



产品概述

12.4mm超薄设计;  
电涌防护模块支持热插拔,拔出后不断线;  
电涌防护模块可单独检测,维护便捷;  
适用于热电偶、热电阻、CAN、RS485、RS422等浮地信号回路保护;  
通过DIN35金属导轨接地。

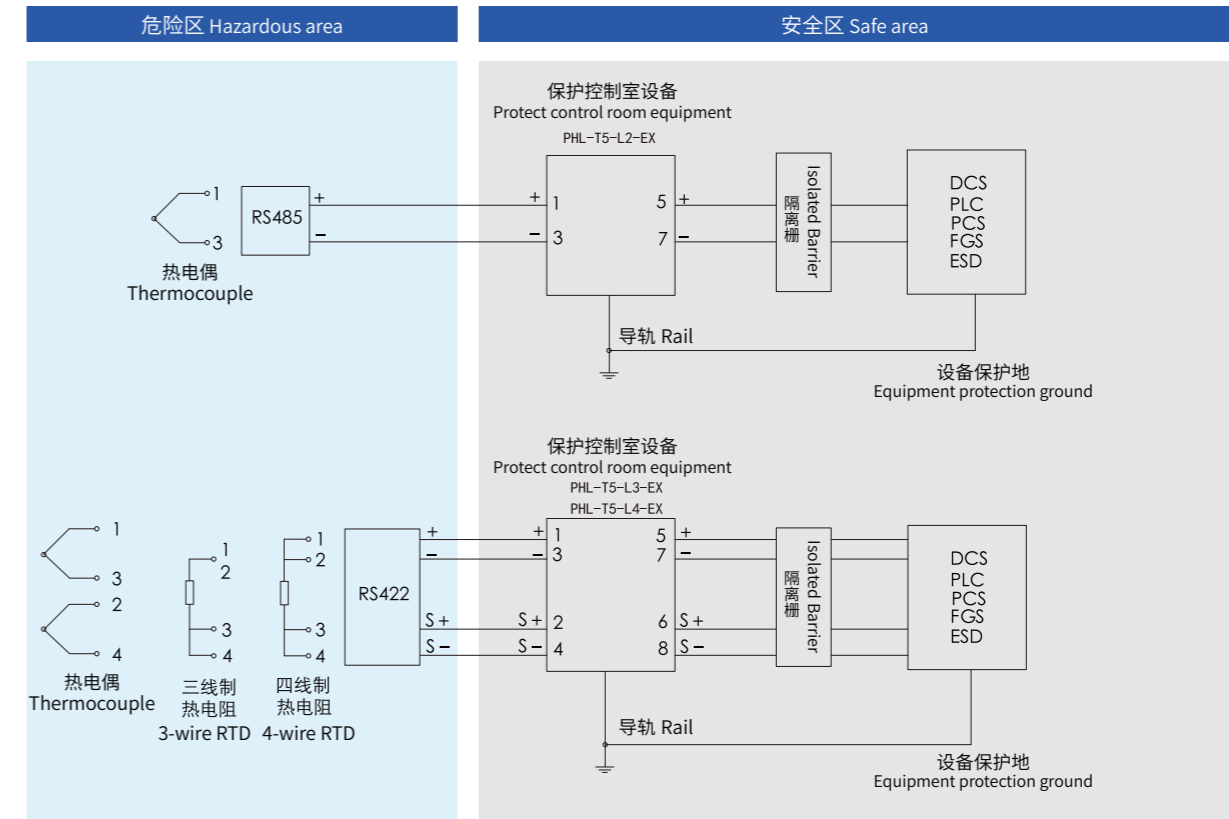
Product overview

12.4mm ultra-thin design;  
Surge protection modules are hot pluggable, no disconnection after unplugging;  
Surge protective module can be individually detected, convenient to maintain;  
Suitable for TC, RTD, CAN, RS485, RS422 and other floating circuit protection signals;  
Earthing through DIN35 metal rail.

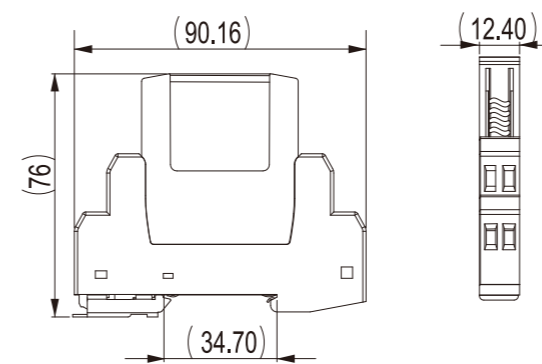
技术数据 Technical data

|   | 二线制 Two-wire                | 三线制 Three-wire              | 四线制 Four-wire               |
|---|-----------------------------|-----------------------------|-----------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 5V                          | 5V                          | 5V                          |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 6V                          | 6V                          | 6V                          |
| 标称工作电流IL<br>Nominal operating current IL  | 600mA                       | 600mA                       | 600mA                       |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                        | 10kA                        | 10kA                        |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                        | 20kA                        | 20kA                        |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                       | 2.5kA                       | 2.5kA                       |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                         | 7.5kA                       | 10kA                        |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 40V/600V                    | 40V/600V                    | 40V/600V                    |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 20V/600V                    | 20V/600V                    | 20V/600V                    |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                       | 10MHz                       | 10MHz                       |
| 响应时间<br>Response time   | 1ns                         | 1ns                         | 1ns                         |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                          | 1Ω                          | 1Ω                          |
| 漏电流<br>Leakage current  | <10μA                       | <10μA                       | <10μA                       |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                       | IP 20                       | IP 20                       |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                       | PC/V0                       | PC/V0                       |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC61643-21 | GB/T 18802.21 / IEC61643-21 | GB/T 18802.21 / IEC61643-21 |
| 防爆认证<br>Explosion-proof certifications  | EX ia II C T4-T6 Ga         | EX ia II C T4-T6 Ga         | EX ia II C T4-T6 Ga         |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C             | -40 °C ~ +80 °C             | -40 °C ~ +80 °C             |

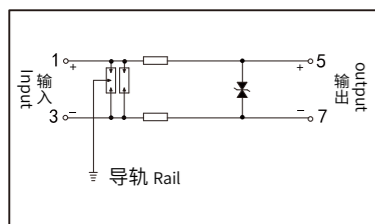
接线方式 Schematic diagram



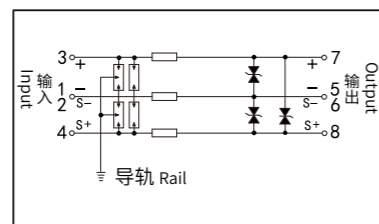
外形尺寸 Dimension drawings



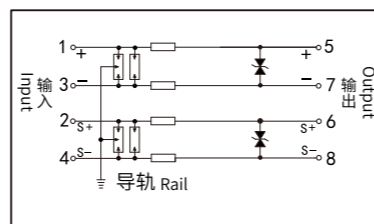
PHL-T5-L2-EX



PHL-T5-L3-EX



PHL-T5-L4-EX





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电涌防护模块可单独检测, 维护便捷;  
适用于AI、AO、DI、DO、RS232等  
信号回路;  
通过DIN35金属导轨接地。

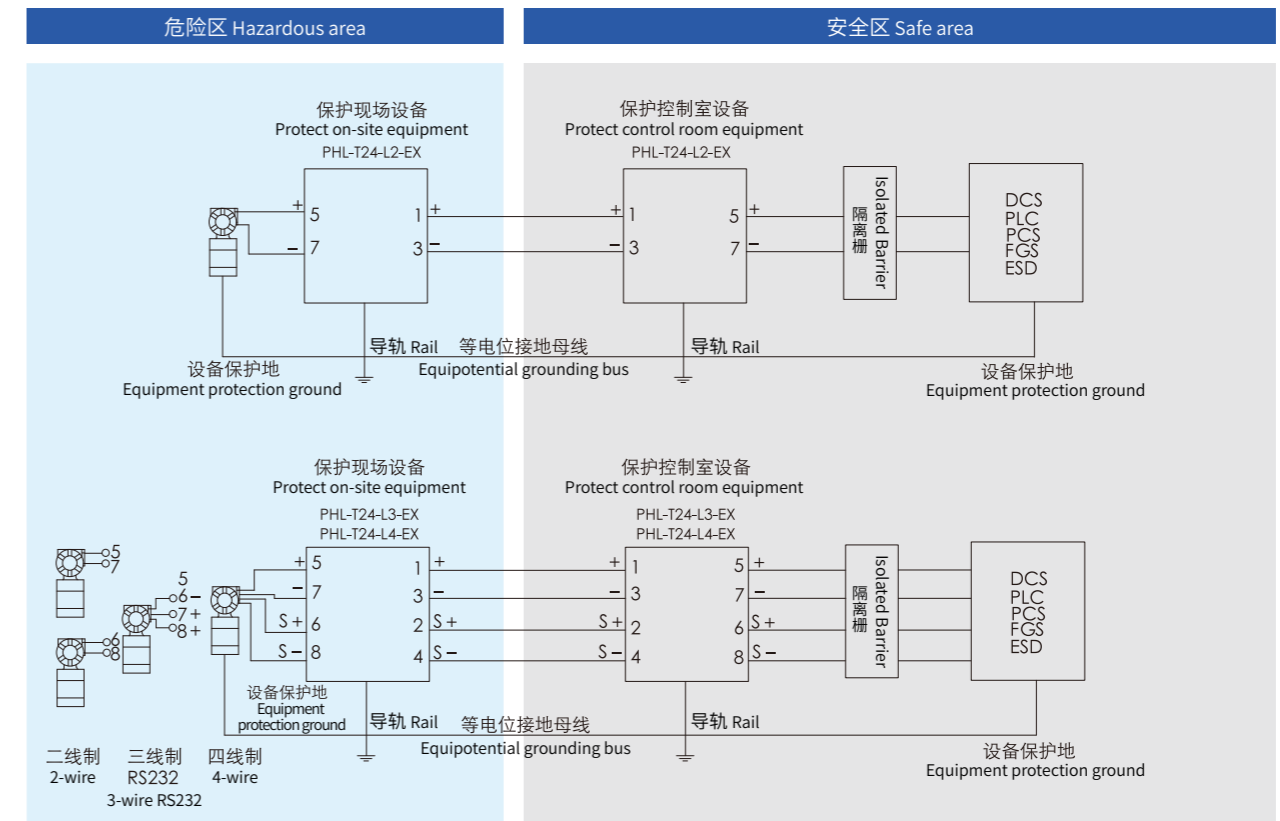
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12.4mm ultra-thin design;  
Surge protection modules are hot pluggable, no  
disconnection after unplugging;  
Surge protective module can be individually  
detected, convenient to maintain;  
Suitable for AI, AO, DI, DO, RS232 etc. and other  
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Earthing through DIN35 metal rail.

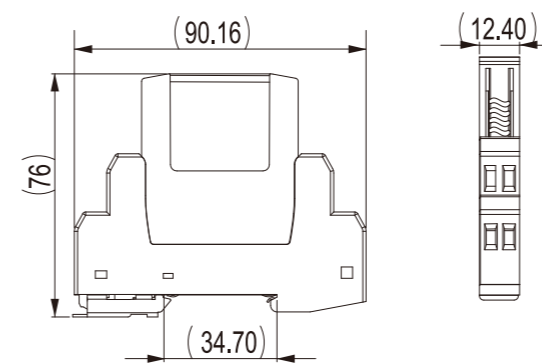
技术数据 Technical data

|   | 二线制 Two-wire                 | 三线制 Three-wire               | 四线制 Four-wire                |
|---|------------------------------|------------------------------|------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 24V                          | 24V                          | 24V                          |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 32V                          | 32V                          | 32V                          |
| 标称工作电流IL<br>Nominal operating current IL  | 600mA                        | 600mA                        | 600mA                        |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                         | 10kA                         | 10kA                         |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                         | 20kA                         | 20kA                         |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                        | 2.5kA                        | 2.5kA                        |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                          | 7.5kA                        | 10kA                         |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 60V/600V                     | 60V/600V                     | 60V/600V                     |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 40V/600V                     | 40V/600V                     | 40V/600V                     |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                        | 10MHz                        | 10MHz                        |
| 响应时间<br>Response time   | 1ns                          | 1ns                          | 1ns                          |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                           | 1Ω                           | 1Ω                           |
| 漏电流<br>Leakage current  | <1μA                         | <1μA                         | <1μA                         |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                        | IP 20                        | IP 20                        |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                        | PC/V0                        | PC/V0                        |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 |
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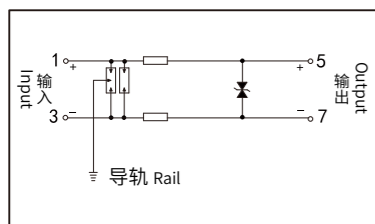
接线方式 Schematic diagram



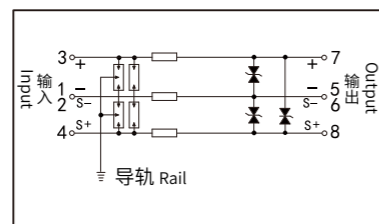
外形尺寸 Dimension drawings



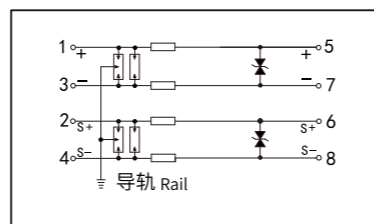
PHL-T24-L2-EX



PHL-T24-L3-EX



PHL-T24-L4-EX





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12.4mm超薄设计;  
电涌防护模块支持热插拔,拔出后不断线;  
电涌防护模块可单独检测,维护便捷;  
适用于热电偶、热电阻、CAN、RS485、RS422等浮地信号回路保护;  
通过DIN35金属导轨接地。

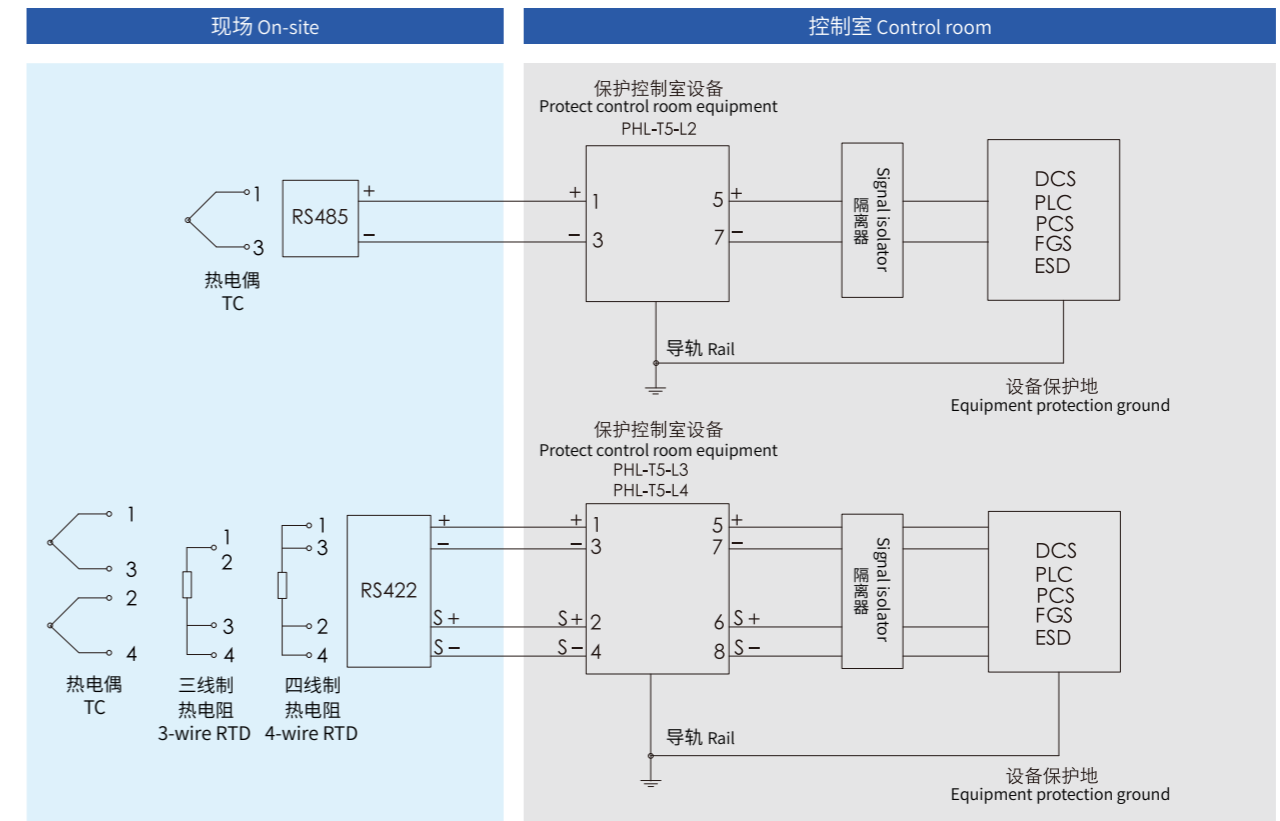
Product overview

12.4mm ultra-thin design;  
Surge protection modules are hot pluggable, no disconnection after unplugging;  
Surge protective module can be individually detected, convenient to maintain;  
Suitable for TC, RTD, CAN, RS485, RS422 and other floating signals circuit;  
Earthing through DIN35 metal rail.

