EKL3 short circuit and earth fault indicator

¶Summary〉〉〉

EKL3 short circuit grounding fault indicators are mainly used in various Ring Main Units(RMU), high-voltage switchgears and cable branch units to ascertain the faulty section and fault type precisely and reliably, which is one of the best products to improve the operation level and accident treatment efficiency of distribution network. The design adopts the technology of electromagnetic induction, photoelectric conversion, signal fiber transmission and single chip microcomputer control, so that the fault alarm has high accuracy and strong anti-interference ability.

¶Features〉〉〉

- Earth fault current can be adjusted locally;
- Fault alarm flash indication;
- Low power design, battery life > 6 years;
- Equipped with fault remote transmission port, suitable for the Distribution Automation;
- Manual test / reset and automatic reset;
- Earth fault current can be set manually;
- It adopts the design of lock clamping and whole mounting & dismounting, which is more simple and convenient.

¶Definition of terminal blocks〉〉〉

Zero sequence		Dry contact output		Remote reset	
1	2	3	4	5	6

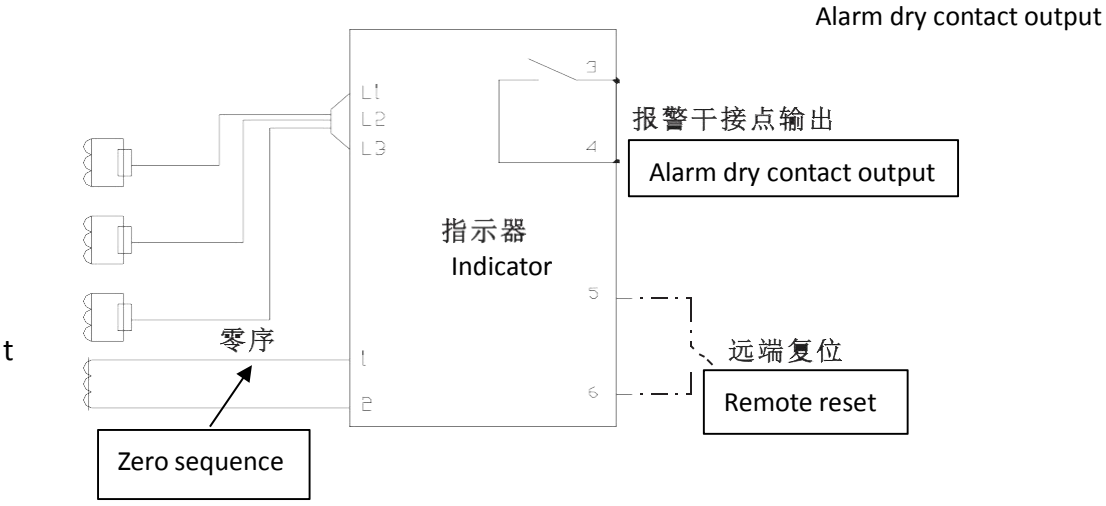
¶Technical data〉〉〉

Short-circuit fault current setting	150A~1500A，Standard 800A
Earth fault current setting	10A~200A，Standard 20A
Reset time delay	0.5h~40h adjustable，Standard 4h
Precision	±10%
Power	Stand by：<10μA, Indicating state：<500μA
Communication mode	Dry contact output
Contact capacity	DC 2A/30V
Power supply	3.6V Li-ion battery
Battery life	6 years, or about 1000 hours of flashing time
Temperature	-25℃~+75℃
Sensor dimensions(W*H*D)	38*38*26mm

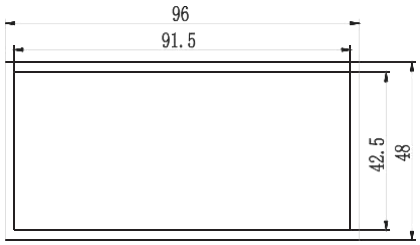
¶ Composition〉〉〉

- Short-circuit fault sensor 3
- Earth fault sensor 1
- Indicating instrument 1
- Two core shielded wire 1*2.8m
- Optical fiber 3*2.8m

