

PJG(1) | Mining Explosion Proof Intrinsically Safe High-voltage Vacuum Distribution Device



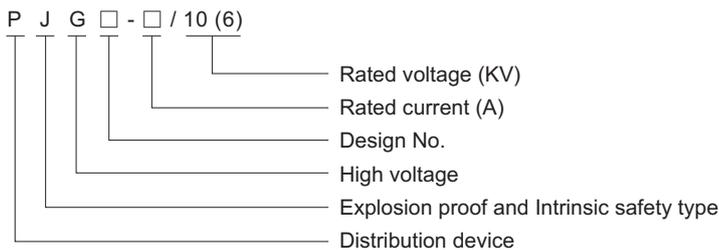
Use

This distribution device is used for high-voltage motor direct start, control, protection and measurement in coal mine where is filled with explosive gas(methane mixture) in the neutral point ungrounded three-phase power supplying system of rated voltage is 10KV, 6KV or 3.3KV, 50Hz, rated current range is 50A~630A.

Technical Descriptions

1. With vacuum breaker, voltage(current) transformer, arrester integral installation. With reasonable structure, no additional track, strong with interconnectivity and simple for maintenance.
2. Adopts 32 bit microprocessor intelligent protector which has high protection precision and fast response speed; has the protection functions of electrical grounding, under-voltage, over-voltage, three-phase imbalance, overload, short-circuit, phase break, insulation surveillance, electric latch, etc. Or uses the famous industrial level PLC protector to control the device (PLC is optional).
3. Indicates power grid voltage, current, capacity and insulation resistance.
4. Uses RS-485 or CAN communication interface intrinsically Safe type (as per user's requirement) can communicate with the host computer, the device has "4 remote control" function to realize no person unattended in coal mine.
5. With software and hardware self-check function, the malfunction information will be displayed.
6. Fast door-opening design with reliable mechanical and electric interlock, ensures the device is safe and reliable.
7. Distribution device can be individually or with another one; when two sets of device are used together, flexible connection or non-flexible connection is available.
8. Function of manual switch on/off for emergency use.
9. The structure of product is being applied for patent.

Meaning of Type



Technical Data

Type	Rated voltage (kV)	Rated current (A)	Rated breaking current (kA)	Rated peak current (kA)	Duration of short circuit (S)	Mechanic life (T)	External diameter of cable(Φ mm)		Dimension W×H×D (mm)	Weight (kg)
							Main circuit	Control circuit		
PJG-□/3.3	3.3	50,100, 160,200, 250,315, 400,500, 630	12.5	31.5	2	10,000	42~78	8~13(3) 9~23(6)	1220×1238×1366	690
PJG-□/6	6									
PJG-□/10	10									
PJG1-□/3.3	3.3	50,100, 160,200, 250,315, 400,500, 630	12.5	31.5	2	10,000	42~78	8~13(3) 9~23(6)	1220×1238×1466	750
PJG1-□/6	6									
PJG1-□/10	10									

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Updated Advantages

The framework adopts manual rolling chassis car, operates with shaft principle, the car moves steadily, achieves the functions of isolation switch on/off, compares to traditional structure, it has following advantages:

1. Part of operation

The speed of traditional framework is different changed according to different people's operation, which causes impact or switch on uncompleted; but for the manual rolling chassis operational framework, the car moves steadily, the speed of switch on/off the break is the same even if different people operates the isolated contacts.

2. Part of life expectancy

Due to fast speed the traditional framework operates in the process of switch on/off, big mechanical impact is effected on the moving contacts and fixed contacts, contact and contact box will be damaged, the life expectancy of contact isolation will be affected. Especially after a long time use, the connection part of contact will be mechanical transformed., the contacting resistance increases, vicious circulation will occur. Switch on/off progress of manual rolling chassis framework is even and steady, moving contact connects more smooth with fixed contact, the framework will not be transformed by people's operation, which ensures the equipments' life expectancy.

3. Part of connection

Contacts in the traditional framework connect by using inertia, especially after contacts connect with the complete contact, the contact false connection will occur, that would increase the resistance's temperature, burn the isolation part and bring disaster. But the new framework of manual rolling chassis car moves even and steadily, ensures the contacts can be reliable connected.

4. Part of linkage

Contacts in the traditional framework connect by using of inertia, when the break is closed or opened, it causes mechanical rebound, the small car couldn't be accurate located, mechanical linkage will be unreliable. Simultaneous linkage of accurate mechanical and electrical function is adopted in the manual framework with rolling chassis, the framework could be operated safely in the mine substation.

The incandescent light source is replaced by LED light source for maintenance.

For the present market, there is no specialized light source for maintaining the high voltage vacuum distribution device, only traditional incandescent light source is adopted, the life expectancy is short, light effect is bad, these will bring unnecessary maintenance work for the equipments; however, we choose LED light source because it has advantages of high effect and unnecessary for maintenance.

Refer to the Specific Functions as Follows

Functions description	HRG-7RT
Protection for short circuit current	√
Protection for overload current	√
Over current(over load) protection	
Cable insulation surveillance	√
Section I leakage protection	
Section II leakage protection	√
Generally reverse time limited current protection	
Strong reverse time limited current protection	√
Extreme strong reverse time limited current protection	
Power directional leakage protection	√
Low voltage linkage type current protection	
Low(under) voltage protection(with or without time delay)	√
Alarming with low voltage	√
Simulated malfunction test function	√
Infrared remoter operation	√
Cabinet button operation	√
System online communication	√
Main remote measurement	Ia, Ic, Io, Uab, Ubc, P, Q, COSΦ, Insulated resistance
Function of far direction remote closing control and opening control	√
Protection for action latch	√
Remote signal	√
Wind and electricity latch(Choose open or close)	√
Gas latch(Choose open or close)	√
Electrical degree measurement	√
Function of malfunction wave recording intelligent analysis	
Function of malfunction and accidents memory recording	√
Real-time clock	√
Second Zero differential protection	
Hour Zero limitation intelligent backup protection	
Self-motivated type different frequency leakage protection	
Remote maintenance and soft ware remote updated function	
Negative order, phase break and reverse protection	Unbalanced phase
People-computer interface	128x64 dot queue Chinese LCD
Precision of measurement displaying	Common