



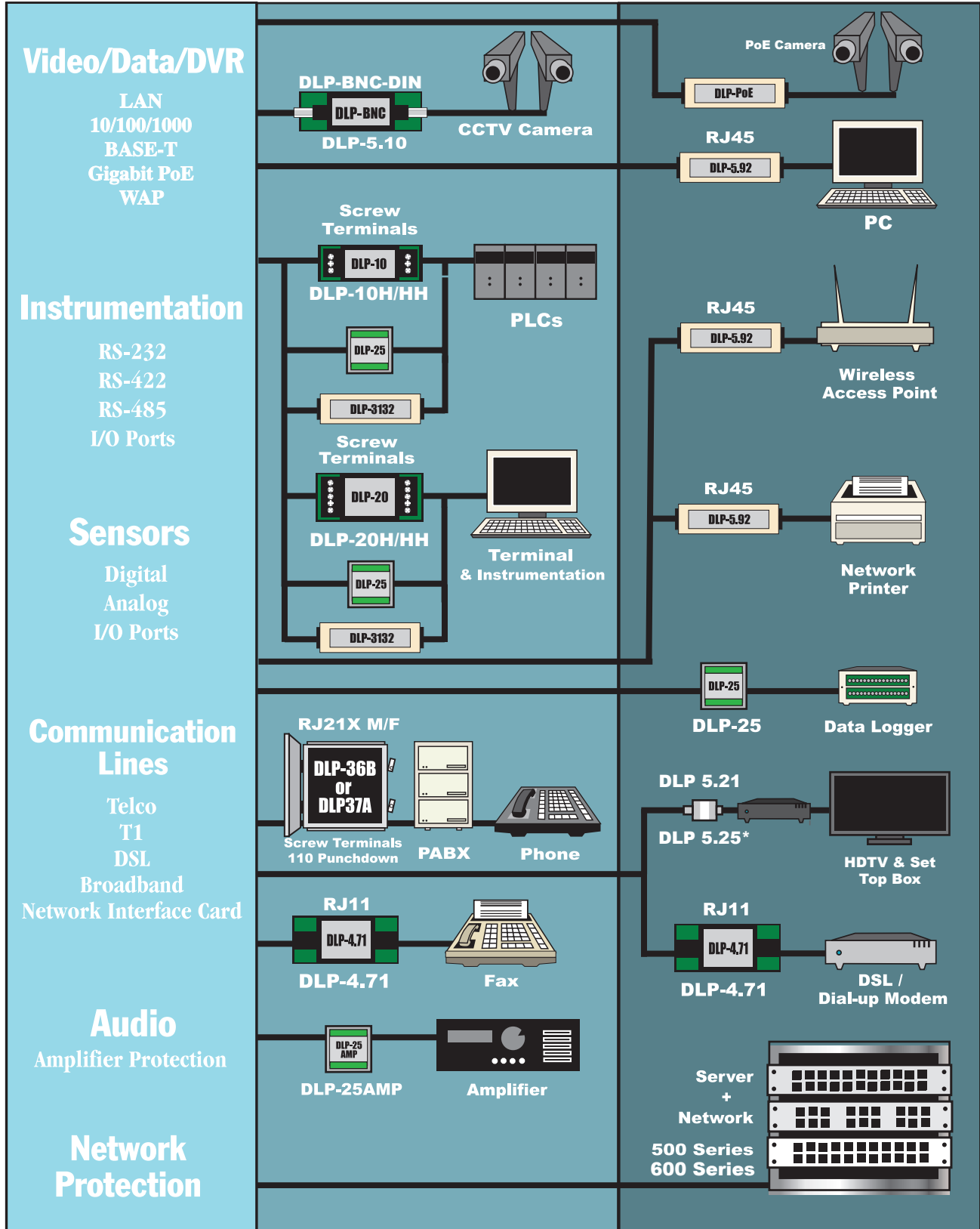
# MCCG

Surge Protection  
for Data Lines

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DIN rail mtg. system	Use with "-DIN " series	Customized rackmount system	Up to 16 "-DIN" models	User customizable	7.5 to 240V	consult factory

# Data Line Protection Applications



\*See mcgsurge.com for information on the DLP-5.25

# Data Line Protection

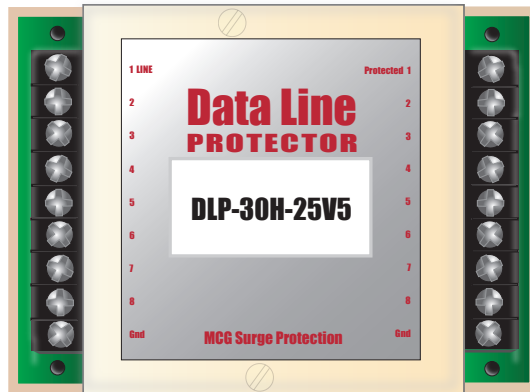
## MODEL

**DLP-10H • 20H • 30H**

### Protects 4-20mA loops, I/O Ports, Sensors

The DLP H series provides superior surge protection for data and signal line applications. Using higher capacity components, these units offer an improved level of reliability than other similarly priced products. To cover a broader range of applications, four different styles of protection circuits and ten standard voltages are offered to fine tune the protection to your equipment.

•2, 4, or 8 protected wires •Hybrid or high power silicon avalanche diode technology •Standard Duty or Heavy Duty Capability •DIN rail mountable option •Low profile enclosure •UL497B/UL497A Listed •20-year warranty



## SPECS

### All Models

Response Time: <1ns  
 Attenuation: <1dB @ 10 MHz  
 Terminal Blocks: Barrier Type  
 Connection: 6-32 Screw Terminals  
 Wire Size Range: 12-24 AWG  
 Maximum Screw Torque: 10 lb. in.  
 Enclosure: High Impact Plastic  
 Certification: UL497B Listed (standard models)  
 UL497A Listed (fused models)

### Hybrid Models (per circuit ratings):

Ipk, Standard Duty: 10kA (8x20 microsecond)  
 Ipk, Heavy Duty Models: 20kA (8x20 microsecond)  
 Series Resistance: 5 Ohms  
 Current, Continuous: 350mA Maximum

### Silicon Avalanche Diode Models (per circuit ratings):

Peak Power, Standard Duty: 10kW (10x1000 microsecond)  
 Peak Power, Heavy Duty: 60kW (10x1000 microsecond)  
 Series Resistance: 0 Ohms  
 Current, Continuous: 10A Maximum (Series Connected)  
 Current, Continuous: Unlimited (Parallel Connected)

### Dimensions, LxWxD (models w/o “-DIN” option):

DLP-10H/HH Models: 5.0” x 2.1” x 1.1” (127 x 54 x 28mm)  
 DLP-20H/HH Models: 5.0” x 2.8” x 1.1” (127 x 72 x 28mm)  
 DLP-30H/HH Models: 5.0” x 4.4” x 1.1” (127 x 112 x 28mm)

### Dimensions, LxWxD (models w/ “-DIN” option):

DLP-10H/HH Models: 5.0” x 2.1” x 1.9” (127 x 54 x 49mm)  
 DLP-20H/HH Models: 5.0” x 2.8” x 1.9” (127 x 72 x 49mm)  
 DLP-30H/HH Models: 5.0” x 4.4” x 1.9” (127 x 112 x 49mm)  
 Overall Mounting Depth (w/ DIN 35 Top Hat Style Rail): 1.96” (50mm)

### Mounting Dimensions (models w/o “-DIN” option):

DLP-10H/HH Models: 4.2”x1.50”/0.185” ID (107 x 38mm/4.7mm ID)  
 DLP-20H/HH Models: 4.2”x2.25”/0.185” ID (107 x 57mm/4.7mm ID)  
 DLP-30H/HH Models: 4.2”x3.75”/0.185” ID (107 x 95mm/4.7mm ID)

## How to Order

**DLP - xxHx -xxxVxx- xxx**  
 1 2 3 4

**1st Field:** DLP = DLP model family.

**2nd Field:** xxHx represents the style (# of wires protected and the protection capacity).

10H=2 Wire, standard duty; 10HH=2 Wire, heavy duty  
 20H=4 Wire, standard duty; 20HH=4 Wire, heavy duty  
 30H=8 Wire, standard duty; 30HH=8 Wire, heavy duty

**3rd Field:** xxxVx represents the voltage of the protector, series resistance, and whether or not it is a fused model.

Hybrid models: 6V5, 8V5, 12V5, 15V5, 25V5, 36V5, 55V5, 100V5, 150V5, 180V5\*

Silicon avalanche diode models: 6V0, 8V0, 12V0, 15V0, 25V0, 36V0, 55V0, 100V0, 150V0, 180V0\*\*  
 For UL497A (fused model), add “F”

**4th Field:** xxx represents whether or not the DIN rail option is present.

“DIN” means protector will include the DIN rail mount feature. A blank field means protector will not include the DIN rail mount option.

**Ordering Example:** DLP-20HH-25V5. This is a 4 wire, heavy-duty, 25 volt, hybrid protector.

\*Hybrid models use gas tubes, resistors, and silicon avalanche diodes in the protection circuit.

\*\* Silicon avalanche diode models do not employ series resistors or gas tubes.



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# Data Line Protection

## MODEL

### DLP-25 with DIN Rail Mount

## Critical Circuit Protection

MCG's DLP-25 series is designed to protect critical control circuits from lightning induced transients. The DLP-25 series comes in three offerings - light-duty, standard-duty, and heavy-duty and will protect up to five wires. The DLP-25 uses a compact aluminum DIN rail mount enclosure. If a DIN rail does not exist in your application, a DIN rail bracket is provided for mounting to any flat surface.



