超博电力
CHAOBO ELECTRIC

Short Circuit and Earth Fault Indicator Specifications

EKL4

CHAOBO AUTOMATION TECHNOLOGY CO., LTD.

Add: No. 261, Weishiqi Road, Economic Development Zone, Yueqing, Wenzhou, Zhejiang, China
Tel: 0086-577-88111511 Fax: 0086-577-62802341
Website: http://www.zjchaobo.com http://www.fault-indicator.com

General description:

Short circuit and earth fault indicator is divided into two types A and B, type B with signal remote transmission function. Its in the digestion absorption Based on similar advanced products at home and abroad, for urban and rural power grid ring network distribution system design of a special automatic monitoring device.In a Ring network power distribution system, especially in the extensive use of Ring net load switch (Ring Main Unit) system, if happened to the next level in the distribution network system short circuit or ground fault, at the next higher level power supply system must be specified in between the breaker, in order to prevent major accidents. In the breaker protection, belonging to the level of network system All the power. Through the use of this product, can rapidly and accurately indicate the faulty parts, greatly save the lookup Part of the time, reduce the outage time and power scope, improve power supply reliability.

Working Principle:

When the power supply circuit has a short circuit or earth fault occurs, the short circuit current in earth or produce electromagnetic field changes, fixed in Cable sensors on the measuring coil produce pulse signal, when the value of the pulse signal reach or exceed the size of the set of fault The current value, fault indicator automatically memory fault state, fault indicator lights flashing issued instructions, at the same time by long range alarm interface, and the fault signal transmitted to the monitoring center, the staff through fault indicator signal can promptly and accurately to line fault location, timely troubleshooting, restore power supply.

Main Function:

1. Short circuit fault alarm indication: Short-circuit fault sensor installed on single phase cable, monitoring the current changes of the power supply line in time, when the current change value reach or exceed short circuit current

action when the alarm set point (this value can be setting according to user requirements before producing),the short circuit fault sensor emit alarm signal, the signal through optical fiber sent to the indicator host, the corresponding fault indicator light flashing, Send out alarm indicator.

2. Earth fault alarm indication: Earth fault sensors installed on the bifurcation unshielded part of three-phase cable, detection of three-phase cable of zero sequence current value, when its value reach or exceed the earth current action when the alarm set point(this value can be setting according to user requirements before producing), the earth fault sensor emit alarm signal,the signal through optical fiber sent to the indicator host, the earth fault indicator light flashing, Send out alarm indicator.

3. Battery low battery alarm indication: When the indicator host internal battery voltage drops to 2.5 V, generate alarm signal,to mention maintenance personnel change the battery, the alarm signal lasts about two months. Furthermore it equipped with an external power supply interface,can use an external power source.(Type B terminal 12 "-", 9 "+"; Type A terminal 8 "+", 9 "-" AC/DC5V-10V).

4. Remote alarm and reset: After the short circuit or earth fault occurred, indicator sends the corresponding alarm signal at same time, cooperate with the distribution network automation (FTU) devices, and fault alarm signal can be transmitted to remote monitoring center, can also do remote manual reset operation.

5. Automatic reset: When the indicator emit alarm signals, In a set of automatic reset time, without manual reset, the indicator can be automatically reset.(Reset time: 4H.8H.12H.24H, open the host signs in the dial the code switch setting on its own)

6. Test and Reset: When the indicator emit alarm signals, press the indicator host "reset/test" button on the panel, can clear alarm status. In the normal state, hold down the indicator host "reset/test" button on the panel for 3 seconds, Panel on all the lights flashing 10 times. Type B also have relais working sound, this means the indicator is in normal working.

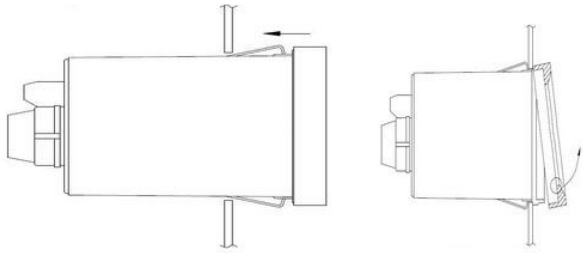
Installation Method

1. The indicator host installation:

Indicator host installed on the front panel of power distribution cabinet, Push the indicator host into the slot from the cutting hole on the front panel of power distribution cabinet.(As the following picture 1.2)

Remove the indicator host must press the metal shrapnel on the indicator host. Pull the inferoanterior frame of indicator host slightly and take it off, bring out the front panel of indicator host.(As the following picture1.3)

Hole size: 91.5mm (tolerance:±0.3mm) x 43mm (tolerance:±0.3mm)

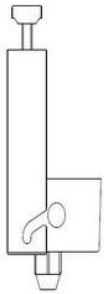
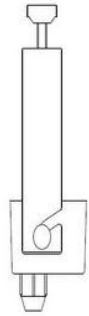
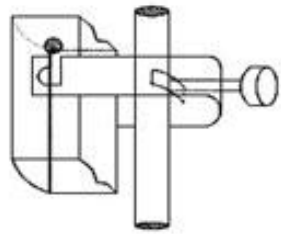


1.1 Indicator Host Panel 1.2 Push the host into the cutting hole /1.3 pull the host out

2. The short circuit fault sensor installation:

Unscrew the fastening screw of the U-type iron, pull the U-type iron outof iron-core groove, mounted the short circuit fault sensor on the cable, adjust U-type iron slightly to insert its oblique bottom into iron-core groove fully, screw the fastening screw until the sensor fixed tight on the cable.(As the following picture 2.2-2.3)

The short circuit sensor should be mounted on the phase-line cable of power circular distribution. Fix the fastening screw tight and inset optical fiber into the bottom of connector to prevent sensor sliding and causing cable loosening,shedding or fracture.

