

BDP820A

电力智能保护测控装置及自动化监控系统
Electric Protection & Monitor Devices and Automation Systems

发电机组保护测控装置

Generator Set Protection and Control Device



产品概述

BDP820A 发电机组保护测控装置是在总结国内外同类产品的优点，充分考虑用户需求并结合发电厂现状及未来发展而开发研制的新一代系列化产品，包括了整套发电机保护和测量控制系统，提供了各种容量的发电厂电气自动化的完整解决方案。

Product Summary

BDP820A Generator Set Protection and Control Device is a new generation series of products developed by summarizing advantages of similar products at home and abroad and fully considering the needs of users and the status quo and future development of power plants, including a full set of generator protection and measurement and control system and providing a complete solution for the electrical automation of power plants at a variety of capacities.

产品特点

1. 双 CPU，大容量存储器，14 位 ADC。
2. 可对 50 次故障全过程录波，并带一路 4~20mA 电流输出。
3. 具有自校验功能，采样精度免调校。自带故障分析功能，可重现故障过程。
4. 自检功能，故障定位到芯片。
5. 大屏幕液晶，全中文显示，LED 灯光指示。
6. 背插式全封闭结构，SMT 工艺，完善的操作回路。

Product Features

1. Dual CPU, large memory and 14-bit ADC.
2. Perform wave recording for 50 times of faults in the whole process, with one-way 4~20mA current output.
3. Have the self-checking function and the sampling precision is free of adjustment. With the failure analysis functions, it can reproduce the fault process.
4. Self-inspection function, locating the faults in chips.
5. Large-screen LCS, full-Chinese display, LED lighting indication.
6. Back-insert full-enclosed structure and SMT process can perfect the operating circuit.

测控及通讯功能

本系列产品仍采用分层分布的体系，监控层使用 100M 以太网，间隔层使用 10M 以太网，均采用基于集线器的星型拓扑结构，传输介质根据需要选择双绞线或光纤，间隔层的保护装置直接接入间隔层以太网，其它分布布置的智能设备通过规约转换器转接入间隔层以太网，根据设备所属间隔和物理位置连接到适当的间隔层集线器，然后再将所有间隔层集线器接入厂站层集线器，所有的站级设备均直接接到厂站层集线器。

对于站点较多的站，厂站层集线器选用交换型集线器将间隔层分成若干子网，限制每个冲突域的站点数量不致过多，以确保系统响应速率。

Measurement control and communication

This series of products still adopt the hierarchical distribution system. The monitoring layer adopts 100M Ethernet. The spacer layer adopts 10M Ethernet. The two layers adopt hub-based star topology structure and the transmission medium made of twisted-pair cable or optical fiber can be selected according to needs. The protection device of the spacer layer is direct connected to the Ethernet of the spacer layer. Other intelligent devices distributed can be connected to Ethernet of the spacer layer via protocol converter and connected to the appropriate hub of the spacer layer according to the device spacing and physical location, and then all hubs of the spacer layer are connected to the concentrators of the factory station layer.

For more station sites, the switching hub selected for the factory station into a number of subnets, limiting the number of sites of each collision domain not be too much to ensure the system response speed.

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系列发电机组保护测控装置型号及保护功能配置表

Type and Protection Feature Configuration of BDP820A Generator Set Protection and Control Device

型号 Type	主要功能 Main Features	名称 Name	应用场合 Application
BDP821A	差动速断 / 比率差动 / TA 断线告警及闭锁 / 复压 (记忆) 过流保护 (选投) / 过负荷 / 负序过负荷 / 逆功率保护 / 频率异常保护 / TV 断线检查及告警 Differential quick-break protection/ratio differential protection/TA disconnection alarm and lock/compound voltage(memory) over-current protection (optional)/overload / negative sequence overload / reverse power protection/ frequency abnormal protection/TV disconnection inspection and alarm	数字式发电机差动保护测控装置 Digital generator Differential protection and control device	100MW 及以下汽轮 / 水轮发电机 100MW or lower turbine/ hydro generator
BDP822A	复合电压闭锁 (记忆) 过流保护 / 定时限负序过流保护 / 过电压保护 / 转子一点 / 两点接地保护 / 失磁保护 / 6 路非电量保护 / 3U0/3I0 定子接地保护 / 横差保护 / 纵向零序电压保护 (选配) / 轴电流保护 (选配) / TV 断线检查及告警 / 分散式故障录波 / 10 路外部遥信开入采集, 装置遥信变位, 事故遥信 / 3 组遥控输出 (可用于遥控 MK、励磁等) / 10M/100M 以太网通信及网络软件对时 / 1 路直流 (4 ~ 20mA 或 0 ~ 5V) 测量 (选配)。 Compound voltage lockout (memory) over-current protection/definite time negative sequence over-current / overvoltage protection / rotor point / two-point grounding protection / magnetism loss protection / 6-way non-power protection/3U0/3I0 stator grounding protection/transverse differential protection/ longitudinal zero-sequence voltage protection (optional) / axis current protection (optional)/ TV disconnection inspection and alarm/ decentralized disturbance/10-way external remote signal acquisition, device remote signaling modification, accident telesignalling / 3 group remote output (for remote control MK, excitation, etc.)/10M/100M Ethernet communications and network software for time tick/ 1-channel DC (4 ~ 20mA or 0 ~ 5V) measurement (optional).	数字式发电机后备保护测控装置 Digital generator Backup Protection and Monitoring Device	100MW 及以下汽轮 / 水轮发电机 100MW or lower turbine/ hydro generator
BDP823A	同期合闸 / 无压合闸 / 组调速调压控制 (可选择手动或自动投退) / 遥控同期方式 / 无压方式 / 遥控投退同期对象 / 机组 / 首次打破机组型 / 线路型两种同期类型限制, 本装置设置了四种同期类型 / 装置故障或告警闭锁调速调压及合闸出口 / 智能化随运行方式改变同期点类型 / 智能化测量断路器导前时间 / 允许同频合闸 / 机组型同期点无压方式可选择 / 10 路强电遥信开入采集、装置遥信变位 (可扩展至 26 路开入) / 对象选择、机组选择、起停同期、无压方式等均可遥控 / U_s 、 U_g 、 f_s 、 f_g 、 ΔU 、 Δf 、 $\Delta \phi$ 、 df/dt 等模拟量的遥测。 Synchronizing closing /no voltage closing /unit speed voltage control (optional manual or automatic closing/opening) / remote synchronizing type / non-voltage mode / Remote synchronizing object/ units/ first break unit type/ two circuit-type synchronizing restrictions, the device is provided with four-synchronizing type / device fault or alarm latch speed regulating and closing outlet/ intelligence operation mode changes the synchronizing point type/intelligent measurement breaker before-guiding time/allow the same frequency closing/unit type synchronizing point no-voltage mode selectable/10-way strong current remote signal acquisition, device remote signaling displacement (expandable to 26-way access)/ object selection, unit selection, start the synchronizing, non-voltage and so on can be remote control/ telemetry of U_s , U_g , f_s , f_g , ΔU , Δf , $\Delta \phi$, df/dt and other analogs.	智能准同期装置 Intelligent synchronizing device	同步发电机组 Synchronous generator sets
BDP824A	装置可对 4 个同期点及 2 台机组调速调压控制进行手动选择切换, 包括电压回路、合闸回路及信号回路的切换。 The device can the manual selection switching of four synchronizing sites and two sets of unit speed regulator control, including switching of voltage circuit, closing circuit and signal circuit.	智能准同期选点装置 Intelligent accurate synchronizing site selecting device	电动机 Motor