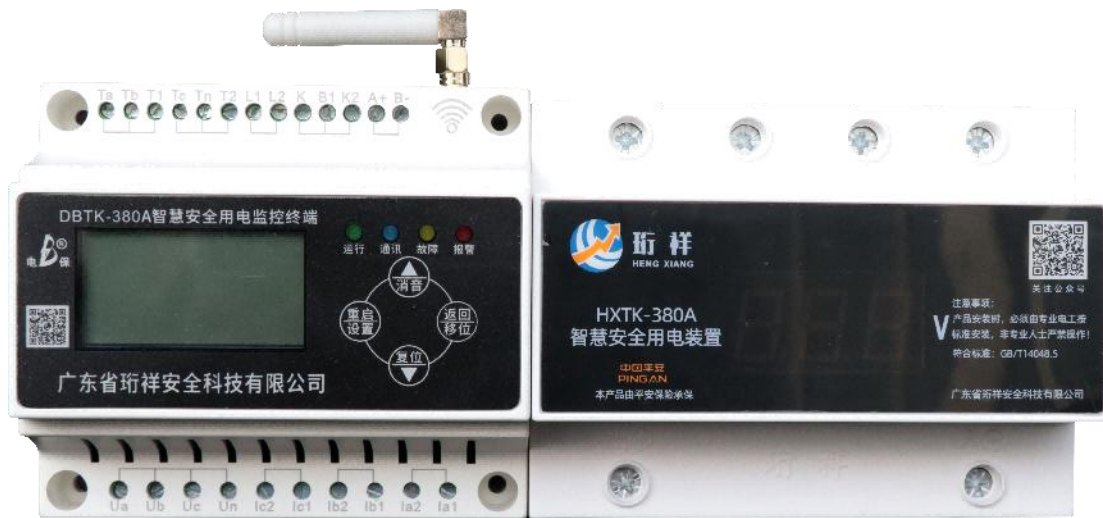


# 智慧用电安全管理系统(三相 DBTK-380A)+智慧 安全用电装置(HXTK-380A)

## Smart Electricity Safety Management System (three-phase DBTK-380A) & Smart Electricity Safety Device (HXTK-380A)

产品使用说明 v1.0

- Product Instructions v1.0



广东省珩祥安全科技有限公司

Guangdong Province Hengxiang Security Technology Co., Ltd

感谢您使用我公司的智慧安全用电监测系统（三相 DBTK-380A）+防触电智慧安全用电装置(HXTK-380A),为了确保人身系统安全,并使产品得到最佳性能,在产品安装,使用和维修前,使用前请您务必仔细阅读以便安全使用,希望您通过本用户手册,清楚方便的了解产品的使用,特别是警告和注意事项。

Thank you for using our Smart Safety Electricity Monitoring System (3-phase DBTK-380A) + Anti-Touch Smart Safety Electricity Device (HXTK-380A). In order to ensure the safety of your personal system and to get the best performance from the product, please make sure you read it in detail before installing, using and maintaining the product in order to use it safely, and we hope you will use this user manual to clearly and conveniently understand the We hope you will use this user manual to gain a clear and easy understanding of the use of the product, especially the warnings and precautions.

## 产品概述

### Product Overview

智慧安全用电监测系统（三相 DBTK-380A）+防触电智慧安全用电装置(HXTK-380A)（以下简称“探测器+防触电装置”）是通过智能探测器+防触电装置实时监测导线温度、电流、电压、漏电等数据,一旦发现有引发电气火灾的因素,系统将通过物联网云平台自动启动预警、断闸等防护措施并同时向多个用户终端（手机/电脑）发出预警信息,将电气安全隐患消除在萌芽状态,从源头上遏制电气火灾和触电事故的发生,让看不见、摸不着的电气安全隐患防得了,控得住!

The Smart Safety Electricity Monitoring System (3-phase DBTK-380A) + Anti-Touch Smart Safety Electricity Device (HXTK-380A) (hereinafter referred to as "detector + anti-touch device") is an intelligent detector + anti-touch device to monitor the wire temperature, current, voltage, leakage and other data in real time, once found to have triggered Once factors that cause electrical fires are detected, the system will automatically start early warning, break the gate and other protective

measures through the IOT cloud platform and send early warning information to multiple user terminals (mobile phones/computers) at the same time, eliminating electrical safety hazards in the bud and curbing electrical fires and electric shock accidents from the source, so that the invisible and intangible electrical safety hazards can be prevented and controlled!

