

HARTING Han[®] 1A Versatile compact connector series

Transforming customer wishes into concrete solutions



The HARTING Technology Group is skilled in the fields of electrical, electronic and optical connection, transmission and networking technology, 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/data-networking 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 housing technology and shop systems.

The HARTING Group currently comprises 58 sales companies and production plants worldwide employing a total of about 5,000 staff.



We aspire to top performance.

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

Wherever our customers are, we're there.

Increasing industrialization is creating growing markets that are characterized by widely diverging demands and requirements. What these markets all share in common is the quest for perfection, increasingly efficient processes and reliable technologies. HARTING is providing these technologies – in Europe, the Americas and Asia. In order to implement customer requirements in the best possible manner, the HARTING professionals at our international subsidiaries engage in up-close, partnership-based interaction with our customers, right from the very early product development phase.

Our on-site staff 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 offer our customers the best possible solutions, on request **HARTING** contributes a great deal more and is tightly integrated into the value-creation process.

From ready-assembled cables through to control racks or ready-to-go control desks. Our aim is to generate maximum benefit for our customers – with no compromises!

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 towards new requirements, which is why **HARTING** is the first company 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 sophisticated network systems. Over the course of many years of close, trust-based cooperation with its customers, the HARTING Technology Group has become one of the leading specialists globally for connector technology. We offer individual customers specific and innovative solutions that go beyond the basic standard functionalities. These tailored solutions deliver sustained results, ensure investment security and enable customers to achieve significant added value.

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

In order to develop and produce connectivity and network solutions serving an exceptionally wide range of connector applications in a professional and cost-effective manner, HARTING not only commands the full array of conventional tools and basic technologies. Above and beyond these capabilities, HARTING is constantly harnessing and refining its broad base of knowledge and experience to create new solutions that also ensure continuity. To secure its lead in know-how, HARTING draws on a wealth of sources from its in-house research and applications.

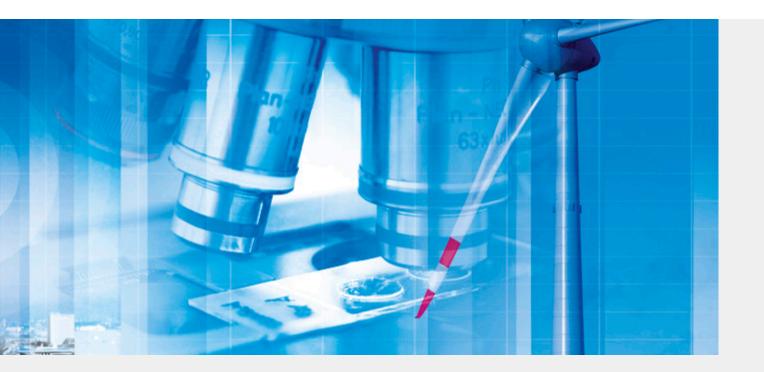
Salient examples of these sources of innovative knowledge include microstructure technologies, 3D design and connection technologies.

gy, high-temperature and ultrahigh-frequency applications that are finding use in telecommunications and 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 and stainless steel.

HARTING overcomes technological limitations.

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 not only components, but comprehensive solutions attuned to individual customer requirements and preferences. The range of cost-effective solutions covers ready-to-use cable configurations, completely assembled backplanes and board system carriers, as well as fully wired and tested control panels.

