

How to connect sense lines when daisy-chaining

To achieve a doubled output voltage in the final application, employing a daisy-chaining (series connection) approach with identical models, is a suitable method. However, when daisy-chaining DC/DC converters equipped with a sense function, serious issues may arise if the sense lines are mishandled.

When daisy-chaining TEP series converters, it is crucial to connect the sense lines in accordance with the provided circuit diagram. Additionally, are mandatory external components to prevent potential damage to the converters.

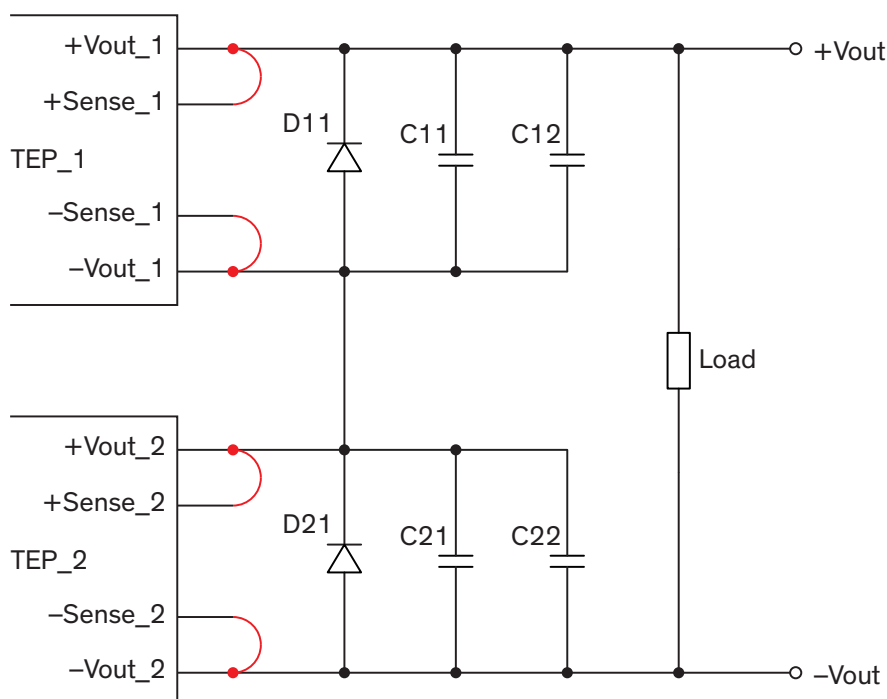
While the connection of two AC/DC or DC/DC converters in parallel on the output side is technically possible, including decoupling diodes, it is not recommended due to the unknown nature of load sharing. For redundancy operation, it might be considered, but it must be ensured that it functions in the intended application without encountering overload situations, even in single operation.

Generally speaking, it cannot be assumed that any interconnection of two converters will operate in each application condition as they would in single operation, considering factors such as start-up behavior, regulation, ripple, and noise. The datasheet specifies the characteristics of a single converter under nominal values and full load but does not account for interconnections.

In summary, if redundancy operation is the goal, thorough testing in the customer's application is recommended, with decoupling diodes at both +Vout pins. If the aim is to increase maximum power, a parallel connection is not recommended due to the undefined load-sharing aspect, unless the series, like TEQ 300WIR, incorporates a load-share feature.

Note: This document is applicable for all TEP series.

Circuit and connection diagram



Bill of materials

C11, C21	C12, C22	D11, D21
1 μ F / 25 V / X7R MLCC	22 μ F / 25 V / POS-CAP	30 V / 30 A