## WARRANTY

20-Year Warranty.

## Light Duty Protection

**DLP-25-xxV** – New “Light Duty” DIN rail mount protector protects up to five wires. A typical model buildup is DLP-25-6V, where 6V is the voltage of a system. This protector’s capacity is 5kW (10x1000 microsecond waveform) per wire. Although it is rated as a light duty protector, it is only light duty relative to the other, heavier duty model types in this family. Voltages available: 6V, 12V, 25V, 36V, 55V, 100V, 150V, 180V.

**Application:** There is no series resistance specified on this model. This is intentional and makes this product geared towards applications with high nominal system currents. For example, some irrigation systems use 1 or 2 amps of nominal system current. This would damage the series resistor in our other hybrid DLPs. It can also be used on systems where no series resistance is permitted.

## Standard Duty Protection

**DLP-25-xxV2** – New “Standard Duty” DIN rail mount protector. A typical model buildup is DLP-25- 6V2 where 6V is the voltage of the system and 2 is the resistance. This is a hybrid protector with 10kA (8 x 20 microsecond waveform) per wire capacity. Voltages available: 6V, 12V, 25V, 36V, 55V, 100V, 150V, 180V.

**Application:** Used to protect equipment with a system current no more than 350mA and bandwidth of no more than 10 Mbps. The unit comes in a small, DIN rail mount package and protects five wires.

## Heavy Duty Protection

**DLP-25-xxV5** – New “Heavy Duty” DIN rail mount protector. A typical model buildup is DLP-25- 6V5 where 6V is the voltage of the system and 5 is the series resistance. This is a hybrid protector with 20kA (8 x 20 microsecond waveform) per wire capacity. The unit is mostly hand built due to the physically large components that are used. Voltages available: 6V, 12V, 25V, 36V, 55V, 100V, 150V, 180V.

**Application:** Used to protect the most critical systems from transients, designed specifically for use in high exposure applications. Protects equipment with a system current no more than 350mA, except for high-speed data systems. The unit comes in a small, DIN rail mount package and protects five wires. The model is designed for 4-20mA loops, I/O ports, sensors, mainframes, process controllers, and other complex instrumentation applications.

# Specifications

## DLP-25 with DIN Rail Mount

### Ordering Information

Model Name (Light Duty)	Model Name (Standard Duty)	Model Name (Heavy Duty)	Max. Applied Voltage, L-Gnd (DC or Peak)
DLP-25-6V	DLP-25-6V2	DLP-25-6V5	6.9
DLP-25-12V	DLP-25-12V2	DLP-25-12V5	16
DLP-25-25V	DLP-25-25V2	DLP-25-25V5	30
DLP-25-36V	DLP-25-36V2	DLP-25-36V5	39
DLP-25-55V	DLP-25-55V2	DLP-25-55V5	57
DLP-25-100V	DLP-25-100V2	DLP-25-100V5	113
DLP-25-150V	DLP-25-150V2	DLP-25-150V5	161
DLP-25-180V	DLP-25-180V2	DLP-25-180V5	188

Number of Protected Circuits: 5  
Protection Modes: L-L, L-G  
Connection: Series Connected. (Note: Light Duty models may be shunt connected.)  
Rated Voltage: Various (See table above.)  
Certification: UL497B Listed  
Series Resistance Per Circuit: 5.6 Ohms (Heavy Duty Models)  
2.4 Ohms (Standard Duty Models)  
0 Ohms (Light Duty Models)  
Rated System Current Per Circuit (Std/Heavy Duty): 350 mADC Maximum  
Rated System Current Per Circuit (Lt. Duty): 5 ADC (Series Connected)  
Rated System Current Per Circuit (Lt. Duty): Unlimited (Shunt Connected)  
Surge Capacity per Circuit, Light Duty Model: 5000 Watts (10x1000 microsecond)  
Surge Capacity per Circuit, Standard Duty Model: 10kA (8x20 microsecond)  
Surge Capacity per Circuit, Heavy Duty Model: 20kA (8x20 microsecond)  
Temperature (Operating/Storage): -55° to +65°C / -55° to +75°C,  
0% to 95% non-condensing RH  
Protection Type: Bidirectional  
Connection: Touch-Safe Screw Terminals  
(Stripping Length 0.315"/8mm)  
Wire Gauge Range: 22 - 12 AWG  
Dimensions, Protector, Overall: 2.95" x 2.83" x 1.86 (L x W x D)  
74.9mm x 71.9mm x 47.3mm (L x W x D)  
Dimensions, DIN-Rail section (provided): 3.0" L (76.2mm)  
Mounting: DIN-Rail Mount (DIN 35 Type)  
Enclosure: Aluminum  
Warranty: 20 Years

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# Data Line Protection

## MODEL

### DLP-25AMP with DIN Rail Mount

## Amplifier Protection

MCG'S DLP-25AMP Amplifier Protector Series is designed to protect audio amplifiers from lightning induced, or other surges, on speaker cables. Left unchecked, these surges will cause damage or degraded performance of the output stages of an amplifier. Designed to be transparent to the audio signal path, it will not impact sound quality. The MCG Amplifier Protector will momentarily conduct when an unsafe overvoltage is present, thus protecting the amplifier.

The DLP-25AMP uses a compact aluminum DIN-RAIL mount enclosure, and for easy mounting, a DIN-RAIL bracket is provided for mounting to any flat surface. The unit is configured for two channel operation with four or eight Ohm nominal speaker impedances and 70V high voltage systems. This device is used on systems connected to outdoor speakers that are susceptible to induced surges and systems where speaker wire runs near AC power wiring.



*The DLP-25AMP Amplifier Protector Series can be used on systems connected to outdoor speakers susceptible to induced surges.*

## WARRANTY

1-Year Warranty.

## Specifications

Number of Channels: 2  
 Protection modes: Three per channel, Positive to Negative, Positive to Ground, Negative to Ground Connection: Series connected  
 Rated Amplifier Output: Various (See table)  
 Certification: UL497B Listed  
 Series Resistance per circuit: 0.025 Ohms Maximum  
 Surge Capacity per Mode: 15,000 Watts (10x1000 microsecond waveform)  
 Temp. (Operating/Storage): -55oC to 65oC / -55oC to 75oC, 0% to 95% non-condensing RH  
 Protection Type: Bidirectional  
 Connection: Screw Terminals: (Stripping length 0.315"/8mm)  
 Wire Gauge Range: 22 – 12 AWG  
 Dimensions, Protector, Overall: 2.95"L x 2.83"W x 1.86"D (74.9mm L x 71.9mm W x 47.3mm D) Dimensions, DIN Rail section (provided): 3.0"L  
 Mounting: DIN Rail mount (DIN 35 type)  
 Enclosure: Aluminum  
 Warranty: 1 year



# Specifications

## DLP-25AMP with DIN Rail Mount

### Ordering Information

Mode Name	Continuous Amplifier Output/Channel	Nominal Speaker Impedance/Channel
DLP-25AMP-50W-4	Up to 50 Watts	4 Ohms
DLP-25AMP-100W-4	51-100 Watts	4 Ohms
DLP-25AMP-150W-4	101-150 Watts	4 Ohms
DLP-25AMP-200W-4	151-200 Watts	4 Ohms
DLP-25AMP-250W-4	201-250 Watts	4 Ohms
DLP-25AMP-300W-4	251-300 Watts	4 Ohms
DLP-25AMP-50W-8	Up to 50 Watts	8 Ohms
DLP-25AMP-100W-8	51-100 Watts	8 Ohms
DLP-25AMP-150W-8	101-150 Watts	8 Ohms
DLP-25AMP-200W-8	151-200 Watts	8 Ohms
DLP-25AMP-250W-8	201-250 Watts	8 Ohms
DLP-25AMP-300W-8	251-300 Watts	8 Ohms
DLP-25AMP-1200W-8	1200 Watts Max.	8 Ohms
DLP-25AMP-70V	700 Watts Max.	70V H.V.
DLP-25AMP-70V-1kW	1000 Watts Max.	70V H.V.



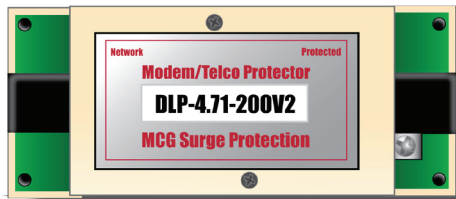
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# Data Line Protection

## MODEL

### DLP-4.71

**Protects Modems, Fax, Telco**



Modems, fax machines and telephone equipment are easily damaged by transients caused by lightning and switching surges. The DLP-4.71 installs in minutes between the telephone/data line and the sensitive equipment to provide quick and dependable protection for I/O ports.

For particularly severe transient conditions, model DLP-4.71 incorporates a one-two punch of fast-acting avalanche diodes with brute force gas diodes for substantially greater heavy-duty diversion capability. Protection circuitry on the DLP-4.71 automatically resets after the transient has passed. The DLP-4.71 handles hit after hit without degradation.