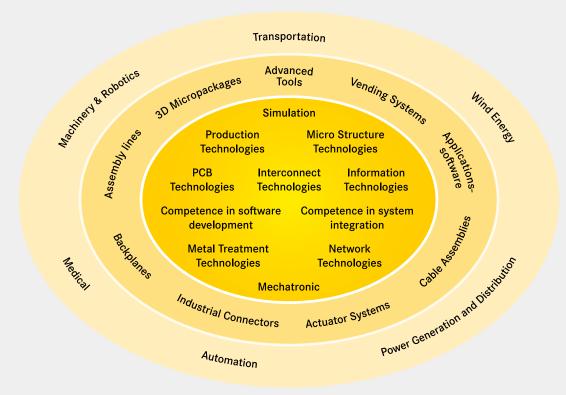
In order to ensure the future-proof design of RF and EMC-compatible interface solutions, the central HARTING laboratory (certified to EN 45001) employs simulation tools, as well as experimental, testing and diagnostics facilities all the way to scanning electron microscopes. In addition to product and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



HARTING's knowledge is practical know-how that generates synergy effects.

HARTING commands decades of experience with regard to the applications conditions involved in connections in telecommunications, computer, network and medical technologies, as well as industrial automation technologies, e.g. in the mechanical engineering and plant engineering areas, in addition to the power generation industry and the transportation sector. HARTING is highly

conversant with the specific application areas in all of these technology fields. In every solution approach, the key focus is on the application. In this context, uncompromising, superior quality is our hallmark. Every new solution found invariably flows 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. HARTING is synergy in action.



HARTING eCatalogue





The HARTING eCatalogue / eShop can be found on our homepage at www.HARTING.com or at the direct link www.eCatalogue.HARTING.com.

The HARTING e-Catalogue is your platform for conveniently selecting individual products as well as configuring complete solutions. Our comprehensive product pages provide you with all necessary technical information and CAD files in various formats for downloading. You may also contact our technical sales department directly.

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Registered users can take advantage of MyHARTING to check on availability or prices, and to place or track their orders. Here, your customized "HARTING history" provides you with a list of your inquiries, quotations and more.

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Han® 1A



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Han 1 A

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Han® 1A - Versatile compact connector series

Han 1 A

Markets and applications

Transportation

 Can be used in: door systems and ramps, illumination, headlights, speakers, indicating lights, warning lights, screens, door opener, push buttons, buzzers, windscreen wiper systems,...

· Wind energy

- Can be used in: tower lightning, emergency stops, sensors, indicating sounds, ventilators,...

· Energy storage systems

 Can be used in: battery storage sytems, solar inverters, power plant control sytems and cabinets, power generator sets, sensors,...

Machinery & Robotics

- Can be used in: subunits of injection moulding machines like heater, fan, control terminals, industrial lightning, small drives, vibratory conveyors, connections inside cabinets,...

Features and benefits

Versatile concept

 Build your own connectivity solution by using the modularity advantage of the Han® 1A with inserts covering data, signal and power transmission. Together with all accessory parts the Han® 1A is a very flexible system usable for a broad range of applications.

· Time saving

 Due to the easy mate and click design of all single components the assembly of the connector is done within seconds - and there are no tools needed.

Space saving

 The Han® 1A components are designed to fulfil the trend of miniaturisation - while beeing still a robust Han® connector also for harsh environments.

· IP protected where needed

 - By usage of hood and housing elements or single wire seals IP65 protection degree can be realized in easy manner.

The right connectivity solution for eyery application! Mounting frame Coloured coding elements Single locking lever Cable adapter Bulkhead mounted housing (straight/angled) Inserts Data / Signal / Power Crimp and screw termination

Technical characteristics

Number of contacts 4

Additional contacts + shielding Rated current 4 A Rated voltage 250 V Rated impulse voltage 1.5 kV Pollution degree 3 Insulation resistance >10⁸ Ω Limiting temperature -30 ... +90 °C Mating cycles ≥100

Degree of protection acc. to IEC IP20

60529

Transmission characteristics Cat. 5, Class D up to 100 MHz

Data rate 100 Mbit/s Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR Colour (seal) Black

Technical characteristics

Material flammability class acc. V-0 to LII 94

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.

