

## Shenzhen Kinghelm Electronics Co., Ltd.

Model:KH-MPL11-12G6TJW6

Product Name:12-core Power Connector

Configuration: 4-core module power connector plug	X1
4-core module power connector socket	X1
$\Phi$ 3 jack	X2
	X2

Screw Edition : 1.0

Company Appfoval	
Prepared	
Checked	
Approved	

Customer Approval	
QC	
Engineering	
Development Department	

## 12-core module power connector plug

### Features

- The charging module interface and AC input interface (plugs) are designed and developed with reference to the standard of electric vehicle charging equipment set by State Grid Corporation of China.
- Working current: 75A (  $\phi$  5.0, power terminal); 3A(  $\phi$  0.8, signal terminal)
- Working voltage: 1000V (AC, power terminal); 48V (DC, signal terminal)
- Contact resistance:  $\leq 1\text{m}\Omega$  (  $\phi$  5.0, power terminal);  $\leq 12\text{m}\Omega$  (  $\phi$  0.8, signal terminal)
- Insulation resistance:  $\geq 3000\text{m}\Omega$  (normal)
- Withstand voltage: 3000V (AC, power terminal); 1000V (AC, signal terminal); 3000V (AC, power terminal and signal terminal)
- Mechanical life: 500 times

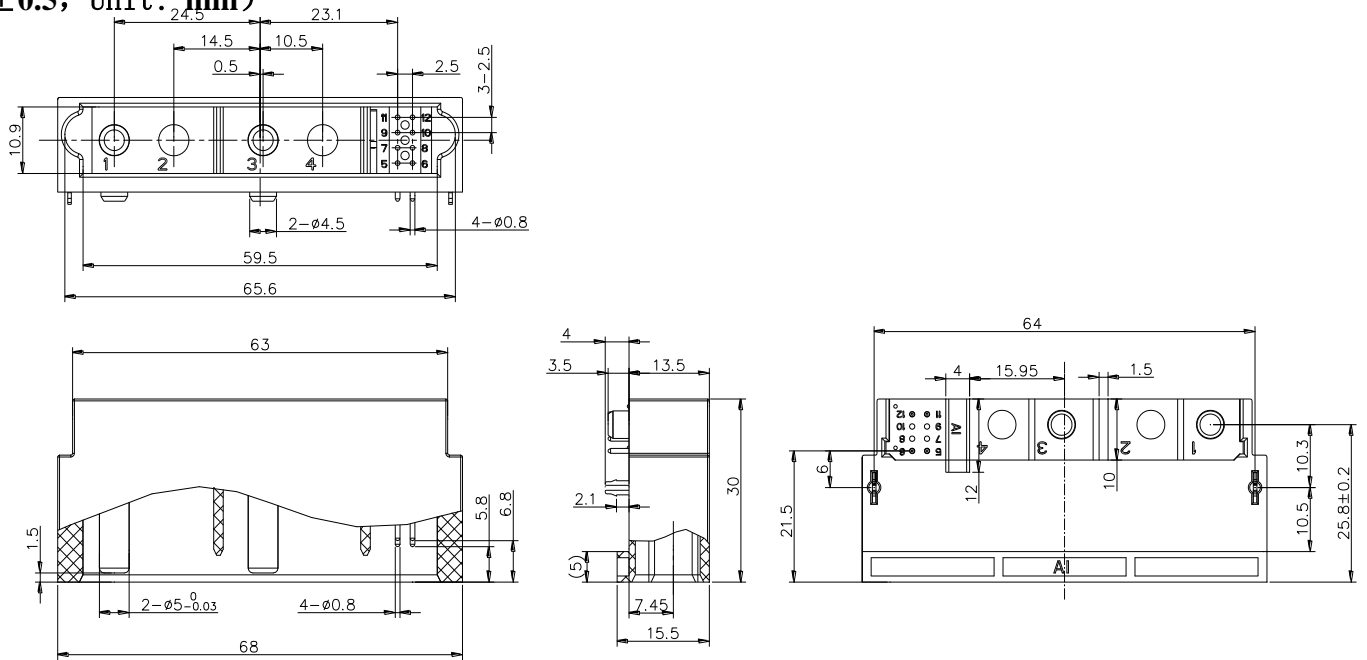
### Environmental Performance

- Working temp:  $-55\text{ }^{\circ}\text{C} \sim +125\text{ }^{\circ}\text{C}$
- Relative humidity: 90%  $\sim$  95% ( $40 \pm 2\text{ }^{\circ}\text{C}$ )
- Vibration: 10Hz  $\sim$  500Hz,  $98\text{m/s}^2$ , instant break  $\leq 1\text{US}$
- Impact: 294m/s, instant break  $\leq 1\text{US}$
- Salt spray: neutral steady-state salt spray (5% NaCl) for 48h (contacts)

