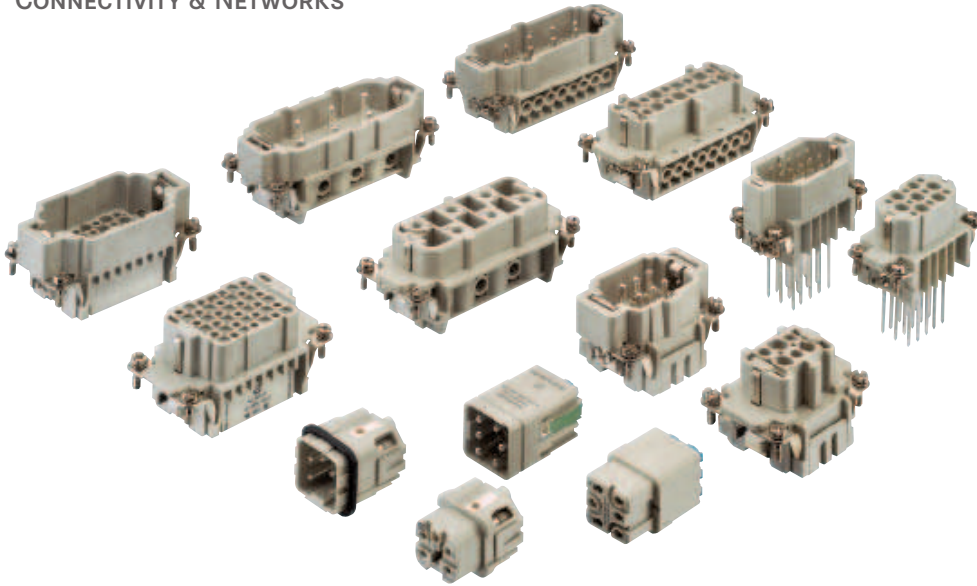
Standard inserts Han®

HARTING standard inserts are established main components of industrial connectors since several years. Product range includes a huge quantity of different inserts for sensitive signals up to energy transmission until 100 A. The inserts are related to defined housings depending on size and type of construction. To achieve various requests different types of terminations were developed.

|	
Distinct features/ advantages :	On-the-spot-installation of machines and plants Disassembly and reassembly of production lines when moved Quick exchange of cables (i.e. in case of cable break) Connection of test and diagnostic devices (i.e. on vehicles) Exchange of production units for a model change etc.
Numbers of contacts:	1 up to 400 poles + PE
Rated voltage:	25 V up to 690 V
Rated current:	5 A up to 100 A
Terminations:	Screw terminal, Crimp terminal, HARAX® insulation displacement contact (IDC), Cage clamp terminal, Axial screw terminal, Solder terminal, Wrap terminal, Han-Quick Lock® terminal
Types:	Han A®, Han D® / DD® , Han E® / Han® ES / ESS / EE / EEE, Han HvE® / ES, Han-Com® , Han® HsB, Staf®, Han® Q
Accessories:	PE-multiplier, docking frames, coding pins
Approvals:	UL, CSA for inserts CCC

International Railway Industry Standard

EN ISO 9001 and 14 001 certified
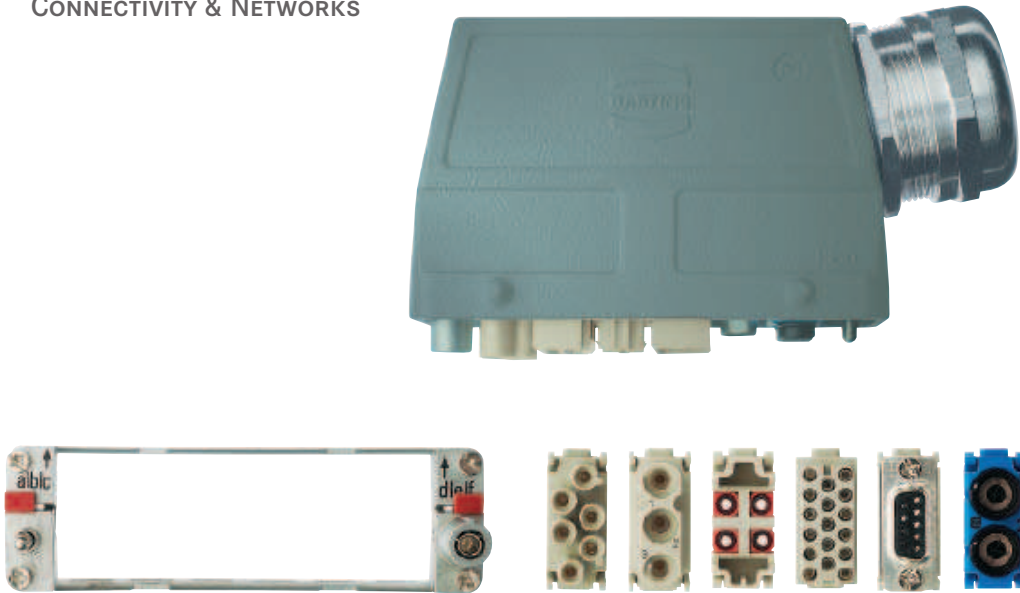
Han-Modular®

The Han-Modular® series is a system of inserts designed to meet the specific requirements of individual customers. In close cooperation with potential users a range of modular inserts has been developed allowing the simple assembly of custom designed connector sets which meet the diverse requirements encountered by designers today.

