

How to configure Deviator application using NiLAB Starter

Parallel Motion window overview

Deviator application require that the pick and place push the product in the linear direction, then go vertical after pushing and then go back for successive deviation.

The positions can be programming using NiLAB Starter software in the Parallel motion window.

First step is activate the Dual axis mode (1) to have the online position of the 2 axis. The two axis must have subsequently nod id numbers, for example Motor 1 (Node ID = 1) and Motor 2 (Node ID = 2). When the Dual axis mode is active in the number field (2) and (3) are present the current positions of the two axis.

In order to load the current configuration you need to press the LOAD TARGET POS button (8) and to store the current configuration permanently you have to press the button STORE TARGET POS (9). The number fields (4) and (7) will be used to set the deviator rate in motion per minutes and the number of motion task (typically 4). In order to update the rate press the UPDATE RATE button (5).

Motion controller	Controller configuration	Scope	Motor parameter	Communication	Diagnostic	Expert	Parallel Motion	Surveillance		
Parallel Motion Configuration										
<input checked="" type="checkbox"/> ACTIVATE DUAL AXIS MODE (1)		(11) ACTIVE STEP <input type="checkbox"/> SET STEP 1 <input type="checkbox"/> TARGET M1 P1 <input type="checkbox"/> 60,000 mm (10) ACQUIRE STEP 1								
(2) -57,940 mm MOTOR 1 POS		(3) -33,619 mm MOTOR 2 POS		<input type="checkbox"/> SET STEP 2 <input type="checkbox"/> TARGET M1 P2 <input type="checkbox"/> 160,000 mm (10) ACQUIRE STEP 2						
(4) 50 pro minutes Sequence rate		(5) UPDATE RATE		<input type="checkbox"/> SET STEP 3 <input type="checkbox"/> TARGET M1 P3 <input type="checkbox"/> 130,000 mm (10) ACQUIRE STEP 3						
(6) 300 msec Single movement		(7) 4 n. steps		<input type="checkbox"/> SET STEP 4 <input type="checkbox"/> TARGET M1 P4 <input type="checkbox"/> 30,000 mm (10) ACQUIRE STEP 4						
(8) LOAD TARGET POS		(9) STORE TARGET POS		<input type="checkbox"/> SET STEP 5 <input type="checkbox"/> TARGET M1 P5 <input type="checkbox"/> 180,000 mm (10) ACQUIRE STEP 5						
(10) This modes works only when the two axis are with subsequently nodeid		(11) Update rate time and store are only possible when the two motors are disabled		<input type="checkbox"/> SET STEP 6 <input type="checkbox"/> TARGET M1 P6 <input type="checkbox"/> 0,000 mm (10) ACQUIRE STEP 6						
				<input type="checkbox"/> SET STEP 7 <input type="checkbox"/> TARGET M1 P7 <input type="checkbox"/> 0,000 mm (10) ACQUIRE STEP 7						
				<input type="checkbox"/> SET STEP 8 <input type="checkbox"/> TARGET M1 P8 <input type="checkbox"/> 0,000 mm (10) ACQUIRE STEP 8						
				<input type="checkbox"/> SET STEP 9 <input type="checkbox"/> TARGET M1 P9 <input type="checkbox"/> 0,000 mm (10) ACQUIRE STEP 9						
				<input type="checkbox"/> SET STEP 10 <input type="checkbox"/> TARGET M1 P10 <input type="checkbox"/> 0,000 mm (10) ACQUIRE STEP 10						

How to acquire and store the motion points

Move the robot in the start position



Press button Acquire Step to capture the position of the two axis. If the number are with digits you can correct using the number field and press the SET STEP 1 to store.

