

# EKL4/5

## 故障指示器系列

Fault indicator series

因源革新 · 智电未来

Due to source innovation, the future of smart power



高低压开关柜电气及配件

High and low voltage switchgear electrical and accessories

### EKL4-A(B) 面板型接地/短路故障指示器/EKL4-A(B) Panel Type Ground/Short Circuit Fault Indicator 10kV电缆稳态特征型就地故障指示器/10kV Cable Steady-state Characteristic In-situ Fault Indicator

#### 产品概述/Product summary

EKL4接地短路故障指示器分为A和B两种型号，B型具有信号远传功能。是在消化、吸收国内外同类先进产品基础上，为城乡电网环网配电系统设计的一种自动化监测专用装置。在环网配电系统中，特别是在大量使用环网负荷开关(Ring Main Unit)的系统中，如果下一级配电网络系统中发生了线路短路或接地故障时，上一级的供电系统必须在规定的时间内进行分断，以防止发生重大事故。在分断保护发生后，会造成隶属于此级网络的系统全部停电。通过使用本产品，可以快速准确地指示出发生故障的部分，大大节省了查找故障部分的时间，减少停电时间和停电范围，提高供电可靠性。

The EKL4 Grounding Short - Circuit Fault Indicator is divided into two models, A and B. Model B has the function of remote signal transmission. Based on the digestion and absorption of similar advanced products at home and abroad, it is a special automated monitoring device designed for the ring - network power distribution system of urban and rural power grids. In the ring - network power distribution system, especially in the system where a large number of Ring Main Units are used, if a line short - circuit or grounding fault occurs in the lower - level power distribution network system, the upper - level power supply system must be interrupted within the specified time to prevent major accidents. After the interruption protection occurs, the entire system belonging to this level of the network will experience a power outage. By using this product, the faulty part can be quickly and accurately indicated, greatly saving the time for finding the faulty part, reducing the power outage time and scope, and improving the power supply reliability.

#### 工作原理/Working principle

当供电线路有短路或接地故障发生时，短路或接地电流产生的电磁场变化，使固定在电缆上的传感器中测量线圈产生脉冲信号，当脉冲信号的值的大小达到或超过设定的故障电流值时，故障指示器会自动记忆故障状态，故障指示灯闪烁发出故障指示，同时通过远程报警接口，将故障信号传递给监控中心，工作人员通过故障指示信号能够迅速准确地找到线路故障位置，及时排除故障，恢复电网供电。

When a short - circuit or grounding fault occurs in the power supply line, the change in the electromagnetic field generated by the short - circuit or grounding current causes the measuring coil in the sensor fixed on the cable to generate a pulse signal. When the value of the pulse signal reaches or exceeds the set fault current value, the fault indicator will automatically memorize the fault state, the fault indicator light will flash to give a fault indication. At the same time, through the remote alarm interface, the fault signal is transmitted to the monitoring center. The staff can quickly and accurately locate the line fault position through the fault indication signal, promptly eliminate the fault, and restore the power supply of the power grid.

#### 基本功能/basic functions

- |                            |  |
|----------------------------|--|
| ◎ 短路报警                     | ◎ Short - circuit alarm                                |
| ◎ 接地报警                     | ◎ Grounding alarm                                      |
| ◎ 低电量报警                    | ◎ Low - battery alarm                                  |
| ◎ 远程报警和远程复位                | ◎ Remote alarm and remote reset                        |
| ◎ 自动时间复位(自行整定: 4.8.12.24H) | ◎ Automatic time reset (Self - setting: 4, 8, 12, 24H) |
| ◎ 测试和手动复位                  | ◎ Test and manual reset                                |