Advantages:	Custom designs can be simply assembled Optimum solutions can be reached Stock can be minimized
Modules:	Standard modules for 16 A Power modules up to 200 A High density signal modules with up to 25 contacts High voltage modules up to 5000 V Shielded modules for Quintax or D-Sub inserts Data modules for USB, FireWire or RJ45 Modules for coaxial wires Optical modules for POF or glass fibre Pneumatical modules for 3, 4 or 6 mm tubes
Numbers of contacts:	1 up to 300 pins
Rated voltage:	5 V up to 5000 V
Rated current:	4 A up to 200 A
Terminations:	Crimp terminal Cage clamp terminal Axial screw terminal Han-Quick Lock® terminal PCB solder terminal
Approvals:	UL for Modules Nema 4/12 for hoods and housings CCC

EN ISO 9001 and 14 001 certified

Han-Eco®

Han-Eco® − a new housing series made of thermoplastic material.

Han-Eco® is the ideal solution for applications that do not require the full range of product features offered by the Han® B series of housings, and users want to take advantage of the weight and cost advantages.

Like the Han® B standard series, the Han-Eco® series is available in the following sizes: 6 B, 10 B, 16 B and 24 B. Depending on size, versions of the bulkhead mounting and hood with straight or angled cable exit can be supplied.

Fast, simple assembly is another outstanding product feature. Click-and-mate design totally eliminates the need for tools during assembly of the Han-Eco® housing.

The Han-Eco® housing is compatible with nearly the full range of modules from the Han-Modular® series. One extra module fits into the Han-Eco® housing compared to the equivalent product in the Han® B Standard series. This special feature applies to all four sizes.

A optional PE module has been developed specifically for the Han-Eco® housing to hold the protective ground conductor.

Advantages:	- Weight reduction combined with mechanical strength
	- Fast assembly process without tools
	- Highly resistant to environmental stress, suitable for use in outdoor applications
	- Nearly the complete range of modules from Han-Modular® series usable

Features

Material

- Hoods/Housings Polyamide, fibre-glass reinforced
- Locking element Polyamide, fibre-glass reinforced
- Hoods/Housings seal NBR
- Limiting temperatures -40 °C ... +125 °C
- Flammability acc. to UL 94 V 0
- Degree of protection acc. to DIN EN 60 529 for coupled connector IP 65
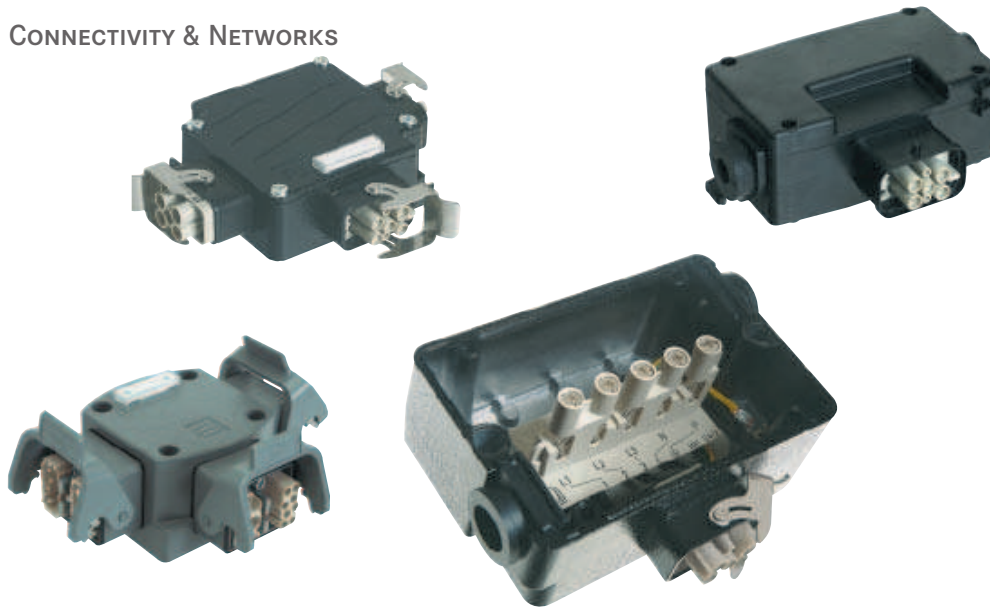
Components for energy transfer and distribution

Energy distribution

The Han-Power® series makes a fast, simple and comfortable installation of machines possible. The power cable is "tapped" with the Han-Power® S. For the fast and fault-free installation the industry connector is used with the Han-Power® T.

