

APPLICATION NOTE	FECA-AN-156
ECO Fan Overvoltage Avoidance	

Inverter type	FRENIC-ECO
Software version	All
Required options	None
Related documentation	FRENIC-ECO Instruction Manual INR-SI47-1225c-E
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Introduction: Due to the rotational properties of fans, the load may act like a generator sending voltage back into the VFD when decelerating. To avoid overvoltage faults due to a high amount of voltage being regenerated to the VFD. The following settings are recommended.

- Increase the acceleration and deceleration times.
- Use an S-curve acceleration/deceleration pattern.
- Enable automatic deceleration.

Terminology

S-curve acceleration/deceleration

To reduce the impact on the inverter-driven motor during acceleration/deceleration, the inverter gradually accelerates/decelerates the motor in both the acceleration/deceleration zones.

Automatic Deceleration

To avoid an overvoltage trip, enable the automatic deceleration (anti-regenerative control) with function code H69*. With the automatic deceleration enabled the frequency is controlled to prevent the DC link bus voltage from rising further.

Parameters:

Code	Setting	Name
F07	30-90 sec	Acceleration Time 1.
F08	30-90 sec	Deceleration Time 1.
F37	0	Variable torque load
H07	1	S-curve (Weak)
H69*	3	Enable Automatic deceleration.

* When using an external braking unit or resistor do not enable automatic deceleration.

For further information:
Refer to **FRENIC-ECO Instruction Manual (INR-SI47-1225c-E)**.