

JES-ZBJ-4B 系列过电压在线监测装置
使用说明书

Overvoltage Online Monitoring Device
(JES-ZBJ-4B Series)

User Manual

安徽巨森电器有限公司
Anhui Juson Electric Co., Ltd.

JES-ZBJ-4B 系列过电压在线监测装置使用说明书

Overvoltage Online Monitoring Device User Manual (JES-ZBJ-4B)

一、概述

I. Summary

JES-ZBJ-4B 系列过电压在线监测装置(JES-ZBJ-4B-I 型、JES-ZBJ-4B-II 型)，内部采用 ARM 控制芯片，运算速度快，处理能力强，可以实时监测过电压保护器运行情况。

JES-ZBJ-4B series **Overvoltage Online Monitoring Device**, including type I and II, adopt arm control chip inside, with fast operation speed and strong processing capacity, which can monitor the operation of over-voltage protector in real time.

装置可以很好地记录过电压保护器三相六路动作次数及过电压动作的时间，JES-ZBJ-4B-II 型配置监视过电压保护器内脱离器动作情况。

They timely record the three-phase six circuit action times and over-voltage action time of the over-voltage protector. In addition, type II detects the action of the disconnecter in the over-voltage protector.

达到预防事故发生，预知事故前异常情况，提高了电力系统运行可靠性的作用。

This system prevents accidents and predicts abnormal situations before the accident, thereby improving the operation reliability of power systems.

JES-ZBJ-4B-I 型采用数码管显示，JES-ZBJ-4B-II 型采用液晶屏显示。

Type I and type II adopts digital tube and LCD screen display, respectively.

二、工作原理

II. Working principles

当系统有过电压加在过电压保护器上时，组合式过电压保护器通过增加自身电流泄放过电压能量保护设备。

When the system has over-voltage applied to the over-voltage protector, the combined over-voltage protector releases the over-voltage energy protection equipment by increasing its own current.

保护器动作电流经电磁感应线圈输入计数器。

The action current of the protector is input into the counter through the electromagnetic induction coil.

该输入信号经稳压、滤波、光电隔离至微处理器，微处理器一旦接受到该信号，即刻对三路输入信号进行处理并记录结果，同时通过显示界面显示，计数指示灯保持闪烁。

The input signal is isolated to the microprocessor through voltage stabilization, filtering and photoelectric isolation. Once the microprocessor receives the signal, it immediately processes the three input signals and records the results. At the same time, through the display interface, the count indicator remains flashing.

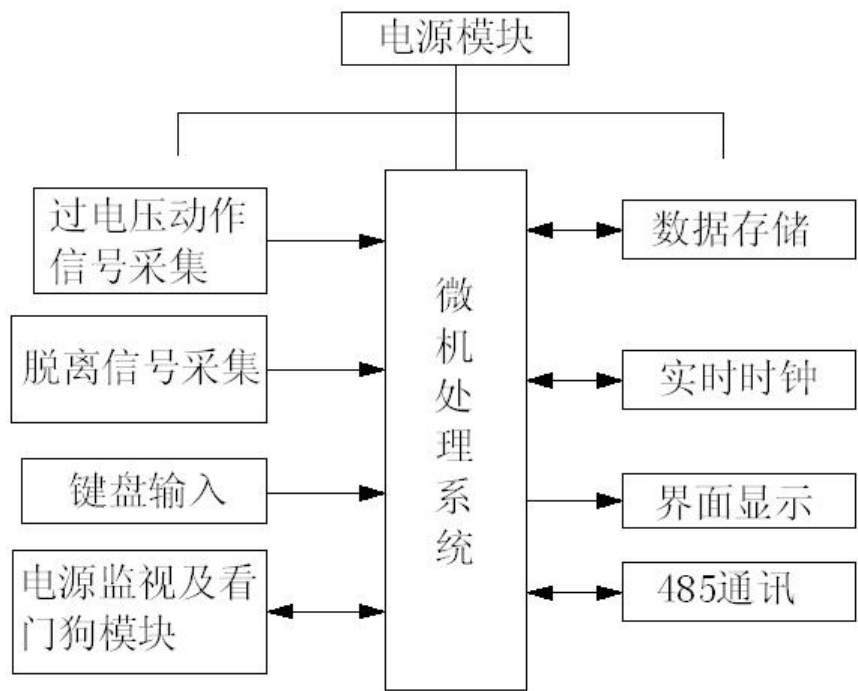
按下返回键，指示灯熄灭。

Press the “Return” button and the indicator light will go out.

