HARTING

Pushing Performance

UL 508

People | Power | Partnership

Connectivity Solutions for
UL 508 Applications under UL 2237

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 36 subsidiary companies and worldwide distributors employing a total of approximately 3,500 staff.

HARTING Subsidiary company HARTING Representatives

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.

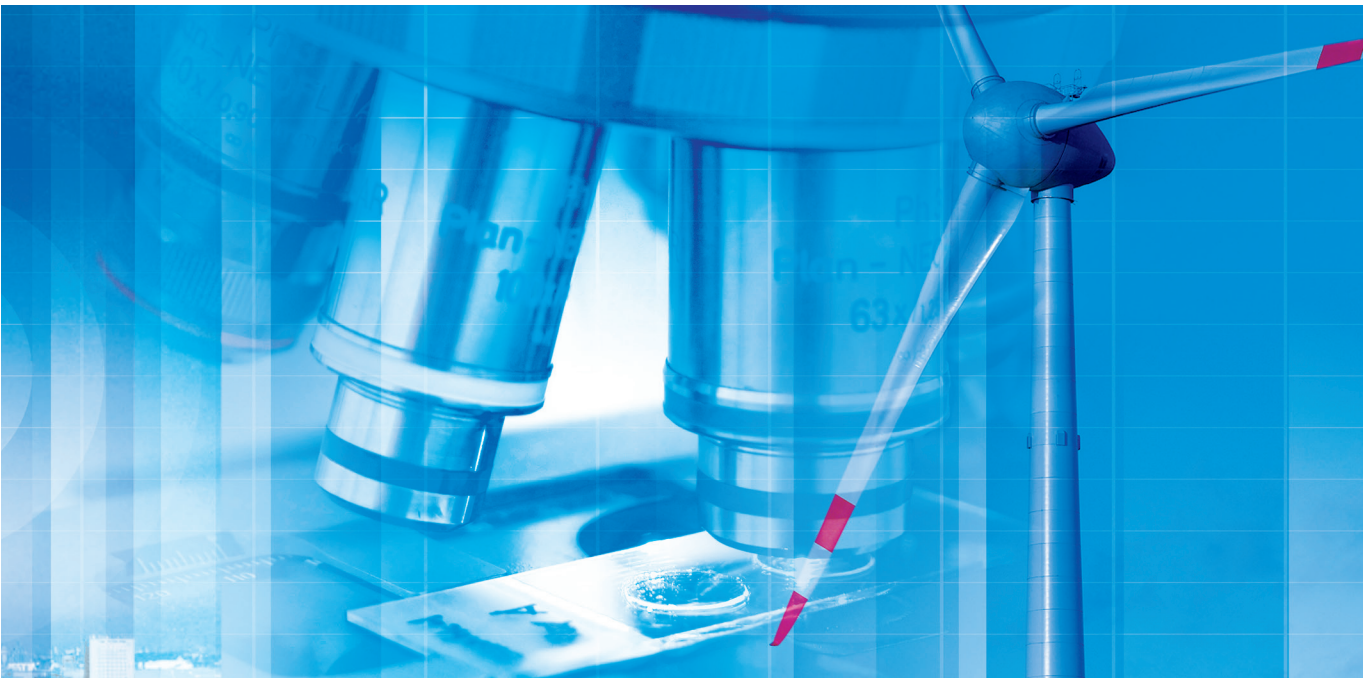
The HARTING brand stands for superior quality and reliability – worldwide. The standards we set are the result of consistent, stringent quality management that is subject to regular certifications and audits.

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.

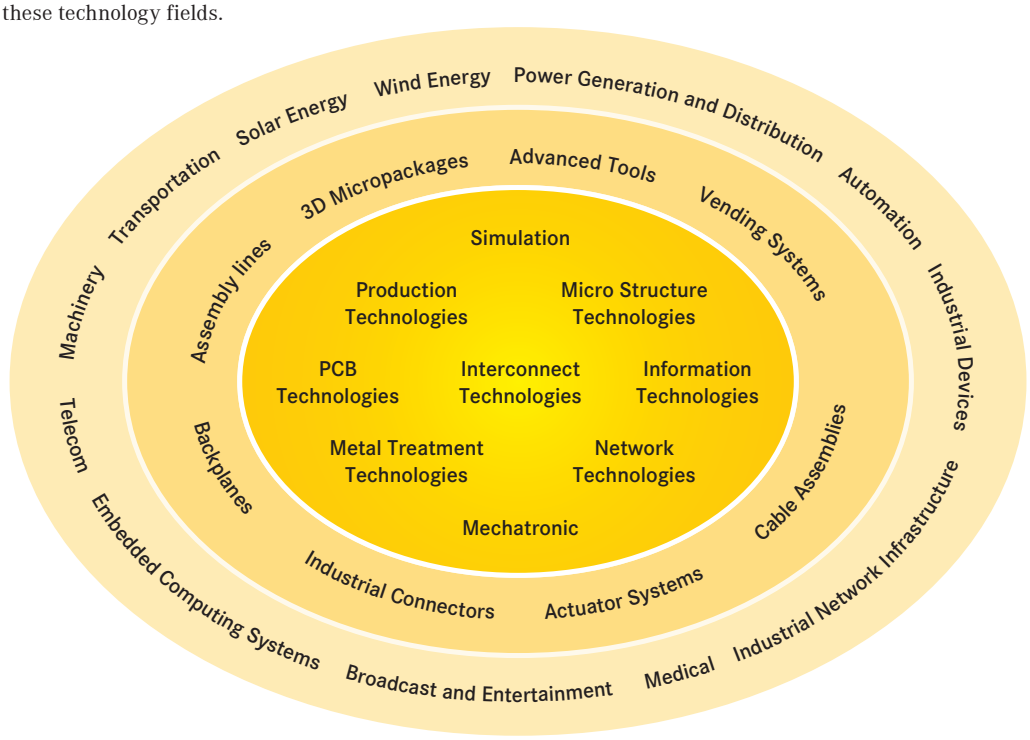
HARTING solutions extend across technology boundaries.
Drawing on the comprehensive resources of the group's technology pool, HARTING devises practical solutions for its customers. Whether this involves industrial networks for manufacturing automation, or hybrid interface solutions for wireless telecommunication 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.



What does **HARTING** UL 508 solutions under UL 2237 mean?

Industrial connectors ready for use in North American control cabinets

HARTING now offers focused product solutions that are fully compliant with the UL 508 (508A, 508C) certification standard for "Industrial Control Equipment". This represents a significant advance for North American OEMs and anywhere else where UL 508 certification is a practical necessity. It will expand the use of connector-based cable assemblies or components in industrial electrical control cabinets. HARTING has created two possibilities for using its industrial connectors to make electrical connections in UL 508 control panels, switchgear and other control systems. The first is the creation of an extensive range of "UL-Listed", pre-assembled, connector-based cable assemblies that meet the requirements of UL 2237 ("PVVA" section), a complementary standard to UL 508 that governs multi-point connections of power cables in industrial machinery. The second is made possible through the newly launched "PVVA2" section of UL 2237, which was established by UL at the request of HARTING. It allows for field assembly using individual "UL-Recognized" components. The PVVA2 classification facilitates the use of connectors in a UL 508-certified cabinet, which in turn will deliver benefits throughout all stages of product design, fabrication, testing and commissioning, with enormous time and cost savings over hard-wired connections. HARTING connectors are the only rectangle connectors that have undergone rigorous testing by UL to gain "UL-Recognized" (PVVA2) status, which also makes them suitable for incorporation in PVVA cable assemblies. A wide range of HARTING connectors now have "UL-Recognized" status, and many more HARTING products will be added to both the PVVA and PVVA2 lists in the months and years to come.