适用于，如：政府机关、家庭公寓、商场商铺、工业园区、学校医院、宾馆酒店、企事业单位、旅游景区、文物古建筑、娱乐场所、银行、社区以及重点防火单位等场所。

Suitable for, for example, government agencies, family flats, shopping malls and shops, industrial parks, schools and hospitals, hotels, enterprises and institutions, tourist attractions, cultural relics and ancient buildings, entertainment venues, banks, communities and key fire prevention units.

## 功能说明

### Function description

本产品工作原理，主要利用电子、电气学原理，当用电设备或线路发生浸水时，通过设备内置的 MCU 芯片上的电子元件立即开启屏蔽和吸收泄露电流，对电流进行分流到 PE 线通向大地，实现等电位。减少对人体的触电伤害。

The working principle of this product, mainly using electronic and electrical principles, when the electric equipment or lines are submerged, through the electronic components on the built-in MCU chip of the equipment immediately open the shield and absorb the leakage current, the current is shunted to the PE line to the earth, to achieve equipotential. This reduces the risk of electric shock to the human body.

备注：防触电模块进线 ABCN 是并联在空气开关出线端对应的相序接线端。

Note: The incoming ABCN of the anti-touch module is connected in parallel to the corresponding phase sequence terminal of the outgoing end of the air switch.



## 产品功能特点

### Product Features

1. 实时显示三路电压、三路电流、1条主回路漏电、4路温度、视在功率、有功功率、无功功率、功率因数、电能、频率值等；  
Real-time display of three voltages, three currents, one main circuit leakage, four temperatures, apparent power, active power, reactive power, power factor, electrical energy, frequency values, etc.
2. 每个功能通道报警值和延时报警时间可设置；  
Settable alarm values and delayed alarm times for each function channel.
3. 剩余电流报警功能；  
Over temperature alarm function.
4. 超温度报警功能；  
Over temperature alarm function
5. 过压、欠压、缺相、错相、三相电压不平衡报警功能；  
Alarm functions for overvoltage, undervoltage, phase loss, phase error and three-phase voltage unbalance;
6. 过载、三相电流不平衡报警功能；  
Overload, three-phase current unbalance alarm function.
7. 功率统计及用电量统计功能；  
Power statistics and electricity consumption statistics
8. 三相式自切换电源功能（当线路缺任何两相时设备可以持续工作）；  
Three-phase self-switching power supply function (equipment can work continuously when the line is missing any two phases)
9. 掉电上报功能（当线路三相缺相时或者零线故障时设备会向云端发出最后一条命令告知掉电事件）；  
Power-down reporting function (the device sends a final command to the cloud to inform of a power-down event when the line is out of phase on three phases or when there is a zero line fault);

10. 子回路扩展功能（通过加装扩展模块实现总回路及每个分回路实现全覆盖监控）；  
Sub-circuit extensions (full coverage monitoring of the main circuit and each sub-circuit by retrofitting extension modules);
11. 报警输出功能（1路常开一路常闭输出、可对输出动作设置间断输出或者常输出）；  
Alarm output function (1 normally open and 1 normally closed output, intermittent output or constant output can be set for the output action);
12. 远程控制功能（实现对每一路的参数值、监控通道分别设置）；  
Remote control function (enables parameter values and monitoring channels to be set separately for each channel);
13. 短信提示功能；  
SMS alert function
14. 微信提示功能；  
WeChat alert function
15. 电话提示功能；  
Telephone alert function
16. 浸水防触电，触电不伤人。  
Can avoid the danger of electric shock caused by immersion, and electric shock will not hurt people.



珩祥科技  
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## 指示灯状态

### Indicator status

1. 当探测器接上电源的时候，运行灯常亮。

When the detector is connected to the power supply, the running light is always on.

2. 当探测器有故障发生时，故障灯闪亮状态如下：

When there is a fault in the detector, the fault light will flash as follows.

- (1) 温度传感器没有接或者断线时，故障灯会快闪，液晶屏会显示 ERR。

When the temperature sensor is not connected or disconnected, the fault light will flash fast and the LCD will show ERR.

