

This application note shows how to connect a Silver Telecom - Power over Ethernet (PoE) module to 1000BASE-T (Gigabit) Ethernet.

Differing from 10BASE-T and 100BASE-T, 1000BASE-T uses all four cable pairs for simultaneous transmission in both directions. Therefore magnetics are required in the (10/100BASE-T) spare pair for the additional data pairs to add and extract the power.

Dual input modules with internal bridge rectifiers

Silver Telecom manufacture PoE modules that have dual inputs with internal bridge rectifiers.

Figure 1 shows how to connect these modules to support 1000BASE-T Ethernet.

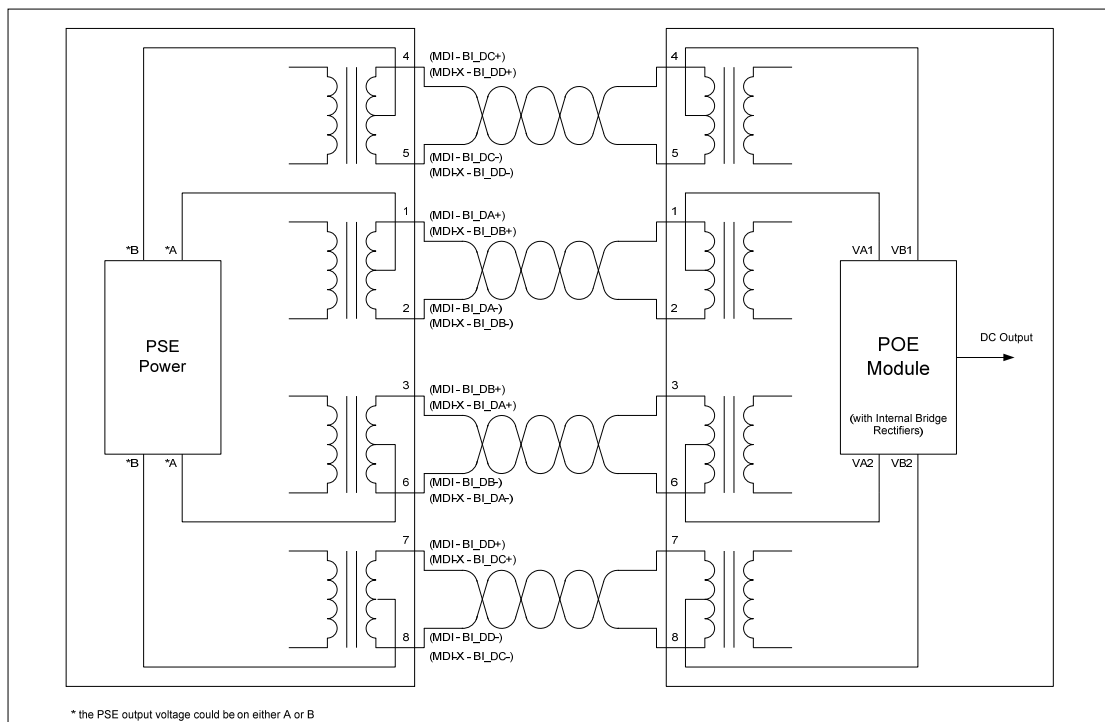


Figure 1

Single input modules without internal bridge rectifiers

Silver Telecom also manufacture PoE modules that have a single input without internal bridge rectifiers.

Figure 2 shows how to connect these modules to support 1000BASE-T Ethernet.

