



Optidrive Applications Support Library

Application Note	AN-ODE-2-011
Title	Using Standby Mode
Related Products	Optidrive E2
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

Optidrive E2 three phase output drives features a built in “Standby Mode” function. This function disables the output of the inverter automatically when not required, and automatically enables it when required again. This can be used to save energy, and prevent damage to the connected motor. During Standby mode, the drive outputs

This document describes how to use this Standby function.

Drive Firmware Revisions Affecting Standby Mode Operation

The drive firmware version can be viewed in parameter P00-18.

Optidrive E2 Firmware Version up to and including V1.03

With firmware versions up and including V1.03, Standby mode operates as follows.

- Standby Mode activates when the drive output frequency remains at 0.0 Hz for a timer period of 20 seconds or more.
- As soon as the requested output frequency is greater than 0.0Hz, the drive will immediately re-enable the output.
- Standby Mode does not activate if the minimum Frequency / Speed (P-02) is greater than 0.
- Where it is desired to have a minimum operating frequency AND Standby mode enabled, this can be achieved as shown below – this can be useful in PI Control applications for example to prevent the drive operating unnecessarily.
 - Ensure P-02 remains at 0.0Hz / 0 Rpm
 - Instead, Set P-26 to the value of the desired minimum frequency / speed, and P -27 to a value 50% of P-26.
 - The drive output frequency will then skip directly from the value entered in P-26 to 0.0Hz, and Standby Mode will operate after 20 seconds.
 - For further details on the Skip Frequency operation, refer to AN-ODE-2-007

Optidrive E2 Firmware Version 1.10

Optidrive E2 with firmware version 1.10 features an improved Standby Mode which operates as follows

- When operating in any mode except PI Control Mode (P-12 = 0 – 4)
 - Standby Mode can be enabled by setting parameter P-48 > 0.0 seconds
 - The drive will switch to Standby when the output frequency remains at Minimum Frequency / Speed (P-02) for a time period equal to or greater than the time set in P-48.
 - The drive will restart normal operation immediately when the frequency setpoint rises above minimum frequency.
- When operating in PI Control Mode (P-12 = 5 or 6)
 - Standby Mode can be enabled by setting parameter P-48 > 0.0 seconds
 - The drive will switch to Standby when the output frequency remains at Minimum Frequency / Speed (P-02) for a time period equal to or greater than the time set in P-48.
 - When the drive enters Standby Mode, the Output of the PI Controller is set to zero.
 - The PI Controller will restart when the PI error (difference between the Setpoint and Feedback) exceeds the threshold level set in parameter P-49 PI Control Error Wake Up Level.
 - The drive will restart when the output of the PI controller exceeds the Minimum Frequency / Speed (P-02)

Appendix

Revision History			
Issue	Comments	Author	Date
01	Document Creation	KB	13/3/13
02	Revised to new format	KB	24/04/14