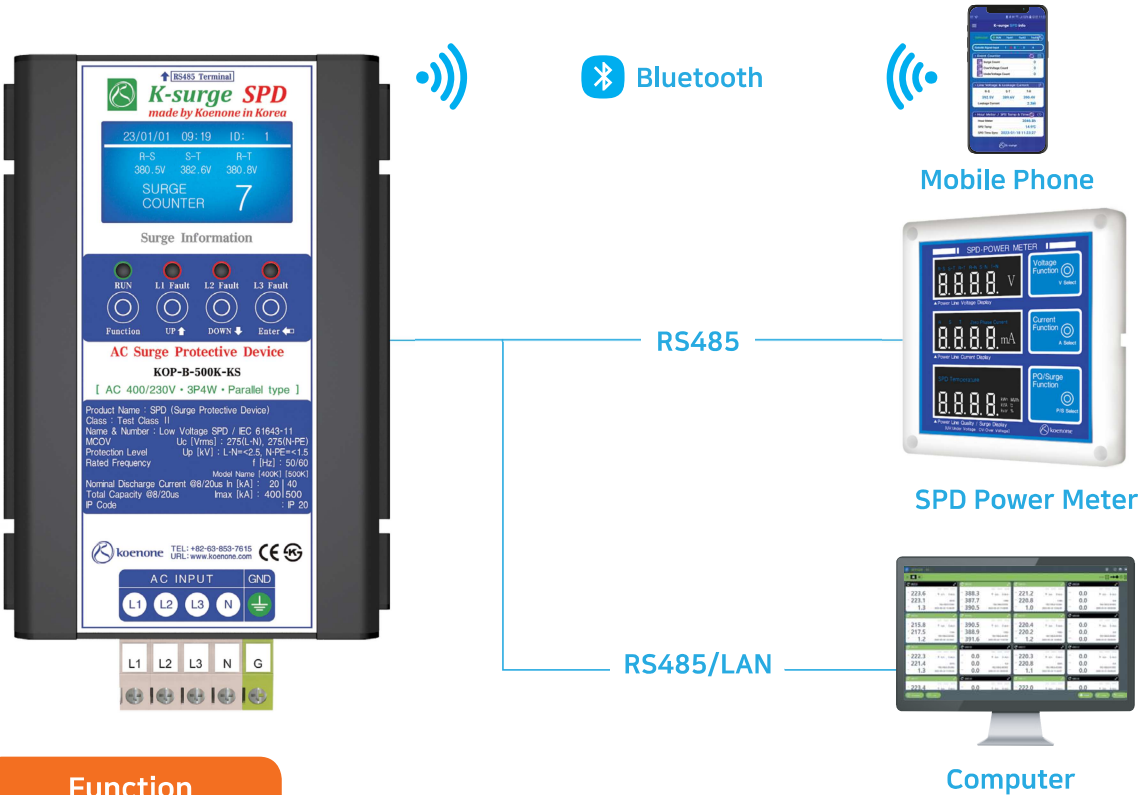


SP II type



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-360K [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 1,2/50μs, 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	Operation status	Run = green lamp / Fault = red lamp [L-N, L-G, N-G]
	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]

