Model MDCAT Gigabit Ethernet Surge Protector
Protects PoE Devices from Lightning Induced Surges

- Power-over-Ethernet compatible
- 1000BASE-T / 100BASE-TX / 10BASE-T
- Ideal to protect network devices powered from Ethernet such as webcams
- Conforms to IEC 61643-21, Categories C1, C2

M-System’s model MDCAT is specifically designed to protect communication devices connected via Ethernet LAN from lightning surge entering through network cables.

Multi-stage protection is provided for all four pairs of conductors in Cat. 5e performance (1000BASE-T, 100BASE-TX and 10BASE-T) with minimal interference, tested for up to the maximum 100 meter segment length as defined in the standard. An equal level of protection is ensured for the core-to-core voltage used for PoE. Both Alternative A and Alternative B configurations are usable to supply power to the protected network device.

Compact module can be placed close to PCs, wireless hubs/switches and webcams in rolled-up LAN cables. It can also be snapped on a DIN rail for high-density mounting in a 19-inch rack together with Ethernet switches or inside a control panel with PLCs. Individual earth wiring is not necessary when you ground the DIN rail.

Shield terminal, frame grounding, signal grounding may be provided or not depending on the protected devices. The MDCAT is provided as ‘grounding’ mode with a shortcircuit bar connecting the shield and the ground terminals. Removing the bar turns the module to ‘floating’ mode, so that a ground loop problem can be easily fixed. By separating the shield and the ground, the former terminal can be used for individual signal grounding.

Every year lightning destroys millions of dollars of sensitive electronic equipment. Millions more are lost through extended down time and loss of production or mission-critical information.

That’s why companies around the world depend on online M-Rester Lightning Surge Protectors. The M-Rester absorbs only the lightning surges with no interruption of instrumentation signal.

For M-System product information and downloadable data sheets, visit On-Line Signal Conditioners Data Library at: http://www.m-system.co.jp/mssenglish/index.htm.
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CIRCUIT DIAGRAM & CONNECTION EXAMPLE

Remove the shortcircuit bar (*1) to reconfigure the shield for LAN cable to ‘floating’ mode.

The above diagram shows the PoE Alternative A configuration example.
The terminals 4 – 5 and 7 – 8 are used to supply power with Alternative B configuration.

SPECIFICATIONS

■ MECHANICAL
Network connection: RJ45 connector
Grounding: M3 screw terminal
Housing material: Flame-resistant resin (black)

■ INSTALLATION
Operating temperature: -25 to +85°C (-13 to +185°F)
Operating humidity: 30 to 90% RH (non-condensing)
Mounting: DIN rail (35 mm wide)
Dimensions: W38 x H93.5 x D35 mm
W1.50” x H3.68” x D1.38”
Weight: 150 g (5.3 oz)

■ APPLICABLE NETWORK
10BASE-T: IEEE 802.3i
100BASE-TX: IEEE 802.3u
1000BASE-T: IEEE 802.3ab
PoE: IEEE 802.3af

■ STANDARDS & APPROVALS
EN 61000-6-4 (EMI)
EN 61000-6-2 (EMS)
Surge protection: IEC 61643-21, Categories C1, C2
Transmission performance: TIA/EIA-568-B.1, Category 5e

PERFORMANCE

<table>
<thead>
<tr>
<th>LINE-LINE per signal pair</th>
<th>LINE-LINE PoE</th>
<th>LINE-EARTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. continuous operating voltage Uc</td>
<td>±6 V</td>
<td>±58 V</td>
</tr>
<tr>
<td>Voltage protection level Up</td>
<td>±15 V max. @2 kV</td>
<td>±100 V max. @2 kV</td>
</tr>
<tr>
<td>Leakage current @Uc</td>
<td>25 µA</td>
<td>25 µA</td>
</tr>
<tr>
<td>Response time</td>
<td>≤4 nsec.</td>
<td>≤4 nsec.</td>
</tr>
<tr>
<td>Max. discharge current I&lt;sub&gt;max&lt;/sub&gt;</td>
<td>100 A</td>
<td>100 A</td>
</tr>
<tr>
<td>Nominal current I&lt;sub&gt;N&lt;/sub&gt;</td>
<td>1 A</td>
<td></td>
</tr>
<tr>
<td>Series resistance</td>
<td>Approx. 0 Ω</td>
<td></td>
</tr>
</tbody>
</table>

EXTERNAL DIMENSIONS mm (inch)

Your local representative: