

# Heavy Duty Connector Introduction



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- 2、Product Classification
- 3、Characteristics and Quality
- 4、Application Industry and Successful cases
- **5**、**Product Selection elements and advantages**
- 6. Competitors Analysis



# **1.Product Introduction**







# What's this?



**Terminal Blocks** 

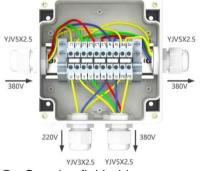


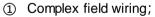
Junction Box ( High protection level)

\*\*\*\*\*



#### Junction box solution





- 2 Require professional skills;
- ③ large size, occupy large space;
- Not easy to move and disconnect, not easy to maintain;
- Complex wires and cables, easy to make mistakes;

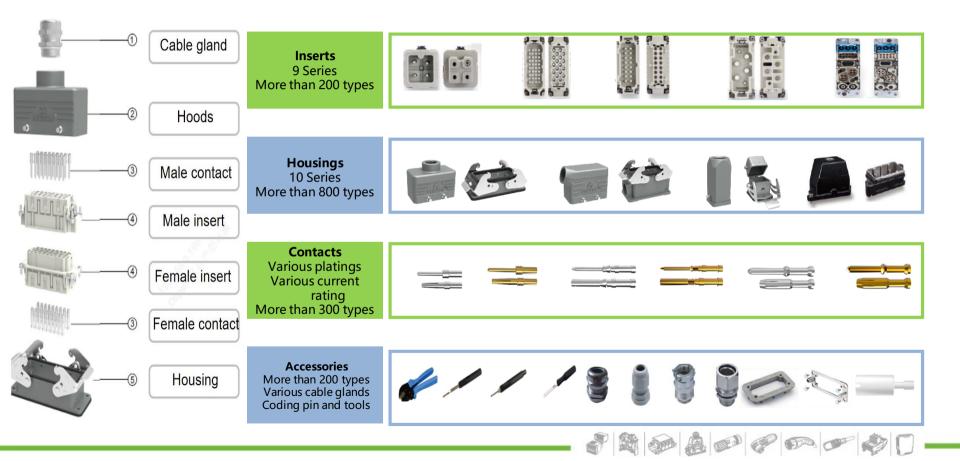


#### Heavy Duty Connector Solutions



- ① Realize in-plant prefabrication, decrease wiring error rate;
- ② Improve the efficiency of equipment installation and save costs;
- Easy wiring, realize modular structure for each function of the equipment, easy to install and maintain;
- High protection(IP65/68) provide effective protection for equipment connection system in harsh enviroments;







# 2、Product Classification



# 1. Heavy-duty DA insert series product introduction

#### **Product Definition**

- The slim inserts
  - ---Suitable for signal, power connection;
  - ---Position range: 3-32 pins;
  - ---Current range: 10~16A;
  - ---Voltage range: 250~400V.

#### Working principle:

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. Features: > Compact and space-saving;

 Various connection methods of screw, shrapnel and cold pressing are available;



#### 1, DA Inserts

DA Pin	3	4	10	16	32
Picture	2 12.				
Rated voltage	400V	400V	250V	250V	250V
Rated Current	10A	10A	16A	16A	16A
Connection method			Screw		
DA Pin	3	4	10	16	32
Picture					
Rated voltage	400V	400V	250V	250V	250V
Rated Current	10A	10A	16A	16A	16A
Connection method	Cage-	spring		Crimp	



# 2. Heavy-duty DD/DDD insert series product introduction Product Definition

> Ultra-high Density Inserts

---Suitable for signal, power connection;

- ---Position range: 7-216 pins;
- ---Current range: 10A;
- ---Voltage range: 250V.



#### Working principle:

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. **Features:** 

- High density pins, up to 216 pins;
- Pins with different wire diameters and coatings are available;
- > Suitable for vibration occasions;



#### 2、DD/DDD Inserts

DD Pin	7	8	15	25	40	50	64	80	128
Picture			Pannis						
Rated voltage					250V				
Rated Current					10A				
Connection method					Crimp				
DDD Pin	24	42	72	108	144	216			
Picture	A COLOR	Report of the second se				U.M			
Rated voltage			25	50V					
Rated Current	10A								
Connection method			Cr	imp					
						- <b>7</b> 120			



# 3. Heavy-duty DE insert series product introduction

**Product Definition** 

- Standard Inserts
  - ---Suitable for signal, power connection;
  - ---Position range: 6-48 pins;
  - ---Current range: 16A;
  - ---Voltage range: 500V.



#### Working principle:

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. Features:

- Screws, shrapnel, cold pressing and in-line connection
   are optional;
- > High industry versatility;



#### 3、DE Inserts

DE Pin	6	10	16	24	32	48
Rated voltage			50	00V		
Rated Current				5A		
Screw	Exe S Bow territed	Sover saminal	Cost Sential	Rose tem hal	Exercise lemina	Crass Seas lembal
Crimp	Xe西在来 Comp sentral	Attack Other lambd	X856 K Compleminal	Chip kimbal	Affield Service	A DESS Chrysement
Cage-clamp	HHES Cap-dame	Birdas Gardan	SHAESE Capitality of the state of the state	SH255 Copedarp	SHES Capitality	Skylada Gege-durp



# 4. Heavy-duty DEE insert series product introduction Product Definition

- High-density Inserts
  - --- Suitable for signal, power connection;
  - ---Position range: 10-92 pins;
  - ---Current range: 16A;
  - ---Voltage range: 500V.