JES-ZBJ-4B-II 型同时还监测保护器脱离装置是否动作，若脱离装置动作，计数器将发出报警。装置工作原理方框图如图一所示。

JES-ZBJ-4B-II also monitors whether the protector disengages from the device. If the

disengagement device acts, the counter will give an alarm. The working principle block diagram of the device is shown in Figure 1.



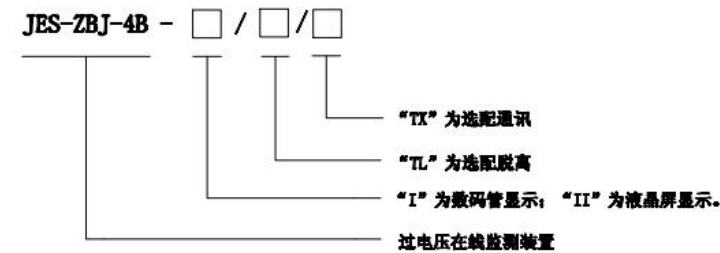
图一 工作原理方框图

Figure 1 Working principles diagrammatic sketch

- 电源模块: Power module
过电压动作信号采集: Over voltage action signal acquisition
脱离信号采集: Off signal acquisition
键盘输入: Keyboard input
电源监视及看门狗模块: Power supply monitor and watchdog module
微机处理系统: Microcomputer processing system
数据存储: Data storage
实时时间: Real time
界面显示: Interface display
485 通讯: 485 communication

三. 类型说明

III. Type description



说明: JES-ZBJ-4B-I型不能选配脱离

“TX” 为选配通讯: “TX” is select communication.

“TL” 为选配脱离: “TL” is select configuration disconnecter.

“I” 为数码管显示; II 为液晶屏显示。“I” Is the digital tube display; “II” is the LCD display

过电压在线监测装置: Overvoltage Online Monitoring Device

说明: JES-ZBJ-4B-I 型不能选配脱离

Note: JES-ZBJ-4B-I type cannot select configuration disconnecter.

四、技术参数 IV. Technical parameters

1、工作电压: AC/DC: 85V~265V; 1. Working voltage: AC / DC: 85V ~ 265V;

2、环境温度: -20℃ ~+50℃, 环境湿度: 相对湿度≤90%;

2. Ambient temperature: -20 °C ~ + 50 °C; Ambient humidity: relative humidity ≤ 90%;

3、海拔高度: 2000m 及以下 (特殊情况定制);

3. Altitude: ≤ 2000m (Customized in special cases);

4、计数次数: 9999 次。

4. Counting times: 9999 times;

5、工作频率: 48~62HZ。

5. Working frequency: 48 ~ 62HZ.

五、功能特点 V. Functional characteristics

1、实时记录过电压保护器三相六路过电压动作发生的相别、次数及时间。

Real-time recording of the phase, number and time of the three-phase and six-circuit overvoltage action of the overvoltage protector.

用户可以根据每条线路过电压保护器动作次数情况, 进行重点检查, 预防事故发生, 同时也可作为事故发生后分析故障原因的依据之一。

Users can perform key inspections according to the number of times the overvoltage protector operates on each line to prevent accidents. It can also be used as one of the basis for analyzing the cause of accidents.

2、JES-ZBJ-4B-II 型实时监测过电压保护器内置脱离器运行状况, 并具有过电压保护器脱离事故报警功能。

Type II can timely monitor over-voltage protector built-in disconnecter operating conditions, and has an over-voltage protector disconnect accident alarm function.

若保护器内置脱离器发生脱离, 用户应及时更换过电压保护器。

Users should timely change overvoltage protector if the built-in disconnecter of the protector detaching.

3、装置内置高精度时钟, 且在掉电后仍可保证准确计时, 可避免掉电后调整时间的麻烦。

A built-in high-precision clock: still work after power failure; avoid the trouble of adjusting the time after power failure.

4、具有掉电保护功能, 可保证所记录的数据在断电情况下也不会发生丢失现象。

Power-down protection function: protect data when power failure.

5、内置看门狗芯片, 有效保证程序在一些极端情况下可以正常运行。

A built-in watchdog chip: effectively ensure the program working in accidents.