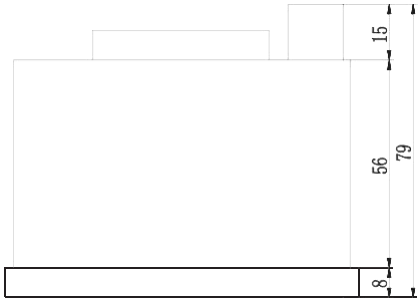
¶ Wiring diagram〉〉〉



¶ Exterior and installation dimensions〉〉〉



Indicating instrument mounting holes dimensions



Indicating instrument exterior dimensions

EKL4 short circuit and earth fault indicator

¶Summary〉〉〉

EKL4 short circuit and earth fault indicator i.e. an upgraded version of EKL3 is added with the external battery compartment, which make it easy to replace the battery, and the fault signal is transmitted by optical fiber, which is more safe and reliable.

¶ Features〉〉〉

- External battery compartment, easy to replace the battery;
- All-optical fiber transmission, safe and reliable;
- Battery level monitoring function (optional), when the battery level is low, the panel indicator light is lit on to prompt the user to replace the battery, and it will be output through dry contact;
- Multi fault reset mode, and the remote reset supports 24V wet contact reset.

¶Definition of terminal blocks〉〉〉

Fault alarm			Remote reset	
1	2	3	4	5

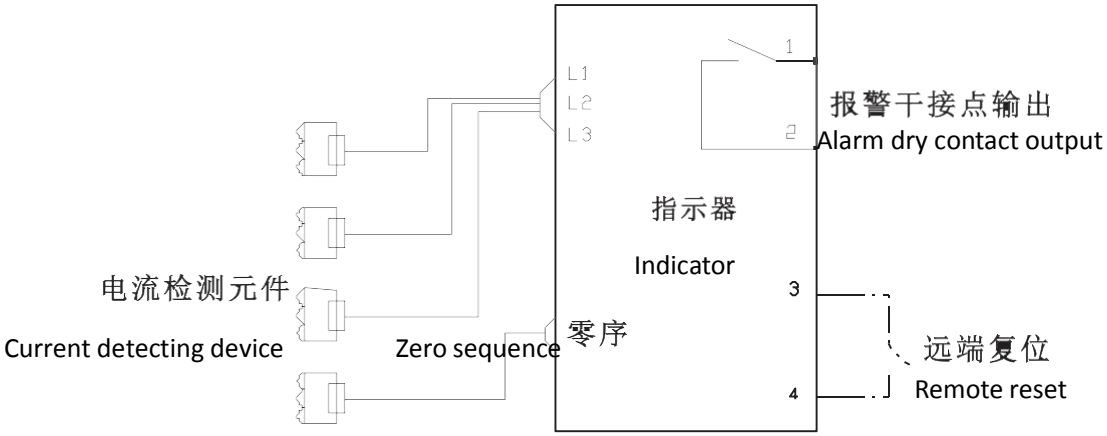
¶ Technical data〉〉〉

Short-circuit fault current setting	150A~1500A，Standard 800A
Earth fault current setting	10A~200A，Standard 20A
Reset time delay	0.5h~40h adjustable，Standard 4h
Power supply	Li-ion battery, rated voltage 3.6V, when the battery voltage is less than 2.7V, the warning light
Battery life	6 years, or about 1000 hours of flashing time
Communication mode	Dry contact output
Contact capacity	DC 2A/30V
Power	Standby state：<10μA, Indicating state：<500μA
Temperature	-25℃~+75℃
Sensor dimensions(W*H*D)	38*38*26mm