### Materials and Surface Treatment

- Contact terminal: power terminal, high-conductivity copper ; Silver -plating ( $3 \sim 4\text{ }\mu\text{m}$ ) ; Signal terminal, brass; Gold -plating  $1.0\text{ }\mu\text{m}$
- Fixed bracket: Phosphor bronze, nickel-plating
- The materials and manufacturing process are ROHS-compliant.

**Appearance and installation Dimensions (unspecified tolerance shall be calculated as  $\pm 0.5$ , Unit: mm)**

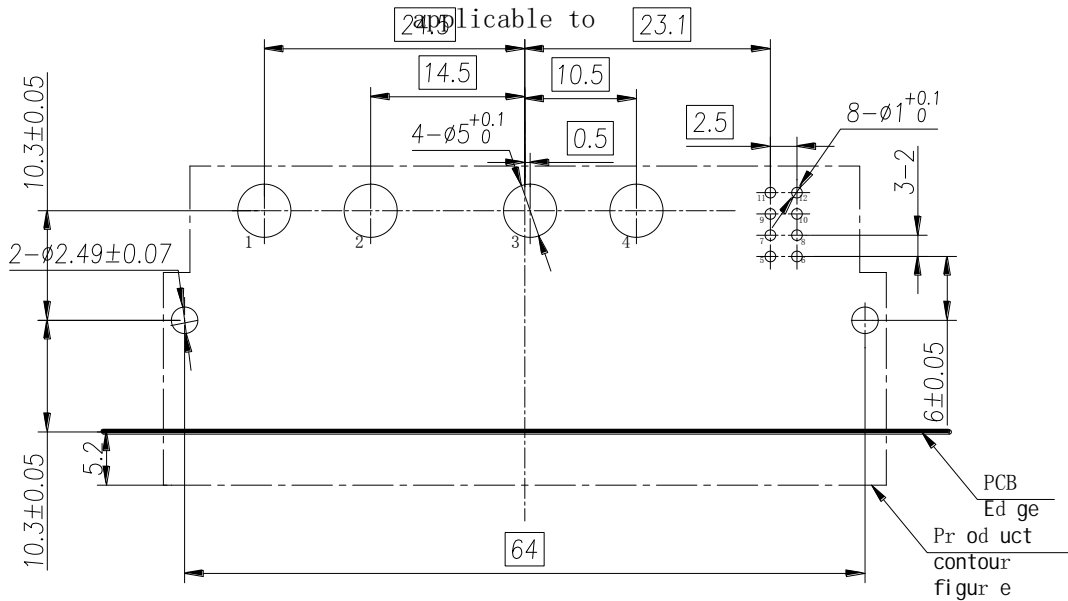


Note: 1) the power pins shall be installed in holes 1 and 3, and the signal pins shall be installed in holes 5, 6, 11 and 12;

2) 5 ~ 6# signal holes are applicable to long pins and 11 ~ 12# signal holes are

**Recommended Dimensions:**

(unspecified tolerance shall be calculated as  $\pm 0.05$ mm)



## 12-core module power connector socket

### Features

- The charging module interface and DC output interface (socket) are designed and developed with reference to the standard of electric vehicle charging equipment set by State Grid Corporation of China.