How does it relate?

Many people in the industry are familiar with the UL 508 standard and both where and how it applies. This has raised the question of how does the UL 2237 specification that our HARTING components are tested to relate to the UL508 specification? In simple terms, the PVVA and PVVA2 category of UL 2237 are the categories and testing methods that are given to industrial connectors for the use in a UL 508 compliant panel. As there are a multitude of different components that can end up being used within, or even on a UL 508 panel, each category of these components has its own testing standards. The UL 2237 standard is the applicable standard for testing of industrial connectors in multi-point interconnection assemblies. The PVVA category is for cable assemblies and the testing of those, where the newly created PVVA2 category is where they test individual components.

Connectors now have own recognition

UL 508 is the must-have certification standard for electrical control cabinets for OEMs servicing the North American market. Industrial equipment complying with the UL 508 (508A and 508C) standard may only contain components and sub-assemblies whose product groups are listed in Appendix A, "Standards for Components". That list does not include industrial connectors under ECBT2, which has created a significant hurdle for the use of connector-based assemblies and individual connectors in UL 508-certified electrical panels. Industrial connectors, even those certified under other international certification standards for use in electrical control cabinets, have been relegated in the UL world to historical electrical interface categories such as ECBT2 (using UL 1977 as its base standard). Manufacturers using ECBT2-class connectors to create a UL 508-certified control panel often are subjected to a higher degree of end product testing to prove the safety and reliability of their equipment. The customer's UL field representative will conduct a thorough investigation of the connector application, including the overall electrical transmission path, for possible safety issues. This usually entails extensive testing that adds time, cost and frustration to the customer's effort to bring a new product to market. Even OEMs that make liberal use of connector-based wiring elsewhere in their machine or plant system often take the path of least resistance – hard-wiring connections – in building their control panels.

Facilitates customer's compliance pathway

HARTING sought to remove this hurdle by shifting the primary UL testing burden from the user to the connector manufacturer. UL agreed to allow HARTING to submit connectors for testing and certification under the UL 2337 standard. UL 2237 describes the North American requirements for cable assemblies used to distribute power in machines. It specifies guidelines for testing the electrical path of industrial connectors, cables, cable glands and fuse elements. Now, once a particular connector or connector-based assembly is tested by UL, it is classified under the PVVA or PVVA2 category of the UL 2237 standard and eligible for use in UL 508 applications in the prescribed manner.
Hence, the importance of PVVA and PVVA2. PVVA is reserved for "UL-Listed", multi-point power transmission cable assemblies. These "UL-Listed" assemblies may be employed without restrictions (for example, without the need for further instructions or testing) within electrical control cabinet applications where UL 508 certification is of concern. The creation of PVVA2 by UL, at HARTING's request, places those ECBT2 connectors that have passed testing by UL on this new list, which designates them as "UL-Recognized" under the PVVA2 category. "UL-Recognized" components under PVVA2 are approved for use in UL 508A (Standard for Industrial Control Panels) applications, with minimal conditions of acceptability. That makes field wiring using "UL-Recognized" HARTING connectors a more practical choice for deployment in industrial control equipment. Users get all the benefits of Plug & Play connectorization, including massive time savings during commissioning and maintenance, which translates into major labor cost savings. The time-consuming process of hard-wiring is eliminated, including the risk of costly wiring errors, which can add further cost and delay to a project. Using only connectors and connector-based assemblies on the UL 2237 lists also helps OEMs and end users eliminate the guess work in managing procurement costs and parts inventories.

What does **HARTING** UL 508 solutions under UL 2237 mean?

Expanding availability of UL-listed cable assemblies (PVVA)

Of the two approaches for UL-sanctioned connector-based wiring in industrial control equipment, now offered by HARTING, pre-assembled, cable assemblies certainly suffice where they can adequately meet standard application challenges. A PVVA assembly has defined parameters such as wire AWG and has to be tested as such. UL has tested and approved many HARTING connector configurations that are now on the PVVA list. That will allow HARTING to build up an extensive portfolio of standard cable assembly products with the “UL-Listed” designation. (By comparison, competitors in the PVVA space only offer a limited number of overmolded circular type cable assemblies.) A “UL-Listed” cable assembly has to have a part number assigned from the manufacturer and built by a defined manufacturing location, which has to be mentioned in the UL file. HARTING only sells “UL-Listed” cable assemblies it manufactures at HARTING production facilities to assure customers of the strictest quality and UL compliance.

Introducing approved individual components (PVVA2)

Sometimes, however, project requirements call for something other than a standard cable assembly. As the global leader in industrial connector innovation, HARTING wanted to give customers a simplified and clearly understood pathway for assembling their own connector-based wiring without having to submit to extensive, supplemental testing and proving at their own expense.
HARTING worked actively to win UL approval for the use of connectors as individual components for use with electrical control cabinets. As a result, UL 2237 has recently been expanded to include the “PVVA2” section. This section defines the connector components which are relevant for power distribution, have been subject to rigorous testing by UL, and are allowed under certain specified conditions to be used as part of user-assembled cable assemblies. Utilizing a PVVA2, “UL-Recognized” component reduces the effort required to attain UL 508 certification of the end-use equipment. That certification exercise can be fast-tracked since the traceability and documentation of the “UL-Recognized” component already has been established. The user of such PVVA2 components can count on their performance, and draw confidence in the safety of the overall project from that. PVVA2-listed components must be installed by trained technical professionals following special approval stipulations – the “Conditions of Acceptability” (CoA). Such application requirements may contain both technical and constructive design information. Example: A PVVA2 connector assembly includes the following conditions of acceptability: The power distribution cables should be selected according to the TC-ER declaration and the approved wire AWG cable cross-section choices. Protective devices (fuse types RK5, CC, J or T) must also be used on the cable path. The short circuit current rating (SCCR) for the connector component must also be compared with the requirements of the electrical cabinet.

