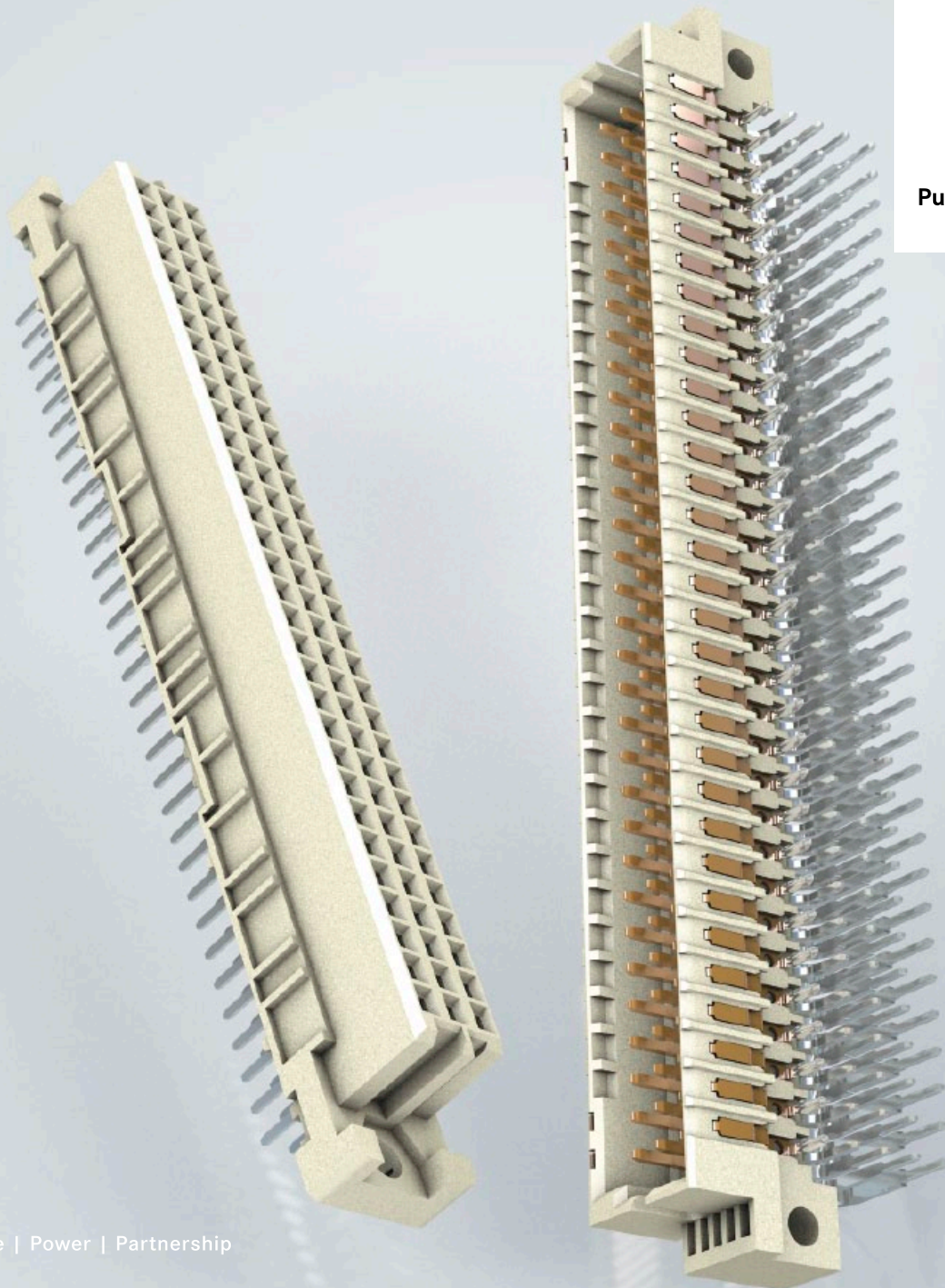





Pushing Performance



People | Power | Partnership

HARTING

Connectors DIN 41 612

	 Type	Termination								
		Solder termination	Reflow soldering (SMC)	Solder lug connection	Press-in connection	Crimp connection	Wire wrap connection	IDC connection	Faston connection	Cage clamp connection
DIN Signal	B	Page 01.11	Page 01.11							
		Pages 01.12 f	Pages 01.12 f	Pages 01.12 f	Pages 01.12 f	Page 01.15	Pages 01.12 f	Page 01.14		
	2B	Page 01.16	Page 01.16							
		Page 01.17	Page 01.17		Page 01.17		Page 01.17			
	3B	Page 01.18	Page 01.18							
		Page 01.19	Page 01.19		Page 01.19					
	C	Pages 01.20 f	Pages 01.20 f							
		Pages 01.22 f	Pages 01.22 f	Page 01.25	Page 01.24	Page 01.27	Page 01.25	Page 01.26		
	2C	Pages 01.28 f	Pages 01.28 f							
		Pages 01.30 f	Pages 01.30 f	Pages 01.30 f	Pages 01.30 f	Page 01.27	Pages 01.30 f			
	3C	Pages 01.32 f	Pages 01.32 f							
		Pages 01.34 f	Pages 01.34 f		Pages 01.34 f	Page 01.34				
	M	Page 01.41								
		Page 01.42			Page 01.42					
	M-flat	Page 01.43			Page 01.43					
	M invers	Pages 01.44 f			Pages 01.44 f		Pages 01.44 f			
	R	Pages 01.46 f	Pages 01.46 f		Pages 01.46 f		Pages 01.46 f			
		Page 01.49	Page 01.49							
	R (HE 11)	Page 01.50					Page 01.50			
		Page 01.51								
	RM				Page 01.48					
	Q	Page 01.52			Page 01.52		Page 01.52			
		Page 01.60								
	2Q	Page 01.53			Page 01.53		Page 01.53			
Page 01.60										
3Q	Pages 01.54 f	Pages 01.54 f		Pages 01.54 f		Pages 01.54 f				
2R	Pages 01.56 f	Pages 01.56 f		Pages 01.56 f		Pages 01.56 f				
	Page 01.60									