Series:	Han-Power®
Types:	Han-Power® S
	plastic
	metal
	Han-Power® T
	plastic with Han® Q 5/0
	plastic with Han® Q 2/0
	metal with Han® Q 4/2
	Han-Power® T Modular Twin

Connectors

Series:	Han® Q
	Han-Compact®
Types:	Han® Q 2/0
	Han® Q 5/0
	Han® Q 7/0
	Han® Q 8/0
	Han® Q 17
	Han® Q 4/2

System cables

Number of contacts:	2 – 17
Rated voltage:	max. 500 V
Rated current:	max. 40 A
Fields of application:	Transfer of power
Approvals:	UL, CSA
	EN ISO 9001 and 14 001 certified
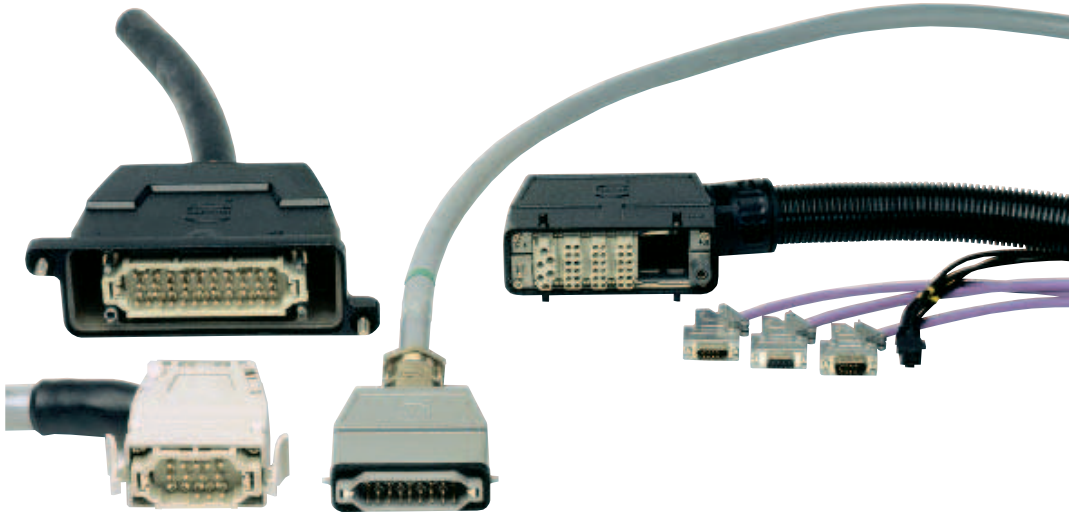
Value Added Business (VAB)

Worldwide implementation of customer specific applications. Wide range of services from specification to production. Electrical, mechanical design and engineering as well as concept development for power and data transmission for control units and systems.

Product groups

Power Cable Solutions (PCS)

Cable assemblies for power distribution

Applications with industrial connectors of the Han® product family

Data & Signal Solutions (DSS)

Cable assemblies for data and signal transmission

Ethernet, fibre optics and coaxial cable for customer specific requirements

Customer Specific Solutions (CSS)

System solutions for cabling, control units and cabinets

Customer specific engineering for cable harnesses, sub-systems and systems

EN ISO 9001 and 14 001 certified

IP 30 Ethernet Switches

The Fast and Gigabit Ethernet Switches of the product families Ha-VIS eCon 2000, 3000, 9000, Ha-VIS sCon 3000, 9000 as well as Ha-VIS mCon 3000, 9000 are designed for industrial areas. The Ha-VIS eCon and Ha-VIS sCon Ethernet Switches operate as unmanaged Switch in Store and Forward Switching Mode and support Auto-crossing, Auto-negotiation and Auto-polarity. The Ha-VIS mCon Ethernet Switch operates as a managed switch and comes with comprehensive management functions.
Real Time applications can be easily implemented with the innovtive Fast Track Switching technology.

