

# Quick Reference Guide

## DE-3000 Linear Ramp Control

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### TIPS AND HINTS TO ASSIST WITH INSTALLATION AND/OR OPERATION

## Quick Description

**LRC** Linear Ramp Control is a control strategy with two set points. This allows for a linear output in mA to adjust between two correction points. While this strategy is specifically designed for automatic speed control, other applications have been proven to work well. The AO2 channel is used for the Linear Ramp Control. Linear Ramp Control always looks at input channel 01 for the controlling factor. Two key screens exist for viewing and or editing on the DE-3000 display. Initial set up is found under the "Program Control Values" section of the software.

This guide provides clarification and additional information to the Installation and Operating Manual, Form DE-3000 IOI 2-17.

Altronic literature can be found at: [www.altronic-ltc.com](http://www.altronic-ltc.com) in the Technical Library.

The view screen is located under the NEXT Menu.

1. Press NEXT
2. Press ENTER to confirm correct password (default is 1)
3. Press NEXT to continue
4. Use NEXT key to scroll to select one of the following:
  - AO1
  - AO2 *This will always be the Linear Ramp Control channel.*
  - AO3
  - AO4



This screen is for viewing and operating the output between auto and manual. It provides the following information:

- Calculated RPM
  - Auto/Manual status
  - Percent out
  - Current sensor channel description, value, and scale format
  - Current RPM
5. Press F1 to toggle between Auto and Manual
  6. When in manual, use the ↑ and ↓ keys to increase or decrease the channel output percent

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## Edit and Changes in the Software and on the Configuration Screens

1. Press MENU
2. Press ENTER to confirm correct password (default is 1)
3. Press MENU to continue
4. Use NEXT key or ↑ and ↓ keys to move cursor to select the following:  
EDIT CONTROL VALUES
5. Press ENTER after selection is made.
6. Use NEXT key or ↑ and ↓ keys to move cursor to select the following:  
EDIT CONTROLS
7. Press ENTER after selection is made.
8. Use NEXT key or ↑ and ↓ keys to move cursor to select the following: LINEAR/RAMP CONTROL
9. Press ENTER after selection is made.

**VAR LOW** Is the low target set point.

**VAR High** Is the high target set point.

**OP LIMIT** Is the stop point for the current loop output, either low or high.

The software adds estimated RPM targets, warmup time and control permissive.

Example:

Engine governor control is rated from 800 RPM to 1400RPM.

- 4mA = 800RPM
- 20mA = 1400RPM

*Operator desires an auto control range of 1000 RPM to 1380RPM*

Simple Math formula:

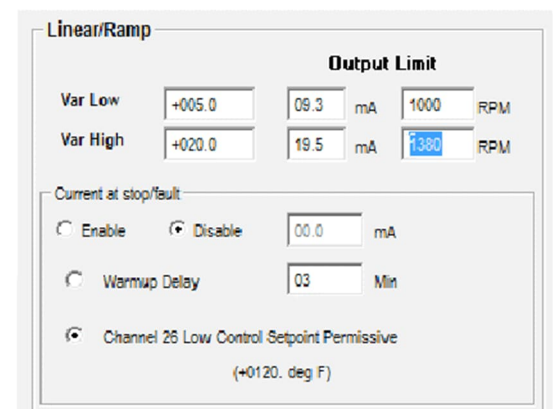
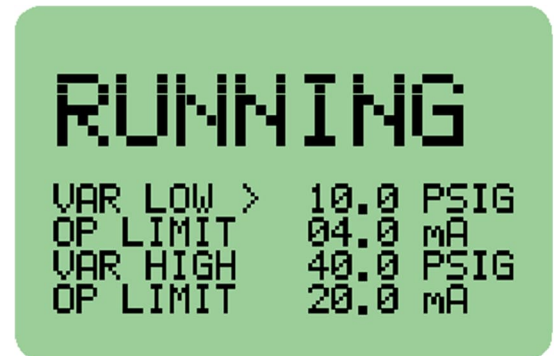
$$1400-800 = 600/16 = 37.5\text{RPM change per } 1\text{ mA}$$

$$200/37.5 = 5.3+4 = 9.3$$

*OPLIMITS are adjusted to control the low and high stop points RPM points.*

*Target RPM values are entered to indicate correct desired RPM.*

There is also a warmup timer or a permissive. The permissive is linked to channel 26 low control set point. If the temperature in the example to the right is less than the set point the control output will remain at the lowest output setting.



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