## 故障指示器系列 / Fault indicator series

### EKL4-A(B) 接地短路故障指示器/EKL4-A(B)Panel Type Ground/Short Circuit Fault Indicator

#### 技术参数/technology parameters

环境温度/ Ambient temperature	-35C~+75C
环境湿度/ Ambient humidity	≤85%
电气污染等级/ Electrical pollution level	1级/class 1
防护等级/ Protection level	IP65
自动复位时间/ Automatic reset time	4.8.12.24H
线路电压等级/ Line voltage level	≤35kV
电源功耗/ Power consumption	<5uA
电池容量/ Battery capacity	3.6V2Ah
继电器容量/ relay capacity	230VAC2A
短路报警电流/ circuit-short alarm	≥300A(出厂时设定/ adjustable)
接地报警电流/ ground current alarm	≥10A(出厂时设定/ adjustable)
精确度/accuracy	全温度范围误差< ±10%/margin of error ≤±10%
触发延时时间/ Trigger delay time	20~300ms(出厂时设定/adjustable)
耐受电流能力/ Current tolerance capacity	≥20kA 2S
电缆外径/ Cable outer diameter	单芯≤40mm/Single core ≤40mm
单套重量/weight	< 1000g
开孔尺寸/ installation size	92 × 44mm

#### 产品安装尺寸图/installation size

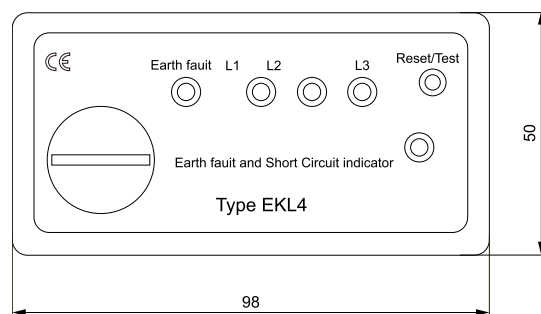


图1：正面尺寸

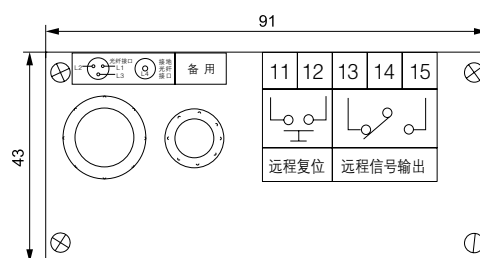


图2：B后面接线图

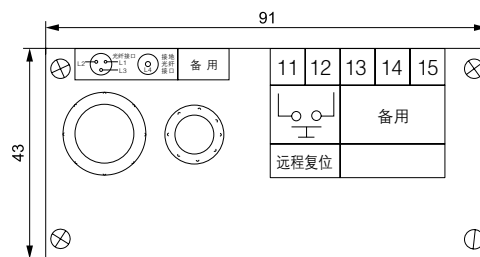


图3：A后面接线图

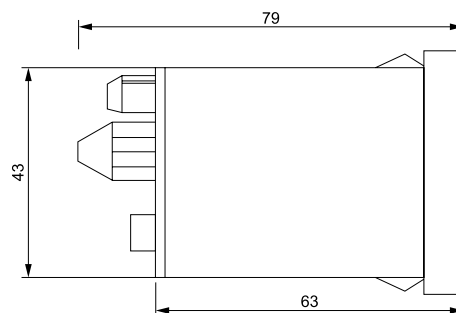


图4：侧面尺寸

### EKL4-C面板型接地/短路故障指示器/EKL4-C Communication panel Type Ground/Short Circuit Fault Indicator 10kV电缆稳态特征型就地故障指示器/10kV Cable Steady-state Characteristic In-situ Fault Indicator



#### 产品概述/Product summary

EKL4接地短路故障指示器分为A和B两种型号，B型具有信号远传功能。是在消化，吸收国内外同类先进产品基础上，为城乡电网环网配电系统设计的一种自动化监测专用装置。在环网配电系统中，特别是在大量使用环网负荷开关(RingMainUnit)的系统中，如果下一级配电网络系统中发生了线路短路或接地故障时，上一级的供电系统必须在规定的时间内进行分断，以防止发生重大事故。在分断保护发生后，会造成隶属于此级网络的系统全部停电。通过使用本产品，可以快速准确地指示出发生故障的部分，大大节省了查找故障部分的时间，减少停电时间和停电范围，提高供电可靠性。

The EKL4 grounding short - circuit fault indicator is divided into two models, A and B. Model B has the function of remote signal transmission. Based on the digestion and absorption of similar advanced products at home and abroad, it is a special automatic monitoring device designed for the loop - network power distribution system of urban and rural power grids. In the loop - network power distribution system, especially in the system where a large number of Ring Main Units are used, if a line short - circuit or grounding fault occurs in the lower - level power distribution network system, the upper - level power supply system must be disconnected within the specified time to prevent major accidents. After the disconnection protection occurs, it will cause a complete power outage of the system subordinate to this level of network. By using this product, the faulty part can be quickly and accurately indicated, which greatly saves the time for finding the faulty part, reduces the power outage time and scope, and improves the power supply reliability.