Advantages:	Metal housing
	Plug & Play Installation with Ha-VIS eCon & Ha-VIS sCon
	Ha-VIS mCon comes with SNMP and Web-Access
	RoHS compliant

|	
Ethernet Switches:	Data transfer rates of 10/100/1000 Mbit/s
	Ethernet conform to PROFINET and ODVA
	Ha-VIS sCon individually configurable via USB Interface
	F.O. ports are available in single mode or multi mode versions
	Ethernet Switches with an extended operational temperature range of -40 °C up to +70 °C are available
	Ha-VIS mCon supports two access methods for management: SNMP and a convenient Web-Access

EN ISO 9001 and 14 001 certified
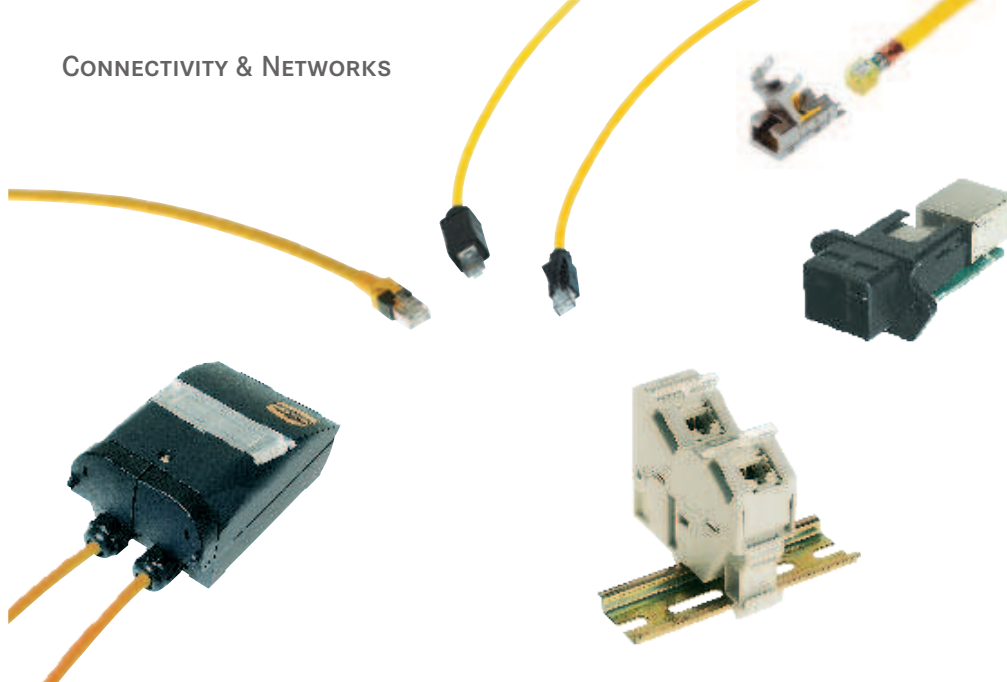
Cabling systems and components

Structured cabling (Generic cabling):
A complete range of cabling components for the installation of an application-independent passive infrastructure in industry, especially in automation. Universal 8-wire screened cabling for the seamless advancement of the IT infrastructure into harsh IP 65 / IP 67 environments and for outdoor areas.

Specification:
Network installation according to ISO/IEC 24 702 and EN 50 173-3 (Structured Cabling in Industrial Environments) – recommended for the transmission of data, voice/VoIP, video and other services – Ethernet transmission at 10 Mbit/s, 100 Mbit/s and 1000 Mbit/s (Gigabit Ethernet) – transmission characteristics Category 5 / Transmission Class D up to 100 MHz and Category 6 / Transmission Class E up to 250 MHz according to ISO/IEC 11 801:2002 incl. AMD1:2008 and EtherNET/IP according to IEC/TR 61158-1 (CPF number CP 2/2) and Category 5e according to EIA/TIA 568

Product range:

Consists of:	Outlets and junctions boxes
	Panel feed-throughs
	Patch cables
	Connector sets for on-site cable assembly
	Cables for both fixed and flexible installation
Connector types:	RJ45, IP 20
	HARTING PushPull RJ45, IP 67
	HARTING PushPull LC duplex, IP 67
	Han® 3 A RJ45, IP 67
	Ha-VIS preLink®

Installation:
Modular component range for free combination to meet special installation requirements. Patch cables and connecting cables are available both as quality inspected cable assemblies or as components sets for on-site assembly.

