

Current balance...

Kp - Current Balance Compensator

Used to tune current balance loop compensator

Ki - Current Balance Compensator

Used to tune current balance loop compensator

Z1 - Current Balance Compensator

Displays the zero location of current balance compensator

BW - Current Balance Compensator

Displays the bandwidth of current balance compensator

How to tune and how to disable

When tuning make sure the Bandwidth BW is less than the BW for Vout loop. Typical 1/3 of the voltage loop.

Typical start values are Kp=30 Ki=5

To turn off current balancing set Kp=0 and Ki=0

Thermal Balance

Relative to phase1 an offset for current can be added for each phase. This allow for thermal balancing i.e. Some phases have better airflow and can be allowed to take a higher current

Current balance...

Dynamic Frequency Control

When current imbalance or ATRH exceeds thresholds it is typically when load frequency is close to switching frequency.

It can benefit ripple voltage and/or current balance to then change the switching frequency to another frequency

New Fsw

Set the frequency to shift to when current imbalance or ATRH indicate possible conditions where a shift of frequency is beneficial. Typical 2 or 3 steps from Base Fsw. No shift occurs when set to 0

Current imbalance threshold

At which current balance difference to trigger shift of frequency.

Current imbalance duration

How long time for imbalance detected until trigger shift of frequency

Blank time

How long time to wait after a change of frequency until detector can activate a new change in frequency.