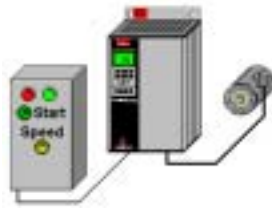


# Pre-Test



## Multiple Choice

- 1) In the picture above, what type of Control Arrangement is displayed?
- A) Local/ Hand Control    B) Remote/ Auto Control  
C) Serial Control        D) Cascade Control  
E) Closed Loop Control
- 2) If the VFD is controlled from its keypad mounted 10feet (3m) away, this control arrangement is known as which of the following?
- A) Local/ Hand Control    B) Remote/ Auto Control  
C) Serial Control        D) Cascade Control  
E) Closed Loop Control
- See notes for additional questions

- 3) Multiple pumps are to be operated together to maintain the correct pressure in a water supply. When the demand increases beyond the capacity of the initial pump, which uses a VFD, separate fixed stages are enabled to start additional pumps. This control arrangement is referred to as which of the following:
- A. Multi Motor Control  
B. Master/Slave Control  
C. Cascade Control  
D. Serial Communications  
E. Open Loop Control

Go to next page.

# Pre-Test



## Multiple Choice

4) Which of the following control arrangements are identified by one VFD sending a 4-20mA signal out its AO (Analog output) to the AI (Analog Input) of the other VFD?

- A) Local/ Hand Control
- B) Remote/ Auto Control
- C) Master/Slave
- D) Serial Communications
- E) Multi-motor with Cascade Controller card.

5) Three VFDs are operating via Serial Communications with a SCADA system. How many wire connections are needed on the VFD for serial communications?

- A. 2 wire
- B. 4 wire
- C. 9 wire
- D. 15 wire
- E. It depends on how much information is desired between the VFDs and SCADA system.



## ***How did you do?***

Answers:

- 1) B – Remote/ Auto Control
- 2) A – Local/ Hand Control
- 3) C – Cascade Control
- 4) C – Master/ Slave
- 5) A – 2-wire

If you got 4 or 5 right – skip this lesson and go to lesson 3

If you got 3 or less right, please review this lesson.