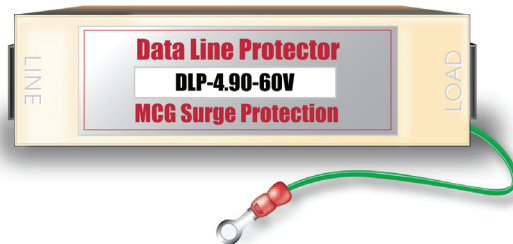
## SPECS

Extra Heavy Duty: Ipk=10kA, 8/20 $\mu$ s  
 Connector: RJ11 (F/F)  
 Clamp V: 6, 25, 60, 200V  
 Response Time: <1ns  
 Protected: Pins 2, 3, 4, 5  
 Series Rs: 2.4 Ohms  
 Attenuation: <1dB at 10MHz  
 Mounting: 4.2" x 2.25" (.185" ID)  
 107 x 57mm (4.7mm ID)  
 UL: 497A (Fuse), 497B  
 Weight: <1 lb. (.45kg)  
 Warranty: 20 Years

## MODELS

### DLP-4.90 • 4.92

**Protects Modems, Fax, Telco, T1, E1  
 10/100 BASE-T Networks**



MCG's DLP-4.90 and 4.92 surge protectors are designed to handle demanding Cat.5 applications.

Single port applications such as local area networks are easily damaged by transients caused by lightning and switching surges. The DLP-4 series installs in minutes between the data line and the sensitive equipment to provide quick and dependable protection for I/O ports.

Protection circuitry on both units automatically resets after the transient has passed.

## SPECS

Model:	DLP-4.90	DLP-4.92
I Peak:	400A, 8/20 $\mu$ s	400A, 8/20 $\mu$ s
Attenuation:	<1dB at 100MHz	<1dB at 100MHz
Connector:	RJ11 (F/F)	RJ45 (F/F)
Clamp:	6, 25, 60, 200V	6, 25, 60, 200V
Response Time:	<1ns	<1ns
Protected:	Pins 1-6	Pins 1-8
Heavy Duty:	Ipk=400A, 8/20 $\mu$ s	Ipk=400A, 8/20 $\mu$ s
Mounting:	3.5" x 1" x 1"	3.5" x 1" x 1"
	89 x 25 x 25mm	89 x 25 x 25mm
Weight:	<1 lb. (.45kg)	<1 lb. (.45kg)
Warranty:	20 Years	20 Years

**DIN-Rail mounting available**  
**Call MCG for additional non-standard voltages.**

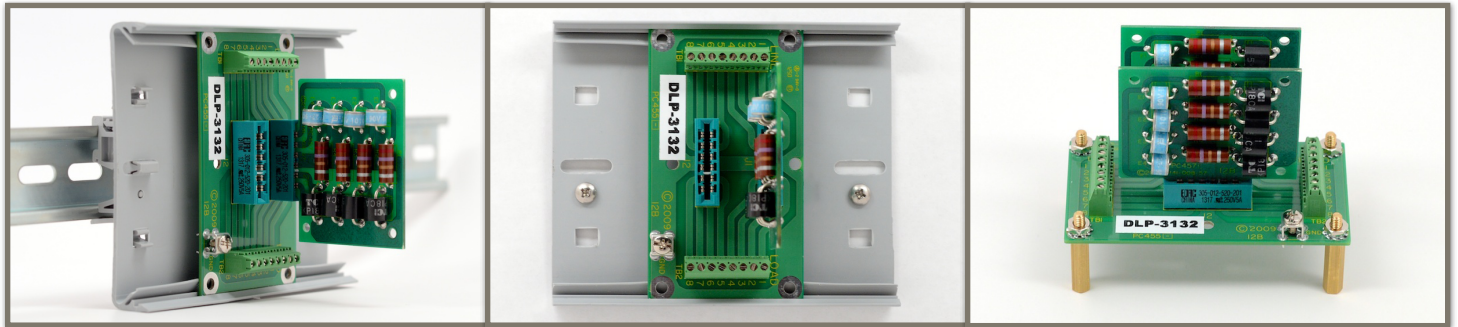


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# Data Line Protection



## Instrumentation Protection: 31XX Series



The DLP-3131/3132/3132-10 family is a modular, OEM or retrofit solution for protecting instrumentation typically found in control cabinets. This series is commonly used at sites where equipment protection must always be present, and where the typical “one size fits all” protector is not optimum. Comprised of a hardwired motherboard assembly which utilizes MCG’s versatile DLM4 protection modules, a broad range of applications are covered. The DLM4 modules are offered with several different protection circuits to most effectively protect critical equipment, and are field replaceable in minutes. Motherboards are also mounting track compatible so they can easily be retrofitted or designed into these systems, as well as surface mounted. Covered by MCG’s 20-year warranty.

## Specifications

**DLP-3131** (motherboard assembly): Uses a single, 4-wire, DLM4 protection module

**Number of wires protected:** 4 wires (2 pairs)

**Dimensions (with module):** 4”L x 1.65”W x 2.2”D (Note: Depth does not include standoffs)

**Wire Gauge Range:** 14-30 AWG

**DLP-3132** (motherboard assembly): Uses up to two, 4-wire, DLM4 protection modules

**Number of wires protected:** 8 wires (4 pairs)

**Dimensions (with module):** 4”L x 2.25”W x 2.2”D (Note: Depth does not include standoffs)

**Wire Gauge Range:** 14-30 AWG

**DLP-3132-10** (motherboard assembly): Uses up to two, 4-wire, DLM4 protection modules

**Number of wires protected:** 8 wires (4 pairs)

**Dimensions (with module):** 4”L x 2.75”W x 2.2”D (Note: Depth does not include standoffs)

**Wire Gauge Range:** 10-24 AWG

### All Models:

**Module Jack Type:** Card Edge Connector with Polarizing Key

**Connections:** Cage Clamp Terminal Blocks (no wire terminals required)

**Ground Connection:** 6-32 circuit board screw terminal

**Module Compatibility:** Uses any DLM4-xxxx modules

**Certifications:** UL497B Recognized Component, UL497A Listed (fused models)

### Ordering Example:

Application calls for a 8-wire protector for RS485 and uses 10AWG field wiring:

Order one DLP-3132-10 motherboard assembly and two DLM4-6V2 modules.

Note: If you are protecting equipment at both ends of the wire run, use two DLP-3132-10 motherboards and four DLM4-6V2 modules.

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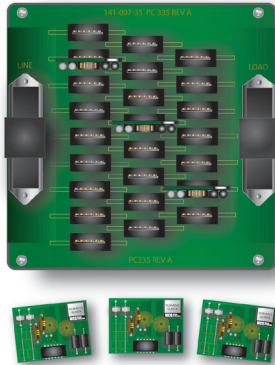


# Data Line Protection

## MODEL

### DLP-36B

#### PABX / Terminal Protection



The DLP-36B is a 25-pair (50 wire) transient suppressor offering high speed protection for PABX systems, key systems, port selectors and any instrumentation system using telephone lines, RS-232, 423 and 4-20mA loops.

Utilizing 50-pin RJ21X connectors, the DLP-36B is ideal for termination to 66 blocks. Protection circuitry resets automatically after the transient has passed. The DLP-36B can be delivered with or without a NEMA-12 enclosure that accepts up to 25 DLM plug-in protection modules. Customize the unit by choosing the voltages you need.

## SPECS

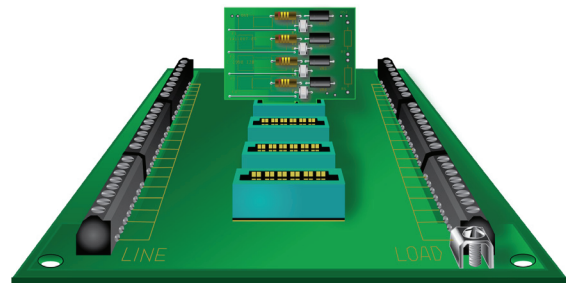
Model: DLP-36B Assy (Heavy Duty)  
 Connector: RJ21X, M/F  
 Protects: Up to 50 Wires  
 Enclosure: NEMA-12  
 Mounting: 8.75" x 6.0" (.31 ID)  
 248 x 152mm (7.9mm ID)  
 Weight: 10 lbs., (4.5kg)

Protection Module Type: DLM  
 Clamp Voltage: 6V, 25V, 60V, 200V  
 I Peak: I<sub>p</sub>=10kA, 8/20 $\mu$ s  
 Response Time: <1 ns  
 Attenuation: <1db at 10MHz  
 Series R<sub>s</sub>: 2.4 Ohms  
 UL: 497A (fuse), 497B  
 Warranty: 20 Years

## MODEL

### DLP-37A

#### Instrumentation Protection



The DLP-37A/DLM4 protects computer mainframes, terminals, process controllers, data loggers, etc. from damaging lightning and surges. Screw terminal strip and/or punchdown connections enable the heavy duty DLP-37A system to be used or retrofitted virtually anywhere. Protects up to 28 wires, using plug-in DLM4 modules (4 wire) available at 6V, 25V, 60V, 200V levels.

Unit automatically resets, ready for the next event, after the transient has passed.