HARTING leads the way

HARTING is the first manufacturer to offers this type of component proof, in accordance with the company’s existing global designs that have existed for decades. That means the connector components tested and listed by UL have not undergone any changes. The “UL-Recognized” designation is an add-on; customers do not need to change their wiring design because of it. Only HARTING currently offers such “UL-Recognized” components to the marketplace.
This UL testing program has established UL PVVA/PVVA2 approval for the Han® 10 A, 16 A, 32 A, Han® 6 E, 10 E, 16 E, 24 E, 32 E, 48 E, Han® 10 EE, 18 EE, 32 EE, 46 EE, 64 EE, 92 EE, Han 2/0, 3/0, 4/0, 5/0, 7/0, 8/0, 4/2, Han® 6 HsB and Han® Power T’s 3xQ 4/2, 3xQ 2/0, 3xQ 5/0 product series. These are all well-proven connectors in HARTING’s global catalogue, used by HARTING customers in a wide range of applications, including control cabinets and switchgear certified to other international standards. Availability of these parts is always assured, only now they are eligible for use in electrical control cabinets and other applications where the user is seeking UL 508 certification. The standard Han® E products provide solutions for mid-range power use up to 16 amps and 600 V UL. Han® HsB and Han® Q, however, are intended for the compact transmission of higher currents up to 40 amps and 600 V UL. All of these “UL-Listed” connector product series have passed a rigorous, short circuit current rating (SCCR) test performed by UL on its premises. All passed at a level of 65kA (SCCR). A 65kA rating is more than enough to assure a safe, reliable, long-term service life in most all industrial control panel applications. HARTING opted to test to a 65kA level rather than a lower current level such as 5kA SCCR so as not to limit customers in any way in their use of the company’s components. “UL-Recognized” components will be identified by markings consisting of the HARTING identification and catalogue number, model, or other product designation on the product or on its packaging In addition, they also will bear UL’s Recognized Component Mark.

What does **HARTING** UL 508 solutions under UL 2237 mean?

Quicker initial commissioning of facilities

HARTING is currently the only manufacturer in the world that offers its customers two different options for installing connectors in industrial control applications intended for the North American market. The time needed for testing and commissioning at industrial facilities is then reduced, even while the reliability and quality of the facility improves. Besides this work accomplished for UL approvals, HARTING is actively involved in certifications for many markets around the world. Additional quality certificates are available for HARTING products from testing institutes such as GL, DQS or Veritas.

Standards

UL 1977	Standard for Component Connectors for Use in Data, Signal, Control and Power Applications
UL 508	Standard for Industrial Control Equipment
UL 508C	Standard for Power Conversion Equipment
UL 508A	Standard for Industrial Control Panels
UL 2237	Outline of Investigation for Multi-Point Interconnection Power Cable Assemblies for Industrial Machinery
UL 2238	Standard for Cable Assemblies and Fittings for Industrial Control and Signal Distribution
UL50	Enclosures for Electrical Equipment, Non-Environmental Considerations

HARTING UL File Number

E318390	Multi-point Interconnection Power Cable Assemblies for Industrial Machinery

Create Your UL 2237 cable assembly

Using the smart part numbering system created, you have the ability to customize all of the standard power cable assemblies listed in this catalog. Below is the list of required information needed prior to creating the part number of your cable assembly. To create the part number start on the left hand side “ZZ” and work through all of the options until you end with the cable length on “HIJ.”

Required Information:

- Assembly - Cable assy (single ended), Cable assy (Double ended)
- Wire gauge
- Cable length
- Inserts - series
- Inserts - type / size
- Inserts - gender (male or female)
- Inserts - termination technology
- Hoods - series
- Hoods - material (metal / plastic)
- Hoods - entry (top / side)
- Hoods - locking style

ZZ	XX	ABC	DE	FG	HIJ
ZZ = code for manufacturing location	XX = assembly and gender	A = series (insert) BC = number of contacts	D = termination technology and cable E = AWG	F = series (hood) and material G = type / entry / locking style / thread size	*Cable length in meters* H = tens of meters I = single meters J = tenth of a meter

Position: ZZ

73 = USA

Position: XX

83 =
Male cable assy (single ended)
84 =
Female cable assy (single ended)
87 =
Cable assy male/ female (double ended)

Position: A

A = Han A®
E = Han E®
F = Han® EE
H = Han® HsB
Q = Han® Q

Position: BC

01 = One
02 = Two
03 = Three
04 = Four
06 = Six
10 = Ten
…

48 = Fourty-eight

Position: D

1 =
Crimp with standard TC-ER cable
2 =
Screw with standard TC-ER cable
3 =
Cage clamp with standard TC-ER cable

Position: E

5 = AWG 16 (1.50 mm²)
6 = AWG 14 (2.50 mm²)
7 = AWG 12 (4.00 mm²)
8 = AWG 10 (6.00 mm²)
9 = AWG 8 (10.00 mm²)

Position: F

A = Han® A (plastic)
B = Han® B
D = Han-Compact® (metal)
Z = Han® A (metal)

Position: G

A =
hood, top entry, single lever, M20
B =
hood, top entry, single lever, M25
C =
hood, top entry, single lever, M32
D =
hood, top entry, single lever, M40
E =
hood, side entry, single lever, M20
F =
hood, side entry, single lever, M25
G =
hood, side entry, single lever, M32
H =
hood, side entry, single lever, M40
I =
hood, top entry, double lever, M20
J =
hood, top entry, double lever, M25
K =
hood, top entry, double lever, M32
L =
hood, top entry, double lever, M40
M =
hood, side entry, double lever, M20
N =
hood, side entry, double lever, M25
O =
hood, side entry, double lever, M32
P =
hood, side entry, double lever, M40

Position: HIJ

Cable length

Example part number

Part number using the system:			73 87 H06 27 KB 010		
ZZ: 73	XX: 87	ABC: H06	DE: 27	FG: BK	HIJ: 010

Power cable assembly acc. to UL 2237 for Han E®

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with crimp, cage-clamp or screw terminals for the following product ranges:

- Han® 6 E
- Han® 10 E
- Han® 16 E
- Han® 24 E

Metal standard Han® B hoods according to UL50/50E with either top or side entry and one or two levers locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B.

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	6 + PE	(Han® 6 E)
	10 + PE	(Han® 10 E)
	16 + PE	(Han® 16 E)
	24 + PE	(Han® 24 E)
Electrical data acc. to UL 2237		
Maximum current**	9 A	(Han® 6 E)
	7 A	(Han® 10 E)
	7 A	(Han® 16E)
	6.5 A	(Han® 24 E)
Maximum voltage AC/DC	600 V	
Short-circuit fault value AC	65 kA	
Required fuse protection	time delay CC, J or T class fuses	
Cable type	TC-ER	
Number of wires	7 (incl. ground) (Han® 6 E) 11 (incl. ground) (Han® 10 E) 17 (incl. ground) (Han® 16 E) 25 (incl. ground) (Han® 24 E)	
Wire gauge*	AWG 16	
Wiring	1:1	
Hood size	Han® 6 B	(Han® 6 E)
	Han® 10 B	(Han® 10 E)
	Han® 16 B	(Han® 16 E)
	Han® 24 B	(Han® 24 E)
Termination*	Crimp	
Conductor	Bare copper strands	
Insulation	PVC/Nylon	
Color code	Black conductors with consecutive white numbers; green-yellow ground wire	
Jacket material	PVC	

*Other wire gauges and termination types are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

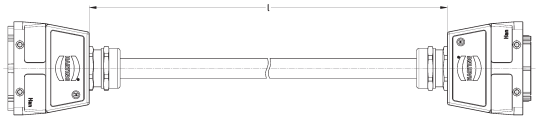
Power cable assembly acc. to UL 2237 for Han E® Size: 6, 10, 16, 24 B