- (2) 剩余电流互感器没有接或者断线时，故障灯会慢闪，液晶屏会显示 ERR。

When the residual current transformer is not connected or disconnected, the fault light will flash slowly and the LCD will display ERR.

- (3) 如果以上两个状态同时存在，故障灯会长亮。

If the above two states are present at the same time, the fault light will illuminate.

3. 当探测器检测到报警信号时，报警灯闪亮，蜂鸣器同时发出报警声音。在外部供电断开的情况下，报警灯快闪。蜂鸣器同时发出报警声音不能被关闭。

When the detector detects an alarm signal, the alarm light flashes and the buzzer sounds an alarm at the same time. In the case of external power supply disconnection, the alarm light flashes fast. The buzzer simultaneously emits an alarm sound which cannot be switched off.

4. 当探测器与网络通讯时，网络指示灯状态如下：

When the detector communicates with the network, the network indicator status is as follows.

在没有连接到服务器时时网络指示灯一闪一闪，已经连接到服务器时网络指示灯长亮，在发送数据的时候快速闪 3 下，在收到数据的时候快速闪 2 下。

The network indicator flashes once when not connected to the server, and is on

for a long time when connected to the server, flashing 3 times fast when sending data and 2 times fast when receiving data.

**探测器技术参数：**

**Technical parameters of the detector:**

漏电整定：20~8000mA Leakage rectification: 20~8000mA	缺相阈值：10V~100V Phase failure threshold: 10V~100V
漏电响应时间：除误报延时<1s Earth leakage response time: <1s except false alarm delay	错相报警值：系统自设 Wrong phase alarm value: system self-setting
漏电动作延时：3~600S Leakage action delay time: 3~600S	U平衡设置：5%~99% U Balance setting: 5%~99%
温度报警范围：60~200°C Temperature alarm range: 60~200°C	U平衡动作延时：0~10s U-balance action delay: 0~10s
过温延时：0~10s Over-temperature delay: 0~10s	电压响应时间：除误报延时<1s Voltage response time: <1s except false alarm delay
温度响应时间：除误报延时<1s Temperature response time: <1s except false alarm delay	无线传输：4G全网通 Wireless transmission: 4G all-access
过欠载电流阈值：1A~2000A Over- and under-load current threshold: 1A~2000A	电源输入范围：三相 AC75-450V Power input range: three-phase AC 75-450V
电流报警范围：1A~1250A Current alarm range: 1A~1250A	欠压阈值：110V~200V Undervoltage threshold: 110V~200V



电压测量范围：0V~400V Voltage measurement range: 0V~400V	过欠压延时：0~10s Under-voltage delay: 0~10s
过压阈值：250V~300V Overvoltage threshold: 250V~300V	I 平衡设置：5%~99% I Balance setting: 5%~99%
欠压阈值：110V~200V Undervoltage threshold: 110V~200V	I 平衡动作延时：0~10s I Balance action delay: 0~10s
过欠压延时：0~10s Under-voltage delay: 0~10s	电流响应时间：除误报延时<1s Current response time: <1s except false alarm delay

