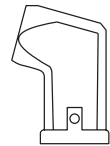


# 概述 – 制造规格 SUMMARY - SIZE

规格 Size 说明 Description

**A**



上壳 Hood  
侧面进线 top-entry



上壳 Hood  
顶部进线 side-entry

250/400 V  
10 A  
HA-3  
page 7.2.5

250/400 V  
10 A  
HA-4  
page 7.2.5

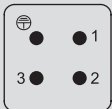
250 V  
10 A  
HD-007  
page 7.6.2

50 V  
10 A  
HD-008  
page 7.6.2

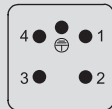
250/400 V  
16 A  
HQ-005  
page 7.7.1

400 V  
10 A  
HQ-007  
page 7.7.2

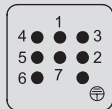
50 V  
10 A  
HQ-012  
page 7.7.2



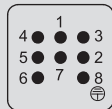
3 + ⊕



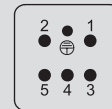
4 + ⊕



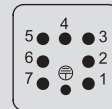
7 + ⊕



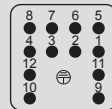
8 + ⊕



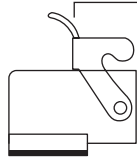
5 + ⊕



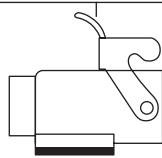
7 + ⊕



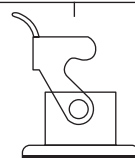
12 + ⊕



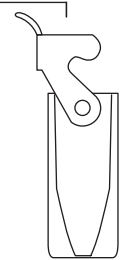
下壳 Housing  
开孔安装 bulkhead mounting



下壳 Housing  
表面安装 surface mounting

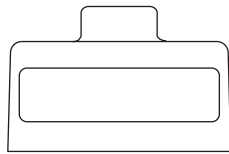


下壳 Housing  
开孔安装 bulkhead mounting

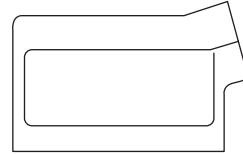


上壳 Hood  
电缆对接  
cable to cable coupling

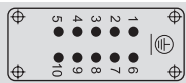
上壳 Hood  
顶部进线 side-entry



上壳 Hood  
侧面进线 top-entry

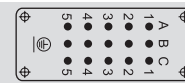


250 V  
16 A  
HA  
page 7.2.6



10 + ⊕

250 V  
10 A  
HD  
page 7.6.3



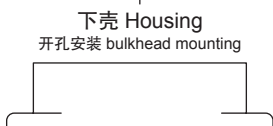
15 + ⊕



16 + ⊕



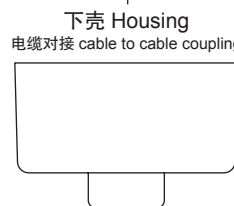
25 + ⊕



下壳 Housing  
开孔安装 bulkhead mounting



下壳 Housing  
表面安装 surface mounting



下壳 Housing  
电缆对接 cable to cable coupling

**3**  
page:7.9.1

**10**  
page:7.9.3

**16**  
page:7.9.4

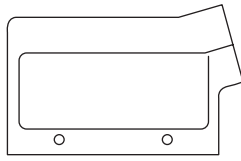
**32** 用于两个规格为 16A 的连接器 Suitable for 2 inserts of size 16A

# 概述 – 制造规格 SUMMARY - SIZE

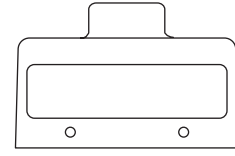
规格 Size

说明 Description

**B**



上壳 Hood  
侧面进线 top-entry



上壳 Hood  
顶部进线 side-entry

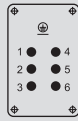
<b>250 V</b> <b>10 A</b> HD page 7.6.4	<b>250 V</b> <b>10 A</b> HDD page 7.6.8	<b>250 V</b> <b>16 A</b> HE、HESH page 7.3.2	<b>500 V</b> <b>16 A</b> HEE page 7.5.2	<b>690/400 V</b> <b>40/35 A</b> HsB、HWK page 7.8.2 7.9.7	<b>690/400 V</b> <b>100/80A</b> HK page 7.9.7	<b>50-5000 V</b> <b>5-200 A</b> HM page 9.10.5- 7.10.17
---	--	--	--	--	--	---