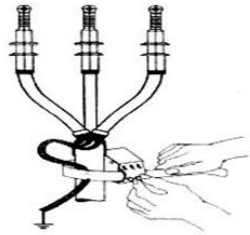
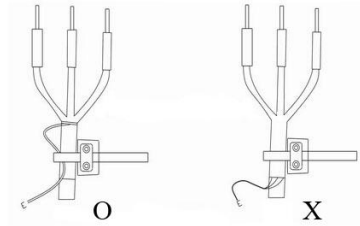





2.1 Short circuit fault sensor 2.2 U-iron outof/into iron-core 2.3 Senor mounted on cable

3. The earth fault sensor installation:

Loosen the screw of the magnetic strap, adjust strap position to let it cross the testing bifurcation unshielded part of three-phase cable, fasten the screw and tighten the strap of the earth fault indicator until the sensor fixed tight on the three-phase cable.(As the following picture 3.2-3.3)

The earth shielding cable on the top of earth fault sensor must cross earth fault sensor and then connect with earth line.

3.1 Earth fault sensor

3.2 Earth fault sensor mounted on cable

3.3 The earth line must unshieled

4. Signal optical fiber connection：

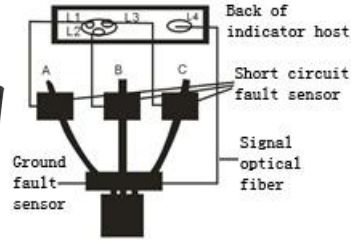
Loosen the nut on the optical fiber socket of the sensor, plug one side of optical fiber into fiber socket hole until the optical fiber arrive the bottom, fasten the nut until the optical fiber fixed can not move; Another side of optical fiber

connect with indicator host in the same installation method.(As the following picture 4.3)

The sensor must connect tighten with indicator host， to prevent loosening and shedding or fracture, in order to make sure the indicator in in normal working.

4.1 Back of Type A

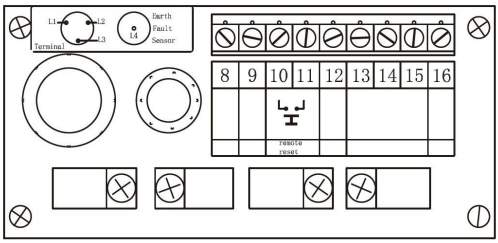
4.2 Back of Type B



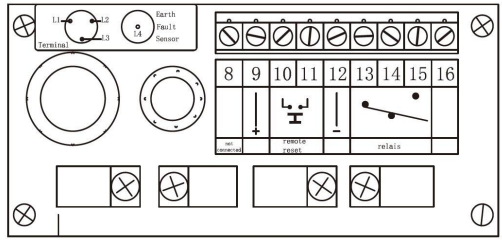
4.3 Optical fiber connecting position

Note: On both ends of the optical fiber section have be special processed, installers can not cut short at random, Otherwise influence the normal operation of indicator!

5. Remote signal connection：



5.1 Type A wiring diagram

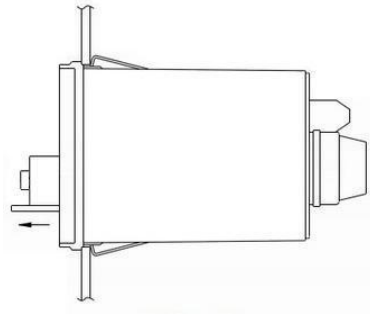


5.2 Type B wiring diagram

6. Battery Changing:

Unscrew the nut on the panel of indicator host, bring out the battery change a new battery(anode outward), screw down the nut. (As the following picture 6.1-6.2)

6.1 Unscrew the nut on the panel of indicator host



6.2 Change the battery

Main technical parameters:

Short Circuit Warning Current: 200-1500A Selectable (accuracy: ± 10%)Delay 20-300 ms when ordering can be selected by the user (The default factory Settings:800A. 20ms)

Earth Fault Warning Current: 5-50A Selectable (accuracy: ± 10%)Delay 20-300 ms when ordering can be selected by the user (The default factory Settings:20A. 20ms)

Short circuit sensor mounted cable diameter: outside diameter ≤ Φ 40mm (other specifications shall be customized)

Earth fault sensor mounted cable diameter: outside diameter ≤ Φ 120mm (other specifications shall be customized)

Working Ambient Temperature:-40℃ ~ +75℃

Relative Humidity: ≤95%RH Prevent Water, Acid and Salt fog

Working Power Supply: Lithium batteries or AC/DC（5V-10V）±15%

Remote Signal Contact Capacity: AC220V/1A

Remote Signal Contact Reset Method: Manual reset / Auto reset

Automatic Reset Time: 1-48H Selectable (accuracy: ±5%) when ordering can be selected by the user (The default factory Settings:12H)

Indicator Host Boundary Dimension: 97×48×79mm

Indicator Host Installing Hole Size: 91.5mm x 43mm (tolerance: ±0.3mm)

Sensor Optical fiber Length: 3m (4 pieces) (other specifications shall be customized)

Suitable for medium voltage below 35KV rating system.

Standard Configuration:

Indicator Host.....1 piece
Short Circuit Fault Sensor.....3 pieces
Earth Fault Sensor.....1 piece
Sensor Optical fiber.....4 pieces

Attention:

1. The indicator host must be installed outside the high voltage area.
2. Indicator optical fiber connection between the host and sensor installation must tighten to prevent the optical fiber loosening, shedding or fracture, in order to make sure the indicator in in normal working.
3. Install fault indicators and sensors in accordance with normal safe operating procedures. These instructions are not intended to replace or supersede existing safety or operating requirements.
4. Only trained qualified personnel should install or operate fault indicators and sensors.