### Technical Specifications

- Working current: 75A ( $\phi 5.0$ , power terminal); 3A ( $\phi 0.8$ , signal terminal)
- Working voltage: 1000V (AC, power terminal); 48V (DC, signal terminal)
- Contact resistance:  $\leq 1\text{m}\Omega$  ( $\phi 5.0$ , power terminal);  $\leq 12\text{m}\Omega$  ( $\phi 0.8$ , signal terminal)
- Insulation resistance:  $\geq 3000\text{m}\Omega$  (normal)
- Withstand voltage: 3000V (AC, power terminal); 1000V (AC, signal terminal); 3000V (AC, power terminal and signal terminal)
- Mechanical life: 500 times

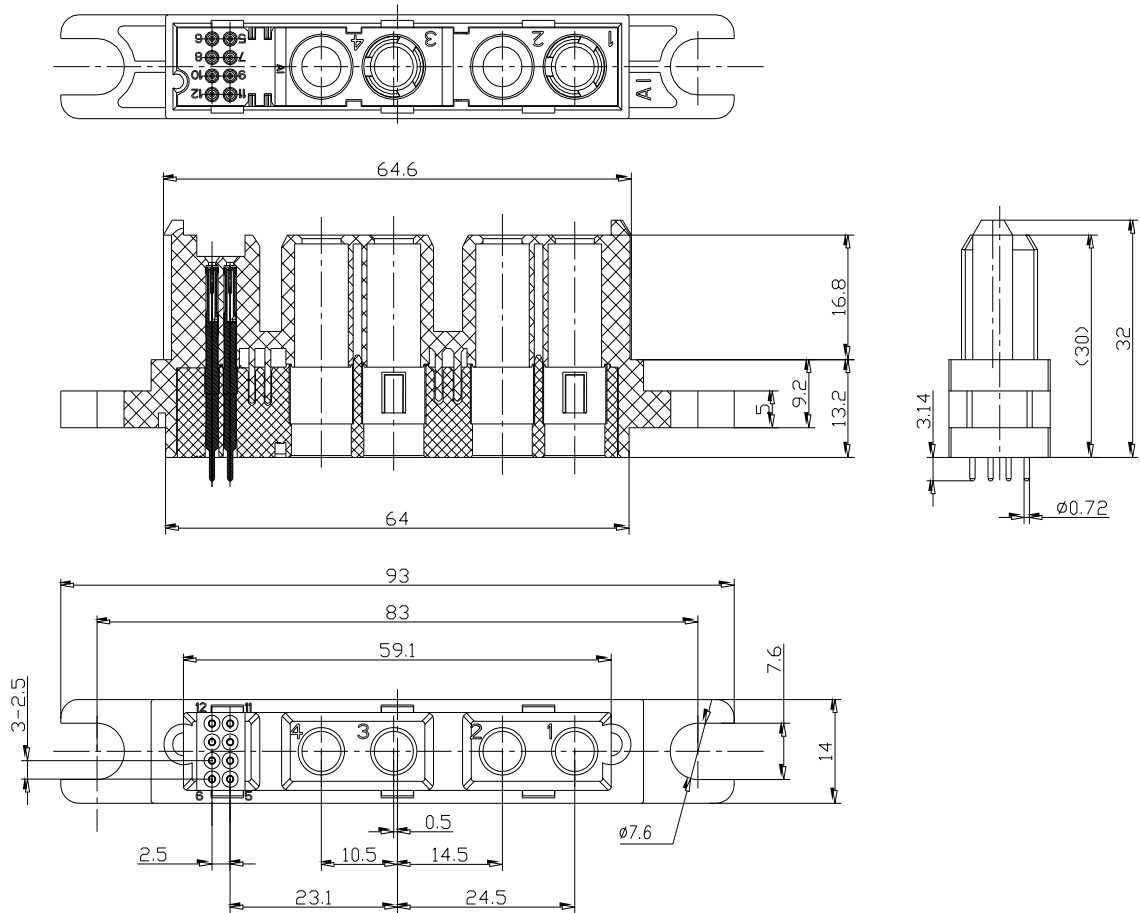
### Environmental Performance

- Working temp:  $-55\text{ }^{\circ}\text{C} \sim +125\text{ }^{\circ}\text{C}$
- Relative humidity: 90%  $\sim$  95% ( $40 \pm 2\text{ }^{\circ}\text{C}$ )
- Vibration: 10Hz  $\sim$  500Hz,  $98\text{m/s}^2$ , instant break  $\leq 1\text{US}$
- Impact: 294m/s, instant break  $\leq 1\text{US}$
- Salt spray: neutral steady-state salt spray (5% NaCl) for 48h (contacts)

