

SilentPower LAN iSilencer

Advanced Ethernet Noise Suppression for Custom Installation & DataComm Applications



Overview

SilentPower's LAN iSilencer integrates galvanic isolation, advanced noise filtering, and signal conditioning into a compact, high-performance package for CI and DataComm professionals. With 1500 Vrms isolation, 400W peak pulse surge protection, and exceptional EMI suppression through high-impedance common mode rejection, it ensures top-tier network reliability—whether powering a smart building or a data center.

Key Features


- Electrical Isolation**
 Provides up to 1500 Vrms galvanic isolation between networked devices and cabling, protecting against voltage surges, ground loops, and power spikes while preventing fault propagation.
- Advanced Noise Suppression**
 Filters common-mode noise with a minimum rejection of 30 dB at 100 MHz, attenuating noise signals that cause electromagnetic interference (EMI) in circuits. It provides high impedance to common mode signals while allowing differential mode signals to pass with minimal loss, ensuring clean signal transmission and improved system performance.

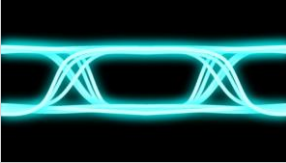
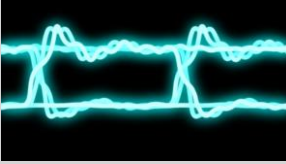
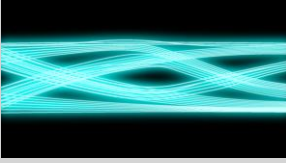

- Signal Conditioning**
 Maintains impedance matching and prevents waveform distortion with high-quality components, supporting stable data rates for Gigabit Ethernet with reduced latency and packet loss.
- Transient Voltage Protection**
 Clamps voltage transients with a peak pulse power dissipation of 400W (10/1000 μ s waveform), safeguarding sensitive electronics.
- Compact Design**
 Measures 73.5 mm x 19 mm x 16 mm, ideal for space-constrained installations.
- Broad Compatibility**
 Supports Ethernet speeds up to 1000BASE-T and complies with IEEE 802.3 standards.

Applications

- LAN Devices:** Ideal for Ethernet LAN devices requiring data isolation and reliable communication.
- Network Switches:** Used in network switches to facilitate secure data transmission between ports.
- Network Routers:** Suitable for network routers to maintain signal integrity and enhance network performance.

Benefits for Custom Installation & DataComm Industries

Eye Pattern	Possible Causes
 <p>Random Fluctuations</p>	Radiofrequency Interference (RFI), Unshielded copper wires, (EMI) power lines or motors

 <p>Unbalanced</p>	DC voltages
 <p>Overshoot or undershoot</p>	impedance mismatch
 <p>Horizontal & Vertical Closure</p>	System noise, jitter, crosstalk, Ground loops
 <p>Standard</p>	A good eye pattern.

- **DataComm Infrastructure:** Delivers stable, conditioned signals for backbone networks and telecom hubs.
- **Industrial Communication Networks:** Provides robust noise suppression and isolation for factory-floor Ethernet systems.
- **EMI-Sensitive Applications:** Ensures signal integrity in environments requiring strict electromagnetic compatibility, such as medical or aerospace systems.
- **Enhanced Signal Integrity:** Ensures uninterrupted communication for smart homes (CI) and high-speed data centers (DataComm) by filtering noise and maintaining stable data rates with minimal signal loss.
- **Equipment Protection:** Shields devices from surges and ground loops in industrial setups (CI) and telecom infrastructure (DataComm), preventing fault propagation.

- **Installer-Friendly:** Compact size simplifies integration into residential systems (CI) and server racks (DataComm), with low-latency performance for critical applications.
- **Reliable Performance:** Supports stable operation in harsh environments (CI) and mission-critical data networks (DataComm) with superior isolation, noise rejection, and system performance.

Technical Specifications

- **Electrical Characteristics:**
 - Isolation Voltage: 1500 Vrms (60 seconds, galvanic)
 - Common Mode Rejection: ≥30 dB @ 100 MHz
 - Insertion Loss: ≤1 dB @ 1-100 MHz
 - Differential to Common Mode Rejection: ≥35 dB @ 1-100 MHz
 - Peak Pulse Power: 400W (10/1000 μs waveform)
 - Clamping Voltage: 6.5V to 12V (depending on transient current)
 - Leakage Current: <1 μA @ 5V working voltage
- **Physical Characteristics:**
 - Dimensions: 12.7 mm (L) x 9.4 mm (W) x W5.97 mm (H)
 - Weight: Approx. 2.5 g
 - Mounting: Surface-mount compatible
- **Environmental:**
 - Operating Temperature: -40°C to 85°C
 - Storage Temperature: -55°C to 125°C
 - Moisture Sensitivity Level: MSL 1
- **Standards Compliance:**
 - IEEE 802.3 (10/100/1000BASE-T)
 - RoHS Compliant

Contact Us

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