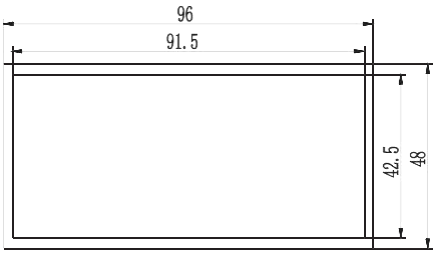
¶ Composition〉〉〉

- Short-circuit fault sensor 3
- Earth fault sensor 1
- Indicating instrument 1
- Optical fiber 3*2.8m

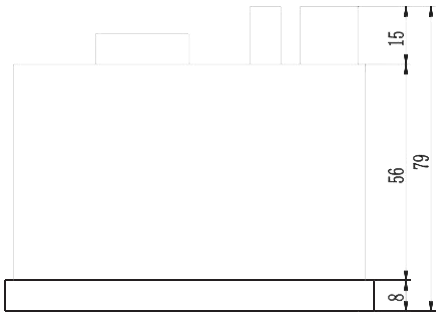
¶ Wiring diagram〉〉〉



¶ Exterior and installation dimensions〉〉〉



Indicating instrument mounting holes dimensions



Indicating instrument exterior dimensions

DJGI-GL1 short circuit and earth fault indicator

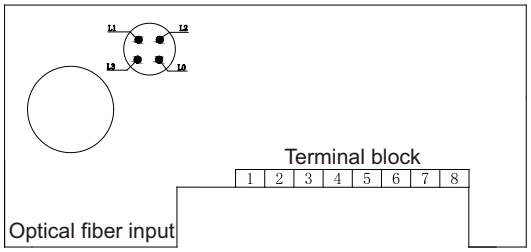
Summary

DJGI-GL1 is the latest development of the fault indicator products with a brand-new outward appearance, the series of products have been improved in the product appearance, structure, technology, which can meet the needs of different users with the actual situation of domestic users and different types of functional combination.

Features

- The indicator panel housing designed with an optimized structure has high mechanical strength;
- Terminals using drip proof design can effectively prevent condensation in terminal accumulation and increase the reliability of products;
- Low power indication;
- Can provide at most 2 pairs of alarm dry contact output for earth and short circuit fault alarm output.

Specification for terminal blocks



Terminal block			
1	Alarm output		COM1
2			NC1
3			NO1
4	Alarm output		COM2
5			NC2
6			NO2
7	Reset		RST
8			RST'

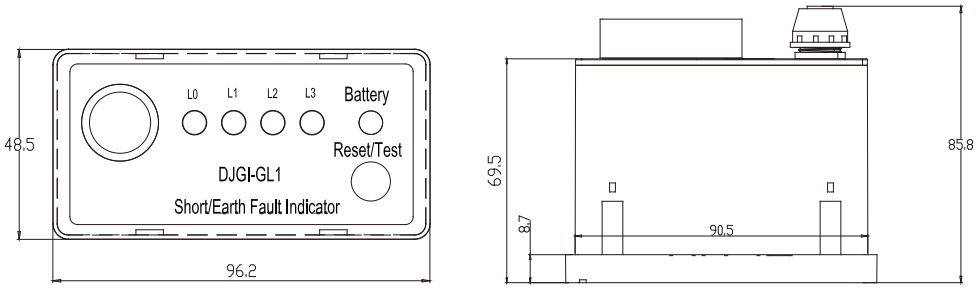
Technical parameters

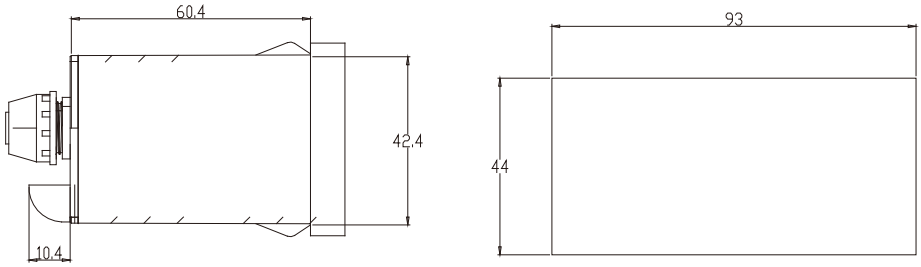
Short-circuit fault alarm current	150A～ 1500A，Default 800A
Earth fault alarm current	10A～ 200A，Default 20A
Reset time	0.5h～40h Default 4h
Precision	6 years, or about 1000 hours of flashing time
Power dissipation	Standby <10uA, indicating the status <500uA
Relay contact capacity	DC 2A,30V
Electrical source	Li-SOCl2 battery, 3.6V, 2.4Ah
Battery life	>6 years
Temperature	-25℃~+75℃
Sensor dimension（W*H*D）	38*38*26mm