## SPECS

DLP-37A Assy: Accepts up to 7 DLM4 Modules  
 Connectors: Screw Terminals or 110  
 Punch Down Blocks (DLP-37A1)  
 Assembly: PC Board  
 Mounting: 6.50" x 4.20" (0.19")  
 165 x 107mm (4.7mm ID)

Protection Module Type: DLM4  
 Clamp Voltage: 6V, 25V, 60V, 200V  
 I Peak: I<sub>p</sub>=10kA, 8/20 $\mu$ s (standard modules)  
 Response Time: <1 ns  
 Attenuation: <1db at 10MHz  
 Series R<sub>s</sub>: 2.4 Ohms  
 UL: 497A (fuse), 497B  
 Warranty: 20 Years  
 Note: See DLM4 module data sheet

**Call MCG for additional non-standard voltages.**

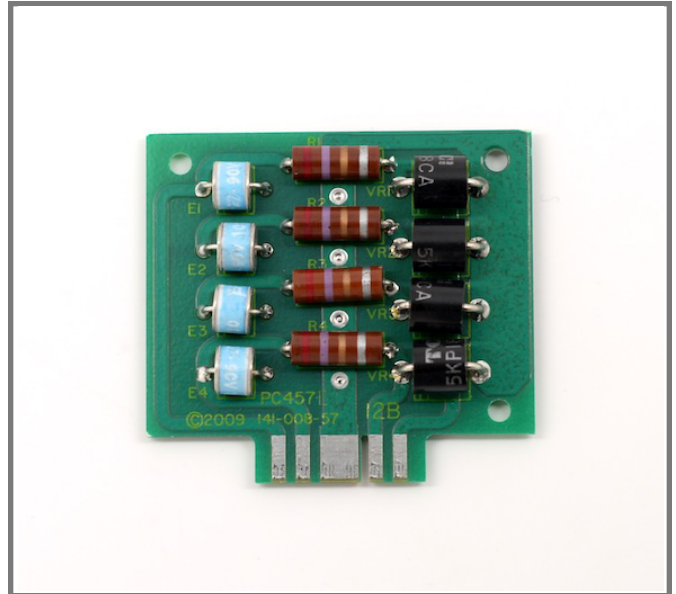


# Data / Signal Line Protection

## 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 MCG models DLP-3131, -3132, -3132-10, and -37A motherboard assemblies. Using a modular data/signal line protector permits customization: choose a motherboard and select the modules that best fit your application. Modules are easily serviced in the field, replaceable in 5 seconds (motherboard wiring does not have to be disconnected).

The DLM models listed are used with any DLM4 modules. Different DLM modules may be used in the same motherboard. Specifiers often use a modular system in regions of high surge activity, in remote sites, and when mean time to repair (MTTR) must be minimized. 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.



**WARRANTY**  
20-Year Warranty.

MADE IN THE  
**USA**



## 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.
Ip/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)
Ip/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)



# DLM-4 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	10k A (8x20 μs)	2.4 Ohms	0.5W	6V and up	0.35A	4-20m A loops, RS485, RS422, RS232, Telco, PLC I/O Ports
HD Hybrid-20kA	DLM4-xxV5-20K	20kA (8x20 μs)	5.6 Ohms	1W	6V and up	0.35A	4-20m A loops, RS485, RS422, RS232, Telco, PLC I/O Ports, Irrigation data
MOV	DLM4-xxV0-MOV	10kA* (8x20 μs)	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 (10x100 0 μs)	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	5k W (10x100 0 μs)	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 (10x100 0 μs)	0 Ohms	n/a	6V and up	5A	LED drivers, power circuits, I/O Ports, sensors, alarm systems
SAD-60kW	DLM4-xxV0-60kW	60k W (10x100 0 μs)	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.

# Data Line Protection

## MODEL

### 616 Series

**16 Port Rackmount Protection for RS232/ISDN/T1/DDS/Dial-Up/Modem/Fax/PoE Mode A/PoE Mode B/10/100/1000BASE-T**



### 632 Series

**32 Port Rackmount Protection for RS232/ISDN/T1/DDS/Dial-Up/Modem/Fax/PoE Mode A/PoE Mode B/10/100/1000BASE-T**



MCG's 19" rack mountable protectors provide reliable protection for your critical network hardware. Overvoltages that damage unprotected I/O ports are commonly caused by differences in the building's ground potential at each end of the data cable run. These protectors react in nanoseconds to an overvoltage and limit it to a safe level. Available in 16 and 32 port versions and easily install in a 19" equipment rack or can be wall mounted (-WM models). Covering many different protocols including CAT 6, CCTV, and cable TV/satellite, these multi-port protectors prevent costly downtime. Backed by MCG's "No Nonsense" 20-year warranty.

## SPECS

Model:	Application	Connectors	Pins Protected	Mounting / Height	Std. Clamp Voltage	Peak Pulse Current 10/1000µs
616-18V-8W*	RS232	RJ45/RJ45	All pins	Rack Mount / 2U	18 volts	60 AMPS
616-60V-8W*	ISDN/T1/DDS	RJ45/RJ45	All pins	Rack Mount / 2U	60 volts	50 AMPS
616-240V-2W*	Dial Up / Modem / Fax	RJ45/RJ45	Ctr 2 pins	Rack Mount / 2U	240 volts	75 AMPS
616-PoE-A*	PoE Mode A	RJ45/RJ45	All pins	Rack Mount / 2U	60 volts	50 AMPS
616-PoE-B	PoE Mode B	RJ45/RJ45	All pins	Rack Mount / 2U	Pins 1,2,3,6 7.5 volts Pins 4,5,7,8 60 volts	132 AMPS 50 AMPS
616-5.20*	Cable/Satellite	Type F	All pins	Rack Mount / 1U	90 volts	20k AMPS
616-CCTV	CCTV	BNC/BNC	All pins	Rack Mount / 1U	7.5 volts	132 AMPS
616-C6	1000BASE-T	RJ45/RJ45	All pins	Rack Mount / 2U	7.5 volts	100 AMPS
616-18V-8W-WM*	RS232	RJ45/RJ45	All pins	Wall Mount / 1U	18 volts	60 AMPS
616-60V-8W-WM*	ISDN / T1 / DDS	RJ45/RJ45	All pins	Wall Mount / 1U	60 volts	50 AMPS
616-240V-2W-WM*	Dial Up / Modem / Fax	RJ45/RJ45	Ctr 2 pins	Wall Mount / 1U	240 volts	75 AMPS
616-C6-WM	1000BASE-T	RJ45/RJ45	All pins	Wall Mount / 1U	7.5 volts	100 AMPS
616-PoE-A-WM*	PoE Mode A	RJ45/RJ45	All pins	Wall Mount / 1U	60 volts	50 AMPS
616-PoE-B-WM*	PoE Mode B	RJ45/RJ45	All pins	Wall Mount / 1U	Pins 1,2,3,6 7.5 volts Pins 4,5,7,8 60 volts	132 AMPS 50 AMPS
616-60V-8W-WM-FA	ISDN / T1 / DDS	RJ45/RJ45	All pins	Wall Mount / 1U	60 volts	50 AMPS
632-18V-8W-WM*	RS232	RJ45/RJ45	All pins	Wall Mount / 2U	18 volts	75 AMPS
632-60V-8W-WM*	ISDN / T1 / DDS	RJ45/RJ45	All pins	Wall Mount / 2U	60 volts	50 AMPS
632-240V-2W-WM*	Dial Up / Modem / Fax	RJ45/RJ45	Ctr 2 pins	Wall Mount / 2U	240 volts	75 AMPS
632-PoE-A-WM*	PoE Mode A	RJ45/RJ45	All pins	Wall Mount / 2U	60 volts	50 AMPS
632-PoE-B-WM*	PoE Mode B	RJ45/RJ45	All pins	Wall Mount / 2U	Pins 1,2,3,6 7.5 volts Pins 4,5,7,8 60 volts	132 AMPS 50 AMPS
632-C6-WM	1000BASE-T	RJ45/RJ45	All pins	Wall Mount / 2U	7.5 volts	100 AMPS

\* Not UL Listed

Response Time: <5 ns  
 UL: UL497B Listed unless noted  
 Warranty: 20-Year Warranty



-WM = Units can be Wall Mounted or Rack Mounted.  
 -FA = Front Access data ports (easy replacement)

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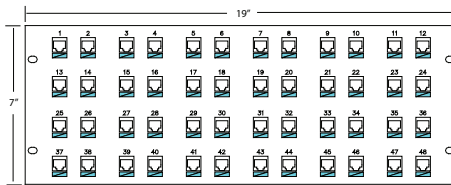
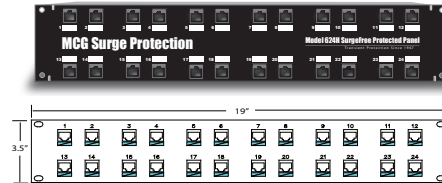
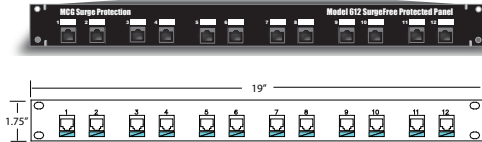
# Data Line Protection

## MODEL

### 612/624/648 Series

#### 12/24/48 Port Rackmount

#### 110 Punchdown to RJ45



Transient surge energies from sources such as nearby lightning strikes, inductive load switching, ground loop currents, and electrostatic discharge are clamped by AC protectors into the shared communication ground, resulting in damage to expensive communication hardware. 612/624/648 Series includes: 12, 24, and 48 port, 19" rack mounted protection units that feature 110 punchdown to RJ45 connectors. CAT6 performance. Also available in configurations that offer protection for Telco and ISDN circuits.