3R	Pages 01.58 f	Pages 01.58 f		Pages 01.58 f		Pages 01.58 f				
<i>harbus® 64</i>	Page 02.11	Page 02.11								
	Page 02.14			Pages 02.12 f	Page 02.15					
D	Page 03.11	Page 03.11								
	Pages 03.12 f		Page 03.12		Pages 03.14, 03.23	Page 03.12				
E	Page 03.15	Page 03.15								
	Page 03.18 f		Page 03.18	Page 03.18	Pages 03.17, 03.23	Page 03.18				
I	Page 03.16									
F	Page 03.27	Page 03.27								
	Pages 03.32, 03.34 f		Page 03.33	Page 03.34	Page 03.31	Page 03.33				
U						Page 03.30				
I	Page 03.28				Page 03.29	Page 03.28				
					Page 03.41					
F9					Page 03.41					
					Page 03.42					
FM	Page 03.42				Page 03.42					
	Page 03.43				Page 03.43	Page 03.43				
2F					Page 03.46					
U						Page 03.45				
I					Page 03.44					
H15	Page 04.11							Page 04.11		
	Page 04.14			Page 04.15				Page 04.12	Page 04.13	
H16	Page 04.16							Page 04.16		
H 3	Page 04.17									
	Page 04.17									
MH 24 + 7	Page 04.22							Page 04.22		
	Page 04.23				Page 04.23	Page 04.23				
MH 21 + 5	Page 04.24									
	Page 04.25									

■ male

□ female

■ Interface connector

The **HARTING eCatalogue** is an electronic catalogue with a part configuration and 3D components library.

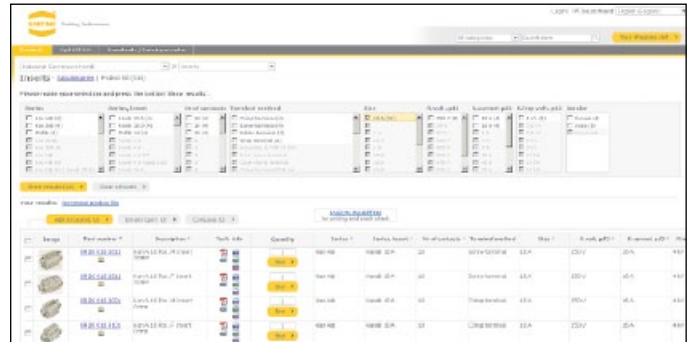
Here you can choose a connector according to your requirements. Afterwards you are able to send your inquiry directly to a HARTING sales partner.

The drawings to every single part are available in PDF-format.

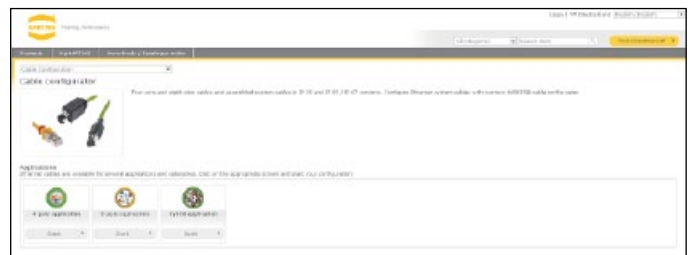
The parts are downloadable in 2D-format (DXF) and 3D-format (IGES, STEP).

The 3D-models can be viewed with a VRML-viewer.

