



Industry Connectors
Industry Connectors

Quartz heater
Quartz heater

Ceramic Infrared heater
Ceramic Infrared heater

Circular connectors
Circular connectors

Digital signal Tower
Digital signal Tower

Cable assembly
Cable assembly

Heater system Design
Heater system Design

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2019年版

Bridge of Industry 4.0



昕晟曜科技有限公司

Hsin Cheng Yao Technology Co., Ltd



昕忻有限公司

Hsin Hsin Co., Ltd



Let-Win Tech



H.C.Y

Company Profile

Hsin Chang Yao Technology Co., Ltd. is a self established company which is focusing on the sales of connectors and infrared radiator heaters... We have upheld its operating attitudes of being "Customer First, Service First" to meet customers' requirements. In order to increase efficiency and reduce cost, Hsin Hsin Company is established in 2016 as our subsidiary. It has fulfilled the design of customized wire harness and cable assembly implementation and heater equipments systematic integration.

Now, our customers are all over the world, no matter what their size, we will still devote to provide perfect service. With high quality products and excellent service, Hsin Chang Yao will definitely be your best choice.

Business Philosophy

Efficiency • Service • Mutual trust • Responsibility

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Heavy duty connectors system

- Assist to enhance the diversify of automated production processes
- Besides of industrial machine, power facilities, and railway industry, our quality gain the identity from wide range of industries

Specification Table

Series	PIN #	Operating Current	Operating Voltage
HA	3, 4, 10, 16, 32 + PE	10A or 16A	250/400V
HE/HEE	6, 10, 16, 18, 24, 32, 46, 48, 64, 92 + PE	16A	500V
HD/HDD	7, 8, 15, 24, 25, 40, 42, 50, 64, 72, 80, 144, 216 + PE	10A	250V
HSB	6, 12 + PE	35A	690V
HQ	5, 7 + PE	16A	400V
HK/HWK	4/0, 4/2, 4/6, 6/6, 6/12, 6/36, 8/24, 12/2, 3/3/6 + PE	35/16A~100/16A	400/250V~690/690V

Easy for installation

Robot / Industrial Control / HMI / Data Communication
Power Distribution / Production Equipment / Material Treatment / Rail Industry
Motion Driving System / Energy & Electricity Related Equipment / Fixture & Hot-runner Molding



Applications



Heavy duty connectors system – Modular series

Modular Design, New Design, New Patent

Product Easy for Installation

Flexible Design & Assembly, Fulfill all kind of kinematics and signaling integration

Product Manufacturing Specification

VDE 0110 Creepage Distance & Electric Clearanc
VDE 0627 Contact Standard

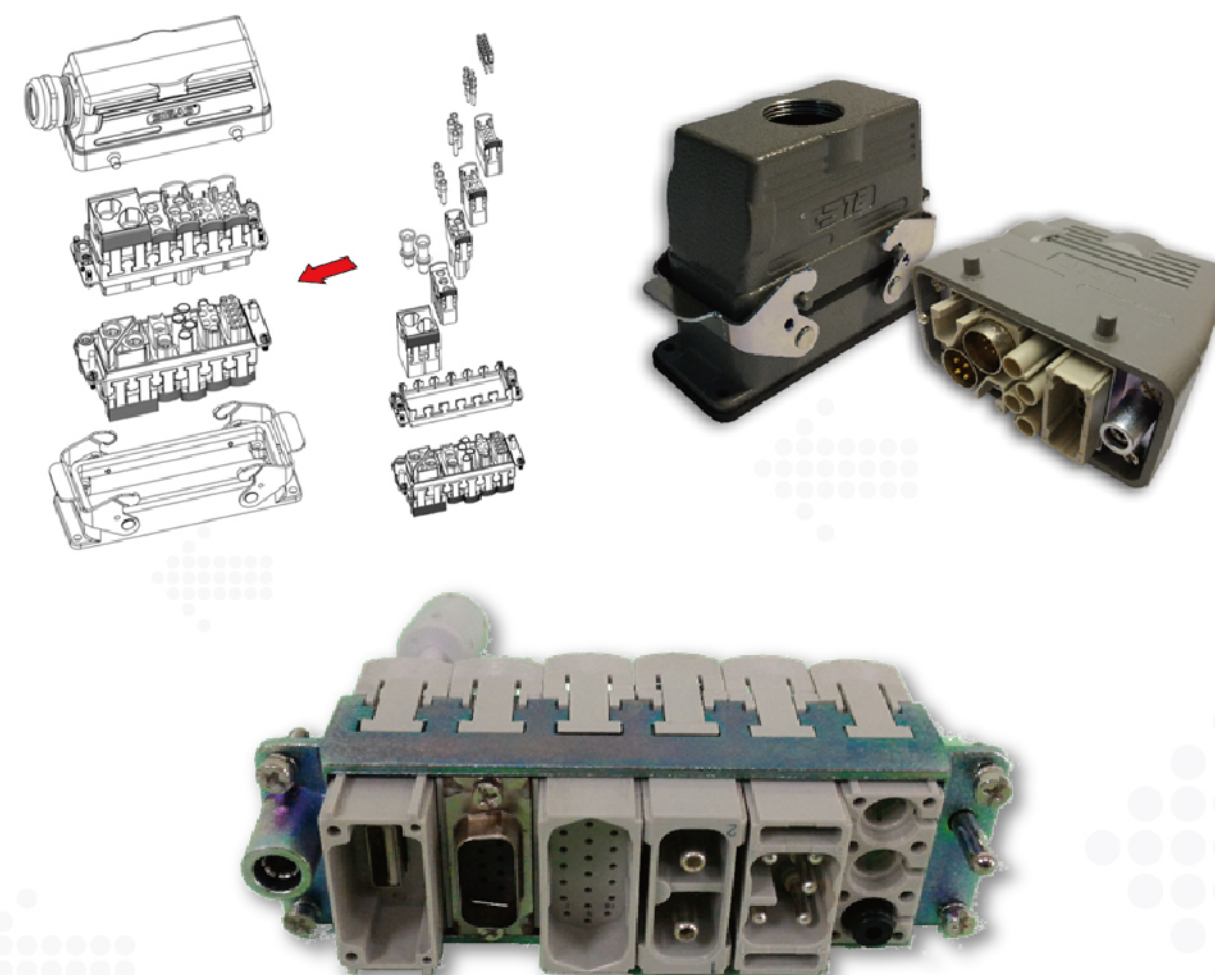
EN Standards

DIN EN 60 664-1
DIN EN 61984

Product Certification



Diversified Combination Module



TE M8/M12 Circular Connector

The series of **TE Connectivity M8/M12** Connector model are suitable for machine industrial automation and control applications which can offer safe and reliable solution also ensure the excellent communication connectivity at industrial environments.

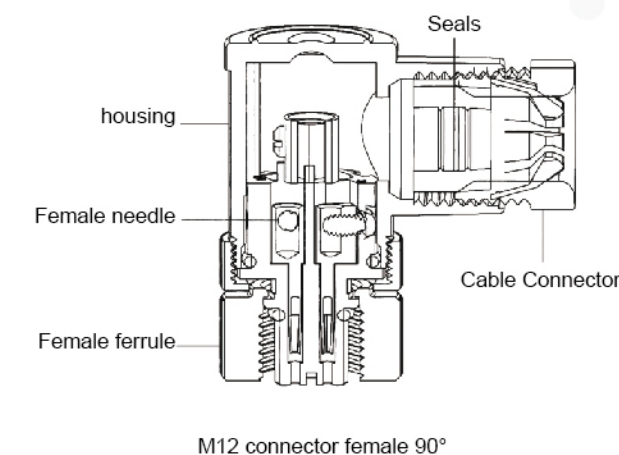
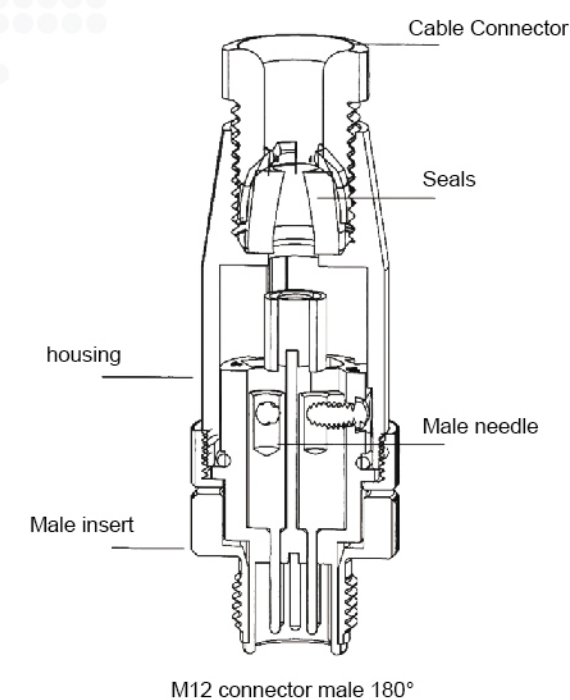
It also finds applications outside of its traditional industries where a compact reliable connection system with environmental protection is required. TE' s solution includes an extensive connector range of PCB headers, cable modules and I/O communication boxes, and provides users that **supports higher bandwidth interface** – which can meet up to 10Gb/s requirement.

TE Connectivity also offers shielded and unshielded **CAT 5e** and **CAT 6A** cable assembly variants. For rewiring on site a range of field serviceable connectors are provided, allowing versatile systems to be quickly, easily and highly reliable established.



