



**JABATAN KERJA RAYA MALAYSIA  
CAWANGAN KEJURUTERAAN ELEKTRIK  
UNIT PENSIJILAN BAHAN & STANDARD**

**TECHNICAL INFORMATION****SURGE PROTECTIVE DEVICE**

A. COMPANY INFORMATION						
<b>COMPANY NAME :</b>						
<b>ADDRESS :</b>				<b>TELEPHONE NO :</b>		
				<b>FAX NO :</b>		
				<b>COMPANY EMAIL :</b>		
<b>ISO CERTIFIED COMPANY</b>	<b>REGISTRATION NO:</b>			<b>SCOPE:</b>		
1. ISO 9001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
2. ISO 14001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
3. ISO 50001	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....
4. ISO .....	<input type="checkbox"/>	YES	<input type="checkbox"/>	NO	.....	.....

B. PRODUCT INFORMATION							
<b>BRAND NAME :</b>							
<table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none;"><b>MODEL</b> : 1. ....</td> <td style="width: 50%; border: none;">4. ....</td> </tr> <tr> <td style="border: none;">2. ....</td> <td style="border: none;">5. ....</td> </tr> <tr> <td style="border: none;">3. ....</td> <td style="border: none;">6. ....</td> </tr> </table>		<b>MODEL</b> : 1. ....	4. ....	2. ....	5. ....	3. ....	6. ....
<b>MODEL</b> : 1. ....	4. ....						
2. ....	5. ....						
3. ....	6. ....						
<b>STANDARD NO.:</b> (MS IEC/IEC/etc.)							
<b>CERTIFICATE OF APPROVAL :</b> (SURUHANJAYA TENAGA, if any)	<b>DATE OF ISSUE:</b>						
	<b>VALID UNTIL:</b>						
<b>PRODUCT CERTIFICATION :</b> LICENSE (SIRIM/OTHER)	<b>DATE OF ISSUE:</b>						
	<b>VALID UNTIL:</b>						
<b>TEST REPORT NO.:</b>	<b>TESTING LABORATORY:</b>						
	<b>DATE OF ISSUE:</b>						
<b>COUNTRY OF MANUFACTURER:</b>							
<b>NAME OF MANUFACTURER:</b>							
<b>FACTORY ADDRESS :</b>							

C. PRODUCT SPECIFICATION/STANDARD

1.0 SURGE PROTECTIVE DEVICE

For JKR Use

1.1 Surge Protective Device (SPD) shall be tested and manufactured to comply:

- i) Requirements and Test methods (MS IEC 61643-11 or IEC 61643-11)  Yes  No .....
- ii) Selection and Application Principles (MS IEC 61643-12 or IEC 61643-12)  Yes  No .....
- iii) Electrical and Electronic System Within Structures (MS IEC 62305-4 or IEC 62305-4)  Yes  No .....
- iv) Selection & Erection of Electrical Equipment (MS IEC 60364-5-53 or IEC 60364-5-53)  Yes  No .....

1.2 Number of ports:

- i) One port  Yes  No .....

1.3 The SPDs modes of protection shall be each phase-to-neutral (L-N) and neutral-to-earth (N-E):

- i) L – N  Yes  No .....
- ii) N – E  Yes  No .....

1.4 SPD design topology:

- i) Voltage switching  Yes  No .....
- ii) Voltage limiting  Yes  No .....
- iii) Combination  Yes  No .....

1.5 The maximum continuous operating voltage (U<sub>c</sub>) of SPDs shall be:

- i) Minimum 275V for SPDs connected between L – N  Yes  No .....
- ii) Minimum 255V for SPDs connected between N – E  Yes  No .....

**C. PRODUCT SPECIFICATION/STANDARD**

1.6 SPDs protection against short-circuits shall be provided by fuses. The fuse shall be selected according to the recommended ratings given in the manufacturer’s SPD manual instructions/test report.  Yes  No .....

Recommended fuse rating: .....

