

Certification Test

CT.MPiec.01.PLCo4.CertificationTest



Student Name: _____

Company Name: _____

Address: _____

Phone: _____

Email: _____

Test Date: _____

Answers:

1	_____	_____	_____	_____
2	_____	_____	_____	_____
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Taking the Test

- The purpose of this test is to validate the learning experience corresponding to the applicable eLearning Module. It is recommended to preview the questions before viewing the module, and answer them as the module progresses.
- The test is open book. You may use any website, manuals, software, demo, etc. The test must be taken individually; you may not contact another person for help.
- Each question has only one correct answer unless otherwise noted. Please clearly record all answers on the answer sheet. All questions are equally weighted. A passing score is 85%.

Returning the Test

- Please return **only the first page** of the test (the answer sheet) with completed answers and contact information.

Option 1: Fax the answer sheet to **Yaskawa Technical Training Services** at **(847) 887-7185**.

Option 2: e-mail a scan, photo, or edited pdf of the answer sheet with all answers and contact information to training@yaskawa.com.

Receiving Your Score

You may review your answers only if a passing score is received. You will receive a system-generated email with your score. Please allow up to 5 business days.

Class Project

1. What Yaskawa demo does the class project pertain to?
 - A. MP2300Siec + Sigma-5 Demo
 - B. MP3300iec+Sigma-7 Demo
 - C. MP2600iec Demo
 - D. SigmaLogic Demo
 - E. All of the above
 - F. Answers A and B only

2. What minimum version of MotionWorks IEC Pro is required?
 - A. 2.0
 - B. 2.3
 - C. 3.0
 - D. 3.2
 - E. 3.3
 - F. 4.0

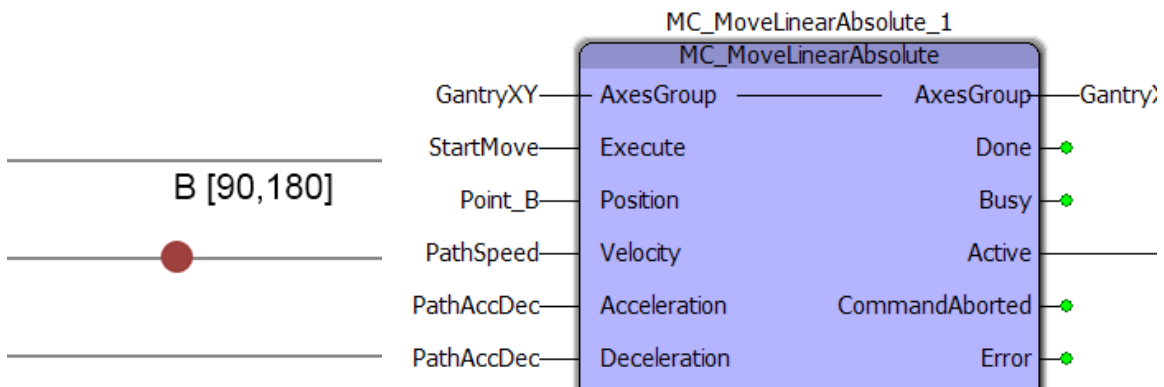
3. What minimum MPiec controller firmware level is required?
 - A. 2.0
 - B. 2.3
 - C. 3.0
 - D. 3.2
 - E. 3.3
 - F. 4.0

Group Configuration

4. What must be done in MotionWorks IEC Hardware Configuration before the 2DGantry mechanism type can be selected?
 - A. Go online with Hardware Configuration
 - B. Online save and reboot controller
 - C. Create Group
 - D. Assign Axes to the mechanism
 - E. Download and warm start
 - F. Answers A,B, and E
5. What is the purpose of the Enable Global Group Data checkbox?
 - A. Allows all global variables to be disabled or enabled
 - B. Creates the Group_Axis_Ref variable
 - C. Optimizes the update cycle for the global variables
6. What Libraries are added to the class project after saving the Hardware Configuration with a group that has been configured?
 - A. PLCopenPlus_v_2_2a
 - B. YMotion
 - C. Datatypes_Toolbox
 - D. PLCopen_Toolbox
 - E. YCoordinatedMotion
 - F. Math_Toolbox
 - G. PLCopenPart4
 - H. Group_stub
 - I. All of the above
 - J. Answers E,F,G,H

Programming Linear Moves

7. Which of the following best describes what is required before PLCopen Part 4 function blocks can be added to a POU?
 - A. Group configured in Hardware Configuration
 - B. Servos Enabled
 - C. Zero Point established
 - D. Group enabled
8. What is the name of the PLCopen Part 4 function block in which coordinate positions can be entered?
 - A. MC_MoveRelative
 - B. MC_MoveAbsolute
 - C. MC_MoveLinearAbsolute
 - D. MC_MoveLinearRelative
 - E. Y_MoveLinear
 - F. Y_MoveLinear2
9. What is the datatype for the Position input to a PLCopen Part 4 function block?
 - A. AXIS_GROUP_DATA
 - B. LREAL
 - C. ARRAY
 - D. VECTOR
 - E. COORDINATE
10. In the illustration below, what value is required for Point_B[1] in order to move to position [90,180] in the Cartesian coordinate system?