Identification	Conductor cross-section (mm²)	Part n Male	umber Female	Drawing (dimensions in mm)
Han® 1A , Crimp termination, With cable tie, Snap-in latches Please order crimp contacts separately. Order separately the hoods/ housings for an IP65 performance.	0,13 0,82	09 10 004 3000	09 10 004 3100	H
Han® 1A , Crimp termination, With cable tie, Single locking lever Please order crimp contacts separately. Order separately the hoods/ housings for an IP65 performance. Please order locking lever separately.	0,13 0,82	09 10 004 3005	09 10 004 3105	M (S) 16,3 + 16,



Technical characteristics

 $\begin{array}{ll} \text{Contact resistance} & \leq 10 \text{ m}\Omega \\ \text{Material (contacts)} & \text{Copper alloy} \\ \end{array}$

Technical characteristics

RoHS exemptions

compliant with exemption **6(c):** Copper alloy containing up to 4 % lead by weight

Identification	Conductor cross-section (mm²)	Part n Male	umber Female	Drawing (dimensions in mm)
D-Sub , Standard, Crimp contact, Turned	0,09 0,25 0,13 0,33 0,25 0,52 0,33 0,82	09 67 000 5576 09 67 000 8576	09 67 000 7476 09 67 000 5476 09 67 000 8476 09 67 000 3476	Wire gauge Ø Stripping length 0.09-0.25 mm² 0.64 mm 4 mm 0.13-0.33 mm² 0.88 mm 4 mm 0.25-0.52 mm² 1.13 mm 4 mm 0.33-0.82 mm² 1.34 mm 4 mm for stranded wire according IEC 60228 Class 5

Number of contacts

0,5 A 48 V 0,8 kV 3 + shielding Cat. 6_A

Technical characteristics

Number of contacts

Additional contacts + shielding Rated current 0.5 A Rated voltage 48 V 0.8 kV Rated impulse voltage Pollution degree 3 Insulation resistance >10⁸ Ω Limiting temperature -30 ... +90 °C Mating cycles ≥100

Degree of protection acc. to IEC IP20

Data rate

Transmission characteristics Cat. 6_A, Class E_A up to 500

MHz 10 Gbit/s Polyamide

Material (insert) Colour (insert) RAL 9005 (jet black)

Material (seal) NBR Black Colour (seal)

Technical characteristics

Material flammability class acc.

to UL 94

RoHS compliant

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.

	Conductor			
Identification	cross-section (mm²)	Part n Male	umber Female	Drawing (dimensions in mm)
Han® 1A , Crimp termination, With cable tie, Snap-in latches Please order crimp contacts separately. Order separately the hoods/ housings for an IP65 performance.	0,08 0,25	09 10 008 3000	09 10 008 3100	H 18,85
Han® 1A , Crimp termination, With cable tie, Single locking lever Please order crimp contacts separately. Order separately the hoods/ housings for an IP65 performance. Please order locking lever separately.	0,08 0,25	09 10 008 3005	09 10 008 3105	M (34,8 — 16,3 —



Technical characteristics

Technical characteristics

Material (contacts) RoHS

compliant with exemption

6(c): Copper alloy containing up to 4 % lead by weight RoHS exemptions

Conductor Part number Drawing (dimensions in mm) cross-section (mm²) Identification Male Female 21 01 100 9014 21 01 100 9023 21 01 100 9019 21 01 100 9021 0,08 ... 0,22 0,13 ... 0,25 har-speed, Crimp contact, Turned , Contact surface: Gold plated

Number of contacts

6,5 A 50 V 0,8 kV 3

Technical characteristics

Number of contacts 6.5 A Rated current Rated voltage 50 V Rated impulse voltage 0.8 kV Pollution degree 3 Insulation resistance >10⁸ Ω Limiting temperature -30 ... +90 °C

≥100 Mating cycles Degree of protection acc. to IEC IP20, IP65

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

compliant

Material (seal) NBR Colour (seal) Black Material flammability class acc. V-0

to UL 94

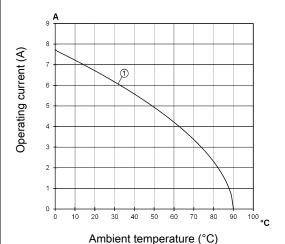
RoHS

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



① Conductor cross-section 0.52 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.