You can find the **HARTING eCatalogue** at www.HARTING.com.



Product selection



Product configuration



Product overview



Product combination

Product samples: Fast-track delivery to your desk, free of charge

The new free express sample service in the HARTING eCatalogue allows customers to order samples immediately, easily and completely free of charge. A broad selection from the device connectivity product portfolio is now available. If a product is unavailable, the system offers alternative products with similar features that can be requested at a mouse click.

The free samples are shipped within 24 hours at no cost to you. This service enables tremendous flexibility, especially in the design phase of projects.

General information

It is the customer's responsibility to check whether the components illustrated in this catalogue also comply with different regulations from those stated in special fields of applications.

We reserve the right to modify designs or substance of content in order to improve quality, keep pace with technological advancement or meet particular requirements in production.

No part of this catalogue may be reproduced in any form (print, photocopy, microfilm or any other process) or processed, duplicated or distributed by means of electronic systems without the prior written consent of HARTING Electronics GmbH, Espelkamp. We are bound by the German version only.

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.

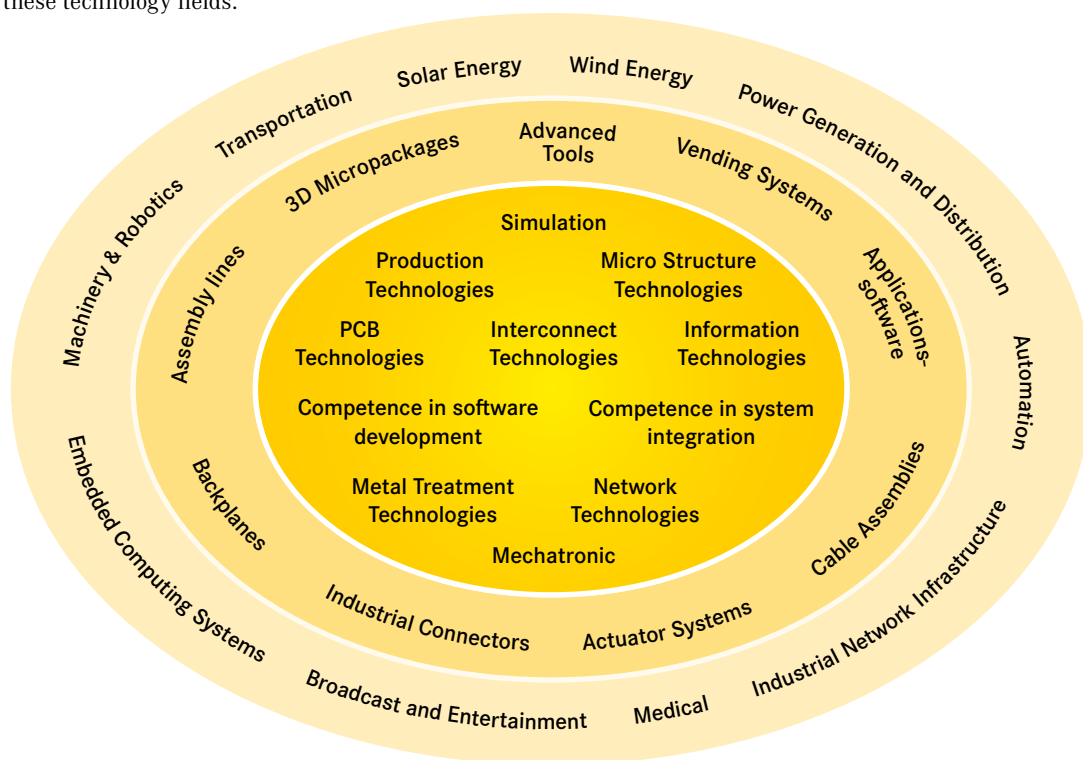
In order to ensure the future proof design of RF- and EMC-compatible interface solutions, the central HARTING laboratory (certified to EN 45001) provides simulation tools, as well as experimental, testing and diagnostics facilities all the way through to scanning electron microscopes. In the selection 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.



DIN 41 612 type 3C Crimp

Nowadays, many PCBs are smaller than the standard size 3HE. HARTING offers a new crimp connector with housing in order to assemble cables that require less space.

The well-known and reliable BC crimp contacts are used for this product.

For further details see pages 01.34 and 20.08.



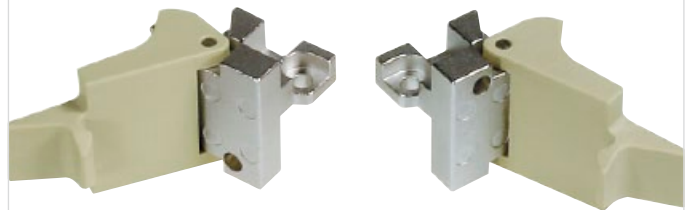
DIN 41 612 type 3C Crimp

Fixing brackets for full metal housings D20

The new metallized fixing brackets give a robust mechanical connection with reliable screws and additionally through our new screwless locking solution. Moreover a good electrical connection is guaranteed between the full metal housings D20, the fixing brackets and the rack systems.