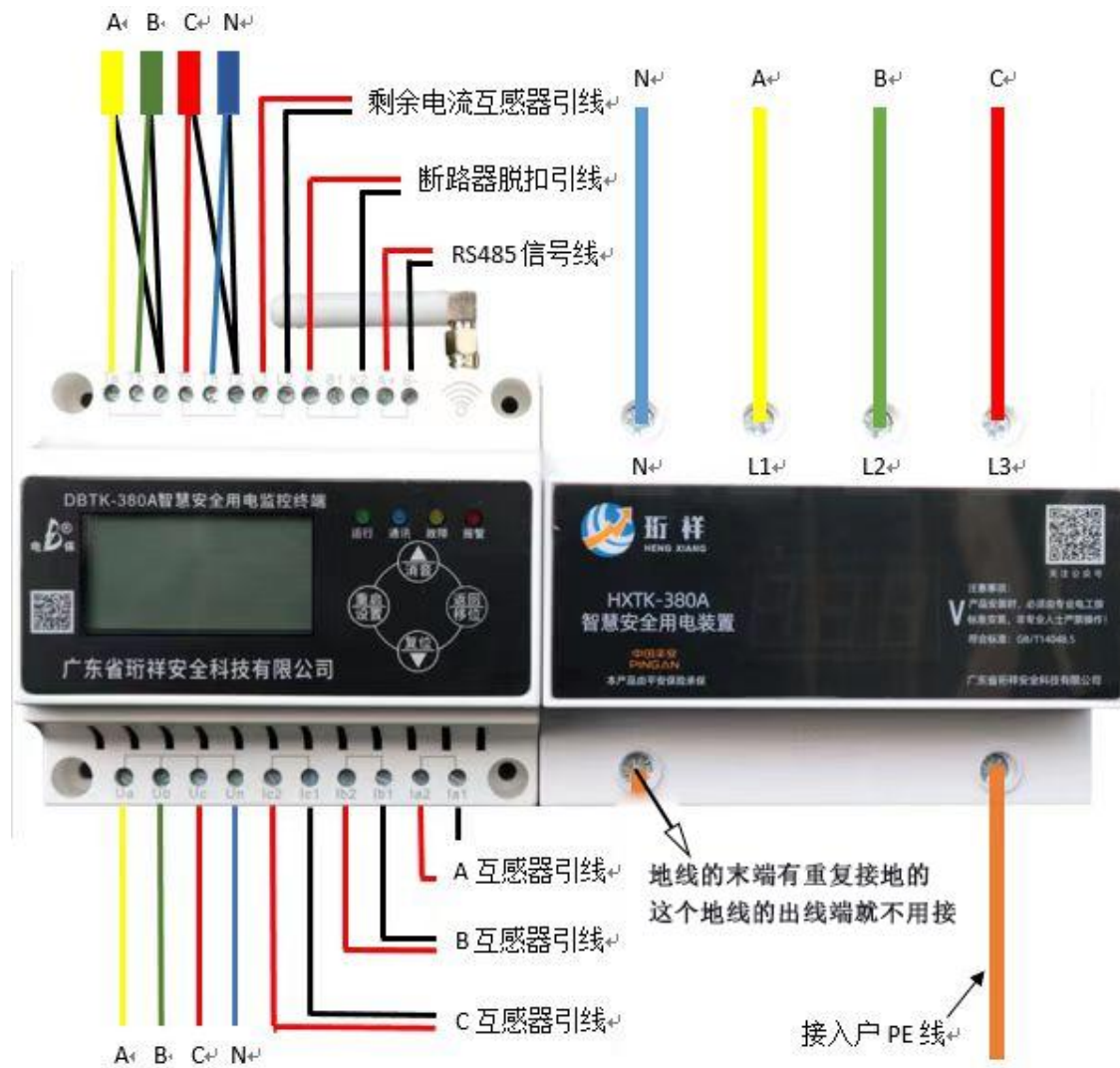
防触电装置技术参数：

Technical parameters of the anti-electrical shock device:

产品名称	智慧安全用电装置		
Product name	Smart and safe electricity devices		
产品型号	HXTK-380A		
Model number			
外形尺寸	117*91*68(mm);导轨式安装		
Dimensions	117*91*68(mm);rail-mounted		
电压范围	适用范围 AC110V/AC220V/AC380V/DC 电压(根据需求定制)		
Voltage range	Application range AC110V/AC220V/AC380V/DC voltage (on request)		
功率因素	90%以上		
Power Factor	Over 90 per cent		
功率及电流	220V:10A:17.6KW, 30A:53KW, 50A:152KW, 100A:304KW		
Power and current	380V:50A:152KW,100A:304KW		
使用温度	-40°C ~ 70°C	使用电压	340-420V
Operating temperature		Voltage used	
相对温度	70°C	额定电压	AC380V 50HZ
Relative temperature		Rated voltage	
使用寿命	Greater than 50,000	额定功率	300KW
Service life	hours	Power rating	
接线方/型号	标准接线端子；标准 RV4-10mm <sup>2</sup>		
Wiring side/model	Standard terminal block; standard RV4-10mm <sup>2</sup>		

## 产品安装示意图

### Product installation diagram



### 接线说明 Wiring instructions

1. 电压监测：（Ua）接入 A 相火线、（Ub）接入 B 相火线、（Uc）接入 C 相火线，（Un）接入零线。（有极性）

Voltage monitoring: (Ua) to phase A fire, (Ub) to phase B fire, (Uc) to phase C fire, (Un) to zero. (with polarity)