Specification Table

Series	Operating Voltage	Operating Current	Pin #	Ingress Protection Level	Thread
M8	30V~60V	1.5A~4A	3, 4, 6	IP65 / IP67	PG7
M12	30V~250V	2A~4A	2, 3, 4, 5, 8	IP65 / IP67	PG7.PG9
M16	60V~250V	3A~7A	3~8, 2	IP67	PG7.PG9



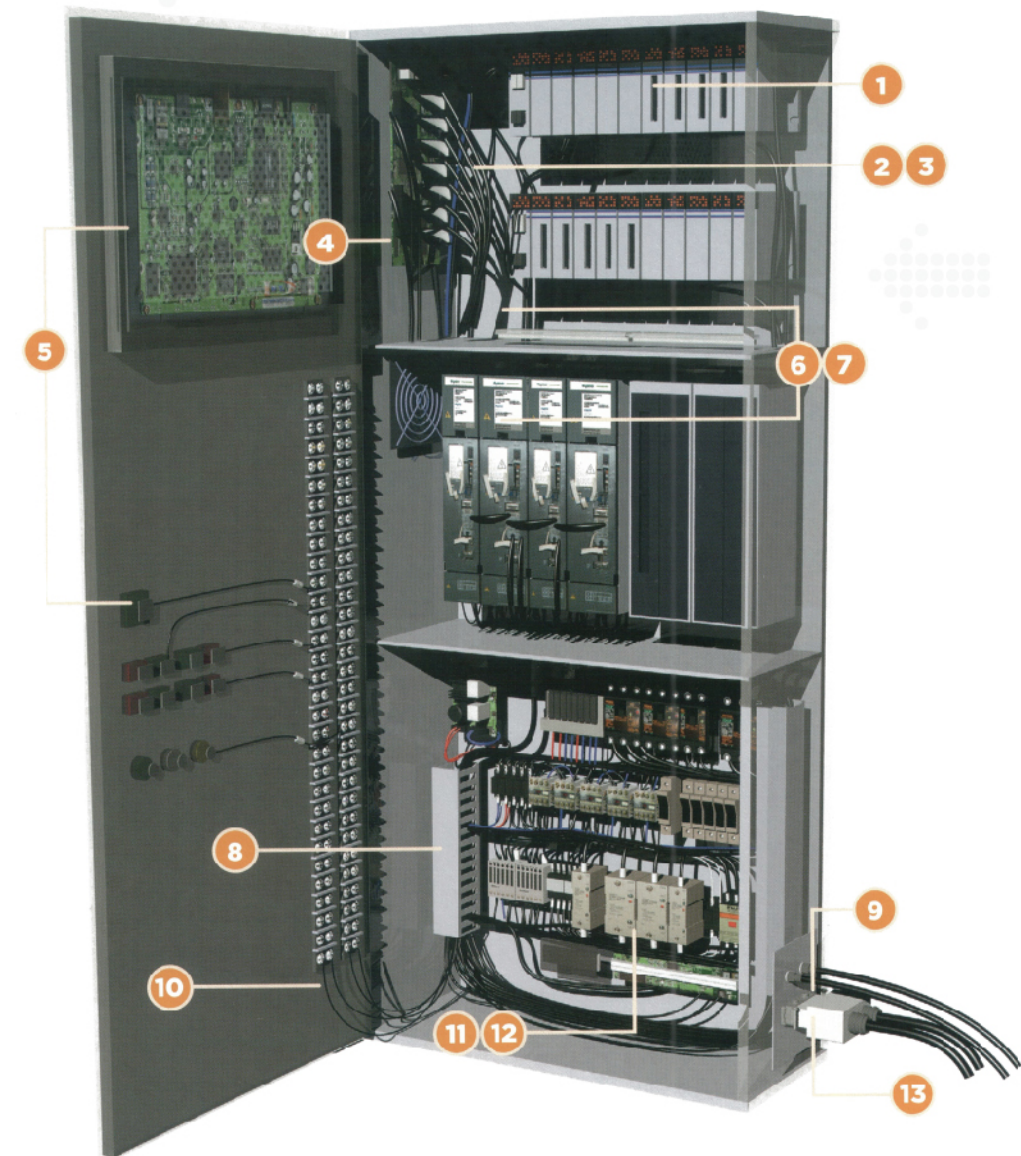
Dynamic Series Connector

FEATURES YOU A BRAND NEW EXPERIENCE FROM THE WORLDWIDE CONNECTOR LEADER - TE connectivity

- Most reliable connector product
- Equipped with Anti-overstress structure I/O
- Highly reliable 3-point contacts used
- I/O has housing suspension fixed design, wasy to plug in & out, no risk of fall out
- Preventing any signal disconnection from vibration or swing movements, both vertical and horizontal type plug-head has fixing mechanism
- Dynamic Series has anti-vibration structure
- All Dynamic Series has mis-insertion preventing mechanism
- To facilitate cable assembly, plug and socket housings will be marked with circuit numbers
- Gold plated and tin plated I/O with high efficiency transmission are available (Combining usage of gold plated and tin plated model is not recommended)



Control Cabinet Applications



No	Application	DYNAMIC Series Product
1	Controller/PLC	D3100 Series
2	Wire to board for power application (up to 15A)	D3100 Series
3	Power Supply board-to-board	DZ5200 Series
4	Power outlet (middle power)	Dynatap 3200
5	Human Machine Interfaces	D1100 Series
6	Wire to board (multi position)	D1100 Series
7	Wire to board for signal application	D1200 Series
8	Wire to board for signal application	D2000 Series
9	Cabinet I/O and power distribution	Dynamic HTS Module
10	Sensor I/O	D1500 Series
11	Wire to board for power application (up to 30A)	D5200 Series
12	Wire to board for power application (up to 20A)	D4200 Series
13	Power outlet (high power)	D7100 Series

Industrial Communications Connector

Networking manufacturing enables seamless communication as well as greater speed and efficiency. In addition to data transfer on the factory floor, information must be shared throughout the entire production environment — beyond the industrial setting and onto desktops.

Safe, Reliable & Efficiency are our continuous pursuit directions

Automation & Control

Today, manufacturing has to be more of everything: **more reliable, more flexible, more automated, more scalable, more centralized.**

At TE Automation & Control, we deliver the innovative solutions to reliable connection, power and control the systems that make production more productive. From the circuit board to the harshest working environments, along the production floor and across the world, we make every connection count.

INDUSTRY 4.0 COUNTS ON CONNECTIVITY





As hardware and systems become more advanced, the integration of electronics in industrial automation is becoming increasingly important. Embedding intelligence across the factory floor, for example, will ensure that all devices provide realtime data leading to an optimization of the Global Supply Chain. On the verge of Industry 4.0, the migration of more information technologies and applications in the field relies on the secure and predictable transport of data, signal and power.

Industrial communications are key to a seamless integration of all devices and to the reliable transport of a large amount of data through the network. TE Connectivity recognizes this trend and our engaged team partner with customers around the world to identify and solve their connectivity challenges—now and in the future.

The unique demands of today' s networked manufacturing facilities count on reliable connectivity solutions to deliver performance—and to do so faster, more economically and within increasingly smaller spaces. Count on TE Connectivity to deliver all this in your most environmentally demanding industrial applications.



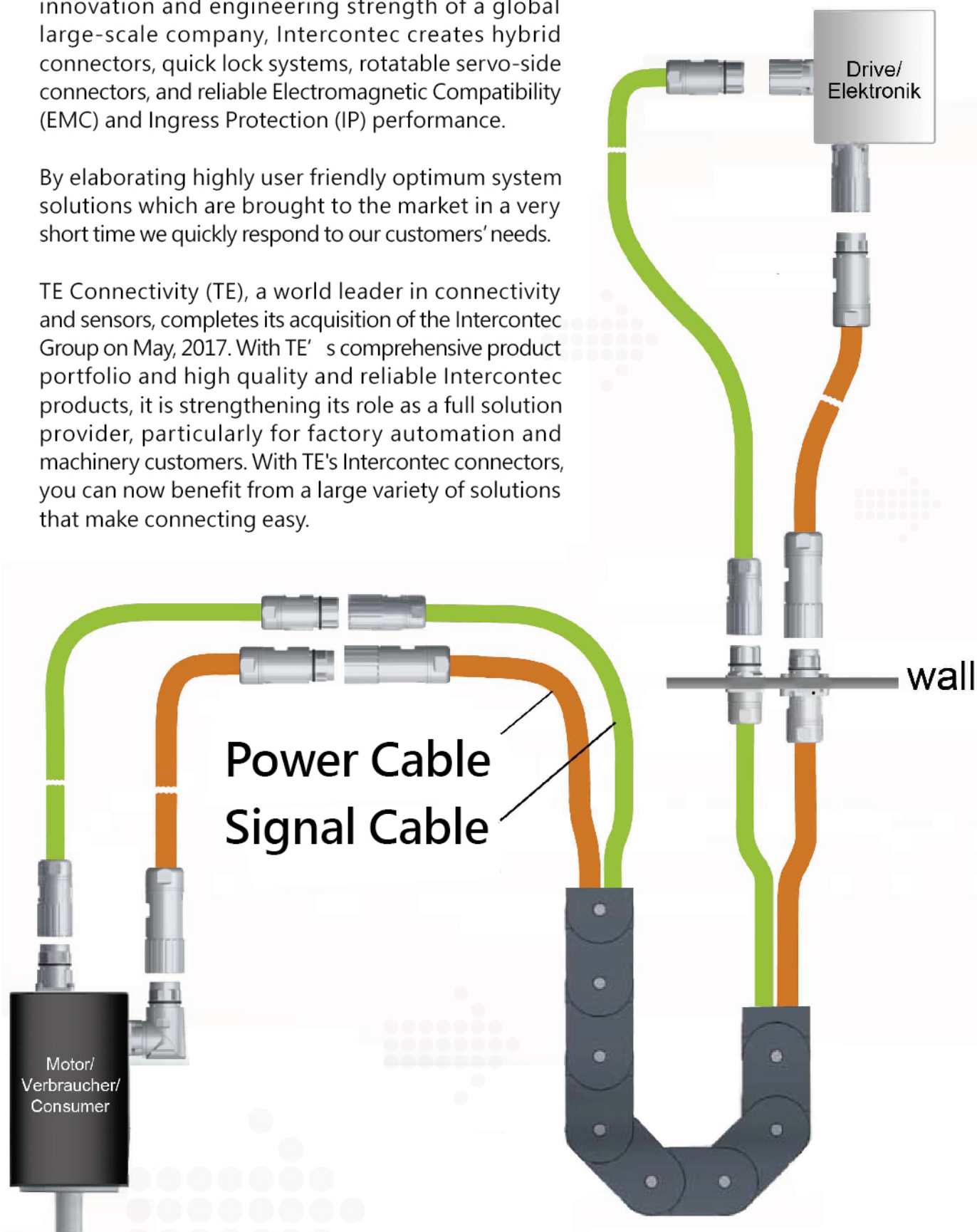
TE Industrial Communications Product

TE Product Model		Connecting Mode		Environment		Housing Accessorizes						Applications		Installation
	Industry Mini I/O	Wire-to-board	Wire-to-line	IP 20	IP 65/67	Metal	plastic	Push and pull	Lock	Screw	1/4 turn	data	signal	Field installation
	I Type	★					★		★			★		★
	II Type	★					★		★			★		★
	Industry RJ45													
	Industrial Ethernet	★		★			★					★		★
	ODVA		★	★	★	★	★				★	★		★
	CPC series	★	★		★	★	★				★	★		★
	Push and pull 14	★	★		★	★	★	★				★		★
	Spiral type	★			★		★			★		★		★
	Industry USB series													
	USB lock IP20	★		★		★	★		★			★		
	Circular		★		★	★	★				★	★		
	M8/M12													
	Panel assembly/ Board assembly	★			★	★	★			★		★	★	
	Y adapter	★	★		★		★			★		★	★	
	Cable assembly	★	★		★		★			★		★	★	
	M8/M12 connectors	★	★		★	★	★			★		★	★	★

Intercontec is a manufacturer of circular metric connectors, founded in 1996 in Germany. Intercontec's innovation and engineering strength of a global large-scale company, Intercontec creates hybrid connectors, quick lock systems, rotatable servo-side connectors, and reliable Electromagnetic Compatibility (EMC) and Ingress Protection (IP) performance.

