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为“智造”护航！  
Escorting "Smart manufacturing"  
To create maximum value for customers!



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## 浙江昊科电气有限公司

ZHEJIANG HAOKE ELECTRICAL CO., Ltd.

地址：浙江省乐清市柳市镇薛宅工业区

Add: Xuezhai Industrial Zone, Liushi Town,  
Yueqing City, Zhejiang P.R. CHINA

Tel: +86-577-61676777 61676776

Fax: +86-577-61676778

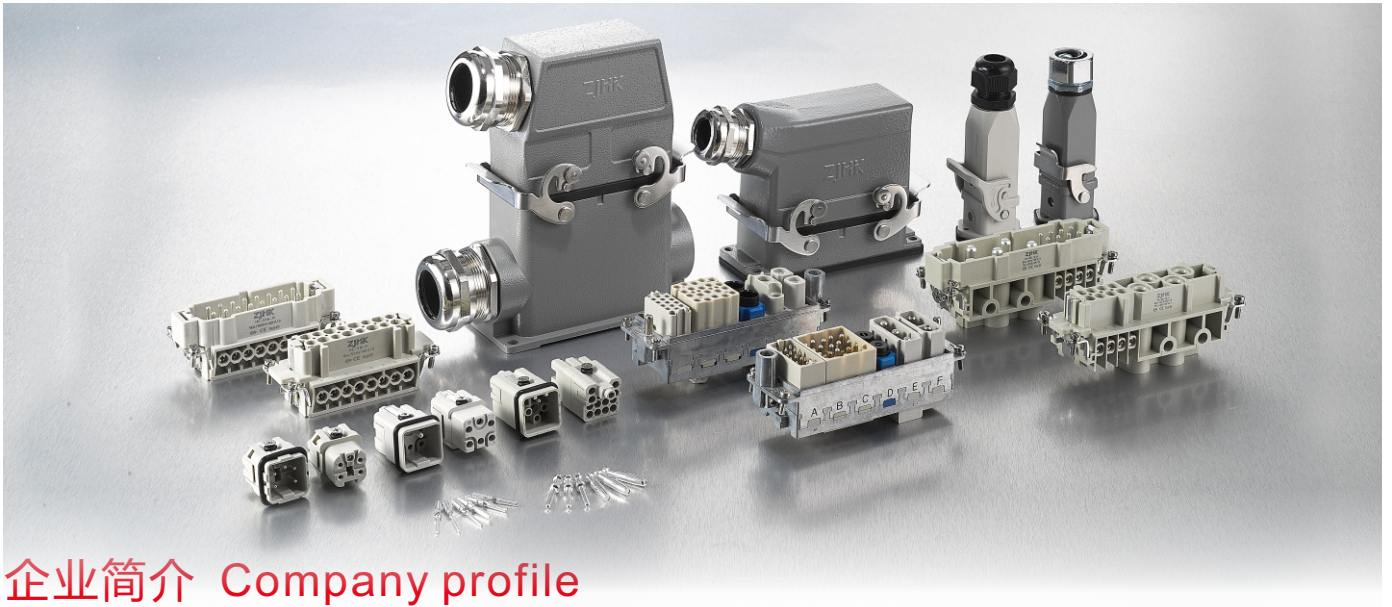
Web: [www.zjhkele.com](http://www.zjhkele.com)

E-mail: [Info@zjhkele.com](mailto:Info@zjhkele.com)

## 重载连接器专业制造商

Professional Manufacturer Of Heavy Duty Connectors





## 企业简介 Company profile

浙江昊科电气有限公司是一家致力于重载连接器研发、设计、制造、销售及售后服务为一体的民营企业，注册资金1000万元。

公司成立以来，凭借优秀的人才团队、过硬的技术力量和周到的售后服务，公司得到高速发展，相继推出HA、HE、HEE、HD、HDD、HSB、HK、HQ产品，各种组合多达数千种，能满足不同领域、不同场合的电气或信号的连接要求，产品被广泛应用于工业自动化、热流道模具、轨道交通、设备制造、工业系统连接以及信息和控制领域。

浙江昊科电气有限公司始终坚持以“客户至上，互利共赢”为经营理念，“以质量求生存，以服务求发展”为发展宗旨！公司已获得UL、CCC、CQC、CE、ROHS等证书并通过ISO9001质量管理体系认证，产品不仅在国内广受好评，更是受到了欧美国家的青睐，成为国际知名企业的合作供应单位。

继往开来，智慧、严谨的昊科人将以高性价比的产品和细致周到的服务为您的事业保驾护航！携手与您共创辉煌！您的需求永远是昊科人努力的方向！

### BRIEF INTRODUCTION

Zhejiang Haoke Electrical Co., Ltd. is an integrated enterprise that is engaged in the R&D, manufacturing and distribution of heavy-duty connectors with registered capital assets of 10 million RMB.

### PRODUCTION CAPACITY

Haoke constantly introduces cutting-edge technology, professional talent and sophisticated equipment to drive on the steady enhancement of the performance of Haoke product series.

Haoke has launched the HA, HE, HEE, HD, HDD, HSB, HK and HQ product series, and provides hundreds of combinations to meet electrical or signal connecting requirements in different fields and for different purposes.

Haoke connectors are UL, CE, CQC, CCC and ROHS certified and the company acts as a supplier for a number of Fortune 500 companies.

### COMPANY IDEA

Company spirit: be pragmatic, innovative and strive to be top-grade.


Operation idea: create values for the customers; create opportunities for the staff; create fortunes for the society.

Marketing service idea: take customer as the king with ever-better service; keep every promise forever and be of faith forever.

Quality idea: satisfy clients with all-out efforts as its target and keep improving by continuous optimization of all aspects.

# 资质证书 Qualification certificate

**NOTICE OF COMPLETION AND AUTHORIZATION TO APPLY THE UL MARK**

 2019-11-27

MR. Jason Xue  
Zhejiang Haoko Electric CO Ltd  
Xuezhai Industrial Zone Lishui Town Yueqing City Zhejiang  
Yueqing City, 325604, CN

Your Reference: File E511021, Vol. 1 Order 13078007

Project Scope: USR, CNR - Connector Component, EC8278, 12 Models, Cat. Nos. HE-006-M, HE-006-F, HE-010-M, HE-010-F, HE-016-M, HE-016-F, HE-024-M, HE-024-F, HE-032-M, HE-032-F, HE-048-M, HE-048-F

Dear MR. Jason Xue:

Congratulations! UL's investigation of your product(s) has been completed under the above Reference Number and the product was determined to comply with the applicable requirements. This letter temporarily supplements the UL Follow-Up Services Procedure and serves as authorization to apply the UL Mark at authorized factories under UL's Follow-Up Service Program. To provide your manufacturer(s) with the intended authorization to use the UL Mark, you must send a copy of this notice to each manufacturing location currently authorized under File E511021, Vol. 1 and including any special instructions as indicated in the addendum to this letter.

Records in the Follow-Up Services Procedure covering the product are now being prepared and will be sent in the near future.

