

Reactor Protection System

Chapter 10.1



Objectives

1. State the purpose of the reactor protection system (RPS).
2. Define the term anticipated operational occurrence (AOO).
3. Explain how the following design features are incorporated into the RPS:
 - a. Single Failure Criterion
 - b. Testability
 - c. Redundancy

Objectives (Cont)

4. Explain the purpose of each reactor trip.
5. Explain how the two (2) out of four (4) RPS trip logic is derived.
6. Explain the reactor trip circuit breaker (RTB) trip logic.
7. Explain the effect of placing a RPS trip in trip inhibit.

Objectives (Cont)

8. List the trips that are automatically bypassed.
9. List the trips that are bypassed by the zero power mode bypass.
10. State the devices that are actuated by the diverse scram system (DSS).

NEWS Figure 10.1-1 Simplified Reactor Protection System

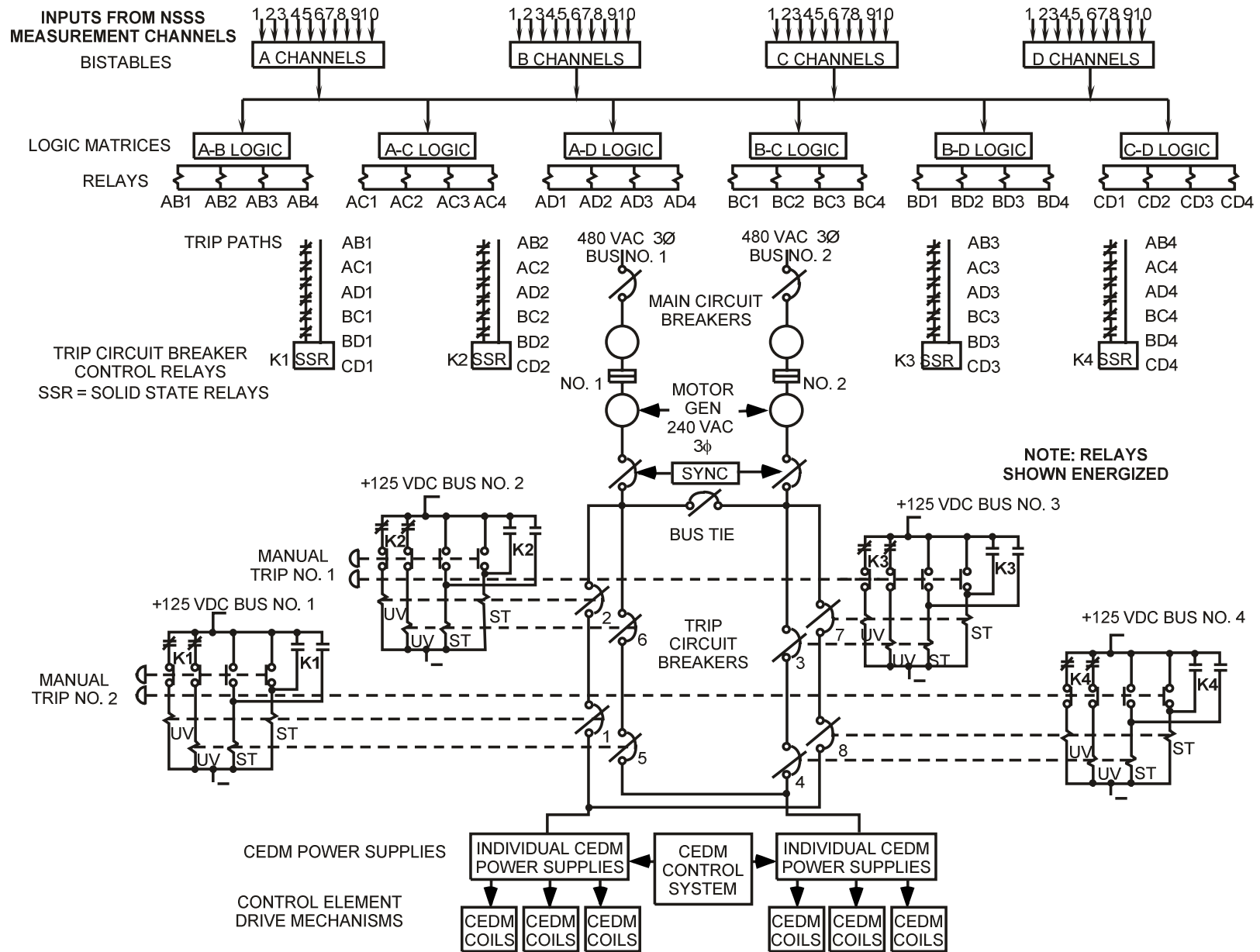


Figure 10.1-2 Bistable Trip Unit

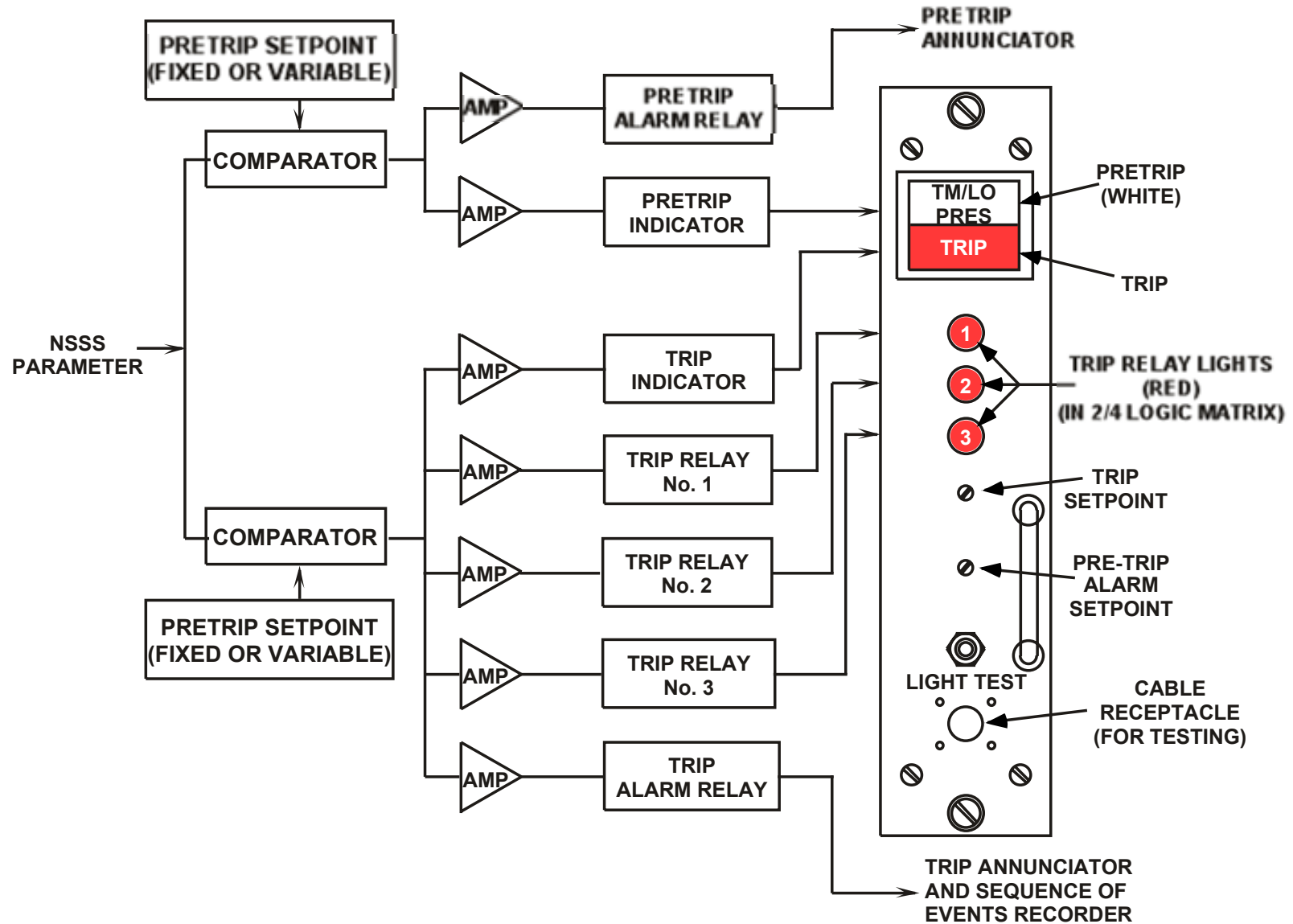