The locking levers simplify the handling notably and can also be used for daughter cards mounting and removal.

For further details see page 20.32.



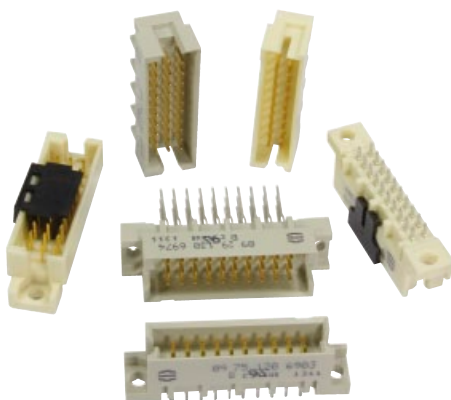
Fixing brackets

DIN 41 612 type 3Q / 3R – Even smaller, and just as rugged

The density of the electronics on PCBs is constantly increasing, while the PCBs and components are getting smaller and smaller. This trend also results in a need for smaller and smaller connectors.

The new type 3Q and 3R male connectors are available both with and without flange, enabling further space reductions. The connectors come in solder, SMC (Surface Mount Compatible) or press-in technology and are especially suitable for mezzanine applications.

For further details see pages 01.54 and 01.58.



DIN 41 612 types 3Q/3R

DIN 41 612 Female connector H 15 with press-in pins

Type H15 is used successfully as power connector for many years. Now, HARTING offers a female connector type H15 with press-in pins. Press-in is already our fourth termination technology for female connector type H15 besides cage clamp, solder and faston.

The new portfolio includes two versions with 2.54 mm and 5.08 mm contact pitch on the termination side.

For further details see page 04.15.



DIN 41 612 female connector H15 press-in

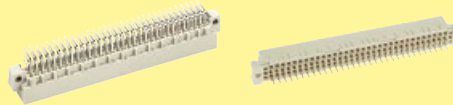
Printed Board Connectors according to DIN 41 612 / IEC 60 603-2

Chapter

Printed Board Connectors – general information

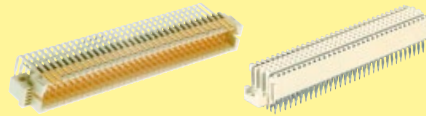
00

**DIN Signal (up to 2 A)
Types B, 2B, 3B, C, 2C, 3C, M,
M invers, Q, 2Q, 3Q, R, 2R, 3R**



01

harbus® 64



02

**DIN Power (up to 6 A)
Types D, E, F, FM, 2F, F9,
interface connectors I/U**



03

**DIN Power (up to 15 A)
Types H, H15, H16, H3, MH**



04

Shell housings and accessories



20

Tooling



30

List of part numbers

40

Addresses

50

Economic and Reliable Connections

Connector system for use in 19" racks to DIN 41 494 (replaced by DIN EN 60297-3).

Connectors according to

IEC 60603-2
DIN 41 612
(replaced by IEC 60603-2)

UL-listed E 102079 (M)
CECC 75101-801
IEC 61076-4-113

Developed for economical assembly of electronic plant and equipment.

HARTING offers the most comprehensive range of highly versatile connectors complemented by many styles of shell housings for a complete interconnection and interface system.



UL-listed E 102079 (M)



The division Printed Board Connectors is certified according to EN ISO 9001



DIN 41 612 connectors are in conformity with the
Directive 2002/95/EG
EC Directive on the Restriction and Use
of Certain Hazardous Substances in Electrical
and Electronic Devices
RoHS

The advantages

- Indirect mating (male/female)
- Automated production processes
- Continuous quality assurance
- 3-160 contacts
- Complete interconnection system
- Numerous interface connectors
- A wide variety of hoods
- Many termination technologies provide for the lowest installed cost
- Contacts selectively gold-plated
- Tinned terminations for increased solderability

The terminations

- Wrap posts for automated wiring
- Straight and angled solder pins for printed circuits
- High temperature connectors for reflow soldering
- Solder lugs for discrete wiring
- Press-in technology for backplanes
- Crimp contacts for selective loading
- Insulation displacement contacts for mass production
- Faston blades for higher power discrete wiring
- Cage-clamp contacts provide low cost connection for solid or stranded wires

For "non standard applications" we can manufacture designs to match your requirements. Please discuss your requirements with us.

HARTING printed board connectors incorporate the latest design features and provide the assurance of high quality and reliability with economy.