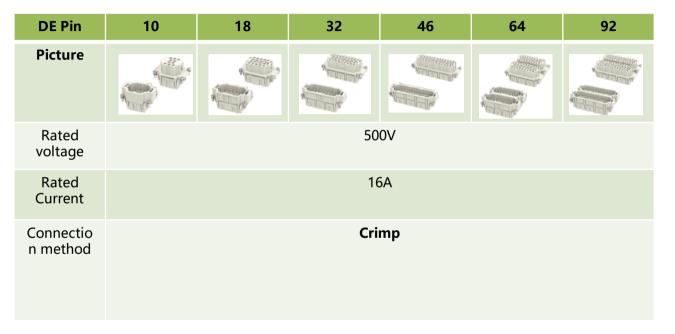
#### Working principle :

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. **Features:** > High-density pins, saving installation space ; > Pins with different wire diameters and coatings

- are available ;
- > Suitable for vibration occasions ;



#### 4、DEE Inserts





# 5、Heavy-duty DQ insert series product introduction Product Definition

> Compact low profile Inserts

--- Suitable for signal, power connection;

- ---Pin number range : 2-17 Pin;
- --- Current range : 10~40A;
- --- voltage range : 250~690V.



#### working principle:

After the wires are connected, the corresponding housings are matched, and I the plug and the plug move toward each other to realize the connection and intercommunication of the multi-core wires of the two connectors, and transmit signals, power or data. Features: > High-density pins, saving installation space; Pins with different wire diameters and coatings can be selected;



#### 5、DQ Inserts

DQ Pin	2	2	5	7	12
Picture					
Rated voltage	830V	400V	400V	400V	400V
Rated Current	40A	40A	16A	10A	16A
Connection method	Scr	ew		Crimp	
DQ Pin	8	17	4/2		
Picture	1				
Rated voltage	500V	250V	690V/400V		
Rated Current	16A	10A	40A/10A		
Connection method		Crimp			
			er 18		



# 6. Heavy-duty DSB insert series product introduction Product Definition

- > High current type Inserts
  - --- Suitable for signal, power connection;
  - --- Pin number range : 6-12 Pins;
  - --- Current range : 35A;
  - --- voltage range : 400~690V.



#### Working principle :

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. Features: Screw connection without special

tools;



#### 6、DSB Inserts

DSB Pin	6	12
Picture		
Rated voltage	500	V
Rated Current	16	A
Connection method	Scr	ew



# 7、Heavy-duty DK insert series product introduction **Product Definition**

#### **Combined Inserts**

--- Suitable for signal, power connection;

---- Pin number range: 8/24,4/0,4/2,12/2

Pins;

- --- Current range : 10~100A;
- --- voltage range : 250~690V.



Working principle :

After the wires are connected, the corresponding housings are matched, and the plugs and the sockets are mutually matched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. Features: > The combination of power and signal area saves costs;Small space to achieve strong and weak electrical connection;



#### 7、DK Inserts

DK Pin	8/24	4/0	4/2	12/2
Picture		AND DE LE CARA	AND DESCRIPTION OF THE OWNER OWNER OF THE OWNER	A annual for
Rated voltage	400V/250V	690V	690V/400V	690V/250V
Rated Current	16A/10A	80A	80A/16A	40A/10A
Connection method	Crimp	Screw	Screw	Crimp



# 8、Heavy-duty DM insert series product introduction Product Definition

- Modular Inserts
  - --- Suitable for signal, power connection;
  - --- Pin number range : 1-25 Pins;
  - --- Current range : 1~200A;
  - --- voltage range : 50~1000V.



#### Working principle :

After the wires are connected, the corresponding housings are matched, and the plug and the plug move toward each other to realize the connection and intercommunication of the multi-core wires of the two connectors, and transmit signals, power or data. Features: Modular structure, free combination, high flexibility;



#### 8, DM Inserts

DM Pin	1 pin	2 pin	2 pin	2 pin	2 pin	3 pin	3 pin	³∕₄ pin	4 pin	5 pin
Picture			ŝ ŝ							
Rated voltage	1000V	1000V	1000V	1000V	1000V	690	500V	830V	830V	400V
Rated current	200A	100A	70A	40A	40A	40A	40V	40/10A	40A	16A
Connection method	Screw	Screw	Screw	Screw	Crimp	Screw	Crimp	Crimp	Crimp	Cage- clamp
DM Pin	6	6	8	12	17	20	25	D-Sub	RJ45	empty module
Picture										
Rated voltage	500V	830V	400V	250V	160V	500V	50V	50V	50V	/
Rated current	16A	16A	16A	10A	10A	16A	4A	5A	1A	/
Connection method	Crimp							/	/	

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# 9、Introduction of Heavy Duty Hoods&Housing Series Product Definition

IP65 protective hoods&housings



#### Working principle :

After the wire is connected to the plug body, it is installed in the upper shell and the base respectively, and is fixed and protected by means of locks, etc. At the same time, it can be used for opening, surface installation and cable docking. Features:

> Metal or high-strength plastic material,

- resistant to high-strength mechanical
- shock;