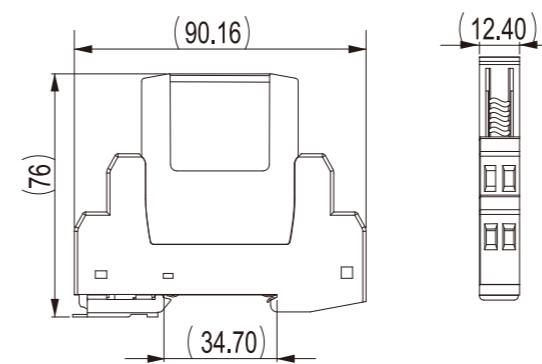
技术数据 Technical data

|   | 二线制 Two-wire                 | 三线制 Three-wire               | 四线制 Four-wire                |
|---|------------------------------|------------------------------|------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 5V                           | 5V                           | 5V                           |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 6V                           | 6V                           | 6V                           |
| 标称工作电流IL<br>Nominal operating current IL  | 1A                           | 1A                           | 1A                           |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                         | 10kA                         | 10kA                         |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                         | 20kA                         | 20kA                         |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                        | 2.5kA                        | 2.5kA                        |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                          | 7.5kA                        | 10kA                         |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 40V/600V                     | 40V/600V                     | 40V/600V                     |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 20V/600V                     | 20V/600V                     | 20V/600V                     |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                        | 10MHz                        | 10MHz                        |
| 响应时间<br>Response time   | 1ns                          | 1ns                          | 1ns                          |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                           | 1Ω                           | 1Ω                           |
| 漏电流<br>Leakage current  | <10μA                        | <10μA                        | <10μA                        |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                        | IP 20                        | IP 20                        |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                        | PC/V0                        | PC/V0                        |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              |

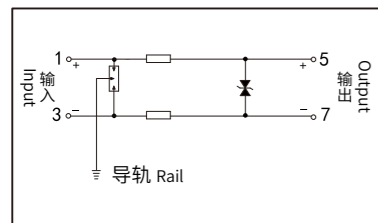
接线方式 Schematic diagram



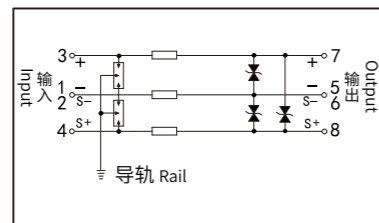
外形尺寸 Dimension drawings



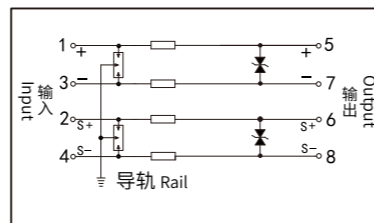
PHL-T5-L2



PHL-T5-L3



PHL-T5-L4



## 5V电压系统(低压保护) 5V Voltage System (Low-voltage protection)



### 产品概述

12.4mm超薄设计;  
电涌防护模块支持热插拔,拔出后不断线;  
电涌防护模块可单独检测,维护便捷;  
适用于热电偶、热电阻、CAN、RS485、RS422  
等带公共参考电位的信号回路;  
通过DIN35金属导轨接地。

### Product overview

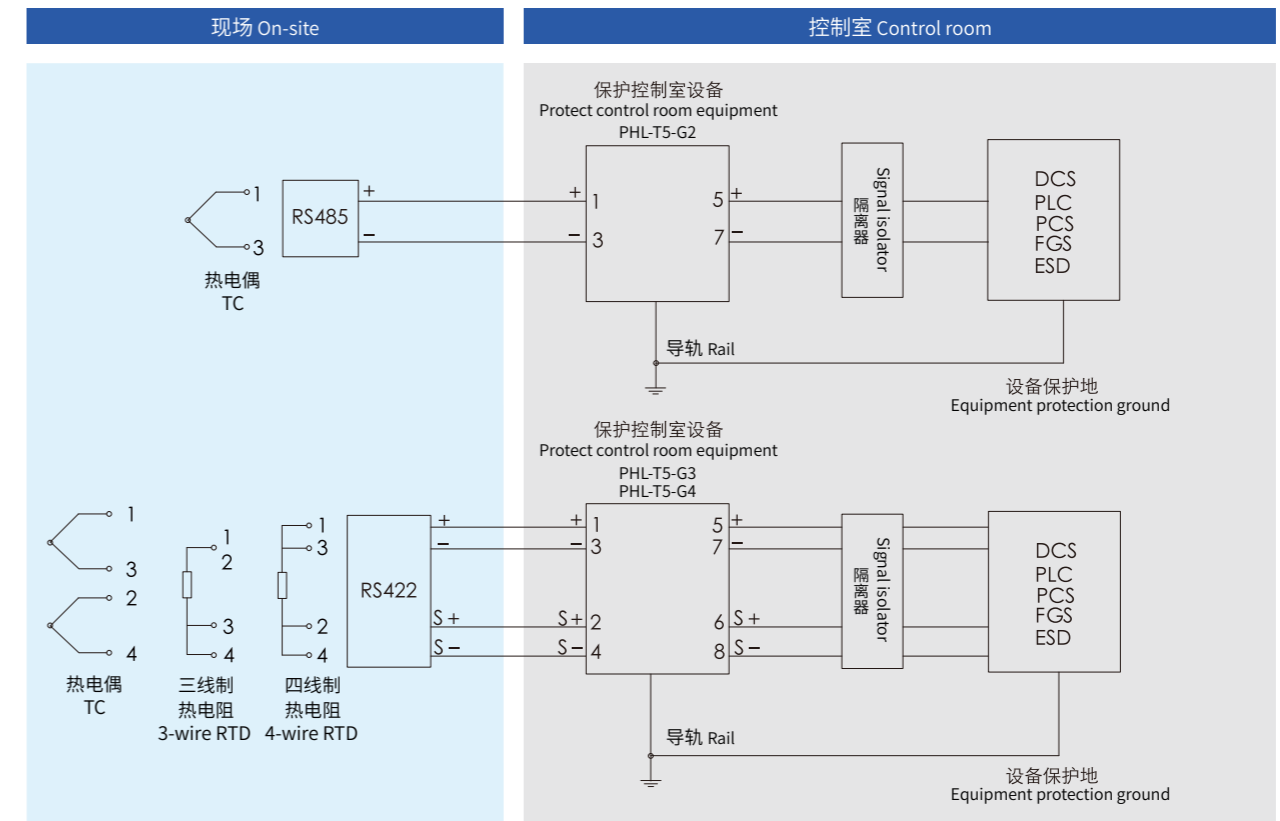
12.4mm ultra-thin design;  
Surge protection modules are hot pluggable, no  
disconnection after unplugging;  
Surge protective module can be individually  
detected, convenient to maintain;  
Suitable for TC, RTD, CAN, RS485, RS422 and other  
signal circuit with public reference potential ;  
Earthing through DIN35 metal rail.

### 技术数据 Technical data

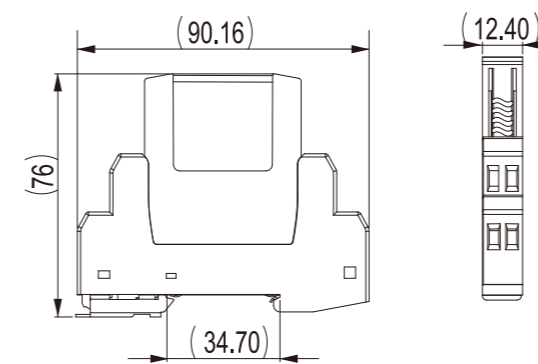
|   | 二线制 Two-wire                 | 三、四线制 Three-/ Four-wire      |
|---|------------------------------|------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 5V                           | 5V                           |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 6V                           | 6V                           |
| 标称工作电流IL<br>Nominal operating current IL  | 1A                           | 1A                           |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                         | 10kA                         |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                         | 20kA                         |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                        | 2.5kA                        |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                          | 10kA                         |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 40V/40V                      | 40V/40V                      |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 20V/20V                      | 20V/20V                      |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                        | 10MHz                        |
| 响应时间<br>Response time   | 1ns                          | 1ns                          |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                           | 1Ω                           |
| 漏电流<br>Leakage current  | <10μA                        | <10μA                        |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                        | IP 20                        |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                        | PC/V0                        |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              |

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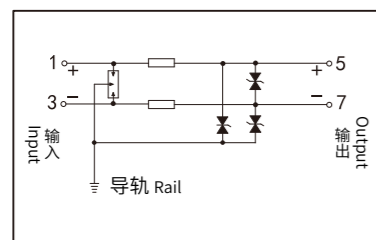
### 接线方式 Schematic diagram



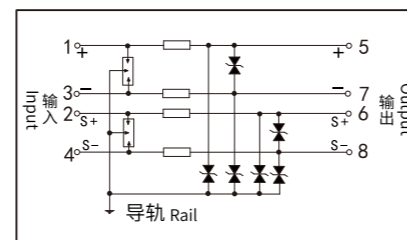
### 外形尺寸 Dimension drawings



PHL-T5-G2



PHL-T5-G3  
PHL-T5-G4





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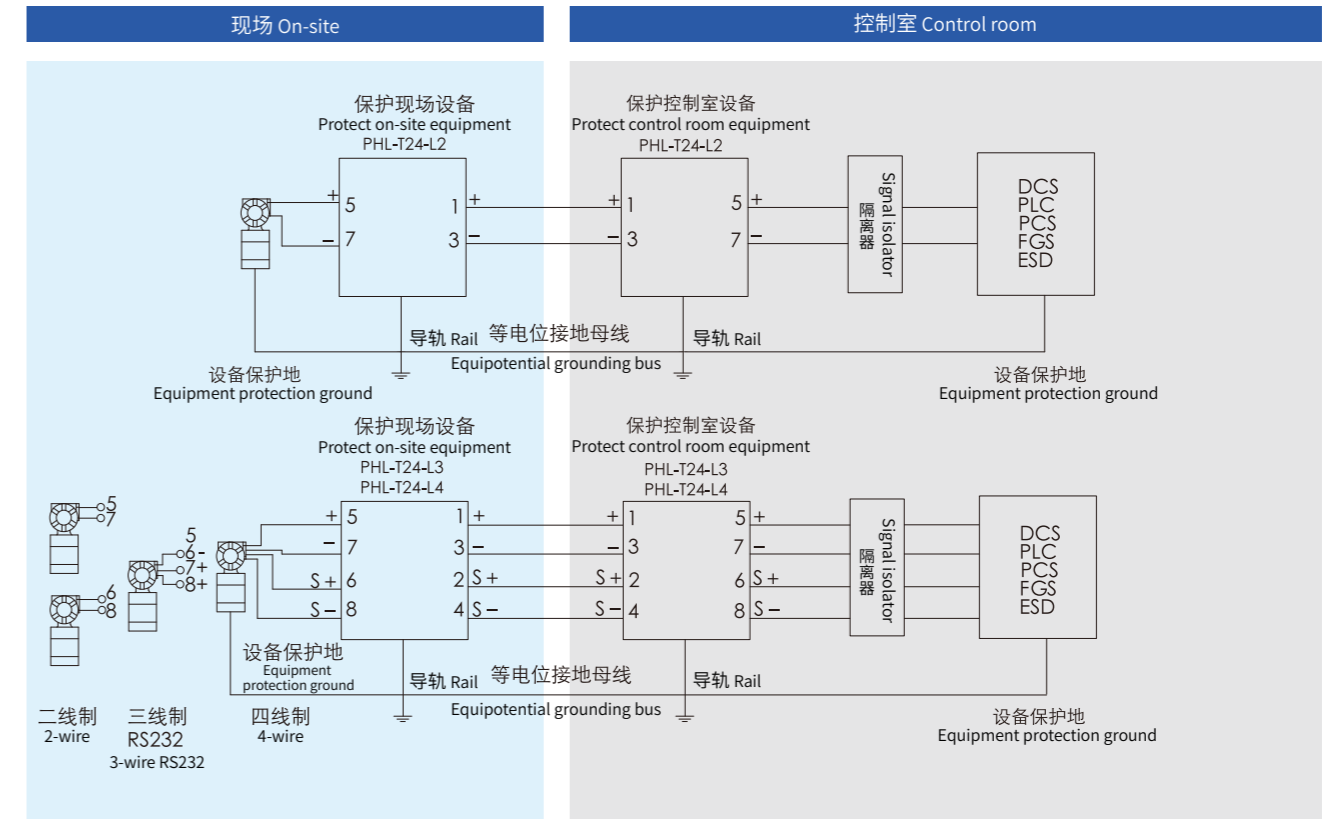
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Earthing through DIN35 metal rail.

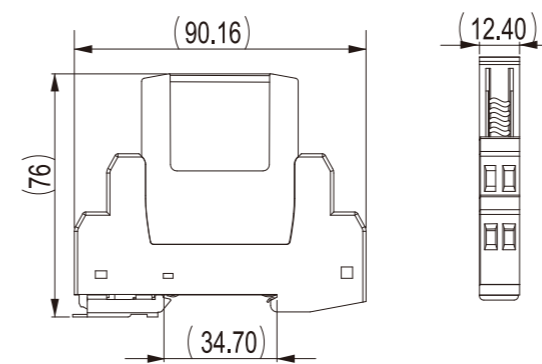
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|---|------------------------------|------------------------------|------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 24V                          | 24V                          | 24V                          |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 32V                          | 32V                          | 32V                          |
| 标称工作电流IL<br>Nominal operating current IL  | 1A                           | 1A                           | 1A                           |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                         | 10kA                         | 10kA                         |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                         | 20kA                         | 20kA                         |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                        | 2.5kA                        | 2.5kA                        |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                          | 7.5kA                        | 10kA                         |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 60V/600V                     | 60V/600V                     | 60V/600V                     |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 40V/600V                     | 40V/600V                     | 40V/600V                     |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                        | 10MHz                        | 10MHz                        |
| 响应时间<br>Response time   | 1ns                          | 1ns                          | 1ns                          |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                           | 1Ω                           | 1Ω                           |
| 漏电流<br>Leakage current  | <1μA                         | <1μA                         | <1μA                         |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                        | IP 20                        | IP 20                        |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                        | PC/V0                        | PC/V0                        |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              |

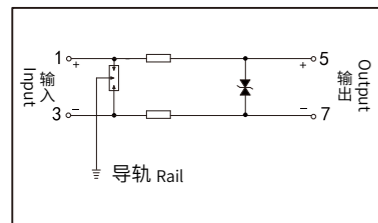
接线方式 Schematic diagram



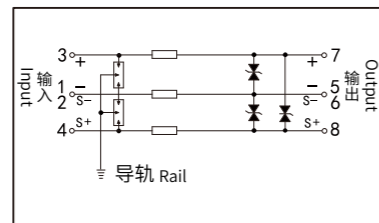
外形尺寸 Dimension drawings



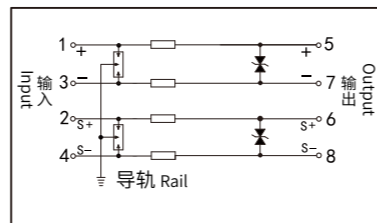
PHL-T24-L2



PHL-T24-L3



PHL-T24-L4



## 24V电压系统(低压保护) 24V Voltage System (Low-voltage protection)



### 产品概述

12.4mm超薄设计;  
电涌防护模块支持热插拔, 拔出后不断线;  
电涌防护模块可单独检测, 维护便捷;  
适用于AI、AO、DI、DO、RS232等带公共参考电位的信号回路;  
通过DIN35金属导轨接地。

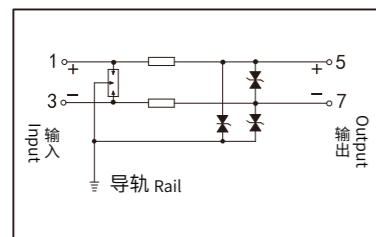
### Product overview

12.4mm ultra-thin design;  
Surge protection modules are hot pluggable, no disconnection after unplugging;  
Surge protective module can be individually detected, convenient to maintain;  
Suitable for AI, AO, DI, DO, RS232 and other signal circuit with public reference potential;  
Earthing through DIN35 metal rail.