Additional requirements related to your responsibilities as the Applicant can be found in the document "Applicant responsibilities related to Early Authorizations" that can be found at the following web-site: <http://www.ul.com/EARresponsibilities>

Any information and documentation provided to you involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL.

We are excited you are now able to apply the UL Mark to your products and appreciate your business. Feel free to contact me or any of our Customer Service representatives if you have any questions.

Very truly yours, Reviewed by:  
Waddy Yao Project Engineer Bruce A. Mahrenholz CPO Director  
Waddy.Yao@ul.com Bruce.A.Mahrenholz@ul.com

Zhejiang Haoko Electric CO Ltd  
2019年11月27日

Page 1 of 2



**PRODUCT CERTIFICATE**

No.: CQC1500313163

**NAME AND ADDRESS OF THE APPLICANT**  
Zhejiang Hating Electric Co., Ltd.  
Xuezhai Village, Lishui Town, Yueqing City

**NAME AND ADDRESS OF THE MANUFACTURER**  
Zhejiang Hating Electric Co., Ltd.  
Xuezhai Village, Lishui Town, Yueqing City

**NAME AND ADDRESS OF THE FACTORY**  
Zhejiang Hating Electric Co., Ltd. (V2032902)  
No.31 Xuezhai Six road, Lishui Town, Yueqing City, Zhejiang

**NAME, MODEL AND SPECIFICATION**  
Connectors for Industrial Purposes  
CQC140222-301

**THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS**  
CQC1101-2011

**CERTIFICATION MODEL**  
Type Testing of Product - Initial Factory Inspection + Follow up Factory Inspection

This is to certify that the above mentioned products have met the requirements of certification rules CQC140222-301.

Date of issue: Nov.24,2016

Validity of this certificate is subject to goods received after regular follow up inspection by issuing certification body until the expiry date.

Date of original certification: Sep.21,2015

President:  Wang Naizhen

**CHINA QUALITY CERTIFICATION CENTRE**

Section 7, No. 188 Nanshan Road, Beijing 100070 P.R.China  
<http://www.cqc.com.cn>

C 0091479



Guangdong Conformity of Quality Management System Certification

No.: 0979417Q183M00RS

This is to certify that the quality system of

**ZHEJIANG HATING ELECTRICAL CO., LTD.**

REGISTERED ADDRESS: XUEZHAI VILLAGE, LISUI TOWN, YUEQING CITY, ZHEJIANG PROVINCE  
PRODUCTION ADDRESS: XUEZHAI VILLAGE, LISUI TOWN, YUEQING CITY, ZHEJIANG PROVINCE

Organization Code: 91330302347214XT

This system is valid for the

**GB/T19001-2008/ISO9001:2008 Standard**

PRODUCTION OF ELECTRIC CONNECTORS

Date of issue: 2017-1-24

Term of validity of this certificate: From 2017-1-24 to 2019-9-14 inclusive


This certificate remains valid only if the certified organization accepts and passes regular surveillance audits.

Approval of the first surveillance audit:  Approval of the second surveillance audit:  Approval of the third surveillance audit: 

Representative of The Company: 

The validity of this certificate shall be confirmed by official website of CNCA (http://www.cnca.org.cn) and CNAS (http://www.cnas.org.cn) websites.




**Test Report**

No. SHAEIC1728701601 Date: 04 Jan 2018 Page 1 of 6

Zhejiang Ha Ko Electric Co. Ltd  
Yueqing City Zhejiang Province Lishui Zhen Xue Zhai Cun

The following sample(s) was/were submitted and identified on behalf of the client as: Seal ring

SGS Job No.: SP17-043824 - SH  
Model No.: 001  
Client Ref. Information: 022  
Date of Sample Received: 29 Dec 2017  
Testing Period: 29 Dec 2017 - 04 Jan 2018  
Test Requested: Selected tests as requested by client.  
Test Method: Please refer to test page(s).  
Test Results: Please refer to test page(s).  
Conclusion: Based on the performed tests on submitted sample(s), the results of Cadmium, Lead, Mercury, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ether (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Bis(2-benzyl) phthalate (BBP), Dibutyl phthalate (DBP) and Dinonyl phthalate (DNP) comply with the limits as set by RoHS Directive (EU 2011/65/EU) amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd.  
  
Mary Ma  
Approved Signatory



Vkan Certification & Testing Co., Ltd.

**Certificate of Compliance**

No. LVD15.6234

About the Low Voltage Directive 2006/95/EC

Applicant: Zhejiang Hating Electric Co., Ltd.  
Xuezhai Village, Lishui Town, Yueqing City, Zhejiang Province, P.R. China

Product/Material: Connector for industrial purposes

Trade Mark: ---

Model/Type: HE-006-M-HE-006-F, HE-010-M-HE-010-F, HE-016-M-HE-016-F, HE-024-M-HE-024-F, HE-032-M-HE-032-F, HE-048-M-HE-048-F, HA-010-M-HA-010-F, HA-016-M-HA-016-F, HA-032-M-HA-032-F

Rated Specification: 16A 500V IP65/IE-006-M-HE-006-F, HE-010-M-HE-010-F, HE-016-M-HE-016-F, HE-024-M-HE-024-F, HE-032-M-HE-032-F, HE-048-M-HE-048-F, 16A 250V+- IP65 (HA-010-M-HA-010-F, HA-016-M-HA-016-F, HA-032-M-HA-032-F)

Tested According to: EN 61984-2009


Referred to the Technical Report: RZCE2016-0323LVD

This certificate of conformity is based on an evaluation of a tested sample of the product mentioned above. It does not imply assessment of series-production of the product. The applicant should hold the whole technical report at the disposal of the competent authority. Provided it is also conformant with any other EU directives, the manufacturer or its authorized European representative may draw up an EC/CEA Declaration of Conformity and affix the CE-mark shown below to each conforming product.

Zhang Xueping  
Vice Director of CVC  
Date of Issue: Oct. 20, 2015

LTC-C-0001-LVD-GO



**TEST REPORT**

Reference No.: ET1506091-R0HS

Customer: Zhejiang Hating Electrical Co. Ltd  
Address: Xuezhai Industrial Zone Lishui Town Yueqing City Zhejiang P.R. CHINA  
Brand Name: N.A.



Report on the submitted sample said to be:  
Sample Name: Heavy Duty Connector  
Model: HE-016-M, HE-016-F  
Manufacturer: Zhejiang Hating Electrical Co. Ltd  
Address: Xuezhai Industrial Zone Lishui Town Yueqing City Zhejiang P.R. CHINA  
Sample received date: June 28, 2015  
Testing period: From June 30, 2015 to July 02, 2015

**Tested substance:**  
As specified by client, to determine the Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr<sup>VI</sup>), Polybrominated Biphenyls(PBBs) & Polybrominated Diphenyl Ether(PBDEs) content in the submitted sample in accordance with Directive 2011/65/EU (RoHS).

**Tested method:**  
1) With reference to IEC 62321-2008 Ed. 1.0 Electrochemical products - Determination of levels of six regulated substances  
2) With reference to IEC 62321-2013 Ed. 1.0 Determination of certain substances in electrochemical products

Test item	Pre-treatment Method	Measuring Instrument	MDL
Lead	IEC 62321-2013 Ed.1.0 Section 7.1.8.2	ICP-OES	2 mg/kg
Cadmium	IEC 62321-2013 Ed.1.0 Section 7.1.8.2	ICP-OES	2 mg/kg
Mercury	IEC 62321-2013 Ed.1.0 Section 7.3	ICP-OES	2 mg/kg
Hexavalent Chromium	IEC 62321-2008 Ed.1.0 Annex C	LUVVIS	2 mg/kg
Polybrominated Biphenyls/ Polybrominated Diphenyl Ether	IEC 62321-2008 Ed.1.0 Annex B	LUVVIS	/
	IEC 62321-2008 Ed.1.0 Annex A	GC-MS	5 mg/kg

**Conclusion:**  
Other tested as specified the submitted sample **conforms** with the requirements of Directive 2011/65/EU (RoHS).

Tested By:   
Reviewed By: 

Shenzhen Easy Test Electronic Products Co., Ltd.  
Unit 1914, No. 1 Tansu North Road, Chongqing, Fujian, Shenzhen, China  
Phone: 0755-8737 2883 FAX: 0755-8737 1887 <http://www.etshchina.com>

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实用新型专利证书

实用新型名称: 一种连接器用密封垫圈

发明人: 徐中雨

申请号: 2017 2 149027.5

申请日期: 2017年06月27日

专利号: ZL 2017 2 149027.5

授权公告日: 2017年10月11日

专利权人: 浙江哈特电气有限公司

专利权期限: 2017年10月11日至2037年10月10日

专利权人: 徐中雨

专利代理机构: 浙江哈特电气有限公司

专利代理人: 徐中雨

专利代理人: 徐中雨

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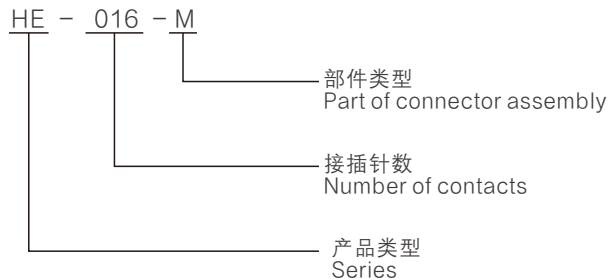
订购说明/How to order

**在选择接插件时，需确定 When selecting heavy duty connector,we need to choose as follow:**

额定电压/电流	Rated voltage and current
回路数(接插件针数)	Poles of connector
外壳形式(防护外壳上壳及底座的选择)	Choosing hood and housing type
附件(主要为电缆接头的选择)	Accessories(selecting cable gland)

**接插体型号说明/Inserts explanation**

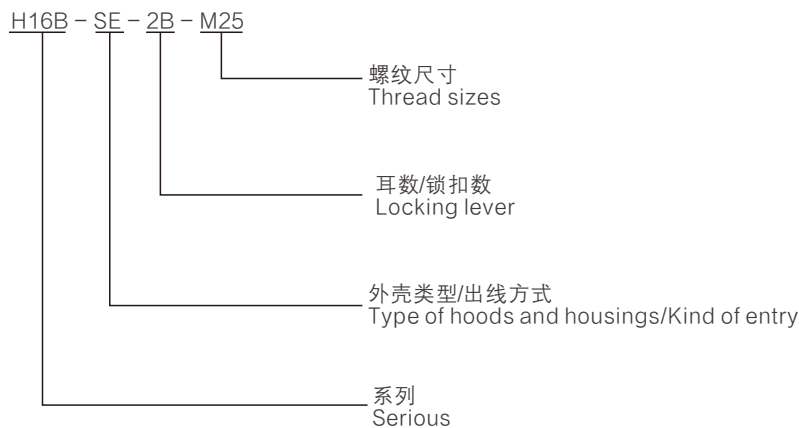
例：HE-016-M为HE系列的16针公插体。  
i.e: HE-016-Means male insert of 16 poles in HE series.



- M/F: 公/母螺钉连接  
Male/Female Screw terminal
- MC/FC: 公/母冷压连接  
Male/Female Crimp terminal
- MS/FS: 公/母弹片连接  
Male/Female Cage-clamp terminal
- MSS/FSS: 公/母双弹片连接  
Male/Female Cage-clamp terminal (two terminal per contact)
- MZ/FZ: 直插式弹片连接  
Quick lock terminal

**/Type of hoods and housings**

例：H16B-SE-2B-M25为H16B外壳系列里侧出线的螺纹尺寸为M25的上壳  
i.e: H16B-SE-2B-M25 means a side entry hood with M25 thread in H16B series.



- SE: 上壳侧出线  
side entry
- SEH: 上壳侧出线高结构  
side entry,high construction
- TE: 上壳顶出线  
top entry
- TEH: 上壳顶出线高结构  
top entry,high construction
- BK: 不封底下壳  
bulkhead mounting
- SF: 封底下壳  
surface mounting
- SFH: 封底下壳高结构  
surface mounting,high construction
- CCT: 飞线下壳  
cable to cable
- CCTH: 飞线下壳高结构  
cable to cable,high construction

公司产品包装默认为单个配件独立包装，如客户需组装完毕整体包装，请提前告知。  
Company products are packaged by default for individually packaged, if you need the overall package, please let us know in advance.

客户定制产品，请直接与我司联系For customize requirement,please contact us.



产品目录 Contents

**芯子部分 Inserts**

HA系列/HA Insert series	P01-01~P01-06
HE系列/HE Insert series	P02-01~P02-08
HEE系列/HEE Insert series	P03-01~P03-11
HD 系列/HD Insert series	P04-01~P04-12
HDD系列/HDD Insert series	P05-01~P05-09
HSB系列/HSB Insert series	P06-01~P06-06
HK系列/HK Insert series	P07-01~P07-21
HEAV系列/HEAV Insert series	P08-01~P08-06
HM系列/HM Insert series	P09-01~P09-38
HQ系列/HQ Insert series	P10-01~P10-17

**外壳部分 Hoods and housings**

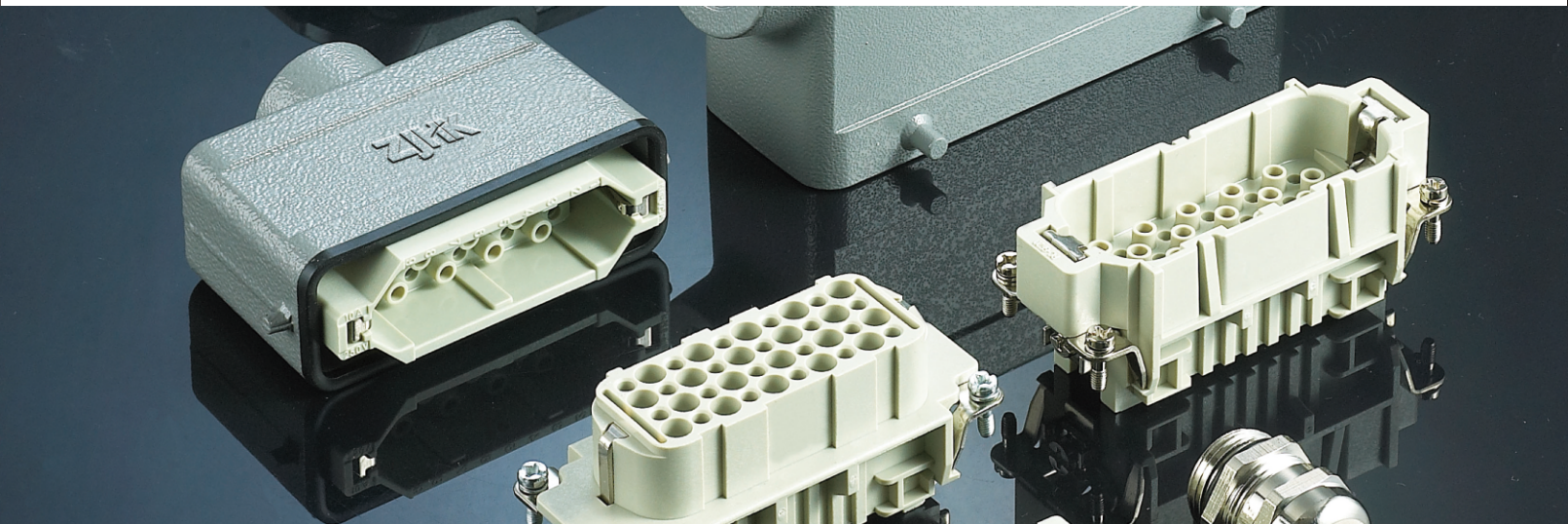
3A外壳/Size 3A Hoods/Housings	P11-01~P11-11
10A外壳/Size 10A Hoods/Housings	P12-01~P12-02
16A外壳/Size 16A Hoods/Housings	P13-01~P13-02
32A外壳/Size 32A Hoods/Housings	P14-01~P14-02
6B外壳/Size 6B Hoods/Housings	P15-01~P15-10
10B外壳/Size 10B Hoods/Housings	P16-01~P16-13
16B外壳/Size 16B Hoods/Housings	P17-01~P17-21
24B外壳/Size 24B Hoods/Housings	P18-01~P18-22
32B外壳/Size 32B Hoods/Housings	P19-01~P19-06
48B外壳/Size 48B Hoods/Housings	P20-01~P20-02
HC外壳HC Hoods/Housings	P21-01~P21-08

**冷压针部分Crimp contacts**

5A 10A 16A 40A 70A 100A 200A	P22-01~P22-04
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**附件 Accessories**

编码 Coding pins	P23-01~P23-01
附件/框架Accessories/ frame	P24-01~P24-02
工具 Removal Tool	P25-01~P25-02
电缆接头 Cable glands	P26-01~P26-15



## 重载连接器 Heavy Duty Connector

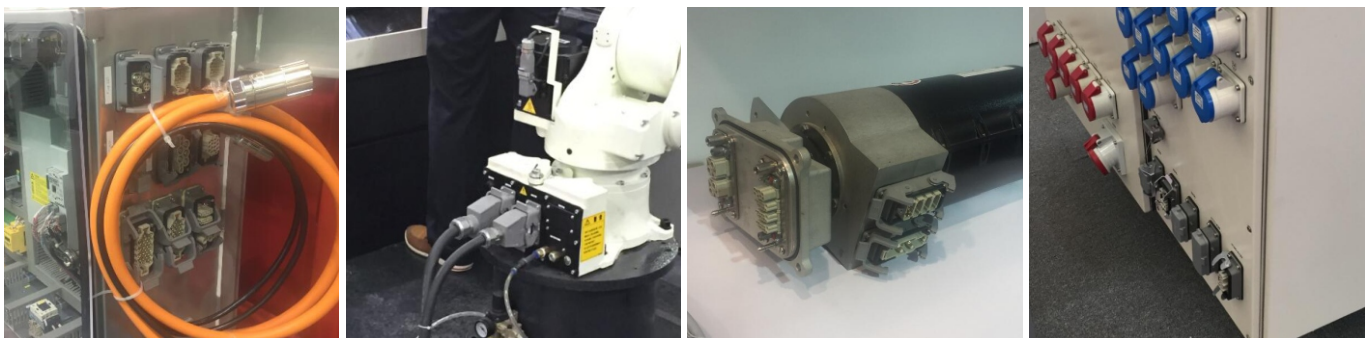
又名重载插座，是专门为满足苛刻的环境条件的要求而设计的，广泛应用于工业自动化、热流道模具、轨道交通、风能能源、设备制造、工业系统连接以及信息和控制领域。

**背景：**随着工业自动化的深入发展，机械产品也出现更多的革新，例如很多产品已经被模块化设计，根据应用的需要不断的扩充功能。使用包括启动模块、大电流模块、电磁屏蔽模块及D-Sub模块的重载连接器不仅实现了模块化设备之间无障碍快速的连接，也保证了信号和供电的传输，这是传统的连接方式所无法达到的。

- 优势：**
- 实现预先安装，大量及复杂电路的预先安装，可以极大地提高设备安装效率,减少接线错误率。
  - 重载连接器提供高集成度连接，丰富的组合方式最大程度提高了设备空间的有效利用率。
  - 重载连接器连接器方便、高效地实现设备各功能模板块的模块化结构，使得设备能方便、安全地进行运输、安装、维护和维修。
  - 重载连接器提供的高防护等级（IP65、IP68）对于苛刻环境下设备连接系统的优势无可比拟。在沙尘、雨水、寒冷、冰雪、油污等恶劣环境下提供有效保护。

Heavy duty connectors are specifically designed for applications in extremely rough environments. Their modular design makes the distribution of power and signals simple.

They are used wherever there is a need for a secure, simple and time-saving assembly of machinery and facilities. The connector housings are made of die-cast aluminum and offer excellent protection against dirt, moisture and mechanical stress. Special modular connectors make it possible to integrate signals, power supply, pneumatics, and data connections into a single connector.





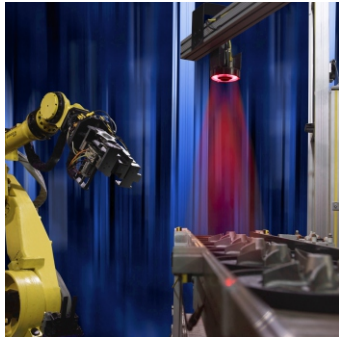
## 应用领域 Field of Application

昊科连接器丰富的产品系列，能够满足不同领域、不同场合的电气或者信号的连接要求，保证各组件在各种环境中的安全、可靠、高效的协同运行。

Haoke Heavy duty connectors with rich product series, are used wherever there is a need for a secure, simple and time-saving assembly of machinery and facilities.

We skilled in the fields of energy and data transmission are able to contribute a great deal more and play a closely integrative role in the value creation process!

Our claim: The relentless pursuit of perfection!