2. 电流监测：(Ia1) 对应 S1、(Ia2)对应 S2 接入 A 相电流互感器信号线，(Ib1) 对应 S1、(Ib2)对应 S2 接入 B 相电流互感器信号线，(Ic1) 对应 S1、(Ic2) 对应 S2 接入 C 相电流互感器信号线。（有极性）

Current monitoring: (Ia1) corresponding to S1, (Ia2) corresponding to S2 to the current transformer signal line of phase A, (Ib1) corresponding to S1, (Ib2) corresponding to S2 to the current transformer signal line of phase B, (Ic1) corresponding to S1, (Ic2) corresponding to S2 to the current transformer signal line of phase C. (with polarity)

3. 漏电监测：(L1)、(L2) 接入剩余电流传感器信号线。（无极性）

Leakage monitoring: (L1), (L2) Access to residual current sensor signal lines. (no polarity)

4. 温度监测：(Ta)接入测量 A 相温度探头带有黄色接线端的线、(Tb)接入测量 B 相温度探头带有绿色接线端的线、(T1) 接入测量 A 相和测量 B 相温度探头相温度探头带有黑色接线端的公共线。(Tc)接入测量 C 相温度探头带有红色接线端的线、(Tn)接入测量 N 相温度探头带有蓝色接线端的线、(T2) 接入测量 C 相和测量 N 相温度探头相温度探头带有黑色接线端的公共线。（有极性）

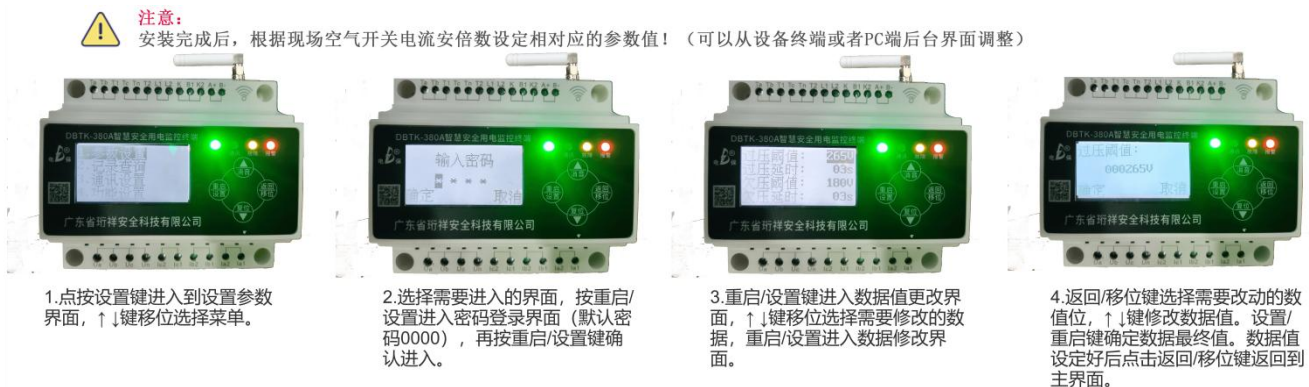
Temperature monitoring: (Ta) access to the measuring A-phase temperature probe with yellow terminal, (Tb) access to the measuring B-phase temperature probe with green terminal, (T1) access to the measuring A-phase and measuring B-phase temperature probe phase temperature probe with black terminal common wire. (Tc) access to the measurement C phase temperature probe with red terminal wire, (Tn) access to the measurement N phase temperature probe with blue terminal wire, (T2) access to the measurement C phase and measurement N phase temperature probe phase temperature probe with black terminal common wire. (with polarity)

5. 报警输出：输出方式为常开点 1 路常闭点 1 路，K 常开常闭公共点、K1 为常开、K2 为常闭（最大通过电流 3A）。（无极性）

6. Alarm output: output mode is normally open point 1 way normally closed point 1 way, K normally open normally closed common point, K1 is normally open, K2 is normally closed (maximum through current 3A) (no polarity)
7. 通讯：A+接入子设备或者上行 RS485 通讯的正极线，B-接入子设备或者上行 RS485 通讯的负极线。（有极性）
8. Communication: A+ access sub-device or positive line for upstream RS485 communication, B- access sub-device or negative line for upstream RS485 communication. (with polarity)