#### 9. Introduction of Heavy Duty Hoods&Housing Series

Inserts and Hoods&Housings Intermatch Table

$\searrow$	芯件及DM活动框架								
外壳类型	DA	DD	DDD	DSB	DE	DEE	DQ	DK	DM 活动框架
D3A	DA-003、 DA-004	DD-007、 DD-008					DQ-005、 DQ-007、 DQ-012		
D10A	DA-010	DD-015							
D16A	DA-016	DD-025							
D32A	DA-032	DD-050							
D6B			DDD-024		DE-006	DEE-010			DF6B
D10B			DDD-042		DE-010	DEE-018		DK-8/24	DF10B
D16B		DD-040	DDD-072	DSB-006	DE-016	DEE-032		DK-4/0、 DK-4/2、 DK-12/2	DF16B
D24B		DD-064	DDD-108		DE-024	DEE-046		DK-4/8 DK-8/0	DF24B
D32B		DD-080	DDD-144	DSB-012	DE-032	DEE-064			
D 48B		DD-128	DDD-216		DE-048	DEE-092			
	DM活动框架:1、DF6B:可安装两个标准模块;2、DF10B:可安装三个标准模块;3、DF16B:可安装四个标准模块;4、DF24B:可安装六个标准模块;6、普通单个DM芯件所需安装空间为一个标准模块空间(DMK7-002、DMK-003、MK-003/4、DMK-004、DVME-006、DME-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006、DMEE-006								



# 9、Hoods

**Hoods classification** 

# Shell size / structure height / hole size / hole direction / locking method



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# 9. Housings

Housing classification

#### Shell size/installation method/protective cover/locking method







# 10、Heavy-duty contact pin series product introduction Product Definition

Product Definition

--- Suitable for signal, power, Data connection;

--- Current range : 5~40A;



#### Working principle :

The wires and pins are crimped, inserted into the corresponding inserts, and the male and female inserts are intermatched to realize the connection and intercommunication of the multi-core wires of the two connectors to transmit signals, power or data. Features: Gold-plated and silver-plated options are available, suitable for different environmental requirements;

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#### **10、Heavy Duty Pin Series Products**





# **11. Heavy Duty Accessories Series Product Introduction** Product Definition



#### working principle :

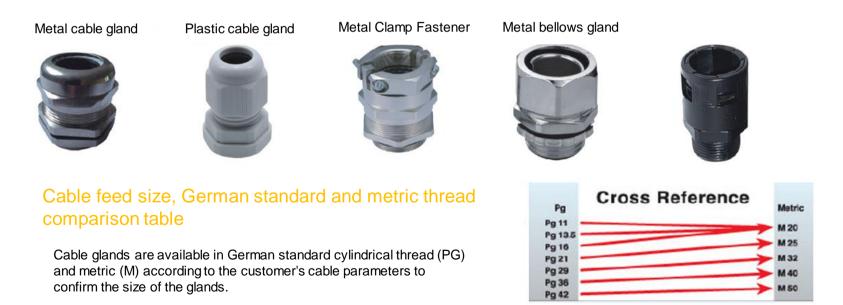
- In the process of assembling heavyduty products, it is used in conjunction with the plug, pin and shell. Features :
- ► Professional design for product features
  - and structure, stable, reliable and
  - efficient;
- > A complete range to meet the different
- needs of customers.



#### 11、Accessory

#### **Gland header**

#### Cable gland fastening method





#### 11、 Accessory

Cold press pliers/needle extractor

Note:

1.There is no need for additional needles for screws, shrapnel and coaxial crimping; 2.For the crimping of the cold pressing needle, the male and female needles that are suitable for the core must be additionally provided;



Crimping tool	Removal tool (10A)	Removal tool (16A)	Removal tool (40A)	
Wire gauge: (TL1)0.14~4.0mm <sup>2</sup>	Matching: DD,DDD,DM	Matching: DEE,DM	Matching: DM	
Wire gauge: (TL2)6.0~10mm <sup>2</sup>	Matching: DD,DDD,DM			



11, Accessory

Туре	Picture	Feature
Rail bracket		Adjustable guide rail bracket, mainly used in the power industry
coding pin		Fool-proof numbering and guidance
Fixed frame		For cabinet-free plug-in

8 8 6 6 P P P P P



# 3、Characteristics and Quality

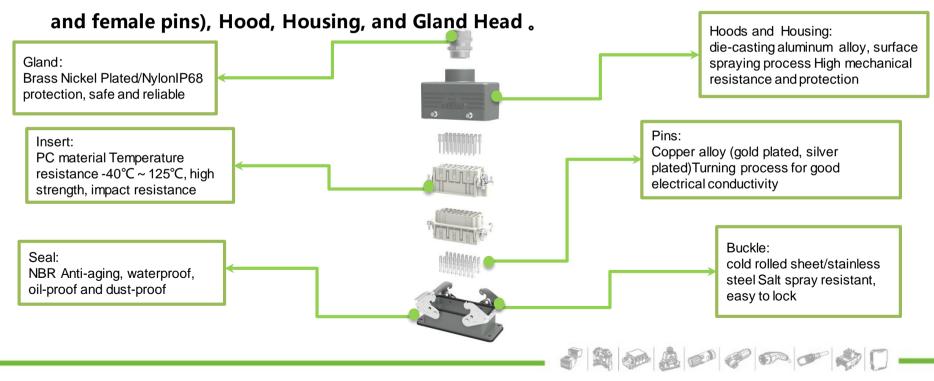




#### 3、Heavy Duty Product Features and Quality

1、product structure

Heavy-duty connectors are mainly composed of male and female inserts (matching male





