Optidrive Applications Support Library

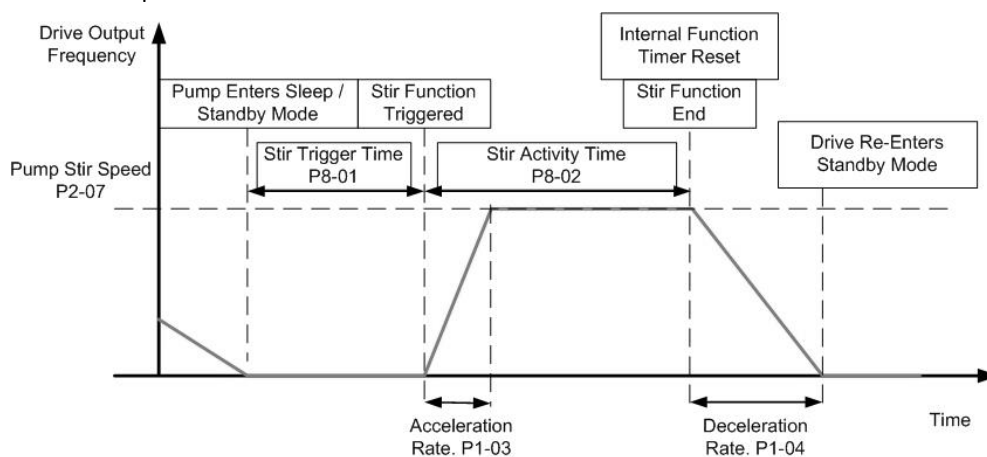| Application Note	AN-ODV-2-077
Title	Using the Pump Stir Function
Related Products	Optidrive HVAC
Level 1	1 – Fundamental - No previous experience necessary 2 – Basic – Some Basic drives knowledge recommended 3 – Advanced – Some Basic drives knowledge required 4 – Expert – Good experience in topic of subject matter recommended

Overview

The Pump Stir function is used to trigger the pump to run following a period of inactivity. When the motor has remained inoperable for a pre-defined time a user defined motion profile is carried out on the pump. The function is active when the drive is in PID mode and the timer activated by the drive entering into 'standby'. The function is used to prevent pump blockage or pump degradation caused by sustained periods of pump inactivity. The function might also be used for fan applications to prevent degradation of bearing lubricants.

Operational Overview:

The time period to trigger the pump Stir function is entered into parameter P8-01 (Stir Function Integral Timer). When the drive enters into standby mode (see PID control, section 8) an internal timer is started. When the timer exceeds the user defined time limit set in P8-01 a preset motion profile is activated. When function execution is completed the drive returns immediately to standby mode. The internal function timer is reset by the drive exiting standby mode or on completion of the pump Stir function.

The motion profile is set within two parameters. Parameter P8-02 (Stir Activity Timer) sets the time that the pump is to be operated and P2-07 (Preset Speed 7 – Pump Stir Speed) sets the speed that the pump will be accelerated to and operate at during the stir cycle. The stir activity time includes the time take to accelerate to speed but not the time to decelerate back to stop.

The motion profile for the Pump Stir function is shown below:

Setting either the Stir Function Interval Time (P8-01) or the Stir Activity Timer (P8-02) to 0 disables the Pump Stir function. This function is disabled at default.

Quick Setup Overview:

- Set Basic parameters P1-01 to P1-10.
- Set Parameter P1-14 = 101 to allow access to advanced parameters in menu 8
- Set the PID control menu 3 parameters (see section 8)
- Set the Pump Stir Speed required in parameter P2-07
- Set the Time to elapse in standby before the Pump Stir Function is triggered in parameter P8-01.
- Set the time to run the Pump Stir Function in parameter P8-02

Appendix:

Revision History			
Issue	Comments	Author	Date
01	Document Creation	KB	23/04/14