

Overhead type Short circuit & Ground Fault Indicator

GSM and GPRS/GPS remote control system

Instruction Manual

NOTE: THE BELOW INTROUCE USE FOR “ GSM MOBILE PHONE VERSION” AND “GPRS WEB SERVICE VERSION”, “ GSM /GPS MOBILE PHONE VERSION” AND “GPRS/GPS WEB SERVICE VERSION”, READER CHOOSE TO READ ACCORDING YOUR PURCHASE REQUIREMENT!!!!

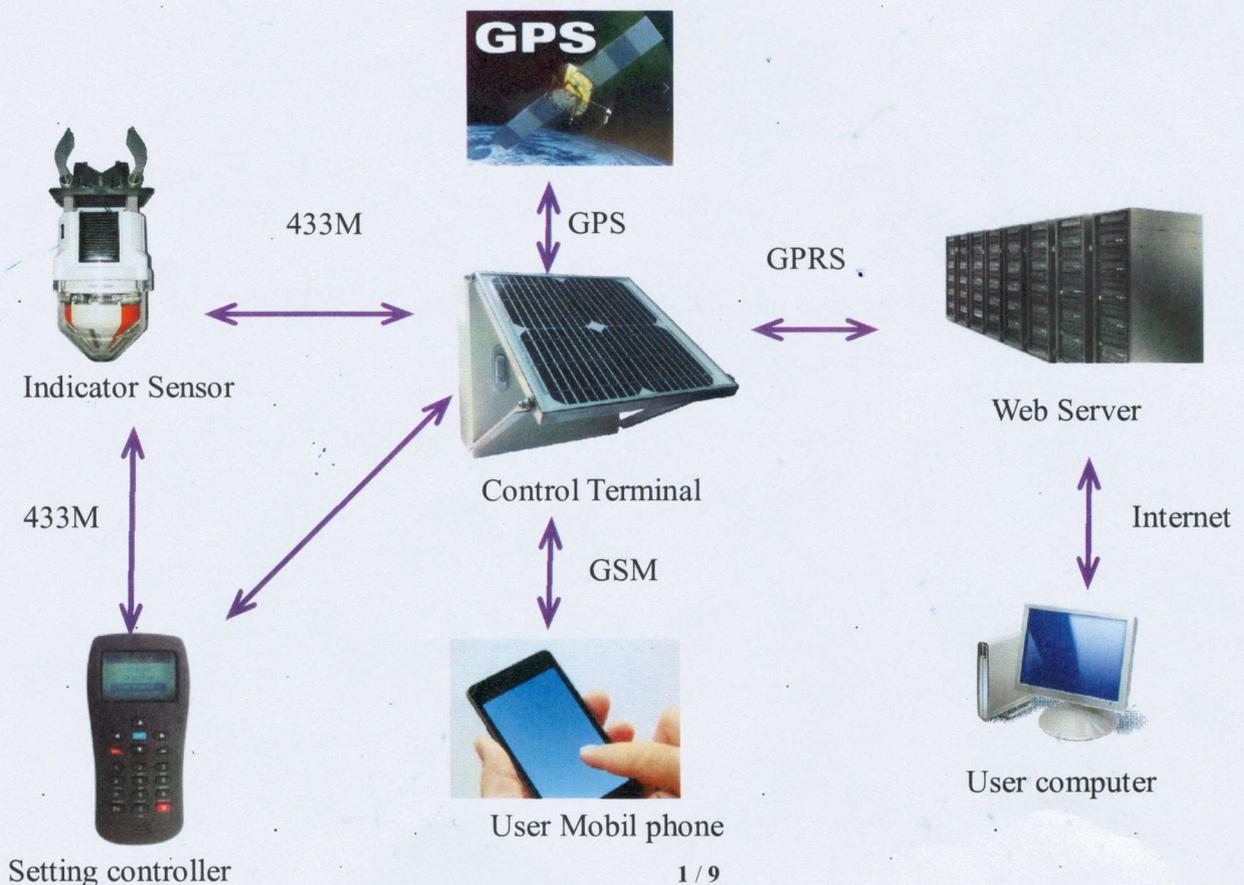
Description

AKP series overhead type Fault Indicator system is based on the Sensor that through CT get the (10KV-50KV) line's current signal, through smart computer chip by program calculating, Analysis ,judge the short circuit or ground fault. When Sensor detect the fault happen, then the Fault indicator warn the manager through turn red flag, and shine red led. It is good for power managing user to find the fault happen reason and place, then fast solve the problem and make the power restore.

AKP Fault Indicator with the aid of the professional control terminal equipment and Web server, it can achieve to remote read and manage the Fault indicator state on times.

There are two channels for reading and managing the remote fault indicators. One is through GSM mobile phone SMS command control. Second is user computer software control. Power managing user, can get the fault indicator information on times

Working principle and structure



One: Fault indicator sensor

Type: **AKP** Indicator

Description



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AKP Indicators suitable for overhead lines with a 50kV below four remotes short circuit & Earth fault indicator, through measuring the current of a cable, to judge the fault on the power lines according to the change of current, grounding fault, and the fault state, real time current, battery voltage and other information is uploaded to the remote server, which provides reliable data for the various types of fault diagnosis and location of overhead lines

Character:

- real-time sampling of current per cycle;
- ultra low power real-time sampling;
- When line current value $\geq 5A$, CT can supply meet the indicator power requirement
- Sampling accuracy $5-20A \pm 1.5A$, $20-800A \pm 3\%$
- Sensor factory automatic calibration, to ensure consistency;
- intelligent motor control flop;
- Support remote, telemetry, remote control, remote adjust;

Function character

- a. real time measurement of three-phase on line current;
- b. Detection and judgment of short circuit fault;
 - a) support the determination of the set threshold, fault current, short circuit fault;
 - b) supports the determination of a set of mutated incremental currents for short-circuit faults;
 - c) supports the determination of the percentage of short circuit faults that can be set by the percentage of mutated currents;
 - d) support for reclosing identification;
- c. Detection and judgment of ground fault;
- d. Data Upload function;
 - a) periodically upload real-time online current, zero sequence current, and battery voltage;
 - b) Upload the fault status, the fault elimination status and the fault current value in real time;
- e. Parameter setting
 - a) Available to change the parameter setting through Web server.
 - b) Available to change and set the parameter though Setting controller;
 - c) Support RS232 port for parameter modification and maintenance;
- f. Support setting controller (PDA)
 - a) Available reading and change setting parameter;

- b) PDA can read Indicator sensor state , Real time line current, battery voltage data.
- c) PDA can simulate the online fault test through setting Indicator's parameter.
- g. Intelligent motor control flop to red flag;
- h. Six three-color fault indicating led; (red, green, blue)
- i. One yellow state led light;
- j. Support line CT power charge for battery;
- k. Support timing reset, power on auto reset, remote reset;
- l. can be efficiently mounted and unloaded;
- m. The structure parts are made of antirust and anticorrosion material;
- n. In waking up state(wireless setting model),During 7 minutes, without operate, there will be auto reset.(Tips: in waking up state, FI prohibited fault test)

Function display

Flag state

- 1) Normally, Flag is on blanket position. Every 3hour, Flag will reset one times for avoiding un fault turn to red flag.
- 2) When short circuit fault happen, it will turn to red flag state; After reach reset time or when the line current restore, Fault indicator will turn back to blanket state;
- 3) when the earth fault happen, it will turn to red flag state. It will be automatically turn back blanket state when line power off and current restore, or wait until reach reset time.

Fault indicating Led light:

- 1) short circuit permanent fault indicating: Six 3-color led will shine red color, and four times, every 2 second, And turn to red flag at same time.
- 2) short circuit temporary fault indicating: Six 3-color led will shine green color, and four times, every 2 second, And turn to red flag at same time.
- 3) Earth Fault indicating: Six 3-color led will shine Blue color, and four times, every 2 second. And turn to red flag at same time.

yellow state Led light:

Battery voltage too low: Shine 1 time, every2second

Battery voltage low: shine 2 time, evey2second

Wireless setting state: shine 4 times, every 2 second

Two: Setting Controller(PDA)

TYPE: AKP-Setting controller



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Description:

PDA is a setting controller, it use for wireless remote to set and change Fault indicator sensor and Control terminal parameter.