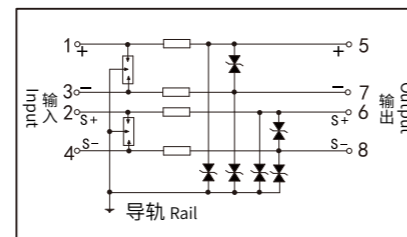
### 技术数据 Technical data

|   | 二线制 Two-wire                 | 三、四线制 Three-/ Four-wire      |
|---|------------------------------|------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 24V                          | 24V                          |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 32V                          | 32V                          |
| 标称工作电流IL<br>Nominal operating current IL  | 1A                           | 1A                           |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                         | 10kA                         |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                         | 20kA                         |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                        | 2.5kA                        |
| 总雷电冲击电流(10/350μs)<br>Total lightning surge current (10 / 350μs)                             | 5kA                          | 10kA                         |
| 保护电压Up(8/20μs) 线对线/线对地<br>Protection voltage Up (8 / 20μs) line-to-line / line to ground    | 60V/60V                      | 60V/60V                      |
| 保护电压Up(1kV/μs) 线对线/线对地<br>Protection voltage Up (1kV / μs) line to line / line to ground    | 40V/40V                      | 40V/40V                      |
| 带宽(-0.5dB)<br>Bandwidth (-0.5dB)  | 10MHz                        | 10MHz                        |
| 响应时间<br>Response time   | 1ns                          | 1ns                          |
| 串联电阻(每线)<br>Series resistance (per line)  | 1Ω                           | 1Ω                           |
| 漏电流<br>Leakage current  | <1μA                         | <1μA                         |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20                        | IP 20                        |
| 外壳材料/阻燃等级(UL94)<br>Housing material / Flame retardant grade (the UL94)                      | PC/V0                        | PC/V0                        |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21 | GB/T 18802.21 / IEC 61643-21 |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C              | -40 °C ~ +80 °C              |

PHL-T24-G2

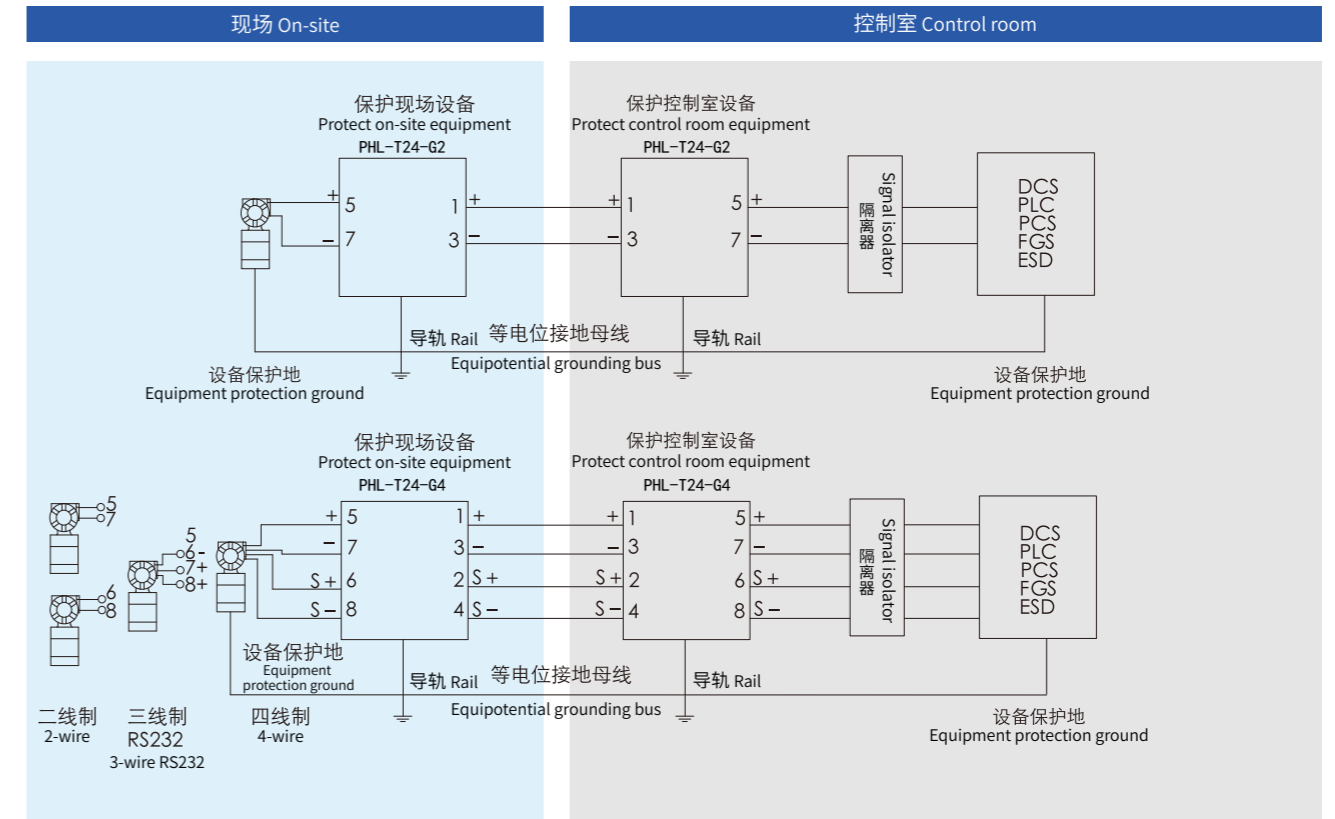


PHL-T24-G4

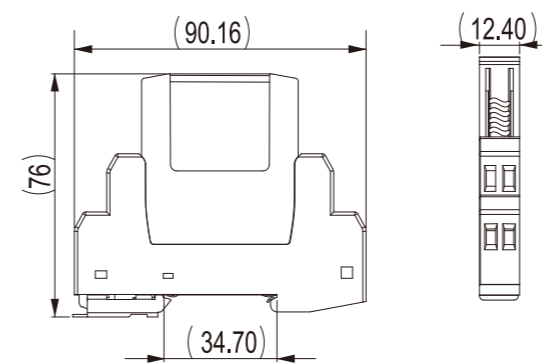


## 24V电压系统(低压保护) 24V Voltage System (Low-voltage protection)

### 接线方式 Schematic diagram



### 外形尺寸 Dimension drawings





产品概述

本安防爆认证  
适合二、三、四线制变送器、热电阻、热电偶、RS485、RS232、RS422、流量计、电磁阀等设备的保护

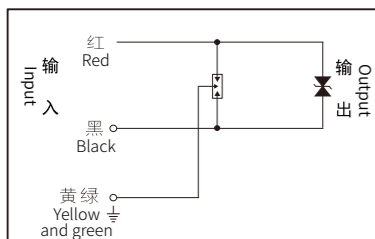
Product overview

Intrinsically safe explosion-proof certification  
Suitable for protection of 2-wire, 3-wire and 4-wire transmitter, TC, RTD, RS485, RS232, RS422, flowmeter, electromagnetic valve etc.

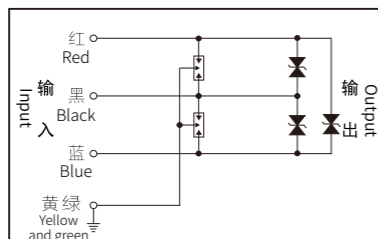
技术数据 Technical data

|   | 二线制 Two-wire                   | 三线制 Three-wire                 | 四线制 Four-wire                  |
|---|--------------------------------|--------------------------------|--------------------------------|
| 额定工作电压Un<br>Rated operating voltage Un  | 24V                            | 24V                            | 24V                            |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 35V                            | 35V                            | 35V                            |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10kA                           | 10kA                           | 10kA                           |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA                           | 20kA                           | 20kA                           |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning surge current Iimp (10 / 350μs)                           | 2.5kA                          | 2.5kA                          | 2.5kA                          |
| 保护电压Up(8/20μs) 线对线<br>Protection voltage Up (8 / 20μs) line-to-line                         | 60V                            | 60V                            | 60V                            |
| 保护电压Up(1kV/μs) 线对地<br>Protection voltage Up (1kV / μs) line to ground                       | 600V                           | 600V                           | 600V                           |
| 响应时间<br>Response time   | 1ns                            | 1ns                            | 1ns                            |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 67                          | IP 67                          | IP 67                          |
| 外壳材料<br>Housing material  | 304不锈钢<br>304 stainless steel  | 304不锈钢<br>304 stainless steel  | 304不锈钢<br>304 stainless steel  |
| 螺纹制式<br>Thread format   | 订货时指定<br>Specify when ordering | 订货时指定<br>Specify when ordering | 订货时指定<br>Specify when ordering |
| 测试标准<br>Test standard   | GB/T 18802.21 / IEC 61643-21   | GB/T 18802.21 / IEC 61643-21   | GB/T 18802.21 / IEC 61643-21   |
| 防爆认证<br>Explosion-proof certifications  | EX d II C T4-T6 Gb             | EX d II C T4-T6 Gb             | EX d II C T4-T6 Gb             |
|   | EX ia II C T4-T6 Ga            | EX ia II C T4-T6 Ga            | EX ia II C T4-T6 Ga            |
| 工作温度范围<br>Working temperature range   | -40 °C ~ +80 °C                | -40 °C ~ +80 °C                | -40 °C ~ +80 °C                |

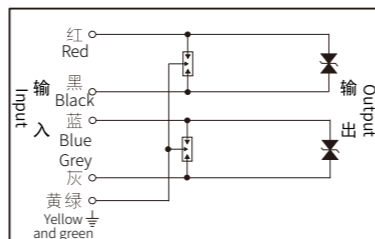
PHL-TX24-P2-\*-EX



PHL-TX24-P3-\*-EX



PHL-TX24-P4-\*-EX

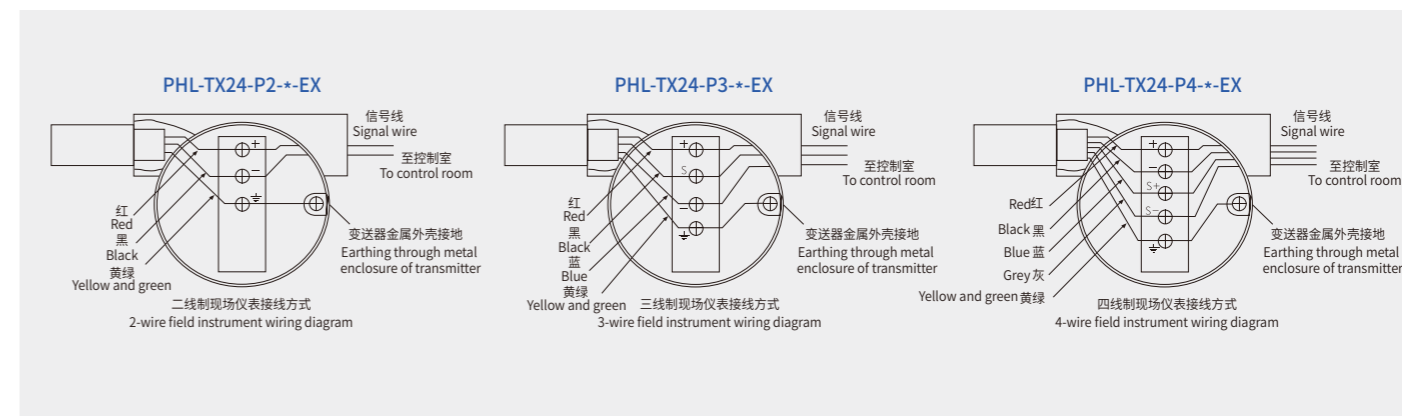


型号中“\*”号代表螺纹规格, 订货时须指定:

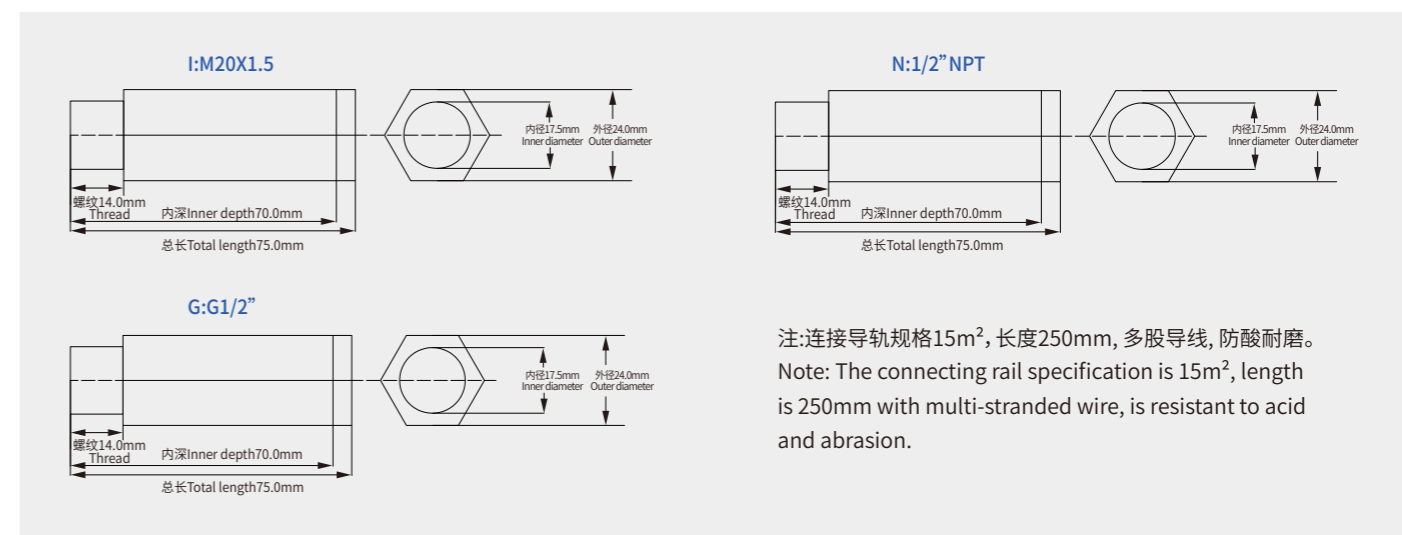
The "\*" in the model number represents the thread specification, which must be specified when ordering:

I:M20X1.5 N:1/2"NPT G:G1/2"

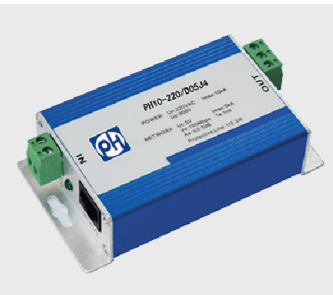
接线方式 Schematic diagram



外形尺寸 Dimension drawings



注:连接导轨规格15m<sup>2</sup>, 长度250mm, 多股导线, 防酸耐磨。  
Note: The connecting rail specification is 15m<sup>2</sup>, length is 250mm with multi-stranded wire, is resistant to acid and abrasion.



产品概述

电源网络二合一监控专用防雷器是为数字网络摄像机定制的一款防雷产品,保护摄像机电源、网络线路免受雷电电磁脉冲、感应过电压、操作过电压的影响,广泛应用于公共治安、交通监控等领域。该系列产品具有集成度高、插损低、残压低、方便安装等特点,具有良好的防雷效果。

Product overview

The power network two-in-one monitoring special lightning protection device is a lightning protection product customized for digital network cameras. It protects the camera power supply and network lines from electromagnetic pulses of lightning, induced overvoltages, and operating overvoltages. It is widely used in public security, traffic monitoring and other fields. This series of products have the characteristics of high integration, low insertion loss, low residual voltage, convenient installation etc., have very good lightning protection effects.