**6**

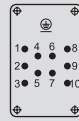
page:7.10.1



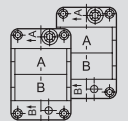
24 +



6 +



10 +



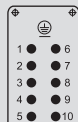
2 modules

**10**

page:7.10.2



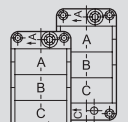
42 +



10 +



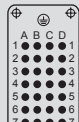
18 +



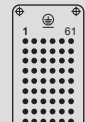
3 modules

**16**

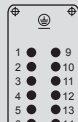
page:7.10.4



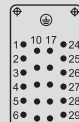
40 +



72 +



16 +



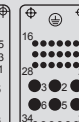
32 +



6 +



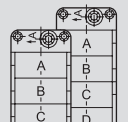
6/6+



6/36+



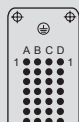
4/2 +



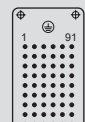
4 modules

**24**

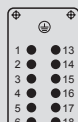
page:7.10.6



64 +



108 +



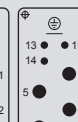
24 +



46 +



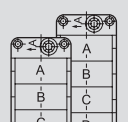
8/0+



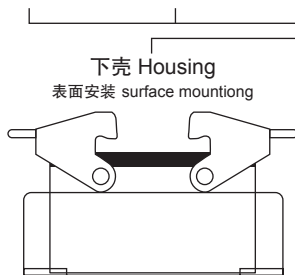
6/6+



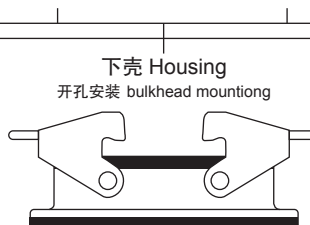
4/8+



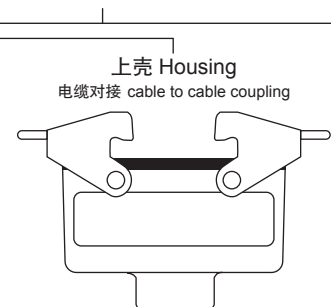
6 modules



下壳 Housing  
表面安装 surface mounting



下壳 Housing  
开孔安装 bulkhead mounting



上壳 Housing  
电缆对接 cable to cable coupling

**32**

用于两个规格为 16B 的连接器的 Suitabel for 2 inserts of size 16B

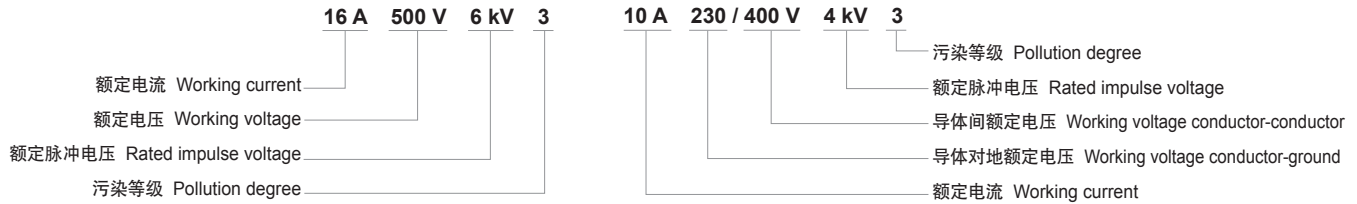
**48**

用于两个规格为 24B 的连接器的 Suitabel for 2 inserts of size 24B

# 技术信息 TECHNICAL INFORMATION

## 电气数据说明 Electrical data

连接器电气数据的说明是根据 DIN EN 61 984 的制订的。  
Electrical data for connectors are specified as per DIN EN 61 984.



## 用外壳保护连接器 Housings connector insert protection

连接器上的外壳和联锁扣保护了自身的针位置免受外部机械损伤，比如冲击、异物、灰尘、无意的接触、湿气、水或洗涤剂、冷却液、油等其它立方体的浸入。外壳所能提供的防护等级是由 IEC 60 529 或 DIN EN 60 529 标准确定的，这些标准中包含了各种保护等级的划分情况。下图是保护等级一览表。按如下方式进行说明：

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. The degree of protection the housing offers is explained in the IEC 60 529, DIN EN 60 529, standards that categorize enclosures according to foreign body and water protection.