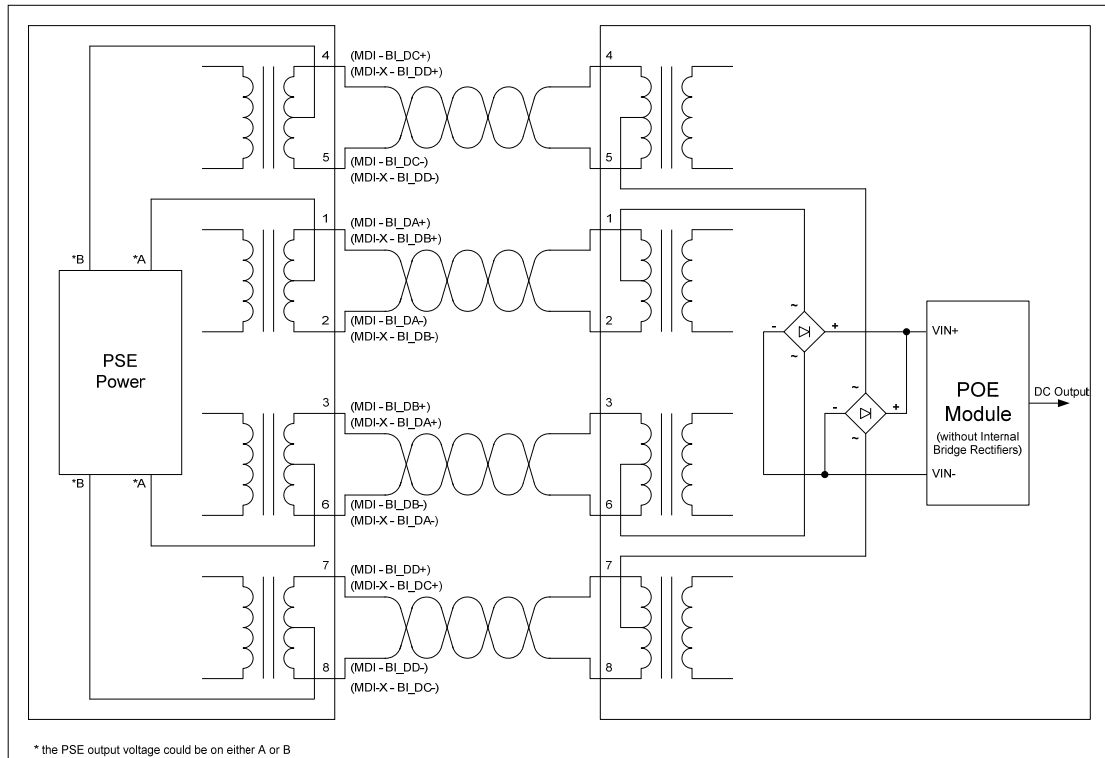


Figure 2

Dual input modules without internal bridge rectifiers

In addition to the above Silver Telecom manufacture PoE modules that have dual inputs without internal bridge rectifiers.

Figure 3 shows how to connect these modules to support 1000BASE-T Ethernet.

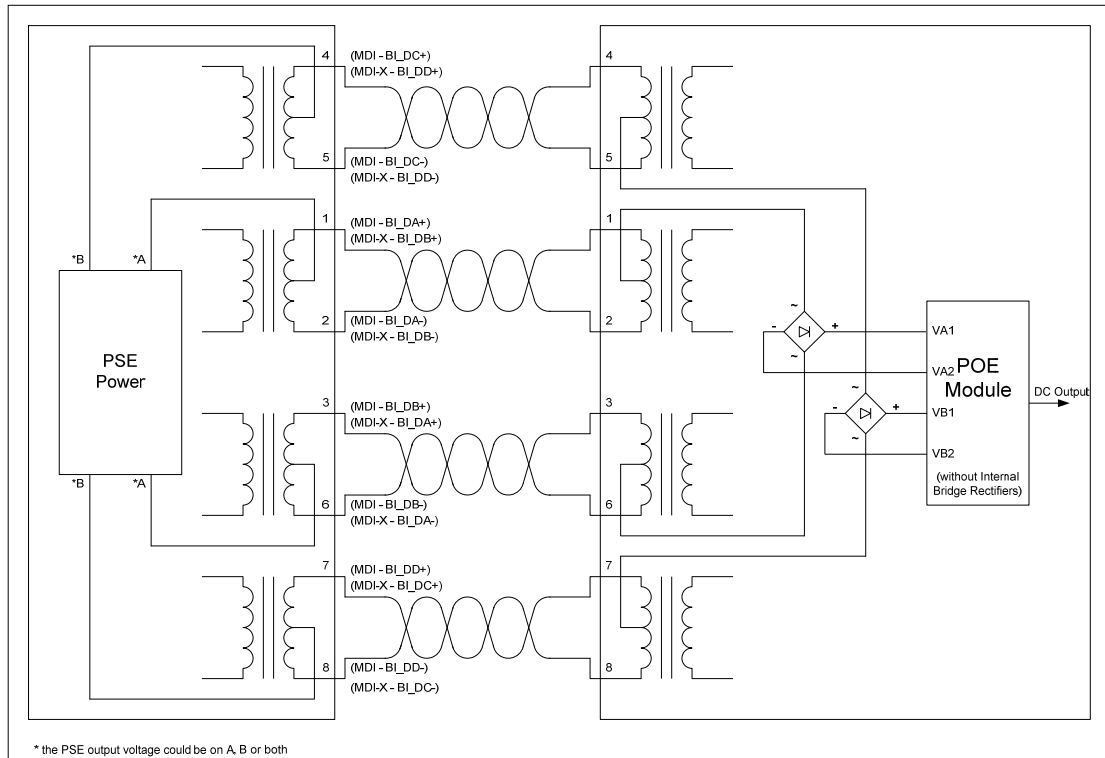


Figure 3

Magnetics

There are several manufacturers that make 1000BASE-T transformers that support PoE. It is very important that the transformer complies with one of the following standards $\leq 15.4W$ - IEEE802.3af or $> 15.4W$ - IEEE802.3at.

Please contact Silver Telecom for more information.