产品特点 Product advantages

- 摄像机电源、网络信号综合防护,干扰小  
Integrated protection for camera power supply and network signal with little interference
- 插损小、传输性能优越、无漏流  
Small insertion loss, superior transmission performance, no leakage
- 通流量大、残压低  
Large flow rate, low residual pressure
- 安装方便、结构严谨  
Easy to install with rigorous structure
- 多级防护  
Multi-level protection;

| 型号 Model   | PHL-12/D05J4  | PHL-24/D05J4 | PHL-220/D05J4 |
|--|---|--------------|---------------|
| 网络部分电气参数<br>Electrical parameters of the network   |   |              |               |
| 雷电保护区(LPZ)<br>Lightning Protection Zone (LPZ)  | 2   | 2            | 2             |
| 需求等级<br>Demand level   |   |              |               |
| 按照 IDN VDE6075 Part 6 (Draft 11.89) A1, A2<br>According to IDN VDE6075 Part 6 (Draft 11.89) A1, A2 | D   | D            | D             |
| 按照 IEC 61643<br>According to IEC 61643   | II  | II           | II            |
| 最大持续工作电压(UC)<br>Maximum continuous working voltage (UC)  | 5V  | 5V           | 5V            |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)  | 3KA   | 3KA          | 3KA           |
| 最大通流容量Imax(8/20μs)<br>Maximum flow capacity Imax(8/20μs)   | 5KA   | 5KA          | 5KA           |
| 限制电压 (10/700μs) 芯线—芯线<br>Limit voltage (10/700μs) core wire — core wire                            | ≤20V  | ≤20V         | ≤20V          |
| 响应时间(Ta)<br>Response time (Ta)   | 1ns   | 1ns          | 1ns           |
| 传输速率 Vs<br>Transmission rate Vs  | 100bps  | 100bps       | 100bps        |
| 插入损耗<br>Insertion loss   | ≤0.5dB  | ≤0.5dB       | ≤0.5dB        |
| 工作湿度范围(TU)<br>Working humidity range (TU)  | 环境温度: -40~+85°C 相对湿度≤95%<br>Environmental temperature: -40~+85°C Relative humidity≤95%                                      |              |               |
| 接头形式<br>Joint form   | RJ45  | RJ45         | RJ45          |
| 依据标准<br>Standards  | IEC 61643-1、EN60950、GB/T18802.21-2002、TB/2311-2002、YD/T 1235.2、YD/T 1542 IEC 61643、YD/5097-2005、GB18802.1-2011、GE50057-2010 |              |               |

| 型号 Model   | PHL-12/D05J4   | PHL-24/D05J4          | PHL-220/D05J4         |
|--|--|-----------------------|-----------------------|
| 电源部分电气参数<br>Electrical parameters of the power supply      |  |                       |                       |
| 标称工作电压(Un)<br>Nominal working voltage(Un)                  | 12VAC  | 12VDC                 | 220VAC                |
| 最大持续工作电压(UC)<br>Maximum continuous working voltage (UC)    | 30VAC  | 15VDC                 | 275VAC                |
| 标称放电电流 In(8/20μs)<br>Nominal discharge current In(8/20μs)  | 5KA  | 5KA                   | 5KA                   |
| 最大通流容量 Imax(8/20μs)<br>Maximum flow capacity Imax(8/20μs)  | 10KA   | 10KA                  | 10KA                  |
| 负载电流<br>Load current                                       | 0.5A   | 0.5A                  | 0.5A                  |
| 电压保护水平Up在1n时<br>When the voltage protection level Up is 1n | ≤100V  | ≤60V                  | ≤900V                 |
| 响应时间(Ta)<br>Response time (Ta)                             | 1ns  | 1ns                   | 1ns                   |
| 工作环境<br>Working environment                                | 环境温度: -40~+85°C 相对湿度≤95%<br>Environmental temperature: -40~+85°C Relative humidity≤95%                     |                       |                       |
| 接头形式<br>Joint form   | 压接式<br>Crimp type  | 压接式<br>Crimp type     | 压接式<br>Crimp type     |
| 依据标准<br>Standards  | IEC 61643-1、EN 60950、GB/T18802.21-2002、TB/T2311-2002、YD/T 1235.2   |                       |                       |
| 机械参数<br>Mechanical parameters                              |  |                       |                       |
| 安装方式<br>Installation method                                | 避雷器串接在被保护设备与信号通道之间<br>The arrester is connected in series between protected equipments and signal channels |                       |                       |
| 外观尺寸<br>Appearance size                                    | 112*60*25mm  | 112*60*25mm           | 112*60*25mm           |
| 外壳材料/颜色<br>Shell material/color                            | 铝/蓝色<br>Aluminum/blue  | 铝/蓝色<br>Aluminum/blue | 铝/蓝色<br>Aluminum/blue |
| 防护等级<br>Protection level (IEC EN 60529)                    | IP 20  | IP 20                 | IP 20                 |

电源网络二合一监控专用防雷器  
Power and network two-in-one monitoring special surge protective devices

RJ45/压接式接口·5kA·5V  
RJ45/Crimp interface·5kA·5V

应用场景  
Application scenario

主要用于监控系统对监控设备(电源、云台、摄像机)的防护;广泛应用于银行监控系统,小区安防系统;学校、企业、道路安全防护等监控设备。  
It is mainly used for the protection of monitoring equipment (power supply, PTZ, camera) by the monitoring system; widely used in bank monitoring system, community security system; school, enterprise, road safety protection and other monitoring equipment.





产品概述

适用于低压电源供电的设备防雷保护, 以及其它LPZ2与LPZ3分区的交界处。

Product overview

It is suitable for lightning protection of equipment powered by low-voltage power supply, and at the other junction area of LPZ2 and LPZ3 zones.

主要特点

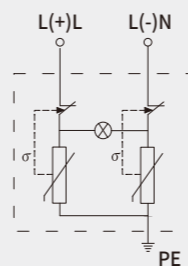
Main characteristics

- 电子式老化热脱离装置, 可靠性高, 有效避免短路故障。  
Electronic aging heating release device with high reliability, can effectively avoid short-circuit fault;
- 可拔插防雷模块, 便于安装, 产品老化后无需停电即可更换避雷器。  
Pluggable lightning protection module, convenient to install, and the lightning arrester can be replaced without power disconnection when the products are aging.

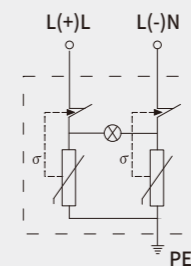
技术数据 Technical data

|  |   |   |   |
|--|---|---|---|
| 保护模式<br>Protection pattern   | L-PE  | L-PE  | L-PE  |
| 额定工作电压Un<br>Rated operating voltage Un   | 24VDC   | 110VDC  | 220VDC  |
| 最大持续工作电压Uc<br>Maximum continuous working voltage Uc                                  | 36VDC   | 220VDC  | 320VDC  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                          | 20kA  | 20kA  | 20kA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                       | 40kA  | 40kA  | 40kA  |
| 保护电压Up(In 下)<br>Protection voltage Up (under In)                                     | ≤600V   | ≤700V   | ≤800V   |
| 响应时间<br>Response time  | <25ns   | <25ns   | <25ns   |
| 16A gL/gG后备熔丝时的短路耐受能力<br>Short circuit withstand capability at 16A gL/gG backup fuse | 6KA   | 6KA   | 6KA   |
| 老化热脱离功能<br>Aging thermal separation function   | 有<br>Yes  | 有<br>Yes  | 有<br>Yes  |
| 老化指示功能<br>Aging indicator function   | 有<br>Yes  | 有<br>Yes  | 有<br>Yes  |
| 工作温度范围<br>Working temperature range  | -40 °C ~ +80 °C   | -40 °C ~ +80 °C   | -40 °C ~ +80 °C   |
| 外壳材料<br>Housing material   | UL94-V0   | UL94-V0   | UL94-V0   |
| 连接导线截面积<br>Cross-sectional area of connecting wire                                   | 0.1(min)-4(max) 软线 mm <sup>2</sup><br>0.1(min)-4(max) flexible wire mm <sup>2</sup> | 0.1(min)-4(max) 软线 mm <sup>2</sup><br>0.1(min)-4(max) flexible wire mm <sup>2</sup> | 0.1(min)-4(max) 软线 mm <sup>2</sup><br>0.1(min)-4(max) flexible wire mm <sup>2</sup> |
| 安装方法<br>Installation method  | DIN35mm 导轨<br>DIN35mm rail  | DIN35mm 导轨<br>DIN35mm rail  | DIN35mm 导轨<br>DIN35mm rail  |
| 防护等级<br>Protection grades  | IP 20   | IP 20   | IP 20   |

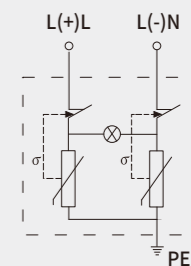
PHL-TA-24



PHL-TA-110

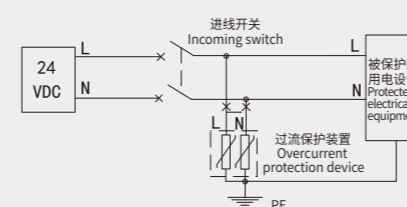


PHL-TA-220

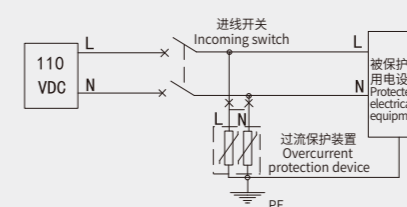


接线方式 Schematic diagram

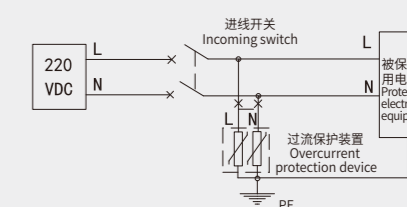
PHL-TA-24



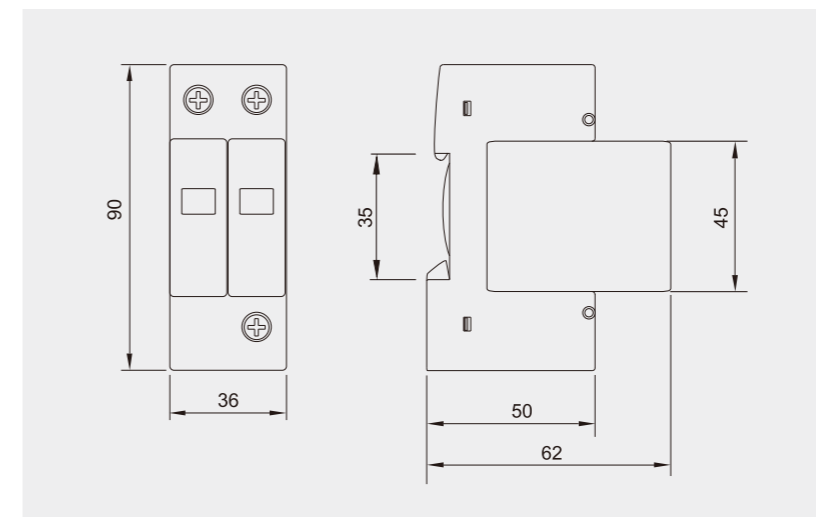
PHL-TA-110



PHL-TA-220



外形尺寸 Dimension drawings





产品概述

用于第二级的光伏直流电源浪涌保护器, 专为太阳能光伏系统设计, 适用于汇流箱中的直流光伏电源保护。符合EN5053911, G-B/T18802-31光伏浪涌保护器测试标准。

Product overview

The second-level photovoltaic DC power surge protector is specially designed for solar photovoltaic systems and is suitable for DC photovoltaic power protection in the combiner box. According to EN 5053911, GB/18802-31 photovoltaic surge protector test standards.

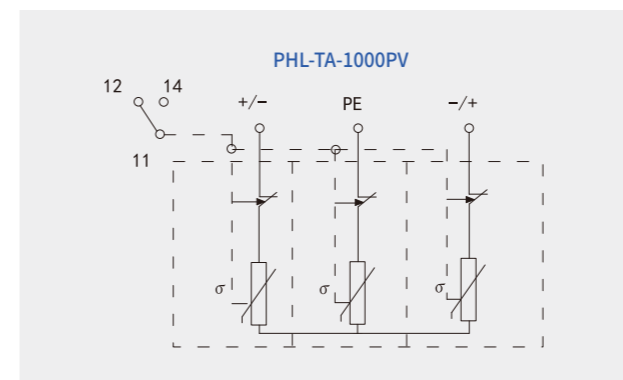
主要特点

Main characteristics

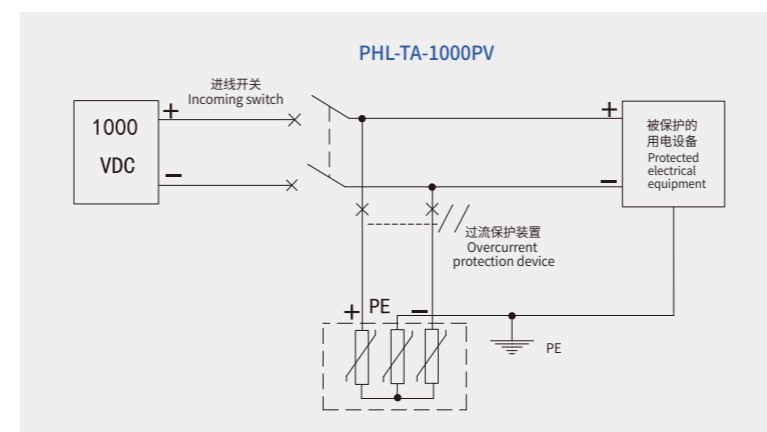
- 完整的预接线底座, 便于光伏系统特有接线模式  
Complete pre-wiring base, which facilitates the unique wiring mode of photovoltaic system;
- 特有防直流拉弧装置, 避免拉弧造成事故。  
Special anti-DC arcing device to avoid accidents caused by arcing.
- Y型接线方式, 避免发电机电路因绝缘故障损坏避雷器  
Y-type connection mode, to avoid the generator circuit from damaging the arrester due to insulation failure;

技术数据 Technical data

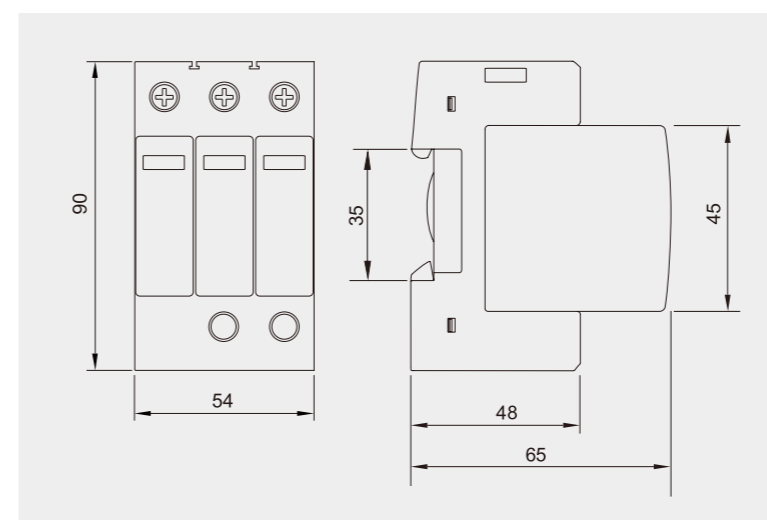
|  |  |
|--|--|
| 最大工作电压Upv<br>Maximum working voltage Upv                     | 1000VDC  |
| 标称放电电流In(8/20us)<br>Nominal discharge current In(8/20us)     | 20KA   |
| 最大放电电流Imax(8/20us)<br>Maximum discharge current Imax(8/20us) | 40KA   |
| 保护电压Up(In下)<br>Protection voltage up (under In)              | <2600V   |
| 响应时间<br>Response time  | 25ns   |
| 老化热脱功能<br>Aging thermal separation function                  | 有<br>Yes   |
| 老化指示功能<br>Aging indicator function                           | 有(指示窗口由绿色变为红色)<br>Yes(indicating window turns from green to red) |
| 工作温度范围<br>Working temperature range                          | -40 °C ~ +80 °C  |
| 连接导线截面积<br>Cross-sectional area of connecting wire           | 1.5~2.5mm <sup>2</sup>   |
| 安装方式<br>Installation method                                  | DIN35mm 导轨<br>DIN35mm rail                                       |
| 外壳材料<br>Sheathing material                                   | UL94-V0  |
| 防护等级<br>Protection grades                                    | IP 20  |
| 测试标准<br>Test standard  | GB/T18802.31/EN50539-11  |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用第三级的电源浪涌保护器, 适合安装在各类供电电源的终端配电箱, 以及其他LPZ2区与LPZ3区和后续分区的交界处。

Product overview

A third stage power surge protector, suitable for installation in various types of power supply distribution box terminal, and the other junction between LPZ2 and PLZ3 zones and subsequent partition of the region.

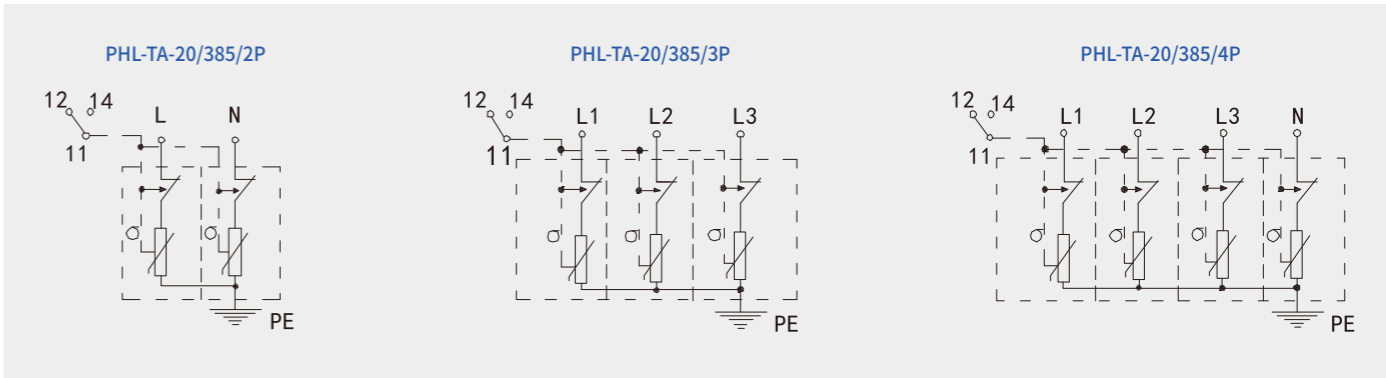
主要特点

Main characteristics

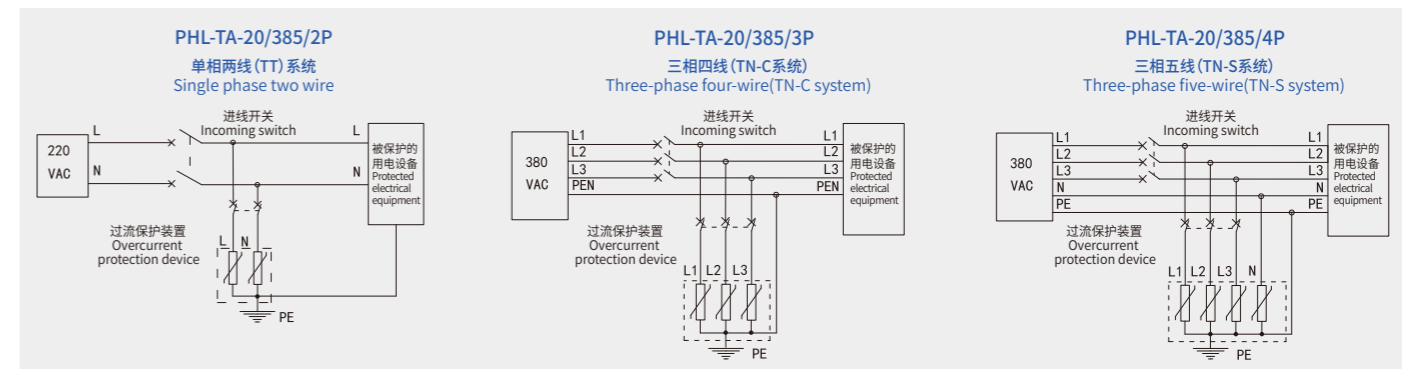
- 模块自锁功能, 避免因松动而失去保护  
Module self-locking function to avoid the loss of protection because of loose
- 可轻松插拔模块, 便于更换  
Plug-in modules for easy replacement.