1.7 In the case where the MOVs are used, the SPDs shall be equipped with disconnecter.  Yes  No .....

1.8 The SPDs shall be equipped with visual indicator showing the protection status of the SPDs.  Yes  No .....

1.9 Provided with auxiliary contact for connection to remote monitoring of SPDs protection status.  Yes  No .....

**2.0 SURGE PROTECTIVE DEVICE LOCATION CATEGORIES**

2.1 The SPDs to be installed with respect to the location category shall be as in Table 1.

## C. PRODUCT SPECIFICATION/STANDARD

Location Category	Class of Test	Impulse Current, $I_{imp}$ (kA)	Nominal Discharge Current, $I_n$ (kA)	Maximum Discharge Current, $I_{max}$ (kA)	Open Circuit Voltage, $U_{oc}$ (kV)	Voltage Protection Level ( $U_p$ )
MSB	Class I	L – N $\geq 12.5$ N – E $\geq 50$				$\leq 2.0$
MSB	Class II		$\geq 20$	$\geq 65$		$\leq 2.0$
SSB (SSB receiving supply from outside the building)	Class II		$\geq 20$	$\geq 65$		$\leq 2.0$
SSB (SSB receiving supply from MSB in the same building)	Class II		$\geq 10$	$\geq 40$		$\leq 1.8$
DB (DB receiving supply from outside the building)	Class II		$\geq 20$	$\geq 40$		$\leq 1.5$
DB (DB receiving supply from MSB/SSB in the same building)	Class II		$\geq 10$	$\geq 40$		$\leq 1.5$
DB (DB receiving supply from MSB/SSB in the same building)	Class III				$\geq 6$	$\leq 1.5$

Table 1 : SPDs Location Categories

TECHNICAL INFORMATION

SURGE PROTECTIVE DEVICE

**D. DETAIL OF SURGE PROTECTIVE DEVICE (Please attach technical specification and catalogue)**

Description		Model	Model	Model	Model	Model
Mode of Protection						
SPD Type : (Monoblock/Modular)						
SPD Design Topology : (MOVs/GDT/Spark Gap)						
SPD Disconnecter	Disconnecter : (Internal/External/Both)					
	Protection Functions : (Thermal/Overcurrent)					
Visual Indicator : (Yes/No)						
Auxiliary Contact : (Yes/No)						
SPD Location Categories to be Installed						
Test Class : (I/II/III)						
U <sub>c</sub> (V)						
I <sub>imp</sub> (kA)						
I <sub>n</sub> (kA)						
I <sub>max</sub> (kA)						
I <sub>SCCR</sub> (kA)						
U <sub>oc</sub> (kV)						
U <sub>p</sub> (V)						

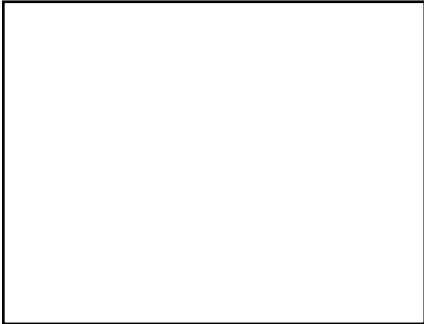
NOTE U<sub>c</sub> – Maximum continuous operating voltage for each mode of protection.  
 I<sub>imp</sub> – Impulse discharge current for each mode of protection  
 I<sub>n</sub> – Nominal discharge current for each mode of protection  
 I<sub>max</sub> – Maximum discharge current for each mode of protection  
 I<sub>SCCR</sub> – Short-circuit current rating ( ≥ 10 kA )  
 U<sub>oc</sub> – Open-circuit voltage for each mode of protection  
 U<sub>p</sub> – Voltage protection level for each mode of protection at I<sub>imp</sub> or I<sub>n</sub> or U<sub>oc</sub>.

<b>D. DETAIL OF SURGE PROTECTIVE DEVICE (Please attach technical specification and catalogue)</b>		
<b>2) MANUAL/DOCUMENTS (Please specify and attach relevant drawing/diagram)</b>		
1. Technical Specifications & Catalogue	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
2. Method of Installation	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
3. Method of Maintenance	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
<b>3) Photo of product sample to be attached (Hardcopy &amp; Softcopy)</b>		
1. Top view (with ruler for measurement)	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
2. Side view (with ruler for measurement)	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
3. Front view (with ruler for measurement)	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
4. Component (GDTs/Spark Gap/MOVs & Connection)	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
5. Auxiliary contact (if any)	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....
6. Product Marking	<input type="checkbox"/> Yes <input type="checkbox"/> No	.....

**E. PENGESAHAN**

Adalah saya ..... dengan ini mengesahkan segala keterangan yang diberikan/dikemukakan bagi produk di atas adalah benar. Jika saya didapati membuat pengakuan **PALSU**, maka tindakan seterusnya boleh diambil oleh pihak JKR ke atas diri dan syarikat diwakili oleh saya.

Cop Syarikat :



Tandatangan : \_\_\_\_\_  
Nama : \_\_\_\_\_  
Jawatan : \_\_\_\_\_  
Tarikh : \_\_\_\_\_

**F. ULASAN (Untuk Kegunaan Pejabat)**

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