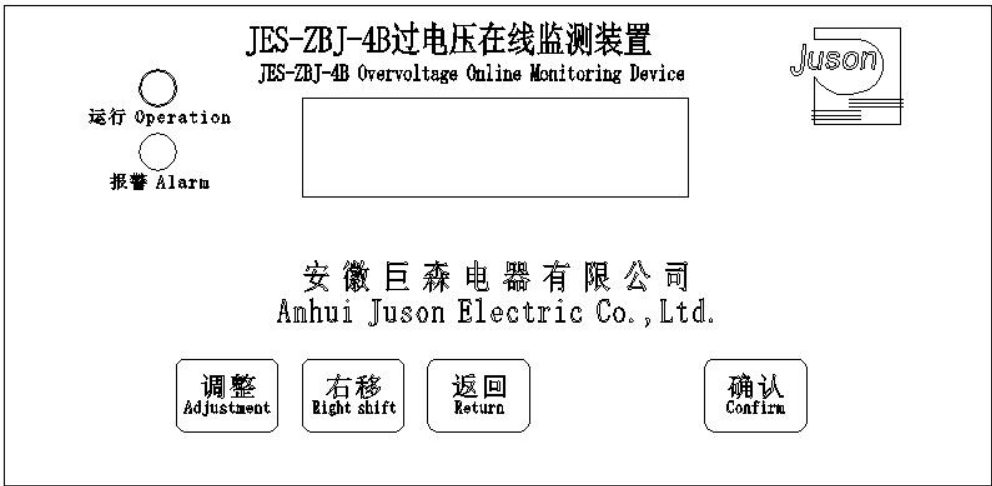
6、设计有RS485通信接口, 可与上位机进行数据传输。

A RS485 communication interface: carry out data transmission with host computer.

六、使用及操作说明 VI. Use and operation instructions

JES-ZBJ-4B-I型使用及操作说明

Use and operation JES-ZBJ-4B instructions of Type I



图二 JES-ZBJ-4B-I型操作面板图

Figure 2 Type I operation panel

1、JES-ZBJ-4B系列过电压在线监测装置通电正常工作时，运行指示灯闪亮，数码管显示当前时间。

1. The power light working and digital tube displays the current time when recorders working order.

2、参数查看

2. Parameters check

按下调整键，可以循环查看当前时间、三相六路动作次数、通讯地址、数据清除等界面。

Press the adjustment key to view the current time, three-phase and six-way action times, correspondence address and data clearing.

H—000000 表示 时、分、秒；

H—000000: hours, minutes and seconds;

Y_000000 表示年、月、日。

Y_000000: year, month, and day.

Ad—000000 表示 A相放电动作次数；

Ad—000000: discharge action frequency of phase A;

Bd—000000 表示 B相放电动作次数；

Bd—000000: discharge action frequency of phase B;

Cd—000000 表示 C相放电动作次数；

Cd—000000: discharge action frequency of phase C;

AB—000000 表示 AB相间放电动作次数；

AB-000000: discharge action frequency alternate between A and B;

AC—000000 表示AC相间放电动作次数；

AC—000000: discharge action frequency alternate between A and C;

BC—000000 表示 BC相间放电动作次数；

BC—000000: discharge action frequency alternate between B and C;

AE—表示本机通讯地址。

AE— correspondence address;

CLER—表示数据清除

CLER— data clearing.

3、参数设置

3. Parameters setting

在参数查看界面，通过按动调整键选择进入要修改的参数界面。

First, selecting corresponding parameters you want change in parameters interface via pressing “Adjustment” button.

按下确认键，参数右下角会出现一个小红点，按右移键，红点会向右移动，当红点移动到要修改的参数的某一位时，按调整键可以进行数据大小的修改。

Second, pressing “Confirm” button, a little red dot will appear in the lower right quarter of corresponding parameters. Then, pressing “Right shift” button, the little red dot will move to corresponding parameter you want change, and pressing “Adjustment” button to modify parameters.

参数修改完后，按确认键，参数修改成功，红点消失。

Third, complete parameter modification via pressing “Confirm” button, red dot disappears.

4、数据清除功能。

4. Data clearing

在参数查看界面，通过调整键进入CLER界面，按下确认键，右下角会出现一个红点，按一下调整键，再次按确认键红点消失，装置记录数据清空。

First, selecting CLER interface in parameters interface via pressing “Adjustment” button. Second, pressing “Confirm” button, a little red dot will appear in the lower right quarter. Pressing “Adjustment” and “Confirm” button again, little red dot disappears, data cleaning completed.