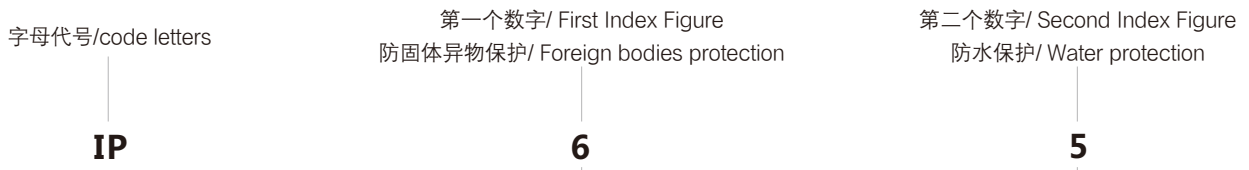


## 外壳防护等级 Ingress Protection

连接器上的外壳，密封件及锁扣装置使连接器的电气部件免受影响，比如冲击、异物、湿气、灰尘、水或清洁剂、冷却液、油等其它液体的入侵。

The connector's housing, sealing and locking mechanism protect the connection from external influences such as mechanical shocks, foreign bodies, humidity, dust, water or other fluids such as cleansing and cooling agents, oils, etc.

**下面是防护等级一览表 The following table shows the different degrees of protection**

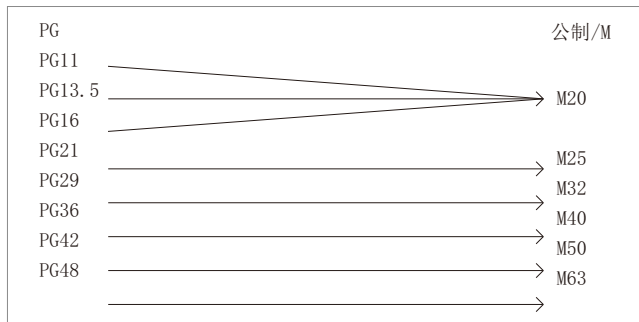


数字 Numeral	保护范围 Degree of protection	数字 Numeral	保护范围 Degree of protection
0	无防护 Not evaluated	0	无防护 Not evaluated
1	防止直径大于50mm的固体外物侵入 ≥50.0mm diameter object	1	防止水滴侵入 Dripping water:vertical
2	防止直径大于12.5mm的固体外物侵入 ≥12.5mm diameter object	2	倾斜15度时，仍可防止水滴侵入 Dripping water:15° tilt
3	防止大于直径2.5mm的固体外物侵入 ≥2.5mm diameter object	3	防止喷洒的水侵入 /Spraying water
4	防止大于直径1.0mm的固体外物侵入 ≥1.0mm diameter object	4	防止飞溅的水侵入 Splashing water
5	防止外物及灰尘 Dust-protected	5	防止喷射的水侵入 Jetting water
6	防止外物及灰尘 Dust-tight	6	防止大浪侵入 Powerful jetting water
		7	防止浸水时水的侵入 Temporary immersion
		8	防止沉没时水的侵入 Continuous immersion

## 电缆接头技术信息 Cable gland information

由于产品描述中含有螺纹尺寸, 采用公制螺纹可方便的理解电缆接头的规格尺寸。  
 请注意采用公制的电缆接头, 最大可夹紧的电缆直径可能变小。  
 The Cross Reference table shows the correlation between the Pg versions and the new metric types.  
 Please notice that the maximum cable diameter will be reduced by the new metric cable glands.

### PG制螺纹与公制螺纹的对照表 Cross Reference :



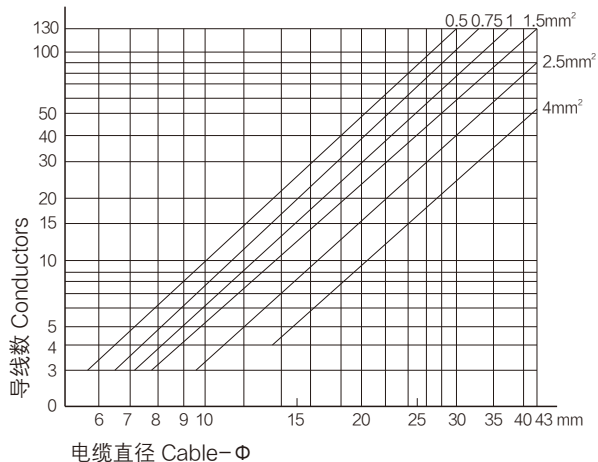
### 电缆接头的卡口范围如下 Below is shown the cable range of metric glands :

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	mm																																										
																																							PG48																																															
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					M12																																																																																	

### 电缆 Cable

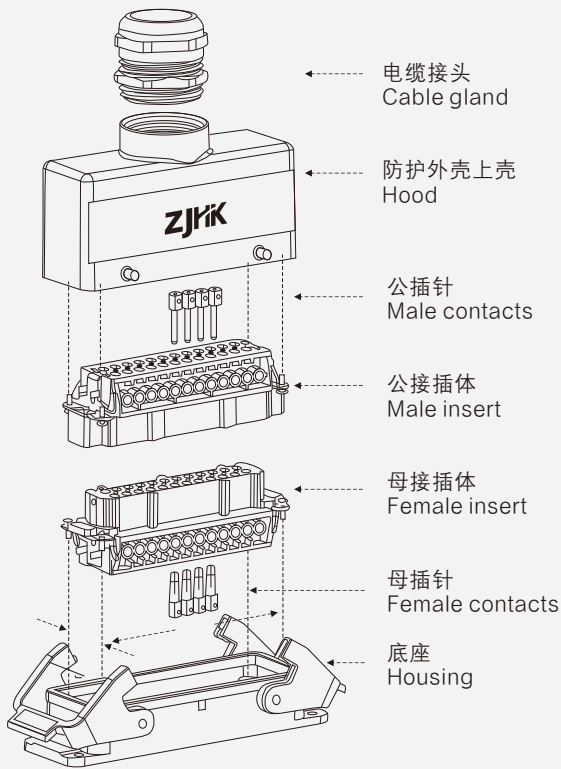
电缆直径与导线规格及导线数的关系图如右:

The diagram shows different cable-diagrams, being dependent on wire gauges and number of conductors. All data are averages for commercial cables



## 主要部件 Main Components

### 接插件安装示意图 Assembly details



#### 电缆接头 Cable glands

- 金属或塑料电缆接头 Metal or plastic cable glands
- 金属或塑料软管接头 Metal or plastic hose glands
- 其它电缆接头 Other cable glands

#### 防护外壳上壳 Hoods

- 标准或高结构 Low or high construction
- 顶部出线或侧面出线 Top or side cable entry
- 单扣或双扣 1 or 2 locking levers

#### 公、母接插体 Male, female insert

- 螺丝连接 Screw terminal
- 冷压连接 Crimp terminal
- 弹片连接 Cage-clamp terminal

#### 公、母插针 Male, female contacts

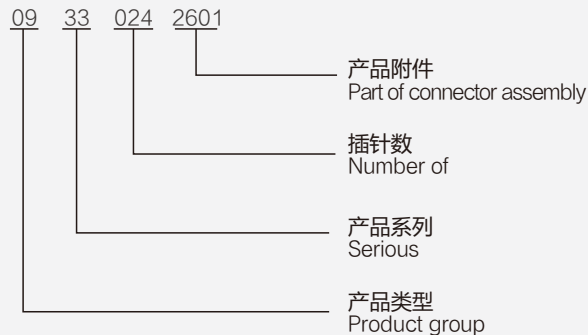
- 适用于冷压连接的插体 Only for crimp terminal
- 镀金或镀银 Gold or silver plated

