

TOSVERT VF-S11

Braking setting functions

Toshiba Schneider Inverter Corporation

The technical information in this manual is provided to explain the principal functions and applications of the product, but not to grant you a license to use the intellectual property or any other property of Toshiba Schneider Inverter Corporation or a third party.

1. Braking setting functions

F342: Braking mode selection

F343: Release frequency

F344: Release time

F345: Creeping frequency

F346: Creeping time

-Function
Setting functions to control braking timing.

- Parameter setting for braking setting function

Title	Function	Setting range	Default setting
<i>F 342</i>	Braking mode selection	0: Disabled 1: Enabled (forward run) 2: Enabled (reverse run) 3: Enabled (operating direction)	0
<i>F 343</i>	Release frequency	<i>F 240</i> ~ 20.0 [Hz]	3.0
<i>F 344</i>	Release time	0.00 ~ 2.50 [s]	0.05
<i>F 345</i>	Creeping frequency	<i>F 240</i> ~ 20.0 [Hz]	3.0
<i>F 346</i>	Creeping time	0.00 ~ 2.50 [s]	0.10

- Parameter setting of contact output signal for braking (ex. To use RY-RC output)

Title	Function	Setting range	Setting value
<i>F 130</i>	Output terminal selection 1A (RY-RC)	0 ~ 255	46: BR (Braking sequence output) or 47: BRN (Inversion of braking sequence output)

Note) In case of others output terminal, it is deferent from parameter title.

RY-RC: *F 131*

FLA-FLB-FLC: *F. 132*

- Explanation of braking setting function

At starting the motor:

When the operation signal is 'ON', the brake release signal is 'ON' after getting the flux of magnetic induction before brake releasing.

The output torque of inverter is generated before the brake is released by outputting 'the frequency of the F_{343} setting' to 'the direction of the F_{342} setting'.

The motor is able to accelerate smoothly at the same time as releasing the brake because F_{344} function provides 'the delay of acceleration beginning'.

At stop the motor:

When the operation signal is 'OFF', the brake close signal is 'ON' after reaching the creeping frequency of F_{345} setting. After that, the VF-S11 outputs creeping frequency while setting time of F_{346} , and stops after delayed time of mechanical brake.

F 342 Braking mode selection

0: Disabled

1: Enabled (forward run)

The rise operation is forward rotation of motor at RISE/DESCENT action.

The direction of inverter output frequency (F 343) is forward direction regardless of FORWARD/REVERSE drive.

2: Enabled (reverse run)

The rise operation is reverse rotation of motor at RISE/DESCENT action.

The direction of inverter output frequency (F 343) is reverse direction regardless of FORWARD/REVERSE drive.

3: Enabled (operating direction)

This value is for the horizontal operation.

The direction of inverter output frequency (F 343) is same as direction of drive.

F 343 Release frequency

The inverter outputs F 343's frequency to F 342's direction. This function is for generating motor torque by slipping of the restrained motor. By this, the motor starts smoothly when the brake is released.

The F 343 setting value depends on load condition. The standard setting is 'the slipping frequency' at rated output of applied motor.

F 344 Release time

The release time is time to maintain frequency of F 344 setting at start.

The standard setting is delayed time of mechanical brake.

F 345 Creeping frequency

The 'close brake signal' outputs F 345's frequency while F 346's setting time at stop.

The f345 setting value depends on load condition. The standard setting is

The F 345 setting value depends on load condition. The standard setting is 'the slipping frequency' at rated output of applied motor.

F 346 Creeping time

The creeping time is time to maintain frequency of F 345.

The standard setting is a little more than delayed time of mechanical brake.

Timing chart of brake setting function