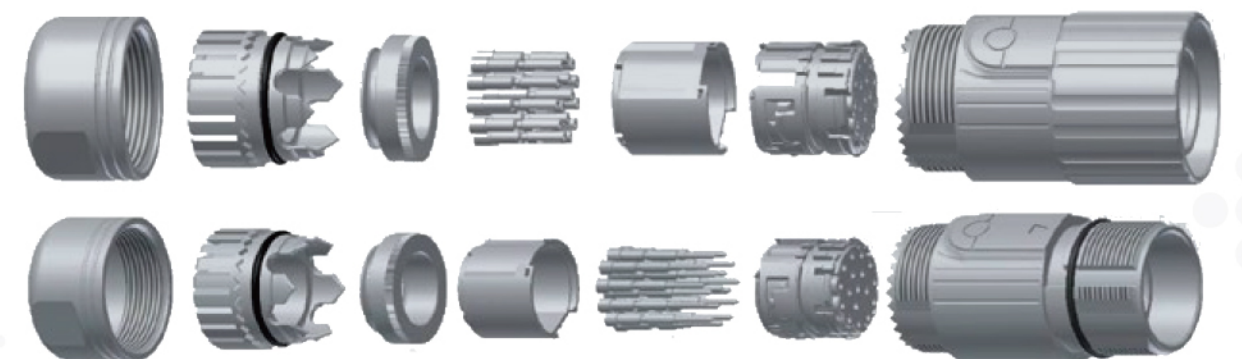
By elaborating highly user friendly optimum system solutions which are brought to the market in a very short time we quickly respond to our customers' needs.

TE Connectivity (TE), a world leader in connectivity and sensors, completes its acquisition of the Intercontec Group on May, 2017. With TE's comprehensive product portfolio and high quality and reliable Intercontec products, it is strengthening its role as a full solution provider, particularly for factory automation and machinery customers. With TE's Intercontec connectors, you can now benefit from a large variety of solutions that make connecting easy.



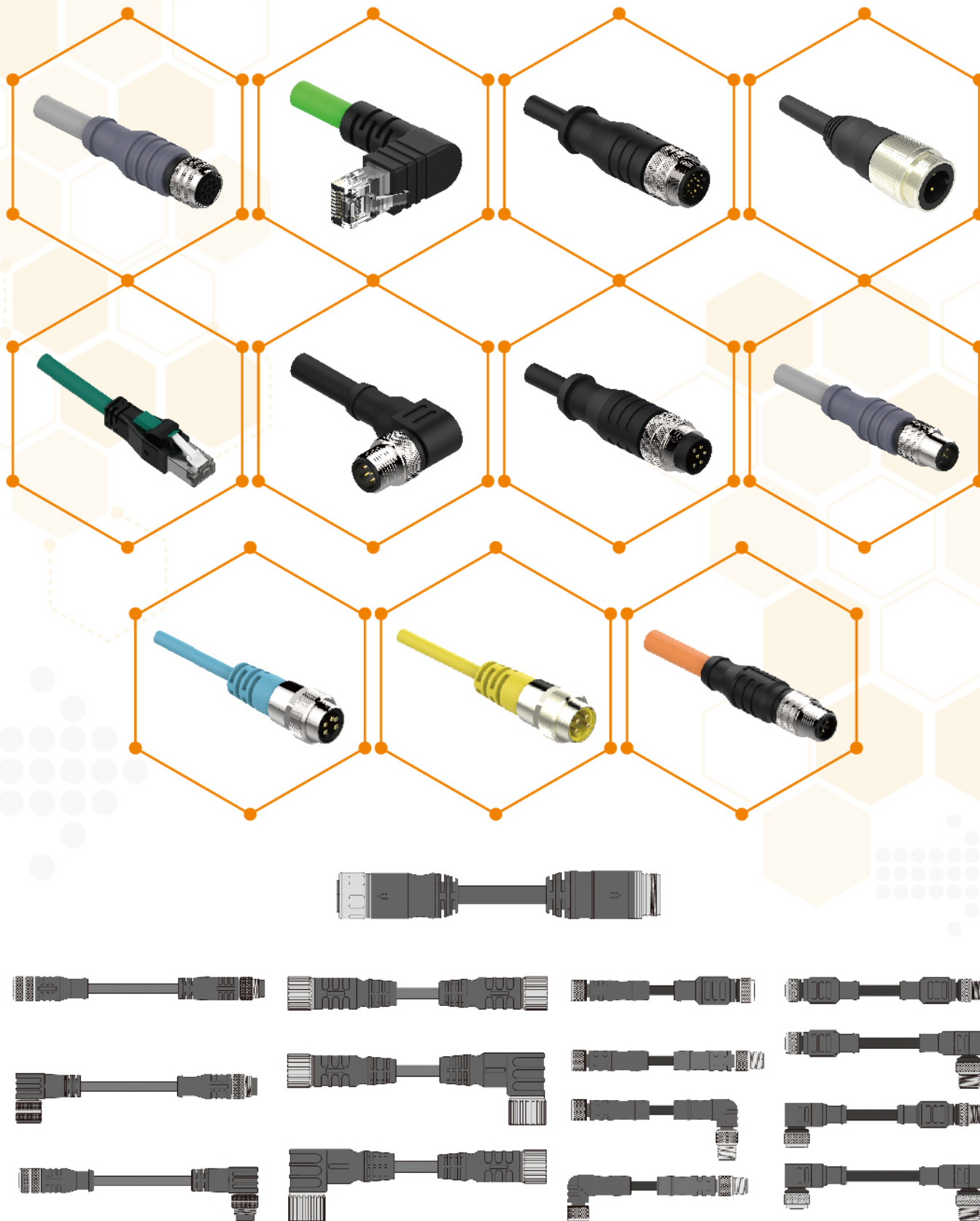
Specification Table

Series	Operating Voltage	Operating Current	Pin #	Ingress Protection Level	Cable Diameter
SINGAL	32V-160V	5A-20A	6-19, 26	IP66-69	3.5-17mm
POWER	63V-630V	6A-200A	1, 4, 6, 7, 8, 9, 12, 15	IP66-69	3.5-36mm
HYBRID	63V-630V	30/1.2A, 25/1.2A, 30/2.4/1A0, 35/2.4/10A	5+6, 5+4	IP66-69	4.4-20mm



Customized Connectors

With complete mould design, it is easily solving the various requirements of connectors. Also, the automatic equipments can achieve the large amount production of wire harness.



GSEE Tech has all various of connectors (M5 to M40) and over 1,000 model of cables to choose.


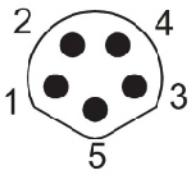
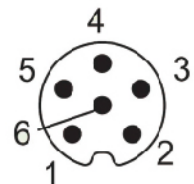
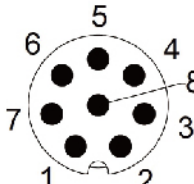


GSEE Tech connectors could meet demand from variety of industrial applications, such as pre-moulding connectors, field wireable connectors, receptacle connectors, splitters and junction boxes.

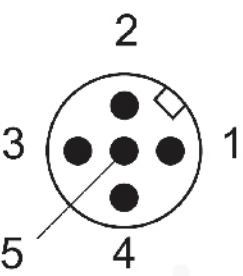
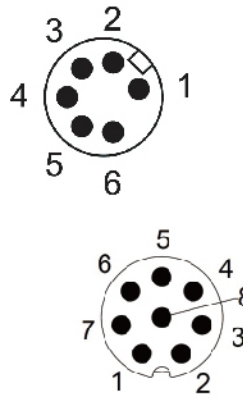
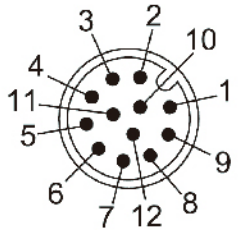
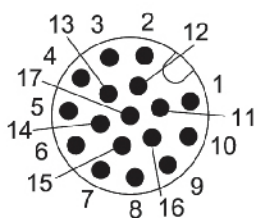
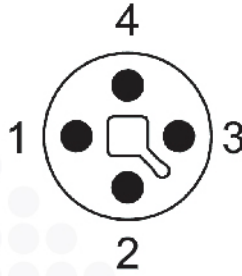
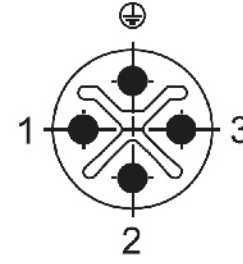
GSEE Tech can provide customer-oriented products to satisfy customers' various requirements with the best overall solutions.

The round connectors of GSEE Tech can widely apply on the automated production equipments in the automotive, packaging and semiconductor industries.

Circular Connector – Precast Type, Bedding End, Cable End

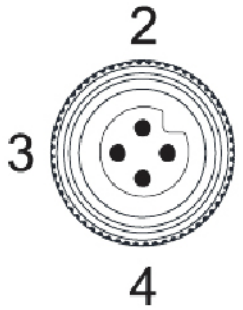
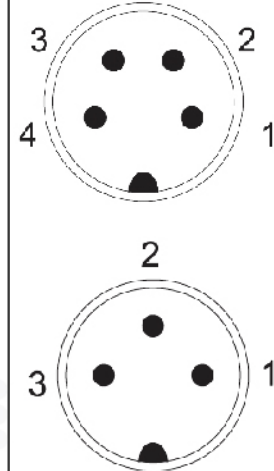
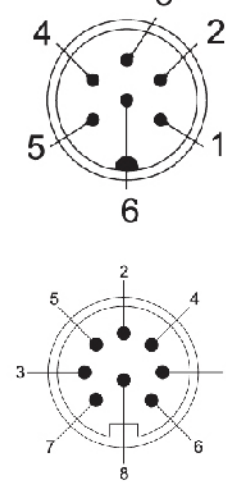
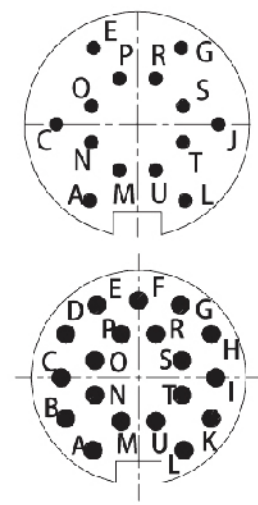
M8 3~4PIN Male		M8 5PIN Male	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 4A ● Voltage : 3PIN 60V 4PIN 30V ● Black PVC 24AWG φ4.4mm 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 4A ● Voltage : 5PIN 30V ● Black PVC 22AWG φ5.2mm
M8 6PIN Male		M8 8PIN Male	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 2A ● Voltage : 6PIN 30V ● Black PVC 26AWG φ4.6mm 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 1.5A ● Voltage : 8PIN 30V ● Black PVC

