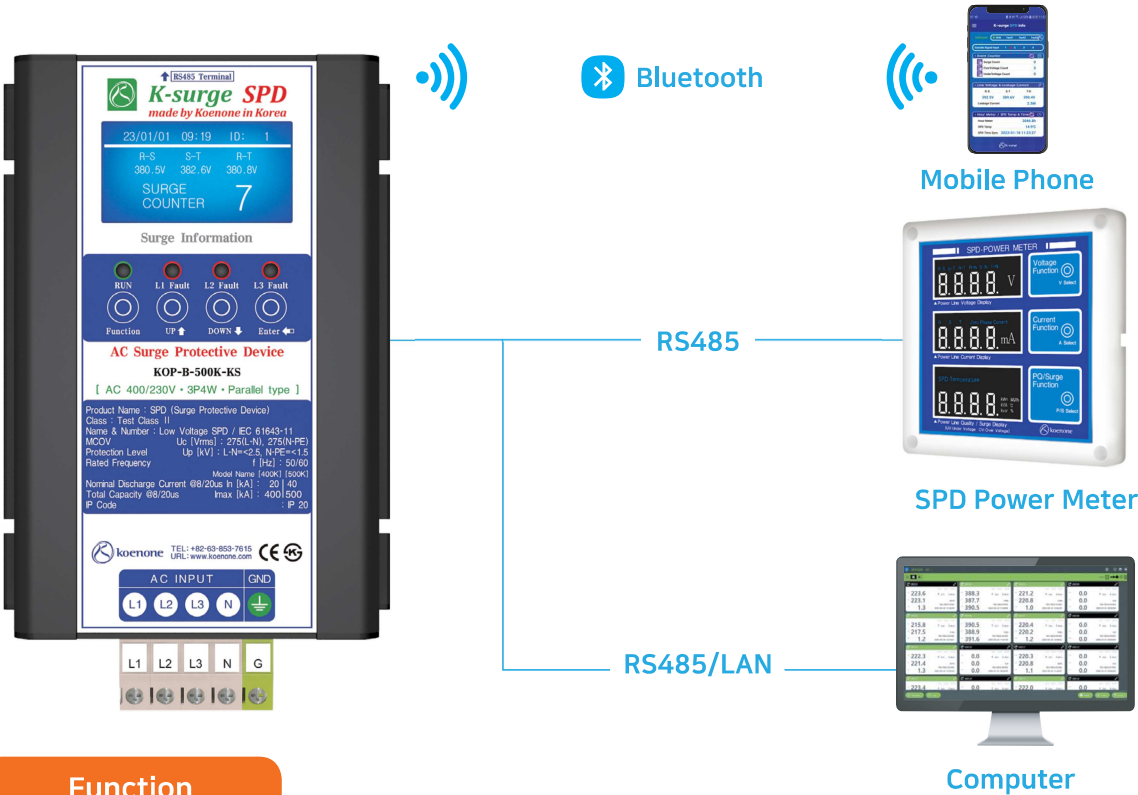


SP II type



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 II Surge Protector



| | |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| SPD Class | Class II Surge Protector (Class II SPD) |
| Model | KOP-A-240K-KS [Single-Phase 2-Wire, Parallel] |
| SPD Type | Special 1, 2 |
| Application | [*LPZ1, *LPZ2] 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 | 220~260V AC [Ph-N] |
| Rated current | | N/A |
| Power system configuration | | Single-Phase 2-Wire, Parallel connection |
| Max Continuous Operating Voltage (MCOV) | Uc | 275V AC [L-N], 275V AC [N-PE] |
| 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 | N-G | L-G |
|-----------------------------------------------------------------------------------------------------|----|----------------|----------|----------|
| Voltage protection level [KS / CE Class 2 test] <small>(In 20kA @ 8/20μs) - IEC 61643-11</small> | Up | ≤ 2,500V | ≤ 1,500V | ≤ 2,500V |
| Max current capacity <small>(@Current 8/20μs) [Total : 280kA]</small> | | 200kA | 80kA | 0kA |
| Nominal discharge current <small>(@Current 8/20μs)</small> | In | 20kA | 20kA | 0kA |
| Response time (@10kV/μs) | ta | Less than 5 ns | | |
| Power noise filter (Frequency band and Damping rate) | Fc | N/A | | |

Features

| | Special I . II | |
|----------------------------------|------------------------------------------------------------------------------------------|--|
| Operation status | Run = green lamp / Fault = red lamp [L-N] | |
| 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 | 76A IEC type [Awg 6~24 / 0.5~10mm] |
| Size | [SP-1] (W)140 x (L)216 x (H)70 mm cf. p38 B-1 [SP-2] (W)140 x (L)216 x (H)90 mm B-2 |
| Installation | Bolt mounting |
| Weight | Less than 2kg |

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 II SPD Special I , II Type



Model List B-1
(W)140 x (L)216 x (H)70

Single-phase

- KOP-A-240K-KS (SP- I)

3-phase

- KOP-B-400K-KS (SP- I)



Model List B-2
(W)140 x (L)216 x (H)90

Single-phase

- KOP-A-240K-KS (SP- II)

3-phase

- KOP-B-400K-KS (SP- II)
- KOP-B-500K-KS (SP- I , II)

[Unit : mm]