	Identification	Conductor cross-section (mm²)	Part n Male	umber Female	Drawing (dimensions in mm)
Han 1 A	Han® 1A , Crimp termination, Snap-in latches Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance.	0,09 0,52	09 10 012 3000	09 10 012 3100	M 34,8 - 18,85
	Han® 1A , Crimp termination, Single locking lever Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance. Please order locking lever separately.	0,09 0,52	09 10 012 3005	09 10 012 3105	M
Han 22	Single wire seal, Silicone, for 12 contacts		09 10 012 9900	09 10 012 9900	12, 3, 4, 5, 6, 6, 6, 6, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7, 7,
8					



Technical characteristics

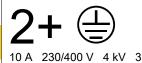
Technical characteristics

compliant with exemption

Contact resistance Material (contacts)	≤10 mΩ Copper alloy		RoHS exempti	ons	6(c) : Copp	per alloy containing up d by weight
Identification	Conductor cross-section (mm²)	Part n	umber Female	(Drawing dimensions i	
D-Sub , Standard, Crimp contact, Turned	0,09 0,25 0,13 0,33 0,25 0,52 0,33 0,82	09 67 000 7576 09 67 000 5576 09 67 000 8576 09 67 000 3576	09 67 000 5476 09 67 000 8476		8.2	13,6 9,55 1,2 0 0 0 0 0 0 0 0
				Wire gauge 0.09-0.25 mm² 0.13-0.33 mm² 0.25-0.52 mm² 0.33-0.82 mm² for stranded wire	Ø 0.64 mm 0.88 mm 1.13 mm 1.34 mm according IEC	Stripping length 4 mm 4 mm 4 mm 4 mm 6 60228 Class 5



Number of contacts



Technical characteristics

Number of contacts 10 A Rated current Rated voltage conductor-earth 230 V Rated voltage conductor-con-400 V

ductor

Han 1 A

> Rated impulse voltage 4 kV Pollution degree 3 >10⁸ Ω Insulation resistance Limiting temperature -30 ... +90 °C Mating cycles ≥100 Degree of protection acc. to IEC IP20, IP65

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR Colour (seal) Black Material (contacts) Copper alloy V-0

Material flammability class acc.

to UL 94

RoHS compliant with exemption,

compliant

6(c): Copper alloy containing up RoHS exemptions

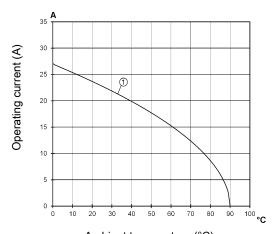
to 4 % lead by weight

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (°C)

① Conductor cross-section 1.5 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.



Conductor Part number Drawing (dimensions in mm) cross-section Identification (mm²) Male Female Han® 1A, 0,75 ... 1,5 09 10 002 2600 09 10 002 2700 34,8-18,85 Screw termination, Snap-in latches, Contact surface: Silver plated -- 34,85 -- Order separately the single wire seal or the hoods/housings for an IP65 performance. Tightening torque 0.25 Nm Han® 1A, 0,75 ... 1,5 09 10 002 2605 09 10 002 2705 -34,8**-**► Screw termination, Single locking lever, Contact surface: Silver plated -- 34,85 -- 16,3† Order separately the single wire seal or the hoods/housings for an IP65 performance. Tightening torque 0.25 Nm Please order locking lever separately. Single wire seal, 09 10 004 9900 | 09 10 004 9900 Silicone, for 4 contacts - 16,9 Han

Han 1 A Power

Han 1 A



Number of contacts

3+ (a)

Technical characteristics

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR
Colour (seal) Black
Material flammability class acc. V-0

to UL 94

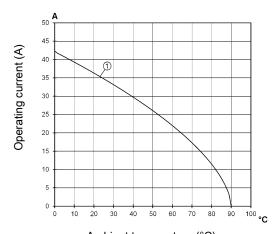
RoHS compliant

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (°C)

① Conductor cross-section 4 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.