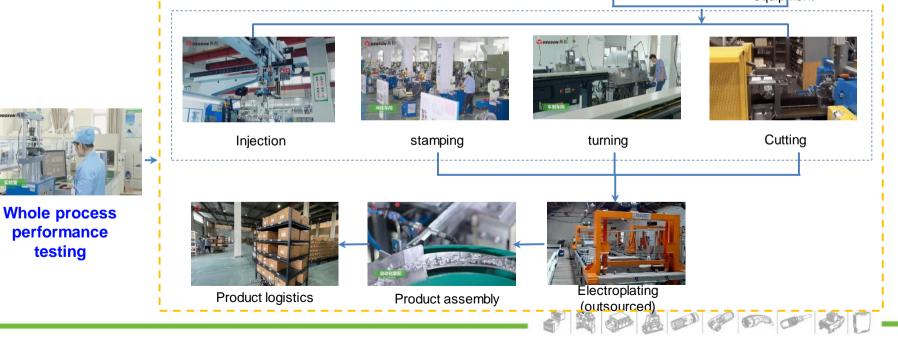
- 3. Product Features and Quality
- 2、Product manufacturing process



Mold processing



automation





#### 3. Product Features and Quality

#### 3、Product Certification and Testing Standards

	Certification s		
Test classification	Test items	Testing purposes	IEC61984 /
Mechanical performance test	Static pull test	Test the reliability of the product's wiring in a static environment	•
	Spin pull test	Test the reliability of the product's wiring in a dynamic environment	•
	Impulse withstand voltage test	Test the insulation ability of the product under specific conditions to prevent breakdown at the customer	•
Electrical performance test	Temperature rise test	Test the degree of temperature rise of the metal conductor when the product is used normally through the rated current to ensure the safety of the customer during use	•
	Current carrying capacity test	Detect the reliability of the terminal carrying large current in a short time, and test the safety of current operation	•
Environmental performance test	Corrosion resistance test	Inspect whether the product will be oxidized and rusted in a harsh environment, which will affect the performance of the product	•
	High and low temperature test	Inspect whether the product will be damaged in a high and low temperature environment, which will affect normal use	•



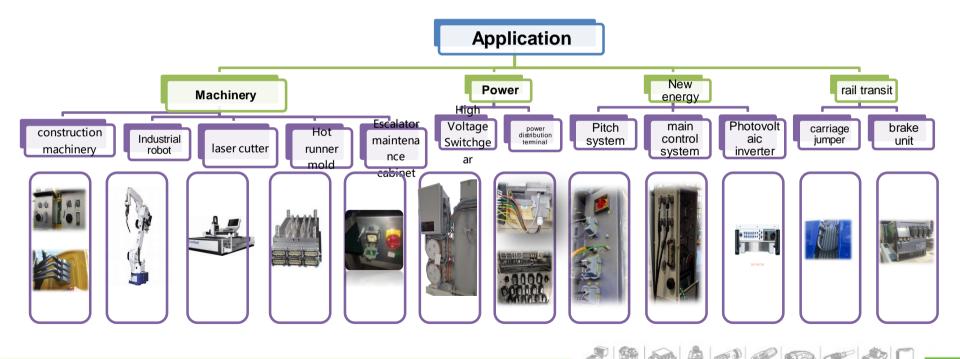
## 4. Application Industry and Successful cases





#### 4、Product Application

## Heavy-duty products are mainly used in four major fields: machinery manufacturing, electric power, energy, and rail transit.





#### **Industrial robot**

**Features:** For those high repeated、exhausting、 dangerous、in harsh environments work types, the demand for robots increase rapidly;

**Application Scenarios:** Transport, stack, painting, sodering, assembly ,servo systems and control systems for industrial robots;