Form

Short-circuit fault sensor	3
Earth fault sensor	1
Indicating instrument	1
Optical fiber	4*2.8 m

Wiring elementary diagram





Hole size

DJGI-GL1/E communication type short circuit and earth fault indicator

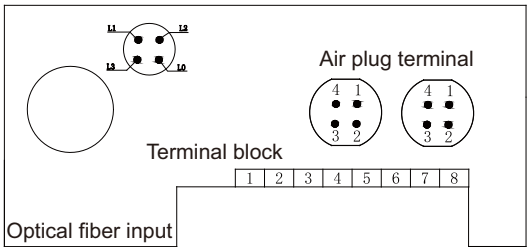
Summary

DJGI-GL1/E is a model of DJGI-GL1 with communication function. On the basis of DJGI-GL1, the 485 interface is added by adopting the MODBUS protocol, which is convenient to achieve the communication with the distribution automation terminal.

Features

- The indicator panel housing designed with an optimized structure has high mechanical strength;
- Terminals using drip proof design can effectively prevent condensation in terminal accumulation and increase the reliability of products;
- With 485 communication interface and the function of access network automation;
- Using 4 core navigation interface, field wiring is simple and reliable;
- With an external DC power supply, the priority to extend the battery life by DC power supply.

Specification for terminal blocks



Terminal block			
1	Alarm output		COM
2			NC
3			NO
4	Reset		RST
5			RST'
6	Spare		
7			
8			

Air plug terminal	
1	V+
2	V−
3	485A
4	485B

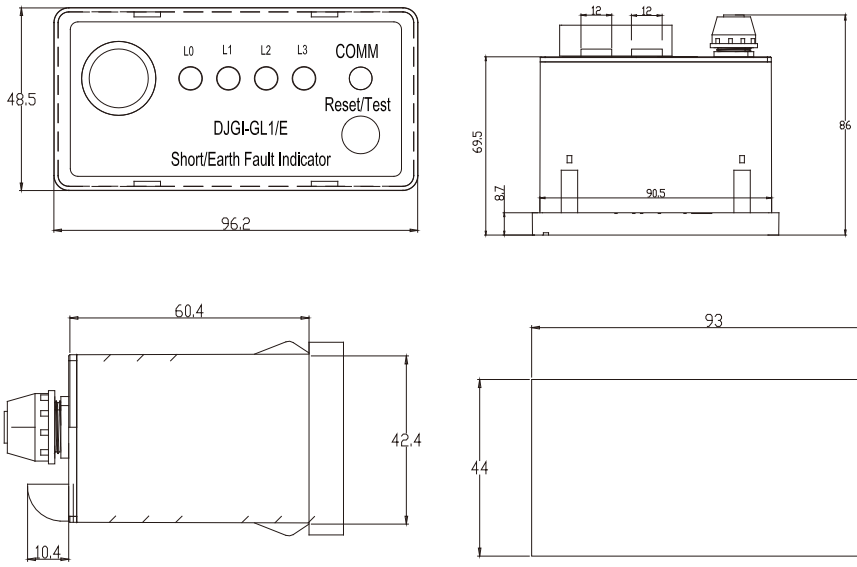
Technical parameters

Short-circuit fault alarm current	150A～ 1500A，Default 800A
Earth fault alarm current	10A～ 200A，Default 20A
Reset time	0.5h～40h Default 4h
Precision	Current alarm accuracy 10%, reset time accuracy + 10min
485 interface	Half duplex, 9600bps ,8N1
Communication protocol	MODBUS PTU protocol
Power consumption	Standby <10uA, indicating the status <500uA
Relay contact capacity	DC 2A,30V
Electrical source	Li-SOCl2 battery, 3.6V, 2.4Ah
Battery life	>6 years
Temperature	-25℃~+75℃
Sensor dimension（W*H*D）	38*38*26mm