- A. Point_B[1]:= 90
- B. Point_B[1]:= 180
- C. Point_B[1]:= 90.0
- D. Point_B[1]:= 180.0
- E. Point_B[1]:= 0
- F. Point_B[1]:= 0.0

11. What conditions are required before executing a coordinated linear move?

- A. MC_GroupEnable has completed
- B. Servos are enabled
- C. Zero Position established
- D. Jog operation
- E. All of the above
- F. Answers A,B,C

12. What function block is used to turn the servos on? In the graphic below the coil "GroupPower" turns on.



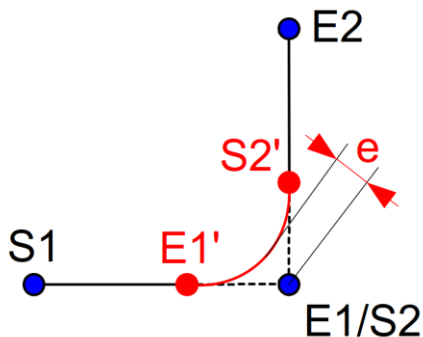
- A. MC_AxisControl
- B. MC_GroupEnable
- C. All of the above

Blending Linear Moves

13. Which values of MC_BufferMode allow for a smooth corner transition between linear moves?

- A. Aborting
- B. Buffered
- C. BlendingLow
- D. BlendingPrevious
- E. BlendingNext
- F. BlendingHigh
- G. All of the above
- H. Answers C, D, E, F

14. Which transition mode is illustrated in the graphic?



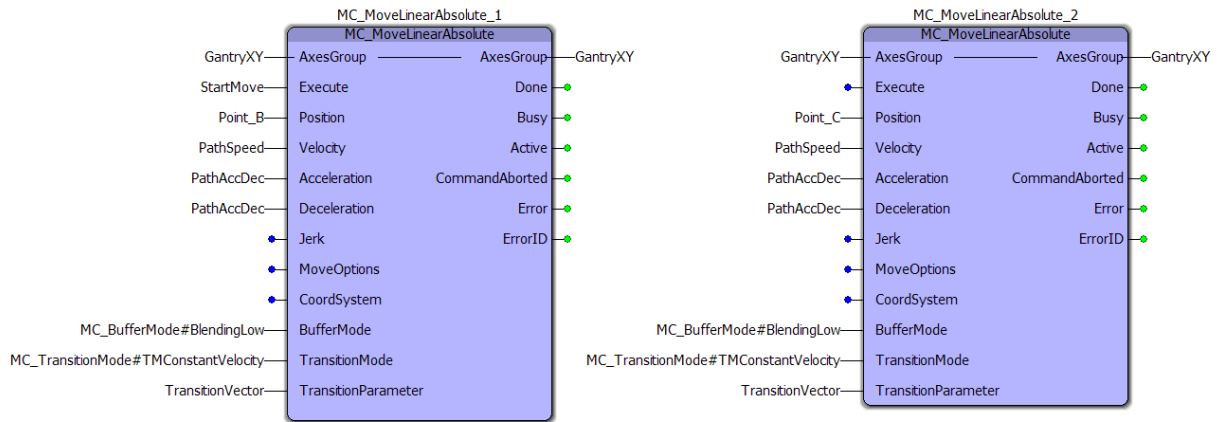
- A. TMConstant_Velocity
- B. TMCornerDistance
- C. TMMaxCornerDeviation

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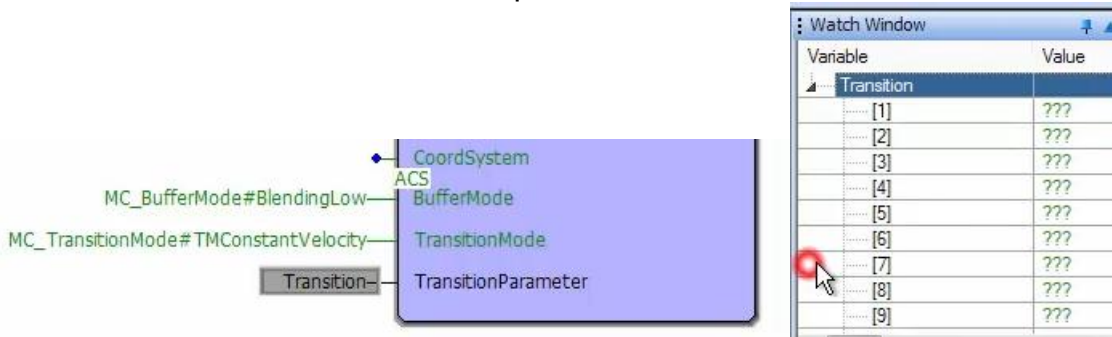
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15. In the illustration below, which output from MC_MoveLinearAbsolute_1 can be used to sequence the buffered move to MC_MoveLinearAbsolute_2?



- A. Done
- B. Busy
- C. Active
- D. CommandAborted
- E. Error
- F. ErrorID

16. In the illustration below, which element of the variable "Transition" can be set in the watch window to control the transition parameter for the block ?



- A. Transition[1]
- B. Transition[2]
- C. Transition[3]
- D. Transition[4]
- E. Transition[5]
- F. Transition[6]

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17. A 2-dimensional gantry system will use PLCopen Part 4 to trace out the rectangular path shown in one continuous motion with all 4 smooth corners. At what point shall the motion start?

- A. Point A
- B. Point B
- C. Point C
- D. Point D
- E. Point E

