SPECIFICATION		Specification No.	T-140300C21~24				
		Drawing No.	T-140300C21	Revision	c	Page	1/4
Product Name	SPD for AC MZSR-200JK□	Enactment Date	25.May.2015	Revision Date	08.Dec.2022		
		Drawing Section	Sales Engineering Department				

1. General

This SPD (Surge Protective Device) is suitable for a.c. power line, this SPD is intended use of protect from abnormal voltage such as indirect lightning surge.
The composition of this SPD consists of a plug and a base.
Designed for replacing only a plug part if SPD become failure.

2. Service Condition

2.1 Install Location : Indoor
2.2 Ambient Temperature : -40°C~+80°C
2.3 Relative Humidity : ≤96% (non-condensing)
2.4 Storage Temperature : -40°C~+80°C
2.5 Storage Humidity : ≤96% (non-condensing)
2.6 Altitude : ≤2000m

3. Appearance, Dimensions and Marking

3.1 Appearance and dimensions.

Table.1

Model Number	Product Configuration	Appearance
MZSR-200	Plug-in module	T-140300A02
MZSR-JK1(200)	Base	T-140300A41
MZSR-JK2(200)	Base	T-140300A42
MZSR-JK3(200)	Base	T-140300A43
MZSR-JK4(200)	Base	T-140300A44
MZSR-200JK1	SPD(Plug-in module + Base)	T-140300A31
MZSR-200JK2	SPD(Plug-in module + Base)	T-140300A32
MZSR-200JK3	SPD(Plug-in module + Base)	T-140300A33
MZSR-200JK4	SPD(Plug-in module + Base)	T-140300A34

3.2 Marking

Following particulars are marked on the body of this product;

(1)Manufacture's name or trademark
(2)Maximum continuous operation voltage U_c
(3)Type of current (~)
(4)Test classification and discharge parameter (I_n,I_{max})
(5)Voltage protection level U_p
(6)Degree of protection (IP code)
(7)Identification of terminals (Base)
(8)Max. mains-side overcurrent protection
(9)Model Number
(10)RECOGNIZED COMPONENT MARK
(11)CE Logo, KEMA Logo

4. Characteristics

4.1 SPD characteristics shown in Table.2

Table.2

Item			Characteristics			
1.Model number			MZSR-200			
			JK1	JK2	JK3	JK4
2.Comply with standard	IEC 61643-11:2011		Class II			
	UL 1449 5th Edition		Type 4 SPD			
3.Approvals			KEMA			
4.Nominal voltage U_N			-	Single phase	Split phase, Three phase	Three phase
	IEC 61643-11:2011		-	200,230V	100/200V 230/400V	200V 230/400V
	UL 1449 5th Edition		240V (50/60Hz)	240/120V (50/60Hz)	415/240V (50/60Hz)	415/240V (50/60Hz)
5.Maximum continuous operation voltage U_c / MCOV	L/N-PE(L/N-G)		275V (50/60Hz)			
	L-L		275V (50/60Hz)	275V (50/60Hz)	550V (50/60Hz)	550V (50/60Hz)
6.Nominal discharge current I_n	8/20μs		20kA			
7.Maximum discharge current I_{max}	8/20μs		40kA			
8.Voltage protection level U_p	L/N-PE		≤1.4kV			
9.Voltage protection level (5kA) U_P	L/N-PE		≤1kV			
10.Overcurrent protection	IEC 61643-11:2011		≤125A (fuse)			
11.Short-circuit current rating I_{SCCR}	IEC 61643-11:2011		25kA(50/60Hz)[N3]			
12.Temporary overvoltage U_T	L/N-PE		335V 5s (50/60Hz)			
13.Leakage current I_{PE}	AC255V (L/N-PE)		≤1mA			
14.Measured limiting voltage level MLV	UL 1449 5th Edition	L_d-L_d	2270V	-	-	-
		L-L	-	3020V	3090V	3150V
		L-PE	-	2180V	2200V	2250V
		N-PE	-	-	-	2220V
15.Dielectric withstanding voltage(only base)	L/N-PE		1.2/50μs 10kV			
16.Number of ports			1port			
17.Location			Indoor			
18.Mounting method			35mm DIN rail			
19.Degree of protection			IP20			
20.Identification of terminals			-	L,N,PE	L,PE	L,N,PE
21.Fault indicator	Operating state / Fault indication		Green/Red			
22.Remote contact[N5]	Normal	11－12	Short			
		11－14	Open			
	Fault	11－12	Open			
		11－14	Short			
	Maximum operation voltage/current		UL: AC125V/1.5A(allowance to AC250V/1.5A)			

Note 1) Test Conditions
Temperature 20±15°C, Humidity 65±20% (IEC 160-1963 (normal condition of test place)).
Note 2) Do not use “L-N,L-PE” voltage more than U_c.
Note 3) Including external disconnector.
Note 4) Recommending “VSP40-2” as UL complies overcurrent protection.
Note 5) Characteristics are defined in state where a base and a plug are connected.

