

# STEPPING MOTORS SPECIAL APPLICATIONS

## <Stepping motors in common>

### ● Slow up/down

This is a method that allows you to gradually increase the frequency of the starting motor within the range of starting characteristics and to increase the range that can be handled during high-speed operation.

This is called slow up during acceleration and slow down during deceleration, but care must be taken to assure that the acceleration and deceleration of the rotator is on time for the change in frequency. If it is too early step out will occur; causing the motor to stop or the number of pulses and rotation angle to become mismatched. The time will differ according to the load inertia.

Depending on the application, frequency can be changed using analog or digital methods.

### ● Countermeasures for counter-voltage

If coil magnetization is stopped, counter-voltage could damage the main circuit transistor. If the current is returned, however, to the power line via this kind of diode, current will flow in the coil, so it will remain in a magnetized state even if magnetization is cut off, but during this time motor output will be reduced. To counter this, the example circuits in Fig. 1 to 3 can be used.

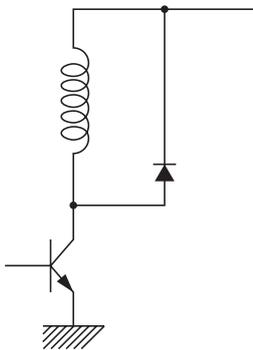


Fig. 1

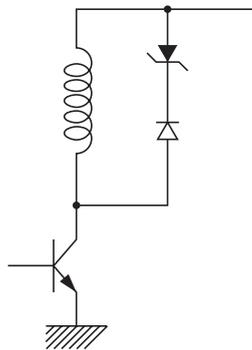


Fig. 2

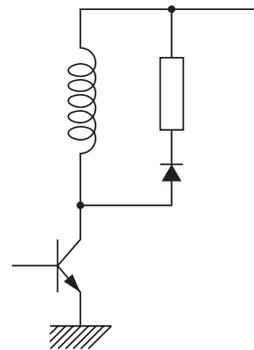


Fig. 3