#### Product used:

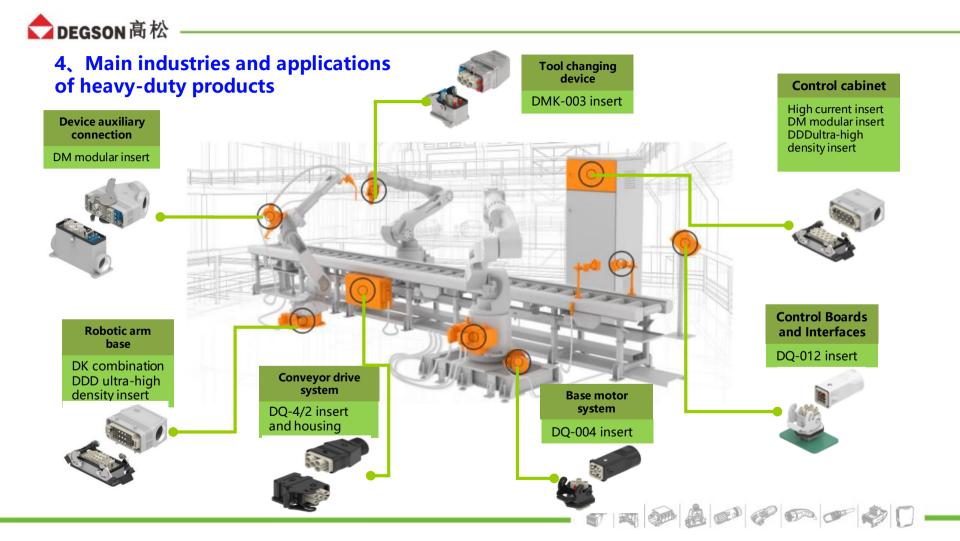


Ultra High Density Series

Modular combination series

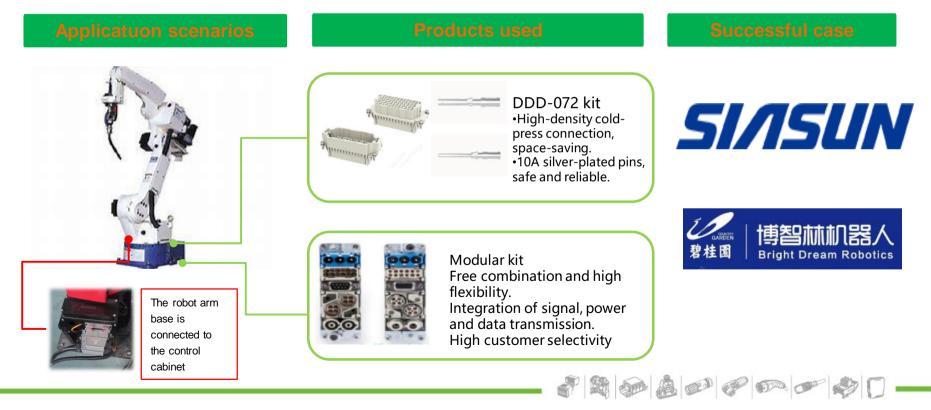


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Industry solutions-Industrial robot arm





#### **Elevator**

**Features:** Suitable for harsh environments, easy to transport,

ease of installation and maintenance, and reduced costs.

**Application Scenarios:** Inverter control system of elevator, system control cabinet and control station of escalator, on-site commissioning and maintenance control cabinet;

Products:



**Standard series** 

**Combination series** 





#### 4. Main industries and applications of heavy-duty products Industry solutions-Escalator switch examine and maintain cabinet







DE-006 Kit IP65 protective housing. Screw connection for easy operation. Base with PCB board for shorting function.

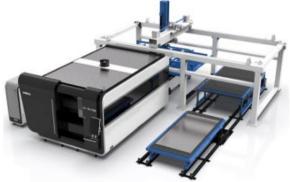




#### Machine-tooling equipment

**Features:** Multiple prefabricated cables connected through walls;

**Application Scenarios:** System control cabinets; conveyor systems.





**Products:** 



Ultra-high density series

Standard series

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#### 4. Main industries and applications of heavy-duty products Industry Solutions - Tower Crane Driver's Cabin Control Cabinet



equipment connection part



#### **Construction Machinery**

**Features:** Suitable for harsh environments, easy to transport, convient for installation and maintenance, and reduced costs.

**Application Scenarios:** Lighting system, engine and gearbox, electrical control box, main control system, traction system.







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**Products:** 

**Standard series** 

**Combination series** 

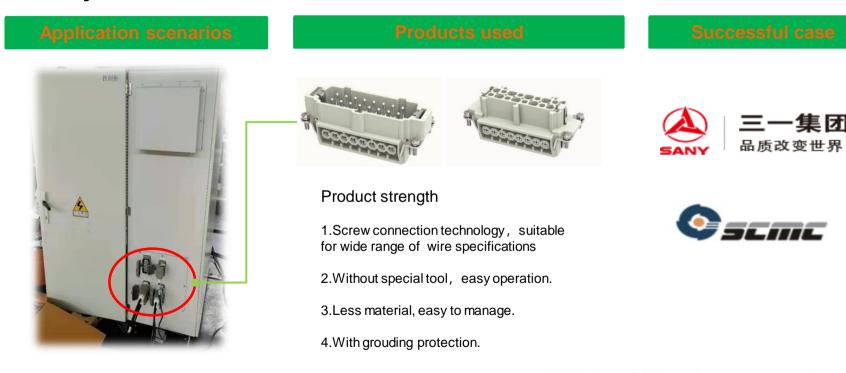




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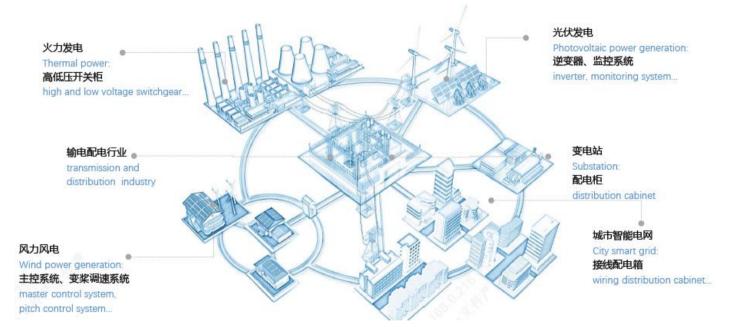


#### 4. Main industries and applications of heavy-duty products Industry Solutions - Tower Crane Driver's Cabin Control Cabinet



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#### **Power Generation**

**Features:** Long construction cycle, large investment scale for transmission and distribution, and in many countries power business should be authorized by government.