### Materials and Surface Treatment

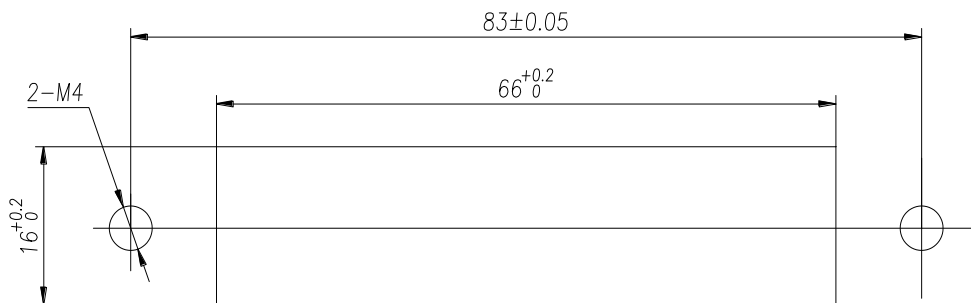
- Contact terminal: signal terminal, tinbronze; Gold plating  $1.0\text{ }\mu\text{m}$
- Locating detent: beryllium copper
- The materials and manufacturing process are ROHS-compliant.

Appearance and installation Dimensions (unspecified tolerance shall be calculated as  $\pm 0.5$ , Unit: mm)



Note: the power jacks shall be installed in holes 1 and 3, and the signal jacks shall be **fully installed and connected**;

Recommended Dimensions: (unspecified tolerance shall be calculated as  $\pm 0.05$ mm)



## φ5Jack

### FEATURES

- The charging module interface is designed and developed with reference to the standard of electric vehicle charging equipment set by State Grid Corporation of China.

### Technical Specifications

- Working current: 75 A;
- Contact resistance:  $\leq 1 \text{ m}\Omega$  ;
- Mechanical life: 500 times

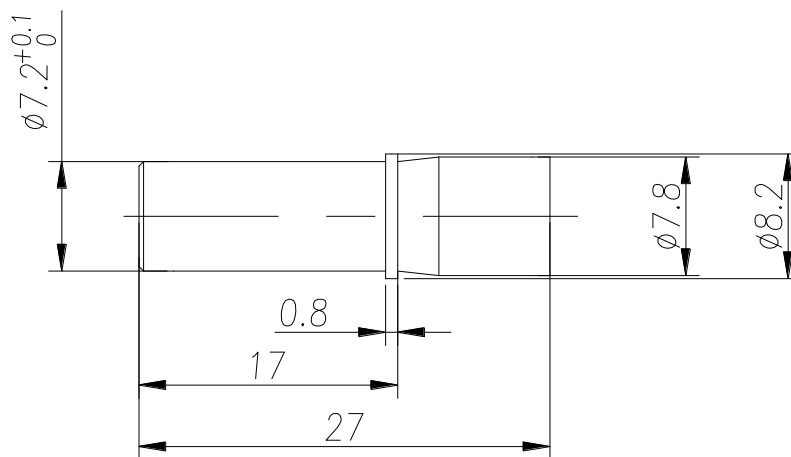
### Environmental Performance

- Working temp:  $- 55 \text{ }^{\circ}\text{C} \sim + 125 \text{ }^{\circ}\text{C}$
- Salt spray: neutral steady-state salt spray (5% NaCl) for 48h

### Materials and Surface Treatment

- Contact terminal: back sheath made with high-conductivity copper, silver plating ( $3 \sim 4$ )  $\mu\text{m}$ ; Crown spring made with beryllium copper, silver plating ( $3 \sim 4$ )  $\mu\text{m}$ ;

Appearance and Dimensions (unspecified tolerance shall be calculated as  $\pm 0.5$ , unit: mm)



Adaptation range of crimping wire: 6awg  $\sim$  8awg ( $13.3\text{mm}^2 \sim 8.367\text{mm}^2$ ).

## Mounting Screw

### FEATURES

- The charging module interface is designed and developed with reference to the standard of electric vehicle charging equipment set by State Grid Corporation of China. The mounting screws can be used for floating installation of MPL04b-4 and MPL11-12 connectors.

### Environmental Performance

- Working temp:  $-55^{\circ}\text{C}\sim+125^{\circ}\text{C}$
- Salt spray: neutral steady-state salt spray (5% NaCl) for 12h

### Materials and Surface Treatment

- Mounting screw: quick-cutting iron, nickel plating

Appearance and Dimensions (unspecified tolerance shall be calculated as  $\pm 0.5$ , unit: mm)