Benefits:
Real-time capable and future-proof cabling suitable for Gigabit Ethernet and beyond
In compliance with ISO/IEC 24 702 for signal transmission in all services in IT and automation environments guaranteeing compatibility with equipment and facilities.
Modular component range for cabling according to the specific customer requirements
Easy and quick assembly
The high quality of the cabling system guarantees long operation, reliability and protection in investment
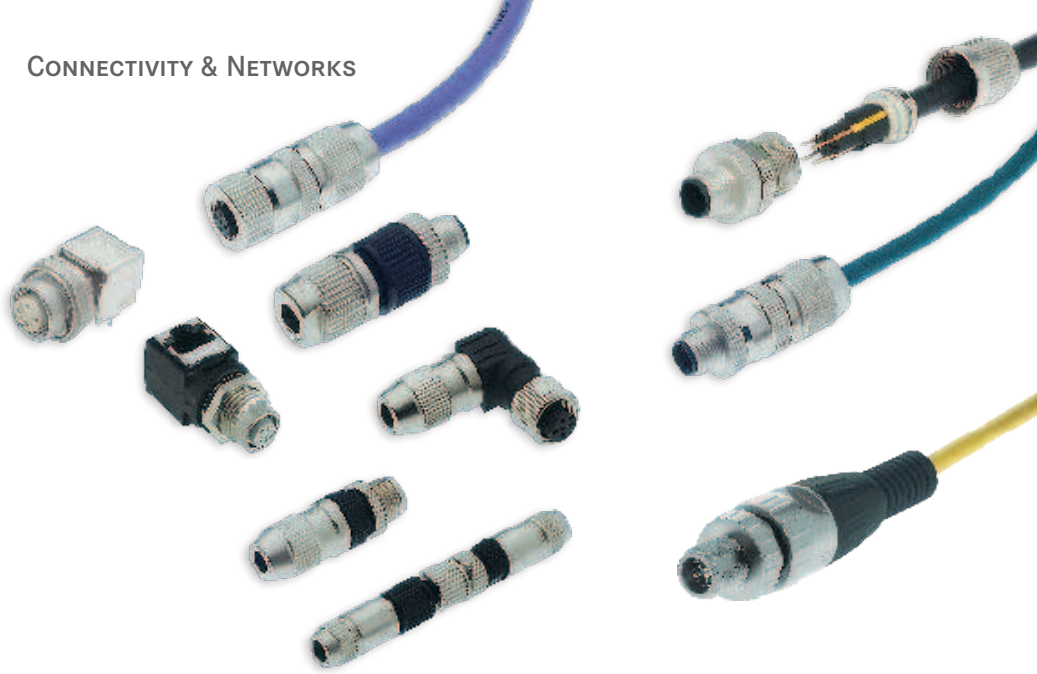
Circular connectors

Connectors with HARAX® termination technique

Types:
Unshielded M8 connectors
Shielded and unshielded M12 connectors
7/8" connectors
Shielded M12 panel feed throughs

Advantages:
Compact and robust design
Quick and easy field assembly
No special tools required
Compatible with an extensive range of cables with
different cross core sections and outer diameters

Connectors with crimp termination technique

Types:
Shielded M12 connectors for data transmission
and power supply
Shielded panel feed throughs M12 Crimp

Advantages:
Compact and robust design
Vibration safe connection
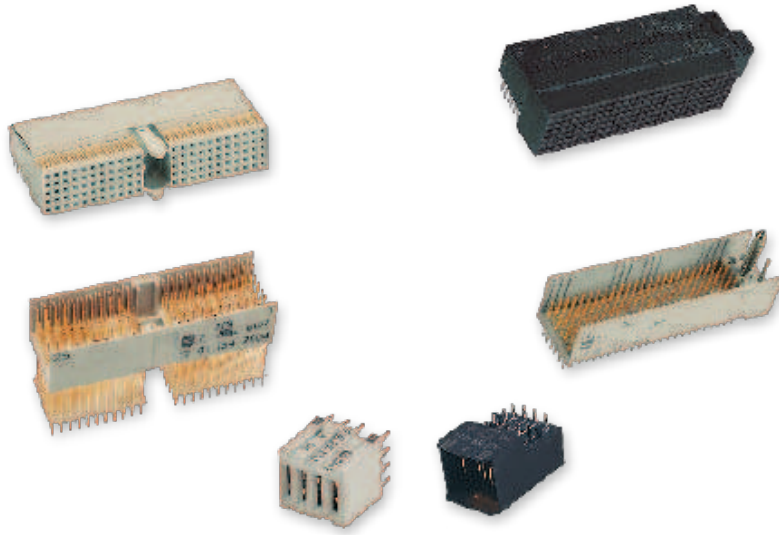Quick and easy field assembly with HARTING
crimp tooling

M12 Connectors for high data rates – *har*-speed M12

Types:
Straight and angled receptacles
M12 connectors
Overmoulded cordsets

Advantages:
x-coding acc. to PAS 61076-2-109
Performance class E_A
Component category 6_A
AWG 23-28
Robust and vibration safe

EN ISO 9001 and 14 001 certified

Metric connectors

har-bus® HM

with 5 resp. 8 rows   acc. to IEC 61 076-4-101, CompactPCI

Types: A, AB19, AB22, AB25, B19, B22, B25, C, D, DE, E, Monoblock 47 (A + B22)

Number of contacts: max. 220 signal contacts (308 fully shielded)

har-bus® HM 6 row   Extension of IEC 61 076-4-101

Types: Modules with optional features such as guiding, coding and end wall
SMC types

Number of contacts: 72 or 144 signal contacts

har-bus® HM Power

Types: Straight female press-in modules
Angled male press-in and SMC modules
Lagging / leading contacts