PDA have the function to read the Fault indicator real time state, such a line current and Fault indicator battery voltage.

At same time, user can do the fault indicator one line test through PDA.

Three: Control Terminal

Type: AKP-terminal

Control terminal is use for the communication between the fault indicator , GPS satellite and web server or user GSM mobile phone. There need insert a SIM card with GPRS and GSM function.

First, Fault indicator will auto upload information to Control Terminal real time through 433M wireless communication..

Second, When user use mobile phone, send SMS command to control terminal, then terminal will execute command and send Corresponding information to user mobile phone.

Third, When the control accessed with web server, the terminal will upload all information to web sever. User can read and manage the all the accessed fault sensor state real time through run a professional software on computer. Computer required connected with internet.

Fourth, GPS Function, when the terminal put outside, then the GPS antenna will connect with GPS satellite and terminal will get the GPS position, longitude and latitude value.

Four: Software system

Type : AKP Software APP

AKP software is a professional APP use for reading and managing fault indicators.

User run the APP, then login and accessed with web sever. It is a convenient and intuitive interface. We can directly watch the current chart real time, and history current chart:

Then below is some of the software Page screenshot.

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1. Log in screen

2. Function menu page screenshot

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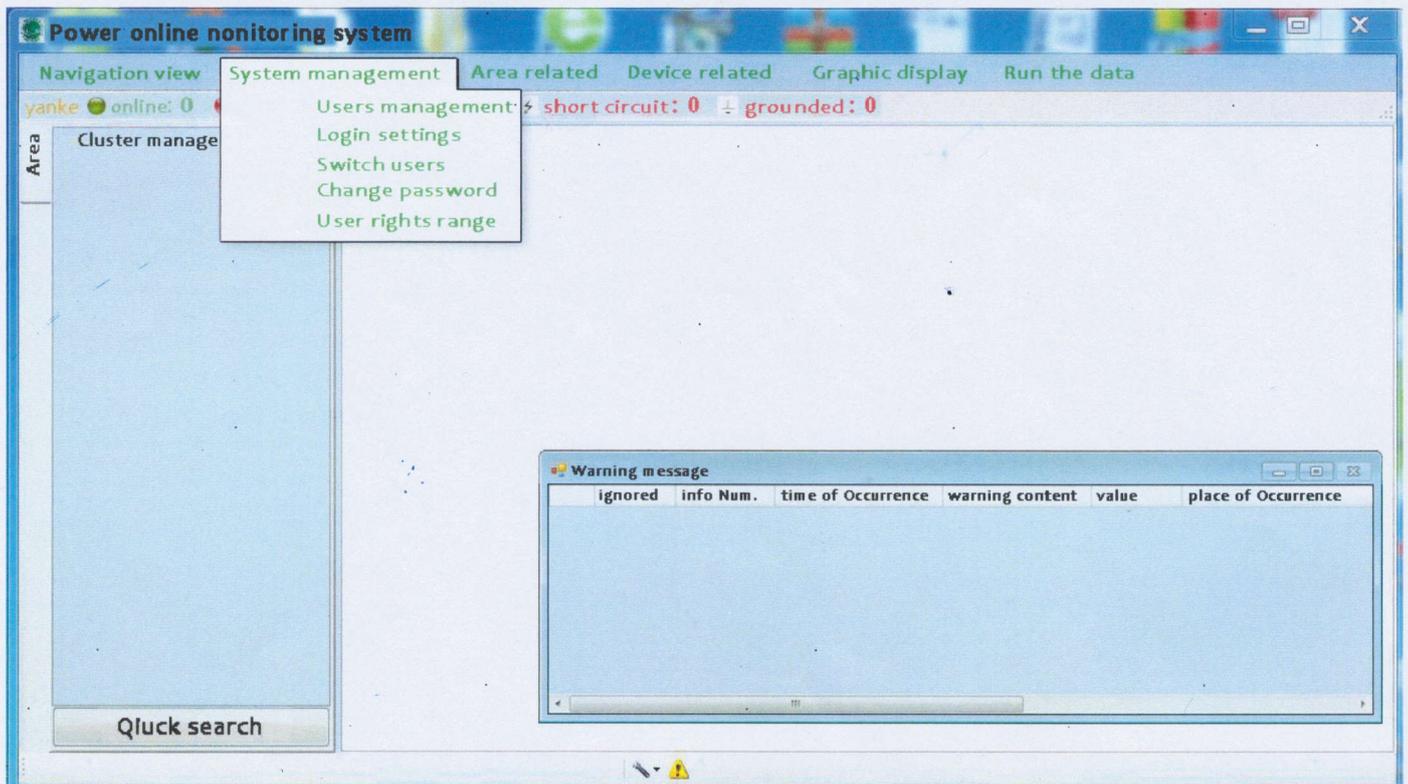
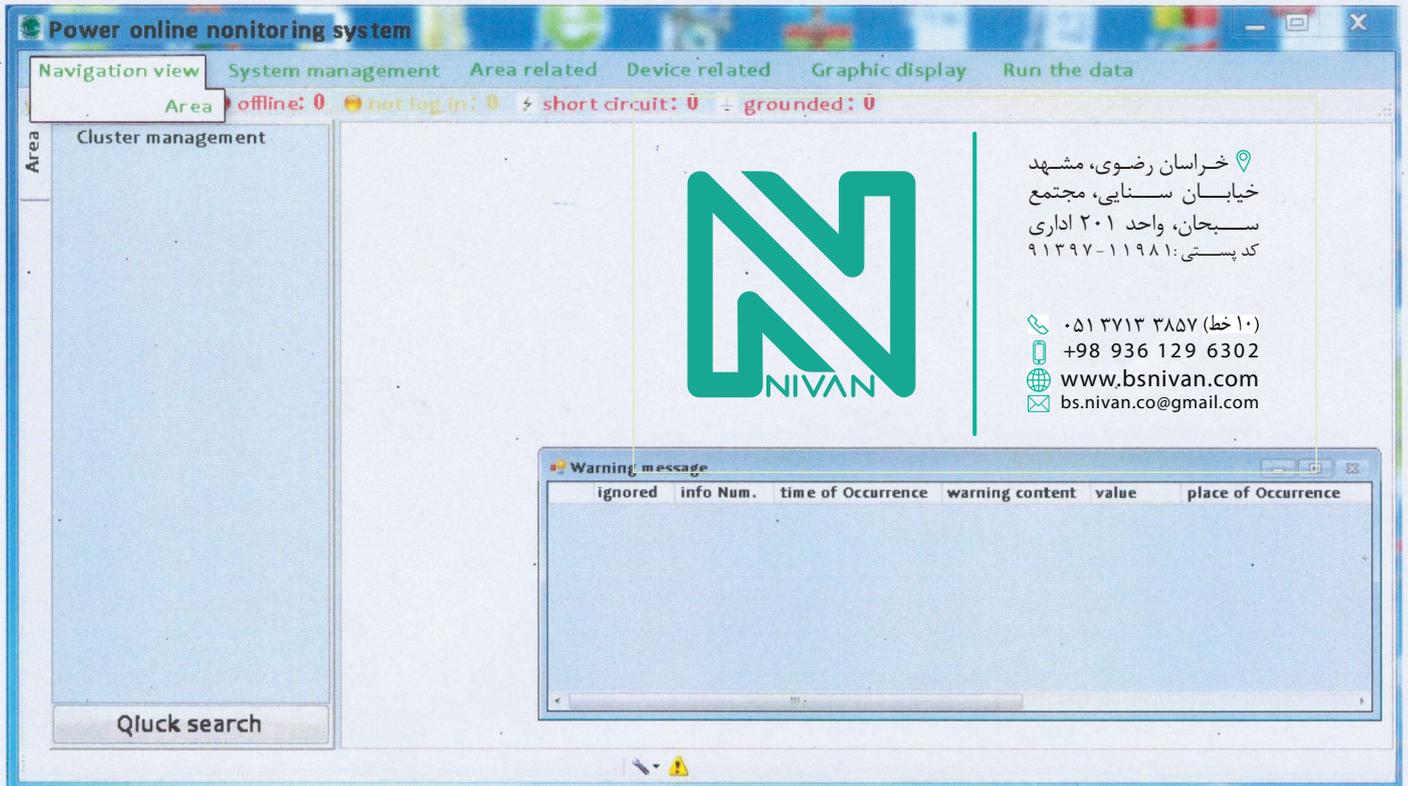
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Power online monitoring system