5. Connection Cable

5.1 Connection ports : screw clamping terminal connection or crimp-type terminal connection
Cable size : cross-section 1.6~22mm^2 (AWG15~4)[N1]
Cable stripping length : about 15mm (Figure.1)
Recommended tightening torque :1.47~1.96N・m (15~20kgf・cm)
Crimp-type terminal : M5 Y-type (Width<12mm, Thickness≤1mm)[N2]

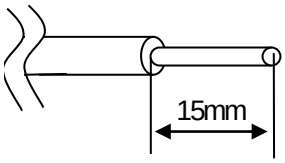


Figure.1

5.2 Remote contact
Cable size : cross-section 0.05~2mm^2 (AWG30~14)
Cable stripping length : 7~8mm

Note1)One cable: ≤22mm^2 , Two cables total:<22mm^2
Note2)One cable only

6. Inspection Condition

The inspection of electrical characteristics, mechanical characteristics and appearance shall be held as following Table.3.

Table.3

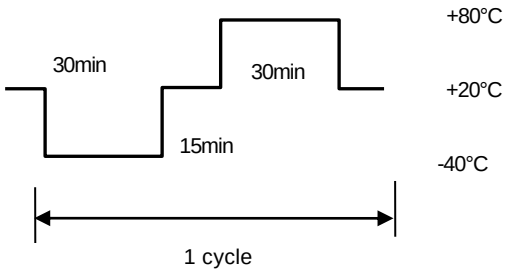
Item	Inspection type	How to check for Characteristics
1.Varistor voltage (V_{1mA})	Sampling	L-N:387~473V
2.Table 2:6~13	Type	According to IEC 61643-11:2011
3.Measured limiting voltage MLV	Type	According to UL 1449 5th Edition
4.Dielectric withstanding voltage(only base)	Type	According to Table.2
5.Remote contact	Type	
6.Low temperature test	Type	After Table.4 test V_{1mA}: According to Table.3 I_{PE} : According to Table.2
7.High temperature test	Type	
8.High temperature-humidity test	Type	
9.Temperature cycle test	Type	
10.Vibration test	Type	
11.Appearance, display	Sampling	According to Table.1
12.Dimension		

Note 1) Sampling Inspection; Single sampling plan, Normal inspection, Special inspection levels S-3 based ISO-2859 and AQL=2.5.
Note 2) “Type inspection; This inspection is executed when the main material is changed.

7. Environmental Test

Table.4 shows the environmental test condition of this product.

Table.4

Item	Test Condition	Test Time
1.Low temperature test	Ta=-40±3°C	1000h
2.High temperature test	Ta=+80±2°C	1000h
3.High temperature-humidity test	Ta=+40±2°C 90~96%	4days
4.Temperature cycle test		30 cycles
5.Vibration test	Frequency:40(Hz) Sweep rate:19.6m/s^2(2G)	15min/3axis

8. Packing and Marking of Wrapping Box

8.1 Packing

Packaging unit 1 pieces packed in a box.

8.2 Marking of wrapping box

Following particulars are marking on wrapping box.

(1) Product Name (2) Manufacturer's name (3) Quantity (4) Date of manufacture (5)Lot No (6)RoHS (7) Test classification

9. Quality Guarantee Period

The warranty period of this product has been one year since the product was delivered.
If defective product claims are found to be justifiable, replacement products meeting the applicable specification will be provided.

10. Environmental correspondence

This product is applicable to EU RoHS Directive(*) for regulated substances (10 substances: lead, mercury, cadmium, hexavalent chromium, PBB, PBDE, DEHP, BBP, DBP, DIBP), and does not include controlled substances that exceed regulatory limits.

* European Parliament and Council Directive 2011/65 / EU, 2016/863 / EU

11. Caution

Please use in combination with fuse or breaker to avoid short fault by hitting AC overload voltage.