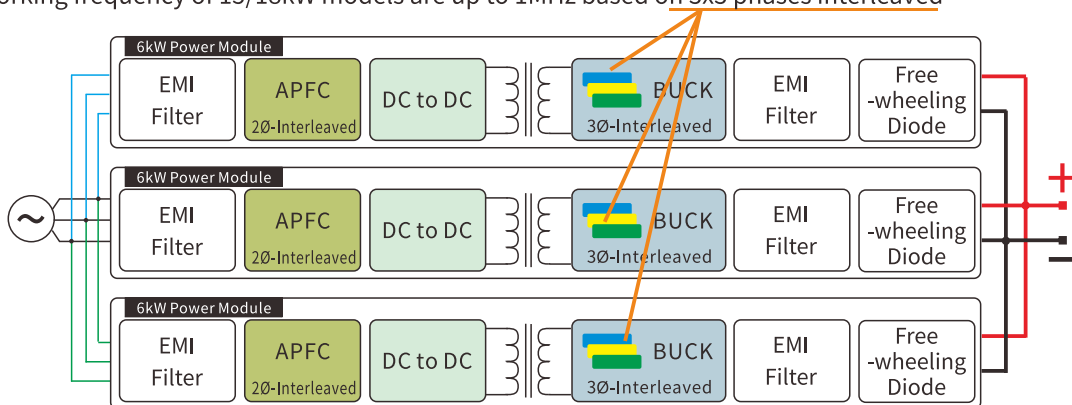


Block Diagram

Power Module

The power module of the DSP-Wx series uses a state-of-the-art SiC MOSFET/SBD and full 3-stage structure, with the following features: :

1. 3-phase line input keeps AC mains balanced and conforms with worldwide power distribution standards.
2. Forms 10-18kW models by internal series or parallel.
3. All power modules (up to 3) inside the unit are controlled by a single CV/CC circuit, eliminating chasing during transition.
4. Full 3 stage structure delivers the best efficiency with synergy efficiencies near 96%.
5. The 1st stage (APFC) has a two-phase interleaved design which gives high frequency, high density, high efficiency and low distortion.
6. The 2nd stage is an isolated, 99% high-efficiency DC to DC converter.
7. The 3rd stage is a buck circuit, consisting of 3 sets of interleaved SiC MOSFETs with a working frequency of up to 333 kHz.
8. The working frequency of 15/18kW models are up to 1MHz based on 3x3 phases interleaved



Control Module

1. The DSP-Wx series uses multiple 32-bit RAM MCUs and embedded RTOS. Each major control circuit has a dedicated embedded processor to ensure the highest performance, delivering the fastest response time in the industry.
2. Each control module signal and power circuit is completely isolated, delivering the best noise protection to ensure measurement accuracy and control stability.
3. The DSP-Wx series uses a Cortex M4 CPU to drive the built-in network capability for Main/SUBsidiary control. This design allows the DSP-Wx family to parallel more than 100 units to form high output power systems, without additional devices.