技术数据 Technical data

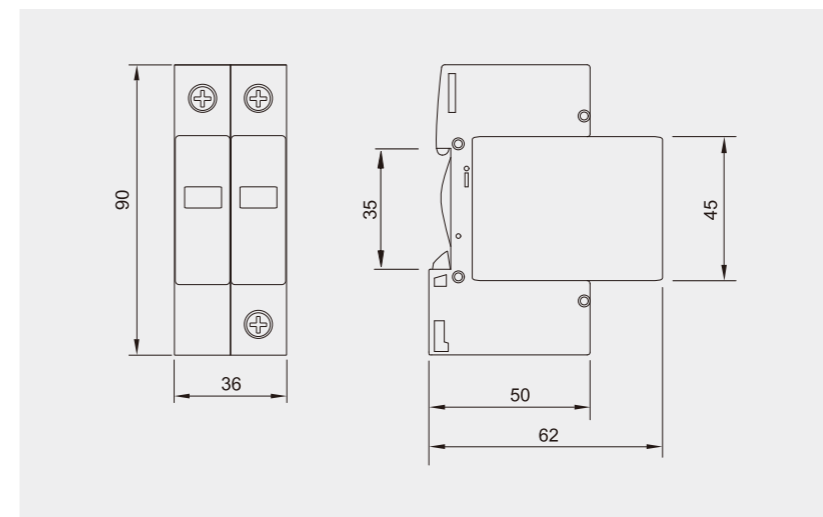
|   |   |   |   |
|---|---|---|---|
| 额定工作电压Un<br>Rated operating voltage Un  | 220VAC  | 220VAC  | 220VAC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 385VAC  | 385VAC  | 385VAC  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10KA  | 10KA  | 10KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA  | 20kA  | 20kA  |
| 保护电压Up(In下)<br>Protection voltage Up ( under In)  | <1200V  | <1200V  | <1200V  |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> Flexible wire | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> Flexible wire       | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> Flexible wire |
| 响应时间<br>Response time   | <25ns   | <25ns   | <25ns   |
| 漏电流<br>Leakage current  | <10μA   | <10μA   | <10μA   |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   | IP 20   | IP 20   |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   | UL94-V0   | UL94-V0   |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  |
| 适合电源系统<br>Applied power system  | 单相两线<br>Single phase two wire   | 三相四线(TN-C系统)<br>Three-phase four-wire(TN-C system)<br>三相三线(IT系统)<br>Three-phase three-wire(IT system) | 三相五线(TN-S系统)<br>Three-phase five-wire(TN-S system)  |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                       | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 25、32   | 25、32   | 25、32   |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>yes  | 有<br>yes  | 有<br>yes  |
| 工作温度范围<br>Working temperature range   | -40~+80°C   | -40~+80°C   | -40~+80°C   |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用于第三级的三相电源浪涌保护器，采用相线对零线，以及零线对地的共差模保护模式，适合安装在TT供电制式的分路配电柜，以及其他LPZ2区与LPZ3区和后续分区的交界处。

Product overview

This SPD is a three-phase power surge protector used in the third stage, adopts the common differential mode protection mode of phase line to zero line and zero line to ground, which is suitable for installation in TT power supply system shunt distribution cabinet and the junction of other LPZ2 areas, LPZ3 areas and subsequent areas

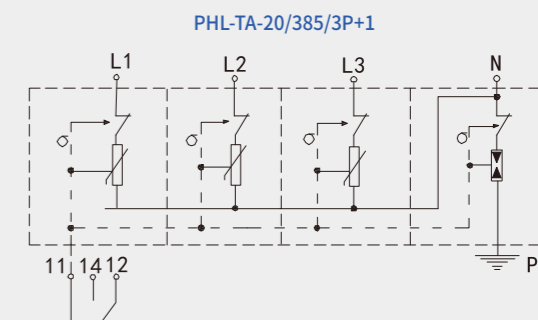
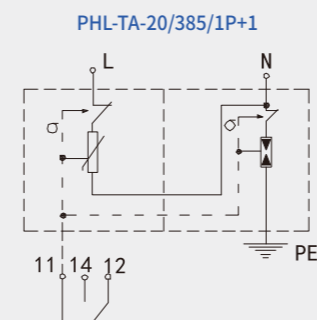
主要特点

Main characteristics

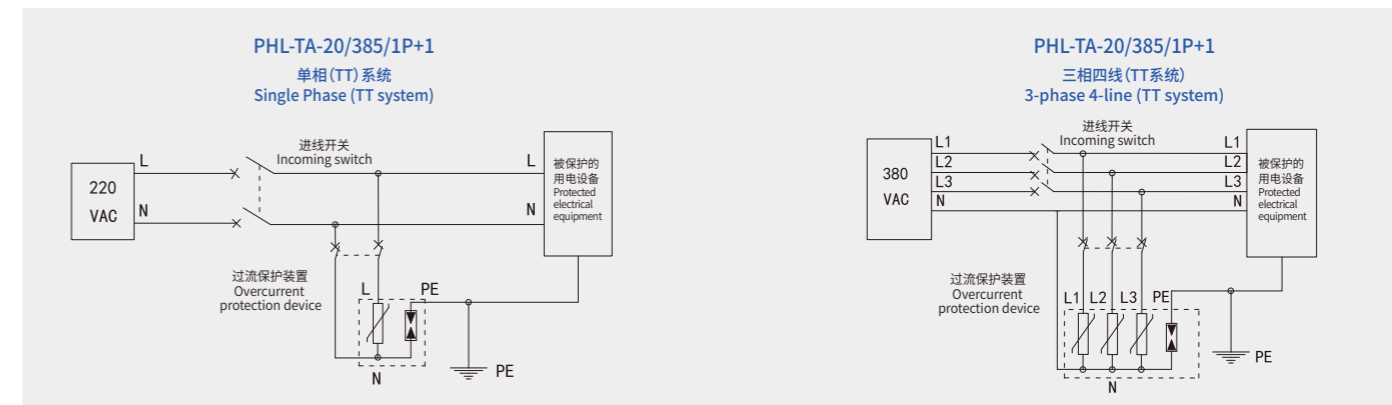
- 底座预连接，方便接线  
Pre-wiring at base, convenient to wiring
- 可轻松插拔模块，便于更换  
plug-in modules for easy replacement.

技术数据 Technical data

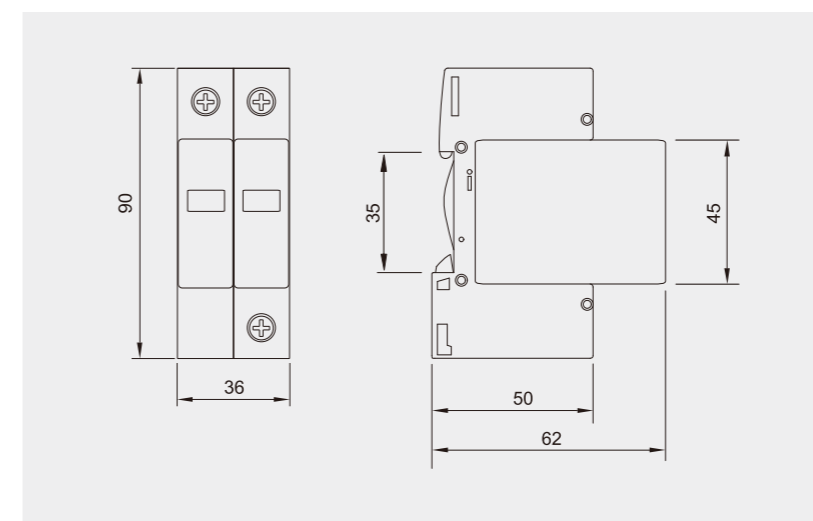
|   | PHL-TA-20/275   | PHL-TA-20/385 | PHL-TA-20/275   | PHL-TA-20/385 |
|---|---|---------------|---|---------------|
| 额定工作电压Un<br>Rated operating voltage Un  |   | 220VAC        |   | 220VAC        |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 275VAC  | 385VAC        | 275VAC  | 385VAC        |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 10KA  | 10KA          | 10KA  | 10KA          |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 20kA  | 20kA          | 20kA  | 20kA          |
| 保护电压Up(In下)<br>Protection voltage Up ( under In)  | <1200V  | <1500V        | <1200V  | <1500V        |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               |
| 响应时间<br>Response time   | <25ns   |               | <25ns   |               |
| 漏电流<br>Leakage current  | <10μA   |               | <10μA   |               |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   |               | IP 20   |               |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   |               | UL94-V0   |               |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  |               | GB 18802.1/IEC 61643-1  |               |
| 适合电源系统<br>Applied power system  | 单相(TT系统)<br>Single Phase (TT system)  |               | 三相四线(TT系统)<br>3-phase 4-line (TT system)  |               |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 25、32   |               | 25、32   |               |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  |               | 有<br>Yes  |               |
| 工作温度范围<br>Working temperature range   | -40~+80°C   |               | -40~+80°C   |               |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   |               | 35mmDIN导轨<br>DIN35mm rail   |               |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用第二级的三相电源浪涌保护器, 采用相线对地线(PEN)的共模保护式, 适合安装在LPZ1区和LPZ2的交界处

Product overview

This is a power surge protector with three-phase in second stage, adopts common-mode protection of phase-to-ground (PEN), which is suitable for installation at the junction of LPZ1 area and LPZ2 area

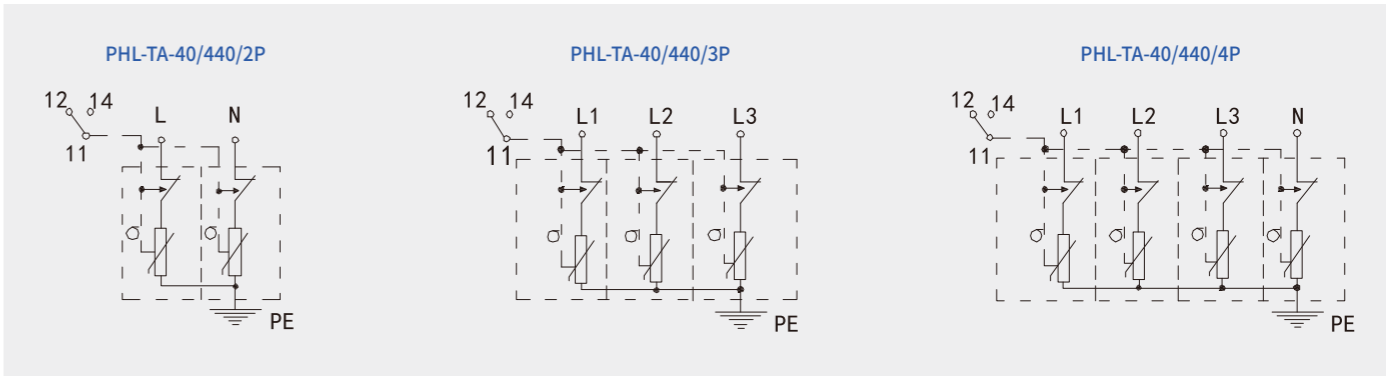
主要特点

Main characteristics

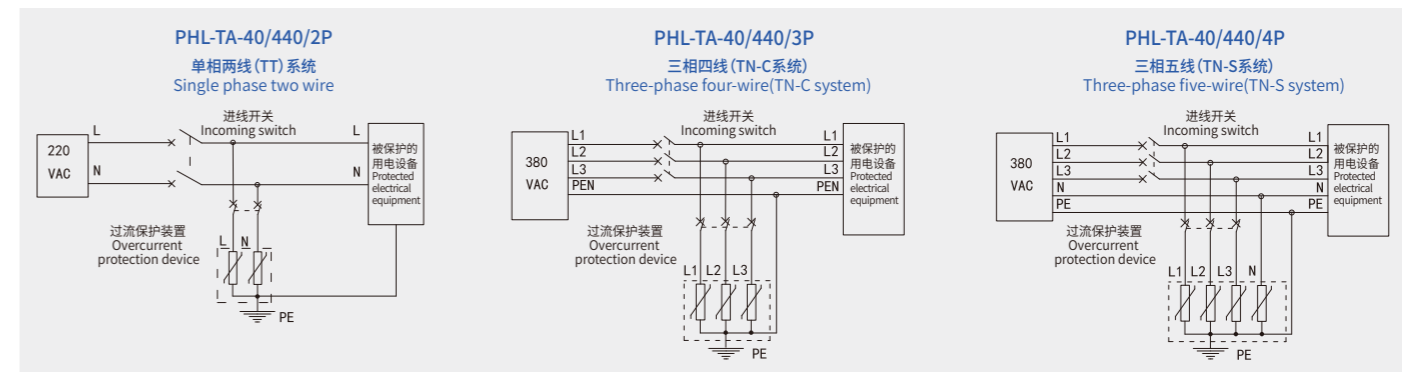
- 模块自锁功能, 避免因松动而失去保护  
Module self-locking function to avoid the loss of protection because loose
- 底座预连接, 方便接线  
The base is with pre-connected wiring, easy to wire
- 可轻松插拔模块, 便于更换  
Plug-in modules for easy replacement.