Motion controller Controller configuration Scope Motor parameter Communication Diagnostic Expert Parallel Motion Surveillance

Parallel Motion Configuration

ACTIVATE DUAL AXIS MODE

MOTOR 1 POS: -57,940 mm MOTOR 2 POS: -33,619 mm

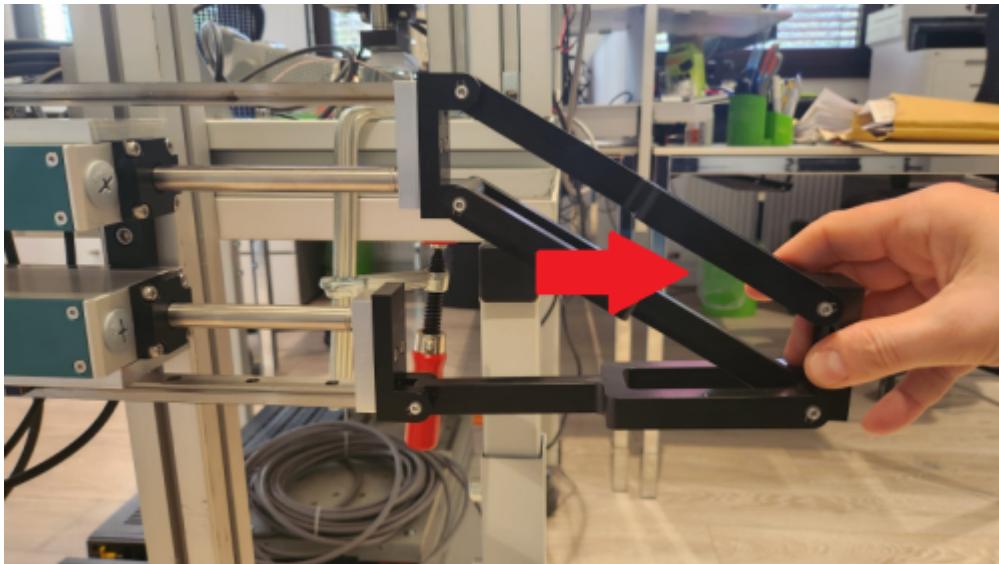
Sequence rate: 50 pro minutes UPDATE RATE

ACTIVE STEP SET STEP 1 SET STEP 2 SET STEP 3 SET STEP 4

	TARGET M1 P1	TARGET M2 P1
SET STEP 1	60,000 mm	30,000 mm
SET STEP 2	160,000 mm	130,000 mm
SET STEP 3	130,000 mm	160,000 mm
SET STEP 4	30,000 mm	60,000 mm

ACQUIRE STEP 1 ACQUIRE STEP 2 ACQUIRE STEP 3 ACQUIRE STEP 4

Move the robot in the push position and store the second positions using ACQUIRE STEP 2 button.



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Parallel Motion Configuration

ACTIVATE DUAL AXIS MODE

MOTOR 1 POS: -57,940 mm MOTOR 2 POS: -33,619 mm

Sequence rate: 50 pro minutes UPDATE RATE

ACTIVE STEP SET STEP 1 SET STEP 2 SET STEP 3 SET STEP 4

	TARGET M1 P1	TARGET M2 P1
SET STEP 1	60,000 mm	30,000 mm
SET STEP 2	160,000 mm	130,000 mm
SET STEP 3	130,000 mm	160,000 mm
SET STEP 4	30,000 mm	60,000 mm

ACQUIRE STEP 1 ACQUIRE STEP 2 ACQUIRE STEP 3 ACQUIRE STEP 4

Move the robot in the upper position and store the third positions using ACQUIRE STEP 3 button.