Figure 9.2-3 Rhodium Detector Response

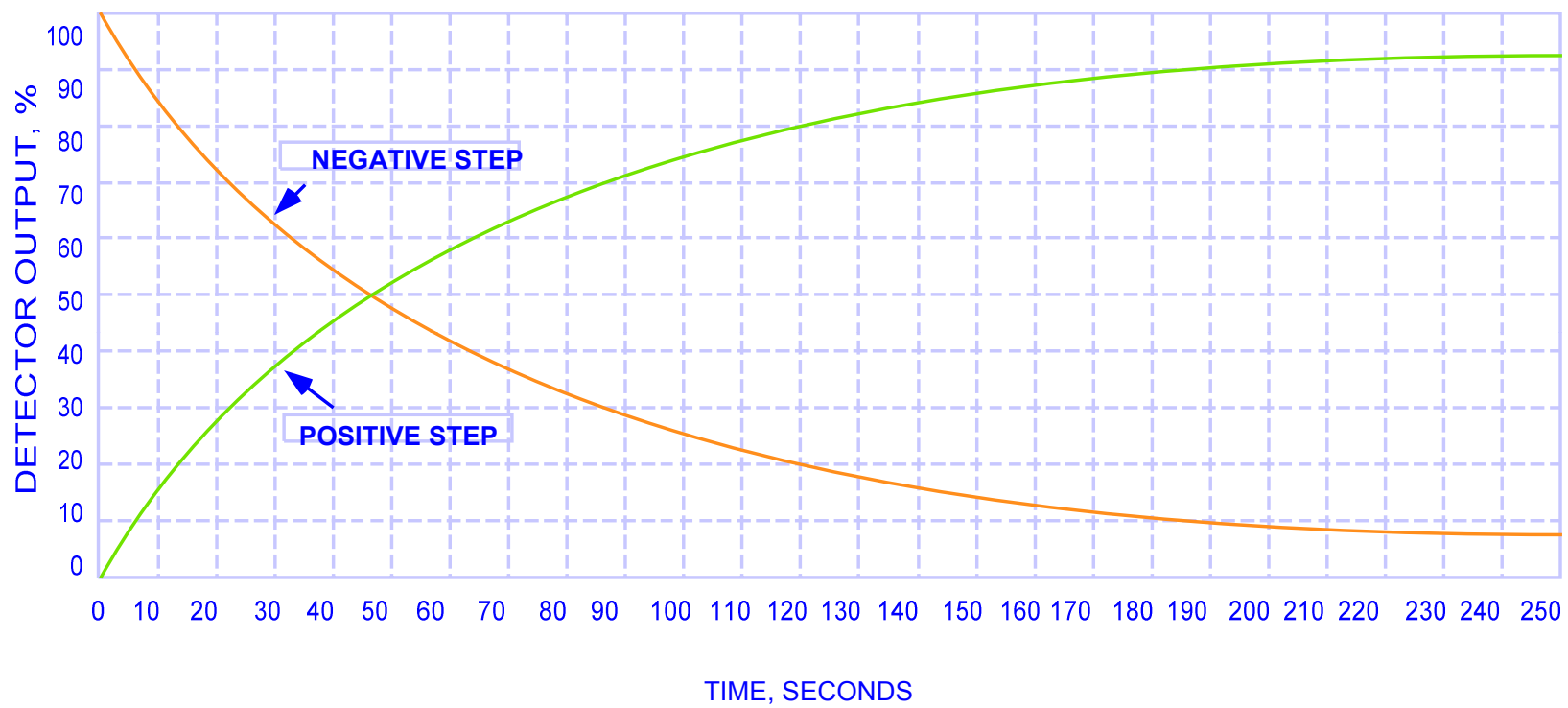


Figure 10.1-4 Auxiliary Trip Unit

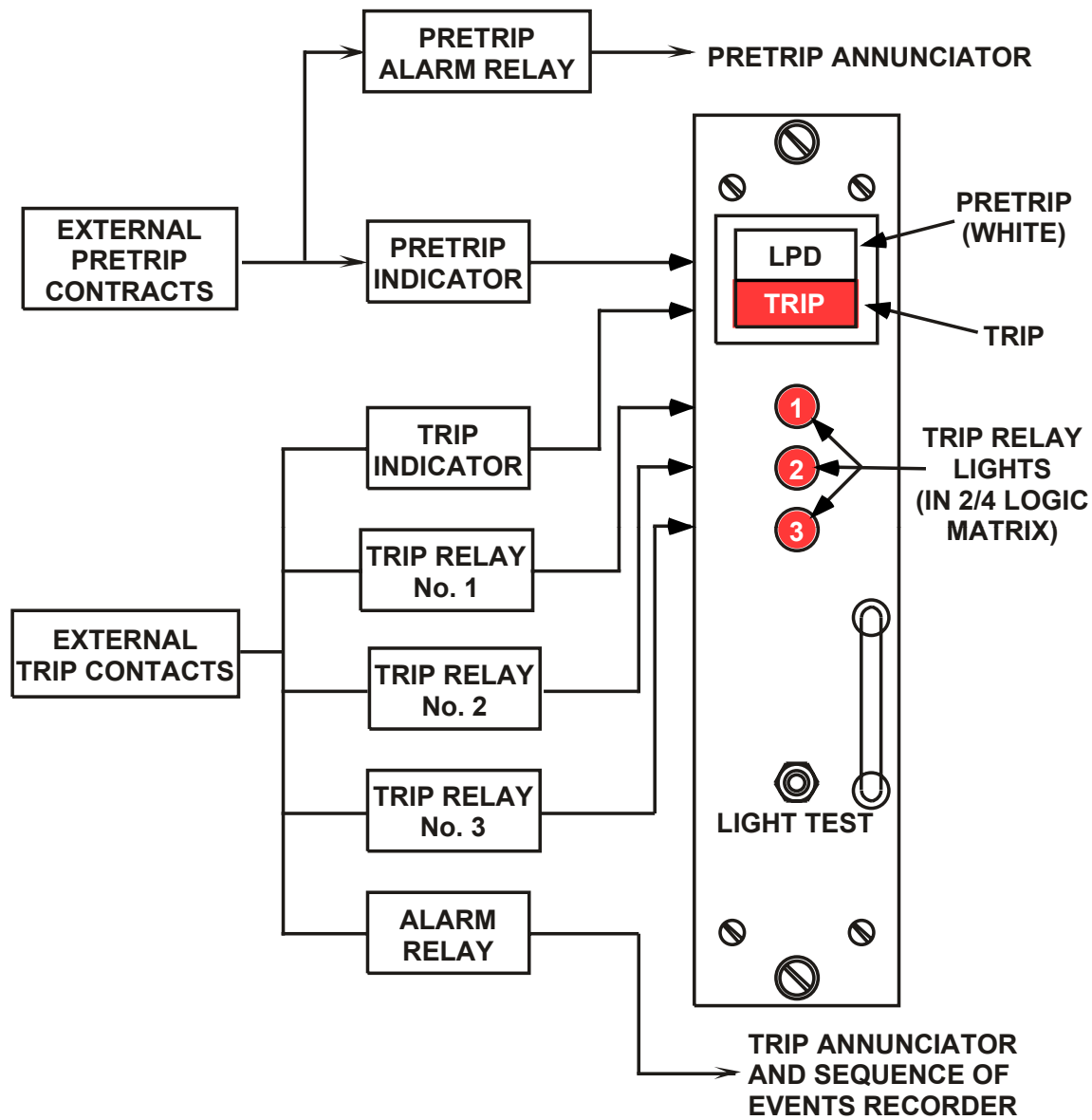


Figure 10.1-5 Coincidence Logic Matrix AB

