UDC 3200 Application Note

SP Ramp Set Up Group

Introduction

Set Point Ramp, Set Point Programs and Set Point Rates can be configured in this group.

A single *Setpoint Ramp* [SP RAMP] can be configured to occur between the current local setpoint and a final local setpoint over a time interval of from 1 to 255 minutes.

A *Set Point Rate* [SPRATE] lets you configure a *specific rate of change* for any local setpoint change.

A single *Set Point Program* [SP PROG] with up to 12 segments can be configured.

You can start and stop the ramp/program using the **RUN/HOLD** key.

PV Hot Start is a configurable feature and means that, at initialization, the setpoint is set to the current PV value and the Ramp or Rate or Program then starts from this value.

Function Prompts

Table Error! No text of specified style in document.**-1 SPRAMP Group Function Prompts**

Function Prompt Lower Display	**Selections or Range of Setting** Upper Display	**Parameter Definition**
SP RAMP *SP Program must be disabled for SP Ramp prompts to appear*		**SINGLE SETPOINT RAMP**—Make a selection to enable or disable the setpoint ramp function. Make sure you configure a ramp time and a final setpoint value. *SP Programming must be disabled.*
	DISABLE	**DISABLE SETPOINT RAMP**—Disables the setpoint ramp option.
	ENABLE	**ENABLE SETPOINT RAMP**—Allows the single setpoint ramp prompts to be shown.
TIME MIN	0 to 255 minutes	**SETPOINT RAMP TIME**—Enter the number of minutes desired to reach the final setpoint. A ramp time of “0” implies an immediate change of setpoint.

Function Prompt Lower Display	Selections or Range of Setting Upper Display	Parameter Definition
FINAL SP	Within setpoint limits	**SETPOINT RAMP FINAL SETPOINT**—Enter the value desired for the final setpoint. The controller will operate at the setpoint set here when ramp is ended. **ATTENTION** If the ramp is on HOLD, the held setpoint can be changed by the ▲ and ▼ keys. However, the ramp time remaining and original ramp rate is not changed. Therefore, when returning to RUN mode, the setpoint will ramp at the same rate as previous to the local setpoint change and will stop if the final setpoint is reached before the time expires. If the time expires before the final setpoint is reached, it will jump to the final setpoint. **ATTENTION** SP RAMP and SP RATE will cause the SP portion of Accutune to abort. PV Tune will continue to function normally. Ramp is placed into HOLD while tuning (TUNE configuration).
HOTSTART	DISABLE ENABLE	**DISABLE**—LSP1 is used as the initial ramp setpoint. **ENABLE**—Current PV value is used as the initial ramp setpoint.
SP RATE *SP Rate operates only when both SP Ramp and SP Programing are in HOLD mode or when both SP Ramp and SP Programming are disabled.*	 DISABLE ENABLE	**SETPOINT RATE**—Lets you configure a specific rate of change for any local setpoint change. **DISABLE SETPOINT RATE**—Disables the setpoint rate option. **ENABLE SETPOINT RATE**—Allows the SP rate feature.
EU/HR UP	0 to 9999 in engineering units per hour	**RATE UP**—Rate up value. When making a setpoint change, this is the rate at which the controller will change from the original setpoint up to the new one. The ramping (current) setpoint can be viewed as SPn in the lower display. Entering a 0 will imply an immediate step change in Setpoint (i.e., no rate applies).
EU/HR DN	0 to 9999 in engineering units per hour	**RATE DOWN**—Rate down value. When making a setpoint change, this is the rate at which the controller will change from the original setpoint down to the new one. The ramping (current) setpoint can be viewed as SPn in the lower display. Entering a 0 will imply an immediate step change in Setpoint (i.e., no rate applies).

Function Prompt Lower Display	**Selections or Range of Setting** Upper Display	**Parameter Definition**
SP PROG (optional feature) *SP Ramp must be disabled for SP Program prompts to appear. If SP Rate is enabled, it does not operate while an SP Program is running.*	DISABLE ENABLE	**SETPOINT RAMP/SOAK PROGRAM**—Available only with controllers that contain this option. *SP RAMP must be disabled.* **DISABLE**—Disables setpoint programming. **ENABLE**—Enables setpoint programming. **ATTENTION** Detailed information for the prompts for SP Programming may be found *Product manual* The listing below is only for reference purposes.
STRT SEG	1 to 11	Start Segment Number
END SEG	2 to 12 even numbers Always end in a soak segment (2, 4, ... 12)	End Segment Number
RAMPUNIT	TIME EU/MIN EU/HR	**RAMPUNIT**—Engineering Units for Ramp Segments **TIME** in hours: minutes **RATE** in Engineering units per minute **RATE** in Engineering units per hour
RECYCLES	0 to 99 recycles	Number of Program Recycles
SOAK DEV	0 to 99 The number selected will be the PV value (in engineering units) above or below the setpoint outside of which the timer halts.	Guaranteed Soak Deviation Value
PROG END	LASTSP (Hold at last setpoint in the program) F SAFE (Manual mode/Failsafe output)	Program Termination State
STATE	DISABLE HOLD	Program State at Program End
KEYRESET	DISABLE ToBEGIN RERUN	Reset/Rerun SP Program
HOTSTART	DISABLE ENABLE	Hot Start

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Function Prompt Lower Display	**Selections or Range of Setting** Upper Display	**Parameter Definition**
SEG1RAMP or **SEG1RATE**	0-99 hours.0-59 minutes Engineering units/minute or Engineering units/hour	Segment #1 Ramp Time or Segment #1 Ramp Rate **Select TIME, EU/MIN, or EU/HR at prompt RAMPUNIT. All ramps will use the same selection.**
SEG2 SP	Within the Setpoint limits	Segment #2 Soak Setpoint Value
SEG2TIME	0-99 hours.0-59 minutes	Segment #2 Soak Duration
SEG3RAMP or **SEG3RATE** **SEG4 SP** **SEG4TIME** **SEG5RAMP** or **SEG5RATE** **SEG6 SP** **SEG6TIME** **SEG7RAMP** or **SEG7RATE** **SEG8 SP** **SEG8TIME** **SEG9RAMP** or **SEG9RATE** **SG10 SP** **SG10TIME** **SG11RAMP** or **SG11RATE** **SG12 SP** **SG12TIME**	Selections are same as above.	Same as above