

User Manual

Original Instructions

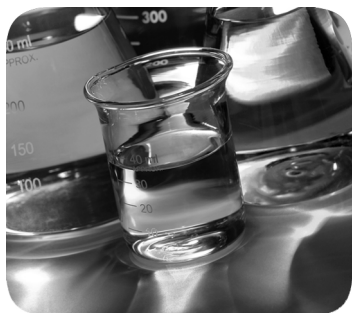


# PowerFlex 70 Adjustable Frequency AC Drives

Standard Control Firmware, Revision 2.xxx


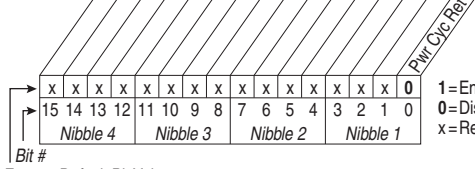
Enhanced Control Firmware, Revision 2.xxx...5.xxx

Bulletin Number 20A



## Motor Overload Memory Retention Per 2005 NEC

The PowerFlex 70 EC (firmware revision 3.002 or later) has the ability to retain the motor overload count at power down per the 2005 NEC motor overtemp requirement. A parameter has been added to provide this functionality. To enable/disable this feature, refer to the information below.

File B	Group	No.	Parameter Name and Description <i>See page 13 for Symbol Descriptions</i>	Values	Related
MOTOR CONTROL (File B)	Motor Data	050	<b>EC v3 [Motor OL Mode]</b>  If "0" [Motor OL Count], P220 is reset to zero by a drive reset or a power cycle. If "1" the value is maintained. A "1" to "0" transition resets [Motor OL Count], P220 to zero.		
			 <p>Bit # Factory Default Bit Values</p>		

## Start at Powerup

When Start At Powerup in 2-wire control is configured, the drive starts if all start permissive conditions are met (within 10 seconds of drive power being applied), and the terminal block start input (Run, Run Forward or Run Reverse for 2-wire) is closed. An alarm is annunciated from application of power until the drive actually starts, indicating the powerup start attempt is in progress.

The powerup start attempt is aborted if any of the following occurs anytime during the 10-second start interval:

- A fault condition occurs
- A Type 2 alarm condition occurs
- The terminal block programmed enable input is opened
- All terminal block run, run forward, or run reverse, inputs are canceled
- A Stop request (from any source) is received

If the drive has not started within the 10 second interval, the powerup start attempt is terminated.

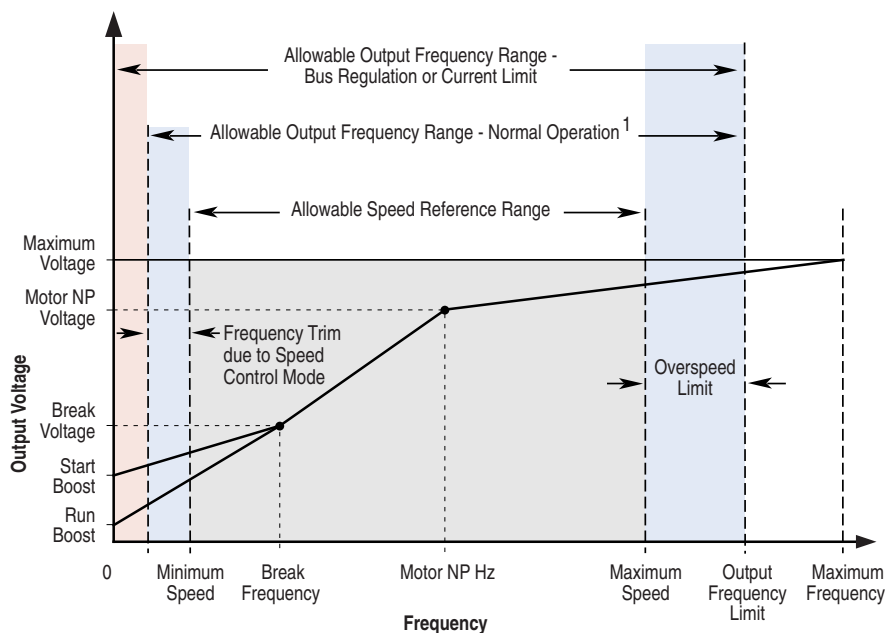
## Overspeed

Overspeed Limit is a user programmable value that enables operation at maximum speed, but also provides an overspeed band that enables a speed regulator, such as encoder feedback or slip compensation, to increase the output frequency above maximum speed to maintain maximum motor speed.

The figure below illustrates a typical custom V/Hz profile. Minimum speed is entered in Hertz and determines the lower speed reference limit during normal operation. Maximum speed is entered in Hertz and determines the upper speed reference limit. The two speed parameters limit only the speed reference, not the output frequency.

The actual output frequency at maximum speed reference is the sum of the speed reference plus speed adder components from functions such as slip compensation.

The Overspeed Limit is entered in Hertz and added to Maximum Speed and the sum of the two (Speed Limit) limit the output frequency. This sum (Speed Limit) must be compared to Maximum Frequency and an alarm is initiated that prevents operation if the Speed Limit exceeds Maximum Frequency.



Note 1: The lower limit on this range can be 0 depending on the value of Speed Adder

## Speed Reference Control

### “Auto” Speed Sources

The drive speed command can be obtained from a number of different sources. The source is determined by drive programming and the condition of the speed select digital inputs, Auto/Manual digital input or reference select bits of a command word.

The default source for a command reference (all speed select inputs open or not programmed) is the selection that is programmed in P90 [Speed Ref A Sel]. If any of the speed select inputs are closed, the drive uses other parameters as the speed command source.

If a communication device is the source of the speed reference, refer to the appropriate communications manual for additional information.