Surge Energy Transfer Devices

DC SEAT 16A/250V Din-rail Style

Model No.: PDT4-C3-16-250

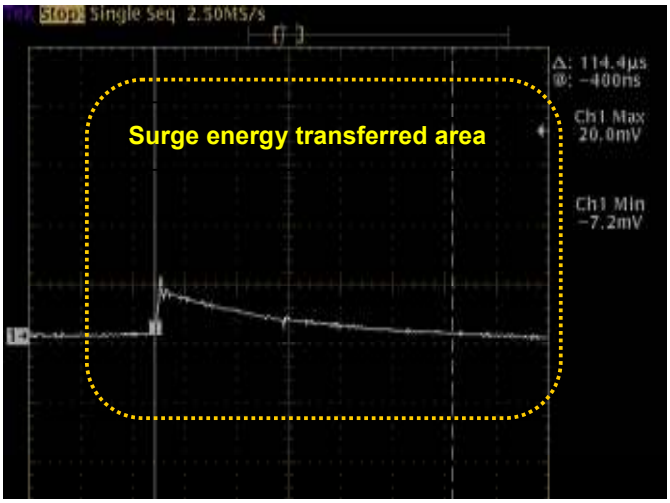
Surge interference only occurs when electrical loads are under working condition (i.e. there is a power supply) when loads are stored in a warehouse without a power supply, there is no interference problem. Therefore, a power source is required to prove that the surge protection device (SPD) can actually protect the loads when doing surge-testing and installing SPD. There are many SPD in the market that have undergone testing without a power source. This method neither proves whether SPD protects the loads nor does it ensure the loads will still function when there is surge interference.

We use our patented *surge energy transfer circuits* to produce various surge energy transfer (SEAT) devices. It effectively suppresses interference sources such as lightning flash surges (LFS), power switching surges (PSS), switching inrush currents (SIC), electric magnetic pulses (EMP) etc. Even under poor ground resistance condition, giving the loads perfect protection.

We test our SET devices are under a powered (on-line) condition and connect it to a laptop. This method ensures that SET does increase the facilities' immunity to interference and that the loads can thus function normally with the presence of interference.

How does SEAT protect important loads?
We can see how it works from the waves produced when SEAT is operating.

Surge-testing is done powered (on-line), under ungrounded condition and coupled with a 1.2x50μs,10kV、8x20μs,5kA combination wave. (in accordance with ANSI/IEEE C62.41 category C2) SET absorbs surge energy and transferres it to DC waveform of loads. From the area marked in yellow in the diagram bellow, we can see that the DC wave is higher than before surge coupling. Also note that the duration time affected by surge is less than 10 ms.



SPECIFICATIONS

Types of surge suppressed: Lightning Flash Surges (LFS), Power switching surges (PSS), Switching Inrush Current (SIC), and Electric Magnetic Pulse (EMP).

Method of handling surge energy: Series mode surge energy absorbed and transferred to voltage.

Case: Plastic case IP68.

Install : Din-rail style and terminal blocks.

Devices condition diagnoses: Temperature of casing diagnoses (Normal condition: temperature is 45-55 ^{o}C± 5%. and fault condition: is room temperature.

Suitable AC voltage: DC 100V-250V±5%.

Max. load current allowed: 1ψ2W 16A±5%.

Input Impedance (R) without loads: >10MΩ.

Core module temperature of 16A load: Less than 55 ^{o}C±5%.

Surge immunity: 1.2x50μs,10kV; 8x20μs,10kA combination wave, 60 sec interval, at least 2 times.

Surge energy absorbing rate: 1.2x50μs,10kV; 8x20μs,5kA combination wave, 98%±2% (ungrudging condition).

After surge invasion, DC waveform recovering time: Less than10mS.

EMP(fast transient/bust) immunity: 4.5kV, 5x50ns EFT waveform, 95%±2% (ungrudging condition).

Loads remnant voltage: 650V±20% under combination wave tested.

Load protection mode: L-L.

System ground resistance demand: None.

Operation temperature range and humidity range: -40 to +85^{o}C, 35 to 95% relative humidity (no dew).

Dimension: 78mm (L)/41mm(W)/39.5mm(H) ±1%.

Weight: 190g ±5%.

Confirm standards: ANSI C62.41、IEC 61000-4-5、IEC 61000-4-4、IEC 61643-1、ANSI C37.90.1etc.

Surge-testing: On-line condition, tested by10kV/5kA combination wave, 4.5kV, 5x50ns EFT wave.

808 French Road
#07-163
Kitchener Complex
Singapore 200808
TEL : +65 8428 4338
FAX : +65 6693 0094
Email : mike.soh@surgetek-ap.com
Website: http://www.surgetek-ap.com

Din-Rail Style