**Application Scenarios:** GIS high voltage cabinet, wind power slip ring, pitch system, etc.





Ultra-high density High density



Module combination



High-protection housing



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#### 4. Main industries and applications of heavy-duty products Industry Solutions-Electricity GIS High Voltage Switchgear

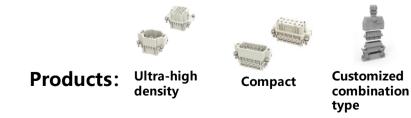
| Application scenarios  | Products used                                                                                                                                                                                        | Successful case |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| <image/> <text></text> | <ul> <li>I.DEE-032 Kit</li> <li>I.P65 protection level</li> <li>Stainless steel clips<br/>salt spray 72H</li> <li>Cold press connection</li> <li>With excellent shock</li> <li>resistance</li> </ul> |                 |

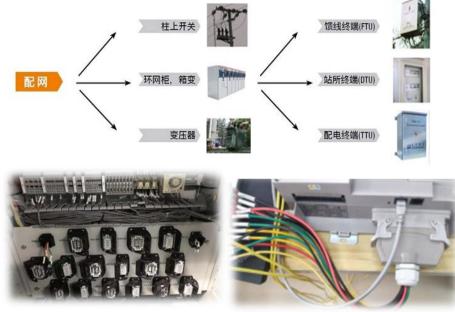


## Power distribution (protection measurement and control)

**Features:** Cable pre-fabrication, saving installation and transportation costs.High protection level, suitable for outdoor, dust, rain harsh environments.

**Application Scenarios:** Distribution Network Automation TerminalDTU/TTU

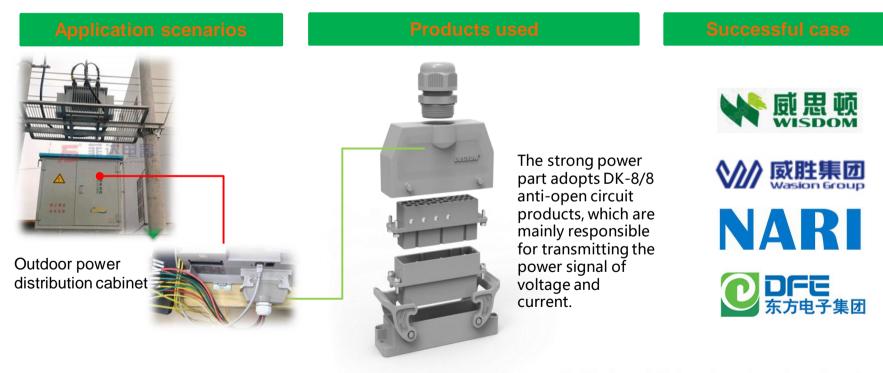


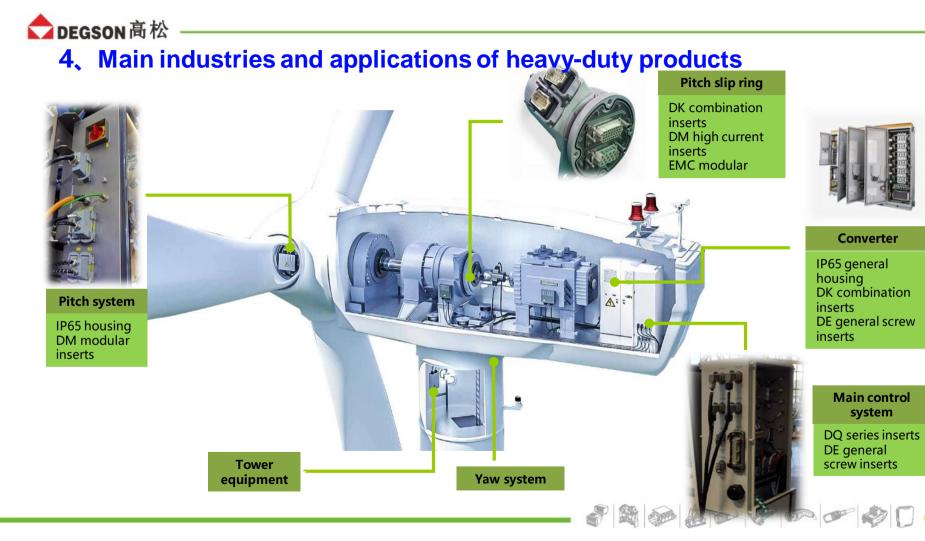


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#### 4. Main industries and applications of heavy-duty products Industry Solutions—Distribution Network Automation Terminal TTU







#### **Rail Transit**

**Features:** The threshold is high, with strict requirements for product. performance quality (high reliability, high anti-interference, antivibration), and the need for relevant certification (IRIS, CRCC)

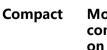
**Application Scenarios:** Pantograph control system, brake unit device, automatic train protection system, locomotive electric control cabinet, carriage jumper train tilting system, carriage air conditioning, door step system...





**Ultra-high** density

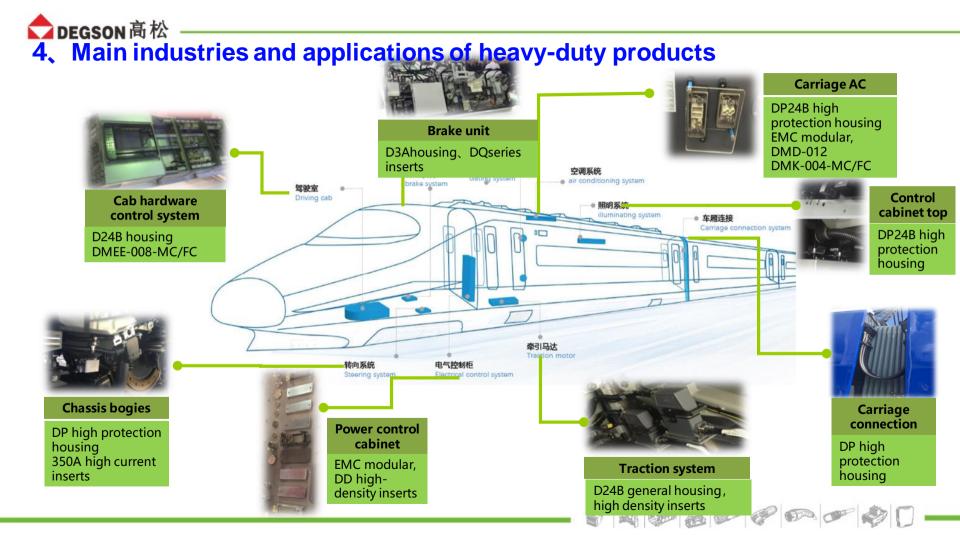




Modular combinati

**Specialized** housing







#### 4. Main industries and applications of heavy-duty products Industry Solutions - Toliet Equipment Connection



APP



### 5、Product Selection elements and advantages

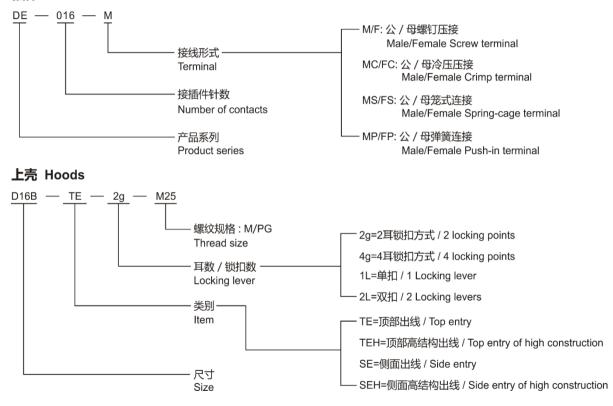






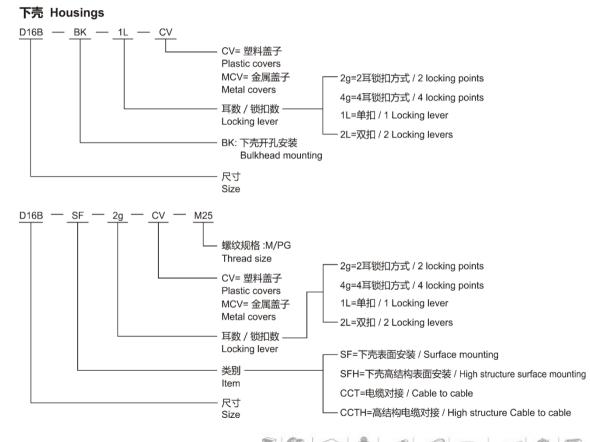
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#### 插体 Inserts





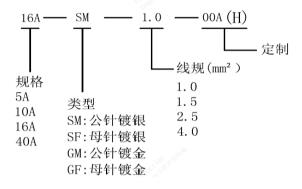








接插针成品编码说明





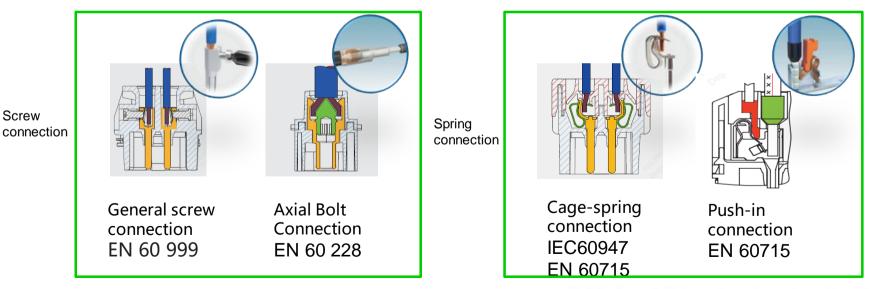
DDL — PG16 M L — — 00A (H) 定制 加长型 1-灰色;2-灰白色;3-绿色 产品型号 4-红色;5-蓝色 DDL(电缆接头) 注:无编号默认黑色 材质 DBL(金属软管接头) 定制品无编号 M:金属 -螺纹规格 DCP(快速软管接头) PG16 P:塑料 M20 M25PG21 M32 PG29

电缆接头成品编码说明(套件)



The following four types of connections include pins and do not require additional pins.

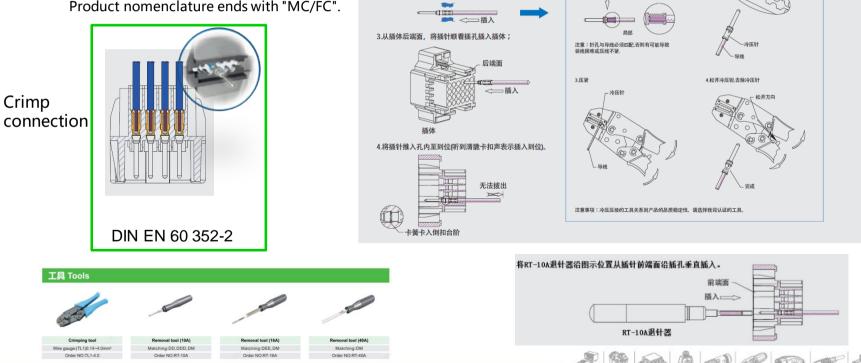
The product naming scheme ends with "M/MS/MP and F/FS/FP".