Motion controller | Controller configuration | Scope | Motor parameter | Communication | Diagnostic | Expert | Parallel Motion | Surveillance

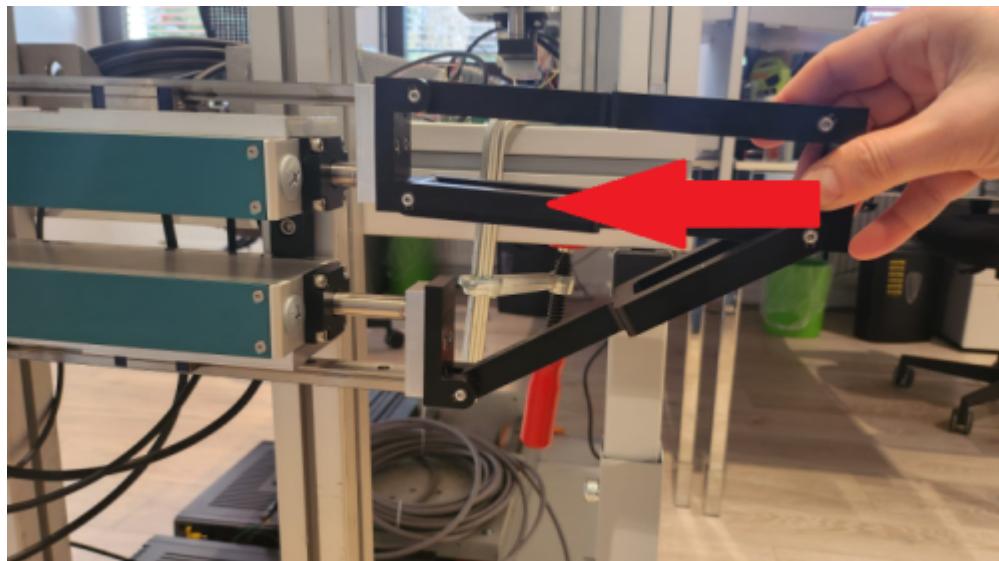
Parallel Motion Configuration

ACTIVATE DUAL AXIS MODE

MOTOR 1 POS: -57,940 mm | MOTOR 2 POS: -33,619 mm | Sequence rate: 50 pro minutes | UPDATE RATE

ACTIVE STEP	TARGET M1 P1	TARGET M2 P1	ACQUIRE STEP 1
<input type="checkbox"/>	60,000 mm	30,000 mm	ACQUIRE STEP 1
<input type="checkbox"/>	TARGET M1 P2	TARGET M2 P2	ACQUIRE STEP 2
<input type="checkbox"/>	160,000 mm	130,000 mm	ACQUIRE STEP 2
<input type="checkbox"/>	TARGET M1 P3	TARGET M2 P3	ACQUIRE STEP 3
<input type="checkbox"/>	130,000 mm	160,000 mm	ACQUIRE STEP 3
<input type="checkbox"/>	TARGET M1 P4	TARGET M2 P4	ACQUIRE STEP 4
<input type="checkbox"/>	30,000 mm	60,000 mm	ACQUIRE STEP 4
TARGET MODE		TARGET MODE	

Move the robot in the starting position and store the forth positions using ACQUIRE STEP 4 button.



Last

update:

2024/02/15 integrated_pick_and_place:deviator_application https://dokuwiki.nilab.at/doku.php?id=integrated_pick_and_place:deviator_application
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Motion controller Controller configuration Scope Motor parameter Communication Diagnostic Expert Parallel Motion Surveillance

Parallel Motion Configuration

ACTIVATE DUAL AXIS MODE

MOTOR 1 POS: -57,940 mm MOTOR 2 POS: -33,619 mm

Sequence rate: 50 pro minutes

UPDATE RATE

Circle movement n steps

ACTIVE STEP	TARGET M1 P1	TARGET M2 P1	
SET STEP 1	60,000 mm	30,000 mm	ACQUIRE STEP 1
SET STEP 2	160,000 mm	130,000 mm	ACQUIRE STEP 2
SET STEP 3	130,000 mm	160,000 mm	ACQUIRE STEP 3
SET STEP 4	30,000 mm	60,000 mm	ACQUIRE STEP 4
	TARGET M1 P5	TARGET M2 P5	

Red arrow pointing to the 'ACQUIRE STEP 4' button.

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Knowledgebase



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