Certification Test

TRM800-NetCommSales

(eLM.AFD1000.01.netcommsales)

Taking the Certification Test

Each question has one **best answer**. All certification tests are open book and open notes. Please record all answers on the answer sheet. All questions are equally weighted. A passing score for this test is 100%.

Returning the Certification Test

Option 1: E-mail the answers to all questions to **training@yaskawa.com**. Be sure to include all of the contact information listed on the answer sheet.

Option 2: Fax the answer sheet (following page) to **Yaskawa Technical Training Services** at (847) 887-7185.

Option 3: Mail the answer sheet to **Yaskawa Technical Training Services** at the address shown on the bottom of this page.

Receiving Your Score

You may review your answers with the Yaskawa Technical Training department only if a passing score is received. When the corrected test is entered into the Yaskawa record, an email is automatically generated to the test taker if a valid email address has been provided.

Answer Sheet:

1. _____ 6. _____
2. _____ 7. _____
3. _____ 8. _____
4. _____ 9. _____
5. _____ 10. _____

Contact Information:

Name: _____ Title: _____

Company: _____ Email: _____

Address: _____

Phone Number: _____ Fax number: _____

Supervisor's Name/ Title: _____

Yaskawa Salesperson's Name
(if Distributor) _____

Yaskawa Distributor
(if End User) _____

Test Date: _____

QUESTIONS

1. Randy Hundley owns an internet business that sells pet food to the general public. He has a warehouse with a variety of carton conveyors that move product in and out of his warehouse. All of the conveyor motors (33 total) are currently run by manual motor starters. Randy is interested in modernizing this equipment by replacing the motor starters with Yaskawa V1000 drives connected to an Allen Bradley PLC. He wants all the drives to run over an industrial communication network. What would you recommend to Randy?

    a. This is possible using either the DeviceNet or Ethernet/IP protocols.
    b. Yaskawa does not have the capability to connect its drives to Allen Bradley PLCs.
    c. EtherCAT would be the protocol to use in this application because of the short update times.

2. Randy mentioned that his business is growing rapidly and he will be installing more carton conveyors in a new portion of his warehouse. The new equipment will add another 33 motors and will be connected to the same PLC. What would you recommend to Randy?

    a. DeviceNet is what I recommend.
    b. DeviceNet is not an option because only 64 devices could be connected on one network. So, in this case I recommend Ethernet/IP because you can connect an unlimited number of devices on one network.
    c. EtherCAT would be the protocol to use in this application because of the short update times.

3. Which network communication option card will Randy need to control the 66, V1000 drives he will be using?

    a. SI-N3
    b. SI-N3/V
    c. SI-EN3
    d. SI-EN3/V

4. Joe Wallace is the plant engineer for ZYX Suspension Parts Inc in Mokena, IL. ZYX will be installing a parts washing system in their plant that has numerous 1HP pump motors, 15HP agitator motors and 25HP blower motors. They will be connecting these motors to Yaskawa A1000 and V1000 drives (a total of 27 drives). Joe wants to connect these drives to an existing Schneider PLC that controls other equipment in the plant. He wants all the drives to communicate over the Modbus TCP/IP protocol. What would you recommend to Joe?

    a. Yaskawa does not have the capability to connect its drives to a Schneider PLC.
    b. It is possible to connect Yaskawa A1000 and V1000 drives to a Schneider PLC using Modbus TCP/IP protocol. The only thing you need to do is install the correct option card.
    c. It is possible to connect Yaskawa A1000 and V1000 drives to a Schneider PLC using Modbus TCP/IP protocol. No option card is required since Modbus TCP/IP in built into the Yaskawa drive.

5. Which network communication option cards will Joe need for the A1000 and V1000 drives he will be using?

    a. An option card is not required in this situation since Modbus TCP/IP is built into the A1000 and V1000 drives.
    b. SI-N3 and SI-N3/V option cards
    c. SI-EM3 and SI-EM3/V option cards
    d. SI-P3 and SI-P3/V option cards

6. Tom Sneva from Indiana Black Top left you a voice mail and said that he would be receiving some new heavy equipment in his plant that was "….*running on Ethernet*". Tom is not very knowledgeable with network protocols. He wants to be able to tie in his six existing 150HP A1000 drives to this system and wants to know what he needs to do it. What would you recommend to Tom?

    a. I would recommend Ethernet/IP option cards for the A1000 drives.
    b. It doesn't matter since Yaskawa does not have the capability to connect its drives to an Ethernet network.
    c. I would call Tom back and ask him for more info as to specifically which Ethernet protocol the equipment is using.

7. After calling Tom back, you find out that the new equipment is using a Siemens PLC but he is not sure of the protocol name. What would you recommend to Tom?

    a. Yaskawa does not have the capability to connect its drives to a Siemens PLC.
    b. Knowing it's a Siemens PLC and an Ethernet protocol, I would guess he is using the PROFINET protocol. Tom doesn't seem very sure about this info so it would be best to have him double check.
    c. EtherCAT would be the protocol to use in this application because of the short update times.

8. Tom calls back and says they are using the PROFINET protocol. Which network communication option card will he need for the A1000 drives he will be using?
    a. SI-EP3
    b. SI-ES3
    c. SI-EN3
    d. SI-N3

9. You receive an email from Bob Douglas at Big Bear CNC. Big Bear is designing a new polishing machine that is part of an automated work cell. According to the email, Bob wants you to quote a "*…15HP A1000 drive with a serial protocol for a Schneider PLC*". Which network protocol is Bob talking about in his email?

    a. Modbus RTU
    b. It doesn't matter, because Yaskawa does not have the capability to connect its drives to any Schneider PLC.
    c. Modbus TCP/IP
    d. EtherCAT

10. Which network communication option card will Bob need to control the A1000 drives he will be using?
    a. SI-EM3
    b. SI-EN3
    c. SI-EP3
    d. No option card is required in this situation.