	Canadanatan			
Identification	Conductor cross-section (mm²)	Part n Male	umber Female	Drawing (dimensions in mm)
Han® 1A , Crimp termination, Snap-in latches Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance.	0,14 4	09 10 003 3200	09 10 003 3300	M 39,5 F \$\frac{18}{2}
Han® 1A , Crimp termination, Single locking lever Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance. Please order locking lever separately.	0,14 4	09 10 003 3205	09 10 003 3305	M
Single wire seal, Silicone, for 4 contacts		09 10 004 9901	09 10 004 9901	15,4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4

Han 22 13

Technical characteristics

 $\begin{array}{ll} \mbox{Contact resistance} & \leq 1 \ \mbox{m} \mbox{Ω} \\ \mbox{Material (contacts)} & \mbox{Copper alloy} \\ \end{array}$

RoHS compliant with exemption

RoHS exemptions

6(c): Copper alloy containing up to 4 % lead by weight

Specifications and approvals

EN 60664-1 IEC 61984

Details

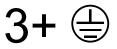
Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

	Conductor					
	cross-section		umber		Drawing	
Identification	(mm²)	Male	Female	(di	mensions in	mm)
Han E® , Crimp contact, Contact surface: Silver plated	0,14 0,37 0,5 0,75 1 1,5 2,5 3	09 33 000 6127 09 33 000 6121 09 33 000 6114 09 33 000 6105 09 33 000 6104 09 33 000 6106 09 33 000 6107	09 33 000 6227 09 33 000 6220 09 33 000 6214 09 33 000 6205 09 33 000 6204 09 33 000 6202 09 33 000 6207	0.75 mm ² A 1 mm ² A 1.5 mm ² A 2.5 mm ² A 3 mm ² A	AWG 26-22 AWG 20 AWG 18 AWG 18 AWG 16 AWG 14 AWG 12 AWG 12 np collar	Identification no groove no groove 1 groove* 1 groove 2 grooves 3 grooves wide groove no groove
Han E® , Crimp contact, Contact surface: Gold plated	0,14 0,37 0,5 0,75 1 1,5 2,5 4	09 33 000 6117 09 33 000 6122 09 33 000 6115 09 33 000 6116 09 33 000 6123 09 33 000 6119	09 33 000 6217 09 33 000 6222 09 33 000 6215 09 33 000 6218 09 33 000 6216 09 33 000 6223 09 33 000 6221	0.75 mm ² A 1 mm ² A 1.5 mm ² A 2.5 mm ² A 3 mm ² A	AWG 26-22 AWG 20 AWG 18 AWG 18 AWG 16 AWG 14 AWG 12 AWG 12 anp collar	Identification no groove no groove 1 groove 2 grooves 3 grooves wide groove no groove

Number of contacts



10 A 230/400 V 4 kV 3

Technical characteristics

Number of contacts 3
Rated current 10 A
Rated voltage conductor-earth 230 V
Rated voltage conductor-con-400 V

ductor

Rated impulse voltage 4 kV Pollution degree 3 Insulation resistance >10 8 Ω Limiting temperature -30 ... +90 °C Mating cycles ≥100

Degree of protection acc. to IEC IP20, IP65

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR
Colour (seal) Black
Material (contacts) Copper alloy

Material flammability class acc.

to UL 94

RoHS compliant with exemption,

compliant

RoHS exemptions **6(c)**: Copper alloy containing up

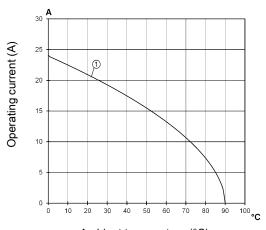
to 4 % lead by weight

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (°C)

① Conductor cross-section 1.5 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B IEC 61373

Details

In accordance with the appropriate regulations a wire-end sleeve has to be used at clamps without wire protection (see "screw terminal", chapter 00).

