Mul File Specification - Clamps

Specification for the Clamps.mul file

Contents

Specification

The Clamps file contains the setup of a clamp on the machine that is specifically controlled by the position of an axis. This is common across all Stuga machines. A clamp roller switches on when a bar is underneath it, but will swicth off as the gripper approaches

No	Name	Format	Example	Notes
1	Clamp Reference	numeric	1	The number is hard coded and used by the back end PLC program, so should not be changed
2	Output Reference Code	string	OuB_CLOI	Look up in IO References. See Stuga Machine IO Dictionary - Outputs
3	Grip Pos	float	480.0	Position of gripper beyond which the clamp switches **off**
4	Bar End Pos	float	250.0	Position of bar end beyond which the clamp switches **on**
5	Input Ref Home	string	InB_ClOTHm	Input to check that clamp is correctly home. Alarm will be triggered if this input is not active in the home position Look up in IO References. See Stuga Machine IO Dictionary - Inputs -1 Means this feature is disabled
6	Input Ref Home #2	signed integer	-1	
7	Positional Axis Reference	string	X	Which axis to get the X axis position from ℹ ...A flowline has two positional axes - X (orGX) and SX .The machining centre clamps work of the X axis, the saw clamps work of the SX axis
8	Off Delay	numeric	1000	Timer for how long a clamp takes to retract. Used when calculating the point in time to switch off a clamp when the gripper approaches to ensure it lifts in time to clear.
9	Behaviour	numeric	0	Behaviour of the clamp, set of bitwise flags Bit / Value / Description 0 / 1 / 1 / 2 / 2 / 4 / 3 / 8 / isCentralised, AHOffOn and reverseOff

Sample

```
1,OuB_CLOI,480.0,250.0,InB_ClOTHm,-1,X,1000,0
2,OuB_CLIS,-60.0,-120.0,InB_ClISHm,-1,X,1000,0
3,OuB_CLIT,-60.0,-120.0,InB_ClISHm,-1,X,1000,0
4,OuF_ClampIT,260.0,80.0,InF_ClampITHm,-1,SX,2000,0
5,OuF_ClampS,15.0,235.0,-1,-1,SX,1000,1
6,OuF_ClampCen,30.0,235.0,InF_CentHome,-1,SX,1000,3
7,OuF_ZsuppI,260.0,235.0,-1,-1,SX,200,0
8,OuF_ZsuppO,0.0,235.0,-1,-1,SX,200,0
```

Common Values

See Factory Settings - Clamp Positions