Working current: max. 23 A at 70 °C

All connector families

Accessories: Tooling for press-in termination
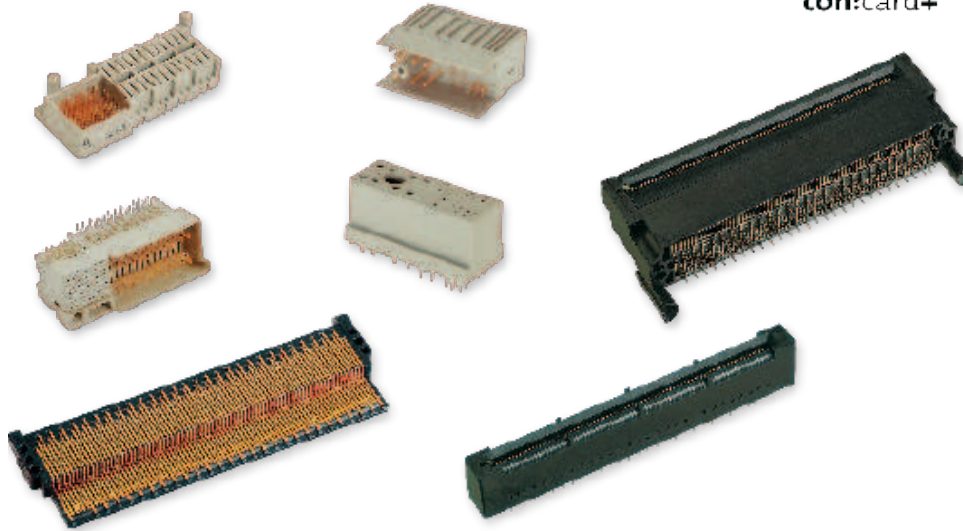
Service: Shielding effectiveness measurements
Signal integrity analysis
Computer simulations (3D-FEM)
SPICE modelling
Concepts for SMC technique

Approvals: UL, CSA, VDE, IEC, CECC

EN ISO 9001 and 14 001 certified

Connectors for AdvancedTCA® / MicroTCA™

AdvancedMC™ connectors

	According to PICMG AMC.0 / MTCA.0 specification
Types:	Right angled version for AdvancedTCA® and straight version for MicroTCA™. The card edge connectors are for direct mating with Advanced Mezzanine Cards (AdvancedMC™). With **con:**card**+** features for enhanced contact reliability. Plug connector mounted on the AdvancedMC™ module replaces PCB gold pads.
Number of contacts:	170
Contact spacing:	0.75 mm
Termination:	Press-in technology, 0.55 mm PCB hole diameter, Pin-in-hole-reflow soldering for plug connector
Data rate:	Suitable for 12.5 Gbps applications

Power connectors

	According to PICMG 3.0 / MTCA.0 specification
Types:	Backplane and daughter card connectors for AdvancedTCA®
	Backplane and module connector for MicroTCA™
	Mixed pin assignment of signal and power contacts
Number of contacts:	30 / 96
Working current:	16 A / 9.3 A @ 80% derating
Termination:	Press-in technology

All TCA connectors

Accessories:	Tooling for press-in termination
Design-in support:	Signal integrity analysis (S-parameter, TDR, eye-diagrams)
	Computer simulation and modelling (e.g. SPICE)
	Test boards and 3D models (STEP, IGES)
	EN ISO 9001 and 14 001 certified
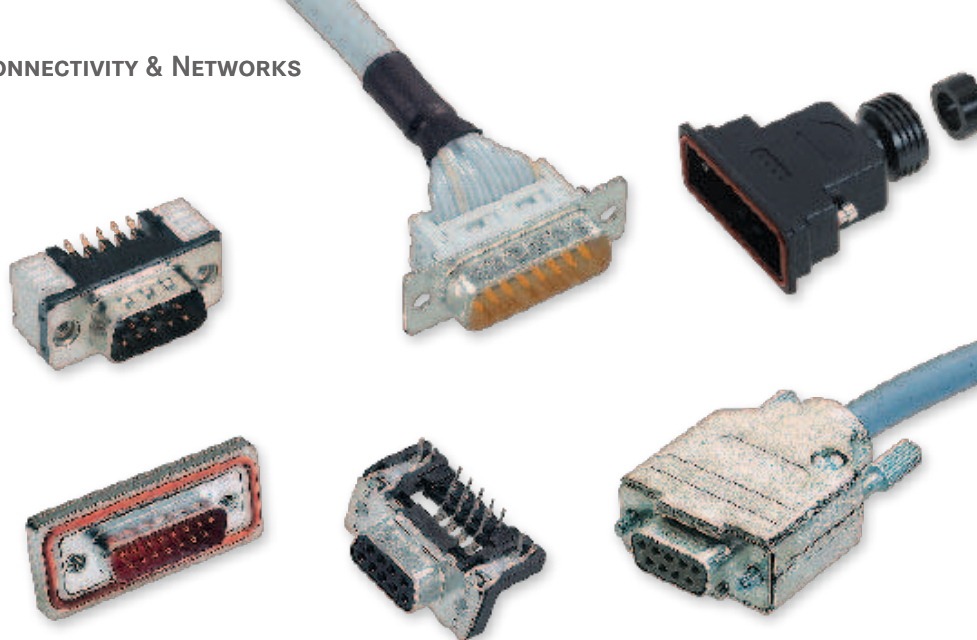
Standard, IP 67 D-sub connectors