## SPECS

Model	Pins Protected	Std. Clamp Voltage	Current	Height
612-C6	All Pins	7.5 volts	100A	1U
612-60V-8W*	All Pins	60 volts	50A	1U
612-240V-4W*	Ctr 4 Pins	240 volts	75A	1U
612-PoE-A	All Pins	60 volts	50A	1U
612-PoE-B	All Pins	Pins 1,2,3,6,-7.5V Pins 4,5,7,8-60V	132A 50A	1U
624-C6	All Pins	7.5 volts	100A	2U
624-60V-8W*	All Pins	60 volts	50A	2U
624-PoE-A	All Pins	60 volts	50A	2U
624-PoE-B	All Pins	Pins 1,2,3,6,-7.5V Pins 4,5,7,8-60V	132A 50A	2U
648-C6	All Pins	7.5 volts	100A	4U
648-60V-8W*	All Pins	60 volts	50A	4U
648-PoE-A	All Pins	60 volts	50A	4U
648-PoE-B	All Pins	Pins 1,2,3,6-7.5V Pins 4,5,7,8-60V	132A 50A	4U

Connectors: 110 Block to RJ45 Connectors  
 Response Time: <5ns  
 UL Listing: UL497B Listed unless noted.  
 ROHS Compliant unless noted.  
 Warranty: 20-year warranty



\*Not UL listed or ROHS compliant

# Data Line Protection

## MODEL 512 Series Rack Protector

### Twelve Port Protection



Unshielded twisted-pair cable used in networks is more susceptible to electrical noise than shielded cable. And, because the networks are frequently moved and changed, it's easy to lose track of where these cables run. Induced transients appear along the run of these cables, unfettered and ready to cause damage to downstream equipment.

The 512 Series of 19" rack protectors guard routers, hubs, patch panels and other complex instrumentation from damage due to lightning and switching surges. Housed in a compact, one-unit design, the 512 Series offers twelve protected ports (front to back).

## SPECS

Capability: Cat. 5, 100Mbps  
 Clamp V: 6, 25, 60, 200V  
 Response: <1ns  
 Rack Height: 1 Unit  
 Ports: 12, Front/Back  
 Protects: 1-8 Wires  
 Connectors: IDC-110, RJ45 (Female)  
 Dimensions: 19" x 1.75" x 1.38"  
 Weight: <3 lbs.  
 Warranty: 20 Years

**Note:**  
 6V for 100BASE-T, RS-422  
 25V for RS-232  
 60V for CSU/DSU's  
 200V for DSL, Dial-up

## MODEL 524 Series Rack Protector

### Twenty Four Port Protection



Ideal for telephone, telcom, instrumentation or Ethernet applications, this front-to-back 24-port protector fits into any standard 19" equipment rack. Protects eight wires per RJ45 port with clamp voltages of 6V, 25V, 60V, and 200V available.

Demanding Cat. 5, 100BASE-T, 100VG, CDDI, ATM155 applications are ideally suited to the 524H rack protector.

Employing an internal ground connection and an additional ground strap, the units install quickly in new or retrofit applications.

MCG's twenty-year, no-nonsense warranty guarantees free, immediate replacement of any MCG data line protector that gets damaged in service.

## SPECS

Capability: Cat. 5, 100Mbps  
 Clamp V: 6, 25, 60, 200V  
 Response: <1ns  
 Rack Height: 2 Units  
 Ports: 24, Front/Back  
 Protects: 1-8 Wires  
 Connectors: IDC-110, RJ45 (Female)  
 Dimensions: 19" x 3.50" x 1.38"  
 Weight: <3 lbs.  
 Warranty: 20 Years

**Note:**  
 6V for 100BASE-T, RS-422  
 25V for RS-232  
 60V for CSU/DSU's  
 200V for DSL, Dial-up



**Call MCG for additional non-standard voltages  
 and for model buildup assistance.**

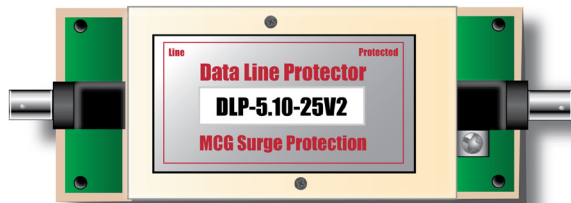
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# Data Line Protection

## MODEL

### DLP-5.10

Protects 10BASE-T, CCTV, Token Ring, I/O Ports



The DLP-5.10 is a heavy-duty wideband protector that prevents cable transients from damaging sensitive loads. When sensing a transient on either shield or the center automatically shunt damaging transients to ground.

The DLP-5.10 offers ideal protection for 10BASE-T, hubs, CCTV, routers, token ring and I/O ports.

Installation is quick and easy using BNC connectors. The DLP-5.10, like all MCG protectors, is backed with a twenty year, no-nonsense warranty. Please call our Technical Support Staff with all your application questions.

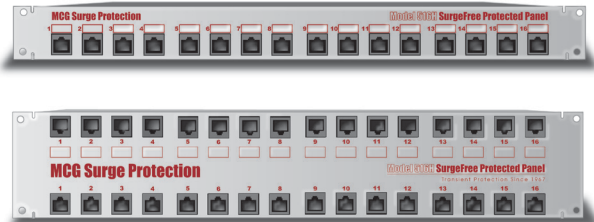
## SPECS

Extra Heavy Duty: Ipk=10kA, 8/20µs  
 Connector: BNC (F/F)  
 Clamp V: 6V, 25V  
 Protected Lines: Center and Shield  
 Series Rs: 2.4 Ohms  
 Attenuation: <1dB at 70MHz  
 Mounting: 4.2" x 1.5" / 185" ID  
 107 x 38mm/4.7mm ID  
 UL: 497B  
 Weight: <1 lb. (.45kg)  
 Warranty: 20 Years

## MODEL

### 516 Series Rack Protector

Sixteen Port Protection



These rack mount protectors offer a choice of heavy duty (516H, protects 8 wires) or extra heavy-duty (516HX, protects 2 wires) capability. Units feature 16-port RJ45 protection and can be purchased as a two unit, front-to-front or a compact, one unit front-to-back protector. Provides rugged protection for Cat. 5, 100BASE-T, token ring, 4-20ma loop, etc.

All MCG rack mounted protectors come supplied with an internal connection to the rack's metal framework. An additional ground strap is provided for connection to the rack frame to ensure superior uninterrupted protection.

## SPECS

Capability: Cat. 5, 100Mbps  
 Clamp V: 6, 25, 60, 200V  
 Response: <1ns  
 Rack Height: 1 or 2 Units Available  
 Ports: 16, F/F or F/B  
 Protects (H): 1-8 Wires  
 (HX): Pins 4 & 5  
 Connectors: RJ45, RJ45 (Female)  
 Dimensions: 19" x 1.75" x 3.75" Front/Back  
 19" x 3.50" x 0.75" Front/Front  
 Weight <3 lbs.  
 Warranty: 20 Years  
 UL: 497B  
 \* Attenuation <1dB at 10MHz for HX

### Note:



(H) denotes Heavy Duty unit.  
 (HX) Extra Heavy Duty.\*



**Call MCG for additional non-standard voltages and for model buildup assistance.**

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# Data Line Protection

MODEL	MODEL
<b>DLP-5.21-F/F</b> <hr/> <b>Female/Female Connector</b> 	<b>DLP-5.21-M/F</b> <hr/> <b>Male/Female Connector</b> 

Costly digital communications are the norm and protecting equipment like set top boxes, modems and flat panel TVs is vital to ensure uninterrupted operation. The DLP-5.21 protects cable input circuits in this equipment, such as tiny surface mount ICs and conductors that carry the signals. Sensing overvoltage events, the protector safely diverts surges away from sensitive equipment. Installs in minutes using type "F" connectors. Covered by MCG's 20 year "No Nonsense" warranty.

## S P E C S

Frequency Range: DC-5GHz  
 DC Turn On (Breakdown): 90-130V  
 Technology: Gas Discharge Tube  
 Insertion Loss: ≤0.1dB  
 Return Loss: ≥20dB  
 VSWR: <1.2:1  
 I<sub>peak</sub> (8/20us): 20kA  
 Max Power: 25W  
 Max Current: 10A

Impedance: 75 Ohms  
 Connection Method: Series (bi-directional)  
 Connectors: Type F  
 Grounding: M6 Screw, Bulkhead, Bracket  
 Environmental Rating: IP65  
 Operating Temp: -50° Celsius to +85° Celsius  
 Operating Altitude: 13,000 ft (4,000m)  
 Relative Humidity: 5 to 95% non condensing, up to 100%  
 Weight: 4.4 oz  
 Warranty: 20-Year

### Ordering Information

Model DLP-5.21-F/F  
 Model DLP-5.21-M/F

### F connector type

(Female/Female)  
 (Male/Female)

### Dimensions

2.00"L x 1.45"W (50.8mm L x 36.8mm W)  
 2.25"L x 1.45"W (57.2mm L x 36.8mm W)



Optional Mounting Bracket: Model MB-F



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# Data/Signal Line Protection

MODEL	MODEL
<b>DLP-5.22-F/F</b>	<b>DLP-5.22-M/F</b>
<b>N Connector Coaxial Protector</b>	<b>N Connector Coaxial Protector</b>
	

The DLP-5.22 is a high bandwidth protector used to protect many 50 Ohm based coaxial systems up to 780 Watts power. Typical applications are broadband systems, two-way radios, cellular systems, wireless LAN, coaxial cables, and amateur radio equipment. The DLP-5.22 uses a rugged gas discharge tube which bypasses the surge to ground thus protecting downstream equipment. Installs in minutes indoors or outdoors, uses type N connectors, and is covered by MCG's 20-year, "No-Nonsense" warranty.

