

How to Connect the I/O Between Multiple Controllers in MotoSim

Introduction

This document will help walk you through setting up I/O points from one controller to another for hand shaking between them, when the controllers are not setup as follows. In a DR2C, TR3C or QR4C setup, all the I/O is handled within one controller and there is no way or need to handshake between controllers. In the case you do need separate controllers in a system, and need to handshake between them, then you will need to do the following:

Assigning I/O to controllers

1. Go to the simulation tab as pictured below.





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2. Next, click on the I/O Connection Manager icon —



3. After clicking on the connection manager, it will open the setup window, where you click the Add button,

ontr <mark>o</mark> ller : YR	.C 1000	•		
Controller	I/O Signal	Connection	-	
Add	Edit	Delete		



4. The add button will let you add the I/O connection for tying the output from one controller to another controllers' input.

ControlleInput	r: YRC1 : EXTE	000 RNAL START	•	T = 0.00	Sec	
Oper.	(!	Controller	I/O Signal	I/O Name)	
=	10 C			8	0	
=						
=	<i></i>			0		

B. Then click on the input to assign



5. Next, click in the field as identified here, which will give you a pull down to pick what controller you are connecting to the above controller

ontroller : YR nput : IN	C1000 #0001	•	Delay Tim T = 0.0	o	Sec.	
Oper. (! =	Controller PLC PLC YRC1000 YRC1000-2	I/O Name OUT#0001)			
☑ Display I/O S	ignal Name		ОК	Car	ncel	



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6. In this case, we are connecting the input #1 of controller 1 to Output #1 of controller 2. -

ntroller :	YRC1000	•		 Sec
put :	IN#0001	•	1 = 0.00	Sec.
Oper. (Controller	I/O Name		
•	YRC1000-2	OUT#0001		



7. Repeat the process to go from controller 2, output #1 to controller 1's input #1.

I/O Connectior	×		
Controller : Al	l Controller	•	
Controller	I/O Signal	Connection	
✓ YRC1000 #20030		YRC1000-2:OUT#0001	
VRC1000-2	#20030	YRC1000:OUT#0001	
 	5-th	Dilute 1	
Add	Edit	Delete	
Enable All	Disable All		
☑ Display I/O S	Signal Name		Close

8. You can assign any available I/O point to either controller for control. I used #1 for example only.



9. When programming, you can use the WAIT command, to wait for an input from the other controller.

PLAY TEACH	START	HOLD	SERVO ON	ESTOP	SYNC.	
JOB	DIT DISPLAY	UTILITY	1212	168 1	🕞 (†)	
JOB	JOB CONTENT			S:0009	DOUT	IN/OUT
CENEDAL	CONTROL GROUP:	R1	8	TOOL: 00	DIN	CONTROL
	0010 MOVJ VJ=8	30.00 (1)=0N			WAIT	DEVICE
VARIABLE	0012 MOVJ VJ=8	30.00			PULSE	MOTION
	0013 MUVJ VJ=8 0014 MOVJ VJ=8	30.00 30.00			AOUT	ARITH
	0015 MOVJ VJ=8 0016 MOVJ VJ=8	30.00 30.00			ARATION	SHIFT
ROBOT	0017 DOUT OT# 0018 END	(1) ON			ARATIOF	OTHER
						SAME
SYSTEM INFO		N				PRIOR
	2001 01#(17 0]	Ĩ			
Main Menu	Simple Menu	nfo. may	result in	premature	failure of	the robot.

- 10. Use the DOUT command for the other controller to wait or continue moving when needed.
 - a. The same commands would be used on the other controller to communicate back to this controller.
 - b. These are just examples, and you can use whatever free I/O you have to setup for this.