#### 工作原理/Working principle

当供电线路有短路或接地故障发生时，短路或接地电流产生的电磁场变化，使固定在电缆上的传感器中测量线圈产生脉冲信号，当脉冲信号的值的大小达到或超过设定的故障电流值时，故障指示器会自动记忆故障状态，故障指示灯闪烁发出故障指示，同时通过远程报警接口，将故障信号传递给监控中心，工作人员通过故障指示信号能够迅速准确地找到线路故障位置，及时排除故障，恢复电网供电。

When a short - circuit or grounding fault occurs in the power supply line, the change in the electromagnetic field generated by the short - circuit or grounding current causes the measuring coil in the sensor fixed on the cable to generate a pulse signal. When the value of the pulse signal reaches or exceeds the set fault current value, the fault indicator will automatically memorize the fault state, the fault indicator light will flash to give a fault indication. At the same time, through the remote alarm interface, the fault signal is transmitted to the monitoring center. The staff can quickly and accurately locate the line fault position through the fault indication signal, promptly eliminate the fault, and restore the power supply of the power grid.

#### 基本功能/basic functions

- |                            |  |
|----------------------------|--|
| ● 短路报警                     | ○ Short - circuit alarm                                |
| ● 接地报警                     | ○ Grounding alarm                                      |
| ● 低电量报警                    | ○ Low - battery alarm                                  |
| ● 远程报警和远程复位                | ○ Remote alarm and remote reset                        |
| ● 自动时间复位(自行整定: 4.8.12.24H) | ○ Automatic time reset (Self - setting: 4, 8, 12, 24H) |
| ● 测试和手动复位                  | ○ Test and manual reset                                |