字母代号 Code letters  
(International Protection)

IP

第一个数字 First Index Figure  
(防固体异物保护 Foreign bodies protection)

6

第二个数字 Second Index Figure  
(防水保护 Water protection)

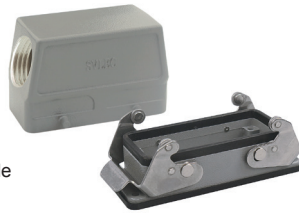
5

数字 Index figure	保护范围 Index figure	数字 Index figure	保护范围 Index figure
0	无安全防护 No protection 	0	无防水保护 No protection against water
1	防大件异物保护 Protection against large foreign bodies 	1	防滴水保护 Drip-proof 
2	防中等大小异物保护 Protection against medium sized foreign bodies 	2	防倾斜滴水保护 Drip-proof 
3	防小件异物保护 Protection against small solid foreign bodies 	3	防河水保护 Spray-proof 
4	防颗粒状异物保护 Protection against grain-shaped foreign bodies 	4	防喷水保护 Splash-proof 
5	防灰尘沉积保护 Protection against injurious deposits of dust 	5	防射水保护 Hose-proof 
6	防灰尘进入保护 Protection against ingress of dust 	6	超强防淹水保护 Strong hose-proof 
		7	防浸水保护 Protected against immersion 
		8	防潜水保护 Protected against high-pressure 

# 特征 DISTINGUISHING FEATURE

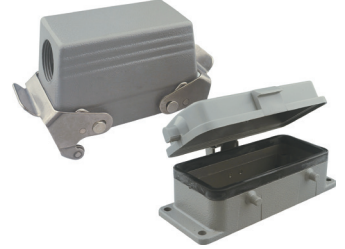
## 带 2 个联锁扣的下壳 Housing with 2 levers

- 操作简易  
Easy operation
- 密封效果良好  
High degree of pressure tightness
- 通过 4 个联锁点安全锁止  
Reliable locking guaranteed by 4 locking points
- 节省空间  
Space saving mounting
- 便于并排安装  
Ideal for mounting side by side
- 可用于线对线连接  
Cable to cable connection is possible
- 锁紧力高 High seal force



## 带 2 个联锁扣的上壳 Hood with 2 levers

- 操作简便  
Easy operation
- 密封效果良好  
High degree of pressure tightness
- 便于配备带防护盖的下壳  
Ideal for mating to housings with protection cover
- 锁紧力高  
High seal force



## 带 1 个联锁扣的下壳 Housing with 1 levers

- 即使侧面进线, 也能保证操作简便  
Easy accessible, even with side entry
- 下壳的防护盖可联锁  
Possibility to lock protective covers on the housing
- 可用于线对线连接  
Cable to cable connection is possible
- 纵轴方向两个联锁点  
2 locking points on the longitudinal axis



## 旋接联锁扣 / 卡口联锁扣 Screw locking / toggle locking

- 使用六角扳手或螺丝刀操作  
Hexagon nuts tightened with spanner
- 密封效果最好  
High degree of pressure tightness
- 即使侧面进线, 也能保证操作简便  
Easily accessible, also with side entry
- 需用工具打开, 增加误打开难度  
Use of tools avoids access by unauthorized persons



## 常用壳体组合 Commonly used shell combination



(I)  
上壳侧出, 底座开孔形式  
Hood side-entry type, Housing bulkhead mounting



(II)  
上壳顶出, 底座开孔形式  
Hood top-entry type, Housing bulkhead mounting



(III)  
上壳侧出, 底座表面形式  
Hood side-entry type, Housing surface mounting



(IV)  
上壳顶出, 底座表面形式  
Hood top-entry type, Housing surface mounting



(V)  
上壳侧出, 底座开孔带盖形式  
Hood side-entry type, Housing bulkhead mounting cover



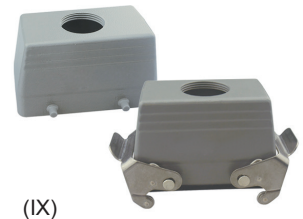
(VI)  
上壳顶出, 底座开孔带盖形式  
Hood top-entry type, Housing bulkhead mounting cover



(VII)  
上壳侧出, 底座表面带盖形式  
Hood side-entry type, Housing surface mounting cover



(VIII)  
上壳顶出, 底座表面带盖形式  
Hood top-entry type, Housing surface mounting cover



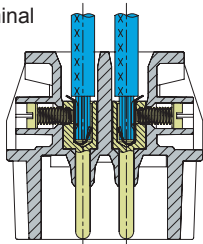
(IX)  
上壳顶出, 下壳对接形式  
Hood top-entry type, Housing cable to cable coupling

# 接线端子类型 TERMINAL TYPE

选型与技术说明

## 螺钉压接形式 Screw terminal

- HA 系列 HA series
- 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

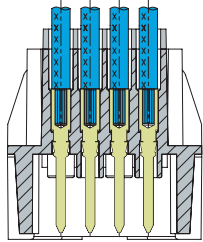


- ◆ 操作简单  
Easy handling
- ◆ 无需专用工具  
No special tools

接插芯 Inserts	最大线规 Max.wire gauge		剥线长度 Stripping length L 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

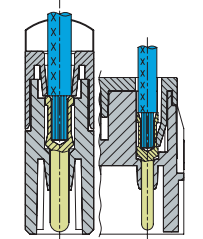
- HD 系列 HD series
- HDD 系列 HDD series



- ◆ 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	-	7.5

- HEC/HEE 系列 Series
- HEEE 系列 Series
- HM 系列 Series (40A)

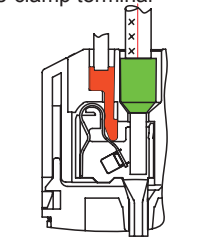


- ◆ 预制了带压接针的电缆束  
Pre-preparation of cable forms with crimp contacts fitted
- ◆ 从根本上提高了布线速度  
Optimum cost cable connection

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)	
HEC	0.5	20	7.5	
	0.75	18	7.5	
HEE	1.0	18	7.5	
HEEE	1.5	16	7.5	
HM(40A)	2.5	14	7.5	
	4.0	12	7.5	

## 弹片压接端子形式 Cage-clamp terminal

- HAS 系列 Series
- HESH 系列 Series



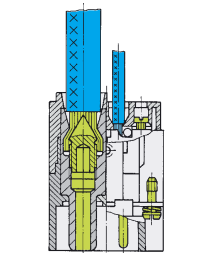
- 这种连接技术对操作和工具的要求较小，且具有较高的功能安全性。  
This termination method requires very little preparation of the wire and on special tools, leading to a low installed cost and a high degree of mechanical security.
- ◆ 由于操作人员可以看到导线和螺丝刀，因此具有较高的操作舒适度。  
Ease of termination. Conductor and screwdriver are in same plane.

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	
HAS, HESH	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.
- ◆ 夹紧力随导线截面的增加而提高。  
The larger the conductor the higher the clamping force.
- ◆ 安装状态下可从接线侧进行检测。  
From the terminal side for testing installation condition.
- ◆ 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

- HK6/6
- HK6/12
- HK8/0



- ◆ 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	
HK6/6	16-35	5-2	13-14
HK6/12	2.5-10	13/-1	8-9
HK8/0	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 (Ø) Tightening torque [Nm]	拧紧力矩 (Ø) 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 x 2.5
M3	螺钉端子 Screw terminal HA-010/HA-016	0.50	0.40	0.5 x 3.5 or ± size 1
M3	螺钉端子 HE, HVAE 定位及固定用 Screw terminal HE, HVAE fixing screws of all kinds, guiding pins and bushes	0.50	0.40	0.5 x 3.5
M4	接地端子螺钉 Ground terminal HA, HE, HD, HDD	1.20	0.90	0.5 x 3.5 or ± size 1+2
M4	端子块 Terminal blocks HSB	1.20	0.90	0.8 x 4.5
M5	接地端子螺钉 Ground terminal HSB	2.00	1.40	0.8 x 4.5 1.2 x 8.0

## M 制接头选型指南 Joint selection guide

适用于标准电缆的 M 制接头规格 Standard for M connector for standard cable

请注意您选择的 M 制电缆接头的压接范围 Please note that the pressure range of the M cable connector you choose

线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
0.5 mm <sup>2</sup>	4	6.7 - 9.7	16	20
AWG 20	6	7.6 - 10.6	16	20 16
	10	9.4 - 12.8	16	20 16 25
	16	10.7 - 13.9		20 16 25
	24	13.5 - 16.7		16 25 32
	35	16 - 18.6		25 32
	40	16.6 - 19.2		25 32
	61	20.3 - 23.1		32

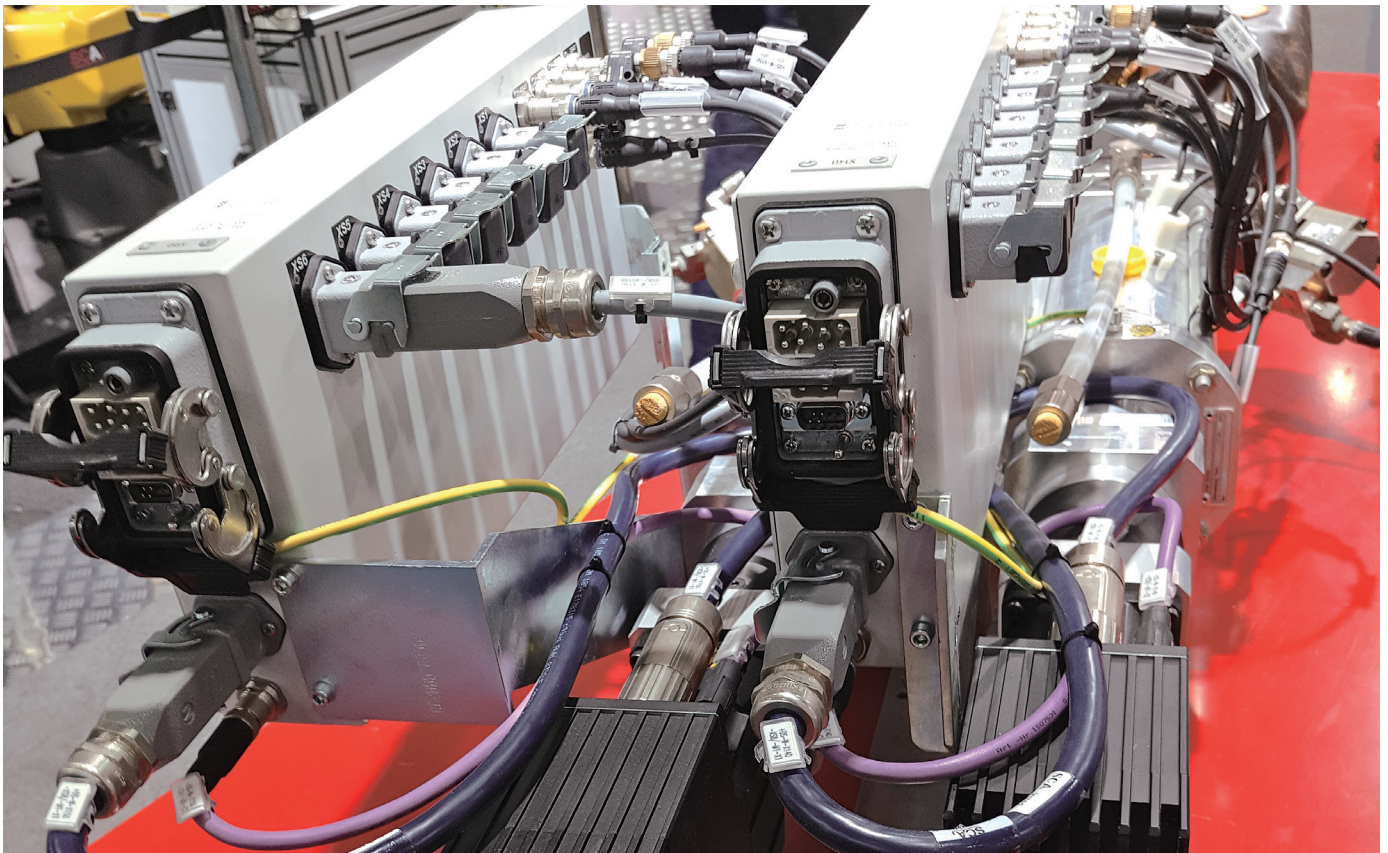
线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
1.5 mm <sup>2</sup>	4	9.7 - 11.8	16	20 25
AWG 16	6	10.8 - 14.2		20 25
	11	13.6 - 16.8		25 32
	16	15.8 - 18.4		25 32
	25	20.2 - 23		32 40
	32	23.8 - 24.5		40
	42	25.8 - 29		40
	61	28.6 - 31.8		40

线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
0.75 mm <sup>2</sup>	4	7.9 - 10.3	16	20
AWG18	6	8.9 - 12.3	16	20 25
	10	10.4 - 13.8		20 25
	18	13 - 16.2		25 32
	25	15.9 - 18.5		25 32
	32	17.1 - 19.7		25 32
	40	19 - 21.4		32 40
	50	21.3 - 24.1		32 40
	61	22.6 - 25.4		40

线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
2.5 mm <sup>2</sup>	4	11.7 - 14.4	20	25
AWG 12 - 14	6	13.3 - 16.7		25 32
	11	18 - 20.6		25 32 40
	16	20.6 - 23.4		32 40
	25	26.4 - 29.6		40 50
	34	31.3 - 33.1		40 50
	50	37 - 39.4		50
	61	39-41.5		50

线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
1 mm <sup>2</sup>	4	8.4 - 10.7	16	20
AWG 16 - 18	6	9.2 - 12.6	16	20 25
	10	11 - 14.4		20 25 32
	16	13 - 16.2		25 32
	24	16.5 - 19.1		25 32 40
	34	19.4 - 21.8		25 32 40
	48	22 - 24.8		32 40
	61	24.5 - 27.2		32 40

线径 Wire gauge	芯数 Pole	电缆直径范围φ Wire diameter	M 制带多层密封圈接头 Multiple seal joint	
4 mm <sup>2</sup>	2	10.7 - 14.1	20	25
AWG 10 - 12	4	13 - 16.4		25 32
	5	14.3 - 17.7		25 32
	7	16.2 - 19.6		25 32
	11	approx. 24.5		40



# 订购说明 HOW TO ORDER

订购一个完整的连接器时应包含如下零件:

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

## 1 接插件公插 Male insert

公插体接线形式有: 螺钉压接、冷压接、弹片压接形式、轴向螺栓压接  
Male insert with screw terminal / crimp terminal / spring terminal / rolled contacts terminal / axial screw terminal/rapid terminal

## 2 接插件母插 Female insert

母插体接线形式有: 螺钉压接、冷压接、弹片压接形式、轴向螺栓压接  
Female insert with screw terminal/crimp terminal/spring terminal/rolled contacts terminal/axial screw terminal/rapid terminal

## 3 防护外壳上壳 Hoods

形式有: 低或高结构, 侧面或顶部进线、2 或 4 耳、单或双扣形式  
Hoods with low or high construction, side or top cable entry, 2 or 4 bolts, 1 or 2 locking levers.

## 4 底座 Housings

形式有: 开孔安装底座、带或不带保护盖、单扣或双扣形式。表面安装底座: 低结构或高结构、带或不带保护盖、2 或 4 耳、单或双扣、1 或 2 个出线孔形式  
Bulkhead mounting housings with or without protection cover, 1 or 2 locking levers. Surface mountings with low or high construction, with or without protection cover, 2 or 4 blots, 1 or 2 locking levers, 1 or 2 cable entries.

## 5 电缆接头进线保护 Cable entry protection

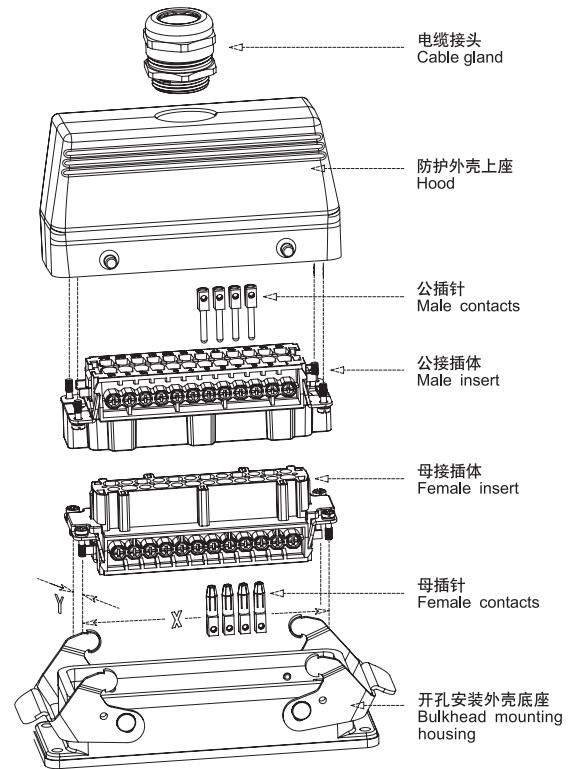
金属或塑料电缆接头 Metal or plastic cable glands  
金属或塑料软管接头 Metal or plastic hose glands  
特殊电缆保护附件 Special cable entry protection or extensive range of accessories.

