Certification Test

TRM800-Harmonics (eLM.AFD.07.Harmonics)

Taking the Certification Test

Each question has one **best answer**. All certification tests are open book and open notes. Please record all answers on this 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. All electrical power is distributed as a sinusoidal voltage.

    a. True
    b. False

2. At its simplest, a generator is a rotating magnet in a stationary _____ .

    a. capacitor
    b. coil of wire
    c. DC bus

3. What is the correct definition of a “Non-Linear Load”.

    a. The current follows the same sinusoidal pattern as the voltage.
    b. The current follows a linear pattern.
    c. The current remains at zero.
    d. The current does not follow the same sinusoidal pattern as the voltage.

4. Non-Linear Loads cause stress on the transformers and generators that make up the power grid.

    a. True
    b. False

5. Some of the “Hazards of Degraded Power” are;

    a. There are no known hazards of degraded power.
    b. The appearance of linear loads.
    c. Line Losses, Equipment Damage, Increased Power Costs, Wasted Energy
    d. The DC bus will be lowered.

6. Distorted current drawn by your non-linear load can cause distorted voltage on the power grid. This means other users that share your power grid can be affected as well.

    a. True
    b. False

7. The 18th century mathematician and physicist that defined the mathematics that lead to harmonic analysis is;

    a. Jean-Claude Van Damme
    b. Jean Baptiste Joseph Fourier
    c. Joseph Gordon-Levitt

8. The industry standard for acceptable levels of Total Demand Distortion is defined by which document?

    a. IEEE 519-1992
    b. IEEE 1992-519ZZ
    c. EIEIO 1992
    d. There is no document that defines the acceptable levels of Total Demand Distortion.

9. Harmonic mitigation step 1 is to add a (an) _____.

    a. DC Link Inductor (reactor, choke)
    b. Input reactor
    c. DC bus
    d. AFE

10. Harmonic mitigation step 2 is to add a (an) _____.

    a. DC Link Inductor (reactor, choke)
    b. Input reactor
    c. DC bus
    d. AFE