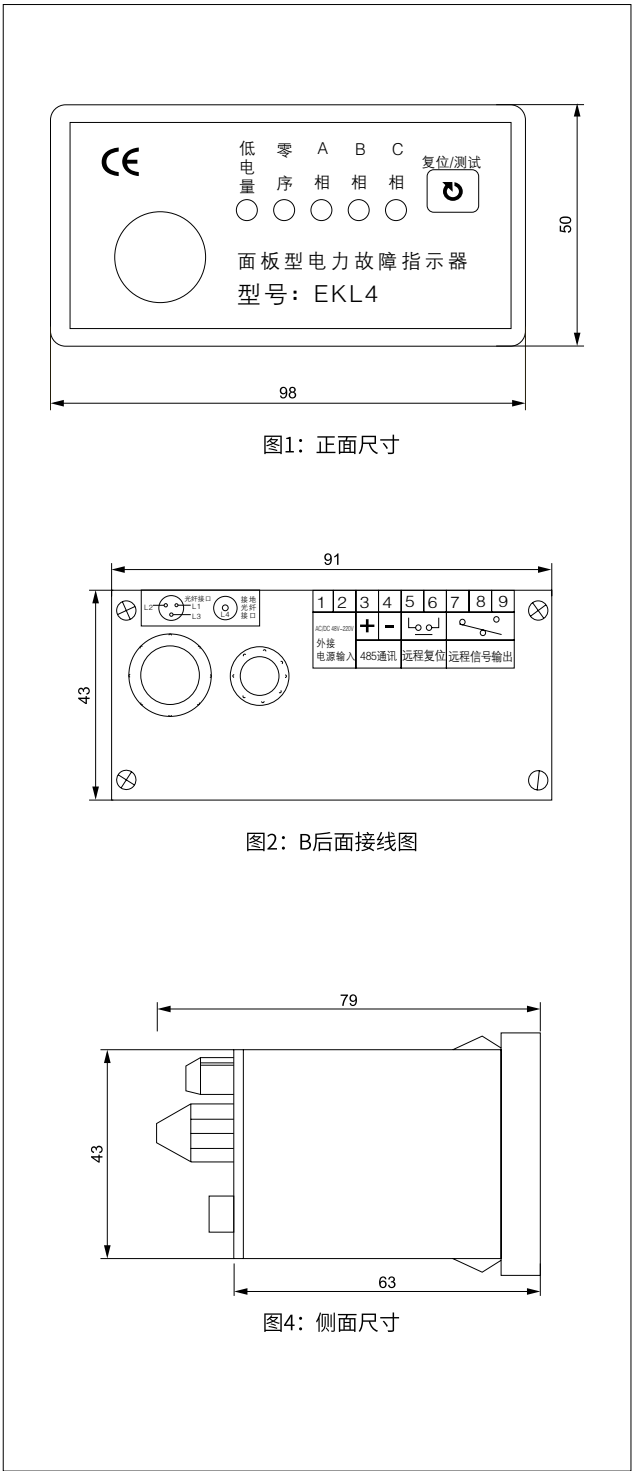
# 故障指示器系列 / Fault indicator series

## EKL4-C通讯面板型接地/短路故障指示器/EKL4-C Communication Panel Type Ground/Short Circuit Fault Indicator

### 技术参数/technology parameters

环境温度/ Ambient temperature	-35C~+75C
环境湿度/ Ambient humidity	≤85%
电气污染等级/ Electrical pollution level	1级/class 1
防护等级/ Protection level	IP65
自动复位时间/ Automatic reset time	4.8.12.24H
线路电压等级/ Line voltage level	≤35kV
电源功耗/ Power consumption	<5uA
电池容量/ Battery capacity	3.6V2Ah
继电器容量/ relay capacity	230VAC2A
短路报警电流/ circuit-short alarm	≥300A(出厂时设定/ adjustable)
接地报警电流/ ground current alarm	≥10A(出厂时设定/ adjustable)
精确度/accuracy	全温度范围误差< ±10%/margin of error ≤±10%
触发延时时间/ Trigger delay time	20~300ms(出厂时设定/adjustable)
耐受电流能力/ Current tolerance capacity	≥20kA 2S
电缆外径/ Cable outer diameter	单芯≤ 40mm/Single core ≤40mm
单套重量/weight	< 1000g
开孔尺寸/ installation size	92 × 44mm

### 产品安装尺寸图/installation size



### EKL4-D 带电及故障综合指示器/ EKL4-D Integrated Charging and Fault Indicator 10kV电缆稳态特征型就地故障指示器/10kV Cable Steady-state Characteristic In-situ Fault Indicator



#### 产品概述/Product summary

EKL4-D 接地短路故障指示器具有信号远传和带电显示功能。是在消化吸收国内外同类先进产品基础上，为城乡电网环网配电系统设计的一种自动化监测专用装置。在环网配电系统中，特别是在大量使用环网负荷开关(Ring Main Unit)的系统中，如果下一级配电网络系统中发生了线路短路或接地故障时，上一级的供电系统必须在规定的时间内进行分断，以防止发生重大事故。在分断保护发生后，会造成隶属于此级网络的系统全部停电。通过使用本产品，可以快速准确地指示出发生故障的部分，大大节省了查找故障部分的时间，减少停电时间和停电范围，提高供电可靠性。

The EKL4-D Ground Short Circuit Fault Indicator has the functions of remote signal transmission and live-line indication. It is a special automated monitoring device designed for the loop network power distribution system of urban and rural power grids based on absorbing the advanced domestic and foreign similar products. In the loop network power distribution system, especially in the system where a large number of Ring Main Units are used, if a line short circuit or ground fault occurs in the lower-level power distribution network system, the upper-level power supply system must be disconnected within the specified time to prevent major accidents. After the disconnection protection occurs, it will cause a complete power outage of the system belonging to this level of network. By using this product, the faulty part can be quickly and accurately indicated, greatly saving the time for finding the faulty part, reducing the power outage time and scope, and improving the power supply reliability.

#### 工作原理/Working principle

当供电线路有短路或接地故障发生时，短路或接地电流产生的电磁场变化，使固定在电缆上的传感器中测量线圈产生脉冲信号，当脉冲信号的值的大小达到或超过设定的故障电流值时，故障指示器会自动记忆故障状态，故障指示灯闪烁发出故障指示，同时通过远程报警接口，将故障信号传递给监控中心，工作人员通过故障指示信号能够迅速准确地找到线路故障位置，及时排除故障，恢复电网供电。

When a short - circuit or grounding fault occurs in the power supply line, the change in the electromagnetic field generated by the short - circuit or grounding current causes the measuring coil in the sensor fixed on the cable to generate a pulse signal. When the value of the pulse signal reaches or exceeds the set fault current value, the fault indicator will automatically remember the fault state, the fault indicator light will flash to give a fault indication. At the same time, through the remote alarm interface, the fault signal is transmitted to the monitoring center. The staff can quickly and accurately find the location of the line fault through the fault indication signal, promptly eliminate the fault, and restore the power supply of the power grid.