#### 底座 Housing

- 开孔安装, 表面安装或电缆对接 Bulkhead mounting, surface mounting, cable to cable
- 标准或高结构 Low or high construction
- 单扣或双扣 1 or 2 levels
- 带塑料盖或带金属盖或不带盖 Housing with or without covers

#### 订货号说明/Part number explanation

i.e: 09330242601





部分产品一览表 Part of the products

		上壳 Hoods		插体 Inserts		下壳 Housings	
3A		HA Series Screw terminal Crimp terminal		HE Series Screw terminal Crimp terminal			
		230/400V/10A 3p+ 	230/400V/10A 4p+ 				
10A		*HEE Series Crimp terminal		*HD Series Crimp terminal			
		250V/16A 10p+ 	250V/10A 15p+ 	250V/10A 8p 	250V/10A 7p+ 		
16A		*HDD Series Crimp terminal		HSB Series Screw terminal			HK Series Screw terminal
		250V/16A 16p+ 	250V/10A 25p+ 	400V/690V/35A6p+ 	HK-008/24 HK-004/0 HK-006/12 HK-008/36 HK-012/2		
32A		用于安装任两个适用于16A外壳插体 Suitable for 2 inserts of size 16A					
6B		用于安装任两个适用于24B外壳插体 Suitable for 2 inserts of size 24B					
10B		用于安装任两个适用于16B外壳插体 Suitable for 2 inserts of size 16B					
16B		用于安装任两个适用于16B外壳插体 Suitable for 2 inserts of size 16B					
24B		用于安装任两个适用于24B外壳插体 Suitable for 2 inserts of size 24B					
32B		用于安装任两个适用于24B外壳插体 Suitable for 2 inserts of size 24B					
48B		用于安装任两个适用于24B外壳插体 Suitable for 2 inserts of size 24B					

Modified contact loading arrangement permits use up to 500V,690V 1000V at insulation group C.



## 终端技术 Terminal Technology

## 冷压连接插体的技术参数 Crimp terminal inserts information

线规 Wire gauge		内部直径 Diameter	剥线长度 Stripping length (mm)		
(mm <sup>2</sup> )	AWG	Φ (mm)	HDD HD R15模块 (10A)	HE HA HvE (16A)	HC (40A)
0.14~0.37	26~22	0.9	8	-	-
0.5	20	1.15	8	7.5	-
0.75	18	1.3	8	7.5	-
1	18	1.45	8	7.5	-
1.5	16	1.75	8	7.5	9
2.5	14	2.25	6	7.5	9
4	12	2.85	-	7.5	9.6
6	10	3.5	-	-	9.6
10	8	4.6	-	-	15

	导体截面 Cross-sec	Φ	剥线长度 Stripping length
100A针	10mm <sup>2</sup>	4.3mm	19.0mm
	16mm <sup>2</sup>	5.5mm	19.0mm
	25mm <sup>2</sup>	7.0mm	19.0mm
	35mm <sup>2</sup>	8.2mm	16.0mm
350A针	35mm <sup>2</sup>	8.2mm	26.0mm
	50mm <sup>2</sup>	10.0mm	28.0mm
	70mm <sup>2</sup>	11.5mm	28.0mm
	95mm <sup>2</sup>	13.5mm	30.0mm
650A针	120mm <sup>2</sup>	15.5mm	24.0mm
	240mm <sup>2</sup>	22.5mm	50.0mm
细股绞线依据Wire assembly according to IEC60228-5			

## 其他说明 Additional Instruction

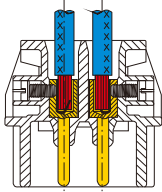
建议使用的拧紧力矩和螺丝的尺寸 Recommended tightening torque and size of screw driver

螺丝规格 Screw size	接插件类型 Connector type	拧紧力矩 Tightening torque (N.m)	拧紧力矩 Tightening torque (lbf)	建议使用螺丝刀的尺寸 Recommended size of screw driver
M3	螺丝端子 Screw terminal HA-003/HA-004	.25	0.2	0.4x2.5
M3	螺丝端子 Screw terminal HA-010/HA-016	0.5	0.4	0.5x3.5 or +Size1
M3	螺丝端子HE, 定位及固定用 Screw terminal HE, Guiding pins and bushes	0.50	0.40	"0.5 x 3.5"
M4	接地螺钉端子 Ground terminal HA, HE, HD, HDD	1.2	0.9	0.5x3.5 or +Size1+2
M4	端子块 Screw terminal HSB	1.2	0.9	0.80 x 4.5
M5	接地螺钉端子 Ground terminal HSB	2.00	1.40	"0.8 x 4.5 or 1.2 x 8"

## 接线端子类型 Terminal Type

## 螺钉压接形式 Screw terminal

HA系列 Haseries  
HE/HVE 系列 HE/HVE series  
HSB系列 HSB series  
HK系列 HK series  
HWK系列 HWK series  
HEAV系列 HEAV series



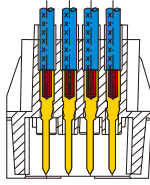
操作简单  
Easy handling

无需专用工具  
No special tools

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度L(mm) Stripping length L(mm)
	mm <sup>2</sup>	AWG	
HA-003,HA-004	2.5	14	4.5
HE,HA,HEAV	2.5	14	7.5
HE,HVE	4.0	12	7.5
HSB	6.0	10	11.5
HK,HWK	16.0	5.0	14

## 冷压针压接形式 Crimp terminal

HD 系列 HD series  
HDD 系列 HDD series

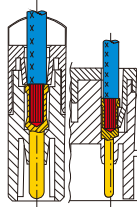


由于压接质量均匀，所以  
通向电阻恒定  
Constant contact resistance  
as a result of precisely repeated  
crimp connection quality

由于接近于冷焊，所以保证了  
耐腐蚀性  
Corrosion free connections  
as a result of cold weld action

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度L(mm) Stripping length L(mm)	
	mm <sup>2</sup>	AWG	HDD/HD	HEC/HAC
HD	0.5	20	8.0	7.5
	0.75	18	8.0	7.5
HDD	1.0	18	8.0	7.5
	1.5	16	8.0	7.5
HM(10A)	2.5	14	8.0	7.5
	4.0	12	8.0	7.5

HE/HEE 系列 Series  
HEEE 系列 Series  
HM 系列 series



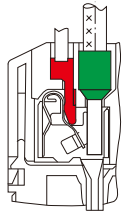
预制了带压接针的电缆束  
Pre-preparation of cable  
forms with crimp  
contacts fitted

从根本上提高了布线速度  
Optimum cost cable  
connection

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度L(mm) Stripping length L(mm)	
	mm <sup>2</sup>	AWG	HEE/HM(40A)	
HE	0.5	20	7.5	
	0.75	18	7.5	
HEE	1.0	18	7.5	
	1.5	16	7.5	
HEEE	2.5	14	7.5	
	4.0	12	7.5	

## 弹片压接端子形式 Cage-clamp terminal

HE系列 Series



这种连接技术对操作和工具的要求较小，  
且具有较高的功能安全性。

This termination method requires very  
little preparation of the wire and on  
special tools, leading to a low installed  
cost and a high degree of mechanical  
security.

