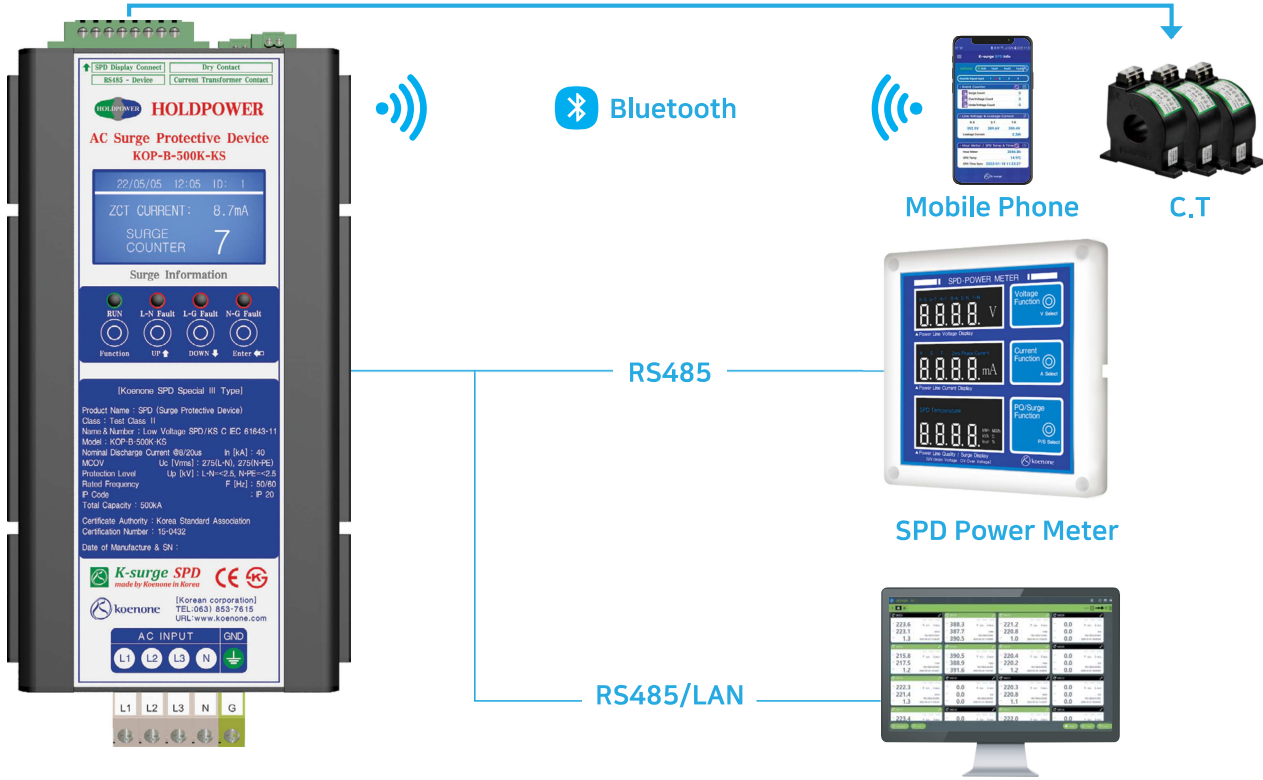


# SP III type



## Power Line Special-Type SPD



### Function

- Surge event display, Power quality analysis display (over voltage/under voltage events)
- Rated voltage display (R-S, S-T, R-T/L-N, L-G, N-G), Individual leakage current display (L1, L2, L3 Mode)
- Rated current display (R, S, T, Z), Power quality display (Active, Reactive, Apparent power, Power factor, Integrated power, Temperature...)
- External display connected (RS485 data transmitted)/RS485, Ethernet, Mobile app (Bluetooth)

### Specification

### Product Features

<b>Voltage</b>	AC 440V / 380V / 220V / 110V	CE certificate, KS certificate, Patents High-performance, High-capacity SPD 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(R-S, S-T, R-T, R-N, S-N, T-N), Rated current Measurement(R, S, T, Z) Rated current measurement Power quality measurement(Active power, Reactive power, Apparent power, Power factor, Integrated power, ...) Communication function (RS485, Ethernet, Bluetooth) Surge Protector information Display (PD Power Meter) (optional) Aluminum case for proven safety against surge protector failure
<b>Type</b>	3-Phase 4-Wire/3-Phase 3-Wire Single-Phase 2-Wire (Serial/Parallel)	
<b>Capacity</b>	800KA/500KA/400KA/360KA/ 320KA/240KA Total	