Circular Connector – Precast Type, Bedding End, Cable End

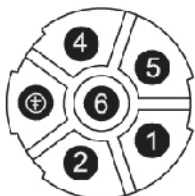
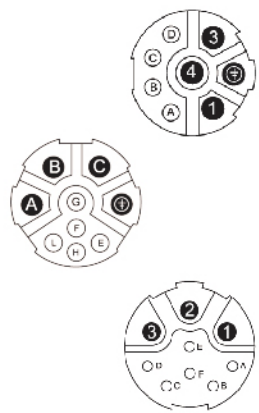
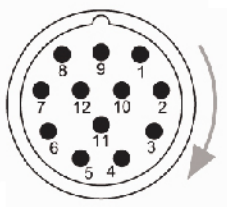
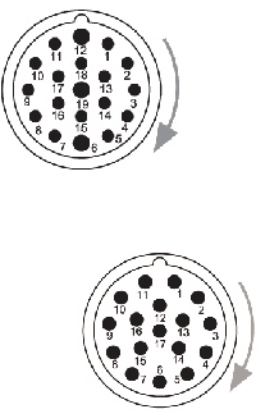
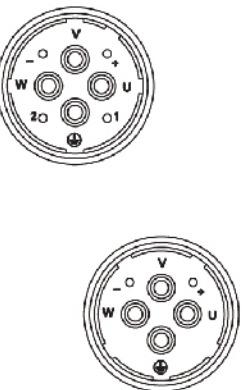
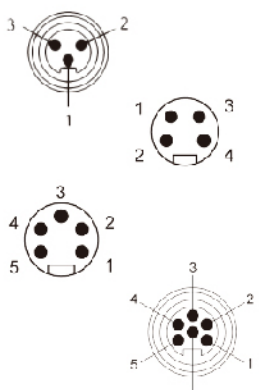
M12 2~5PIN Male		M12 6PIN, 8PIN Male	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 4A ● Voltage : 250V ● Black PVC 22AWG $\phi 5.2\text{mm}$ 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 2A ● Voltage : 60V ● 6PIN Black PVC 24AWG $\phi 5.6\text{mm}$ ● 8PIN Black PVC 24AWG $\phi 6.2\text{mm}$
M12 12PIN Male		M12 17PIN Male	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 2A ● Voltage : 60V ● Black PVC 24AWG $\phi 7.3\text{mm}$ 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 1.5A ● Voltage : 30V ● Black PVC 26AWG $\phi 6.4\text{mm}$
M12 T-code Male		M12 S-code Male	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 12A ● Voltage : 4PIN 60V ● Black PVC 16AWG $\phi 8.5\text{mm}$ 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 12A ● Voltage : 4PIN 630V ● Black PVC 16AWG $\phi 8.5\text{mm}$



Circular Connector – Precast Type, Bedding End, Cable End

M5 3~4PIN male		M16 3, 4PIN	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 1A ● Voltage : 60V ● Black PVC 24AWG $\phi 3\text{mm}$ 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 15A ● Voltage : 600V ● 3PIN Black PVC 14AWG $\phi 9.6\text{mm}$ ● 4PIN Black PVC 14AWG $\phi 10\text{mm}$
M16 6, 8PIN		M16 14, 19PIN	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 6PIN 7A / 8PIN 7A ● Voltage : 6PIN 300V / 8PIN 125V ● Black PVC 18AWG 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 14PIN 3A / 19PIN 3A ● Voltage : 30V~60V ● Black PVC 24AWG

Circular Connector – Precast Type, Bedding End, Cable End

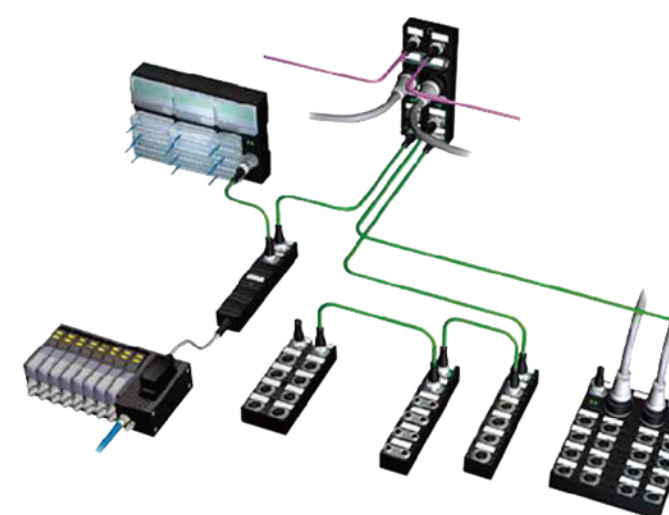
M23 6PIN		M23 8, 9PIN	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Power : 6PIN 630V, 28A ● Power : 9PIN 150V, 20A ● Signal : 9PIN 150V, 8A 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Power : 630V, 30A ● Signal : 250V, 10A
M23 12PIN		M23 17, 19PIN	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP68 ● Current : 6A ● Voltage : 300V 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP68 ● Current : 9A(18AWG), 2A(22AWG) ● Voltage : 150V
M40 4, 6, 8PIN		7/8" 3~6PIN	
	<ul style="list-style-type: none"> ● Ingress Protection Level : IP68 ● Current : 55A 28A ● Voltage : 600V 300V 		<ul style="list-style-type: none"> ● Ingress Protection Level : IP67 ● Current : 9A ● Voltage : 300V

Environment

- ★Ingress Protection Level IP67 suitable for any environments
- ★Fully glue sealing design has ultimate anti-vibration functions
- ★With its compact design which makes installation without worries

Signaling

- ★Able to connect in digital mode or simulation mode signal
- ★Large variety of signaling combination, suitable for complicated signaling request
- ★Input / Output, Voltage / Current can be modularized ; end user won't have any interference

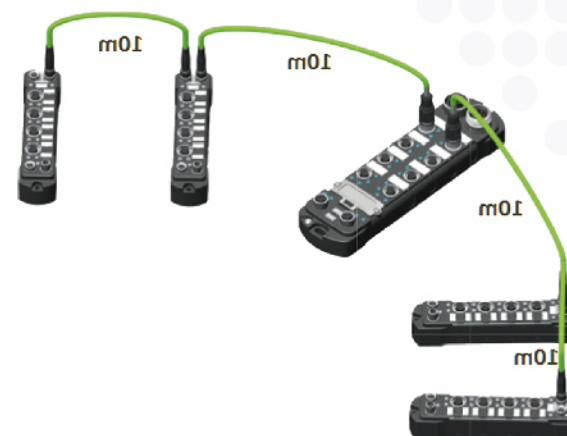


Communications

- ★Support many open type communication agreement
- ★IP 67 plug-in design is safe and reliable
- ★High integrated communication with internal core high speed & stable

Connections

- ★Strong Plug-in device as back up thus make the connection richer
- ★Precast, Hub, Onsite Connections
- ★Offer wide range type of connectors that you can imagine



CANopen

DeviceNet

EtherCAT[®]

Modbus

CC-Link

EtherNet/IP

PROFINET[®]

PROFIBUS[®]



Strip lighting BLT32



- Shell width 32 mm, lighting lengths available with 250/500/750/1000 mm
- 24V DC (Blank) or 220V AC (-AC)
- High performance LED package, high thermal conductivity, low glare, low light decay, lens and non-lens type, with uniform light distribution and no shadow, lens type can be use for long distance and high illuminance environment.
- Cabled and quick-disconnect models available
- Stand-alone and cascable models available

Strip lighting BLT48



- Shell width 48 mm, light lengths available with 200/400/600/800 mm
- Input voltage : 24V DC
- High performance LED package, high thermal conductivity, low glare, low light decay
- Alumina housing with anodizing surface, durable toughened glass window, waterproof and dustproof up to IP67

BL50 / 64 circular series



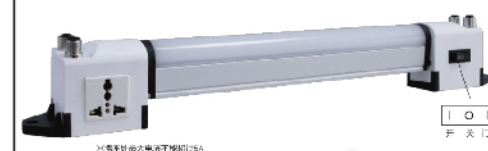
- Two different diameter dimensions 50 mm and 64 mm, to meet different customer needs
- Input voltage : 24V DC
- Lens type with higher brightness
- Robust tousing, waterproof and dustproof up to IP67, suitable for the wet and harsh environments
- 30 mm foot-mounted or flex Arm Mounts

Integrated lighting



- LED Module and driver integrated design, compact structure, easy to install
- High-performance PC diffusers, uniform and soft light
- $R_a > 80$, $R_9 > 0$, the color of the object can be restored well
- 24V DC & 220V AC input voltage available
- Quick-disconnect type using special high current, high voltage type connector

Cabinet lighting



- 475/675/875 mm 3 different lengths are available
- Provide 220V socket, provide convenience to customers for temporary use
- One male and one female industrial S-Code power supply connector on both sides, can be quickly inserted and convenient to cascade between the lamp bodies
- With manual switch, switch 3 mode optional : On / Off / Door operated

LED bulb indicators /LED signal tower light



- LED bulb indicators (24V DC input)
- Diameter 50mm, and the 1 segment /3 segments are available with different heights
 - Different colors are available, single segment that can display RGB 3 colors, the color of three segment from top to bottom are red, yellow, green
- LED signal tower light (24V DC input)
- Alumina housing with anodizing surface, The body is firm and easy to heat
 - Body diameter 50mm, base diameter 30mm, installation convenience
 - Red and green two basic colors other colors can be customized

Ceramic Elements

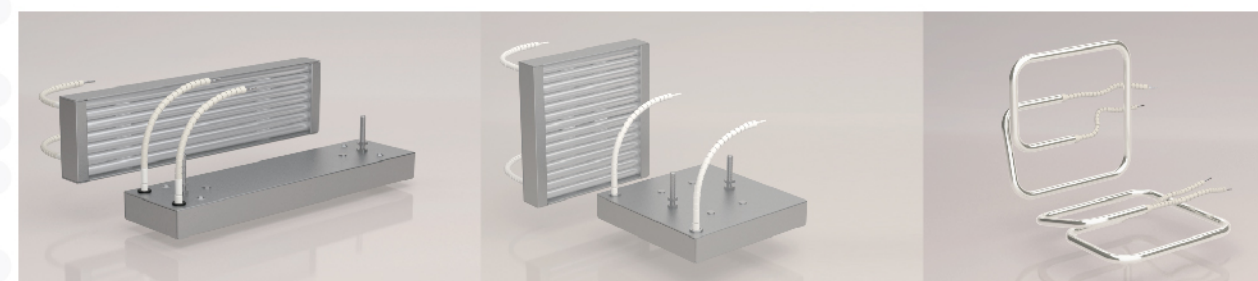
Wattage : 150W~1500W
Voltage : 230V
useful wavelength range : 2 μ m~10 μ m
Wire length : 120mm



Quartz Elements

Ultra-rapid heating, suitable for intermittent production or rapid heating equipment, heating rate is twice as high as ceramic series.