5、动作次数及时间查看

5. Time and discharge action frequency check

在动作次数显示界面，按下“确认”键，每按“调整”键一次，将依次显示最近一次放电相、放电日期、放电时间，直到最早一次记录信息，记录信息显示完毕。

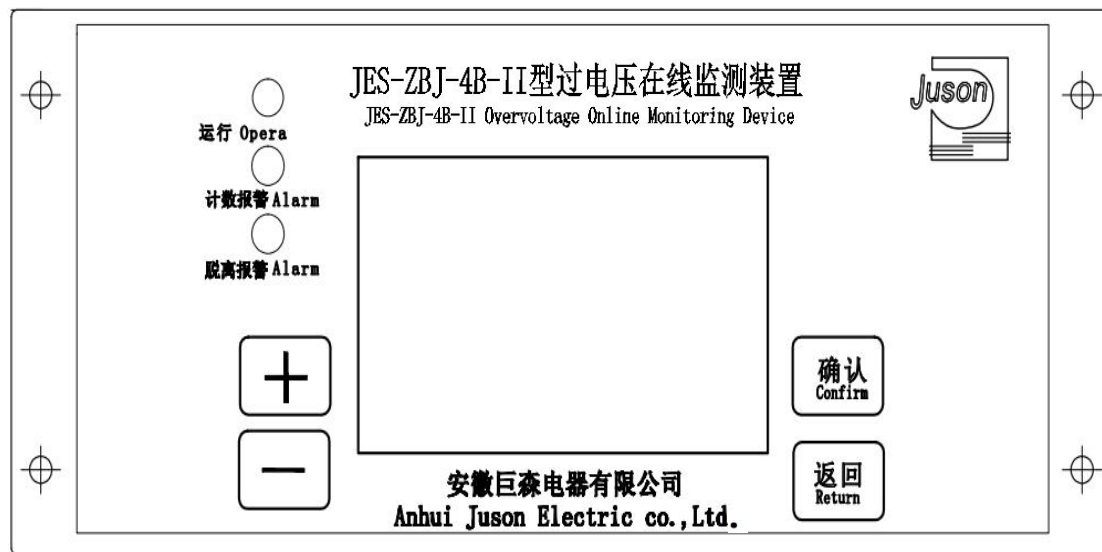
In action frequency interface, pressing “Confirm” button, subsequently each time pressing “Adjustment” button, the latest discharge phase, discharge date, and discharge time will be displayed in order until the earliest recorded information is displayed, and the recorded information is displayed.

6、按下返回键，界面返回上级菜单或主菜单。

6. Press the “Return” button to return previous menu or main menu.

JES-ZBJ-4B-II 型使用及操作说明

Use and operation instructions of Type II



图三 JES-ZBJ-4B-II型操作面板图

Figure 3 Type II operation panel

1、JES-ZBJ-4B系列过电压在线监测装置通电正常工作时，运行指示灯闪亮，液晶屏显示当前日期和时间。

1. When the device is powered on and works normally, the operation indicator flashes and the LCD screen displays the current date and time.

2、时间设置

2. Time setting

按下确认键，进入“设定菜单”界面。系统默认勾选菜单项“1：时间调整”，按确认键，进入日期和时间设置。

Press the “Confirm” button to enter the "Setup menu" interface. The system selects the menu item "1: Time adjustment" by default and presses the “Confirm” button to enter the date and time settings.

按“+”键或“-”键对“年”进行设置，修改完成，按确认键确认；重复上述操作依次设置“月”、“日”、“时”、“分”、“秒”，按确认键返回“设定菜单”界面，日期和时间设置完成。

Setting “Year” via pressing “+” and “-” button, pressing “Confirm” button to complete; repeat the above operation to set “Month”, “Day”, “Hour”, “Minute”, and “Second”; Press the “Confirm” button to complete setting and return to the “Setup Menu” interface.

3、脱离记录查询

3. Out of record query

按下确认键，进入“设定菜单”界面。按“+”键或“-”键勾选菜单项“2：脱离记录”，按下确认键，进入脱离记录查询。按“-”键可查询脱离相及脱离时间。

Press “Confirm” button to enter the “Setup menu” interface. Press the “+” or “-” button to select the menu item "2: Leave Record", and press the “Confirm” button to enter the leave record query. Press “-” to check the phase and time of separation.

4、动作次数查询

4. Actions frequency check

按下确认键，进入“设定菜单”界面。按“+”键或“-”键勾选菜单项“3：动作次数查询”，按下确认键，显示动作相及动作次数；

Press “Confirm” button to enter the "Setup menu" interface. Press the "+" key or "-" key to select the menu item "3: Query the number of actions", press “Confirm” button to display the action phase and the number of actions;

再按确认键，并按“+”键或“-”键，可查询具体动作相动作日期及时间。

then press “Confirm” button and press the "+" key or "-" key to check the date and time of specific actions.

5、本机地址设置

5. Local address setting

按下确认键，进入“设定菜单”界面。按“+”键或“-”键勾选菜单项“4：本机地址”，按确认键，再按“+”键或“-”键，对本机地址进行设置，修改完成，按确认键返回“设定菜单”界面，本机地址设置完成。

Press “Confirm” button to enter the “Setup menu” interface. Press the “+” or “-” key to select the menu item "4: Local address", press the “Confirm” button, and then press the “+” or “-” key to set the local address. Press “Confirm” button to complete modification and return the “Setup Menu” interface.

