

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

02/03/17

### 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 O1 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 is available from the Downloads page of [www.altronic-llc.com](http://www.altronic-llc.com)*

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:  
**A01**  
**A02** *This will always be the Linear Ramp Control channel*  
**A03**  
**A04**

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

**RUNNING**

Calculated	1336	RPM
AUTO	A02	84
Suction	35.2	PSIG
RPM	1340	RPM

# Quick Reference Guide

## 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:

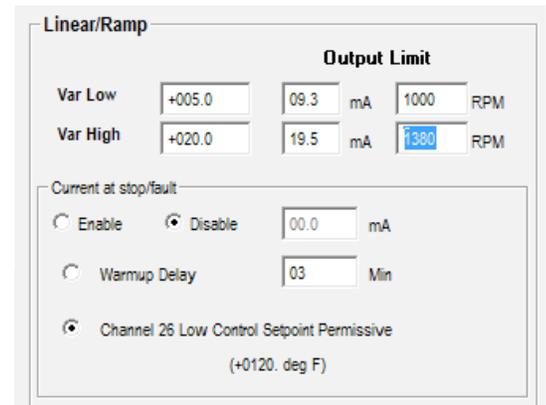
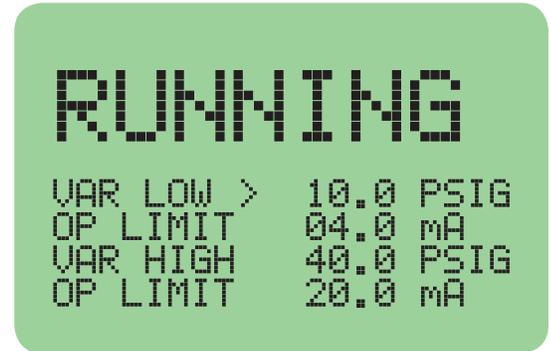
$1400 - 800 = 600 / 16 = 37.5 \text{RPM change per } 1 \text{ mA}$

$200 / 37.5 = 5.3 + 4 = 9.3$

OP LIMITS 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 warm up 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.



*In many applications the 4-20mA signal is converted to a 0-5 volt DC signal. This is done on a case-by-case application design.*

*The conversion is done by using a simple 250 ohm resistor in the circuit.*