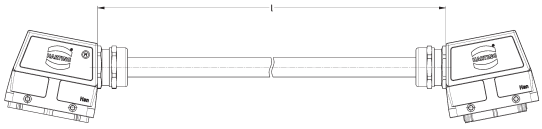
Number of contacts

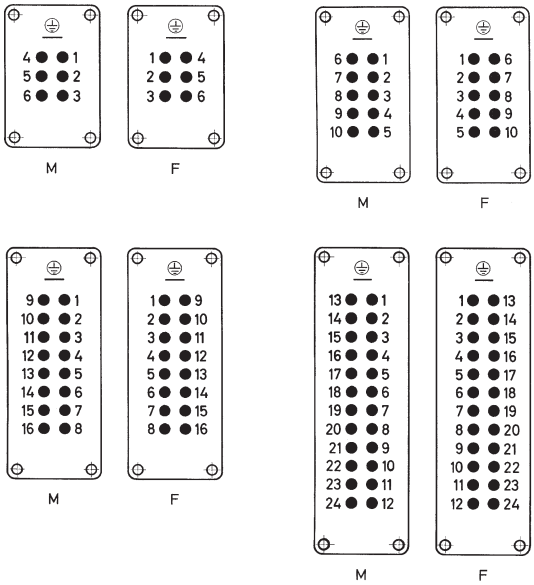
6 - 24 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® 6 E, Han® 10 E, Han® 16 E, Han® 24 E Power cable assembly with Han® 6, 10, 16, and 24 E inserts			
Hoods metal top entry, 2 lever locking system (Han® 6 E only available in 1 lever)			
available lengths:			
Han® 6 E L = 1.0 m	20 87 146 3001 100		
Han® 6 E L = 2.0 m	20 87 146 3001 200		
Han® 10 E L = 1.0 m	20 87 146 6001 100		
Han® 10 E L = 2.0 m	20 87 146 6001 200		
Han® 16 E L = 1.0 m	20 87 146 9001 100		
Han® 16 E L = 2.0 m	20 87 146 9001 200		
Han® 24 E L = 1.0 m	20 87 146 1301 100		
Han® 24 E L = 2.0 m	20 87 146 1301 200		
*Other lengths available upon request			
Hoods metal side entry, 2 lever locking system (Han® 6 E only available in 1 lever)			
available lengths:			
Han® 6 E L = 1.0 m	20 87 146 3002 100		
Han® 6 E L = 2.0 m	20 87 146 3002 200		
Han® 10 E L = 1.0 m	20 87 146 6002 100		
Han® 10 E L = 2.0 m	20 87 146 6002 200		
Han® 16 E L = 1.0 m	20 87 146 9002 100		
Han® 16 E L = 2.0 m	20 87 146 9002 200		
Han® 24 E L = 1.0 m	20 87 146 1302 100		
Han® 24 E L = 2.0 m	20 87 146 1302 200		
*Other lengths available upon request			







* Please note, part numbers on this page do not match the configurable part numbering system shown on page 8. Use configurable part numbering system if additional options are needed.

Power cable assembly acc. to UL 2237 for Han E®

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with crimp, cage-clamp or screw terminals for the following product range:

- Han® 32 E
- Han® 48 E

Metal standard Han® B hoods according to UL50/50E with either top or side entry and one or two levers locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	32 + PE	(Han® 32 E)
	48 + PE	(Han® 48 E)
Electrical data acc. UL2237		
Maximum current**	5A	(Han® 32 E)
	10A	(Han® 48 E)
Maximum voltage AC/DC	600 V	
Short-circuit fault value AC/DC	65 kA	
Required fuse protection	time delay RK5, J or CC class fuses	
Cable type	TC-ER	
Number of wires	33 (incl. ground)	
	49 (incl. ground)	
Wire gauge*	AWG 16	
Wiring	1:1	
Hood size	Han® 32 B	(Han® 32 E)
	Han® 48 B	(Han® 48 E)
Termination*	Crimp	
Conductor	Bare copper strands	
Insulation	PVC/Nylon	
Color code	Black conductors with consecutive white numbers; green-yellow ground wire	
Jacket material	PVC	

Other wire gauges and termination types are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

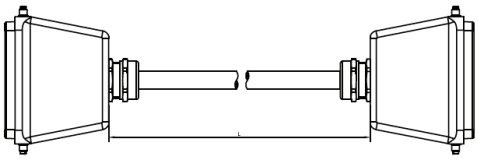
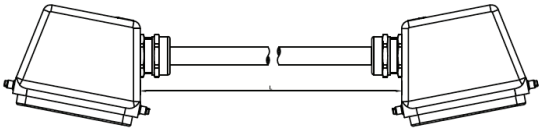
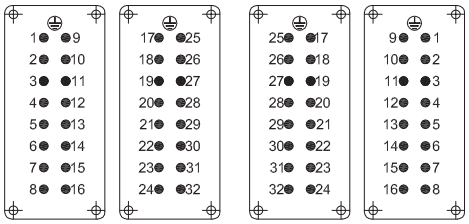
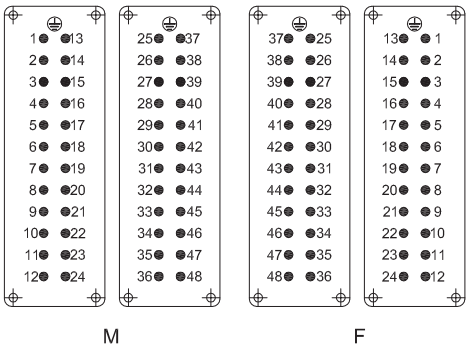
Power cable assembly acc. to UL 2237 for Han E®

Size 32, 48 B

Number of contacts

32 - 48 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® 32 E, Han® 48 E Power cable assembly with Han® 32, 48 E inserts			
Hoods metal top entry, 2 lever locking system (Han® 48 E only available in 1 lever) available lengths:			
Han® 32 E L = 1.0 m	73 87 E32 15 BK 010		
Han® 32 E L = 2.0 m	73 87 E32 15 BK 020		
Han® 48 E L = 1.0 m	73 87 E48 15 BL 010		
Han® 48 E L = 2.0 m	73 87 E48 15 BL 020		
*Other lengths available upon request			
Hoods metal side entry, 2 lever locking system (Han® 48 E only available in 1 lever) available lengths:			
Han® 32 E L = 1.0 m	73 87 E32 15 BO 010		
Han® 32 E L = 2.0 m	73 87 E32 15 BO 020		
Han® 48 E L = 1.0 m	73 87 E48 15 BP 010		
Han® 48 E L = 2.0 m	73 87 E48 15 BP 020		
*Other lengths available upon request			

Power cable assembly acc. to UL 2237 for Han® EE

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with crimp terminals for the following product range:

- Han® 10 EE
- Han® 18 EE
- Han® 32 EE
- Han® 46 EE

Metal standard Han® B hoods according to UL50/50E with either top or side entry and one or two levers locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	10 + PE	(Han® 10 EE)
	18 + PE	(Han® 18 EE)
	32 + PE	(Han® 32 EE)
	46 + PE	(Han® 46 EE)
Electrical data acc. UL2237		
Maximum current **	9A	(Han® 10 EE)
	7A	(Han® 18 EE)
	7A	(Han® 32 EE)
	7.5A	(Han® 46 EE)
Maximum voltage AC/DC	600 V	
Short-circuit fault value AC/DC	65kA	
Required fuse protection	time delay RK5, J or CC class fuses	
Cable type	TC-ER	
Number of wires	11 (incl. ground)	
	19 (incl. ground)	
	33 (incl. ground)	
	47 (incl. ground)	
Wire gauge*	AWG 16	
Wiring	1:1	
Hood size	Han® 6 B	(Han®10 EE)
	Han® 10 B	(Han®18 EE)
	Han® 16 B	(Han®32 EE)
	Han® 24 B	(Han®46 EE)
Termination	Crimp	
Conductor	Bare copper strands	
Insulation	PVC/Nylon	
Color code	Black conductors with consecutive white numbers; green-yellow ground wire	
Jacket material	PVC	

*Other wire gauges are available upon request.

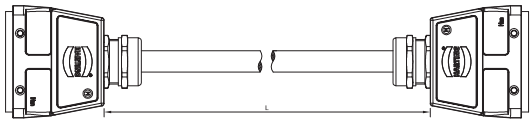
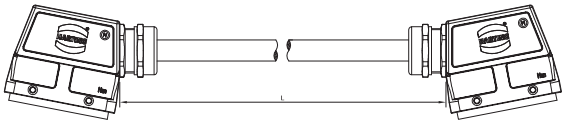
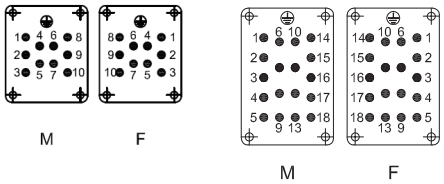
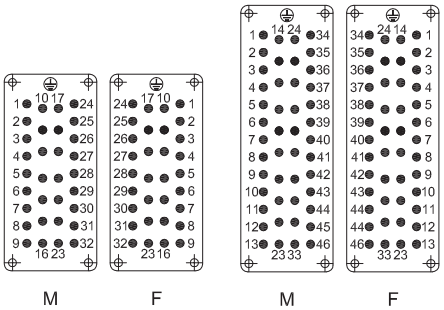
**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

Power cable assembly acc. to UL 2237 for Han® EE Size 6, 10, 16, 24 B

Number of contacts

10 - 46 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® 10 EE, Han® 18 EE, Han® 32 EE, Han® 46 EE Power cable assembly with Han® 10, 18, 32, 46 EE inserts			
Hoods metal top entry, 2 lever locking system (Han® 10 EE only available in 1 lever) available lengths:			
Han® 10 EE L = 1.0 m	73 87 F10 15 BJ 010		
Han® 10 EE L = 2.0 m	73 87 F10 15 BJ 020		
Han® 18 EE L = 1.0 m	73 87 F18 15 BK 010		
Han® 18 EE L = 2.0 m	73 87 F18 15 BK 020		
Han® 32 EE L = 1.0 m	73 87 F32 15 BK 010		
Han® 32 EE L = 2.0 m	73 87 F32 15 BK 020		
Han® 46 EE L = 1.0 m	73 87 F46 15 BL 010		
Han® 46 EE L = 2.0 m	73 87 F46 15 BL 020		
*Other lengths available upon request			
Hoods metal side entry, 2 lever locking system (Han® 10 EE only available in 1 lever) available lengths:			
Han® 10 EE L = 1.0 m	73 87 F10 15 BN 010		
Han® 10 EE L = 2.0 m	73 87 F10 15 BN 020		
Han® 18 EE L = 1.0 m	73 87 F18 15 BO 010		
Han® 18 EE L = 2.0 m	73 87 F18 15 BO 020		
Han® 32 EE L = 1.0 m	73 87 F32 15 BO 010		
Han® 32 EE L = 2.0 m	73 87 F32 15 BO 020		
Han® 46 EE L = 1.0 m	73 87 F46 15 BP 010		
Han® 46 EE L = 2.0 m	73 87 F46 15 BP 020		
*Other lengths available upon request			

Power cable assembly acc. to UL 2237 for Han A®

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with screw or crimp terminals for the following product range:

- Han® 10 A
- Han® 16 A
- Han® 32 A

Metal Han® A hoods, according to UL50/50E with either top or side entry and one or two lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL us LISTED

Power cable assembly

Number of contacts	10 + PE	(Han® 10 A)
	16 + PE	(Han® 16 A)
	32 + PE	(Han® 32 A)
Electrical data acc. UL2237		
Maximum current**	11A	(Han® 10 A)
	8A	(Han® 16 A)
	8A	(Han® 32 A)
Maximum voltage AC/DC	600 V	
Short-circuit fault value AC/DC	65 kA	
Required fuse protection	time delay RK5, J or CC class fuses	
Cable type	TC-ER	
Number of wires	11 (incl. ground)	
	17 (incl. ground)	
	33 (incl. ground)	
Wire gauge*	AWG 16	
Wiring	1:1	
Hood size	Han® 10 A	(Han® 10 A
	Han® 16 A	(Han® 16 A)
	Han® 32 A	(Han® 32 A)
Termination*	Crimp	
Conductor	Bare copper strands	
Insulation	PVC/Nylon	
Color code	Black conductors with consecutive white numbers; green-yellow ground wire	
Jacket material	PVC	

Other wire gauges and termination types are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

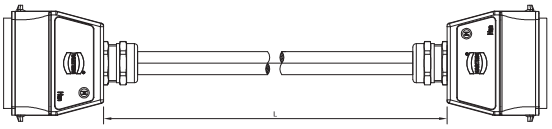
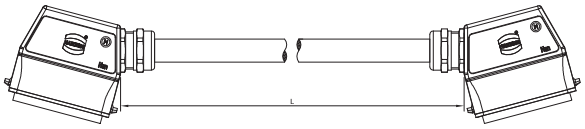
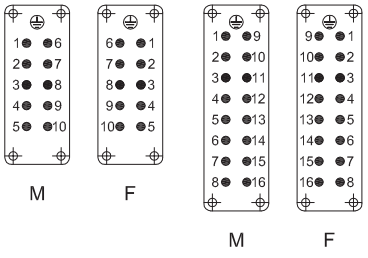
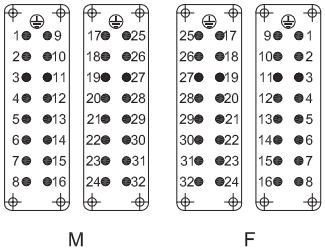
Power Cable Assembly acc. to UL 2237 for Han A®

Size 10, 16, 32 A

Number of contacts

10 -32 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® 10 A, Han® 16 A, Han® 32 A Power cable assembly with Han® 10, 16, 32 A inserts			
Hoods metal top entry, 1 lever locking system (Han® 32 A only available in 2 levers) available lengths:			
Han® 10 A L = 1.0 m	73 87 A10 15 ZJ 010		
Han® 10 A L = 2.0 m	73 87 A10 15 ZJ 020		
Han® 16 A L = 1.0 m	73 87 A16 15 ZJ 010		
Han® 16 A L = 2.0 m	73 87 A16 15 ZJ 020		
Han® 32 A L = 1.0 m	73 87 A32 15 ZK 010		
Han® 32 A L = 2.0 m	73 87 A32 15 ZK 020		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system (Han® 32 A only available in 2 levers) available lengths:			
Han® 10 A L = 1.0 m	73 87 A10 15 ZN 010		
Han® 10 A L = 2.0 m	73 87 A10 15 ZN 020		
Han® 16 A L = 1.0 m	73 87 A16 15 ZN 010		
Han® 16 A L = 2.0 m	73 87 A16 15 ZN 020		
Han® 32 A L = 1.0 m	73 87 A32 15 ZO 010		
Han® 32 A L = 2.0 m	73 87 A32 15 ZO 020		
*Other lengths available upon request			