6、数据清除

6. Data clear

按下确认键，进入“设定菜单”界面。按“+”键或“-”键勾选菜单项“5：数据清除”，按确认键，显示“数据清除？”再按确认键确认数据清除。

Press “Confirm” button to enter the “Setup menu” interface. Press the “+” or “-” key to select the menu item “5: Data Clear?”, and press “Confirm” button twice to confirm the data clear.

7、正常运行时，脱离指示灯灭。当过电压保护器内置脱离器动作，脱离指示灯闪亮，报警输出，按下返回键，报警恢复。

7. In normal operation, the disconnect indicator is off. When the built-in disconnecter of the over-voltage protector operates, the disconnection indicator flashes and the alarm is output. Press the “Return” key to resume the alarm.

8. Press the return key to return to the previous menu or main menu.

七、安装指南 VII. Installation guide

1、JES-ZBJ-4B-I型安装指南

1. Installation Guide of Type I

本产品为嵌入式安装，开孔尺寸为：长×高=154.5mm × 77.5mm (如图四)，产品内深为127mm。

This product is a recessed installation. The size of the opening is: length × height = 154.5mm × 77.5mm (as shown in Figure 4), and the product depth is 127mm.

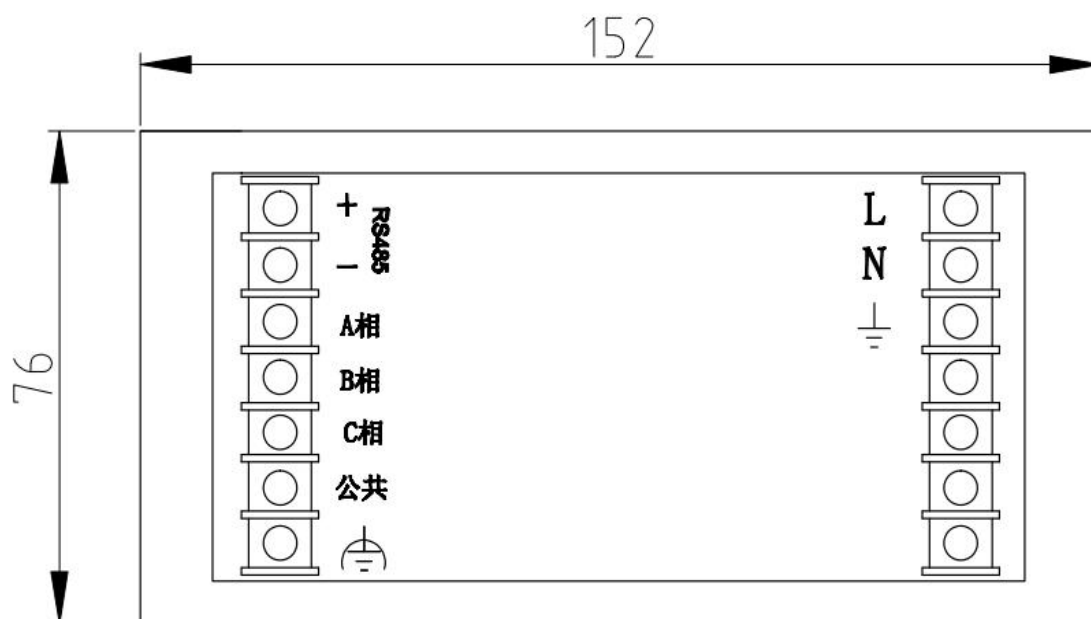
图五为JES-ZBJ-4B-I型过电压在线监测装置背板接口示意图。

Figure 5 is a schematic diagram of the backplane interface of the JES-ZBJ-4B-I Overvoltage Online Monitoring Device.