由于操作人员可以看到导线和螺丝刀，因此  
具有较高的操作舒适度。  
Ease of termination. Conductor and  
screwdriver are in same plane.

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度L(mm) Stripping length L(mm)
	mm <sup>2</sup>	AWG	
HE	0.14-2.5	26-14	9-11

无需对导线头进行特殊处理。  
No special preparation of  
stripped conductor.

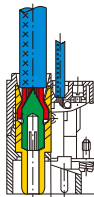
安装状态下可从接线侧进行检测。  
From the terminal side for testing  
installation condition.

夹紧力随导线截面的增加而提高。  
The larger the conductor the  
higher the clamping force.

导线连接防振动和冲击。  
The termination is vibration-proof.

## 轴向螺栓压接形式 Axial screw terminal

HK-006/6  
HK-006/12  
HK-008/0



节省空间  
Less space required

操作简单  
Easy handling

无需专用工具  
No special tools

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度L(mm) Stripping length L(mm)
	mm <sup>2</sup>	AWG	
HK-006/6	16-35	5-2	13-14
HK-006/12	2.5-10	13/-1	8-9
HK-008/0	10-25	16/-1	6-7

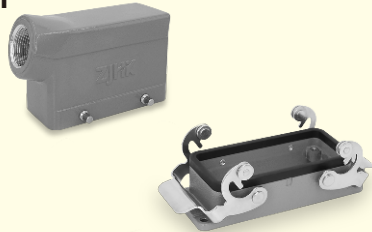
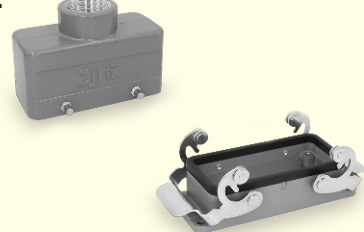
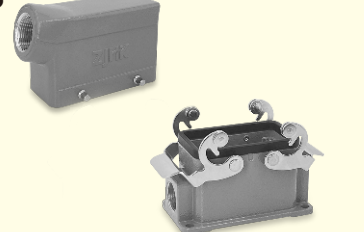
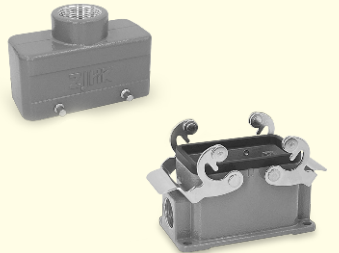

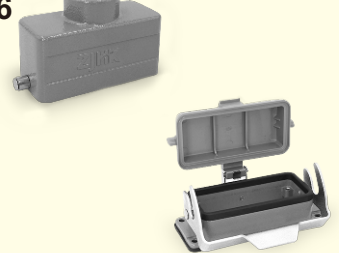
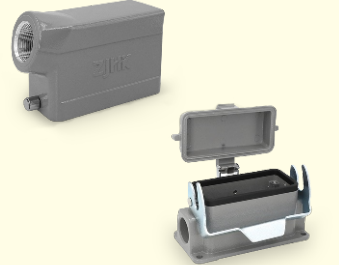
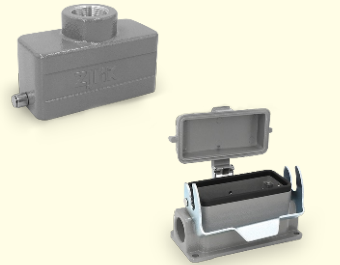
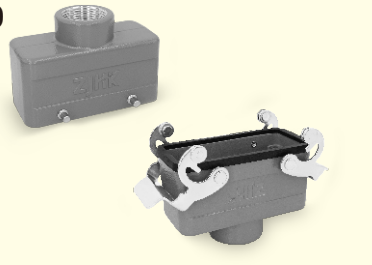
## 建议使用的拧紧力矩和螺丝刀的尺寸 Recommended screw drivers and tightening torques

螺钉尺寸 Size of screw	接插件类型 Connector type	拧紧力矩 (Φ) Tightening torque [Nm]	拧紧力矩 (Φ) Tightening torque [Nm]	建议使用螺丝刀尺寸 Recommended size of screw driver
M3	螺钉端子 Screw terminal HA-003/HA-004/HQ-005	0.25	0.20	0.4×2.5
M3	螺钉端子 Screw terminal HA-010/HA-016	0.50	0.40	0.5×3.5 or ± size 1
M3	螺钉端子 HE, HEAV 定位及固定用 Screw terminal HE, HEAV fixing screws of all kinds, guiding pins and bushes	0.50	0.40	0.5×3.5
M4	接地端子螺钉 Ground terminal HA, HE, HD, HDD	1.20	0.90	0.5×3.5 or ± size 1+2
M4	端子块 Terminal blocks HSB	1.20	0.90	0.8×4.5
M5	接地端子螺钉 Ground terminal HSB	2.00	1.40	0.8×4.5 or 1.2×8.0



## 选型指南 Selection Guide

购买重型连接器时，我们可以做如下选择 When selecting heavy duty connector, we need to choose as following

<p><b>NO.1</b></p>  <p>上壳侧出，底座开孔形式 Hood side-entry type, Housing bulkhead mounting</p>	<p><b>NO.2</b></p>  <p>上壳顶出，底座开孔形式 Hood top-entry type, Housing bulkhead mounting</p>	<p><b>NO.3</b></p>  <p>上壳侧出，底座表面形式 Hood side-entry type, Housing surface mounting</p>
<p><b>NO.4</b></p>  <p>上壳顶出，底座表面形式 Hood top-entry type, Housing surface mounting</p>	<p><b>NO.5</b></p>  <p>上壳侧出，底座开孔带盖形式 Hood side-entry type, Housing bulkhead mounting cover</p>	<p><b>NO.6</b></p>  <p>上壳顶出，底座开孔带盖形式 Hood top-entry type, Housing bulkhead mounting cover</p>
<p><b>NO.7</b></p>  <p>上壳侧出，底座表面带盖形式 Hood side-entry type, Housing surface mounting cover</p>	<p><b>NO.8</b></p>  <p>上壳顶出，底座表面带盖形式 Hood top-entry type, Housing surface mounting cover</p>	<p><b>NO.9</b></p>  <p>上壳顶出，下壳对接形式 Hood top-entry type, Housing cable to cable coupling</p>

### 订购完整连接器套件步骤：

For a complete connector components may be order from the following sub headings:

#### 1 接插体类别 Connector type

如：24芯螺钉压接接插体型号为 HE-024  
i.e.: 24-polescrew terminal part NO.HE-024

#### 2 壳体组合类别 List hoods and housings

常见九种组合方式见上图如：1是上壳侧出底座开孔形式  
i.e.: “1” Hood side-entry type, Housing bulkhead mounting