Power cable assembly acc. to UL 2237 for Han® 6 HsB

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with screw terminals for the following product ranges:

- Han® 6 HsB

Metal Han® B hoods, according to UL50/50E with either top or side entry and one or two lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert
- 1 x female insert
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	6 + PE
Electrical data acc. to UL 2237	
Maximum current	22 A (US) / 15 A (CA)
Maximum voltage AC/DC	600 V / 300 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, CC, J or T class fuses
Cable type	TC-ER
Number of wires	7 (incl. ground)
Wire gauge	AWG 12
Wiring	1:1
Hood size	Han® 16 B
Termination	Screw
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

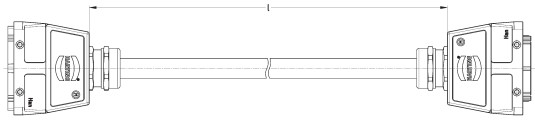
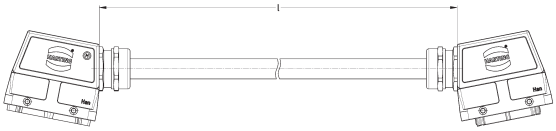
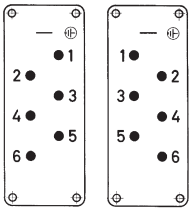
Power cable assembly acc. to UL 2237 for Han® 6 HsB

Size 16 B

Number of contacts

6 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® 6 HsB Power cable assembly with Han® 6 HsB inserts			
Hoods metal top entry, 2 lever locking system available lengths: L = 1.0 m L = 2.0 m *Other lengths available upon request	 20 87 144 3001 100 20 87 144 3001 200		
Hoods metal side entry, 2 lever locking system available lengths: L = 1.0 m L = 2.0 m *Other lengths available upon request	 20 87 144 3002 100 20 87 144 3002 200	  M F	

* Please note, part numbers on this page do not match the configurable part numbering system shown on page 8. Use configurable part numbering system if additional options are needed.

Power cable assembly acc. to UL 2237 for Han® Q 2/0

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with Crimp terminals for the following product range:

- Han® Q 2/0

Metal or plastic standard Han® A hoods with either top or side entry and a single lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	2 + PE
Electrical data acc. UL2237	
Maximum current**	23A
Maximum Voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J, T or CC class fuses
Cable type	TC-ER
Number of wires	3 (incl. ground)
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han® 3 A
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

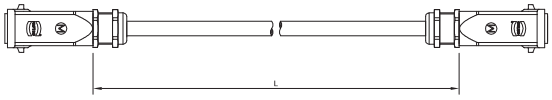
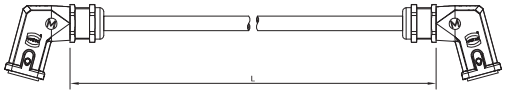
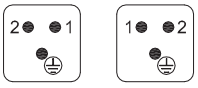
Power cable assembly acc. to UL 2237 for Han® Q 2/0

Size 3 A

Number of contacts

2 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 2/0 Power cable assembly with Han® Q 2/0 inserts			
Hoods metal top entry, 1 lever locking system			
available lengths: L = 1.0 m L = 2.0 m *Other lengths available upon request	73 87 Q02 16 ZA 010 73 87 Q02 16 ZA 020		
Hoods metal side entry, 1 lever locking system			
available lengths: L = 1.0 m L = 2.0 m *Other lengths available upon request	73 87 Q02 16 ZE 010 73 87 Q02 16 ZE 020	 M F	

Power cable assembly acc. to UL 2237 for Han® Q 3/0

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with Crimp terminals for the following product range:

- Han® Q 3/0

Metal or plastic standard Han®A hoods with either top or side entry and a single lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	3 + PE
Electrical data acc. UL2237	
Maximum current**	21 A
Maximum voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J, T or CC class fuses
Cable type	TC-ER
Number of wires	4 (incl. ground)
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han® 3 A
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

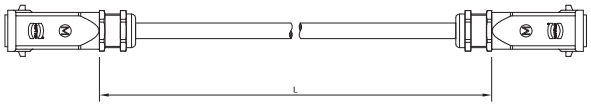
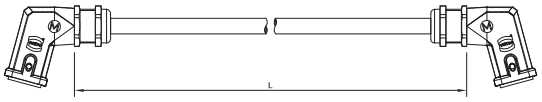
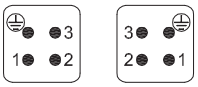
Power cable assembly acc. to UL 2237 for Han® Q 3/0

Size 3 A

Number of contacts

3 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 3/0 Power cable assembly with Han® Q 3/0 inserts			
Hoods metal top entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q03 16 ZA 010		
L = 2.0 m	73 87 Q03 16 ZA 020		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q03 16 ZE 010		
L = 2.0 m	73 87 Q03 16 ZE 020		
*Other lengths available upon request		 M F	

Power cable assembly acc. to UL 2237 for Han® Q 4/0

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with Crimp terminals for the following product range:

- Han® Q 4/0

Plastic standard Han® A hoods according to UL50/50E with either top or side entry and a single lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	4
Electrical data acc. UL2237	
Maximum current**	18.5 A
Maximum voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J, T or CC class fuses
Cable type	TC-ER
Number of wires	4
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han® 3 A
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

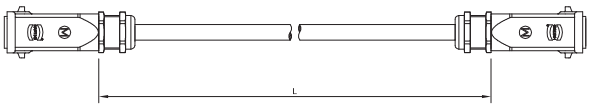
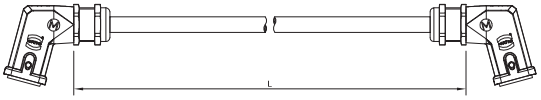
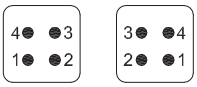
Power cable assembly acc. to UL 2237 for Han® Q 4/0

Size 3 A

Number of contacts

4

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 4/0 Power cable assembly with Han® Q 4/0 inserts			
Hoods metal top entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q04 16 AA 010		
L = 2.0 m	73 87 Q04 16 AA 020		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q04 16 AE 010		
L = 2.0 m	73 87 Q04 16 AE 020		
*Other lengths available upon request		 M F	

Power cable assembly acc. to UL 2237 for Han® Q 5/0

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with Crimp terminals for the following product range:

- Han® Q 5/0

Metal and plastic standard Han® A hoods with either top or side entry and a single lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	5 + PE
Electrical data acc. UL2237	
Maximum current**	16 A
Maximum voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J, T or CC class fuses
Cable type	TC-ER
Number of wires	6 (incl. ground)
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han® 3 A
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