Crimp connectors include pins, additional pins are required.

Product nomenclature ends with "MC/FC".



1.剥去导线绝缘层,参考剥线长度8mm;

2.将导线插入插针后孔,并用冷压钳铆压;

铆压

冷压针

冷压针压接

1.将导线插入冷压针孔内底部

冷压针

2.将插针插入合适的钳口

钳口

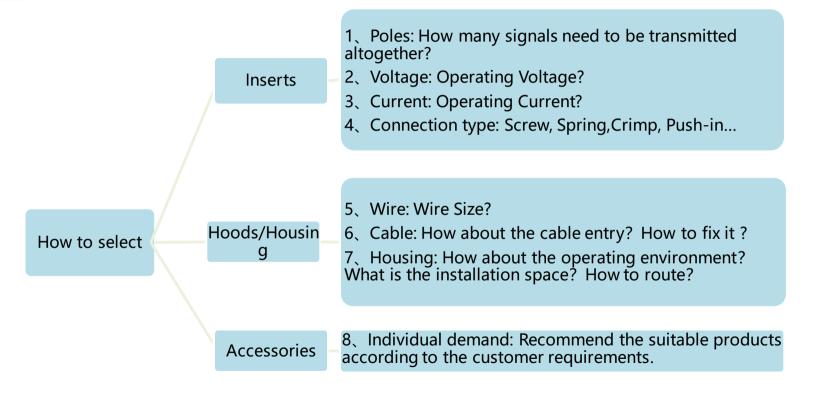
装针步骤







Selection Handbook





#### 5. Advantages of degson (QCDST)

| No. | aspect     | Advantages-contrast to domestic low-end competitors                                                                                                                                                                                     | Advantages-contrast to international high-end competitors                                                                                                                                                                                                                                                                                        | solution                                 |
|-----|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|
| 1   | Quality    | <ul> <li>Consistent quality stability,80% products are achieved automatic assembly;</li> <li>Complete quality control system;</li> <li>Customize the different quality schemes according to customers' special requirements.</li> </ul> | <ul> <li>Perfect quality control points (form control key points through market feedback)</li> <li>Strong quality control ability (familiar with customer application scenarios and rich experience in dealing with problems)</li> <li>Sufficient market verification (involving a wide range of industries and a large market share)</li> </ul> | Quality close to<br>international brands |
| 2   | Price      | <ul> <li>According to the brand positioning, the price is slightly higher than the domestic low-end competitors;</li> <li>The production and operation cost of products is higher than the domestic low-end competitors.</li> </ul>     | <ul> <li>Flexible price(Familiar with competitive products, have universal and upgraded products meet different requirements)</li> <li>Excellent cost control (fully automated production)</li> </ul>                                                                                                                                            |                                          |
| 3   | Delivery   | • The product delivery of civil industry is longer than the domestic low-end competitors.                                                                                                                                               | <ul> <li>With mature market and stable customer support, a good stock mechanism can be formed</li> <li>Stable application and flexible cargo transfer support</li> </ul>                                                                                                                                                                         |                                          |
| 4   | Service    | <ul> <li>Fast response to value-added service;</li> <li>Professional customized service team(sales, PM, technical engineer.</li> </ul>                                                                                                  | <ul> <li>Fast response to value-added service;</li> <li>Professional customized service team(sales, PM, technical engineer.</li> </ul>                                                                                                                                                                                                           |                                          |
| 5   | Technology | <ul> <li>Patent evasion (no patent conflict)</li> <li>80% products of mainstream competitors can be completely replaced.</li> </ul>                                                                                                     | <ul> <li>Patent evasion (no patent conflict)</li> <li>80% products of mainstream competitors can be completely replaced.</li> </ul>                                                                                                                                                                                                              |                                          |



## 6. Competitors Analysis



#### 6. Competitor

| Competi<br>tor | Headquart<br>ers | Product<br>start | Industries                                                                 | Features                                                                                                                                                                                                                                        |
|----------------|------------------|------------------|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HARTING        | Germany          | 1956年            | robots automobiles                                                         | Industry benchmark, complete product line and certification, high brand awareness, high price                                                                                                                                                   |
| Wayne          | Xia men          |                  | Construction Machinery, Electric Power,<br>Industrial Robots, Rail Transit | The product line certification is relatively<br>complete, the domestic brand awareness<br>is relatively high, and the corresponding<br>accessories are complete                                                                                 |
| TE (西霸士)       | Xia me n         | 1998年            | Construction machinery, rail transit,<br>industrial robots                 | As the earliest private enterprise in China,<br>its market share once occupied the top<br>three in China, with a complete product<br>line, and all customers are concentrated<br>in machinery, electric power, elevator<br>and other industries |
| Phoenix        | Germany          | 2006年            | Electricity, wind power                                                    | Relying on its high brand influence<br>and power customer base, it has won<br>a good share in many domestic and<br>foreign power projects.                                                                                                      |



## **THANK YOU!**