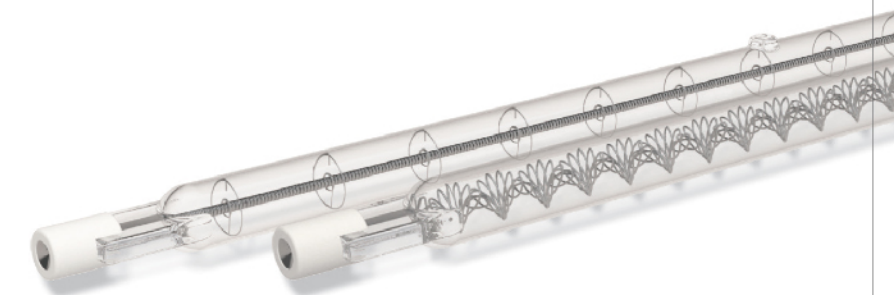
Wattage : 150W~1500W
Voltage : 230V
useful wavelength range : 2 μ m~10 μ m
Wire length : 120mm



Quartz Tungsten / Halogen

Ultra-fast heating and cooling

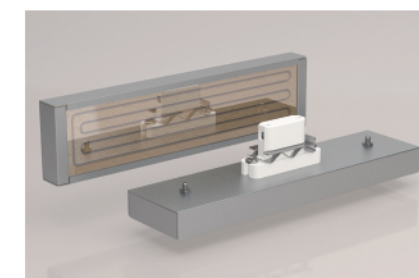
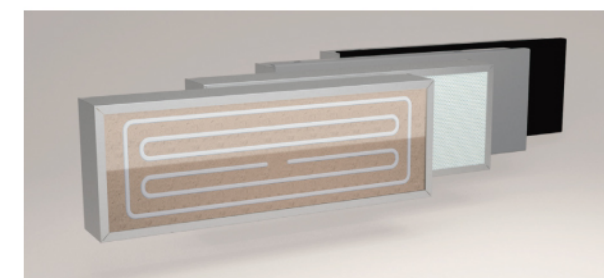
Wattage : 150W~2000W
Voltage : 230V
useful wavelength range : under 1.6 μ m
The highest temperature : 2600°C



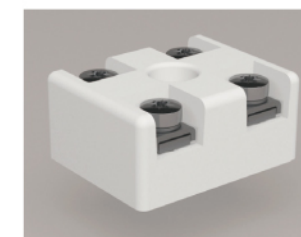
Panel Heaters

High cleanliness and durable heating solution

Wattage : 1.5~2.3 W/cm²
Voltage : 230V
useful wavelength range : under 10 μ m
The highest temperature : 750°C



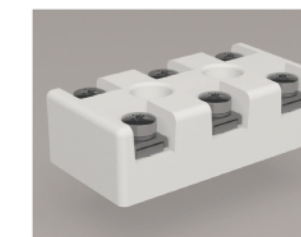
Accessories



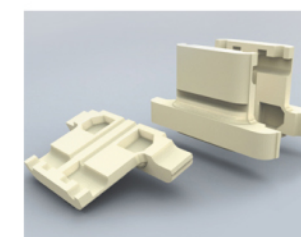
One-way ceramic terminal block



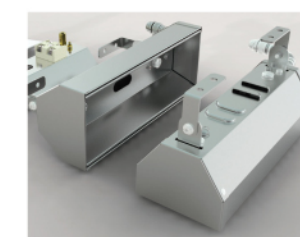
E27 Edison lamp holder and heater holder



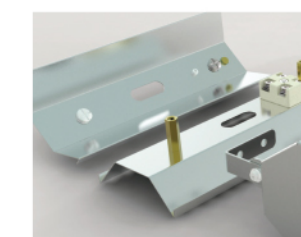
Three-way ceramic terminal block



Special dustproof component



RAS aluminized steel reflective structure



QT Quartz / Halogen reflective structure

Ceramicx infrared heater application (part)

Strip lighting BLT32	Short wave	Middle wave	Long wave
Paint			
Paint dry steel plate- acrylic resin		★	★
Paint dry steel plate - Alkyd resin		★	★
Paint dry steel plate - epoxy resin		★	★
epoxy paint	★		
Plastic			
PVC paste cure		★	★
A.B.S forming		★	★
Polystyrene forming		★	★
polyethylene forming		★	★
Polypropylene forming		★	★
Auto body		★	
Preliminary painting	★		
Dynamic painting	★		
Adhesive			
Water base	★	★	
Polymerization	★		
Paper label			★
Paper adhesive coating			★
Food			
Pasteurization / sterilization	★		
Heat stability	★		
Bake		★	★
Textile			
Rubber back blanket			★
PVC back blanket			★
T-shirt screen printing		★	★
Heat transfer of heat device			★
Screen Printing			
Plastic instrument panel			★
Aluminous instrument panel		★	

※ Remark : wave length is just for reference. If need more help please contact us.
Ceramicx infrared heater application nearly involve in all heating areas of the industry process.



▲ automotive industry



▲ Thermoforming Ovens



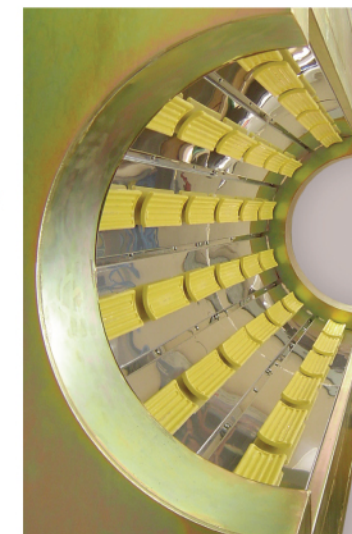
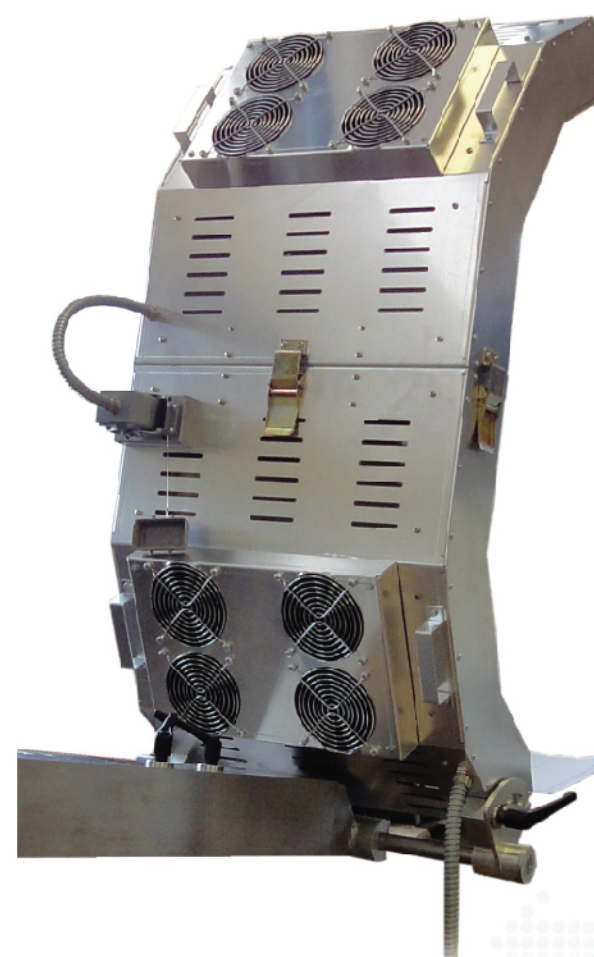
▲ Fast medium wave heater system



▲ Infrared Heating Panel Replacement

Engineering Applications

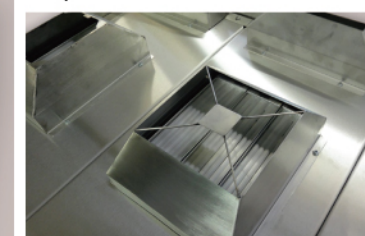
Not matter for you require a specific customized solution, or for material testing, new infra-red heating and drying system or upgrading your existing equipment; Ceramicx can meet your application requirement and offer heating solution for you. From a simple 5KW heating zone oven, up to 500 heating zone 1GW high capacity computer control oven, we can offer the right solution for you.



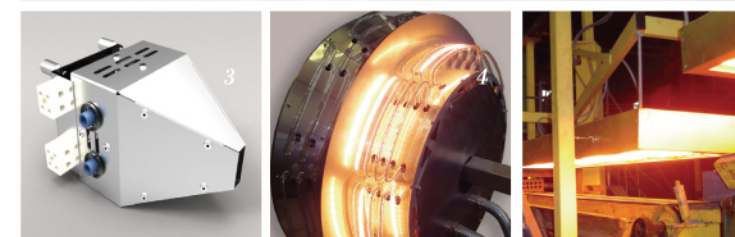
▲ Long wave ceramic 27 kW platen $\phi 1000 \times 2150$ mm



▲ Long wave ceramic 61 kW platen $2100 \times 1000 \times 752$



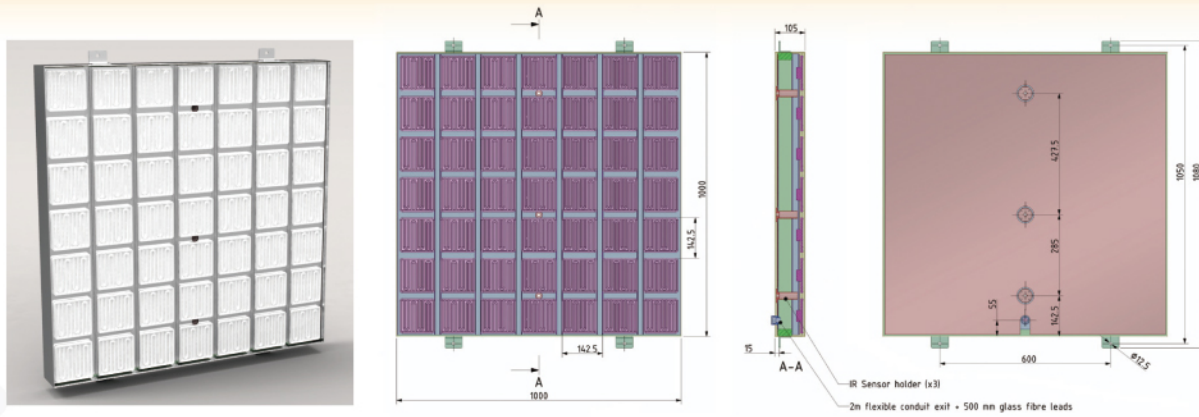
▲ Medium wave 19.5 kW platen 960×700 mm



▲ 1.High speed heater system 7.8KW platen, 3050×150 mm.
2.High speed system for micro material.
3.Short wave 53.6 kW heater, $\phi 750 \times 300$ mm.
4.Fast medium wave 36kW platen 2000×500 mm.