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.



	Identification	Conductor cross-section (mm²)	Part ni Male	umber Female	Drawing (dimensions in mm)
Han 1 A	Han® 1A , Screw termination, Snap-in latches , Contact surface: Silver plated Order separately the single wire seal or the hoods/housings for an IP65 performance.	0,75 1,5	09 10 003 2600		M 24,8 18,85 F SZ 27 Tightening torque 0.25 Nm
	Han® 1A , Screw termination, Single locking lever , Contact surface: Silver plated Order separately the single wire seal or the hoods/housings for an IP65 performance. Please order locking lever separately.	0,75 1,5	09 10 003 2605	09 10 003 2705	M 2 16,3 16,3 16,3 16,3 16,3 16,3 16,3 16,3
	Single wire seal, Silicone, for 4 contacts		09 10 004 9900	09 10 004 9900	15,6
Han 22 16					

Number of contacts

3+ (10 A 400 V 6 kV 3 + shielding

Technical characteristics

Number of contacts 3

Additional contacts+ shieldingRated current10 ARated voltage400 VRated impulse voltage6 kVPollution degree3Insulation resistance>108 ΩLimiting temperature-30 ... +90 °CMating cycles≥100

Mating cycles ≥100 Degree of protection acc. to IEC IP20

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR Colour (seal) Black Material flammability class acc. V-0

to UL 94

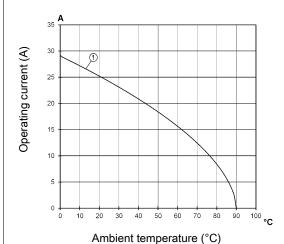
RoHS compliant

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



① Conductor cross-section 2.5 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.

Han

1 A

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Conductor Part number Drawing (dimensions in mm) cross-section Identification (mm²) Male Female 0,14 ... 2,5 Han® 1A, 09 10 003 3000 09 10 003 3100 34,8-+ 18,8 Crimp termination, With cable tie, Snap-in latches, Pack contents: Shielding element is included within the delivery Please order crimp contacts separately.
Order separately the hoods/
housings for an IP65 performance. Han® 1A , Crimp termination, 0,14 ... 2,5 09 10 003 3005 09 10 003 3105 - 34,8-16,3 With cable tie, Single locking lever, Pack contents: Shielding element is included within the delivery 16,3 **-37,1**-Please order crimp contacts separately. Order separately the hoods/ housings for an IP65 perfor-Please order locking lever separately. Han

Technical characteristics

Contact resistance Material (contacts) Copper alloy

RoHS

compliant with exemption

RoHS exemptions

6(c): Copper alloy containing up to 4 % lead by weight

Specifications and approvals

EN 60664-1 IEC 61984

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Conductor cross-section (mm²)	Part n	umber Female	Drawing (dimensions in mm)
Han D [®] , Crimp contact, Contact surface: Silver plated	0,14 0,37 0,5 0,75 1 1,5 2,5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6202 09 15 000 6201	25 21.5
				Wire gauge Ø Stripping length 0.14-0.37 mm² AWG 26-22 0.9 mm 8 mm 0.5 mm² AWG 20 1.1 mm 8 mm 0.75 mm² AWG 18 1.3 mm 8 mm 1 mm² AWG 18 1.45 mm 8 mm 1.5 mm² AWG 16 1.75 mm 8 mm 2.5 mm² AWG 14 2.25 mm 6 mm
Han D® , Crimp contact, Contact surface: Gold plated	0,14 0,37 0,5 0,75 1 1,5 2,5	09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121		25 21.5
				Wire gauge Ø Stripping length 0.14-0.37 mm² AWG 26-22 0.9 mm 8 mm 0.5 mm² AWG 20 1.1 mm 8 mm 0.75 mm² AWG 18 1.3 mm 8 mm 1 mm² AWG 18 1.45 mm 8 mm 1.5 mm² AWG 16 1.75 mm 8 mm 2.5 mm² AWG 14 2.25 mm 6 mm

