

# Surge Energy Absorb & Transfer

## SEAT Device for Signal or Communication



MTL32-B1-1-100

SEAT device is a unique surge protection device (SPD). 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 system is required to prove that the installed surge protection device (SPD) can actually protect the loads when doing surge-testing and in service. There are many SPD in the market that have undergone testing without a power source. Then it neither prove SPD protect the load nor to ensure the load will still function well when surge interference invading.

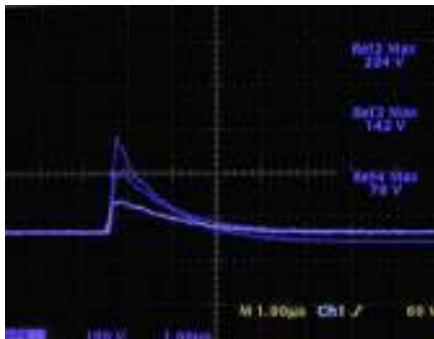
Thanks to new patented surge energy absorb and transfer circuits (SEAT) to produce various surge SEAT devices. It effectively suppresses interference sources such as lightning flash surges (LFS), power switching surges (PSS), switching inrush current (SIC), electric magnetic pulses (EMP) etc. Even under poor ground resistance condition, giving the load perfect protection.

We test SEAT device under a powered (on-line) condition and connect it to a laptop or PC as a load. This method ensures that SEAT does increase the facilities' immunity to interference and the loads can thus function normally with the presence of interference.

### How does SEAT protect important signal 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 1.2x50 $\mu$ s, 2.5kV, 8x20 $\mu$ s, 1.25kA combination wave. (in accordance with ANSI/IEEE C62.41 category B) Singal SEAT absorbs surge energy, and remain surge energy to input of load is low. Beside, EFT-testing is coupled with a 5x50 ns, 3kV electric fast transient surge wave. Singal SEAT suppressed EFT, and remain voltage also is low.





EFT-testing: Measuring residual EFT waveforms at output side of signal SEAT after EFT surges 1kV to 3kV are coupled to input side of signal SEAT .



Surge-testing: Measuring and calculating residual surge energy at output side of signal SEAT after combination waves 1.2x50 $\mu$ s, 2.5 kV ;8x20 $\mu$ s 1.25kA are coupled to input side of signal SEAT .

- Features :**
- Surge Protection for EMP, LFS, PSS and SIC.
  - Excellent surge protection in no ground condition.
  - Test by combination wave surge (1.2x50µs,2.5KV / 8x20µs,1.25KA) under ON-line condition with load.
  - Meet standard ANSI C62.41, category B1 (2KV/1KA), and IEC 61000-4-4, IEC 61000-4-5,IEC 61643-1, ANSI C37.90.1
  - Enclosed metal case gives good EMI protection & high quality appearance.

## SPECIFICATIONS

Model	MTL4-B1-1-100	MTL32-B1-8-100
Max. Current #	1A	1A
DC Voltage	12 ~ 100Vdc	12 ~ 100Vdc
Number of signal protection circuit:	1 circuit x 2 port / circuit	8 circuit x 2 port / circuit
<b>Method of Handling Surge Energy</b>	<b>Series Connection Surge Energy Absorb and Transfer</b>	
Suppressing Surges	Lightning Flash Surge (LFS) ; power switching surges (PSS) ; Switching Inrush Current (SIC) ; Electric Magnetic Pulse (EMP)	
Input Impedance	> 10Mohm	
Suitable Signal Frequency	< 3 MHz	
Module Temperature at Max Current	< 30 °C	< 30 °C
Surge Immunity Test	≥ 3 times continuous in 30 sec interval, at 1.2x50µs,2.5kV / 8x20µs,1.25kA combination_wave surge	
Surge Energy Absorbing Rate	≥ 90% , at 1.2x50µs,2.5kV / 8x20µs, 1.25kA , combination_wave surge (unground condition)	
DC Waveform Recovering After Surge	≤ 10 mS	
<b>EMP Immunity Test &amp; Absorbing Rate</b>	≥ 89% , at 3kV in 5x50ns EFT waveform (unground condition)	
Residue Voltage	250V ±20% , combination-wave surge test	
<b>System Ground Resistance Demand</b>	<b>None</b>	
Protective Mode	Line to Line	
Operation Temperature/Humidity Range	- 10 ~ +75°C / 35 ~ 95% (non-condensation)	
Applicable Standards	ANSI C62.41 Category B1 ; ANSI C37.90-1 ; IEC 61643-1 X level of IEC 61000-4-4 ; IEC 61000-4-5 ; CNS 14676-4 and CNS 14676-5	
Material of Enclosed Case	Enclosed metal case with anode treatment and sand blasting	
Dimension / Weight	66L x 33W x 24H, mm / 62 gram	116L x 80W x 36H, mm / 320 gram
Appearance		

# Do not over current !