

Product announcement

Conserving resources and the environment

**Energy-saving modules for the
MOVIAXIS® multi-axis servo inverter**



Improving the energy balance – The modules of the MOVIAXIS® multi-axis servo inverter

In addition to energy consumption, which is already optimized in synchronous servomotors due to their operating principle, the focus is on the handling of the braking energy. This topic has been paid special attention when developing MOVIAXIS® multi-axis servo inverters. Options for re-using braking energy were developed to improve the overall energy balance of a drive solution and to save costs. By avoiding that energy is dissipated in braking resistors, heating up of the control cabinet is minimized or even prevented.

Two options are available for re-using braking energy:

1. Feeding the energy generated during braking back into the power grid, or
2. Storing the energy generated during braking in the axis inverter.

SEW-EURODRIVE has developed a suitable solution for any of the two options. The block-shaped regeneration variant now completes the solution for energy regeneration.



Power regeneration using the MXR module

The MXR regenerative power supply module has been developed for feeding back the braking energy into the grid. The module provides a constant, controlled DC link voltage and drive performance regardless of fluctuations or variations in the supply input

voltage. SEW-EURODRIVE now also provides cost-efficient, block-shaped regeneration in addition to the already mentioned sine-shaped regeneration technology. Energy regeneration can be used, for example, in storage and retrieval systems or large hoists.

Overview of performance features of the **new block-shaped regeneration**:

- Emergency operation with braking resistor
 - A braking resistor is required
 - The device performs at full capacity
 - The interface to the PLC need not be adjusted
 - Can be easily enabled using the “Emergency mode” parameter, control word, or input terminal
 - The proven sine-shaped regeneration is also supplemented by an emergency operating mode (however with reduced power due to the system)
- Regenerative operation is activated automatically
 - The output stage is only activated during actual regenerative operation (detected automatically)
 - Grid disturbances are reduced to a minimum in this way
 - Losses or heating of the power supply transformer are reduced
- Cost-optimized solution for grids with constant voltage and frequency
- Up to 50% of energy can be saved at a high power rating

Storing energy with MXC modules

The MXC storage modules were developed for storing energy temporarily. They can be connected to all MXP supply modules. Braking energy is “moved” temporarily and utilized again

during the next acceleration process. Examples of areas of application are packaging machines with fast cycle times.

Overview of performance features

- High overload capacity
- Easy installation without wiring
- Two capacitor modules can be operated at the same time
- Partly integrated in the supply module (MXP81A)

How we're driving the world



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