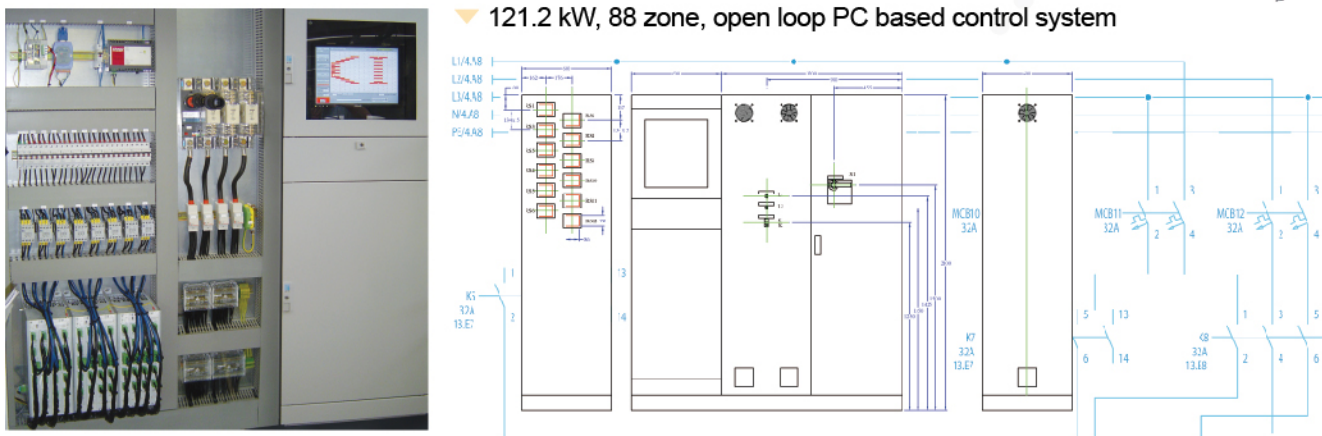
▲ Long wave platens
Large. 3 sections of $3,600 \times 2,200$ mm, 489 kW
Small. 255×380 mm, 4.8 kW



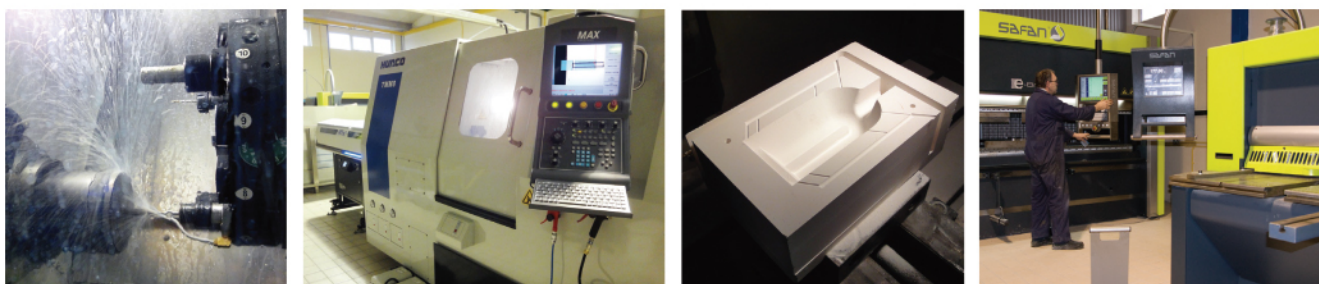
▲ Long wave ceramic platen 7.35 kW 1000 x 1000 mm



▲ Fast medium wave modular heater 36 kW 1130 x 500 mm



▼ 121.2 kW, 88 zone, open loop PC based control system



▲ Ceramicx has a full range of CNC controlled equipment to fulfil our policy of "we make it here" in an effective and efficient manner.

Stress relief on Injection Molded Parts

Ceramicx supplied three tunnel ovens with an integrated 30 metre conveyor system to a customer in the U.S. Fast Moving Consumer Goods sector. Ceramicx long-wave emitters and closed loop feedback systems mean these ovens integrated seamlessly with customers existing machinery. The conveyors employed are variable speed with 2-way drive and used a stainless steel belt system



Curing Oven

Ceramicx designed and built a 42 kW long-wave tunnel oven for a USA based electronics customer which was supplied in two sections. The infrared oven system was curved to ensure optimal and uniform heating of the customers material. As standard, the frameworks of all components (oven and conveyor) were made from stainless steel. Integrated into the control system (via HMI), the conveyor speed as well as oven power could be controlled.



Vacuum Forming

A major Canadian company that makes hot tubs, asked Ceramicx to build one section of their machine. They were in process of building a machine to mould hot tubs and they wanted us to do the heat work for the section of their vacuum forming machine.

The design of the heating system for them was specified to fit into the space that they needed. They also needed additional design considerations as the oven had to ship in 2 sections due to the size of the overall oven. The two sections would then be assembled together in the customer's facility.

The thermoforming ovens were then fitted into their machine, which went into their new fiberglass manufacturing process plant. They have since been running these ovens and have experienced some significant savings in both time and energy.

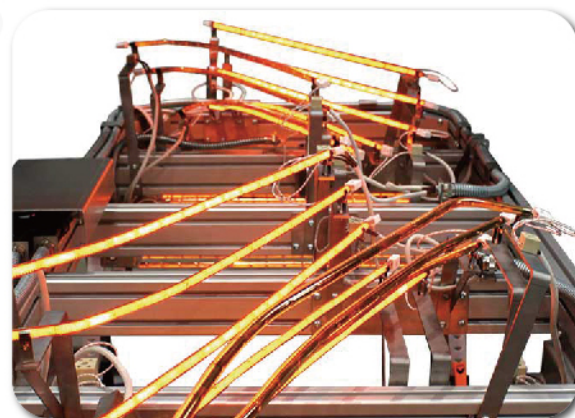


Bonding Automotive Interiors

One of the leading US automotive companies were looking for a more automated solution to their production process. Their Tier 1 supplier made contact with our business partner in the United States, Weco International. They wanted specifically an infrared heating system to bond leatherette materials to the interiors of automotive passenger doors for the cars that they were producing. They had multiple parts, so they needed multiple heating systems.

Ceramicx designed and built the infrared heating system to suit this automotive thermoforming application. Ceramicx designed a one-of-a-kind heating system that consisted of 37 custom heaters that suited the shapes that the customer wanted. This ensured uniformity of heating over the entirety of the part. Ceramicx design these customized short-waves, Quartz Tungsten Tubular heaters, to suit the material that the customer was processing to ensure it was the most efficient way of heating the material. An additional benefit incorporated in to these heaters was the incredible speed at which they reached temperature to minimise further loss of time for the customer. Ceramicx built 8 different systems in total and ensured all the systems could fit in the one machine.

The construction of the systems was made in aluminium profile, and custom stainless-steel brackets were made on site in Ceramicx to hold each heater in place. One frame of the heating system consisted of a lower bank of heater that simply consisted of straight quartz tungsten heater that were primarily used to heat the leatherette fabric. The upper heaters were all different to exactly match the surface shape of the part being heated. Finally, one control panel was supplied for all 8 heating systems. A standard connecting point was run off each machine so each system could be changed over easily.

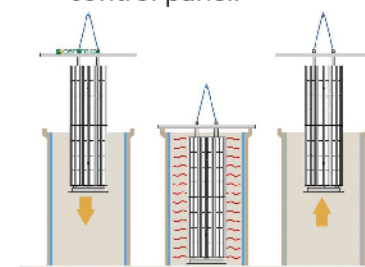


Bonding Automotive Interiors

The internal diameter of the pipe was 1400mm with height of 2300mm. The customer also wanted a control unit with IR temperature sensor to read the surface temperature of the concrete pipe.

Friedr-Freek and Ceramicx collaborated on the design. The decision was to provide the customer with an overall octagonal shape in stainless steel frame, with the ceramic infrared heaters facing out to the heat internal section of the pipe. The system consisted of 3 control zones with feedback from Micro Epsilon pyrometers. During the design the customer came back to us with another inclusion in that they wanted the unit to be able to be lifted into the pipework using a crane hook.

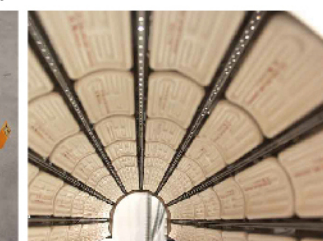
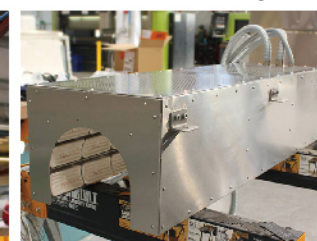
Ceramicx built the infrared heating system from scratch, all the work was done in house from welding, fabricating, ceramic heater manufacturing, terminal block manufacturing, wiring, and building the control panel.



Ceramic Infrared Heating System for PVC Pipes

A European customer needed to heat different sizes of PVC pipes. They were looking for a complete infrared heating solution. The customer knew they wanted a frame with infrared elements mounted inside in a fixed position. This frame would encase the pipes. The critical part however was ensuring that PVC didn't melt. This created a challenge because the PVC pipes were different thicknesses and were 100mm in diameter size. They ranged in thickness from 4 to 10mm and would also be rolling at the same time the heating elements would be operational.

Ceramicx combined all the customer's variances and produced one heating system that could work on all the variations of PVC pipe. Temperature sensors were put into each of the 10 heating zones allowing the customer to ramp the heaters up or down based on the PVC thickness. An additional 100mm heating zone was added to adjust for larger PVC pipe lengths. Our infrared HTE heaters targeted the PVC pipes to ensure that they could soften prior to the next process.



Portable Test Oven

Ceramicx' new Portable Test Stand allows for quick and consistent testing of materials. Various long, medium, and short wave Infrared emitters are fitted in a modified PAS, which is easily attached to the test stand. The emitters face down and heat a material that is placed on a stainless steel mesh. The distance between emitter and material can easily be adjusted between 50mm and 200mm, in 50mm intervals. This test stand allows the user to quickly determine the most suitable type of emitter and heating distance for a specific material, with consistent results due to the simple, repeatable test set up.



