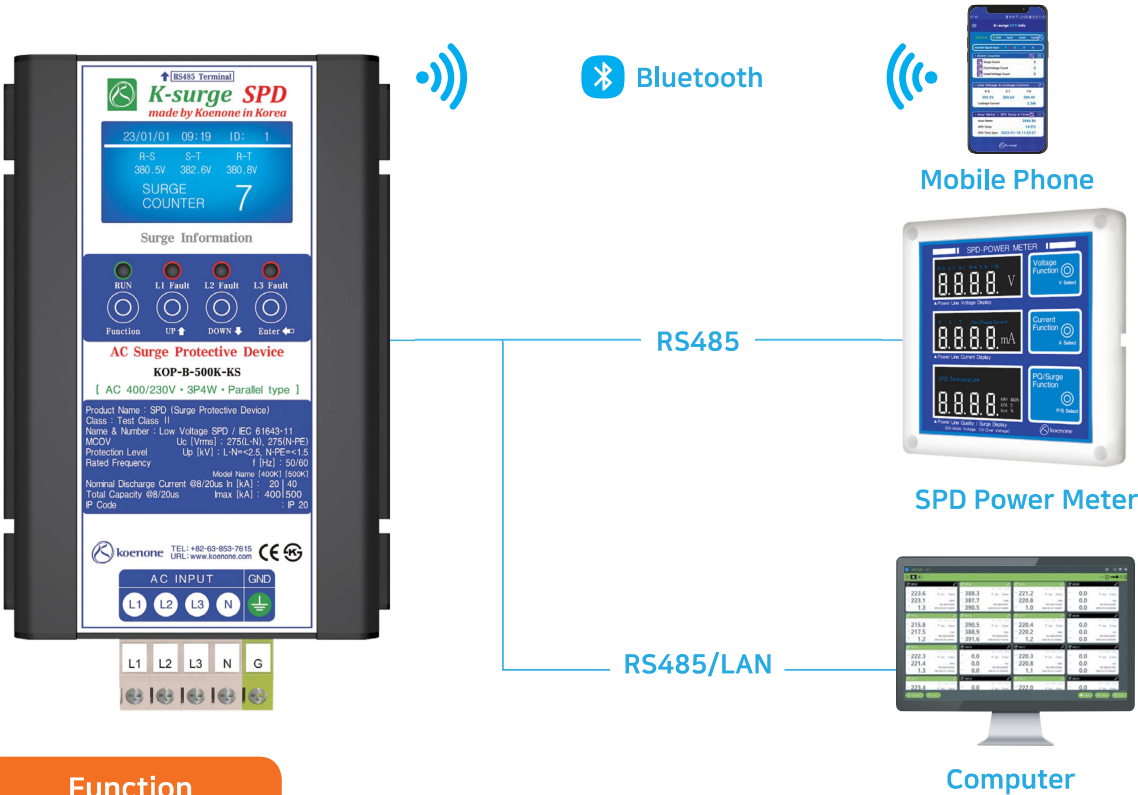


SP II type



Power Line Special-Type SPD



Function

Surge event display, Power quality analysis display (over voltage/under voltage events)

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) / RS485, Ethernet, Mobile app (Bluetooth)

Specification

Product Features

| | | |
|-----------------|--|---|
| Voltage | 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 Surge counter, Over voltage counter, Under voltage counter memory (non-volatile) Surge protector diagnosis (Leakage current measurement by phase, Failure indicator, Buzzer) Dual safety design (current & thermal fuse) Hourmeter (1/10 h) recording and temperature measurement Rated voltage measurement (3-phase: R-S, S-T, R-T/single-phase: L-N, L-G N-G) Communication function (RS485, Ethernet, Bluetooth) Surge Protector information Display (PD Power Meter) (optional) Aluminum case for proven safety against surge protector failure |
| Type | 3-Phase 4-Wire/3-Phase 3-Wire Single-Phase 2-Wire (Serial/Parallel) | |
| Capacity | 800KA/500KA/400KA/360KA/ 320KA/240KA Total | |

Class III Surge Protector

| | |
|-------------------|---|
| SPD Class | Class III Surge Protector (Class III SPD) |
| Model | KOP-A-320K [Single-Phase 2-Wire, Serial/Parallel] |
| 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 1,2/50 μs, 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 : 320kA] | | 80kA | 120kA | 120kA |
| Response time (@10kV/μs) | ta | Less than 5 ns | | |
| Power noise filter (Frequency band and Damping rate) | Fc | Serial: less than 10A, Parallel: N/A | | |

Features

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

