

Chapter 22 Motor Controllers

1. What is the function of a shading coil? How does it work?
2. What is the function of a magnetic blow-out? Explain how it works.
3. Explain the operation of a bimetallic type of motor-overload relay and state how it is connected in the control circuit.
4. Explain the basic difference in operation between UVR and UVP circuits. Sketch the circuits and state an application for each.
5. When inspecting motor controllers, what items in particular should be checked?
6. Outline the general approach you would follow when troubleshooting a motor controller.

Chapter 29 Protective Devices

7. What are some of the injurious effects that can be caused by excessive current?
8. How does a fuse provide protection against sustained overcurrents? How is a fuse rated?
9. What is meant by the interrupting rating of a fuse? What can happen if the available short-circuit current is greater than the IC rating of the “protecting” fuse?
10. Describe the characteristics of the following: an NEC fuse, a dual element fuse, and a current-limiting fuse. How are they constructed?
11. What are molded-case breakers? How are they rated, and where are they used?
12. How does a molded-case breaker provide protection against (a) sustained overloads and (b) short circuits?
13. Define the interrupting rating of a breaker.
14. What can happen if a circuit breaker is called on to clear a short-circuit current that is considerably in excess of its interrupting rating?
15. What are the respective functions of long-time delay, short-time delay, and instantaneous elements in an air circuit breaker?