Form

Short-circuit fault sensor	3
Ground fault sensor	1
Indicating instrument	1
Optical fiber	4*2.8m
Four core shielding wire (a headband with 4 core aerial plug female head)	2*3m

Wiring elementary diagram



Hole size

DJGI-GL2 double cable type short circuit and earth fault indicator

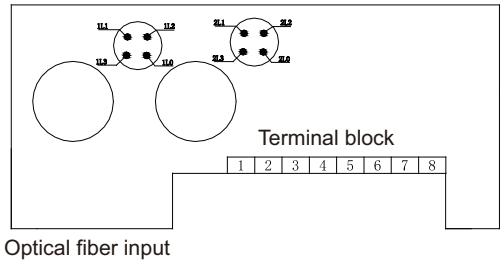
Summary

DJGI-GL2 extends the fault detection channel on the based of DJGI-GL1, which can simultaneously access 8 cable sensor signal and has the ability to detect the fault of double cable.

Features

- The indicator panel housing designed with an optimized structure has high mechanical strength;
- Use 4 core navigation interface, field wiring is simple and reliable
- Low power indicator;
- Provide 2 pairs of alarm dry contact output, respectively used to indicating the failure of each road cable.

Specification for terminal blocks



Terminal block			
1	Alarm output		COM1
2			NC1
3			NO1
4	Alarm output		COM2
5			NC2
6			NO2
7	Reset		RST
8			RST'

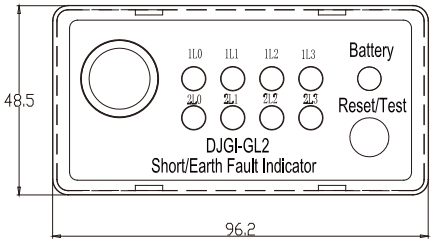
Technical parameters

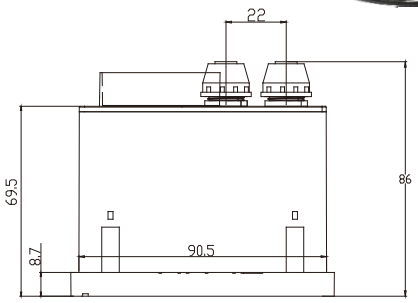
Short-circuit fault alarm current	150A～ 1500A，Default 800A
Earth fault alarm current	10A～ 200A，Default 20A
Reset time	0.5h～40h Default 4h
Precision	6 years, or about 1000 hours of flashing time
Power dissipation	Standby <10uA, indicating the status <500uA
Relay contact capacity	DC 2A,30V
Electrical source	Li-SOCl2 battery, 3.6V, 2.4Ah
Battery life	>6 years
Temperature	-25℃~+75℃
Sensor dimension（W*H*D）	38*38*26mm

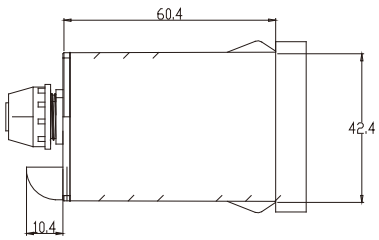
Form

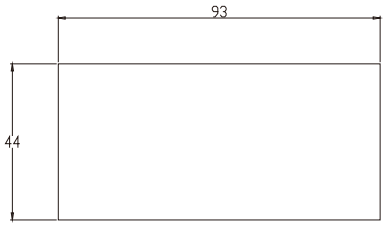
- Short-circuit fault sensor 6
- Earth fault sensor 2
- Indicating instrument 1
- Optical fiber 8*2.8m