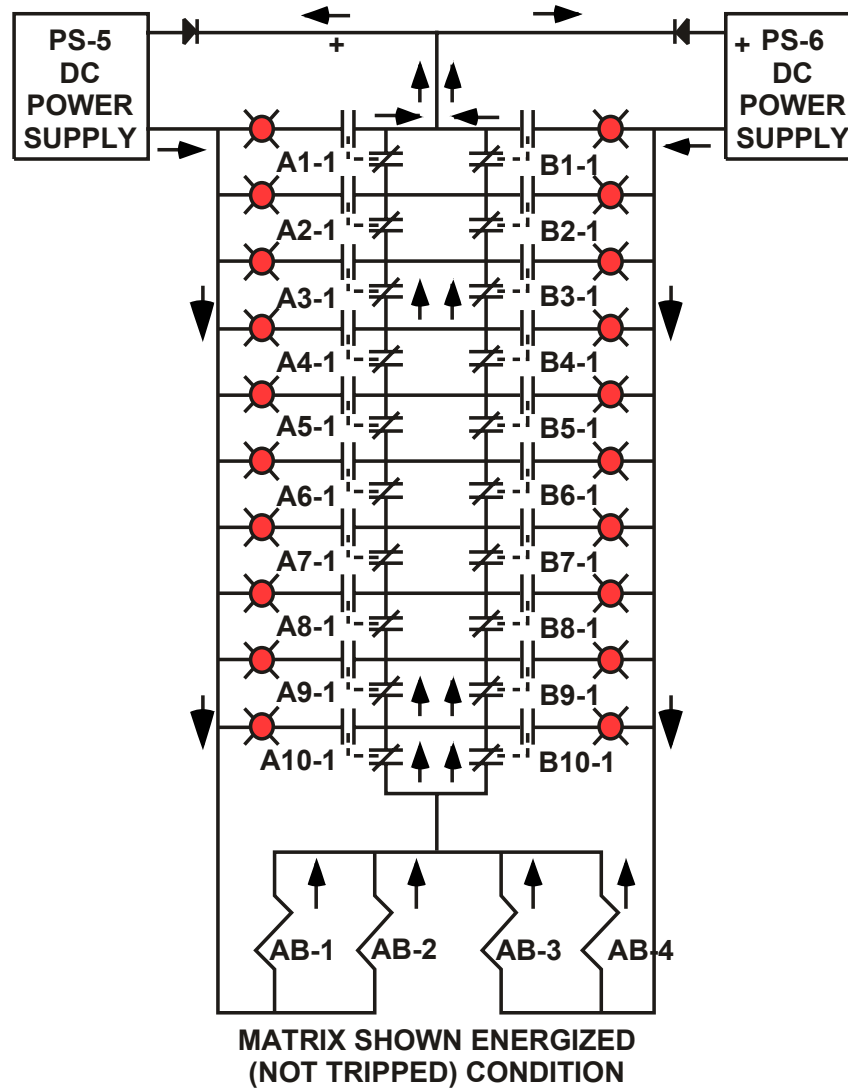


Figure 10.1.6 CEA Power Supply

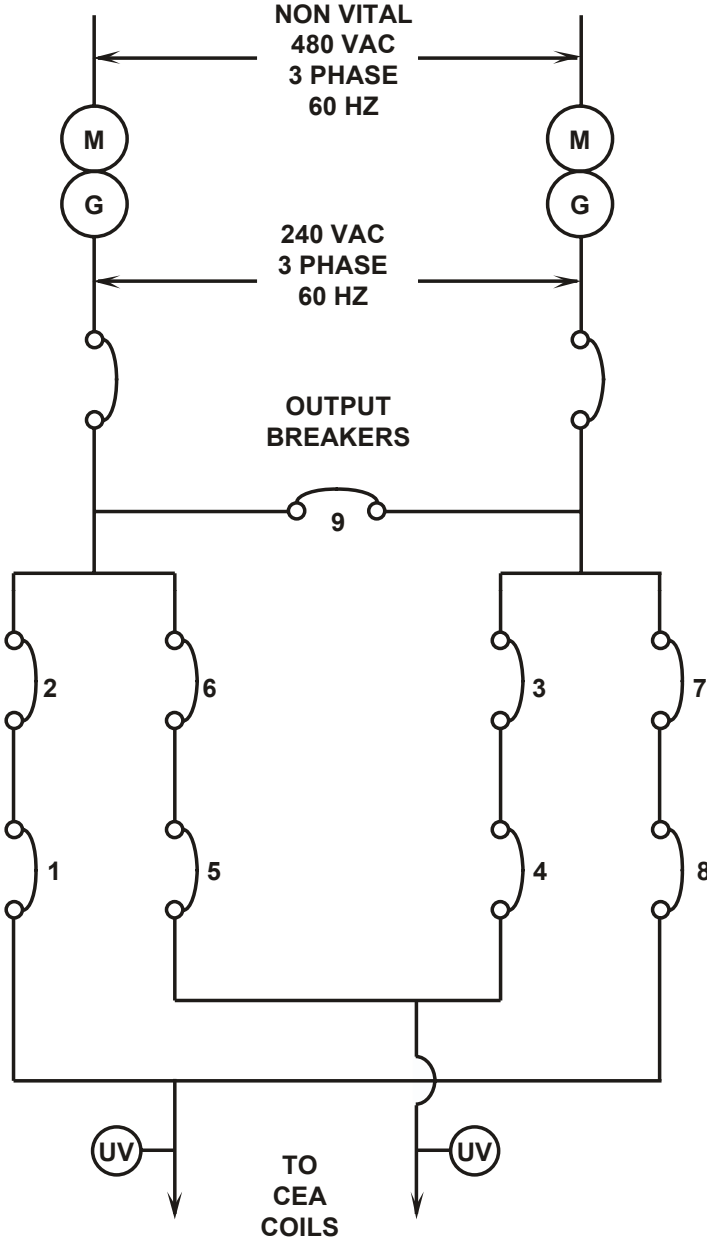
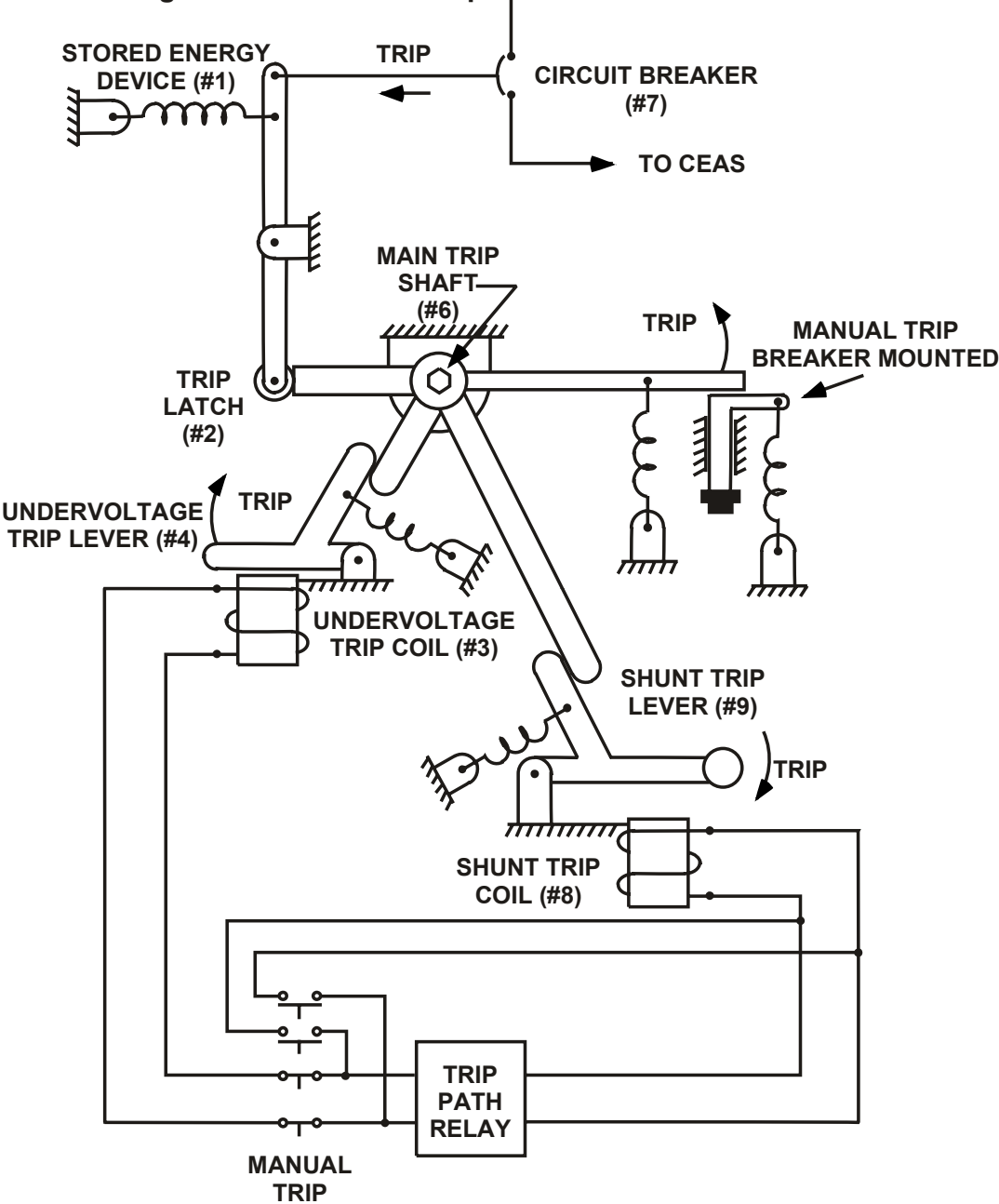


Figure 10.1-7 Reactor Trip Circuit Breaker



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