#### 基本功能/basic functions

- ◎ 短路报警
- ◎ 接地报警
- ◎ 低电量报警
- ◎ 远程报警和远程复位
- ◎ 自动时间复位(自行整定: 4.8.12.24.H)
- ◎ 测试和手动复位
- ◎ 高压带电指示
- ◎ 闭锁功能
- ◎ 高压核相及验电
- ◎ Short - circuit alarm
- ◎ Grounding alarm
- ◎ Low - battery alarm
- ◎ Remote alarm and remote reset
- ◎ Automatic time reset (Self - setting: 4.8.12.24.H)
- ◎ Test and manual reset
- ◎ High - voltage live indication
- ◎ Locking function
- ◎ High - voltage phase - checking and voltage - testing



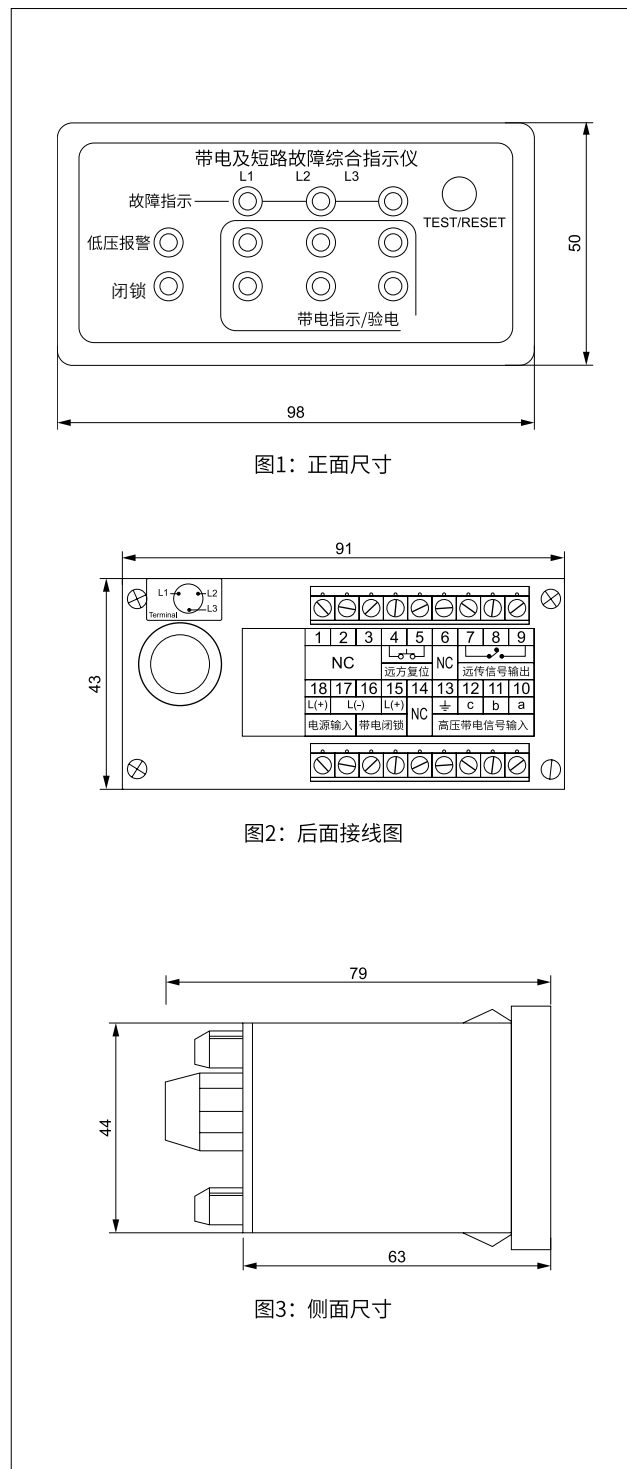
## 故障指示器系列 / Fault indicator series

### EKL4-D 带电及故障综合指示器/ EKL4-D Integrated Charging and Fault Indicator

#### 技术参数/technology parameters

环境温度/ Ambient temperature	-35C~+75C
环境湿度/ Ambient humidity	≤85%
电气污染等级/ Electrical pollution level	1级/class 1
防护等级/ Protection level	IP65
自动复位时间/ Automatic reset time	4.8.12.24H
线路电压等级/ Line voltage level	≤35kV
电源功耗/ Power consumption	<5uA
电池容量/ Battery capacity	3.6V2Ah
继电器容量/ relay capacity	230VAC2A
短路报警电流/ circuit-short alarm	≥300A(出厂时设定/ adjustable)
接地报警电流/ ground current alarm	≥10A(出厂时设定/ adjustable)
精确度/accuracy	全温度范围误差< ±10%/margin of error ≤±10%
触发延时时间/ Trigger delay time	20~300ms(出厂时设定/adjustable)
耐受电流能力/ Current tolerance capacity	≥20kA 2S
电缆外径/ Cable outer diameter	单芯≤40mm/Single core ≤40mm
单套重量/weight	<1000g
开孔尺寸/ installation size	92 × 44mm

#### 产品安装尺寸图installation size





## 故障指示器系列 / Fault indicator series

### EKL4-F 双电缆接地短路故障指示器 / EKL4-F Double Cable Grounding Short Circuit Fault Indicator 10kV电缆稳态特征型就地故障指示器 / 10kV Cable Steady-state Characteristic In-situ Fault Indicator

#### 产品概述/Product summary

EKL4-F接地短路故障指示器具有信号远传和双电缆指示功能。是在消化、吸收国内外同类先进产品基础上，为城乡电网环网配电系统设计的一种自动化监测专用装置。在环网配电系统中，特别是在大量使用环网负荷开关(RingMainUnit)的系统中，如果下-级配电网络系统中发生了线路短路或接地故障时，上一级的供电系统必须在规定的时间内进行分断，以防止发生重大事故。在分断保护发生后，会造成隶属于此级网络的系统全部停电。通过使用本产品，可以快速准确地指示出发生故障的部分，大大节省了查找故障部分的时间，减少停电时间和停电范围，提高供电可靠性。

