TOSVERT VF-A7/P7
Instruction Manual for Parameter F605

Thank you for purchasing the Toshiba industrial inverter "TOSVERT VF-A7/P7".
This manual describes the functions of the F605 parameter for the inverter TOSVERT VF-A7/P7.

Title	Communication No	Function	Adjustment range	Min. unit (panel/ communication)	Default setting
F605	0605	Output phase failure detection	0: Disabled 1: Enabled during operation 2: Enabled at starting *1 3: Enabled at starting and during operation *1 4: Enabled at the first start *1 5: Enabled at the first start and during operation *1	—	0

*1 These are not before CPU version V312.

Title	Write during running	Vector control			V/f Constant
		Speed control	Torque control	Position control	
F605	Disabled	●/●	●/●	-/●	●

Sensorless vector / Vector with sensor (● : valid, - : invalid)

1. Functions

This parameter has the function of detecting a phase failure in the inverter (failure of phase U, V or W), and of tripping the inverter ("EPHO" trip). (When the output current (U,V or W) becomes the difference of 50% or more for the average current value, and 4 cycles or 0.2 seconds pass.)
This function prevents operation from being continued under abnormal conditions by detecting an output phase failure (failure of phase U, V or W) that hinders the motor from running normally and producing the required torque.

2. How to set the parameter

To activate the output failure detection function, set parameter F605 to 1~5.
By default, this parameter is set to 0 (no detection of output phase failures).

3. Notes

- The inverter will be tripped if an output phase failure occurs in only one phase (U, V or W). No output phase failures will be detected if two or more phase failures occur simultaneously or if no devices are connected to the output terminals.
- No output phase failures are detected when the output frequency is below 1 Hz or above 125 Hz.
- When operation is performed at a very low frequency (10 Hz or less) or under a very light load (load current: 5 to 10%), the inverter might judge by mistake that an output phase failure has occurred.
- When the inverter is used to operate a motor with a very small capacity, as compared to the rated capacity of the inverter (2-size or more smaller motor), for example, for a trial run, a very small current flows, which might cause the inverter to judge by mistake that an output phase failure has occurred.
  To avoid this, you should set F605 to 0 (no detection of open phase failures) when conducting a trial run under such conditions.