图四 JES-ZBJ-4B-I型 开孔尺寸154.5*77.5 (单位: mm)

Figure 4 JES-ZBJ-4B-I type opening size 154.5 * 77.5 (unit: mm)



图五 JES-ZBJ-4B-I 型背板端子图 (单位: mm)

Figure 5 JES-ZBJ-4B-I type backplane terminal diagram (Unit: mm)

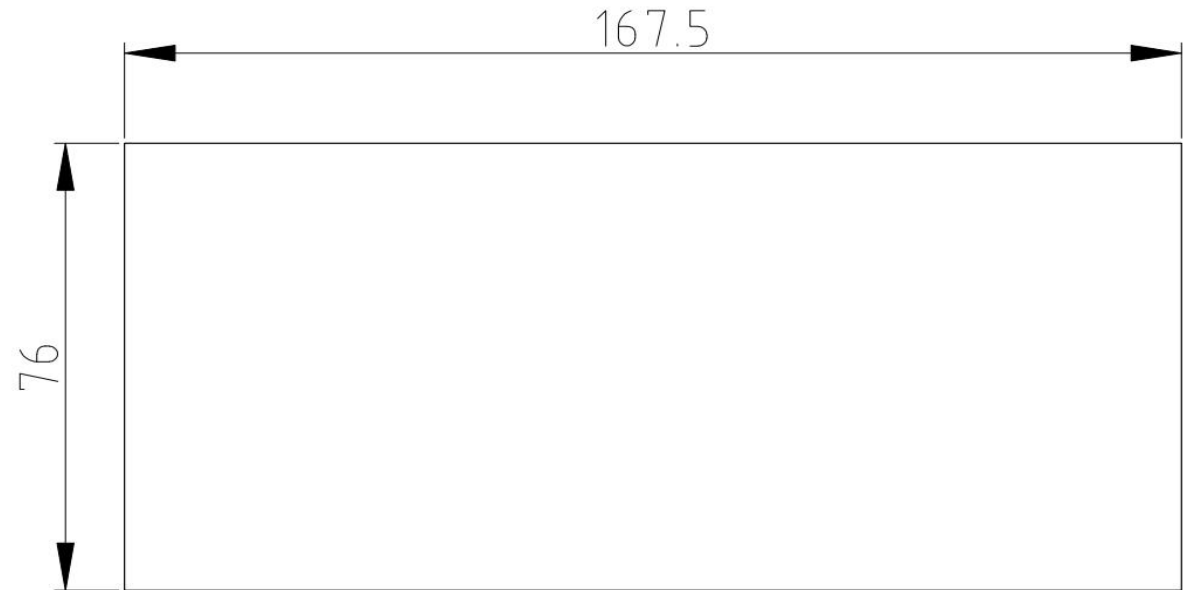
2、JES-ZBJ-4B-II型安装指南

2. Installation Guide of Type II

本产品为嵌入式安装, 开孔尺寸为: 长×高=167.5mm × 76mm (如图六), 产品内深为157.5mm。
This product is built-in installation, the opening size is: length × height = 167.5mm × 76mm (as shown in Figure 6), and the inner depth of the product is 157.5mm.

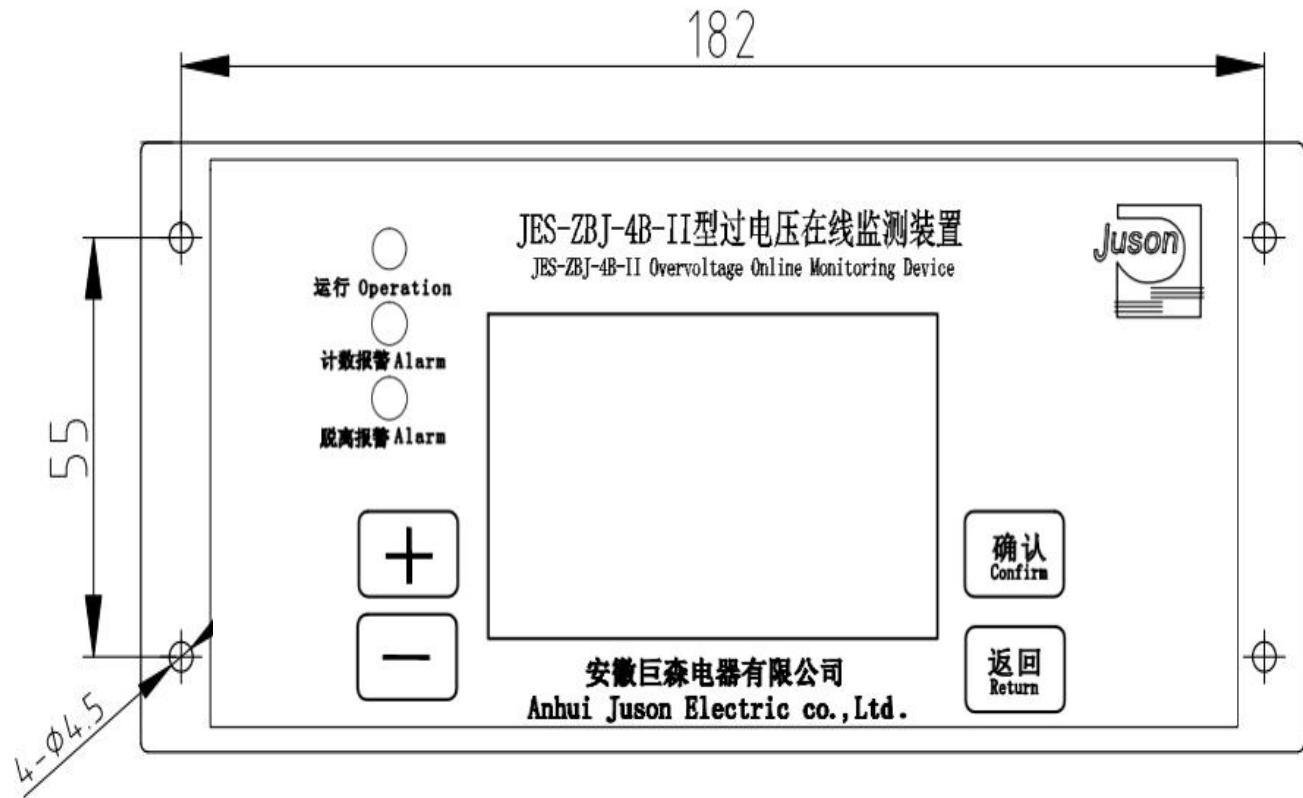
图七为JES-ZBJ-4B-II型过电压在线监测装置面板安装孔开孔图, 图八为JES-ZBJ-4B-II型过电压在线监测装置背板接口示意图。

