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| APPLICATION NOTE | FECA-AN-157 |
| Mega Overvoltage Avoidance | |

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| Inverter type | FRENIC-MEGA series |
| Software version | All versions |
| Required options | None |
| Related documentation | FRENIC-MEGA Instruction Manual INR-SI47-1457a-E |
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| Date | 01/10/2014 |
| Revision | None |

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* | 5 | Enable Automatic deceleration. |

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

For further information:
 Refer to **FRENIC-MEGA Instruction Manual (INR-SI47-1457a-E)**.