D-Sub   acc. to CECC 75 301-802

Number of contacts: 9, 15, 25, 37, 50
Working current: 2 – 7.5 A
Fields of application: Industrial electronics, office electronics,
                                 Information and telecommunication technology
Terminations: Solder buckets
                                 Straight and angled solder pins
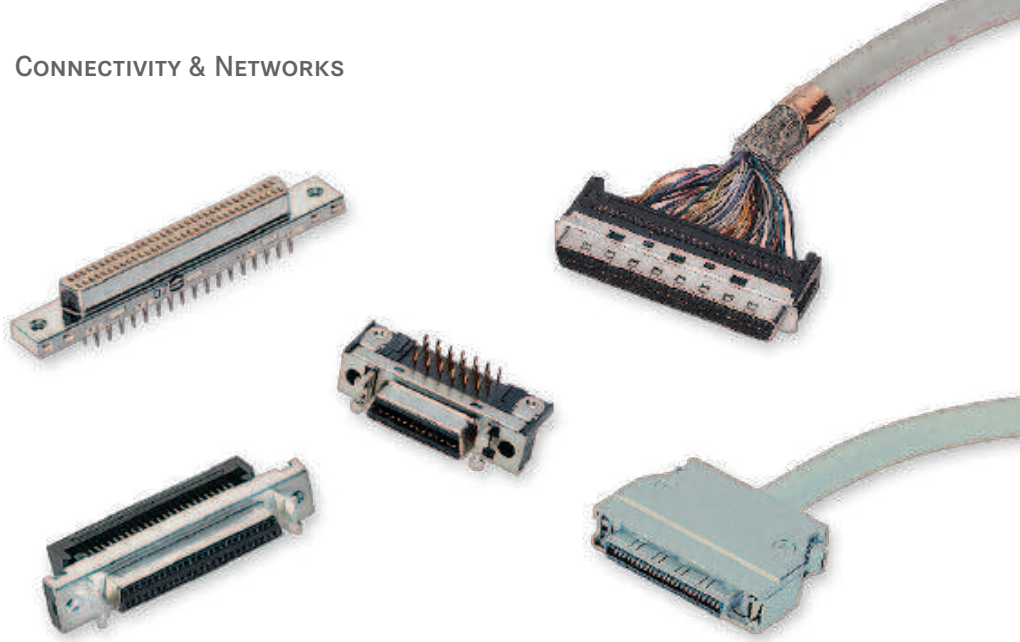   European, US and low-profile footprint
                                 SMC (Surface Mount Compatible) types
                                 SMT (Surface Mount Technology) types
                                 Wire wrap terminals
                                 Crimp terminals
                                 Insulation displacement termination
                                 Press-in technology
Accessories: Extensive range of hoods: plastic, metallized plastic,
                                 plastic with internal metal plate and full metal
                                 A large choice of locking systems
Approval: UL

D-Sub IP 67   acc. to DIN 40 050, IEC 529

Number of contacts: 9, 15, 25, 37, 50
Working current: 5 A
Fields of application: Any applications in the industrial, medical, machinery
                                 and transportation markets, which are to be protected
                                 from ingress
Terminations: Rear panel mount straight and angled for PCB
                                 application
                                 Rear and front panel mount solder cup
                                 Solder cup for cable inside application in
                                 conjunction with IP 67 hood range
Accessories: IP 67 plastic or metallized plastic hoods with
                                 a large range of screws
Approval: UL

                                 EN ISO 9001 and 14 001 certified

Micro electronic connectors

har-mik®	Miniature D connector contact spacing 1.27 mm acc. to:
	SCSI 2 – SCSI 3, I.P.I.2, HI.P.P.I
	EIA/TIA 232 E (RS 232 E), IEEE 1284
	IEC 61 076-3-100 for bellows connectors (with leaf contact design)
	IEC 61 076-3-101 for pin and socket connectors (with blade and fork contact design)
Number of contacts:	14 – 100
Working current:	1 A
Working voltage:	240 V ~
Fields of application:	Input/output interface for use in EDP, industrial and office electronics and telecommunication
Terminations:	Straight and right angled solder pins
	IDC for discrete wires
	IDC for flat cables
	Press-in technology
	SMC (Surface Mount Compatible) types

har-link®	Metric connector contact spacing 2.0 mm acc. to IEC 61 076-4-107
Number of contacts:	10
Working current:	1.5 A
Fields of application:	Telecommunication
	Automation
	Professional broadcast
	Transportation
Terminations:	IDC (for male connector)
	Right angled solder pins (for female connector)