## Technical Specifications

Technology:	Gas Discharge Tube (GDT)	Operation:	Bi-Directional
Ipk:	20kA 8 x 20 $\mu$ s	Installation:	Series Installed
DC Sparkover Voltage (100V/s):	90-130V (-2 mdl.) 200-300V (-4 mdl.) 400-600V (-7 mdl.)	Field Replaceable GDT:	Yes
Impulse Sparkover Voltage:	1kv/ $\mu$ s: $\leq$ 750V	Frequency Range:	DC-5GHz
Insulation Resistance:	100V, $>10^{10}$ Ohms	Return Loss:	$\geq$ 20dB
Glow Voltage:	$\leq$ 100V	Power:	25W, 190W, or 780W max.
Arc Voltage:	$\leq$ 25V	Current:	10A Max
DC Holdover:	$\geq$ 80V	Impedance:	50 Ohms
Capacitance, 1MHz:	$\leq$ 0.7pF	Connector:	Type N
AC Discharge Current:	5A, 1s, 5 operations	Grounding:	M6 Screw, Bulkhead, Bracket
Impulse Life:	20kA, 8 x 20 $\mu$ s, 1 operation 50A, 10 x 1000 $\mu$ s, 300 times	Environmental Rating:	IP65 (Waterproof)
DC Pass:	Up to +/-48V	Operating Temp/Altitude:	-50° C to +85° C 13,000 ft (4,000m)
VSWR:	$<1.2:1$	Relative Humidity:	5 to 95% non-condensing, up to 100%
Insertion Loss:	$\leq$ 0.1dB	Weight:	4.4 oz., 125 grams
		Certification:	UR (GDT), CCN: QVGG2
		Warranty:	20-Year

### Ordering Information

Model DLP-5.22-F/F - XXX  
Model DLP-5.22-M/F - XXX

### N connector type

(Female/Female)  
(Male/Female)

### Dimensions

2.51"L x 1.45"W (63.8mm L x 36.8mm W)  
2.70"L x 1.45"W (68.9mm L x 36.8mm W)



-XXX denotes max. system power: -2 = 25W max., -4 = 190W max., -7 = 780W max.

Optional Mounting Bracket: Model MB-N



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# Data/Signal Line Protection

MODEL	MODEL
<b>DLP-5.23-F/F</b>	<b>DLP-5.23-M/F</b>
<b>BNC Connector Coaxial Protector</b>	<b>BNC Connector Coaxial Protector</b>
	

The DLP-5.23 is a high bandwidth protector used to protect many 50 Ohm based coaxial systems up to 780 Watts power. Typical applications are broadband systems, two-way radios, cellular systems, wireless LAN, coaxial cables, and amateur radio equipment. The DLP-5.23 uses a rugged gas discharge tube which bypasses the surge to ground thus protecting downstream equipment. Installs in minutes indoors or outdoors, uses BNC connectors, and is covered by MCG's 20-year, "No-Nonsense" warranty.

<p>Technology: Gas Discharge Tube (GDT)                      Ipk: 20kA 8 x 20 <math>\mu</math>s                      DC Sparkover Voltage (100V/s): 90-130V (-2 mdl.)                      200-300V (-4 mdl.)                      400-600V (-7 mdl.)                      Impulse Sparkover Voltage: 1kv/ <math>\mu</math>s: <math>\leq</math> 750V                      Insulation Resistance: 100V, <math>&gt;10^{10}</math> Ohms                      Glow Voltage: <math>\leq</math>100V                      Arc Voltage: <math>\leq</math>25V                      DC Holdover: <math>\geq</math>80V                      Capacitance, 1MHz: <math>\leq</math>0.7pF                      AC Discharge Current: 5A, 1s, 5 operations                      Impulse Life: 20kA, 8 x 20 <math>\mu</math>s, 1 operation                      50A, 10 x 1000 <math>\mu</math>s, 300 times                      DC Pass: Up to +/-48V                      VSWR: <math>&lt;1.2:1</math>                      Insertion Loss: <math>\leq</math>0.1dB</p>	<p>Operation: Bi-Directional                      Installation: Series Installed                      Field Replaceable GDT: Yes                      Frequency Range: DC-5GHz                      Return Loss: <math>\geq</math>20dB                      Power: 25W, 190W, or 780W max.                      Current: 10A Max                      Impedance: 50 Ohms                      Connector: BNC                      Grounding: M6 Screw, Bulkhead, Bracket                      Environmental Rating: IP65 (Waterproof)                      Operating Temp/Altitude: -50° C to +85° C 13,000 ft (4,000m)                      Relative Humidity: 5 to 95% non-condensing, up to 100%                      Weight: 4.4 oz., 125 grams                      Certification: UR (GDT), CCN: QVGG2                      Warranty: 20-Year</p>
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#### Ordering Information

Model DLP-5.23-F/F - XXX  
 Model DLP-5.23-M/F - XXX

#### BNC connector type

(Female/Female)  
 (Male/Female)

#### Dimensions

2.41"L x 1.45"W (61.2mm L x 36.8mm W)  
 2.70"L x 1.45"W (68.9mm L x 36.8mm W)



-XXX denotes max. system power: -2 = 25W max., -4 = 190W max., -7 = 780W max.

Optional Mounting Bracket: Model MB-BNC





# Data/Signal Line Protection

MODEL	MODEL
<b>DLP-5.24-F/F</b>	<b>DLP-5.24-M/F</b>
<b>TNC Connector Coaxial Protector</b>	<b>TNC Connector Coaxial Protector</b>
	

The DLP-5.24 is a high bandwidth protector used to protect many 50 Ohm based coaxial systems up to 780 Watts power. Typical applications are broadband systems, two-way radios, cellular systems, wireless LAN, coaxial cables, and amateur radio equipment. The DLP-5.24 uses a rugged gas discharge tube which bypasses the surge to ground thus protecting downstream equipment. Installs in minutes indoors or outdoors, uses TNC connectors, and is covered by MCG's 20-year, "No-Nonsense" warranty.

Technology:	Gas Discharge Tube (GDT)	Operation:	Bi-Directional
Ipk:	20kA 8 x 20 $\mu$ s	Installation:	Series Installed
DC Sparkover Voltage (100V/s):	90-130V (-2 mdl.) 200-300V (-4 mdl.) 400-600V (-7 mdl.)	Field Replaceable GDT:	Yes
Impulse Sparkover Voltage:	1kv/ $\mu$ s: $\leq$ 750V	Frequency Range:	DC-5GHz
Insulation Resistance:	100V, $>10^{10}$ Ohms	Return Loss:	$\geq$ 20dB
Glow Voltage:	$\leq$ 100V	Power:	25W, 190W, or 780W max.
Arc Voltage:	$\leq$ 25V	Current:	10A Max
DC Holdover:	$\geq$ 80V	Impedance:	50 Ohms
Capacitance, 1MHz:	$\leq$ 0.7pF	Connector:	TNC
AC Discharge Current:	5A, 1s, 5 operations	Grounding:	M6 Screw, Bulkhead, Bracket
Impulse Life:	20kA, 8 x 20 $\mu$ s, 1 operation 50A, 10 x 1000 $\mu$ s, 300 times	Environmental Rating:	IP65 (Waterproof)
DC Pass:	Up to +/-48V	Operating Temp/Altitude:	-50° C to +85° C 13,000 ft (4,000m)
VSWR:	$<1.2:1$	Relative Humidity:	5 to 95% non-condensing, up to 100%
Insertion Loss:	$\leq$ 0.1dB	Weight:	4.4 oz., 125 grams
		Certification:	UR (GDT), CCN: QVGQ2
		Warranty:	20-Year

#### Ordering Information

Model DLP-5.24-F/F - XXX  
Model DLP-5.24-M/F - XXX

#### TNC connector type

(Female/Female)  
(Male/Female)

#### Dimensions

2.21"L x 1.45"W (56.1mm L x 36.8mm W)  
2.49"L x 1.45"W (63.2mm L x 36.8mm W)

-XXX denotes max. system power: -2 = 25W max., -4 = 190W max., -7 = 780W max.

Optional Mounting Bracket: Model MB-TNC

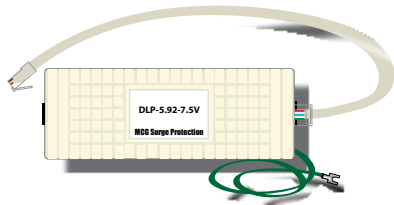


# Data Line Protection

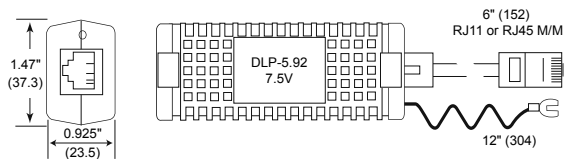
## MODEL

### DLP-5.92

#### Cat 6 Protection



The DLP-5.92 series are high speed single port protectors designed to protect Category 6 (Gigabit Ethernet) based protocols such as 1000BASE-T, 100BASE-T and 10BASE-T systems. The protectors prevent costly downtime by protecting NICs (network interface cards) hubs and relays. Using the latest protection technologies, units are virtually invisible to the high speed data path until a surge occurs. The DLP-5.92 reacts in nanoseconds causing the surge current to flow through the protector instead of the port. Installs in seconds.



