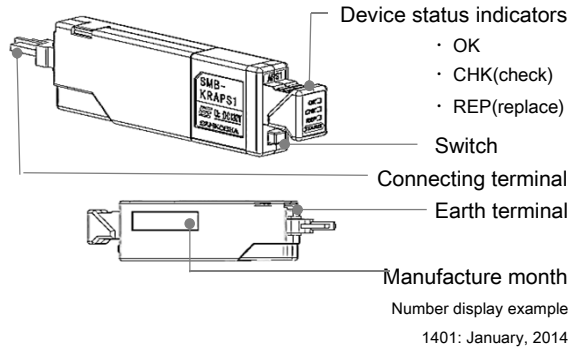


1. PRODUCT DESCRIPTIONS

SMB-KRAPS1 is a SPD used for LSA-PLUS (KRONER terminal) only.

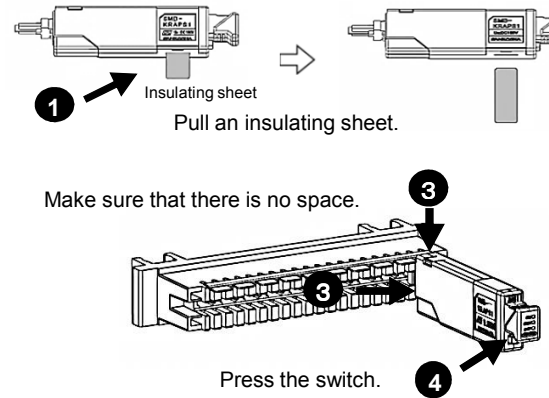
2. PART NAMES



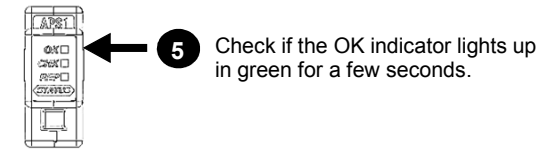
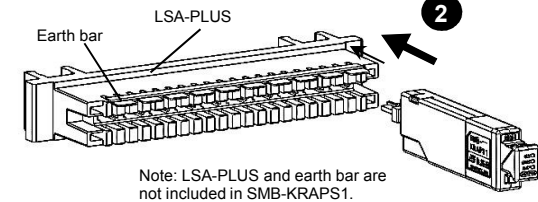
3. SPECIFICATIONS

Install location	Indoor	
Operating temperature range	-25 ~ +60°C	
Maximum Continuous	DC 180V	
Operating DC voltage (U _c)		
Rated load current	DC 100mA	
Series resistance	DC100mA	≦ 10Ω
	L1-T1, L2-T2	
Insertion loss	DC ~ 5MHz	1.0dB
Voltage protection level (U _p)		
Common mode	T1, T2-E T1-T2	≦ 500V
Normal mode	T1-T2	≦ 100V
Nominal discharge current (I _n)	8/20μs	10kA
Maximum discharge current	8/20μs	10kA
(I _{max})	8/20μs per line	5kA
Impulse durability	8/20μs, 10kA (C2)	10 times
	10/350μs, 2.5kA per line (D1)	2 times
AC durability	50Hz, 0.5A	5 times
Response time	≦ 3ns	

4. INSTALLATION



Insert the terminal of SMB-KRAPS1 into LSA-PLUS (with earth bar attached).



5. MAINTENANCE AND INSPECTION

Please inspect the SPD with the following instructions once or twice a year.

Press the switch, check 1 and 2.

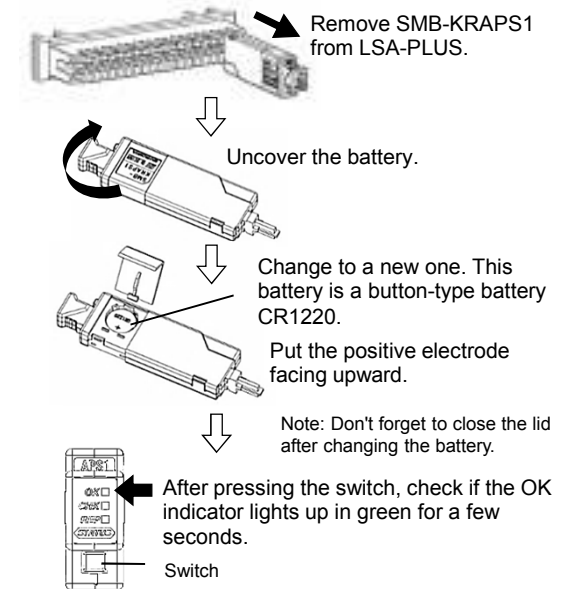
Check 1. Which indicator is lit?

