

## 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 II Surge Protector

<b>SPD Class</b>	<b>Class II Surge Protector (Class II SPD)</b>
<b>Model</b>	<b>KOP-B-500K-KS [3-Phase 4-Wire, Parallel]</b>
SPD Type	Special 1, 2, 3
Application	[*LPZ1, *LPZ2] Power and earthing line lightning, Switching surge protection
Application Field	Incoming panel, Distribution board, 3-phase UPS, Inverter, Motor driver, Actuator power and other 3-phase power devices



### Electrical property

Rated voltage	Un	380~460V AC [Ph-Ph], 220~260V AC [Ph-N]
Rated current		N/A
Power system configuration		3-Phase 4-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		L1-N	L2-N	L3-N	N-G
Voltage protection level [KS / CE Class 2 test] (In 40kA @ 8/20μs) - IEC 61643-11	Up	≤ 2,500V	≤ 2,500V	≤ 2,500V	≤ 1,500V
Max current capacity (@Current 8/20μs) [Total : 550kA]		150kA	150kA	150kA	100kA
Nominal discharge current (@Current 8/20μs)	In	40kA	40kA	40kA	40kA
Response time (@10kV/μs)	ta	Less than 5 ns			
Power noise filter (Frequency band and Damping rate)	Fc	N/A			

### Features

Special I, II, III	<b>Operation status</b>	Run = green lamp / Fault = red lamp [L1-N, L2-N, L3-N]
	<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, III	<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)
Special III	<b>Measurement</b>	Temperature measurement and display, Cumulative operating time display
	<b>Measurement</b>	Power quality display (Active, Reactive, Apparent power, Power factor, Integrated power)

### 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/SP-2] (W)140 x (L)216 x (H)90 mm cf. p38 B-2 [SP-3] (W)140 x (L)276 x (H)90 mm cf. p37 A-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 I SPD Special I , II , III type



**Model List A-2**  
(W)140 x (L)276 x (H)90

### 3-phase

- KOP-B-20KI-KS (SP-I, II)
- KOP-B-500K-KS (SP-III)

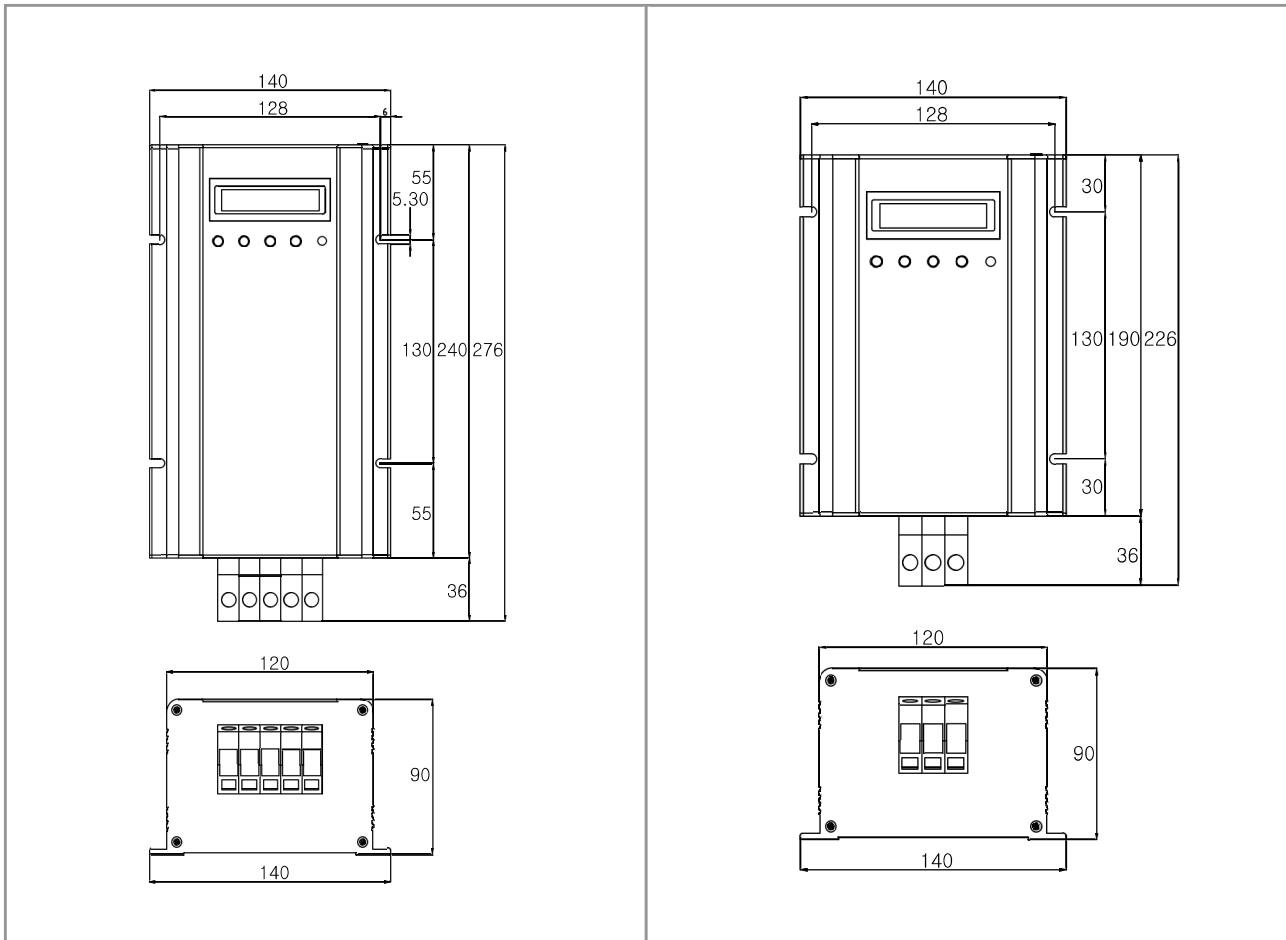


**Model List A-3**  
(W)140 x (L)226 x (H)90

### Single-phase

- KOP-A-20KI-KS (SP-I, II)

[Unit : mm]



## 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]