Shape and installation dimensions









Hole size

DJGI—GL2/E communication type double cable fault indicator

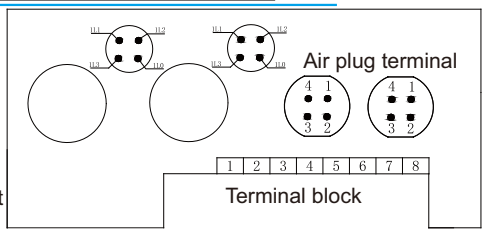
Summary

DJGI-GL2/E is a model of DJGI-GL2 with communication function. On the basis of DJGI-GL2, the 485 interface is added by adopting the MODBUS protocol, which is convenient to achieve the communication with the distribution automation terminal.

Features

- The indicator panel housing designed with an optimized structure has high mechanical strength
- Double 4 core optical fiber interface, compact structure, convenient on-site wiring;
- With 485 communication interface, with the function of access network automation;
- Use 4 core navigation interface, field wiring is simple and reliable;
- With an external DC power supply, the priority is to extend the battery life by DC power supply.
- Provide 2 to the alarm dry contact output, the priority to extend the battery life by DC power supply.

Specification for terminal blocks



Terminal block			
1	Alarm output		COM1
2			NC1
3			NO1
4	Alarm output		COM2
5			NC2
6			NO2
7	Reset		RST
8			RST'

Air plug terminal	
1	V+
2	V−
3	485A
4	485B

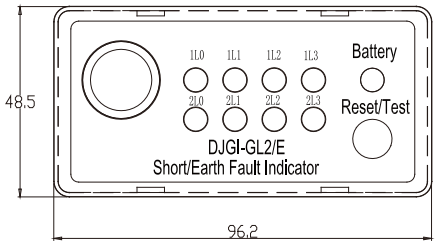
Technical parameters

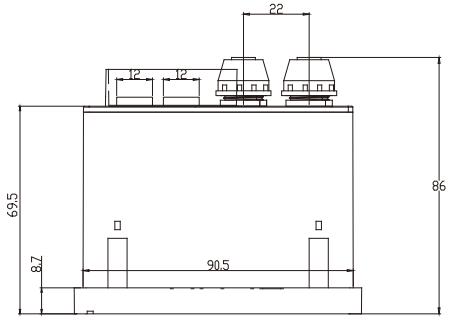
Short-circuit fault alarm current	150A～ 1500A，Default 800A
Earth fault alarm current	10A～ 200A，Default 20A
Reset time	0.5h～40h Default 4h
Precision	Current alarm accuracy 10%, reset time accuracy + 10min
485 interface	Half duplex, 9600bps ,8N1
Communication protocol	MODBUS PTU protocol
Power consumption	Standby <10uA, indicating the status <500uA
Relay contact capacity	DC 2A,30V
Electrical source	Li-SOCl2 battery, 3.6V, 2.4Ah
Battery life	>6 years
Temperature	-25℃~+75℃
Sensor dimension（W*H*D）	38*38*26mm

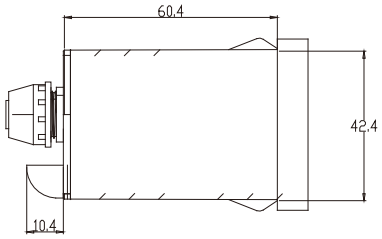
Form

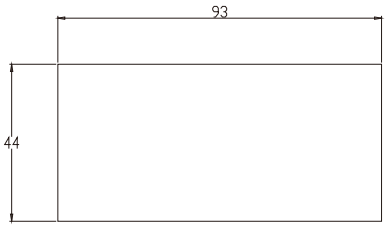
- Short-circuit fault sensor 6
- Ground fault sensor 2
- Indicating instrument 1
- Optical fiber 8*2.8m
- Four core shielding wire (a headband with 4 core aerial plug female head) 2*3m