The EKL4-F Ground Short Circuit Fault Indicator has the functions of remote signal transmission and double-cable indication. It is a special automated monitoring device designed for the loop network distribution system of urban and rural power grids based on the digestion and absorption of similar advanced products at home and abroad. In the loop network distribution system, especially in systems where a large number of Ring Main Units (RMUs) are used, if a line short circuit or grounding fault occurs in the lower-level power distribution network system, the upper-level power supply system must be disconnected within the specified time to prevent major accidents. After the disconnection protection occurs, it will cause a complete power outage of the systems belonging to this level of the network. By using this product, the faulty part can be quickly and accurately indicated, greatly saving the time for finding the faulty part, reducing the power outage time and scope, and improving the power supply reliability.

#### 工作原理/Working principle

当供电线路有短路或接地故障发生时，短路或接地电流产生的电磁场变化，使固定在电缆上的传感器中测量线圈产生脉冲信号，当脉冲信号的值的达到或超过设定的故障电流值时，故障指示器会自动记忆故障状态，故障指示灯闪烁发出故障指示，同时通过远程报警接口，将故障信号传递给监控中心，工作人员通过故障指示信号能够迅速准确地找到线路故障位置，及时排除故障，恢复电网供电。

When a short - circuit or grounding fault occurs in the power supply line, the change in the electromagnetic field generated by the short - circuit or grounding current causes the measuring coil in the sensor fixed on the cable to generate a pulse signal. When the value of the pulse signal reaches or exceeds the set fault current value, the fault indicator will automatically remember the fault status, the fault indicator light will flash to give a fault indication. At the same time, through the remote alarm interface, the fault signal is transmitted to the monitoring center. Staff can quickly and accurately locate the line fault position through the fault indication signal, promptly eliminate the fault, and restore the power supply of the power grid.

