F℮ Fuji Electric
Innovating Energy Technology

APPLICATION NOTE	FECA-AN-154

Mini Fan Overvoltage Avoidance

Inverter type	FRENIC-MINI series
Software version	All versions
Required options	None
Related documentation	FRENIC-Mini Instruction Manual INR-SI47-1205b-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 on the system, the inverter gradually accelerates/decelerates the motor at the top and bottom of the acceleration/deceleration zones.

Automatic Deceleration
When automatic deceleration is enabled and the regenerated energy exceeds the braking limit the inverter will increase the deceleration time 3 times that of the amount specified by F08 and reduce the braking torque by 1/3.

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*	1	Enable Automatic deceleration.

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

For further information:
Refer to the **FRENIC-MINI Instruction Manual (INR-SI47-1205b-E)**.

Data subject to change without notice