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NOTES

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APPENDIX C: CODE LIST (COMPLETE TEXT) C

INTRODUCTION

This appendix provides in numeric order a complete list of all control and monitor code select variables present in the M-Track. The Code Select Procedure is also provided.

CODE SELECT PROCEDURE

The Code Select Procedure indicates how the operator gains access to the various control and monitor parameters through their unique identification codes. Opening the lower door on the front of the M-Track keypad exposes the programming keypad.

Accessing the desired parameter is a simple procedure:

1) Press the "Code Select" Key.
2) Enter the desired parameter code number.
3) Press the "Enter" Key.

At this point, the two digit code is displayed in the lower display window and the existing parameter value is displayed in the upper six digit display window. In addition, the keypad is enabled for changing the desired parameter. To make a change, simply enter the new value and press the "Enter" Key.

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CP-1: SETPOINT 1

Setpoint 1 is invoked when the Ratio A and Ratio B discrete inputs are both open circuits. Setpoint 1 can be preloaded with any of the eight product codes or recipes, or used to generate a new recipe (ratio) through "Learn Mode" operation.

CP-2: SETPOINT 2

Setpoint 2 is invoked when the Ratio A input is shorted and the Ratio B input is open circuited. Setpoint 2 can be preloaded with any of the eight product codes or recipes, or used to generate a new recipe (ratio) through "Learn Mode" operation.

CP-3: SETPOINT 3

Setpoint 3 is invoked when the Ratio A input is open and the Ratio B input is shorted. Setpoint 3 can be preloaded with any of the eight product codes or recipes, or used to generate a new recipe (ratio) through "Learn Mode" operation.

CP-5: MASTER SETPOINT

CP-5 is used to load the setpoint when in the Master Scaling Format. The units for the Master Setpoint are RPMs.

CP-6: JOG SETPOINT

CP-6 is used to load the setpoint for JOG operation. The units for the JOG setpoint are RPMs.

CP-7: DIRECT ANALOG COMMAND

CP-7 is used to directly command the isolated analog output of the M-Track. Note that CP-19 must be set to "1" to activate the Direct Analog Command Mode. The units for the Direct Analog Command are in DAC bits, with +4095 representing a full positive output, 0 representing 0 volts, and -4095 representing a full negative output.

CP-8: ACCELERATION TIME

CP-8 is used to enter the Acceleration Ramp Time. The entered value is the equivalent time (in seconds) that the M-Track takes to go from 0 to 2000 RPMs. Acceleration Ramps are only active during Jog and Master Scaling (not in Follower Scaling Mode).

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CP-9: DECELERATION TIME

CP-9 is used to enter the Deceleration Ramp Time. The entered value is the equivalent time (in seconds) that the M-Track takes to go from 2000 to 0 RPMs. Deceleration is operable in Master Scaling Format only.

CP-11: PPR FOLLOWER (FEEDBACK)

CP-11 is used to load the PPR (pulses per revolution) of the encoder or sensor on the follower (feedback) shaft. New values for CP-11 can only be entered in the R-Stop or F-Stop states.

CP-13: MAXIMUM RPM FOLLOWER (FEEDBACK)

CP-13 is used to enter the maximum RPMs of the feedback encoder shaft. New values for CP-13 can only be entered in the R-Stop or F-Stop states.

CP-15: OVER SPEED ALLOWANCE

The Over Speed Allowance puts an RPM limit on the amount of overspeed the Follower is allowed to exceed the Lead in order to recover position error when out of sync and in the Gross Error control algorithm.

CP-18: FOLLOWER SETPOINT DEFINITION

CP-18 defines how Setpoints 1, 2 and 3 (CP-1, CP-2 and CP-3) operate when in the Follower Mode of operation. If CP-18 is set to a "2", then Learn Mode Scaling will be invoked whereby Setpoints 1 through 3 are loaded with recipe or product codes (8). If CP-18 is set to "1", then Fixed Scaling will be invoked. In Fixed Scaling, Setpoints 1 through 3 are loaded with the ratio of the Feedback Frequency/External Reference Frequency Inputs. If CP-18 is set to "3", then Flex Scaling will be invoked (see Page 8-2).

New values of CP-18 can only be entered in the R-Stop or F-Stop states.

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CP-19: DIRECT MODE ENABLE

Entering a value of 1 into CP-19 enables the Direct Scaling Mode. New values for CP-19 can only be entered in the R-Stop or F-Stop states.

CP-20: MINIMUM SPEED

CP-20 determines the minimum speed, in RPMs, that the M-Track will not fall below during RUN State for the Master Mode of operation.

CP-21: MAXIMUM SPEED.

CP-21 determines the maximum speed, in RPMs, that the M-Track will not exceed during RUN State for the Master Mode of operation.

CP-22: LOW SPEED ALARM

CP-22 is used to enter the Low Speed Alarm level in RPMs. If the Feedback RPMs are below the Low Speed Alarm level or above the High Speed Alarm level (CP-23), then the Discrete Out C will be activated.

CP-23: HIGH SPEED ALARM

CP-23 is used to enter the High Speed Alarm level in RPMs. If the Feedback RPMs are above the High Speed Alarm level or below the Low Speed Alarm level (CP-21), then the Discrete Out C will be activated.

CP-24: OUT OF POSITION

CP-24 defines the position error band, in encoder lines, beyond which the M-Track is considered Out of Position (Out of Sync).

CP-25: LAG PULSE LIMIT

CP-25 is used to put a limit on the error value (memory limit) that the M-Track uses when lagging in position (feedback behind lead). The entered value units are encoder lines.

CP-26: LEAD PULSE LIMIT

CP-26 is used to put a limit on the error value (memory limit) that the M-Track uses when leading in position (feedback ahead of lead). The entered value units are encoder lines.

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