技术数据 Technical data

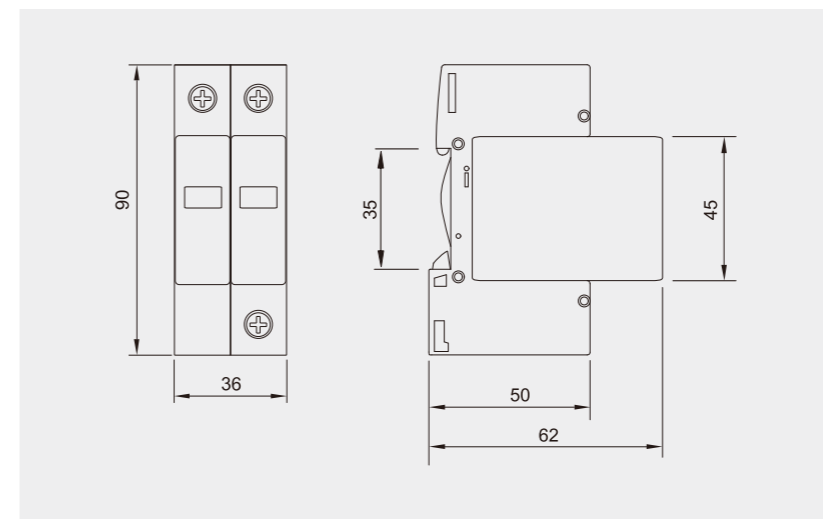
|   |   |   |   |
|---|---|---|---|
| 额定工作电压Un<br>Rated operating voltage Un  | 220VAC  | 220VAC  | 220VAC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 440VAC  | 440VAC  | 440VAC  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 20KA  | 20KA  | 20KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 40kA  | 40kA  | 40kA  |
| 保护电压Up(In下)<br>Protection voltage Up (under In)   | <2200V  | <2200V  | <2200V  |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire       | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |
| 响应时间<br>Response time   | <25ns   | <25ns   | <25ns   |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   | IP 20   | IP 20   |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   | UL94-V0   | UL94-V0   |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  |
| 适合电源系统<br>Applied power system  | 单相两线<br>Single phase two wire   | 三相四线(TN-C系统)<br>Three-phase four-wire(TN-C system)<br>三相三线(IT系统)<br>Three-phase three-wire(IT system) | 三相五线(TN-S系统)<br>Three-phase five-wire(TN-S system)  |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                       | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 50、63   | 50、63   | 50、63   |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  | 有<br>Yes  | 有<br>Yes  |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   | -40°C~+80°C   | -40°C~+80°C   |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用于第二级的三相电源浪涌保护器, 采用相线对零线, 以及零线对地的共差模保护模式, 适合安装在TT供电制式的分路配电柜, 以及其他LPZ1区与LPZ2区和后续分区的交界处

Product overview

This is a power surge protector with three-phase in second type, which adopts the common and differential mode protection with phase line to zero line and zero line to ground, it is suitable for installation in TT power supply system shunt distribution cabinet and the junction of other LPZ1 area, LPZ2 area and subsequent sub-areas

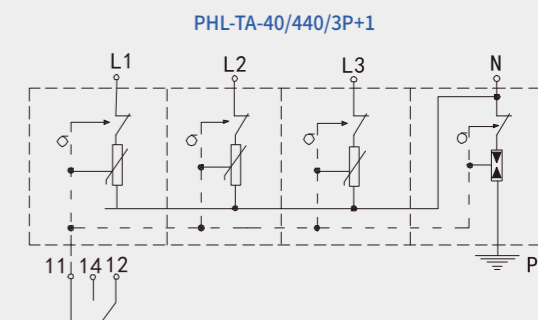
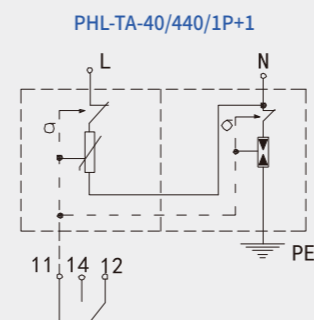
主要特点

Main characteristics

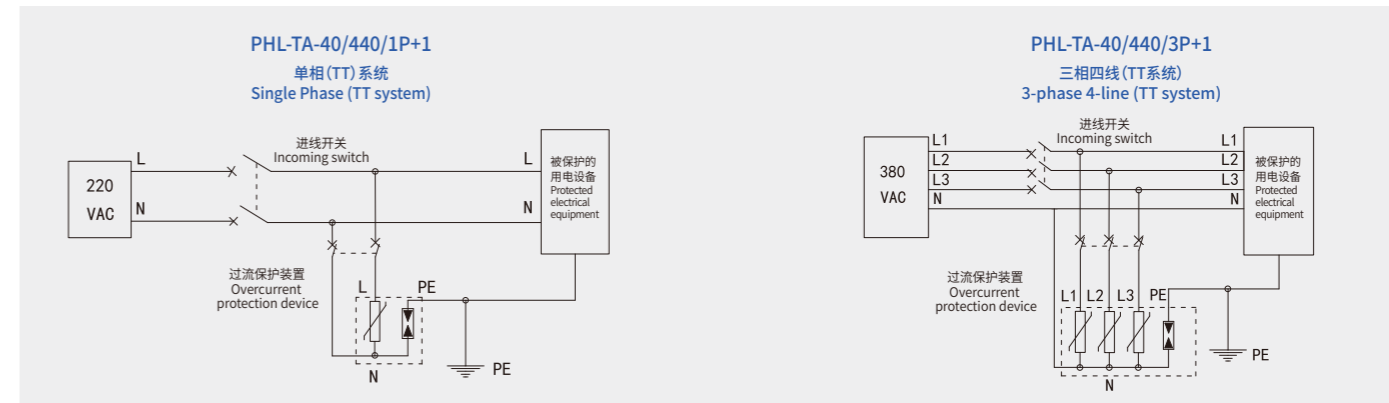
- 底座预连接, 方便接线  
Pre-wiring at base, convenient to wiring
- 可轻松插拔模块, 便于更换  
Plug-in modules for easy replacement.

技术数据 Technical data

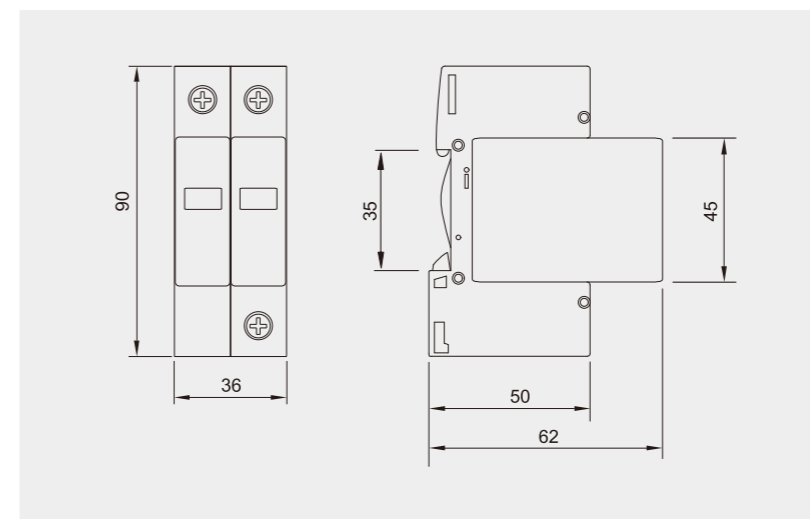
|   | PHL-TA-40/275   | PHL-TA-40/440 | PHL-TA-40/275   | PHL-TA-40/440 |
|---|---|---------------|---|---------------|
| 额定工作电压Un<br>Rated operating voltage Un  |   | 220VAC        |   | 220VAC        |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 275VAC  | 440VAC        | 275VAC  | 440VAC        |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 20KA  | 20KA          | 20KA  | 20KA          |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 40kA  | 40kA          | 40kA  | 40kA          |
| 保护电压Up(In下)<br>Protection voltage Up ( under In)  | <1800V  | <2200V        | <1800V  | <2200V        |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               |
| 响应时间<br>Response time   | <25ns   |               | <25ns   |               |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   |               | IP 20   |               |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   |               | UL94-V0   |               |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  |               | GB 18802.1/IEC 61643-1  |               |
| 适合电源系统<br>Applied power system  | 单相(TT系统)<br>Single Phase (TT system)  |               | 三相四线(TT系统)<br>3-phase 4-line (TT system)  |               |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 50, 63  |               | 50, 63  |               |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  |               | 有<br>Yes  |               |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   |               | -40°C~+80°C   |               |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   |               | 35mmDIN导轨<br>DIN35mm rail   |               |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用第二级的三相电源浪涌保护器, 采用相线对地线(PEN)的共模保护式, 适合安装在LPZ1区和LPZ2区的交界处

Product overview

This is a power surge protector with three-phase in second stage, adopts common-mode protection of phase-to-ground (PEN), which is suitable for installation at the junction of LPZ1 area and LPZ2 area

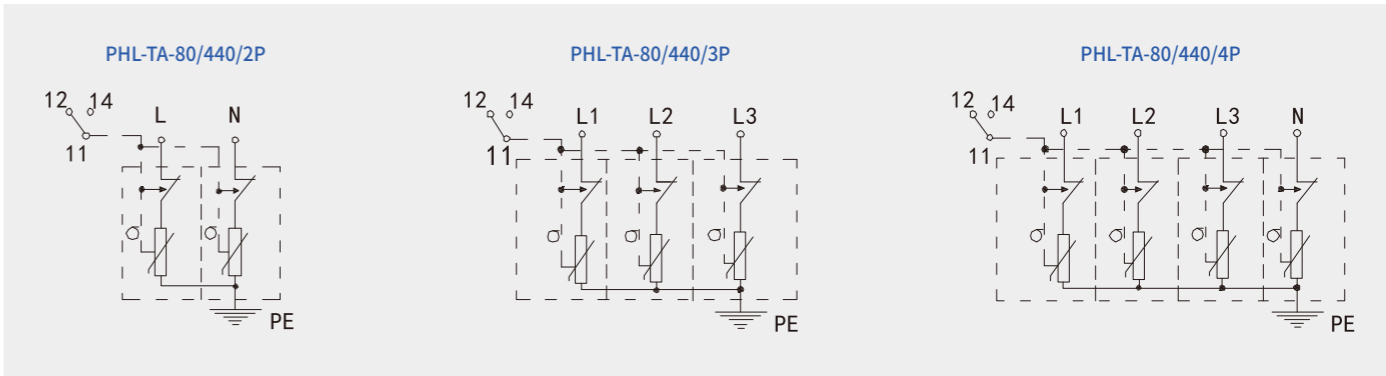
主要特点

Main characteristics

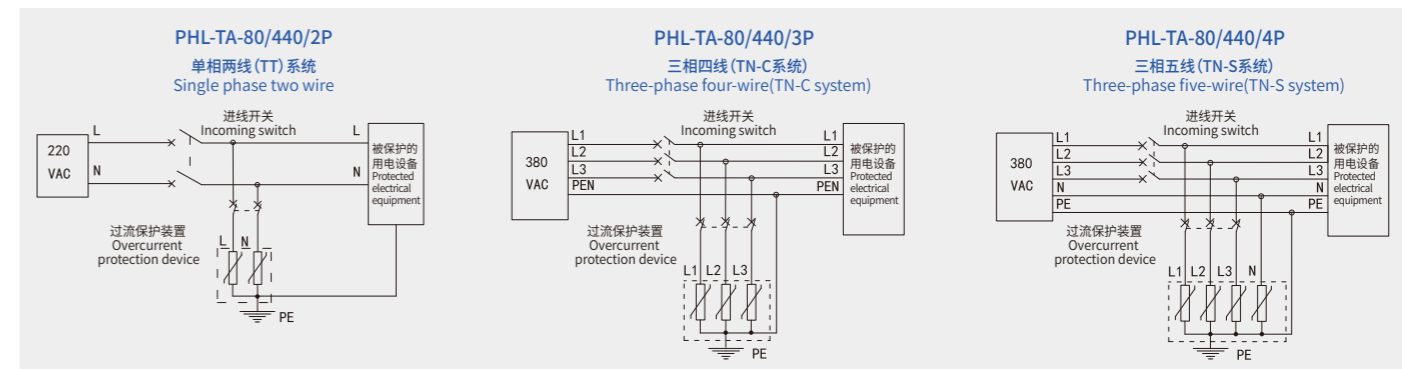
- 模块自锁功能, 避免因松动而失去保护  
Module self-locking function to avoid the loss of protection because of loose
- 底座预连接, 方便接线  
The base is with pre-connected wiring, easy to wire
- 可轻松插拔模块, 便于更换  
Plug-in modules for easy replacement.

技术数据 Technical data

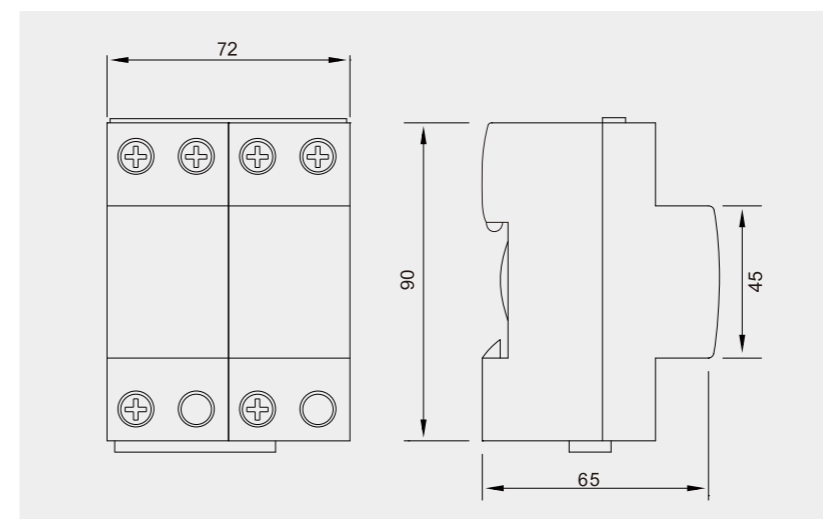
|   |   |   |   |
|---|---|---|---|
| 额定工作电压Un<br>Rated operating voltage Un  | 220VAC  | 220VAC  | 220VAC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 440VAC  | 440VAC  | 440VAC  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 40KA  | 40KA  | 40KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 80kA  | 80kA  | 80kA  |
| 保护电压Up(In下)<br>Protection voltage Up (under In)   | <2400V  | <2400V  | <2400V  |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire       | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |
| 响应时间<br>Response time   | <25ns   | <25ns   | <25ns   |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   | IP 20   | IP 20   |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   | UL94-V0   | UL94-V0   |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  |
| 适合电源系统<br>Applied power system  | 单相两线<br>Single phase two wire   | 三相四线(TN-C系统)<br>Three-phase four-wire(TN-C system)<br>三相三线(IT系统)<br>Three-phase three-wire(IT system) | 三相五线(TN-S系统)<br>Three-phase five-wire(TN-S system)  |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                       | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 63、100  | 63、100  | 63、100  |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  | 有<br>Yes  | 有<br>Yes  |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   | -40°C~+80°C   | -40°C~+80°C   |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   |

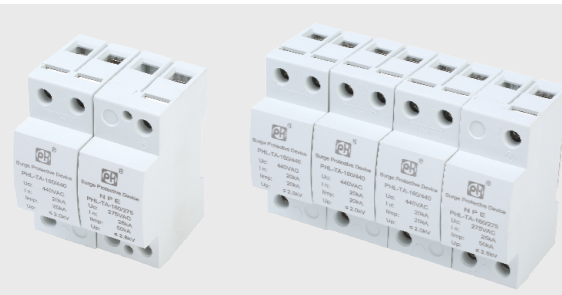


接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用于第二级的三相电源浪涌保护器, 采用相线对零线, 以及零线对地的共差模保护模式, 适合安装在TT供电制式的分路配电柜, 以及其他LPZ1区与LPZ2区和后续分区的交界处

Product overview

This is a power surge protector with three-phase in second type, which adopts the common and differential mode protection with phase line to zero line and zero line to ground, it is suitable for installation in TT power supply system shunt distribution cabinet and the junction of other LPZ1 area, LPZ2 area and subsequent areas

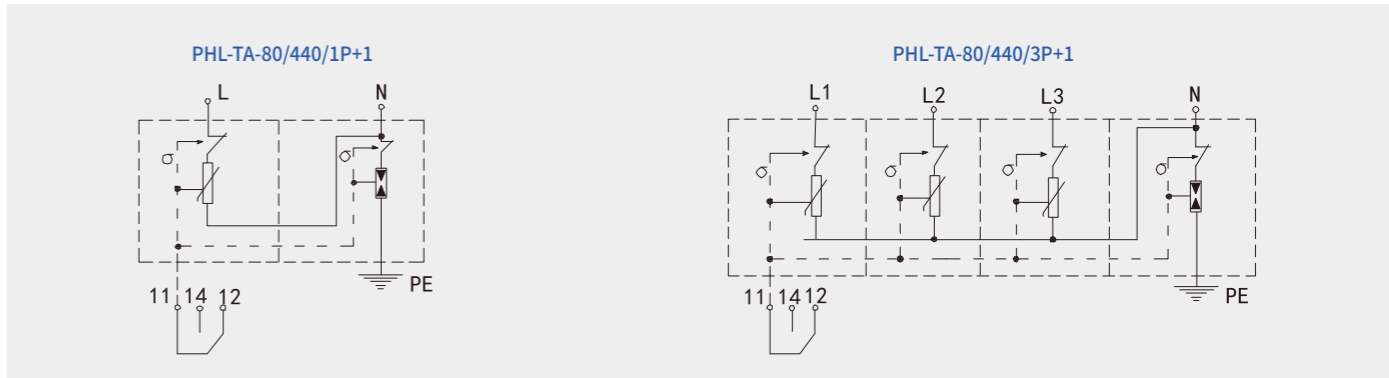
主要特点

Main characteristics

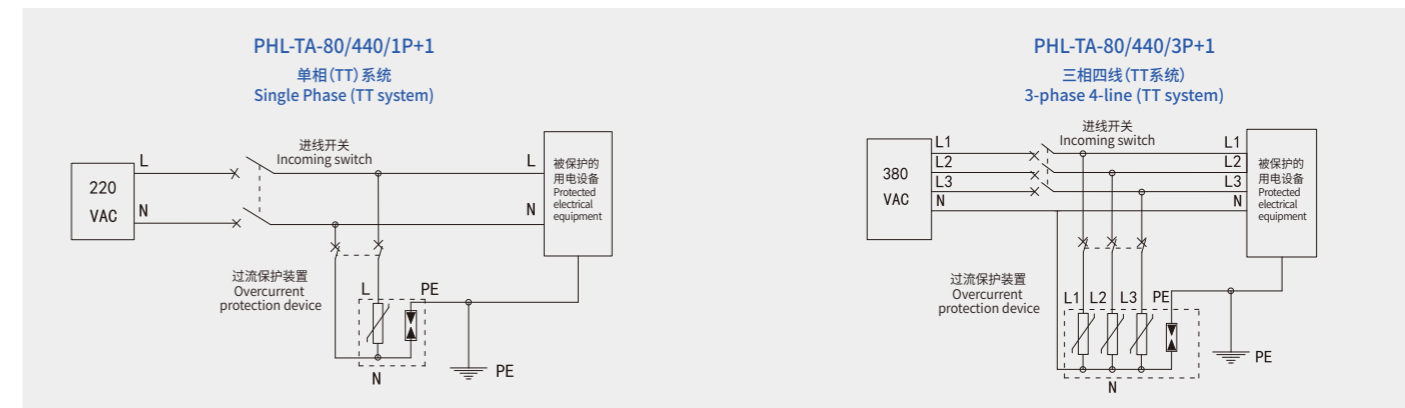
- 底座预连接, 方便接线  
Pre-wiring at base, convenient to wiring
- 可轻松插拔模块, 便于更换  
Plug-in modules for easy replacement.