Navigation view System management **Area related** Device related Graphic display Run the data

yanke online: 0 offline: 0 not log in

Cluster management loaded: 0

Cluster management
Area management
Line management
Check-point management

Warning message

ignored	info Num.	time of Occurrence	warning content	value	place of Occurrence

Quick search

Power online monitoring system

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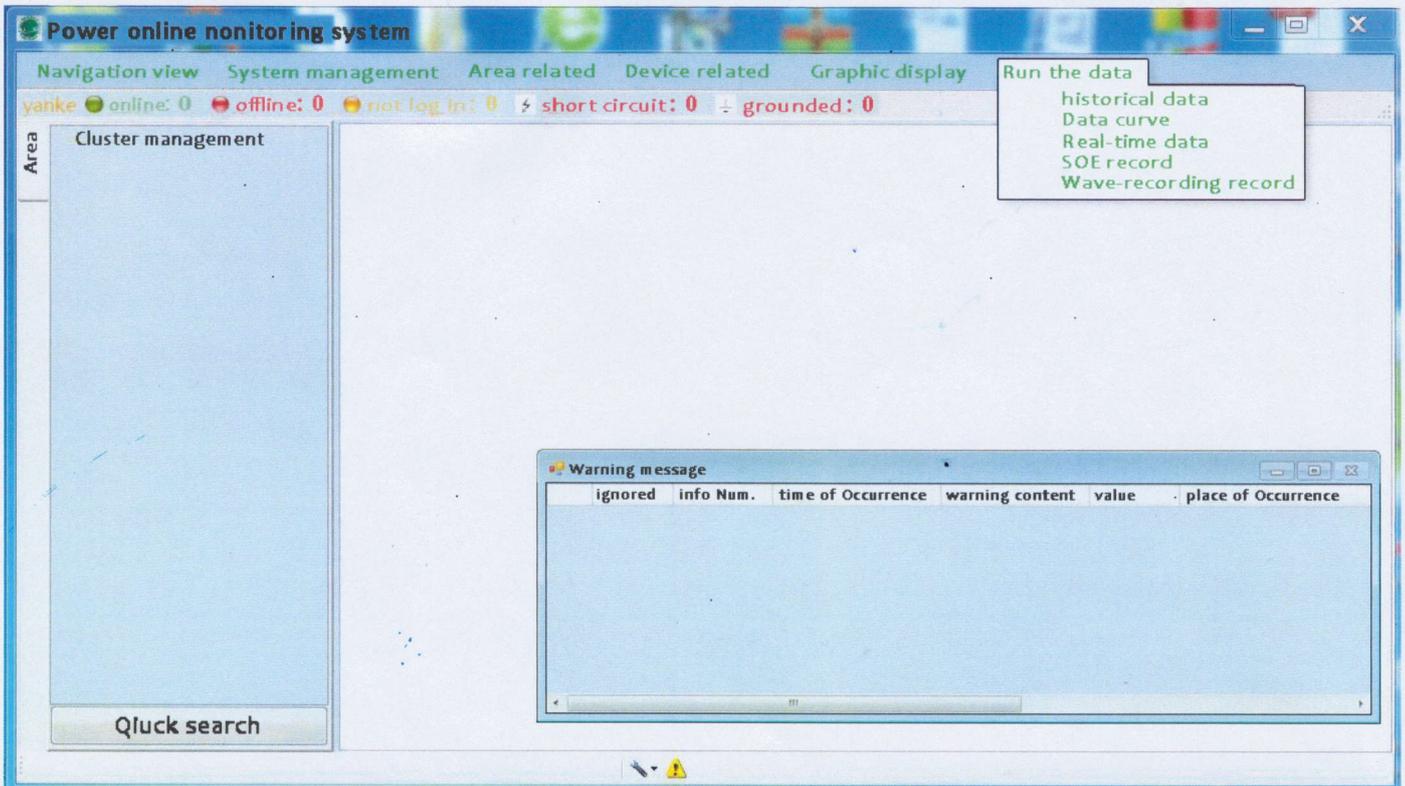
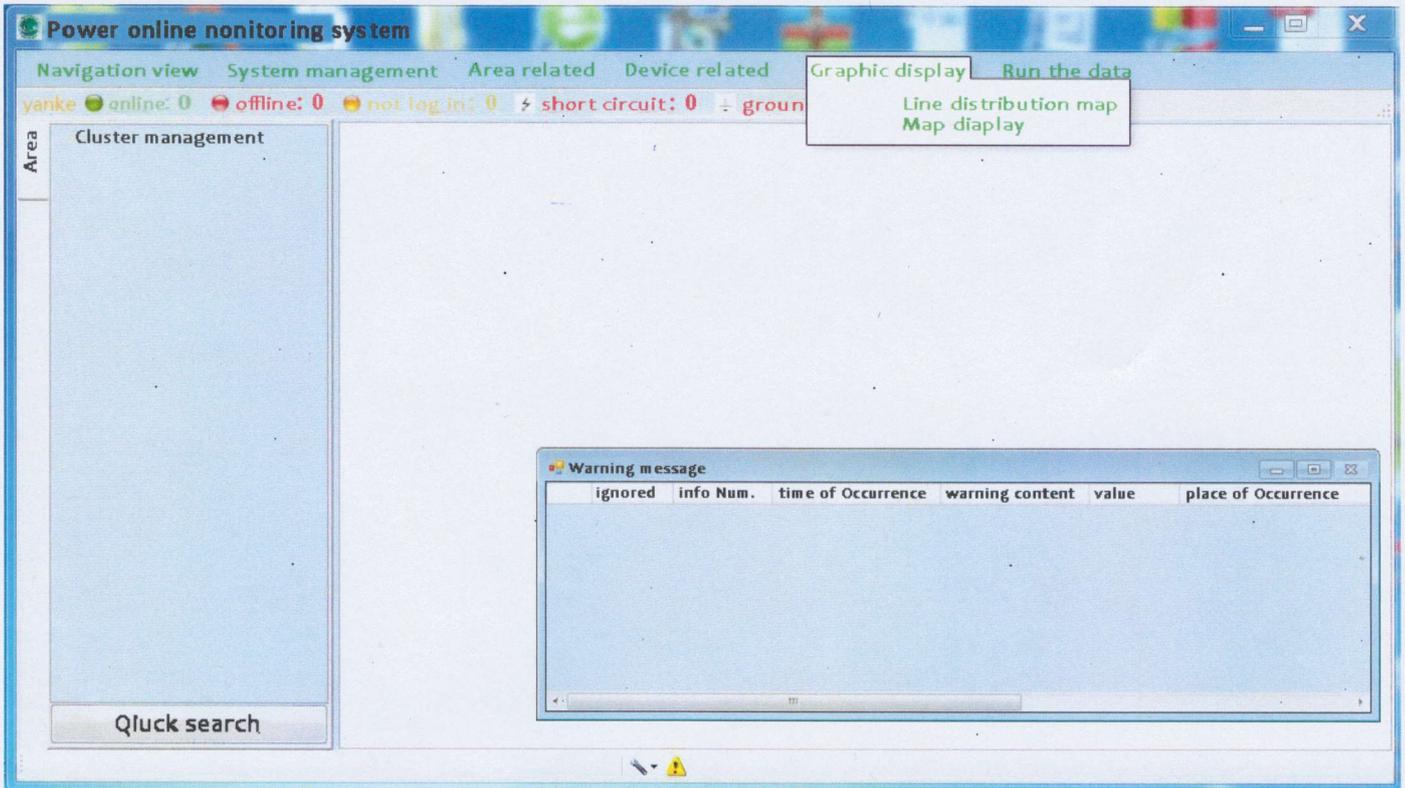
Cluster management

Device type management
Device management
Remote configuration
Telemetry configuration

Warning message

ignored	info Num.	time of Occurrence	warning content	value	place of Occurrence

Quick search



3. Online state screenshot



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