

## Load-sharing

This application note describes how to connect up to three TEQ 300WIR in parallel for load-sharing.

### Description

With the load-share function of the TEQ 300WIR it is possible to increase the maximal total output power by connecting up to three TEQ 300WIR in parallel.

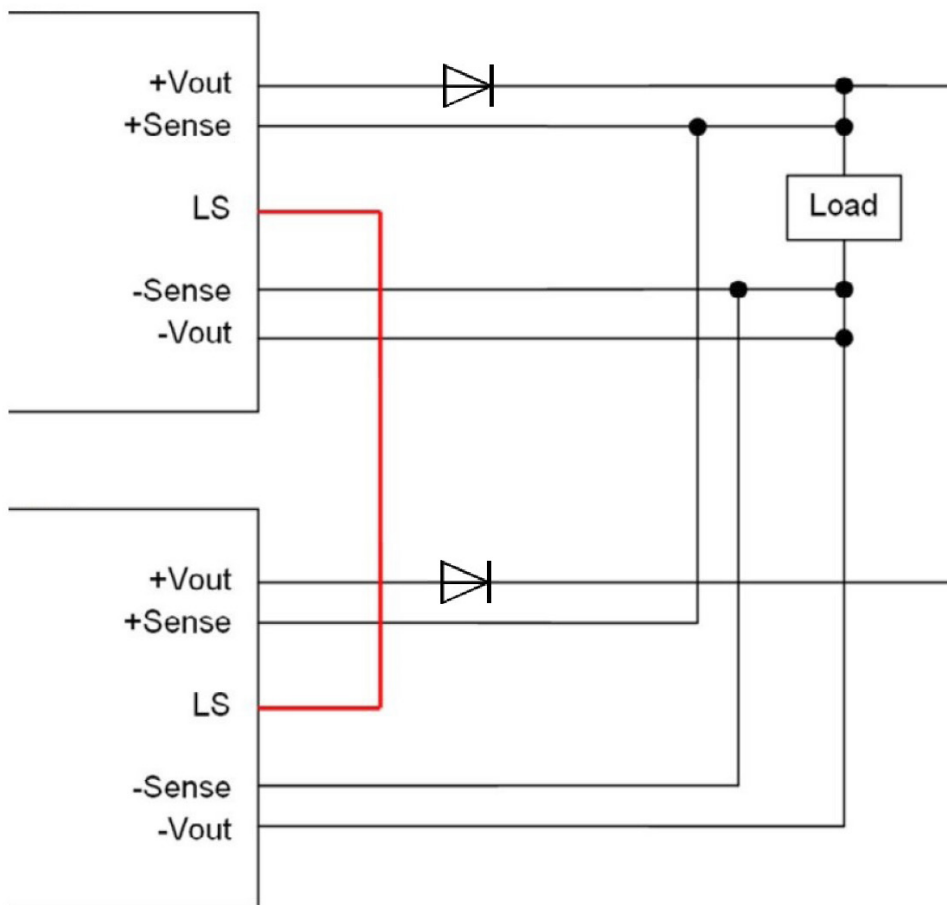
For balancing the value of the separate output currents of each TEQ 300WIR modul, it is necessary to connect each LS (load-share) pin. In the following basic circuit diagram this is shown for two TEQ 300WIR in parallel.

It is important to connect all +Sense and -Sense lines as near as possible to the load. +Vout and -Vout lines should have the same impedance of wires. Because this output wires could affect the balance of the separate output currents.

Because of the load share accuracy specified in the datasheet, the total maximal output power is 90% of the sum of the separate maximal output powers. So the total maximal output power for two moduls in parallel is 540 W and for three moduls 810 W.

Distance between two TEQ 300WIR should be at least 5 cm because of cooling. It has to be assured, that the voltage difference between paralleled units is less than 2% of nominal output voltage.

### Basic circuit diagram for load-sharing with two TEQ 300WIR



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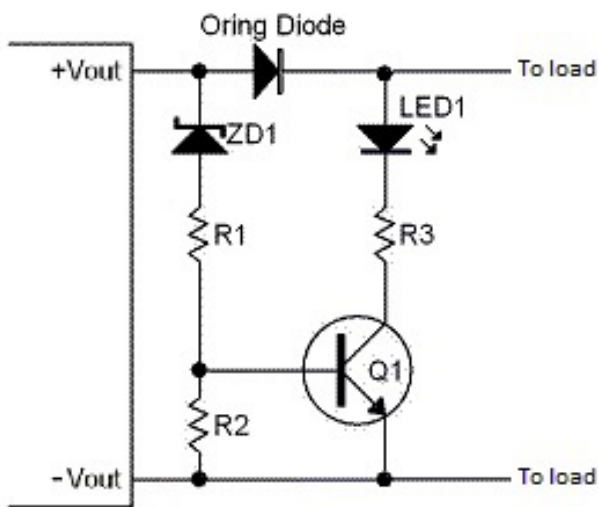
### Power fail indication

If two or three TEQ 300WIR are connected in parallel for load-sharing, there is no visual way of recognising if both TEQ 300WIR are operating proper. If this is required, the following basic circuit diagram is recommended.

A working output is indicated by a bright LED. A not working output is indicated by a dark LED.

Instead of a LED, a relay could be used for indicating a power fail.

### Basic circuit diagram for power fail indication



### Components

Order code	Vo	Vthreshold	ZD1	R1	R2	Q1
TEQ 300-xx12WIR	12 V	7.7 V	UDZS 6.2	9.1 kΩ	8.2 kΩ	2SC3906KR
TEQ 300-xx15WIR	24 V	14.8 V	UDZS 13	16 kΩ	13 kΩ	2SC3906KR
TEQ 300-xx16WIR	28 V	17.8 V	UDZS 16	18 kΩ	13 kΩ	2SC3906KR
TEQ 300-xx18WIR	48 V	32.7 V	UDZS 30	30 kΩ	10 kΩ	2SC3906KR

R3 is for adjusting the current of the LED respectively the relay.