AR4 MOVEMENT COMMANDS

MOVE J (joint move)

Command line example:

Move J [*] X 286.83 Y 0.13 Z 438.45 Rz 179.98 Ry 0.00 Rx 179.98 Tr 0 Sp 25 Ac 10 Dc 10 Rm 50 $ F

Serial cmd example:

MJX286.83Y0.13Z438.45Rz179.98Ry0.00Rx179.98Tr0Sp25Ac10Dc10Rm50WF

MOVE L (linear move)

Command line example:

Move L [*] X 286.83 Y 0.13 Z 438.45 Rz 179.98 Ry 0.00 Rx 179.98 Tr 0 Sp 25 Ac 10 Dc 10 Rm 50 $ F

Serial cmd example:

MLX286.83Y0.13Z438.45Rz179.98Ry0.00Rx179.98Tr0Sp25Ac10Dc10Rm50WF

Move A (arc move – 2 separate points taught consecutively – mid - end)

Command line example:

THE STARTING POSITION OF YOUR ARC IS THE CURRENT POSITION OF THE ROBOT

Move A Mid [*] X 336.68 Y 50.23 Z 438.67 Rz 179.98 Ry 0.00 Rx 179.98 Tr 0 Sp 25 Ac 10 Dc 10 Rm 50 $F

Move A End [*] X 386.65 Y 0.35 Z 438.70

Serial cmd example:

MAX286.83Y0.13Z438.45Rz179.98Ry0.00Rx179.98Ex386.65Ey0.35Ez438.70Tr0Sp25Ac10Dc10Rm50WF

Move C (circle move – 3 points taught consecutively – center of circle – start point – another point on plane of circle in direction of rotation)

Command line example:

Move C Center [*] X 338.37 Y -0.38 Z 438.46 Rz -179.98 Ry -0.00 Rx 179.98 Tr 0 Sp 25 Ac 10 Dc 10 Rm 50 $ F

Move C Start [*] X 288.36 Y -0.32 Z 438.45

Move C Plane [*] X 338.33 Y 49.67 Z 438.45

Serial cmd example:

MCCx338.37Cy-0.38Cz438.46Rz-179.98Ry-0.00Rx179.98Bx288.36By-0.32Bz438.45Px338.33Py49.67Pz438.45Tr0Sp25Ac10Dc10Rm50WF

INPUT OUTPUT COMMANDS

NOTE: input output commands can be sent to either the Arduino Nano IO board or the Teensy board. If using the Nano IO board, the inputs and outputs are handled at 5v, pins 2-7 are available for inputs and pins 8 – 13 are available for outputs. If using the Teensy board, inputs and outputs are handed at 3.3v, pins 32 – 36 are available for inputs and pins 37 – 41 are available for outputs.

OUTPUT EXAMPLES:

The command **ONX8** would turn output 8 on (Arduino Nano)

The command **OFX8** would turn output 8 off (Arduino Nano)

The command **ONX37** would turn output 8 on (Teensy)

The command **OFX37** would turn output 8 off (Teensy)

INPUT EXAMPLES:

The command **WIN2** would wait for input 2 on (Arduino Nano)

The command **WON2** would wait for input 2 off (Arduino Nano)

The command **WIN37** would wait for input 37 on (Teensy)

The command **WON37** would wait for input 37 off (Teensy)

AR4 SOFTWARE COMMANDS FOR IO

(these are what you would change the IO commands to if you want to use 3.3v input and output pins on the teensy board instead of using 5v pins on the nano board)

##Set Output ON Command for Teensy## (AR4 software command = "**ToutOn**")

Example: ToutOn = 37

##Set Output OFF Command for Teensy## (AR4 software command = "**ToutOf**")

Example: ToutOf = 37

##Wait Input ON Command for Teensy## (AR4 software command = "**TwaitI**")

Example: TwaitI = 32

##Wait Input OFF Command for Teensy## (AR4 software command = "**TwaitO**")

Example: TwaitO = 32

##If Input On Jump to Tab Teensy## (AR4 software command = "**TifOn** ")

Example: TifOn - Input-32 Jump to Tab-1

##If Input Off Jump to Tab Teensy## (AR4 software command = "**TifOff**")

Example: TifOff - Output-37 Jump to Tab-1