Figure 7 is the opening diagram of the panel mounting holes of the JES-ZBJ-4B-II Overvoltage Online Monitoring Device, and Figure 8 is the schematic diagram of the backplane interface of the JES-ZBJ-4B-II Overvoltage Online Monitoring Device.



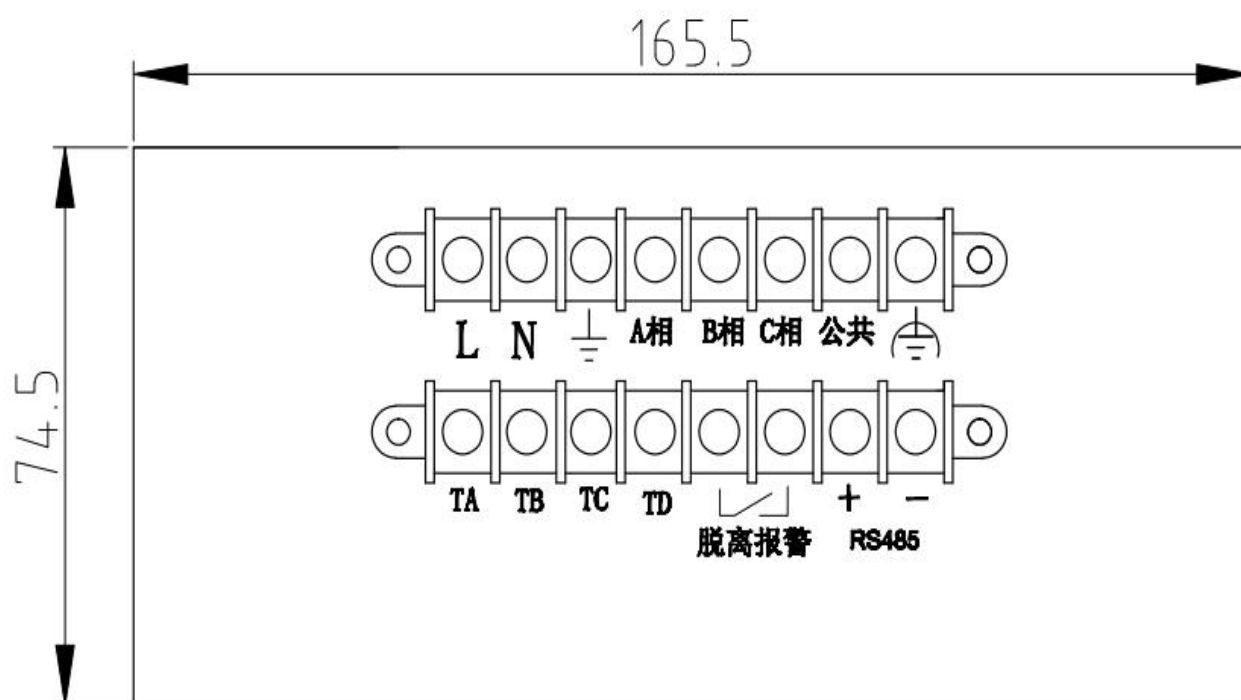
图六 JES-ZBJ-4B-II型 开孔尺寸167.5*76（单位: mm）

Figure 6 JES-ZBJ-4B-II type opening size 167.5 * 76 (unit: mm)