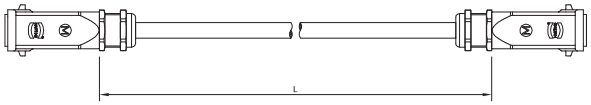
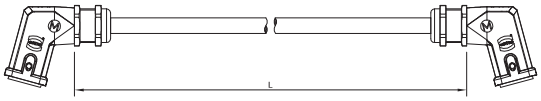
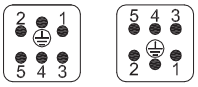
Power cable assembly acc. to UL 2237 for Han® Q 5/0

Size 3 A

Number of contacts

5 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 5/0 Power cable assembly with Han® Q 5/0 inserts			
Hoods metal top entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q05 16 ZB 010		
L = 2.0 m	73 87 Q05 16 ZB 020		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system			
available lengths:			
L = 1.0 m	73 87 Q05 16 ZF 010		
L = 2.0 m	73 87 Q05 16 ZF 020		
*Other lengths available upon request		 M F	

Power cable assembly acc. to UL 2237 for Han® Q 7/0

Size 3 A

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with Crimp terminals for the following product range:

- Han® Q 7/0

Metal and plastic standard Han® A hoods with either top or side entry and a single lever locking system. See catalog “Industrial Connectors Han®”, Chapter 31, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B

Outstanding features

- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:

- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	7 + PE
Electrical data acc. UL2237	
Maximum current**	13.5 A
Maximum voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J, T or CC class fuses
Cable type	TC-ER
Number of wires	8 (incl. ground)
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han® 3 A
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

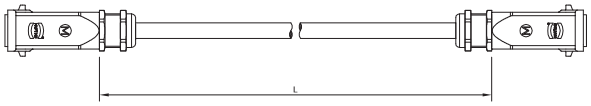
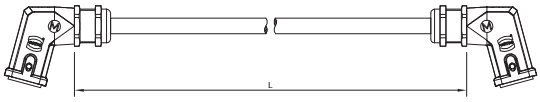
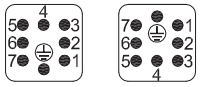
Power cable assembly acc. to UL 2237 for Han® Q 7/0

Size 3 A

Number of contacts

7 + ⏚

Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 7/0 Power cable assembly with Han® Q 7/0 inserts			
Hoods metal top entry, 1 lever locking system available lengths:			
L = 1.0 m	73 87 Q07 16 ZB 010		
L = 2.0 m	73 87 Q07 16 ZB 020		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system available lengths:			
L = 1.0 m	73 87 Q07 16 ZF 010		
L = 2.0 m	73 87 Q07 16 ZF 020		
*Other lengths available upon request		 M F	

Power cable assembly acc. to UL 2237 for Han® Q 8/0

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with crimp terminals for the following product ranges:

- Han® Q 8/0

Metal Han-Compact® hoods with either top or side entry and one lever lockingsystem. See catalogue “Industrial Connectors Han®”, chapter 13 for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B.

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run)

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

Power cable assembly

Number of contacts	8 + PE
Electrical data acc. to UL 2237	
Maximum current**	12 A
Maximum voltage AC / DC	600 V
Short-circuit fault value AC / DC	65 kA
Required fuse protection	time delay, CC, J or T class fuses
Cable type	TC-ER
Number of wires	9 (incl. ground)
Wire gauge*	AWG 14
Wiring	1:1
Hood size	Han-Compact®
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon
Color code	Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

*Other wire gauges are available upon request.

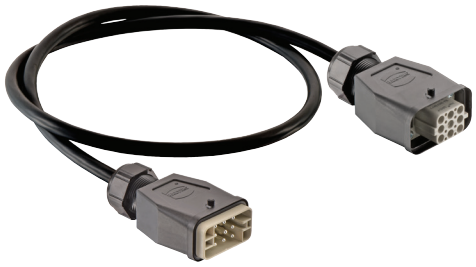
**Current rating for further wire gauges is listed in the tables in the back of the brochure on pages 34 & 35.

Power cable assembly acc. to UL 2237 for Han® Q 8/0

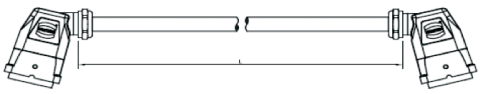
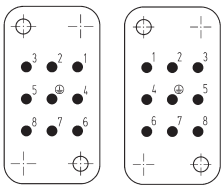
Han-Compact®

Number of contacts

8 + ⏚



Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 8/0 Power cable assembly with Han® Q 8/0 inserts			
Hoods metal top entry, 1 lever locking system available lengths:			
L = 1.0 m	20 87 145 3001 100		
L = 2.0 m	20 87 145 3001 200		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system available lengths:			
L = 1.0 m	20 87 145 3002 100		
L = 2.0 m	20 87 145 3002 200		
*Other lengths available upon request			
			

* Please note, part numbers on this page do not match the configurable part numbering system shown on page 8. Use configurable part numbering system if additional options are needed.

Power cable assembly acc. to UL 2237 for Han® Q 4/2

Description

Han® Power cable assemblies with UL 2237 listing are intended for the usage on industrial control panel applications according to UL 508 (A, C).

Assembled on both sides with the well-proven HARTING male and/or female inserts with crimp terminals for the following product ranges:

- Han® Q 4/2

Metal Han-Compact® hoods, with either top or side entry and one lever lockingsystem. See catalog “Industrial Connectors Han®”, chapter 13, for technical characteristics.

Cables are UL listed type TC-ER. Number of wires and wire gauge are matched to the particular insert.

Cable glands are according to UL 514B.

Outstanding features
- Flexible stranding for easy installation
- UL TC-ER (exposed run

Scope of delivery

Power cable assembly consisting of:
- 2 x hoods
- 1 x male insert with male contacts
- 1 x female insert with female contacts
- 2 x cable glands
- 1 x TC-ER cable

Technical characteristics

Approvals

c UL US LISTED

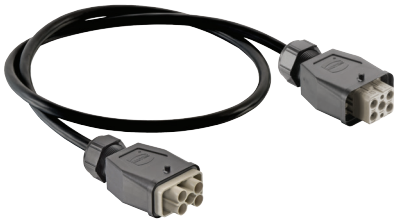
Power cable assembly

Number of contacts	4/2 + PE
Power contacts	4
Signal contacts	2
Electrical data acc. to UL 2237	
Maximum current	14 A/ 2 A
Maximum voltage AC/DC	600 V
Short-circuit fault value AC/DC	65 kA
Required fuse protection	time delay RK5, J or CC class fuses
Cable type	TC-ER
Number of wires	7 (incl. ground)
Wire gauge	AWG 14
Wiring	1:1
Hood size	Han-Compact®
Termination	Crimp
Conductor	Bare copper strands
Insulation	PVC/Nylon Black conductors with consecutive white numbers; green-yellow ground wire
Jacket material	PVC

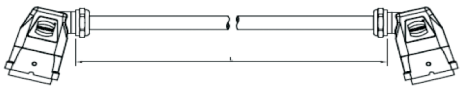
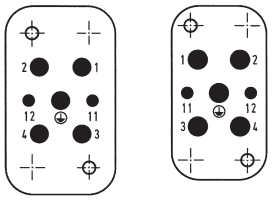
Power cable assembly acc. to UL 2237 for Han® Q 4/2

Number of contacts

4/2 + ⏚



Han® Power cable assemblies with UL 2237 listing

Identification	Part number	Drawing	Dimensions in meters
Han® Q 4/2 Power cable assembly with Han® Q 4/2 inserts			
Hoods metal top entry, 1 lever locking system available lengths:			
L = 1.0 m	20 87 147 3001 100		
L = 2.0 m	20 87 147 3001 200		
*Other lengths available upon request			
Hoods metal side entry, 1 lever locking system available lengths:			
L = 1.0 m	20 87 147 3002 100		
L = 2.0 m	20 87 147 3002 200		
*Other lengths available upon request			

* Please note, part numbers on this page do not match the configurable part numbering system shown on page 8. Use configurable part numbering system if additional options are needed.