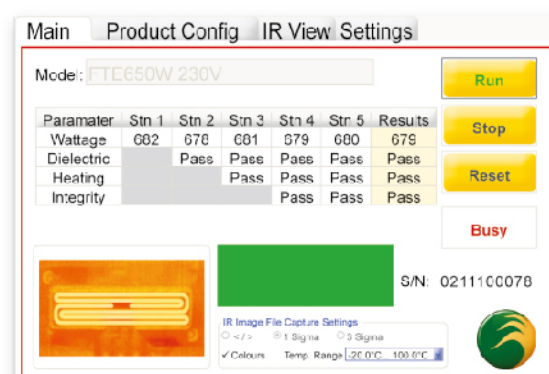
Quality Guarantee

Test Machine R&D is now guaranteeing the product quality – and assigning and recording performance characteristics and storing data for each part as it is produced. This data is facilitating VMEA analysis which in turn identifies the areas where process improvement will make the most difference.

Four key validation stages are now part of the new Ceramicx QA system:

Standard Deviation Test

This QA test allows the electrical integrity of the insulating materials to be verified and is designed to catch manufacturing defects that could otherwise lead to exposed electrical heating elements and wires.



High Voltage Insulation Test

This QA test will establish the degree to which the actual voltage of a given product deviates from its rated wattage and can assist in reducing large variations.

Loading Test

For this test, the product is energized with high-voltage electrical power to rapidly elevate its temperature. The measured temperature reached within a given timeframe then allows the functionality of the product to be assessed.

Thermal analysis

After reaching the target temperature, IR images of the product are then recorded in order to provide for a visual inspection of the heating element within. These images are unique for each product tested – are matched to that product's serial number – and are traceable. These images will also be statistically analyzed by the test software to determine the heat distribution across the product – and identify hot or cold spots. And for models with built-in thermocouples, the integrity, operation and placement of these thermocouples will also be validated.



Power Distribution System

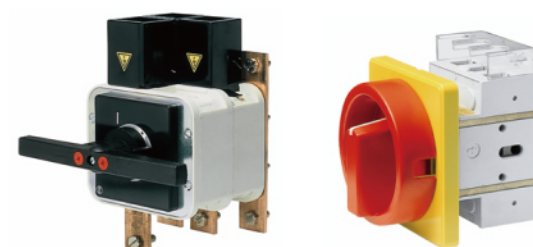
Founded in 1922, Elektra is providing high quality made-in-Germany products.

Industrial CEE Form Connectors:



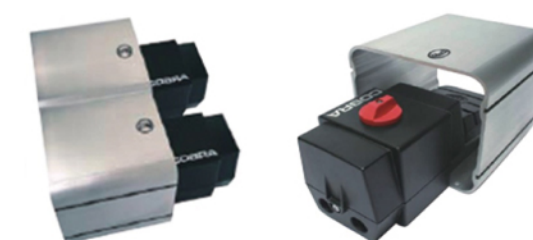
Voltage : 24~50V/DC
230~500V/AC
Current : 16~125A

Master Control / Isolation Switches:



- Features :
- Specific Current 25A~630A, Offer complete range of specification.
 - Compliant to EN-60947-3 design for Isolation Switches, fulfill AC-23B Type as emergency situation.
 - Automatic shut down function in case of over-loading current.
 - Satisfy EU / US Safety Standards.

Foot Switches:



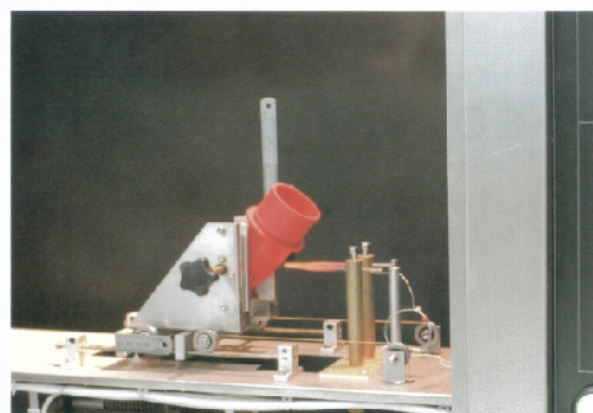
Applications :

CNC Machine, Bending Machine, Pipe Bending Machine, Wooden Working Machine, Etc.

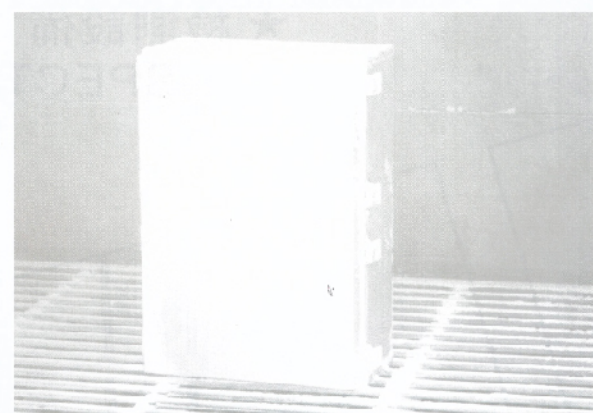
- Features :
- Direct Control Current which can reach 25A.
 - Can select to produce special control mode.
 - IP65 Water-proof & Dust-proof Level.
 - Has single, double or triple foot pedal structure.
 - Additional foot protection covers as an option.



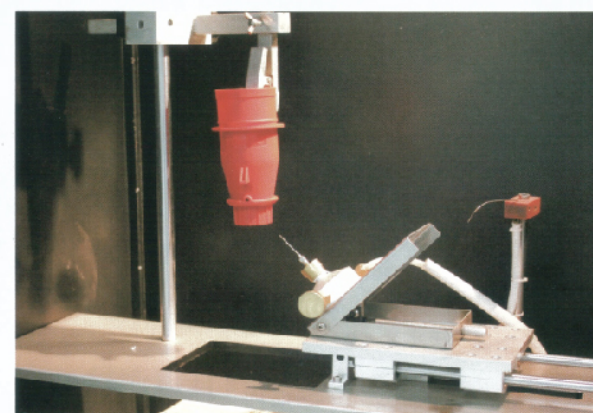
A complete and hash testing conditions represent highly reliable quality standards



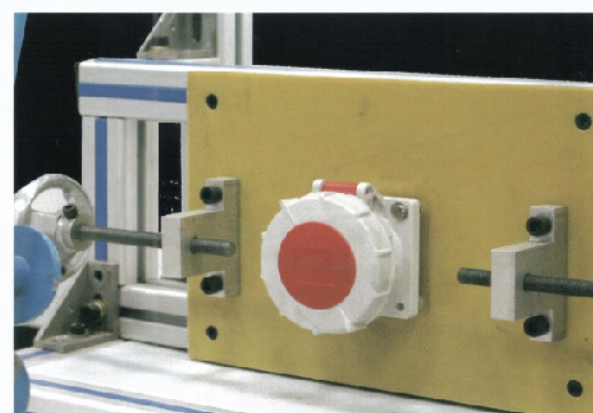
Glow Fuse Test



Dust Test



Nail Test



Shock Test



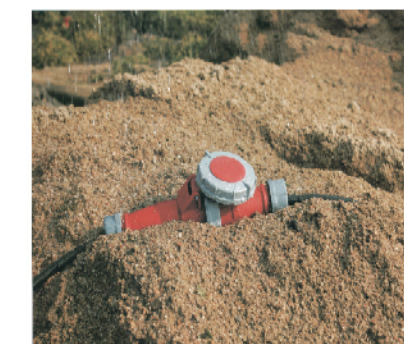
Water Proof Test



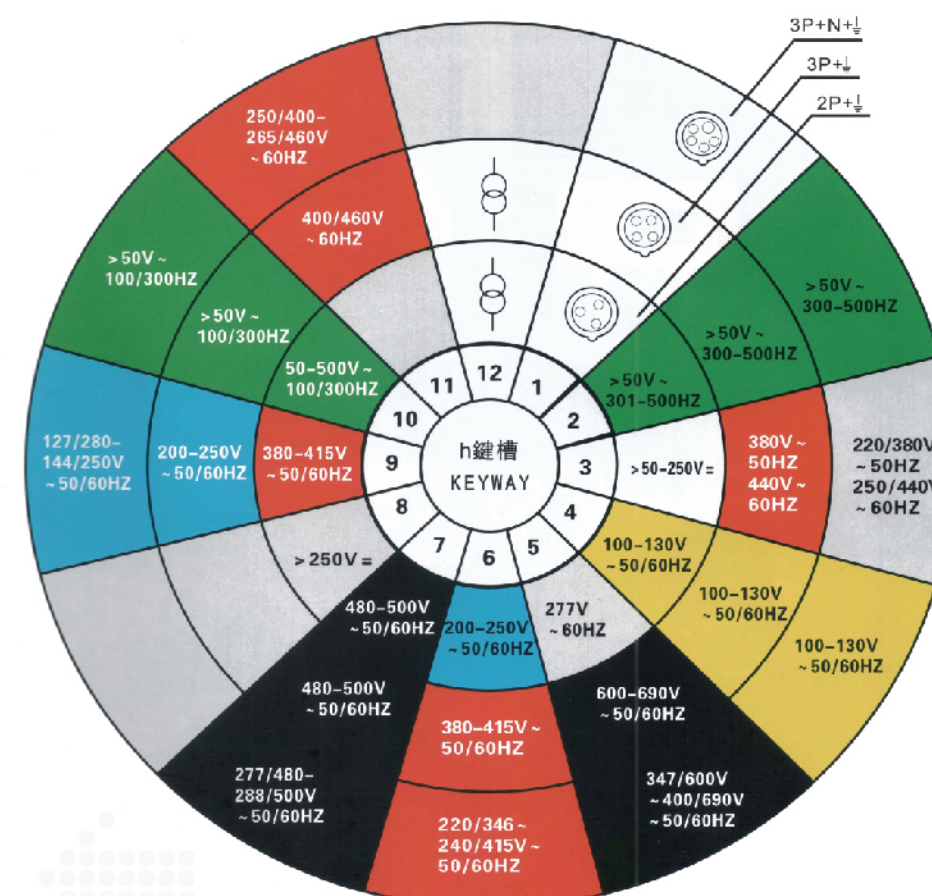
Transport Simulation Test

Application Fields

Plastic Injection Machine, Audio Light Sound Equipment & Engineering, Food Processing Machine, Movable Welding Machine, Industrial Automation Equipment, Air-Conditioning System, Lighting System, Distribution Box, Road Traffic Equipment, Constructions, Rail System, Energy System (Solar, Wind & Nuclear), Movable Communication, Power Generator, Refrigeration Equipment, Port



All Products are compliant to CEI/EC60309-1/2, EN60309-1/2, GB/T11918, GB/T11919, DIN4962/4946 and BS4343 Standards, By distinguishing the voltage and the frequency by color, it can be seen that the products are not interchangeable because the diameters of the grounding pins and the differential sleeves are relatively large and are placed at different time positions according to voltage and frequency





Let-Work Tech

Smart Signal Tower

Product Features

- 1、The world's unique and patented signal tower with LED array displaying by numbers
- 2、Easy to know the countdown of the operation time and operating number
- 3、Aware the operating time whether within target
- 4、Display switch-off time, convenience to operator management
- 5、Not need to change controller & cable, in case of any sudden power failure, only need to add a set of 24V converter
- 6、Aluminium Alloy Case, adding stylish texture
- 7、Taiwan Brand & MIT
- 8、Achieved 2019 IF Red Dot Design Award



Applications

Tooling Machine, CNC Machine, Textile Machine, Printing Machine, Silk Screening Machine, Inject Molding Machine, etc.