Shape and installation dimensions









Hole size

DJGI-GS1 liquid crystal type fault indicator

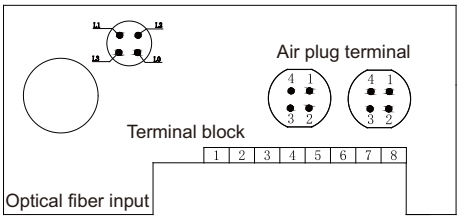
Summary

DJGI-GS1 is a fault indicator products with LCD indication function developed by our company independently, which has the load current measurement and display functions besides the current fault alarm function,and DJGI-GS1/ET also has a temperature measurement and alarm function.

Features

- The indicator panel housing designed with an optimized structure has high mechanical strength;
- The load current (temperature) real-time display, precision can reach 5%;
- The short circuit and earth alarm current can be set in place and flexibly configured according to the project;
- The sensor and the main engine are connected by optical fiber, which has a strong anti-interference ability;
- With 485 communication interface and the function of access network automation;
- Using 4 core navigation interface, field wiring simple and reliable;
- With an external DC power supply, the priority is to extend the battery life by DC power supply.

Specification for terminal blocks



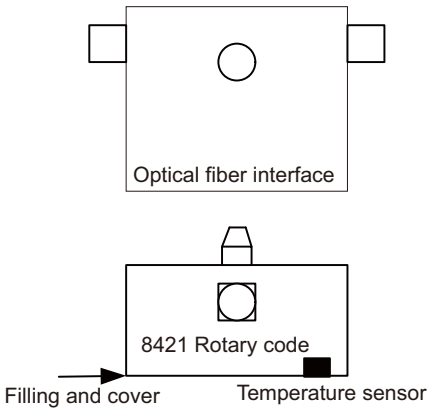
Terminal block			
1	Alarm output		COM
2			NC
3			NO
4	Reset		RST
5			RST'
6	Spare		
7			
8			

Air plug terminal	
1	V+
2	V-
3	485A
4	485B

Technical parameters

Short-circuit fault alarm current	600~1000A, User can set
Earth fault alarm current	5A~80A，User can set
Reset time	1~48h，User can set
Precision	Current alarm accuracy 5%, reset time accuracy±10min
485 interface	Half duplex，9600bps，8N1
Power dissipation	Standby <10μA, Indicating state <2mA
Relay contact capacity	DC 2A,30V
Electrical source	External; DC24/48V, built-in lithium battery: Li-SOCl2 battery, 3.6V, 2.4Ah
Battery life	>6 years
Temperature	-25℃~+75℃
Sensor dimension（W*H*D）	38*38*26mm

Instruction for sensor alarm current gear setting

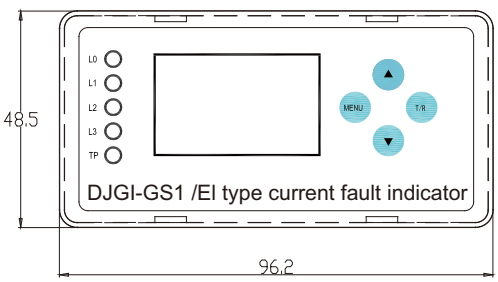


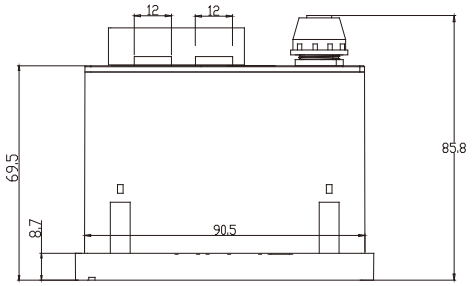
Gear	Short circuit value	Earth value	Gear	Short circuit value	Earth value
0	600	5	8	800	45
1	625	10	9	825	50
2	650	15	A	850	55
3	675	20	B	875	60
4	700	25	C	900	65
5	725	30	D	925	70
6	750	35	E	950	75
7	775	40	F	1000	80