#### 基本功能/basic functions

- |                           |   |
|---------------------------|---|
| ◎ 短路报警                    | ◎ Short - circuit alarm                             |
| ◎ 接地报警                    | ◎ Grounding alarm                                   |
| ◎ 低电量报警                   | ◎ Low - battery alarm                               |
| ◎ 远程报警和远程复位               | ◎ Remote alarm and remote reset                     |
| ◎ 自动时间复位(自行整定：4.8.12.24H) | ◎ Automatic time reset (Self - setting: 4.8.12.24H) |
| ◎ 测试和手动复位                 | ◎ Test and manual reset                             |
| ◎ 双电缆故障指示                 | ◎ Double - cable fault indication                   |





## 故障指示器系列 / Fault indicator series

### EKL4-F 双电缆接地短路故障指示器 / EKL4-F Double Cable Grounding Short Circuit Fault Indicator

#### 技术参数/technology parameters

环境温度/ Ambient temperature	-35C~+75C
环境湿度/ Ambient humidity	≤85%
电气污染等级/ Electrical pollution level	1级/class 1
防护等级/ Protection level	IP65
自动复位时间/ Automatic reset time	4.8.12.24H
线路电压等级/ Line voltage level	≤35kV
电源功耗/ Power consumption	<5uA
电池容量/ Battery capacity	3.6V2Ah
继电器容量/ relay capacity	230VAC2A
短路报警电流/ circuit-short alarm	≥300A(出厂时设定/ adjustable)
接地报警电流/ ground current alarm	≥10A(出厂时设定/ adjustable)
精确度/accuracy	全温度范围误差< ±10%/margin of error ≤±10%
触发延时时间/ Trigger delay time	20~300ms(出厂时设定/adjustable)
耐受电流能力/ Current tolerance capacity	≥20kA 2S
电缆外径/ Cable outer diameter	单芯≤40mm/Single core ≤40mm
单套重量/weight	< 1000g
开孔尺寸/ installation size	92 × 44mm

#### 产品安装尺寸图/installation size

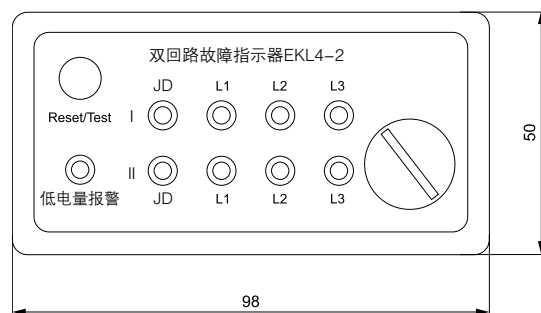


图1：正面尺寸

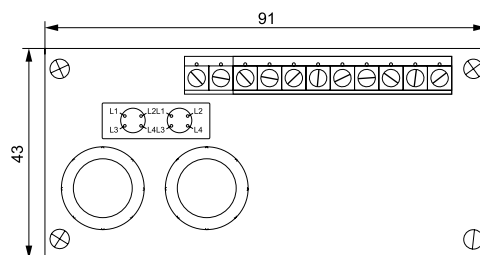


图2：后面接线图

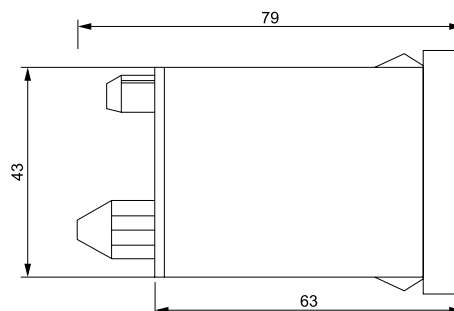


图3：侧面尺寸

## 故障指示器系列 / Fault indicator series

### EKL5 光纤型测温故障指示器 /EKL5 Optical Fiber Temperature Measurement Fault Indicator 10kV电缆稳态特征型就地故障指示器/10kV Cable Steady-state Characteristic In-situ Fault Indicator

#### 产品概述/Product summary

EKL5接地短路故障指示器具有信号远传和测温功能。是在消化吸收国内外同类先进产品基础上，为城乡电网环网配电系统设计的一种自动化监测专用装置。在环网配电系统中，特别是在大量使用环网负荷开关(Ring Main Unit)的系统中，如果下一级配电网络系统中发生了线路短路或接地故障时，上一级的供电系统必须在规定的时间内进行分断，以防止发生重大事故。在分断保护发生后，会造成隶属于此级网络的系统全部停电。通过使用本产品，可以快速准确地指示出发生故障的部分，大大节省了查找故障部分的时间，减少停电时间和停电范围，提高供电可靠性。

The EKL5 grounding short - circuit fault indicator has functions of remote signal transmission and temperature measurement. It is a special automated monitoring device designed for the loop - network power distribution system of urban and rural power grids, based on the digestion and absorption of similar advanced products at home and abroad. In the loop - network power distribution system, especially in the system where a large number of ring main units are used, if a line short - circuit or grounding fault occurs in the lower - level power distribution network system, the upper - level power supply system must be interrupted within the specified time to prevent major accidents. After the interruption protection occurs, it will cause a complete power outage of the system belonging to this level of the network. By using this product, the faulty part can be quickly and accurately indicated, which greatly saves the time for finding the faulty part, reduces the power outage time and scope, and improves the power supply reliability.

#### 工作原理/Working principle

当供电线路有短路或接地故障发生时，短路或接地电流产生的电磁场变化，使固定在电缆上的传感器中测量线圈产生脉冲信号，当脉冲信号的值的大小达到或超过设定的故障电流值时，故障指示器会自动记忆故障状态，故障指示灯闪烁发出故障指示，同时通过远程报警接口，将故障信号传递给监控中心，工作人员通过故障指示信号能够迅速准确地找到线路故障位置，及时排除故障，恢复电网供电。

When a short - circuit or grounding fault occurs in the power supply line, the change in the electromagnetic field generated by the short - circuit or grounding current causes the measuring coil in the sensor fixed on the cable to generate a pulse signal. When the value of the pulse signal reaches or exceeds the set fault current value, the fault indicator will automatically memorize the fault state, the fault indicator light will flash to give a fault indication. At the same time, through the remote alarm interface, the fault signal is transmitted to the monitoring center. The staff can quickly and accurately locate the line fault position through the fault indication signal, eliminate the fault in a timely manner, and restore the power supply of the power grid.

#### 基本功能/basic functions

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|----------------------------|--|
| ◎ 短路报警                     | ◎ Short - circuit alarm                              |
| ◎ 接地报警                     | ◎ Grounding alarm                                    |
| ◎ 低电量报警                    | ◎ Low - battery alarm                                |
| ◎ 远程报警和远程复位                | ◎ Remote alarm and remote reset                      |
| ◎ 自动时间复位(自行整定：4.8.12.24.H) | ◎ Automatic time reset (Self - setting: 4.8.12.24.H) |
| ◎ 测试和手动复位                  | ◎ Test and manual reset                              |
| ◎ 遥测功能                     | ◎ Telemetry function                                 |
| ◎ 温度和电流测量及显示               | ◎ Temperature and current measurement and display    |



# 故障指示器系列 / Fault indicator series

## EKL5 光纤型测温故障指示器/EKL5 Fiber Optic Temperature Measurement Fault Indicator

### 技术参数/technology parameters

环境温度/ Ambient temperature	-35C~+75C
环境湿度/ Ambient humidity	≤85%
电气污染等级/ Electrical pollution level	1级 /class 1
防护等级/ Protection level	IP65
自动复位时间/ Automatic reset time	4.8.12.24H
线路电压等级/ Line voltage level	≤35kV
电源功耗/ Power consumption	<5uA
电池容量/ Battery capacity	3.6V2Ah
继电器容量/ relay capacity	230VAC2A
短路报警电流/ circuit-short alarm	≥300A(出厂时设定/ adjustable)
接地报警电流/ ground current alarm	≥10A(出厂时设定/ adjustable)
温度测量范围/ temperature metering range	-40℃-125℃
精确度/accuracy	全温度范围误差< ± 10%/margin of error ≤±10%
触发延时时间/ Trigger delay time	20~300ms(出厂时设定/adjustable)
耐受电流能力/ Current tolerance capacity	≥20kA 2S
电缆外径/ Cable outer diameter	单芯≤ 40mm/Single Core≤40mm
单套重量/weight	< 1000g
开孔尺寸/ installation size	92 × 44mm

### 产品安装尺寸图/Product installation size