The *har-link®* connector system is a modular, compact and robust PCB-to-cable interface with excellent data transmission properties for high speed networking and telecommunication (up to 2 Gbit/s per twisted pair).
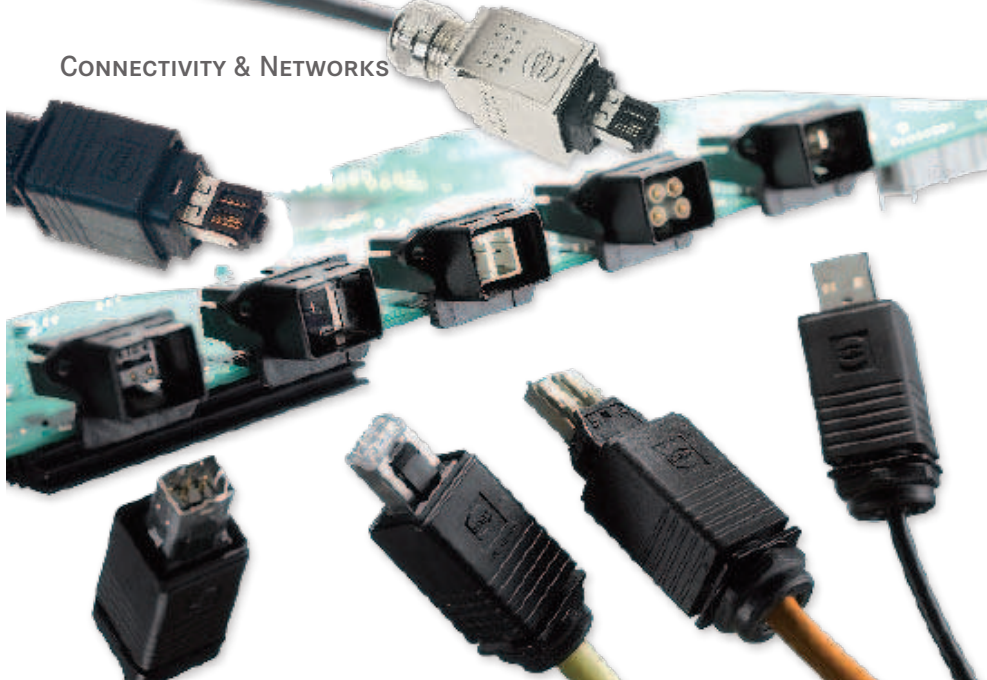
Both connector families

Approval:	UL

EN ISO 9001 and 14 001 certified

Compact IP 65 / IP 67 PushPull connectors for data, power and signal

PushPull connectors according to IEC 61 076-3-106 variant 4 and IEC 61 076-3-117 variant 14 for device connectivity

Fields of application:	Factory and building automation
	Automobile industry
	PROFINET applications
	Industrial electronics
	Transportation
	Lighting and display technology
	Telecommunication and wireless networks
	Ideal for compact devices in harsh environments or in outdoor applications
Locking mechanism:	PushPull one-hand locking
Housing material:	Plastic or metal
Accessories:	Protective caps, cable assemblies, coding pins and tools
Protection class:	IP 65 and IP 67

Data interface

Copper based:	RJ45 acc. to IEC 60 603-7
Number of contacts:	4 or 8
Wire terminations:	HARAX® IDC or piercing
Fibre based:	LC duplex acc. to IEC 61 754-20 or SCRJ acc. to IEC 61 754-24
	LC duplex: singlemode or multimode GOF
	SCRJ: POF, HCS, singlemode or multimode GOF

Hybrid interface

Number of contacts:	4 x data + 3 x power
Working current:	5 A
Working voltage:	32 V DC
Wire terminations:	Crimp and solder terminals

Power interfaces

Number of contacts:	4 or 2 + PE or 4 + PE
Working current:	12 − 16 A
Working voltage:	48 V DC, 250 V AC or 400 / 690 V AC
Wire terminations:	Crimp, solder or cage clamp terminals and Quick Lock

EN ISO 9001 and 14 001 certified

I/O cable assemblies

System cables for applications in IP 20 and IP 67 environment

Based on the connector series D-Sub, D-Sub high density, *har-mik®* (SCSI), *har-link®*, DIN 41612, Mini Coax and IDC connector systems for flat cables

Advantages:	No additional assembly
	Manufacturing of different lengths according to customer requirements
	Available as round and flat cables
	Ready-to-use and inspected products
Terminations:	Solder pins
	Crimp terminals
	Wire wrap termination
	Insulation displacement termination
	Strain relief and latching mechanism according to the connectors used
Types:	Variants with or without overmoulding technology depending on the application.
	The housings are available in plastic, metallized plastic or full metal.
	EN ISO 9001 and 14 001 certified

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Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
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Череповец (8202)49-02-64
Ярославль (4852)69-52-93

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