Green Blue Light Status — Operating Time Count Down

Operation Panel - display operating time count down, so operator knows the time remaining and reduce any idle time.

Green Light / units in seconds
Blue Light / units in minutes

Side Panel Indicator - same as operation panel which synchronize the working mode, it has divided into three portions at green light status which represents operating time count down, when only display two digit operating time, it only has two portions.



Yellow Light Status — Work Piece Count

Operation Panel - Display number of work piece, so both operator and manager know the exact number of work piece, no need to access PLC to confirm the number of work piece.

Yellow Light / units in pcs

Side Panel Indicator - same as operation panel which synchronize the working mode, all indicator are all on at yellow light status.



Let-Work Tech

Purple Light Status — Material Exchange Piece Count Down

Operation Panel - Display counting number of material exchange piece, so both operator and manager know the operating time if meets the original target.

Purple Light / units in seconds

Side Panel Indicator - same as operation panel which synchronize the working mode, all light are all on at purple light status.



Red Light Status — Machine Idle Time Count

Operation Panel - Display machine idle time, so manager knows the exact idle time.

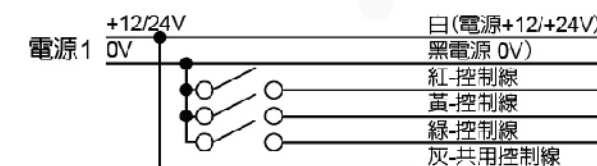
Red Light / units in minutes

Side Panel Indicator - same as operation panel which synchronize the working mode, all light are all on at red light status.

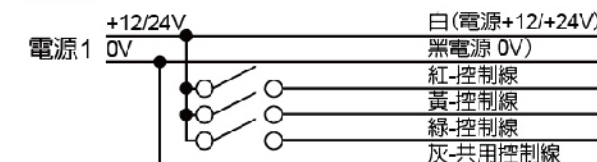


Circuit Layout

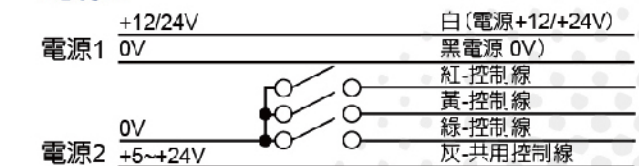
配線A



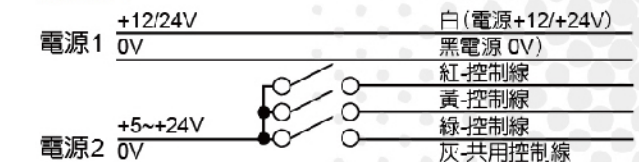
配線B



配線C



配線D



Hand Tool Models

Hand Tools & Crimping Tools
Precise Hand Tools which ensure you towards Industrial 4.0 for every connection are reliable

DMC Crimping Tools



Specification: 20~32AWG
Applicable for HMS, D-SUB Series

TE Crimping Tools



Specification: 0.5~10.0mm²
Applicable for HMS, HD, HDD, HEE Series

TE DYNAMIC Crimping Tools



Specification: D3000 Series

Specification: D1000 Series

HCY Crimping Tools



Specification: 12~26AWG
Handheld Tool

Pin Extractors



Germany RENNSTEIG Crimping Tools



Specification: 0.15~10.0mm²
Applicable for HMN, HDD, HEE Series



Specification: 12~26AWG
Pneumatic Tool

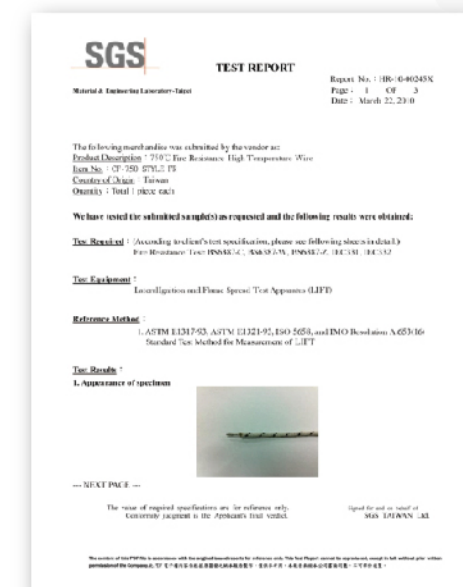
H.C.Y

450°C & 750°C High Temperature & Heat Resistance Cable

Suitable for Industrial Machineries, Electric Heating Products, High Temperature Furnace etc High Temperature Application Field, This product has SGS & IEC Certificate.

Technical Info:

Conductivity Materials: Nickel
Nominal Voltage: 600V
Operating Temperature: -100°C ~ 750°C
Test Voltage: 2000V
Insulator: Mica + Ceramic Fiber
Knitting: Ceramic Fiber +
High Temperature Silicone Resin



HCY-750 Product Specifications:

Conductor			Insulator			Electrical characters	Packing
Nominal cross section Area mm ²	Composition No. x mm	Stranded Outside Diameter mm	Thickness of Ceramic Fiber Insulation mm	Thickness of Quartz mm	Standard Overall Diameter mm	Maximum Conductor Resistance at 20°C/ohm/km	Mt / Coils
0.3	4 x 0.30	0.7	0.25	0.16	1.52	64.4	100
0.5	7 x 0.30	1.0	0.25	0.16	1.65	38.7	100
0.75	10 x 0.30	1.1	0.35	0.16	2.25	25.8	100
1.25	18 x 0.30	1.4	0.35	0.16	2.75	15.5	100
2	28 x 0.30	1.8	0.35	0.16	3.10	9.91	100
3.5	49 x 0.30	2.6	0.22	0.62	4.28	5.38	100
5.5	77 x 0.30	3.1	0.22	0.62	4.80	3.50	100
8	112 x 0.30	3.7	0.22	0.62	5.30	2.45	100
14	196 x 0.30	4.9	0.22	0.62	6.58	1.39	100

Mid Wave Quartz Heaters



Single tube transparent QEM



Single tube coated porcelain QEM-C



Single tube gold plating QEM-S



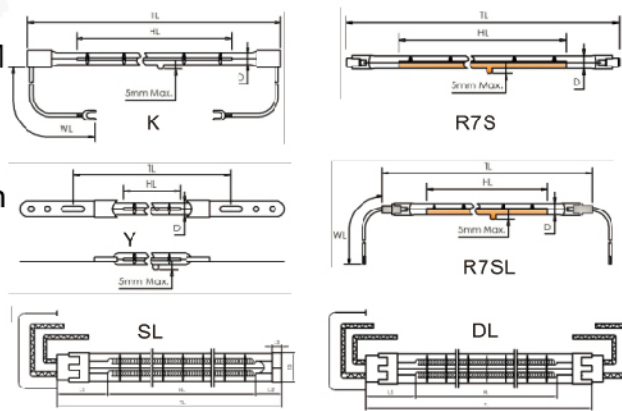
Double tube transparent QEM-D



Double tube coated porcelain QEM-DC



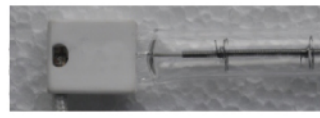
Double tube gold plating QEM-DS



Models

- 1、Wiring Type : K · R7S · Y · R7SL · DL · SL
 - 2、Voltage : 100V-600V
 - 3、Power Density : 10-200W/CM
 - 4、Length : Effective heating length HL · full length TL · Wire length WL
 - 5、Diameter : Single tube (8 · 10 · 11 · 12 · 15) · Double tube(2x8 · 2x11 · 2x13)
 - 6、Coating : Semi-coated porcelain C · Gold plating S · ruby R
 - 7、Based on customer requirement as non-standard dimensions and structure products
- Example : Diameter 11 single tube transparent, power 200W, voltage 230V, effective heating 400mm, full length 480mm, R7S joint
Model : QEM11-2000W-230V-400/480MM-R7S

Short Wave Quartz Heaters



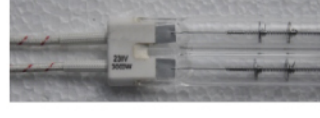
Single tube transparent QES



Single tube coated porcelain QES-C



Single tube gold plating QES-S



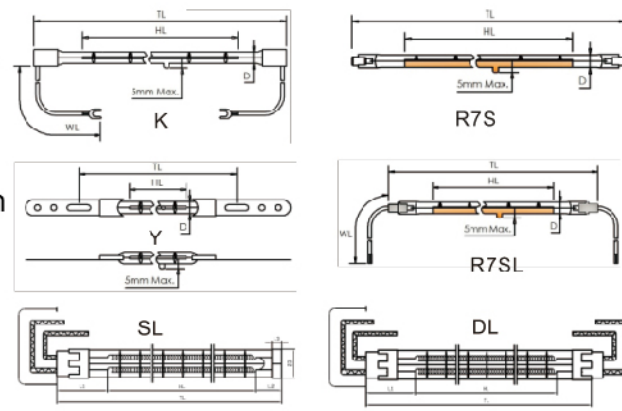
Double tube transparent QES-D



Double tube coated porcelain QES-DC



Double tube gold plating QES-DS



Models

- 1、Wiring Type : K · R7S · Y · R7SL · DL · SL
 - 2、Voltage : 100V-600V
 - 3、Power Density : 10-200W/CM
 - 4、Length : Effective heating length HL · full length TL · Wire length WL
 - 5、Diameter : Single tube (8 · 10 · 11 · 12 · 15) · Double tube(2x8 · 2x11 · 2x13)
 - 6、Coating : Semi-coated porcelain C · Gold plating S · ruby R
 - 7、Based on customer requirement as non-standard dimensions and structure products
- Example : Diameter 11 single tube transparent, power 200W, voltage 230V, effective heating 400mm, full length 480mm, single side outlet 250MM
Model : QES-DS 2x11-2000W-230V-400/480MM-SL250

- Professional and customized wide range of solutions, provide the most affordable products to customer \ The shape, size, length of connectors and heater for different applications, all can meet with customer requirements.