Power

Han 1 A



Number of contacts



Technical characteristics

 Number of contacts
 5

 Rated current
 10 A

 Rated voltage
 400 V

 Rated impulse voltage
 6 kV

 Pollution degree
 3

 Insulation resistance
 >108 Ω

 Limiting temperature
 -30 ... +90 °C

 Mating cycles
 ≥100

 Degree of protection acc. to IEC
 IP20, IP65

60529

Material (insert) Polyamide

Colour (insert) RAL 9005 (jet black)

Material (seal) NBR
Colour (seal) Black
Material flammability class acc. V-0

to UL 94

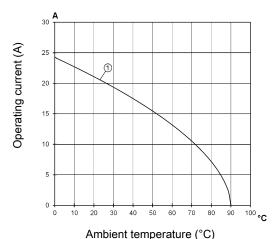
RoHS compliant

Derating

Current carrying capacity

The current carrying capacity of the connectors is limited by the thermal load capability of the contact element material including the connections and the insulating parts. The derating curve is therefore valid for currents which flow constantly (non-intermittent) through each contact element of the connector evenly, without exceeding the allowed maximum temperature.

Measuring and testing techniques acc. to IEC 60512-5-2



Ambient temperature (C

① Conductor cross-section 2.5 mm²

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B

Details

A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connector acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.



Identification	Conductor cross-section (mm²)	Part no Male	umber Female	Drawing (dimensions in mm)	
Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance.	0,14 2,5	09 10 005 3000	09 10 005 3100	34,8 — 18,85 —	Han 1 A
Han® 1A , Crimp termination, Single locking lever Please order crimp contacts separately. Order separately the single wire seal or the hoods/housings for an IP65 performance. Please order locking lever separately.	0,14 2,5	09 10 005 3005	09 10 005 3105	M 20 0 16,3	
Single wire seal, Silicone, for 6 contacts		09 10 006 9900	09 10 006 9900	15,4	Han
					22 21

Technical characteristics

 $\begin{array}{ll} \mbox{Contact resistance} & \leq 3 \ \mbox{m} \Omega \\ \mbox{Material (contacts)} & \mbox{Copper alloy} \end{array}$

RoHS compliant with exemption

RoHS exemptions

6(c): Copper alloy containing up to 4 % lead by weight

Specifications and approvals

EN 60664-1 IEC 61984

Details

Crimping tools see chapter 90

Remarks on the crimp technique

The wire gauges mentioned in the catalogue refer to geometric wire gauges of cables.