## 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	Operation status	Run = green lamp / Fault = red lamp [L1-N, L2-N, L3-N]
Special I, II, III	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, III	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)
Special III	Measurement	Temperature measurement and display, Cumulative operating time display
	Measurement	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)

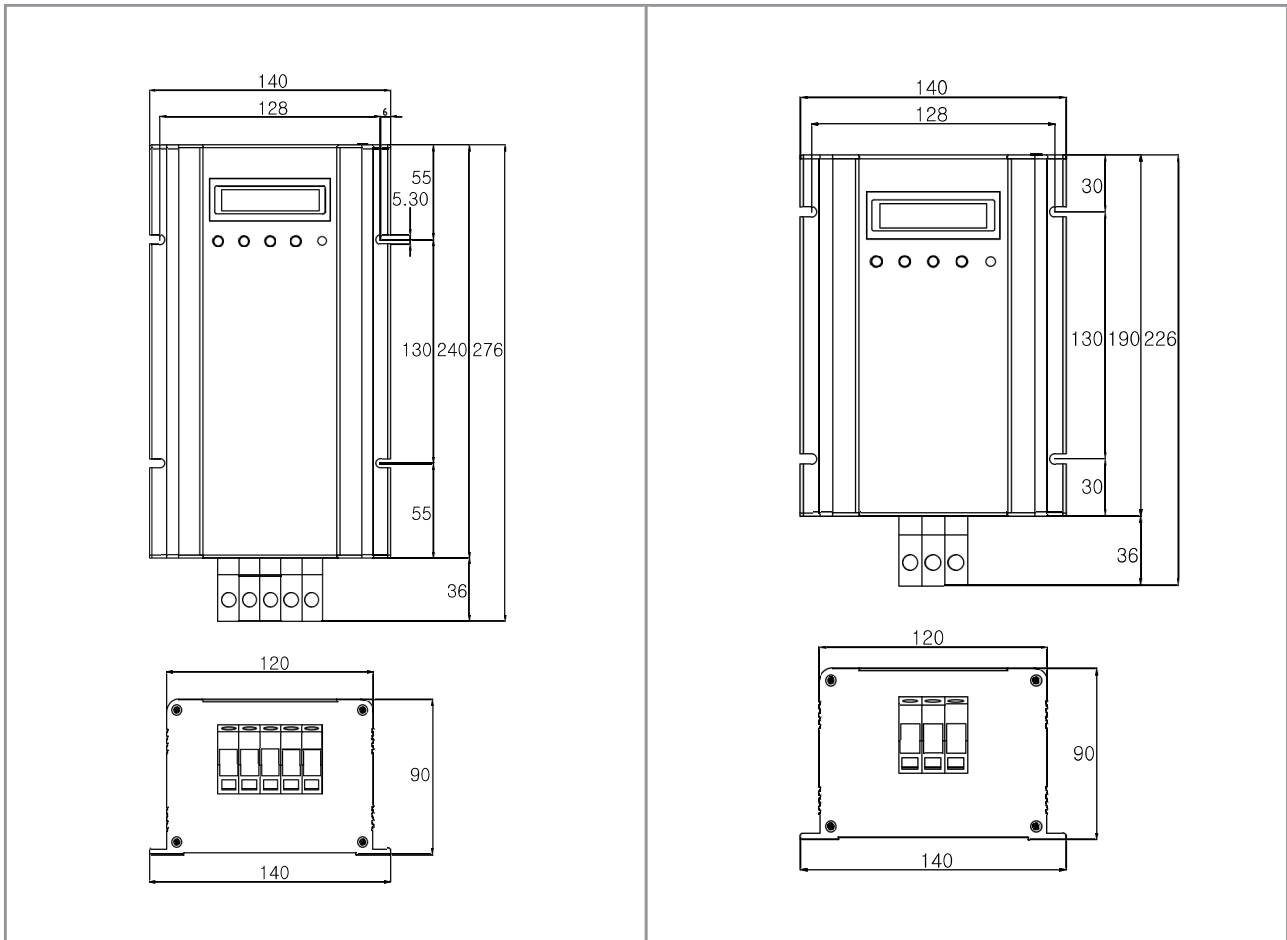


**Model List A-3**  
(W)140 x (L)226 x (H)90

### 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]