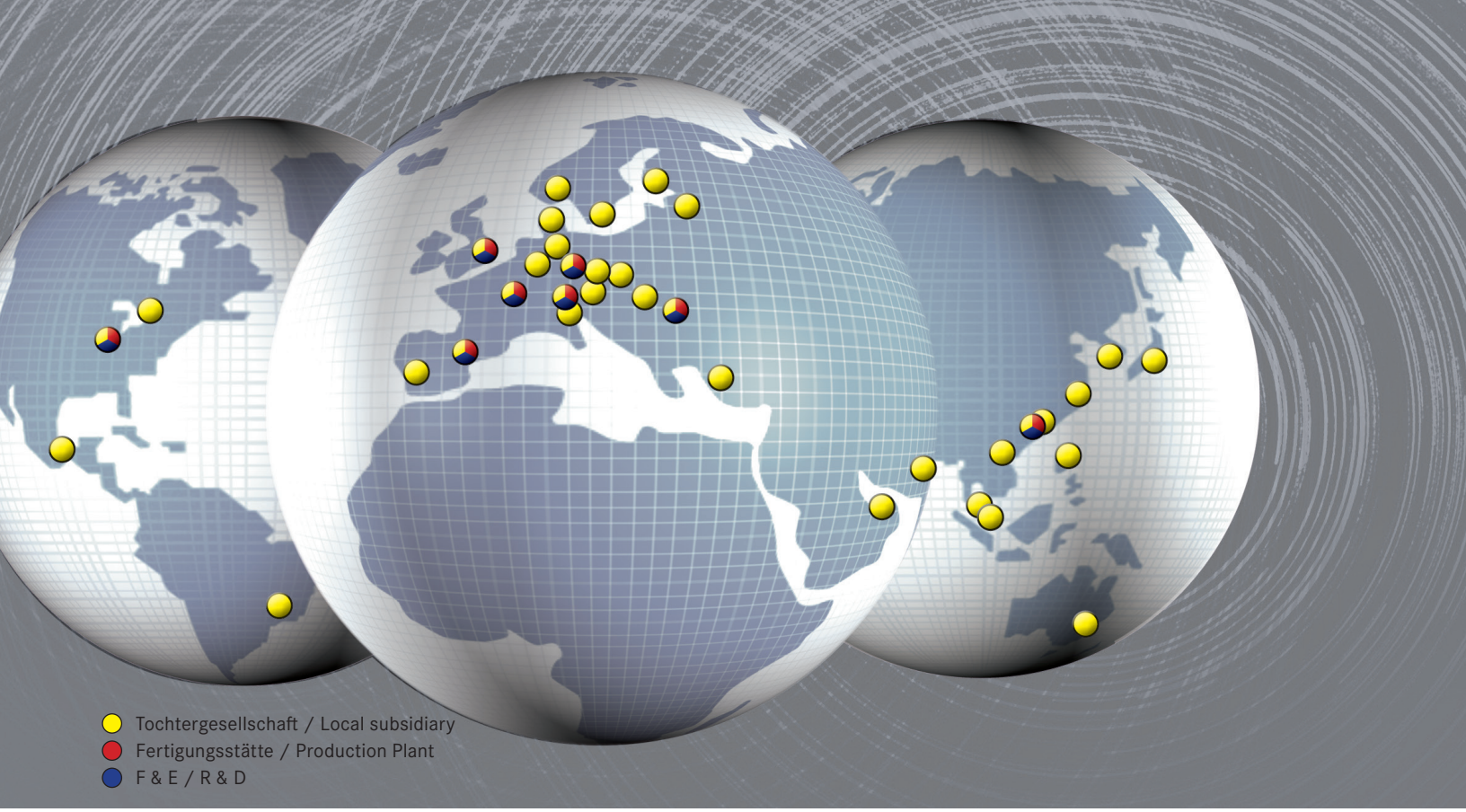
Technical characteristics table

Series	AWG	Voltage (VAC)	Current (A)	Termination type	SCCR (A)
Han® 6 E	16	600	9	Crimp	65k
	14		12	Crimp, Cage-Clamp	
	12		12		
Han® 6 E	14	600	15	Screw	65k
Han® 10 E	16	600	7	Crimp	65k
	14		12	Crimp, Cage-Clamp, Screw	
	12		12	Crimp, Cage-Clamp	
Han® 16 E	16	600	7	Crimp	65k
	14		12	Crimp, Cage-Clamp, Screw	
	12		12	Crimp, Cage-Clamp	
Han® 24 E	16	600	6.5	Crimp	65k
	14		8	Crimp, Cage-Clamp, Screw	
	12		8	Crimp, Cage-Clamp	
Han® 32 E	16	600	5	Crimp, Screw	65k
	14		8	Crimp, Cage-Clamp, Screw	
	12		8	Crimp, Cage-Clamp	
Han® 48 E	16	600	10	Crimp, Screw	65k
	14		10		
	12		10	Crimp	
Han® 48 E	16	600	7	Cage-Clamp	65k
	14				
	12				
Han® 10 EE	16	600	9	Crimp	65k
	14		12		
	12		16.5		
Han® 18 EE	16	600	7	Crimp	65k
	14		10		
	12		12.5		
Han® 32 EE	16	600	7	Crimp	65k
	14		9		
	12		12		
Han® 46 EE	16	600	7.5	Crimp	65k
	14		9.5		
Han® 10 A	16	600	11	Crimp, Screw	65k
	14		12		
Han® 16 A	16	600	8	Crimp, Screw	65k
Han® 32 A	16	600	8	Crimp, Screw	65k

Technical characteristics table

Series	AWG	Voltage (VAC)	Current (A)	Termination type	SCCR (A)
Han® Q 2/0	16	600	19	Crimp	65k
	14		23		
	12		25		
	10		40		
	8		47.5		
Han® Q 3/0	16	600	17	Crimp	65k
	14		21		
	12		25		
	10		34		
Han® Q 4/0	16	600	14	Crimp	65k
	14		18.5		
	12		20		
	10		30.5		
Han® Q 5/0	16	600	11	Crimp	65k
	14		16		
Han® Q 7/0	16	600	8.5	Crimp	65k
	14		13.5		
Han® Q 8/0	16	600	10	Crimp	65k
	14		12		
Han® Q 4/2	14	600	14, Power 2, Signal	Crimp	65k
Han® 6 HsB	12	600	22 (US) / 15 (CA)	Screw	65k

Notes



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