Green	OK.
Orange	If your location is often struck by lightning, it is a good idea to replace it for a new one.
Red	Need replacing.
All lit	Strongly need replacing.

Check 2. Indicator state/What state is the indicator in?

Lit	No need to change the battery. Note: Duration of the indicator's light is 1second.
Flashed or not lit	Need to change the battery. Note: The number of flashes is three times.

6. CHANGING THE BATTERY



7. HOW TO READ THE COUNTER

Step 1: Press the switch twice.

Step 2: Which indicator color flashes first?

Green: Count is 1 to 9, see step 3.

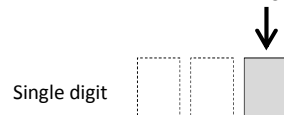
Orange: Count is 10 to 99, see step 4.

Red: Count is 100 to 999, see step 5.

Not lit: Count is 0.

Step 3: In case of 1 to 9.

Count is the number of times that green indicator flashes.



Step 4: In case of 10 to 99.

Number of orange flashes.



Number of green flashes.



double digits



Step 5: In case of 100 to 999.

Number of red flashes.



Number of orange flashes.



Number of green flashes.



Three digits



Restriction 1:	Maximum number of count is 999. Count of more than 1000, looks the same as the 999.
Restriction 2:	Minimum detectable current level is $\pm 20A$ or more at $8/20\mu s$.

8. CAUTIONS AND WARNINGS

Follow the instruction for proper use of the device.

WARNING

- There is a risk of electric shock.
 - Do not touch with wet hands.
 - Never wash in water.

CAUTION

- Electric shock and product failure may occur.
 - Avoid putting foreign objects into the terminals. Avoid touching the connection with bare hands.
 - To clean, wipe off dirt with a soft cloth.
- Product damage and failure may occur.
 - Do not use this product for unintended purposes.
 - This product is for indoor use and is not waterproof. Do not install in areas directly exposed to water.
 - Do not disassemble, force out of shape, use in higher than specified temperature environments, or replace any components.
 - Do not drop.
- Product failure, warping and cracking may occur.
 - Do not clean with liquid such as water or thinner. Do not pour liquid on this product.

Manufacturer's warranty

Product warranty is one year from the product delivery date. Only products with defects found within the warranty period will be exchanged for a new one.

9. CONTACT

SANKOSHA CORPORATION

4-3-8 Osaki Shinagawa-ku, Tokyo, 141-0032, Japan
 Phone: +81 3 3491 2567
 Fax: +81 3 5496 4289
<http://www.sankosha.co.jp>
info@sankosha.co.jp

SANKOSHA U.S.A., INC.

406 Amapola Avenue, Suite 135, Torrance, CA 90501, U.S.A.
 Phone: +1 310 320 1661
 Fax: +1 310 618 6869
<http://www.sankosha-usa.com>
sales@sankosha-usa.com

SANKOSHA ENGINEERING SINGAPORE PTE.,LTD.

No.8 Kaki Bukit Road 2, #03-05 Ruby Warehouse Complex, Singapore 417841
 Phone: +65 6745 2177
 Fax: +65 6746 0977
<http://www.sankosha.com.sg/>
sankosha@singnet.com.sg

SANKOSHA YANGJIANG INC. GUANGZHOU OFFICE

3rd floor A2 plant WanAn industrial park, No110, LanbeiRoad LanHe town, PanYuDistrict, Guangzhou City, Guangdong, China
 Phone: +86 20 34969144
 Fax: +86 20 34969184

SANKOSHA KOREA CORPORATION

1609 STX-W Tower, Guro-dong, 90, Gyeoninno-53, Guro-gu, Seoul, Korea
 Phone: +82 2 6124 3777
 Fax: +82 2 6124 3779

SANKOSHA VIETNAM

6th Floor, Thang Long Tower, 98A Nguy Nhu Kontum Str, Thanh Xuan Dist, Hanoi S.R. Vietnam
 Phone: +84 4 3208 0004
 Fax: +84 4 3208 0002