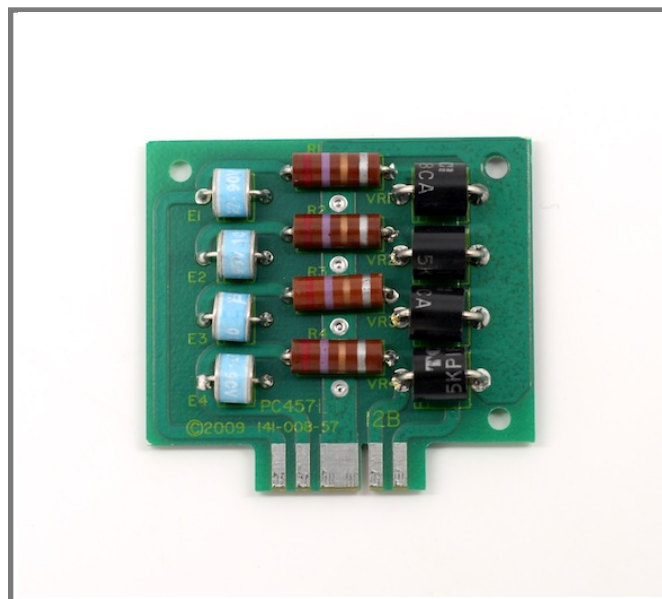


# Data Signal Line Protection

## DLM4 Module Data Sheet

There is no “one size fits all” surge protector. Misapplying surge protection results in money being spent and equipment remaining vulnerable to damage. The DLM4 modules protect 4 wires each and address countless applications and project budgets. They are used with the DLP-3131, -3132, -3132-10, and -37A motherboard assemblies. Using a modular data/signal line protector permits the following: 1) Customization – choose a motherboard and choose the modules that best fit your application and 2) Field serviceability – modules replace in 5 seconds (motherboard wiring does not have to be disconnected). Such a protection system results in the most suitable protection circuit being employed so that optimum performance is achieved and downtime from surges is eliminated.



## Specifications

No. of wires protected: 4 per card

Protection Circuit Types: Hybrid-10kA, Hybrid-20kA, S.A.D. (1.5kW, 5kW, 10kW, 60kW), and M.O.V.

Ipk/Wire (Hybrid 10kA & 20kA): 10kA (8x20  $\mu$ s) and 20kA (8x20  $\mu$ s)  
 Peak Power/Wire (S.A.D Versions): 1.5kW, 5kW, 10kW, 60kW (10x1000  $\mu$ s)  
 Ipk/Wire (M.O.V): 10kA (8x20  $\mu$ s)

Series R: 2.4 Ohms, 5.6 Ohms, 0 Ohms – See table

Standard Voltages (Hybrid and S.A.D.) 6,8,12,15,25,36,55,100,150,180 (Note: 25V and up for 60kW version)

Standard Voltages (MOV): 12,24,36,48,60,75

Response Time: <1 nanosecond (Hybrid and S.A.D.)

Attenuation: <1dB at 10MHz Typical

Temperature (Operating): -40° to +71° C (-40° to +160° F)

Temperature (Storage): -40° to +85° C (-40° to +185° F)

Connection: Plug in - card edge style, p.c. board contacts

Dimensions: 2.50”L x 2.28”W x 0.310”D (63.5mm L x 57.8mm W x 7.9mm D)

Weight: 0.64 Oz., 18.14 g

Use with models: DLP-37A, DLP-3131, DLP-3132, DLP-3132-10

End Product Certifications: UL497B recognized component, UL497A (fused)

# Module Types

Module Type	Module Name	Surge Capacity Per Wire	Series R	Series R Type	Voltages Available	Current Per Wire	Common Applications
Hybrid-10kA	DLM4-xxV2	10kA (8x20 $\mu$ s)	2.4 Ohms	0.5W	6V and up	0.35A	4-20mA loops, RS485, RS422, RS232, Telco, PLC I/O Ports
HD Hybrid-20kA	DLM4-xxV5-20K	20kA (8x20 $\mu$ s)	5.6 Ohms	1W	6V and up	0.35A	4-20mA loops, RS485, RS422, RS232, Telco, PLC I/O Ports, Irrigation data
MOV	DLM4-xxV0-MOV	10kA* (8x20 $\mu$ s)	0 Ohms	n/a	12V and up	5A	LED drivers, power circuits, I/O Ports, sensors, alarm systems, irrigation satellites
SAD-1.5kW	DLM4-xxV0-1.5kW	1.5kW (10x1000 $\mu$ s)	0 Ohms	n/a	6V and up	5A	LED drivers, power circuits, I/O Ports, sensors, alarm systems, relay coil spike
SAD-5kW	DLM4-xxV0-5kW	5kW (10x1000 $\mu$ s)	0 Ohms	n/a	6V and up	5A	LED drivers, Relay coil spike protection, PLC protection, power supply circuits
SAD-10kW	DLM4-xxV0-10kW	10kW (10x1000 $\mu$ s)	0 Ohms	n/a	6V and up	5A	LED drivers, power circuits, I/O Ports, sensors, alarm systems
SAD-60kW	DLM4-xxV0-60kW	60kW (10x1000 $\mu$ s)	0 Ohms	n/a	25V and up	5A	LED drivers, power circuits, I/O Ports, sensors, alarm systems, irrigation satellites

\*3kA for 12V, 24V and 36V models

Important: xxV = nominal system voltage for all models. See below for available voltages.

Note: For UL497A (Secondary Protectors for Telco Circuits) applications, add "F" after series resistance like DLM4-180V5F-20K. For UL497B (isolated loop circuit protector) applications, leave out the "F" such as DLM4-25V5.

**Available Module Voltages (xxV) and their Max Applied Voltage, L-G (DC or Peak V) (not applicable to MOV modules):**

6V modules (8.3V conduction voltage)  
 8V modules (10V conduction voltage)  
 12V modules (16.7V conduction voltage)  
 15V modules (20V conduction voltage)  
 25V modules (36.7V conduction voltage)  
 36V modules (47.8V conduction voltage)  
 55V modules (66.7V conduction voltage)  
 100V modules (133V conduction voltage)  
 150V modules (189V conduction voltage)  
 180V modules (222V conduction voltage)

**Available MOV module Voltages (xxV) and their Max Applied Voltage, L-G (DC or Peak V)**

12V modules (18V conduction voltage)  
 24V modules (33V conduction voltage)  
 36V modules (47V conduction voltage)  
 48V modules (68V conduction voltage)  
 60V modules (82V conduction voltage)  
 75V modules (120V conduction voltage)

**Available system check module:** P/N DLM4-SC. These modules have no protection components. They are installed temporarily in the main board assembly for troubleshooting and for quickly locating a damaged protection module. They allow the signal to pass from the input side of the motherboard to the output side to check hardware, wiring integrity, and overall system functionality, without having to use jumper wires across the protector.