

## Power Line Special-Type SPD



RS485



SPD Power Meter

### Function

Surge Counter

Rated voltage (3-phase: R-S, S-T, R-T/single-phase: L-N, L-G N-G), Individual leakage current display

External display connected (RS485 data transmitted)

### Specification

### Product Features

<b>Voltage</b>	AC 460V/440V/380V/220V/110V DC 600V/440V/380V/200V	CE certificate, KS certificate, Patents High-performance, High-capacity SPD (Total 800, 500, 400, 360, 320, 240kA) Full mode protection (Line-Neutral, Line-Ground, Line-Line) Performance in compliance with KS C IEC 61643-11
<b>Type</b>	3-Phase 4-Wire/3-Phase 3-Wire Single-Phase 2-Wire (Serial/Parallel)	Surge counter memory (non-volatile) Surge protector diagnosis (Leakage current measurement by phase, Failure indicator, Buzzer) Dual safety design (current & thermal fuse)
<b>Capacity</b>	800KA/500KA/400KA/ 360KA/320KA/240KA Total	Rated voltage measurement (3-phase: R-S, S-T, R-T/single-phase: L-N, L-G N-G) Communication function Surge Protector information Display (PD Power Meter) (optional) Aluminum case for proven safety against surge protector failure

## Class III Surge Protector



<b>SPD Class</b>	<b>Class III Surge Protector (Class III SPD)</b>
<b>Model</b>	<b>KOP-A-360K [Single-Phase 2-Wire, Serial/Parallel]</b>
SPD Type	Special 1, 2
Application	[*LPZ2, *LPZ3] Power and earthing line lightning, Switching surge protection
Application Field	Distribution board, UPS, PLC, DCS, Flowmeter, Water gauge, CCTV, LED, Security Facility, Photovoltaic, and other single -phase power devices

### Electrical property

Rated voltage	Un	110~120V AC [L-N] / 220~260V AC [L-N]
Rated current		Serial: less than 10A, Parallel: N/A
Power system configuration		Single-Phase 2-Wire, Serial/Parallel connection
Max Continuous Operating Voltage (MCOV)	Uc	110V AC : 175V AC [L-N], 275V AC [L-G, N-G] 220V AC : 275V AC [L-N], 480V AC [L-G, N-G]
Rated frequency	f	50 / 60 Hz
Leakage current (@Uc)	IL	Less than 1 mA
Insulation resistance (@500V DC)	RIN	Above 10 MΩ

### Protection property

Protection mode		L-N	L-G	N-G
Voltage protection level [CE Class 3 test] (@20kV/10kA Voltage 1,2/50μs, Current 8/20μs) – IEC 61643-11	Up	[110V AC] ≤ 1,000V [220V AC] ≤ 1,500V	≤ 1,500V ≤ 1,500V	≤ 1,500V ≤ 1,500V
Max current capacity (@Current 8/20μs) [Total : 360kA]		120kA	120kA	120kA
Response time (@10kV/μs)	ta	Less than 5 ns		
Power noise filter (Frequency band and Damping rate)	Fc	Serial: 10 kHz-30 MHz, Parallel: N/A		

### Features

Special I . II	<b>Operation status</b>	Run = green lamp / Fault = red lamp [L-N, L-G, N-G]
	<b>Safety</b>	Dual safety design [current & thermal fuse]
	<b>Surge information display</b>	Surge counter (Back light LCD)
	<b>Alarm</b>	Fault buzzer
	<b>Measurement</b>	Rated voltage display, Individual leakage current display
Special II	<b>Condition record display</b>	Surge event memory, Over voltage event memory, Under voltage event memory (Line to Line)
	<b>Communication function</b>	RS 485, Ethernet Modbus RTU Protocol (ASCII not Supported), APP(Bluetooth)
	<b>Measurement</b>	Temperature measurement and display, Cumulative operating time display

### Mechanical property

Protection rating level	IP20 (@IEC 60529), NEMA1
Operating temperature and humidity	-40~ 90°C, ≤ 95%
Terminal	57A Euro type [Awg 8~22 / 0.5~10mm]
Size	[SP-1] (W)140 x (L)190 x (H)70 mm cf. p39 C-1 [SP-2] (W)140 x (L)190 x (H)90 mm C-2
Installation	Bolt mounting
Weight	Less than 1.5kg

### Test standard & Reference

- IEC 61643-11 [2017] Performance and Test Criteria for Power Line Surge Protector
- IEC 61643-12 [2017] Lightning Protection Zone 1,2,3
- IEC 62305-1,2,3,4 [2017]
- ANSI/IEEE Std C62.45 [2002] Guide to Surge Test for Low-pressure Device
- ANSI/IEEE Std C62.41 [2002] Category A, B, C
- IEEE Std C62.34 [2017] Power line surge protector performance standard
- IEEE Std C62.62 [2018] Power line surge protector standard test specification

\*LPZ : Lightning Protection Zone(lightning protection area)

## Size

# Power Line Class III SPD Special I , II Type



**Model List C-1**  
(W)140 x (L)190 x (H)70

### Single-phase

- KOP-A-240K <SP- I >
- KOP-A-320K <SP- I >
- KOP-A-360K <SP- I >

### 3-phase

- KOP-B-360K <SP- I >
- KOP-B-400K <SP- I >



**Model List C-2**  
(W)140 x (L)190 x (H)90

### Single-phase

- KOP-A-240K <SP- II >
- KOP-A-320K <SP- II >
- KOP-A-360K <SP- II >

### 3-phase

- KOP-B-360K <SP- II >
- KOP-B-400K <SP- II >

[Unit : mm]