Identification	Conductor cross-section (mm²)	Part no Male	umber Female	Drawing (dimensions in mm)
Han D [®] , Crimp contact, Contact surface: Silver plated	0,14 0,37 0,5 0,75 1 1,5 2,5	09 15 000 6104 09 15 000 6103 09 15 000 6105 09 15 000 6102 09 15 000 6101 09 15 000 6106	09 15 000 6204 09 15 000 6203 09 15 000 6205 09 15 000 6202 09 15 000 6201 09 15 000 6206	25 21.5
,				Wire gauge Ø Stripping length 0.14-0.37 mm² AWG 26-22 0.9 mm 8 mm 0.5 mm² AWG 20 1.1 mm 8 mm 0.75 mm² AWG 18 1.3 mm 8 mm 1 mm² AWG 18 1.45 mm 8 mm 1.5 mm² AWG 16 1.75 mm 8 mm 2.5 mm² AWG 14 2.25 mm 6 mm
Han D® , Crimp contact, Contact surface: Gold plated	0,14 0,37 0,5 0,75 1 1,5 2,5	09 15 000 6124 09 15 000 6123 09 15 000 6125 09 15 000 6122 09 15 000 6121 09 15 000 6126	09 15 000 6224 09 15 000 6223 09 15 000 6225 09 15 000 6222 09 15 000 6221 09 15 000 6226	25 21.5
				Wire gauge Ø Stripping length 0.14-0.37 mm² AWG 26-22 0.9 mm 8 mm 0.5 mm² AWG 20 1.1 mm 8 mm 0.75 mm² AWG 18 1.3 mm 8 mm 1 mm² AWG 18 1.45 mm 8 mm 1.5 mm² AWG 16 1.75 mm 8 mm 2.5 mm² AWG 14 2.25 mm 6 mm



Technical characteristics

Limiting temperature -30 ... +90 °C

Number of relockings <10 Degree of protection acc. to IEC IP65, IP20 60529

Material (hood/housing)

Polyamide

Colour (hood/housing) RAL 9005 (jet black)

Material (seal) TPE Colour (seal) Yellow Material (accessories) Polyamide Colour (accessories) Black Material flammability class acc. to UL 94

Technical characteristics

RoHS compliant

Specifications and approvals

EN 45545-2 R22: HL1, HL2, HL3 EN 45545-2 R23: HL1, HL2, HL3 EN 45545-2 R24: HL1, HL2, HL3 IEC 61373 Category 1 Class B DNV GL

Identification	Cable entry	Cable diameter (mm)	Part number	Drawing (dimensions in mm)
Han® 1A , Cable adapter, Top entry	1x Integrated	5,7 10	09 10 000 0400	20,3 20,3 16,3 Ø20 SW18
Han® 1A , Bulkhead mounted housing, Straight			09 10 000 0300	25,8 4,2 20,2 4,2 3,5 4,2 4,2 4,2 4,2 4,2 4,2 4,2 4,2



	Identification	Cable entry	Cable diameter (mm)	Part number	Drawing (dimensions in mm)
Han 1 A	Han® 1A , Bulkhead mounted housing, Angled			09 10 000 0800	Ø3, 2±0,1 Panel cut out
-					
	Han® 1A , Mounting frames, for wall mounting			09 10 000 9907	26,65
	Han® 1A , Strain relief, IP20, Pack contents: Cable tie is included within the delivery A Han® 1A configuration that only consists of inserts (with or without strain relief, 09 10 000 5300) is an unenclosed connec-			09 10 000 5300	20,3
Han 22 24	tor acc. to IEC 61984. In this case protection against electric shock must be provided by the installation methods of the user.				



Technical characteristics

Number of relockings

≥100

Technical characteristics

Material (accessories) RoHS

Stainless steel compliant

Drawing (dimensions in mm)

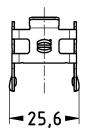
Identification

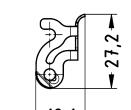
Han® 1A , Locking levers, for Han® 1A inserts with single locking lever



Part number

09 10 000 5200





Han 22 25

26

Technical characteristics

Material (accessories) Polycarbonate, Polyamide Black, Red, Blue, Green, Yellow, Violet Colour (accessories)

Technical characteristics

Material flammability class acc.

to UL 94

RoHS compliant

Identification		Part number	Drawing (dimensions in mm)
Han® 1A , Dummy plugs, for single wire seal for a partial assembly, Polycarbonate, Pack contents: 20 pieces per frame		09 10 000 9909	£Z +
Han® 1A , Coding element, Polyamide, Pack contents: 10 pieces per frame	Blue Green Red Violet Yellow	09 10 000 9902 09 10 000 9903 09 10 000 9901 09 10 000 9905 09 10 000 9904	76,6

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