Certification Test

eLM.MP2300Siec.01.HardwareOverview (**MP2300Siec Hardware Overview eLM**)

YASKAWA *The Drive for Quality™*

Taking the Certification Test

No demo unit is needed to take this test. Please record all answers on this answer sheet. Multiple-choice questions have **only one** correct answer. A passing score is 83% (3 wrong).

Returning the Certification Test

Option 1: Fax this page to **Yaskawa Technical Training Services** at (847) 887-7185.
Option 2: E-mail the answers and **all** contact info below to **training@yaskawa.com**.

Receiving Your Score

You may review your answers only if a passing score is received. When the test is taken during class, you will receive your score as soon as it can be graded. When taken as a CLEP test or pre-requisite enrollment test, contact Technical Training Services via email or phone to receive your score.

Answer Sheet:

1.	_____	6.	_____	11.	_____	16.	_____	_____	_____		
2.	_____	7.	_____	12.	_____	17.	_____	_____	_____		
3.	_____	8.	_____	13.	_____	18.	_____	_____	_____		
4.	_____	9.	_____	14.	_____		_____	_____	_____		
5.	_____	10.	_____	15.	_____		_____	_____	_____		

Contact Information:

Name: _____ Title: _____

Company: _____ Email: _____

Address: _____

Phone Number: _____ Fax number: _____

Supervisor's Name/ Title: _____

Name of Yaskawa Rep: _____

Test Date: _____

Four Key Features

1. Which of the following are key features of the MP2300Siec?
   A. Runs on 24V DC power
   B. Controls servos and IO using the MECHATROLINK-II Network
   C. Uses Programming Standards
   D. Communicates using EtherNet/IP protocol
   E. Compatible with Sigma-5 servos
   F. Contains a built-in encoder input
   G. All of the above
   H. Items A, B, C, D
   I. Items B, C, D, E
   J. Items D, E, F, G

2. What software is used to program the MP2300Siec?
   A. IEC61131
   B. PLCopen
   C. MotionWorks IEC
   D. Motionworks +
   E. MotionWorks
   F. MPE720
   G. MPE770

3. What programming standard is used?
   A. MPE720
   B. IEEE61131
   C. MotionWorks IEC
   D. EtherNet/IP
   E. IEC61131-3
   F. PLCclosed

4. What function block standard is used?
   A. PLCopen
   B. IEC61131-3
   C. MotionWorks IEC
   D. EtherNet/IP
   E. Modbus TCP/IP

5. At what speed does the controller communicate over Ethernet?
   A. 10 MB/s
   B. 1000MB/s
   C. Items A, B
   D. 100MB/s
   E. None of the above

6. Which servos offer 20-bit encoders, advanced auto-tuning, and improved software?
   A. Sigma-5
   B. Sigma-2
   C. IEC61131
   D. PLCopen
   E. MotionWorks IEC

Base Unit

7. How many slots are included in the base unit?
   A. 1
   B. 2
   C. 3
   D. 4
   E. 8
   F. 16
   G. 20

8. Which network communication protocols are supported?
   A. EtherNet/IP
   B. ModBus TCP/IP
   C. Sercos
   D. Telnet
   E. RS232
   F. Answers A and C
   G. Answers A and B
   H. Answers A, B, and E

9. Which servos can be connected using the built-in Mechatrolink-II master
   A. Sigma I and Sigma II only
   B. Sigma II and Sigma III only
   C. Sigma III and Sigma V only
   D. Sigma II, Sigma III, and Sigma V only

10. What is the function of the relay output?
    A. Indicates a servo alarm
    B. Integrates controller faults with external circuits
    C. Indicates external battery or 24V DC supply power is active

Options

11. What are the options for the number of MECHATROLINK axes
    A. 5, 10, or 15 axes
    B. 4, 8, or 16 axes
    C. 1, 2, 4, or 8 axes
    D. 100, 200, 400 axes

12. Which option cards can be ordered factory installed?
    A. LIO-01 / LIO-02 (16 in, 16 out sinking/sourcing outputs)
    B. LIO-04 / LIO-05 (32 in, 32 out sinking/sourcing outputs)
    C. PO-01 (4-axis pulse output motion module)

13. What capability does the LIO-06 multi-function IO module offer?
    A. 32 digital inputs and outputs
    B. 64 point digital output
    C. 8 digital inputs and outputs, analog input and output, and encoder input
    D. 32 digital inputs and outputs, 2 analog inputs and encoder input

EtherNet/IP

14. Which devices can be communicated to using EtherNet/IP?
    A. Lower devices such as remote IO and HMIs only
    B. High level manufacturing execution systems only
    C. Sigma II, Sigma III, and Sigma-5 servos
    D. Lower devices such as remote IO and HMIs and high level manufacturing execution systems
    E. All of the above
    F. Items A, B, and C

15. What common protocols can all be simultaneously transmitted and received over Ethernet?
    A. EtherNet/IP
    B. ModBus TCP
    C. http
    D. Ptp
    E. ftp
    F. Items A, B, C
    G. Items A, C, D, E
    H. All Ethernet protocols with acronyms ending in the letter "P"

MECHATROLINK-II

16. How many **slave nodes** does the MP2300Siec support using MECHATROLINK-II?
    A. 0
    B. 1
    C. 4
    D. 8
    E. 16
    F. 20
    G. 29
    H. 256

17. What is the maximum number of axes that an MP2300Siec can support using MECHATROLINK-II?
    A. 4
    B. 8
    C. 16
    D. 20
    E. 29
    F. 256

18. Why does the built-in Mechatrolink Master support dual connections?
    A. The unused connection is designed for storage of an extra terminating resistor
    B. The second connection allows one half of the network to remain running while the other half is under scheduled down time.
    C. The second connection allows an independent Mechatrolink-II network to be established, doubling the number of axes available.
    D. The last device on the network must be attached back to the second connection in order to complete the transmission circuit.