### 设备页面设定操作

### Device page setting operations



1. 点击重启/设置键，进入系统设置界面，↑↓键移位选择菜单。  
Click the Reboot/Setup button to enter the system settings screen, ↑↓ key shift to select the menu.
2. 选择需要进入的界面，按重启/设置进入密码登录界面（默认密码 0000），再按重启/设置键确认进入。  
Select the interface you need to enter, press Restart/Set to enter the password login screen (default password 0000), then press Restart/Set to confirm entry.
3. 重启/设置键进入数据值更改界面，↑↓键移位选择需要修改的数据，重启/设置进入数据修改界面。返回/移位键选择需要改动的数值位，↑↓键修改数据值。设置/重启键确定数据最终值。



Restart/Set key to enter the data value change interface, ↑ ↓ key shift to select the data to be modified, restart/set to enter the data modification interface. Return/shift key to select the value bit that needs to be changed, ↑ ↓ key to modify the data value. The Set/Reset key determines the final value of the data.

4. 点击返回/移位键，返回上级菜单。再按↑↓键移位选择菜单进行其他设置。以此类推。

Click the Return/Shift key to return to the upper menu. Press the ↑ ↓ key again to shift the selection menu for other settings. And so on.

5. 数据值设定好后点击返回/移位键返回到主界面。

Click on the return/shift button to return to the main interface after the data values have been set.

## 注意事项

### Cautions

1. 安装时必须由专业电工施工

The installation must be carried out by a professional electrician

2. 本产品必须断电安装

The product must be installed without power

3. 按产品说明书正确连接导线；

Connect the wires correctly according to the product instructions

4. 本产品不能对短路保护；

The product is not protected against short circuits

5. 将本产品安装在配电箱内，避免直接雨淋日晒

Install the product inside the distribution box to avoid direct rain and sunlight

6. 本产品不具备防水等级。

This product does not have a waterproof rating



7. PE 为地线输入端，N 为零线接入，L 为火线接入，请按标记正确接入，不能接反方向；

PE is the ground input, N is the zero connection, L is the fire connection, please connect correctly according to the mark. Please connect correctly according to the markings, do not connect in the opposite direction.

8. 防触电装置总进线须接在总漏保开关下端；

The mains inlet of the electric shock protection device shall be connected to the lower end of the main earth leakage switch.

9. 电源输入端不得与人体接触，下端输出线人体不得同时接触两条线，避免触电事故发生；

The power input shall not be in contact with the human body, and the lower output line shall not be in contact with both lines at the same time.

Avoid electric shock accidents.

10. 智能终端剩余电流互感器同时套入 A/B/C/N 四根线；

The intelligent terminal residual current transformer is simultaneously snapped into four wires A/B/C/N

11. PE 接地线和 L1/L2/L3/N 电源线为 4-10 平方的铜芯线连接。

PE earth wire and L1/L2/L3/N power wire are connected with 4-10 square copper core wire.



## 搬运和储存 Handling and storage

设备搬运，运输，储存均需在包装状态下进行，装卸过程要轻拿轻放，防止碰撞损坏。储存环境应保持通风，干燥，切忌露天存放。

The equipment should be handled, transported and stored in a packaged state. The loading and unloading process should be carried out gently to prevent collision damage. The storage environment should be ventilated and dry, and should not be stored in the open air.

### 保险服务

#### Insurance service

该产品已经向中国人民保险公司购买了产品责任险。（产品责任险每年签约的保险公司可能不同。）：

This product has purchased product liability insurance from China People's Insurance Company. (Product liability insurance may be signed by different insurance companies every year. )：

1、每次事故赔偿限额 1300 万，累计赔偿限额 1500 万

The compensation limit for each accident is 13 million, and the cumulative compensation limit is 15 million.

2、每次事故财产损失赔偿限额 500 万

The compensation limit for property losses per accident is 5 million.

3、每次事故人身伤亡赔偿限额 500 万

The compensation limit for personal injury and death in each accident is 5 million.

4、每次事故每人人身伤亡赔偿限额 150 万元

The compensation limit for personal injury and death per person per accident is 1.5 million yuan.

5、赔偿情况可能随着每年续签情况会有所变化，以最新为准。

The compensation situation may change with the annual renewal, whichever is the latest.

6、保险承保范围为中国大陆地区（香港，澳门，台湾除外）

The insurance coverage is in Chinese mainland (except Hongkong, Macau and Taiwan Province).



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