技术数据 Technical data

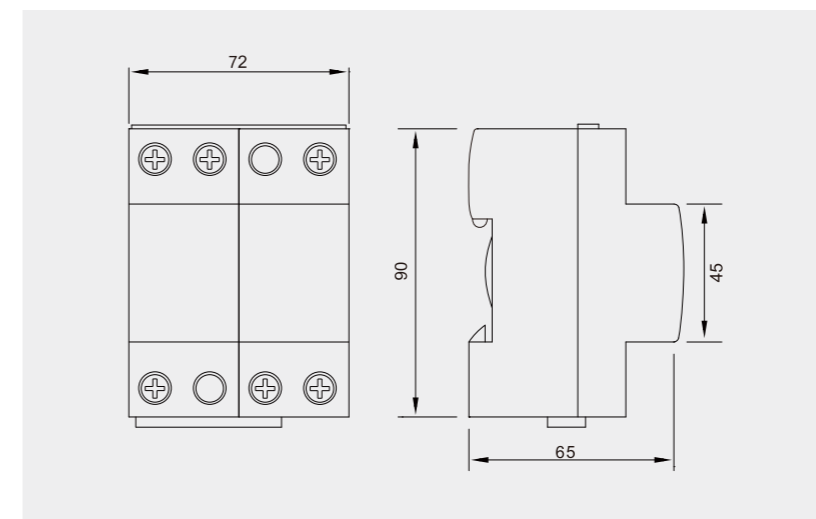
|   | PHL-TA-80/275   | PHL-TA-80/440 | PHL-TA-80/275   | PHL-TA-80/440 |
|---|---|---------------|---|---------------|
| 额定工作电压Un<br>Rated operating voltage Un  |   | 220VAC        |   | 220VAC        |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 440VAC  | 440VAC        | 440VAC  | 440VAC        |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 40KA  | 40KA          | 40KA  | 40KA          |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 80kA  | 80kA          | 80kA  | 80kA          |
| 保护电压Up(In下)<br>Protection voltage Up ( under In)  | <2000V  | <2400V        | <2000V  | <2400V        |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |               |
| 响应时间<br>Response time   | <25ns   |               | <25ns   |               |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   |               | IP 20   |               |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   |               | UL94-V0   |               |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  |               | GB 18802.1/IEC 61643-1  |               |
| 适合电源系统<br>Applied power system  | 单相(TT系统)<br>Single Phase (TT system)  |               | 三相四线(TT系统)<br>3-phase 4-line (TT system)  |               |
| 老化指示功能<br>Aging indicator function  | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               | 有(指示窗口有绿色变为红色)<br>Yes(Indicator window turns from green to red)                                 |               |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 63、100  |               | 63、100  |               |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  |               | 有<br>Yes  |               |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   |               | -40°C~+80°C   |               |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   |               | 35mmDIN导轨<br>DIN35mm rail   |               |



接线方式 Schematic diagram



外形尺寸 Dimension drawings







产品概述

用于雷电防护等级为A级及以下的第  
一级电源浪涌保护器, 适合安装在雷  
击高发区, 架空线直接入户的场合, 以  
及其它LPZ0A区与LPZ1区的交界处

Product overview

It is used for the first-class power  
surge protection with lightning  
protection grade A or below it,  
and it is suitable for installation in  
areas with high lightning  
incidence, places where  
overhead lines are directly  
connected to households, and  
other junctions between LPZ0A  
area and LPZ1 area

主要特点

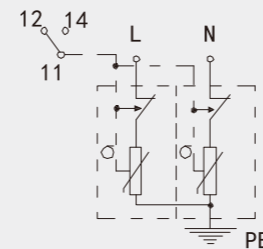
Main characteristics

- 放电电流大, 满足T1测试要求  
The discharge current is large, it can meet  
T1 test requirements
- 采用氧化锌陶瓷材料, 性能稳定, 不受环境变化影响  
It adopt zinc oxide ceramic material, stable  
performance, not affected by environmental changes

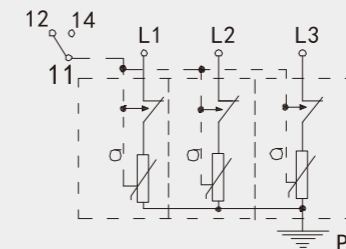
技术数据 Technical data

|   |   |   |   |
|---|---|---|---|
| 额定工作电压Un<br>Rated operating voltage Un  | 220VAC  | 220VAC  | 220VAC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 440VAC  | 440VAC  | 440VAC  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 80KA  | 80KA  | 80KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 160kA   | 160kA   | 160kA   |
| 雷电冲击电流Iimp(10/350μs)<br>Lightning impulse current Iimp(10/350μs)                            | 15kA  | 15kA  | 15kA  |
| 保护电压Up(In下)<br>Protection voltage Up (under In)   | <3500V  | <3500V  | <3500V  |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire         | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |
| 响应时间<br>Response time   | <100ns  | <100ns  | <100ns  |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   | IP 20   | IP 20   |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   | UL94-V0   | UL94-V0   |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  | GB 18802.1/IEC 61643-1  |
| 适合电源系统<br>Applied power system  | 单相两线<br>Single phase two wire   | 三相四线 (TN-C系统)<br>Three-phase four-wire(TN-C system)<br>三相三线 (IT系统)<br>Three-phase three-wire(IT system) | 三相五线(TN-S系统)<br>Three-phase five-wire(TN-S system)  |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 100、160   | 100、160   | 100、160   |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  | 有<br>Yes  | 有<br>Yes  |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   | -40°C~+80°C   | -40°C~+80°C   |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   | 35mmDIN导轨<br>DIN35mm rail   |

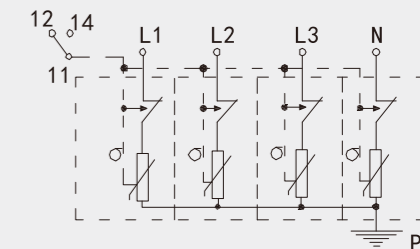
PHL-TA-160/440/2P



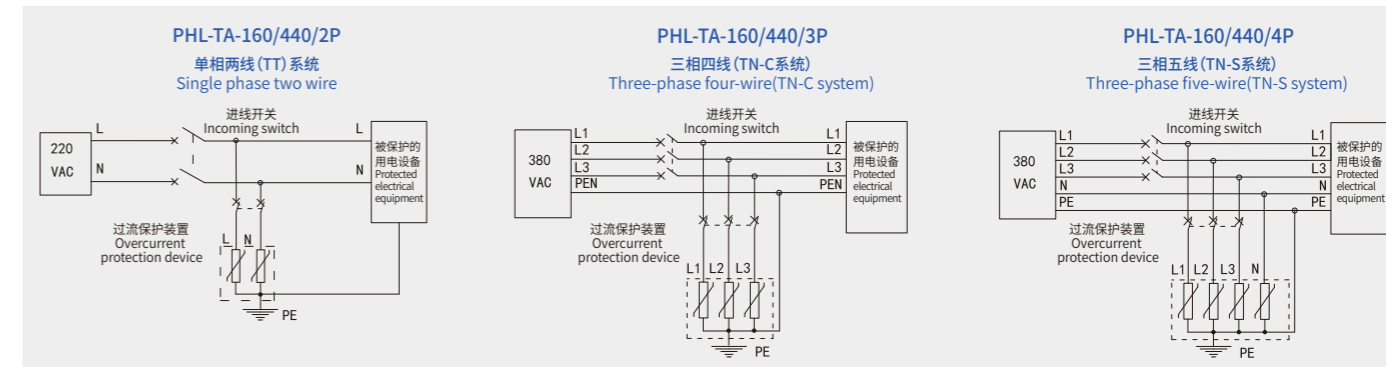
PHL-TA-160/440/3P



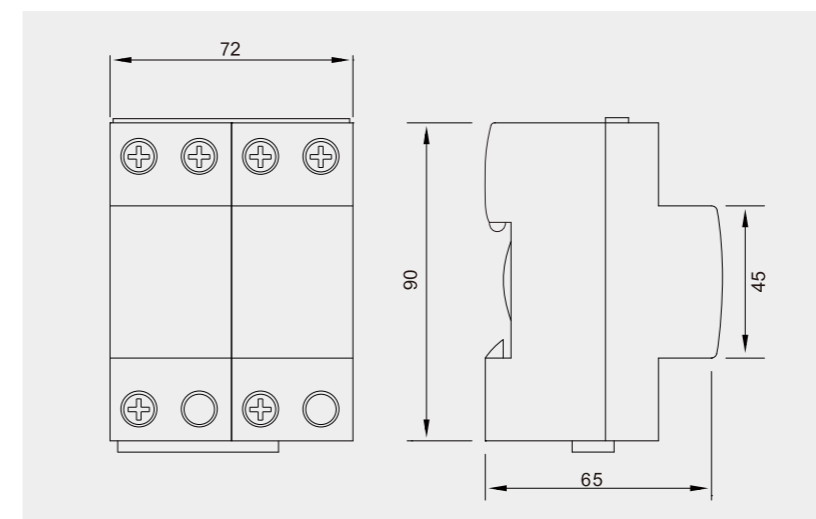
PHL-TA-160/440/4P

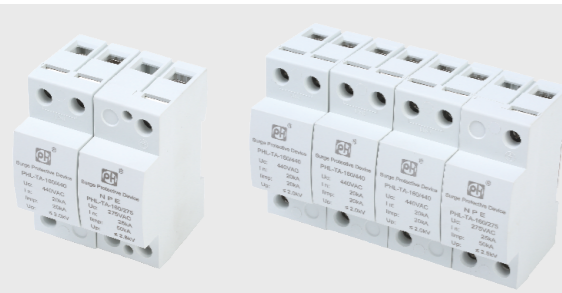


接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

用于雷电防护等级为A级及以下的  
第一级电源浪涌保护器, 适合安装在雷  
击高发区, 架空线直接入户的场合, 以  
及其它LPZ0A区与LPZ1区的交界处

Product overview

It is used for the first-class power surge  
protection with lightning protection grade  
A or below it, and it is suitable for  
installation in areas with high lightning  
incidence, places where overhead lines are  
directly connected to households, and  
other junctions between LPZ0A area and  
LPZ1 area

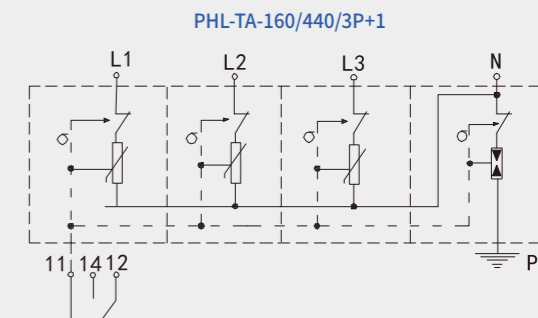
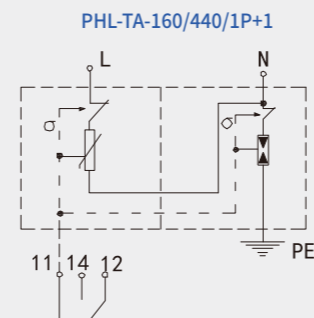
主要特点

Main characteristics

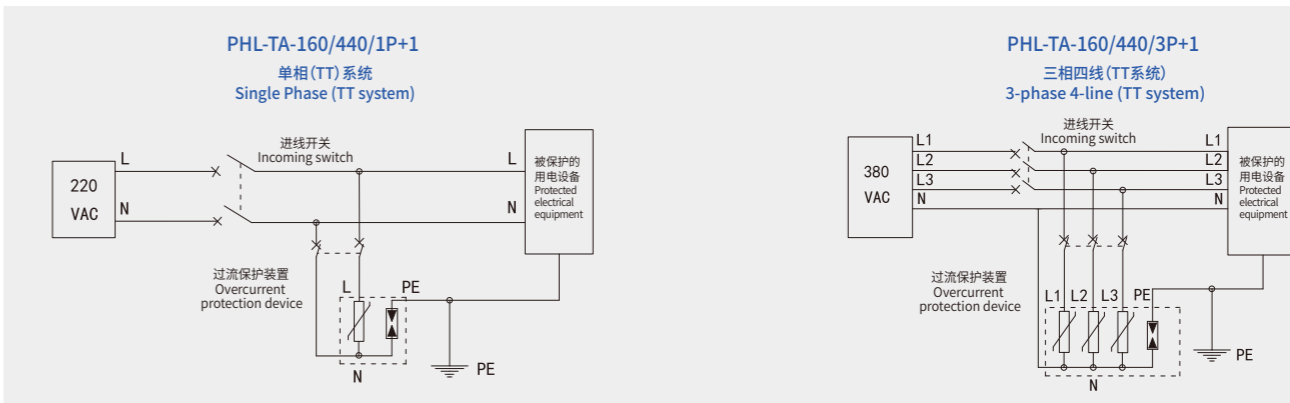
- 放电电流大 满足T1测试要求  
The discharge current is large, it can meet  
T1 test requirements
- 采用氧化锌陶瓷材料, 性能稳定, 不受环境变化影响  
It adopt zinc oxide ceramic material, stable  
performance, not affected by environmental changes

技术数据 Technical data

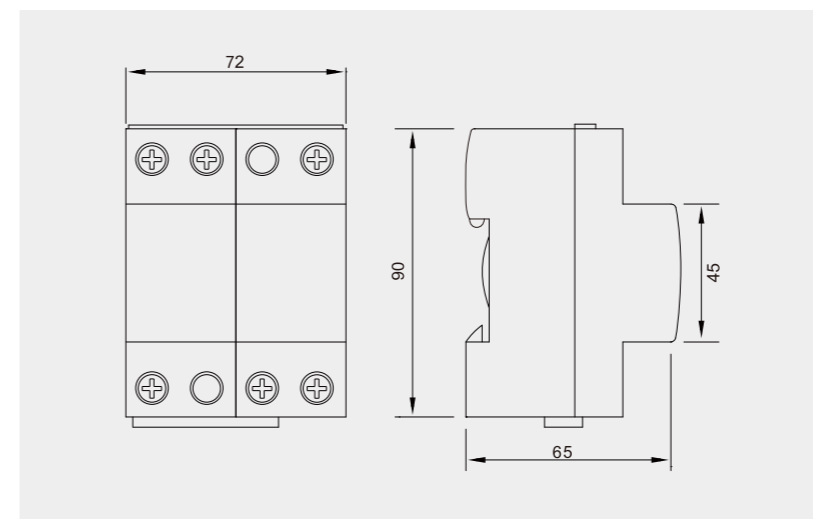
|   | PHL-TA-160/275  | PHL-TA-160/440 | PHL-TA-160/275  | PHL-TA-160/440 |
|---|---|----------------|---|----------------|
| 额定工作电压Un<br>Rated operating voltage Un  |   | 220VAC         |   | 220VAC         |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 275VAC  | 440VAC         | 275VAC  | 440VAC         |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 80KA  | 80KA           | 80KA  | 80KA           |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 160kA   | 160kA          | 160kA   | 160kA          |
| 雷电冲击电流limp(10/350μs)<br>Lightning impulse current limp(10/350μs)                            | 15kA  | 15kA           | 15kA  | 15kA           |
| 保护电压Up(In下)<br>Protection voltage Up ( under In)  | <3500V  | <3500V         | <3500V  | <3500V         |
| 连接导线截面积<br>Cross-sectional area of connecting wire  | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |                | 1.5mm <sup>2</sup> ~25mm <sup>2</sup> 软线<br>1.5mm <sup>2</sup> ~25mm <sup>2</sup> flexible wire |                |
| 响应时间<br>Response time   | <100ns  |                | <100ns  |                |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   |                | IP 20   |                |
| 外壳材料/阻燃等级<br>Housing material/flammability rating   | UL94-V0   |                | UL94-V0   |                |
| 测试标准<br>Test standard   | GB 18802.1/IEC 61643-1  |                | GB 18802.1/IEC 61643-1  |                |
| 适合电源系统<br>Applied power system  | 单相(TT系统)<br>Single Phase (TT system)  |                | 三相四线(TT系统)<br>3-phase 4-line (TT system)  |                |
| 熔断器或断路器选型(A)<br>Fuse or circuit breaker selection(A)  | 100, 160  |                | 100, 160  |                |
| 老化热脱离功能<br>Aging thermal separation function  | 有<br>Yes  |                | 有<br>Yes  |                |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   |                | -40°C~+80°C   |                |
| 安装方法<br>Installation method   | 35mmDIN导轨<br>DIN35mm rail   |                | 35mmDIN导轨<br>DIN35mm rail   |                |