## 其它附件 Accessories

各种类型的保护盖、编码销、导轨安装框架等  
Protection cover available, code and guide pins for coding. Inserts fixing screws for use without hoods and housings.

## 上壳和底座对应名称 The name of the hood and housing

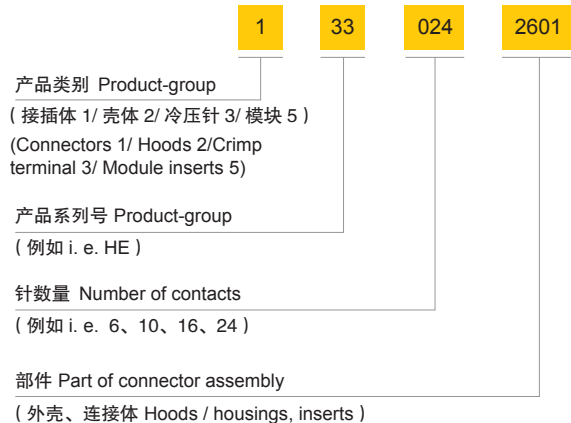
上壳 Hood			
两耳上壳 Hood with 2 levers		四耳上壳 Hood with 4 levers	
TS-RO	侧面出线, 低结构 Side-entry, Low construction	TS	侧面出线, 低结构 Side-entry, Low construction
TG-RO	顶部出线, 低结构 Top-entry, Low construction	TG	顶部出线, 低结构 Top-entry, Low construction
TSH-RO	侧面出线, 高结构 Side-entry, High construction	TSH	侧面出线, 高结构 Side-entry, High construction
TGH-RO	顶部出线, 高结构 Top-entry, High construction	TGH	顶部出线, 高结构 Top-entry, High construction
底座 Housing			
单扣底座 Housing with 1 levers		双扣底座 Housing with 2 levers	
AG-LB	开孔安装底座 Bulkhead mounting	AG	开孔安装底座 Bulkhead mounting
AD-LB	开孔安装带盖底座 Bulkhead mounting cover	AD	开孔安装带盖底座 Bulkhead mounting cover
SGR-LB	表面安装底座, 低结构 Surface mounting, Low construction	SGR	表面安装底座, 低结构 Surface mounting, Low construction
SDR-LB	表面安装带盖底座, 低结构 Surface mounting cover, Low construction	SDR	表面安装带盖底座, 低结构 Surface mounting cover, Low construction
SGRH-LB	表面安装, 高结构 Surface mounting, High construction	SGRH	表面安装, 高结构 Surface mounting, High construction
SDRH-LB	表面安装带盖底座, 高结构 Surface mounting cover, High construction	SDRH	表面安装带盖底座, 高结构 Surface mounting cover, High construction
其它上壳 Other hood			
TSB	侧面出线上壳带双扣, 低结构 Side-entry, double locking lever, Low construction		
TGB	顶部出线上壳带双扣, 低结构 Top-entry, double locking lever, Low construction		
TSBH	侧面出线上壳带双扣, 高结构 Side-entry, double locking lever, High construction		
TGBH	顶部出线上壳带双扣, 高结构 Top-entry, double locking lever, High construction		
其它底座 Other housing			
TBF	电缆对接下壳带双扣, 低结构 Cable to cable coupling, double locking lever, Low construction		
TBF-LB	电缆对接下壳带单扣, 低结构 Cable to cable coupling, single locking lever, Low construction		
TBFH	电缆对接下壳带双扣, 高结构 Cable to cable coupling, double locking lever, High construction		
TBFH-LB	电缆对接下壳带单扣, 高结构 Cable to cable coupling, single locking lever, High construction		



## 订货号说明 Our computerize ordering system uses the following code

为了便于数据处理, 订货时采用如下订货方式:

Our computerized ordering system uses the following code:



## 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:

Our computerized ordering system uses the following code:

