

DC voltage supply for regenerative power

Sieb & Meyer (Germany) expands the multilevel-based drive amplifiers SD2M with two variants with DC voltage supply. These variants have a performance of 183 kVA and/or 367 kVA at a supply voltage of 750 V_{DC}.

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The DC voltage supply enables to operate the SD2M with a regenerative power supply unit (Photo: Sieb & Meyer)

With these additions, new areas of application open up for these devices, for example in the area of machine tools. The DC voltage supply also enables to operate the drive amplifiers with a regenerative power supply unit. This way, applications with a process-related repeated braking operation can use the benefits of the 3-level technology. This applies for example for machine tools and test rigs.

The drive amplifiers can be integrated by means of digital and analog inputs and outputs, as well as interfaces such as CAN, EIA-232, Ethercat, and USB. Parameterization is possible via the PC software Drivemaster2, which supports frequency converters and drive amplifiers of the entire SD2 series.

The combination of the 3-level technology and a PWM (pulse-width modulation) switching frequency of 16 kHz provides output currents with the least harmonic frequency components, as is the case for existing variants with an integrated power supply unit. Thus, the drive amplifiers ensure low motor heating for high-speed motors. The losses due to PWM are reduced to 25 % compared to a frequency converter with a 2-level technology and a PWM switching frequency of 8 kHz. This is why users can operate motors up to a rotating field frequency of 2000 Hz without using sine-wave filters or motor chokes in most of the cases. This results not only in a smaller size but also in reduced system costs compared to standard solutions.

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