接线方式 Schematic diagram



外形尺寸 Dimension drawings





产品概述

适用于电信系统对线的防雷保护

Product overview

It is suitable for the lightning protection of telecommunication system

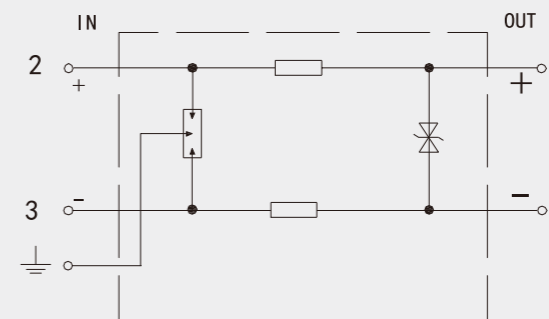
主要特点

Main characteristics

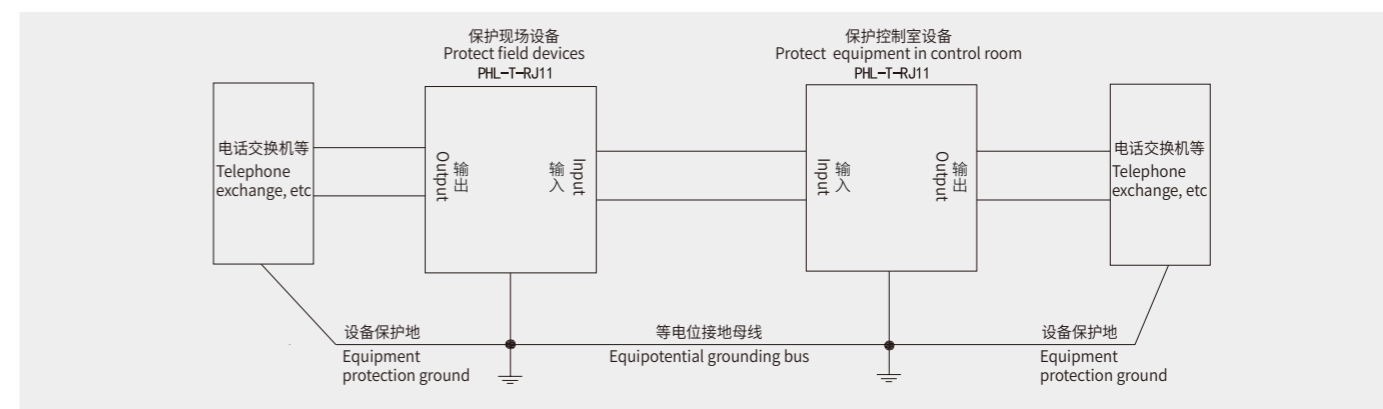
- 输入输出分别为6P4C母座和RJ11水晶头。安装方便, 不需要另外配件  
Input and output are 6P4C socket and RJ11 crystal head respectively. Easy installation, no need for additional accessories
- 可用于LPZ0-LPZ2及后续分区界面的保护  
It can be used to protect LPZ0-LPZ2 and subsequent partition interfaces

技术数据 Technical data

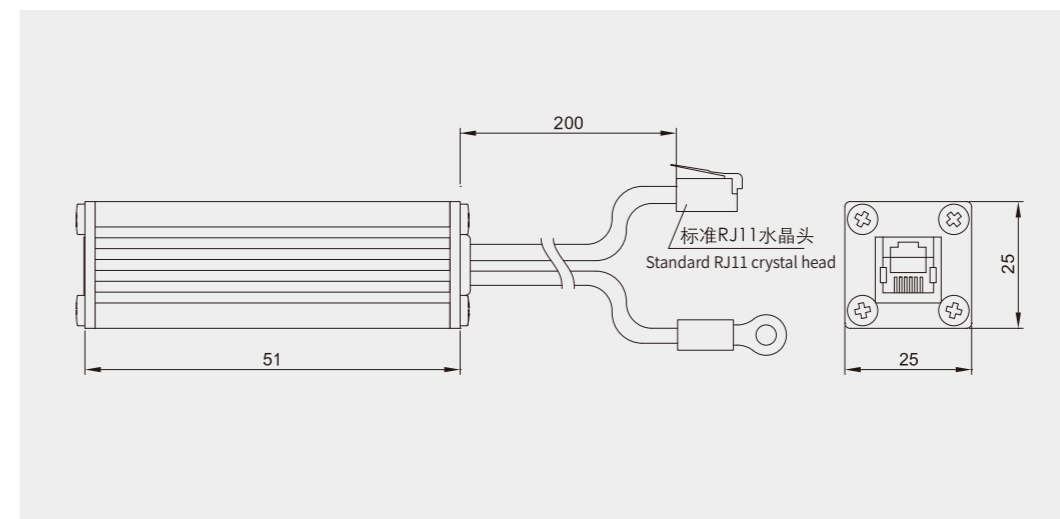
|   |   |
|---|---|
| 额定工作电压Un<br>Rated operating voltage Un  | 110VAC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc  | 132VAC  |
| 标称工作电流IL<br>Nominal working current IL  | 250mA   |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)                                 | 2.5KA   |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)                              | 5kA   |
| 雷电冲击电压limp(10/350μs)<br>Lightning impulse current limp(10/350μs)                            | 0.5kA   |
| 保护电压Up(In下)(8/20μs) 线对线<br>Protection voltage Up (under In) line to line                    | <320V   |
| 保护电压Up(In下)(8/20μs) 线对地<br>Protection voltage Up (under In) line to ground                  | <400V   |
| 带宽<br>Bandwidth   | 10MHz   |
| 响应时间<br>Response time   | <1ns  |
| 外壳防护等级(符合IEC 60529)<br>Degrees of protection provided by enclosure (in line with IEC 60529) | IP 20   |
| 外壳材料<br>Housing material  | 黑色金属铝<br>Ferrous metal aluminum   |
| 保护及线数<br>Protection and line number   | 2, 3  |
| 接口类型<br>Interface type  | RJ11  |
| 工作温度范围<br>Working temperature range   | -40°C~+80°C   |
| 安装方法<br>Installation method   | 选配DIN35mm导轨安装固定夹<br>Optional DIN35mm rail mounting clamp                              |
| 接地方式<br>Grounding method  | 1.5mm <sup>2</sup> ,长度2000mm接地导线<br>1.5mm <sup>2</sup> , length 2000mm grounding wire |
| 测试标准<br>Test standard   | GB/T/18802.21/IEC 61643-21  |



接线方式 Schematic diagram



外形尺寸 Dimension drawings



## 网络SPD (以太网网络) Network SPD (Ethernet network)



### 产品概述

标准RJ45接口, 保护交换机, 工作站和各类网络通信设备

### Product overview

Standard RJ45 connector, protect the exchange switch, workstations and all kinds of network communication equipments

### 主要特点

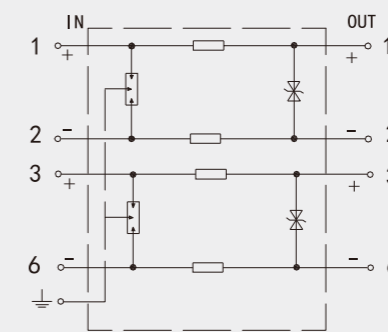
#### Main characteristics

- 满足10/100MHz的技术要求  
It meets the technical requirements of 10/100MHz
- 可用于LPZ0-LPZ2及后续分区分界的保护  
It can be used to protect LPZ0-LPZ2 and subsequent partition boundaries
- 防雷能力强大, 同时具有高放电电流  
Strong lightning protection capability with high discharge current protection voltage

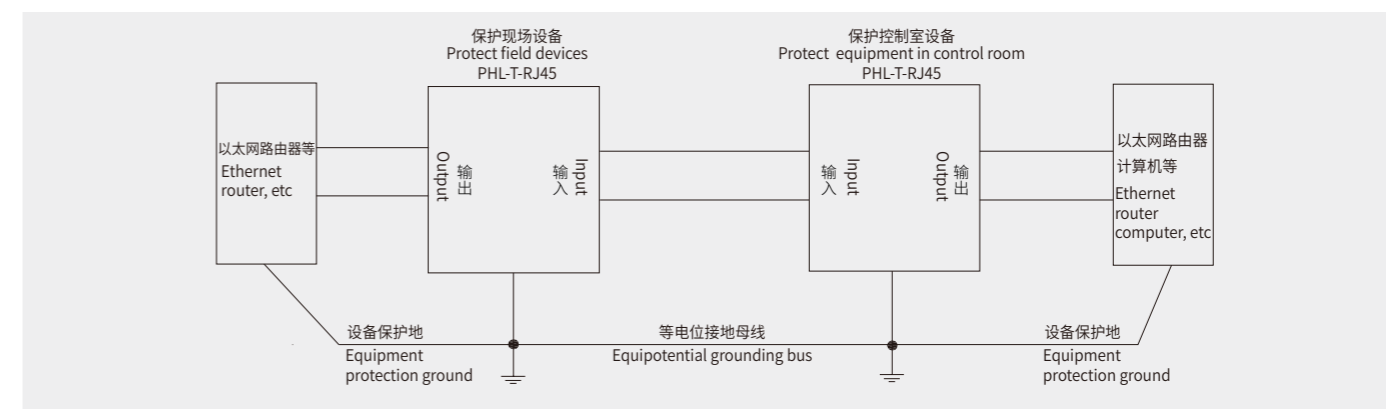
### 技术数据 Technical data

|  |  |
|--|--|
| 额定工作电压Un<br>Rated operating voltage Un                                 | 5VDC   |
| 最大工作电压Uc<br>Maximum operating voltage Uc                               | 6VDC   |
| 标称工作电流IL<br>Nominal working current IL                                 | 100mA  |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)            | 2.5KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)         | 5kA  |
| 雷电冲击电压Iimp(10/350μs)<br>Lightning impulse current Iimp(10/350μs)       | 0.5kA  |
| 保护电压Up (8/20μs) 线对线<br>Protection voltage Up (under In) line to line   | <15V   |
| 保护电压Up (8/20μs) 线对地<br>Protection voltage Up (under In) line to ground | <500V  |
| 接口方式<br>Interface type   | 输入/输出: 母座/母座<br>Input/output: female/female                  |
| 带宽<br>Bandwidth  | 100MHz   |
| 插入损耗<br>Insertion loss   | <-1.3dB  |
| 响应时间<br>Response time  | <1ns   |
| 工作温度范围<br>Working temperature range                                    | -40°C~+80°C  |
| 安装方法<br>Installation method  | 选配DIN35mm导轨安装固定夹<br>Optional DIN35mm rail mounting clamp     |
| 接地方式<br>Grounding method   | 1.5mm <sup>2</sup> 接地导线<br>1.5mm <sup>2</sup> grounding wire |
| 外壳材料<br>Housing material   | 黑色金属铝<br>Ferrous metal aluminum                              |
| 测试标准<br>Test standard  | GB/T18802.21/IEC 61643-21                                    |

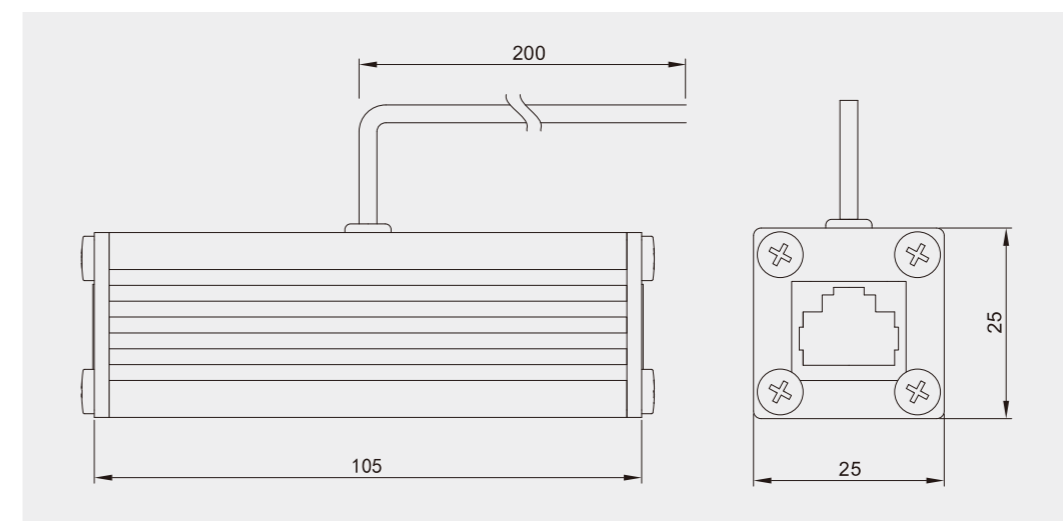
## 网络SPD (电话网络) Network SPD (Telephone network)



### 接线方式 Schematic diagram



### 外形尺寸 Dimension drawings





产品概述

标准BNC同轴接口,用于标清同轴视频监控系统的防雷保护

Product overview

Standard BNC coaxial interface is used for lightning protection of SD coaxial video surveillance system

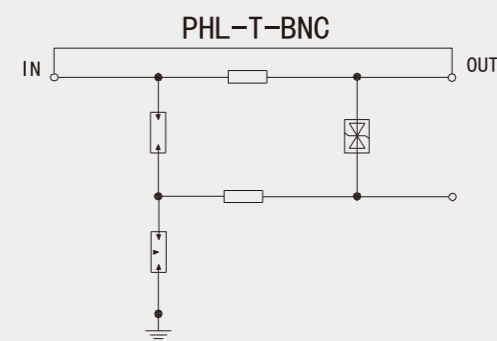
主要特点

Main characteristics

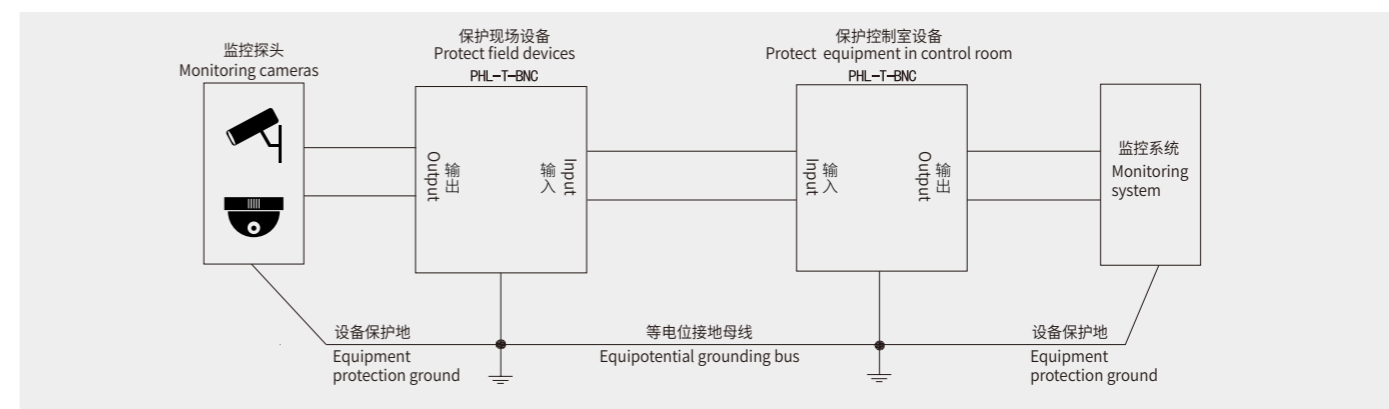
- 用于LPZ0-LPZ2及后续分区分界面的保护  
It can be used to protect LPZ0-LPZ2 and subsequent partition interfaces

技术数据 Technical data

|  |   |
|--|---|
| 额定工作电压Un<br>Rated operating voltage Un                               | 5VDC  |
| 最大工作电压Uc<br>Maximum operating voltage Uc                             | 6VDC  |
| 标称工作电流IL<br>Nominal working current IL                               | 500mA   |
| 标称放电电流In(8/20μs)<br>Nominal discharge current In (8 / 20μs)          | 10KA  |
| 最大放电电流Imax(8/20μs)<br>The maximum discharge current (8 / 20μs)       | 20kA  |
| 雷电冲击电压limp(10/350μs)<br>Lightning impulse voltage limp(10/350μs)     | 2.5kA   |
| 保护电压Up (8/20μs) 线对线<br>Protection voltage Up (8/20μs) line to line   | <45V  |
| 保护电压Up (8/20μs) 线对地<br>Protection voltage Up (8/20μs) line to ground | <600V   |
| 带宽<br>Bandwidth  | 30MHz   |
| 插入损耗<br>Insertion loss   | <-0.5dB   |
| 响应时间<br>Response time  | <1ns  |
| 外壳材料<br>Housing material   | 黑色金属铝<br>Ferrous metal aluminum   |
| 工作温度范围<br>Working temperature range                                  | -40°C~+80°C   |
| 安装方法<br>Installation method  | DIN35mm   |
| 接地方式<br>Grounding method   | 1.5mm <sup>2</sup> 接地软线,长度200mm<br>1.5mm <sup>2</sup> ground flexible cable, length 200mm |
| 测试标准<br>Test standard  | GB/T18802.21/IEC 61643-21   |



接线方式 Schematic diagram



外形尺寸 Dimension drawings

