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DTE Power via MDI: System Requirements

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Strict Requirements

A solution for DTE Powering via DTE <u>must</u> sat[...]
following conditions:

→ It will meet all applicable safety standards and regulati[...]

→ It will meet all of the requirements of existing 802.3 Eth[...]
standards.

→ Its operation will not degrade in any way the performan[...]
Ethernet data transmission.

→ It will not damage, or be damaged by, or have its opera[...]
degraded, or be degraded by, any other RJ-45 or RJ-11 [...]
interconnected equipment to which it may be incidenta[...]
connected.

→ It will not cause any anomalous behavior or change the[...]
operation for any connected LAN equipment (e.g. link s[...]
indicators).

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Desirable Requirements

A DTE Powering solution <u>should</u> satisfy the fol[lowing] conditions:

→ **It should be able to provide sufficient power to support [a] range of single IP terminal devices (e.g. IP telephones, [?] LAN base-stations, cameras, hubs, power controls, the[rmostats,] etc.)**

→ **The powering topology should allow for the easy inser[tion of] power at any point along the span.**

→ **The power source equipment should support a MIB for [?] system management (including any backup power syst[em).]**

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Power Source Attributes

To satisfy the previous conditions the following power source characteristics are proposed:

➔ An isolated DC voltage source meeting all applicable w regulatory safety requirements;

➔ Metallic power feed on Pins 4-5, one of the idle pairs of BASE-T LAN loop;

➔ Each loop power feed isolated to withstand ±2250 Volts 1500 Volts AC for 60 sec. (IEC 60950:1991 "Hipot");

➔ The power source to each loop must be independently limited to a level to be determined above the level of the rated output.

➔ All protection circuitry for the loop power feed must re automatically without any operator intervention once th been removed.

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Power Source Attributes (continued)

To satisfy the previous conditions the following power source characteristics are proposed:

➔ The loop supply must be "smart," using a discovery me insure that power is only provided to authorized termin

➔ The source must provide a maintenance capability to m supply power only as long as the loop connection rema

➔ The source must limit the power to any non-authenticat loads to protect against damage;

➔ At the point of power insertion, appropriate termination presented to the network side of the LAN connection.

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