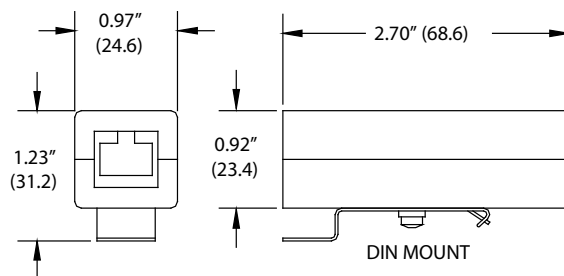
## MODEL

### DLP-C6-DIN

#### Cat 6 Protection



The DLP-C6-DIN offers Category 6 protection in a compact DIN rail mountable device. The unit protects equipment running 1000BASE-T, as well as 100BASE-T and 10BASE-T. The device reacts in nanoseconds causing the surge current to flow through the protector instead of the port. At just under an inch wide, the device occupies minimal DIN rail real estate. Installation is plug-and-play using RJ45 connectors, as the ground connection is made through the DIN rail. If system uses a 19" equipment rack, consider MCG's optional DIN rail mounting system.



## SPECS

Model: DLP-5.92-7.5V  
 Connector: RJ45/RJ45  
 Protects: 8 Wires  
 Enclosure: ABS Plastic, Pearl White  
 Weight: <.14 lb., (<.06kg)  
 Peak Pulse Current: 100 AMPS, 10/1000µs  
 Std. Clamp Voltage: 7.5V  
 Response Time: <5 ns  
 UL: UL497B Listed  
 Warranty: 20 - year warranty

## SPECS

Model: DLP-C6-DIN\* \* Not UL Listed  
 Connector: RJ45/RJ45  
 Protects: 8 Wires  
 Enclosure: ABS Plastic, Black  
 Weight: <.07 lb., (<.03kg)  
 Peak Pulse Current: 100 AMPS, 10/1000µs  
 Std. Clamp Voltage: 7.5V  
 Response Time: <5 ns  
 Warranty: 20 - year warranty

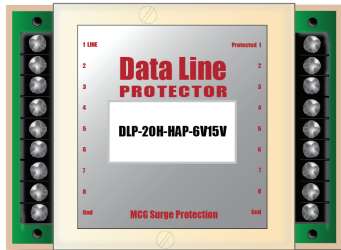


# Data Line Protection

## MODEL

### DLP-20H-HAP

#### Home Automation Protector



The DLP-20H-HAP (Home Automation Protector) series protects commonly used communication and DC power lines in home automation systems. By combining two different protection circuits, a single protector may be used to protect the DC pair and the communication pair which terminate on the system's critical processor unit as well as other hardware-like keypads. Comes with our standard 20-yr warranty.

## SPECS

Response Time: <1ns  
 Attenuation: <1dB @ 10 MHz  
 Terminal Blocks: Barrier Type  
 Connection: Type 6-32 Screw Terminals  
 Wire Size Range: 12-24 AWG  
 Max. Screw Torque: 10 lb. in.  
 Enclosure: High Impact Plastic  
 Certification: UL497B\*

#### Data Pair (Circuit 1 & 2)

Ipk: 10kA (8x20 microseconds)  
 Series Resistance: 5 Ohms  
 Current, Continuous: 350mA Maximum

#### DC Pair

Peak Power: 10kW (10x1000 microseconds)  
 Series Resistance: 0 Ohms  
 Current, Continuous: 5A Maximum

#### Models Available:

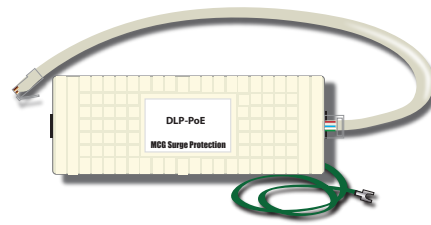
For systems using 15VDC power supply voltage, use DLP-20H-HAP-6V15V  
 For systems using 24VDC power supply voltage, use DLP-20H-HAP-6V24V  
 Note: Add "-LC" for low capacitance version

\*Intended for indoor use on communication circuits which are isolated from the Public Switched Telephone Network

## MODEL

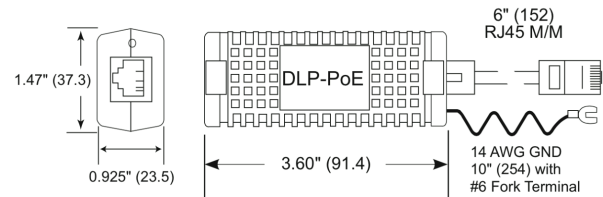
### DLP-PoE Series

#### Power over Ethernet



MCG's DLP-PoE series of protectors provide reliable, easy to install protection for equipment using the Power over Ethernet protocol. These single port protectors guard equipment from damage due to transient currents caused by differences in ground potential. Reacting in nanoseconds, the DLP-PoE series conducts surge currents away from sensitive equipment. Covers both Mode A and Mode B systems. Use the "-A" model for Mode A applications and the "-B" model for Mode B applications. Easy to install using RJ45 connectors.

## SPECS



Model: DLP-PoE-60V-A & DLP-PoE-60V-B  
 Connector: RJ45 F/F  
 Enclosure: ABS Plastic, Pearl White  
 Weight: <.14 lb., (<.06kg)

	Mode A	Mode B
Std. Clamp Voltage(s):	60 Volts	Pins 1,2,3 & 6 : 7.5 Volts 4,5,7 & 8 : 60 Volts
Peak Pulse Current:	50 Amps (10x1000µs)	Pins 1,2,3 & 6 : 132 AMPS 4,5,7 & 8 : 50 AMPS
Response Time:	<5 ns	
UL:	UL497B Listed	
Warranty:	20-year warranty	



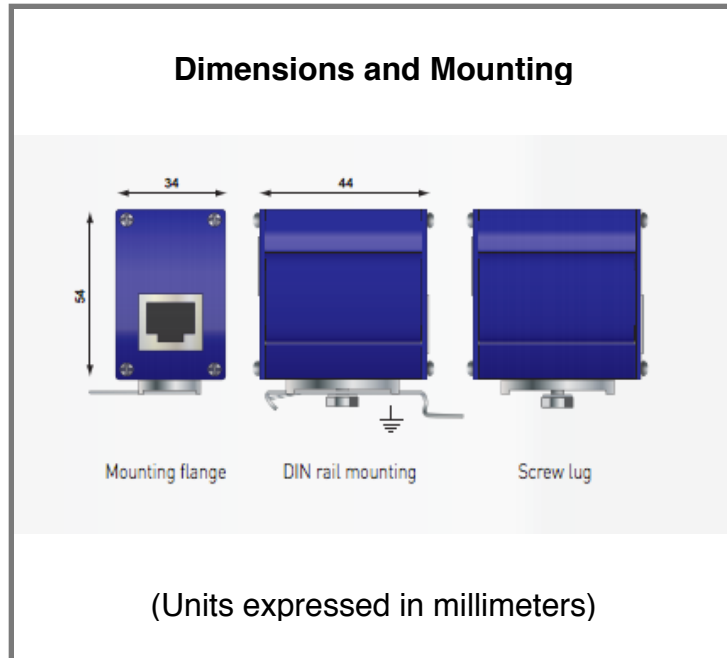
# Data Line Protection

## DLP-XXX-GB Series

### PoE/Ethernet Surge Protection

The DLP-XXX-GB series is comprised of robust, high speed protectors. These differ from most protectors in that they offer increased surge capacity from Line to Ground, where it is needed most. This translates into the highest reliability available. They also have multiple mounting options and are compatible with installations where shielded cables are used.

- Power Over Ethernet Surge Protection
- Hybrid GDT and Diode Technology
- 10/100/1000 Mbps and Gigabit Compatible
- Bi-Directional Protection
- Shielded Enclosure and Connectors
- DIN Rail Screw Lug and Flange Mount
- 20 Year Warranty



## Specifications

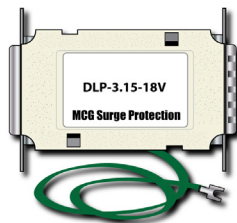
	DLP-C5E-GB	DLP-POE-A-GB	DLP-POE-B-GB
<b>Application</b>	Gigabit Ethernet Networks (Non-PoE)	PoE and Gigabit Ethernet Networks	PoE and Gigabit Ethernet Networks
<b>Maximum Data Rate</b>	1000Mbps	1000Mbps	1000Mbps
<b>Maximum DC Power Supply</b>	8 Vdc - 600mA	60 Vdc - 650mA	7.5Vdc [1,2,3,6] - 650mA 60Vdc [4,5,7,8] - 650mA
<b>Pin Outs</b>	[1-2][3-6] [4-5][7-8]	[1-2][3-6] [4-5][7-8]	[1-2][3-6] [4-5][7-8]
<b>Normal Line Discharge Currents</b>	Line/Line - <500A at 8/20 $\mu$ s Line/Ground per line- 2000A at 8/20 $\mu$ s	Line/Line - <500A at 8/20 $\mu$ s Line/Ground per line- 2000A at 8/20 $\mu$ s	Line/Line - <500A at 8/20 $\mu$ s Line/Ground per line- 2000A at 8/20 $\mu$ s
<b>Connections</b>	Input - RJ45 Shielded Output - RJ45 Shielded	Input - RJ45 Shielded Output - RJ45 Shielded	Input - RJ45 Shielded Output - RJ45 Shielded
<b>Pinout</b>	8 wires + shielding	8 wires + shielding	8 wires + shielding
<b>Enclosure</b>	Metal	Metal	Metal
<b>Ground Connection</b>	Screw lug, DIN rail Clip or mounting flange	Screw lug, DIN rail Clip or mounting flange	Screw lug, DIN rail Clip or mounting flange
<b>Standard Compliance</b>	IEEE 802-3af, IEC 61000-4-5	IEEE 802-3af, IEC 61000-4-5	IEEE 802-3af, IEC 61000-4-5
<b>Weight</b>	0.35lbs. (159g)	0.35lbs. (159g)	0.35lbs. (159g)

# Data Line Protection

## MODEL

### DLP-D-Sub Series

**RS422/RS423/RS485  
RS232/RS530/ Parallel**

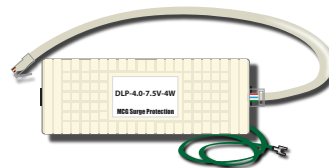


The MCG D-Sub series protects equipment with D-Sub style connectors. Protects 9-pin, 15-pin, and 25-pin configurations. Common surges affecting these ports are caused by differences in ground potential at each end of the data line due to nearby lightning strikes. The protector turns on instantly when an overvoltage occurs and limits it to a safe level. Quick, easy installation and compact size allow use in tight spaces.