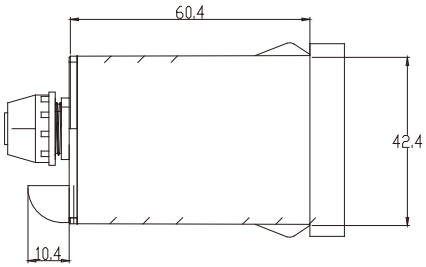
Form

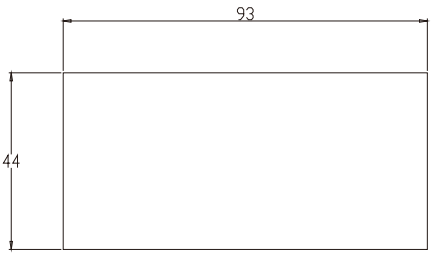
- Short-circuit fault sensor 3
- Earth fault sensor 1
- Indicating instrument 1
- Optial fibers 4*2.8m
- IFour core shielding wire (a headband with 4 core aerial plug female head)
  Can be configured directly to receive terminal 1*2 meters or to be connected to each other (Configured according to the interval of the power distribution networks) .

Shape and installation dimensions









Hole size

SFI cable type short circuit fault indicator

Summary

SFI series short circuit fault indicator is installed on the 6-35KV transmission and distribution line, for detecting the earth or short circuit fault point of the aerial line.When the fault occurs, the line patrol personnel can quickly determine the fault section and find the point of failure by the red flop alarm display (or the light emitting display)of the indicator.

Features

- On-line operation: directly installed in the power line, long-term outdoor operation
- Automatic reset: with the function of identifying the nature of the fault, the timely reset after power supply for the permanent fault restoration, the delay reset for the instantaneous fault user
- Strong anti-interference: signal is not affected by line, magnetizing inrush current, high order harmonics, current fluctuations, especially the influence of cable distribution capacitance bypass

Installation position

- Installed in the middle of the long line and the branch entrance:
  Indicate the line fault section and fault branch
- Installed in the exit of a transformer substation: Judge the fault is inside or outside the station
- Installed in the user distribution high pressure into the line: Judge whether the fault caused by the user
- Installed in the cable and overhead line: Distinguish whether the fault is in the cable

Detection criterion

- Detection for short circuit fault

  According to the short circuit phenomenon, at the moment of short circuit, current positive mutation protection action blackout is the basis of the action;

It≥300A	It is a variable, the starting value of the fault current
ΔI≥I0	ΔI is current change rate, I0 is the current before short circuit
I=0	I is short circuit current
0.02S≤ΔT≤3S	ΔT is current mutation time

- Detection for earth fault

  Cable line

  Detecting the zero sequence current of the cable line, the indicator's red light will start flashing when the current exceed the setting threshold value and reach the specified time delay.

  Overhead line

  (1) The ground phase voltage U drop to 3kV

  (2) The transient capacitance is greater than a certain value for the detection of the earth instantaneous

SFI-CL type short-circuit fault indicator, which indicates inter phase short circuit fault and uses high precision LED lights to display with clear night vision effect, is suitable for equipments using the cable, the installation is snap-fit connection.

Technical inde

Line voltage	0-15kV
Suitable for cable outer diameter	8-41mm2
Ability of short time withstand current	31.5kVA/2s,
Adapt to environmental temperature	45°C~+85°C
Automatic reset	Automatic reset within 10min after power supply
Automatic delay	Automatic delay 4 hours after the failure indication (adjustable)

Features

- Identification of faults: with function of automatic identification
- Automatic reset: reset automatically in 10min after restoring power supply
- Strong anti-interference: signal is not affected by line, magnetizing inrush current, high order harmonics, current fluctuations, especially the influence of cable distribution capacitance bypass
- On-line operation: directly installed in the equipments using busbar
- Easy installation: installed snap-fit connection, electric operation, not affect the operation of the line;
- Display mode: the use of high precision LED lights with clear night vision effect
- The action times: no less than 2000 times

Outside drawing