



Optidrive Applications Support Library

Application Note	AN-ODE-3-008
Title	Selecting the Start - Restart Mode
Related Products	Optidrive E3
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 E3 provides the user with complete flexibility in terms of

- Where the enable or start signal must come from, e.g. keypad, terminals, fieldbus interface etc.
- Whether the drive should respond to latched signals, or wait for an edge trigger

This Application Note provides an overview of the parameters to allow this selection.

Parameters

P-12 Control Source

If the drive is required to start on a rising edge of a digital input only, the following control source options may be used.

P-12	P-15	Notes
0	0, 1, 2, 3, 4, 5, 6, 7, 8, 12, 14, 15, 16, 17	
1 & 2	All Settings	Only applicable when P-31 = 2, 3, 6 or 7
3, 4, 7, 8, 9	All Settings	Only applicable when P-31 = 2, 3, 6 or 7
5 & 6	0, 1, 2, 3, 7, 8, 9, 10, 11, 12, 13, 14, 14, 15, 16, 17	

With any of the above settings combinations, the response to the drive enable input applied to digital input 1 is determined by the setting of P-30.

P-30 Start Mode & Automatic Restart

Edge-r : Edge Triggered (Default Setting)

When P-30 is set to “Edge-r” Edge Triggered Mode, this means that following power on or fault reset, the drive waits for a rising edge signal on the enable input before starting. If the enable input is closed prior to the power being applied, the drive will remain in a stopped state until the enable input is removed, then reapplied.

If the drive trips during operation, in order to restart the drive, the enable input must again be removed and reapplied.

Auto-0 : Auto Start

When P-30 = “Auto-0” Auto Start, the drive will start if the enable input is closed prior to power being applied or a fault being reset. This can be useful in cases where the drive should start when the mains contactor closes to power on the drive. It should be used with care however, to ensure no unintended automatic starting of machinery.

Auto-1 ... Auto-5 : Auto Start and Auto Reset

Settings Auto-1 to Auto-5 operate in the same way as Auto-0, however in addition, the Automatic Fault Reset function is enabled. In this case, in the event of a trip occurring during operation, the drive will remain in a tripped state for 20 seconds before automatically attempting to reset. The number of automatic reset attempts is defined by the setting (Auto-1 = 1 attempted reset, Auto-5 = 5 attempted resets).

When the maximum number of automatic restart attempts is reached, the drive will remain in a tripped state, and must be manually reset, either by pressing the stop key, powering off the drive and back on or removing and reapplying the enable input.

Appendix

Revision History			
Issue	Comments	Author	Date
01	Document Creation	KB	07/09/15