## MODEL

### DLP-4.0 Series

**RS422/RS423/DSL  
Dial-Up/Modem/Fax**



The MCG DLP-4.0 series protect communication ports using RJ11 connectors. These ports are affected by differences in ground potential at each end of the data line cable caused by nearby lightning strikes. The protector turns on instantly when an overvoltage occurs and limits it to a safe level. The current is bypassed through the protector and away from sensitive equipment. The protector automatically resets, ready for the next transient.

## SPECS

Conn:	Model:	Application	Pins Protected	Std. Clamp Voltage	Peak Pulse Current 10/1000µs
DB9	DLP-3.9-7.5 DLP-3.9-18V	RS422/RS423/RS485 RS232	ALL 9 PINS	7.5 VOLTS 18 VOLTS	132 AMPS 60 AMPS
DB15	DLP-3.15-7.5V DLP-3.15-18V	RS422/RS423/RS485 RS232	ALL 15 PINS	7.5 VOLTS 18 VOLTS	132 AMPS 60 AMPS
DB25	DLP-3.25-7.5V DLP-3.25-18V	RS422/RS423/RS485/RS530 RS232	ALL 25 PINS	7.5 VOLTS 18 VOLTS	132 AMPS 60 AMPS
DB25	DLP-3.25-18V-4W DLP-3.25-18V-8W	RS232 RS232	PINS (1) 2,3,7,20 PINS (1) 2-8, 20	18 VOLTS 18 VOLTS	60 AMPS 60 AMPS
DB25	DLP-DB25-ENET	PARALLEL	ALL 25 PINS	7.5 VOLTS	132 AMPS
RJ11 RJ11	DLP-4.0-7.5V-4W DLP-4.0-7.5V-6W	RS422/RS423 RS422/RS423	4 WIRE, 4 CTR PINS 6 WIRE, ALL PINS	7.5 VOLTS 7.5 VOLTS	132 AMPS 132 AMPS
RJ11 RJ11 RJ11	DLP-4.0-240V-2W DLP-4.0-240V-4W DLP-4.0-240V-6W	DIAL-UP / MODEM / FAX DIAL-UP / MODEM / FAX DIAL-UP/ MODEM / FAX	2 WIRE, 2 CTR PINS 4 WIRE, 4 CTR PINS 6 WIRE, ALL PINS	240 VOLTS 240 VOLTS 240 VOLTS	75 AMPS 75 AMPS 75 AMPS

Enclosure: ABS Plastic, Pearl White  
 Weight: <.14 lb., (<.06kg)  
 Response Time: <5 ns  
 UL: UL497A Listed ( 240V & 60V models), UL497B Listed  
 Warranty: 20-year warranty



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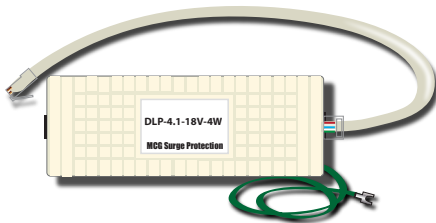
# Data Line Protection

**MODEL**

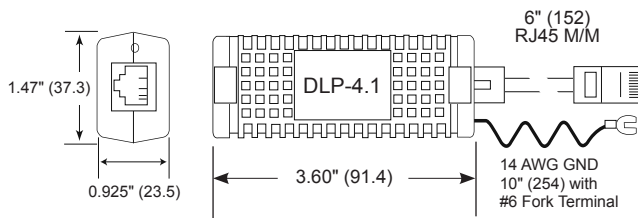
**MODEL**

## DLP 4.1 Series

**RS232/ISDN/T1  
Dial-Up/Modem/Fax**

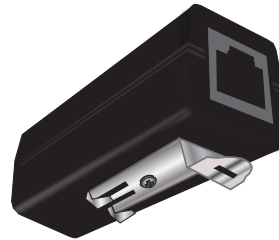


The DLP-4.1 series is designed to protect a wide range of applications that use an RJ45 style connector. Employing the latest technologies in surge suppression, these devices are virtually invisible to the system. Units react in nanoseconds to divert transient currents away from sensitive equipment. The DLP-4.1 is an economical solution to transient problems. Units install in minutes.

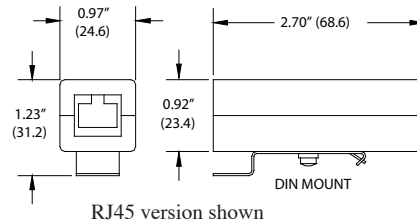


## DLP-DIN Series

**ISDN/T1/DDS/VIDEO**



These compact DIN rail mounted protectors guard equipment that uses a RJ45 or BNC style connector. Units install adjacent to the equipment on the same DIN rail or a nearby DIN rail and use less than one inch of rail space. Unit reacts in nanoseconds and causes the surge current to safely flow through it, instead of the equipment's port. Installation is plug-and-play as the ground connection is made through the DIN rail bracket. If the system uses a 19" equipment rack, consider the optional DIN rail mounting system. On the BNC model, the DIN rail bracket may be removed.



## SPECS

Model:	Application	Connectors	Pins Protected	Std. Clamp Voltage	Peak Pulse Current 10/1000µs
DLP-4.1-18V-4W	RS232	RJ45 F/F	4 wire, 4 ctr pins	18 VOLTS	60 AMPS
DLP-4.1-18V-8W	RS232	RJ45 F/F	8 wire, all Pins	18 VOLTS	60 AMPS
DLP-4.1-60V-8W	T1	RJ45 F/F	8 wire, all pins	60 VOLTS	50 AMPS
DLP-4.1-240V-8W	Dial Up/Modem/Fax	RJ45 F/F	8 wire, all pins	240 VOLTS	75 AMPS
DLP-T-DIN*	RS232	RJ45 F/F	8 wire, all pins	18 VOLTS	60 AMPS
DLP-B-DIN*	ISDN/T1/DDS (Fused)	RJ45 F/F	8 wire, all pins	60 VOLTS	50 AMPS
DLP-G-DIN*	Dial Up (Fused)	RJ45 F/F	2 wire, 2 ctr pins	240 VOLTS	75 AMPS
DLP-BNC-DIN	VIDEO (75 ohm)	BNC F/F	CTR to Shield	7.5 VOLTS	25kA(8/20 µs)

\* Not UL Listed

Enclosure: ABS Plastic  
 Weight: <0.14lb., (<0.06kg)  
 DIN Models <.07lb., (<.03kg)  
 Response Time: <5 ns  
 UL: UL497A Listed ( 240V & 60V models), UL497B Listed  
 Warranty: 20-year warranty



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# Important Tips on Data Line Protection

**MCG's Data Line Protectors (DLP) MUST be referenced to a local chassis ground to insure proper protection of your critical systems.**

- MCG's data line protectors (DLP-5.10, 4.92, etc.) have a ground wire/terminal that MUST be connected to local chassis metal. The ground lead length should not exceed 6 inches (15 cm), otherwise protection will be compromised.
- MCG's rack-mount protectors (616, 512H, 516H, etc.) are already internally connected to the rack's metal framework. An additional ground wire is provided for connection to the frame rack to insure continued excellent protection.

**In areas of SEVERE LIGHTNING or with ESPECIALLY CRITICAL OPERATING SYSTEMS that must remain on-line, we recommend that heavy duty, data line protectors be used.**

- MCG's high speed protectors are capable of continually withstanding 400A, 8/20 $\mu$ s impulses without damage. In most applications, this capability is greatly in excess of the transients that your equipment will experience.
- MCG's standard data line protectors are rated at 10kA (8/20 microseconds) per wire. For the majority of applications, these protectors will easily guard your equipment for decades. The DLP-H Series, DLP-4.71, DLP-37A and DLP-5.10 are some examples. However, for the most critical sites, and sites with frequent lightning occurrences, it may be necessary to use a protector that can handle more than the average surge exposure. In this case, heavy duty models should be employed. These models are rated 20kA (8/20 microseconds) per wire. They use larger components than our standard models which enables them to divert high amplitude surge current repeatedly. The DLP-10HH-6V5 is an example of an MCG heavy duty line of protectors.

**MCG's Incomparable 20-Year Warranty: FREE, NO-NONSENSE REPAIR or REPLACEMENT of any MCG data line protector that gets damaged in service applies to all data line protectors with the exception of the DLP-25AMP\* and LVC components.\*\* For details, contact factory, or see the full warranty online at [mcgsurge.com/warranty.htm](http://mcgsurge.com/warranty.htm)**

**APPLICATIONS ASSISTANCE: Our application engineers are only a phone call away. A five minute conversation with an MCG engineer can save you hours of design time.**

*\* Limited, 1-year warranty on DLP-25AMP.*

*\*\* Limited, 90-Day warranty on LVC components.*

# Over **45** Years of Perfect Protection

---

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