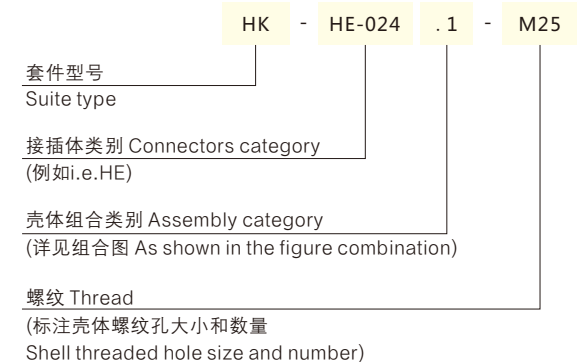
#### 3 螺丝毫米大小 Threaded hole size

如：“M25”代表出线口螺纹为公制M25  
i.e.: “M25” metric thread M25

例如：HK-HE-024.1-M25 代表接插体是HE-024，外壳是第一种组合（开孔侧出），上壳出线口螺纹为M25。

### 套件订货说明 Ordering system computerized

为了便于数据处理，订货时也可采用如下订货方式：



## 直插式重载连接器产品介绍 Quick Lock Terminal

## 产品研发背景 Product development background

随着人工成本的持续升高，产品成本随之增加，导致工业设备厂家失去产品竞争力；而大部分工时的消耗发生在基础工艺工序；因此，有必要对基础元件的产品进行结构优化，提高工作效率，吴科直插式连接器颠覆传统接线工艺，在满足传统螺钉压接、笼式压接连接器，所有功能以外，在使用效率上有大幅提高。



产品推荐

## 功能描述 Function description

1 在开孔安装场合，直插式连接器可实现连接器预安装在柜体上，再接线，如图一



图 1

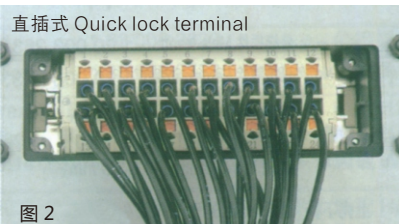
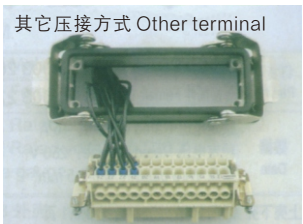


图 2



其它压接方式 Other terminal

3 直插式接线方式可轻松的接线，当产品需增减某些线束时，直插式连接器也不需要拆装连接器壳体就可实现，如图三



图 3

4 直插式连接器为用户预留的测试孔，可实现带电测试，如图四

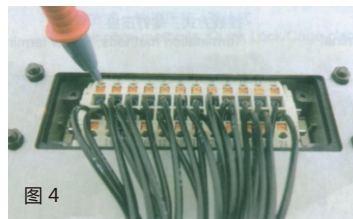


图 4

2 为不影响柜内接线的整洁及规范、柜内的线束长度一般会尽量缩短，螺钉安装的连接器由于压接螺丝被壳体遮挡，需要把线预留的长一些拉到柜体外，先接到连接器上再固定外壳，这时柜内的线就会过长，影响布线工艺 如图二

5 直插式连接器运用编码块（图五）替代传统的编码销，实现多个连接器防插错，工艺简单、成本极低、将编码块压入插槽内即可实现（图六）

图 5



编码块

Encoding profile

编码销

Standard code pin

传统连接器运用编码销，需要先把固定螺丝取下，换上编码销，操作麻烦费时，且价格相比编码块高昂。

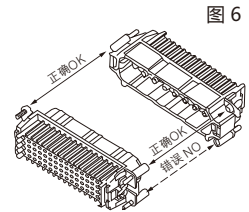
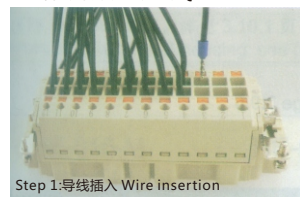


图 6

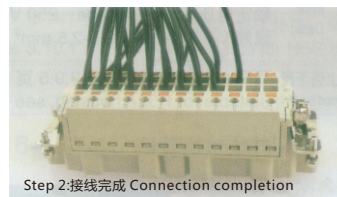
## 产品接线方式对比 Product wiring method

产品 Product	直插式 Quick lock terminal 24 inserts(公插M+母插F)	弹片压接 Cage-clamp terminal 24 inserts(公插M+母插F)	螺钉压接 Screw terminal 24 inserts(公插M+母插F)
接线耗时 Connection time	6分钟min	12.5分钟min	15分钟min

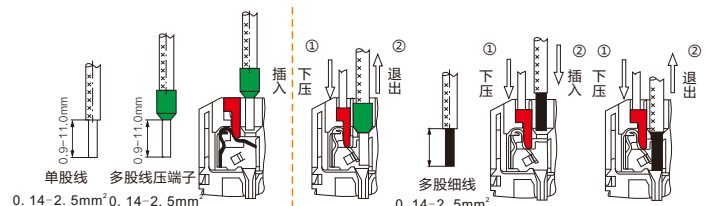
## 1 直插式弹片接线方式 Quick Lock terminal



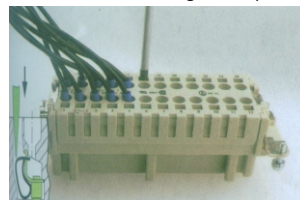
Step 1:导线插入 Wire insertion



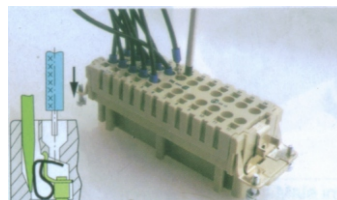
Step 2:接线完成 Connection completion

单股线 多股线压端子  
0.14-2.5mm<sup>2</sup> 0.14-2.5mm<sup>2</sup>

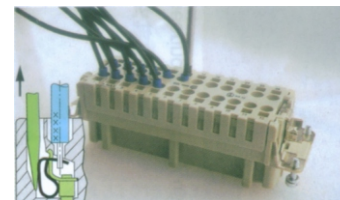
## 2 普通弹片接线方式 Cage-clamp terminal



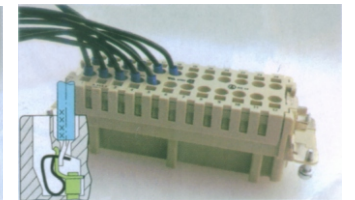
Step 1:螺钉起子插入正方形插孔中，弹片被推向一侧，从而打开接线口。



Step 2:将线缆插入圆形接线口。



Step 3:取出螺丝起子，弹片收回原位，从而夹紧插入的线缆。



Step 4:连接完成，请拉动线缆以确认线缆确实被弹片夹紧。

## 3 螺钉接线方式 Screw terminal

手工拧紧或电动螺丝刀拧紧，拧紧力不一致，导致螺丝没拧到位，同时在振动条件，螺丝有松脱可能。因为拧紧力度不一样，使用工具的不规范，容易导致十字螺丝头打滑，从而极大的增加了作业人员的劳动强度。

无线保护装置  
Terminals without wire protection



有线保护装置  
Terminals with wire protection