图七 JES-ZBJ-4B-II型面板安装孔开孔图（单位: mm）

Figure 7 JES-ZBJ-4B-II panel mounting hole cut-out (Unit: mm)



图八 JES-ZBJ-4B-II型背板端子图 (单位: mm)

Figure 8 JES-ZBJ-4B-II type backplane terminal diagram (Unit: mm)

八、JES-ZBJ-4B 系列过电压在线监测装置通讯规约

VIII. Communication statute of JES-ZBJ-4B series Overvoltage Online Monitoring Device

一、通讯参数

1. Communication parameters

波特率: 9600 Baud rate: 9600;

校验位: 无 Check digit: None;

数据位: 8 位 Data bits: 8 bits;

停止位: 1 位。Stop bit: 1 bit.

二、通讯规约

2. Communication statute

主站发送: Host sends:

address	0x03	00	00	CRCL	CRCH
---------	------	----	----	------	------

装置回复: Device reply:

[illegible]

)												
---	--	--	--	--	--	--	--	--	--	--	--	--

Addr: 装置地址,
 Addr: device address,
 0x0F :有效数据长度
 0x0F: effective data length
 AD_COUNTER: AD 动作次数, 低字节在前。
 AD_COUNTER: AD actions frequency, with the low byte first.
 BD_COUNTER: BD 动作次数, 低字节在前。
 BD_COUNTER: BD actions frequency, with the low byte first.
 CD_COUNTER: CD 动作次数, 低字节在前。
 CD_COUNTER: CD actions frequency, with the low byte first.
 AB_COUNTER: AB 动作次数, 低字节在前。
 AB_COUNTER: AB actions frequency, with the low byte first.
 AC_COUNTER: AC 动作次数, 低字节在前。
 AC_COUNTER: AC actions frequency, with the low byte first.
 BC_COUNTER: BC 动作次数, 低字节在前。
 BC_COUNTER: BC actions frequency, with the low byte first.
 TLA: A 相脱离器动作状况, 1 表示动作, 0 表示未动作。
 TLA: Phase A disconnecter operation status, 1: operation, 0: non-operation.
 TLB: B 相脱离器动作状况, 1 表示动作, 0 表示未动作。
 TLB: Phase B disconnecter operation status, 1: operation, 0: non-operation.
 TLC: C 相脱离器动作状况, 1 表示动作, 0 表示未动作。
 TLC: Phase C disconnecter operation status, 1: operation, 0: non-operation.
 CRC: CRC 校验, 低字节在前。
 CRC: CRC check, with the low byte first.

说明:

Explanation:
 JES-ZBJ-4B-I 型忽略 TLA、TLB、TLC。
 TLA, TLB & TLC is ignored in JES-ZBJ-4B-I.

九、订货须知 IX. Notice when ordering

公司标准配备的信号线长度为 5 米, 如有特殊要求, 请在订货时注明。
 The length of the standard signal cable provided by the company is 5 meters. If there are special requirements, please specify when ordering.

十、售后服务及质保说明

X. After-sales service and warranty

本公司承诺: 凡本公司产品, 自售出之日起, 半年内享受三包服务, 终生维护。
 The company promises that all products of the company will enjoy the three guarantees service within half a year from the date of sale and lifetime maintenance.
 但属于下述情况之一, 则不在三包服务及免费维修范围内:
 However, if it belongs to one of the following situations, it is not covered by the warranty service and free maintenance:

1. 用户自行拆机;

1. The user disassembles the machine by himself;
2. 设备内部进水或线路板被强酸强碱腐蚀;
2. Water inside the equipment or the circuit board is corroded by strong acid and alkali;
3. 未经许可的非正常联接导致的设备损坏;
3. Equipment damage caused by unauthorized connection;
4. 超过三包或免费维修有效期的。
4. Out three packs or free maintenance period.

对本公司生产销售的超过三包期或免费维修失效的 JES-ZBJ-4B 系列过电压在线监测装置, 我公司提供优惠的有偿维修服务, 具体费用请联系我公司相关部门。

For the JES-ZBJ-4B series Overvoltage Online Monitoring Device that has been produced and sold by the company for more than three guarantee periods or has been repaired free of charge, our company provides preferential paid maintenance services. About maintenance cost, please contact the relevant department of our company.

Anhui Juson Electric Co., Ltd.

Address: No. 289 Haitang Road, High-tech Zone, Hefei

Postcode: 230088

Phone: 0551-65395848 65395910