



Multiple Backup Distance Zones in the L60/L90 using Settings Group Control

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PROBLEM

The GE Power Management L60 Line Phase Comparison Relay and the L90 Line Differential Relay both have one-zone distance protection. However, in many cases it is desirable to have at least two zones of backup distance protection. How can this be accomplished with the L60/L90 relays?

SOLUTION

Although the L60/L90 relays contain one zone distance element, they may be configured for two- or three-zone step distance protection using the Settings Group control feature.

In the example FlexLogic™ configuration shown on the following page, three setting groups are used to provide two-zone distance backup protection of the L90 communications channel feature as follows.

1. The first setting group applies when there is no L90 communications channel failure and the 87L element is up and running.
2. The L90 switches to the second setting group upon L60/L90 communications channel failure. The reach defined here is the for the traditional *first* zone reach of line distance protection.
3. The L90 switches to the third setting group during a fault sensed and controlled by Phase IOC in 50 ms and if backup protection for the first zone in the second setting group didn't operate. The reach defined here is the traditional *second* zone reach of line distance protection.

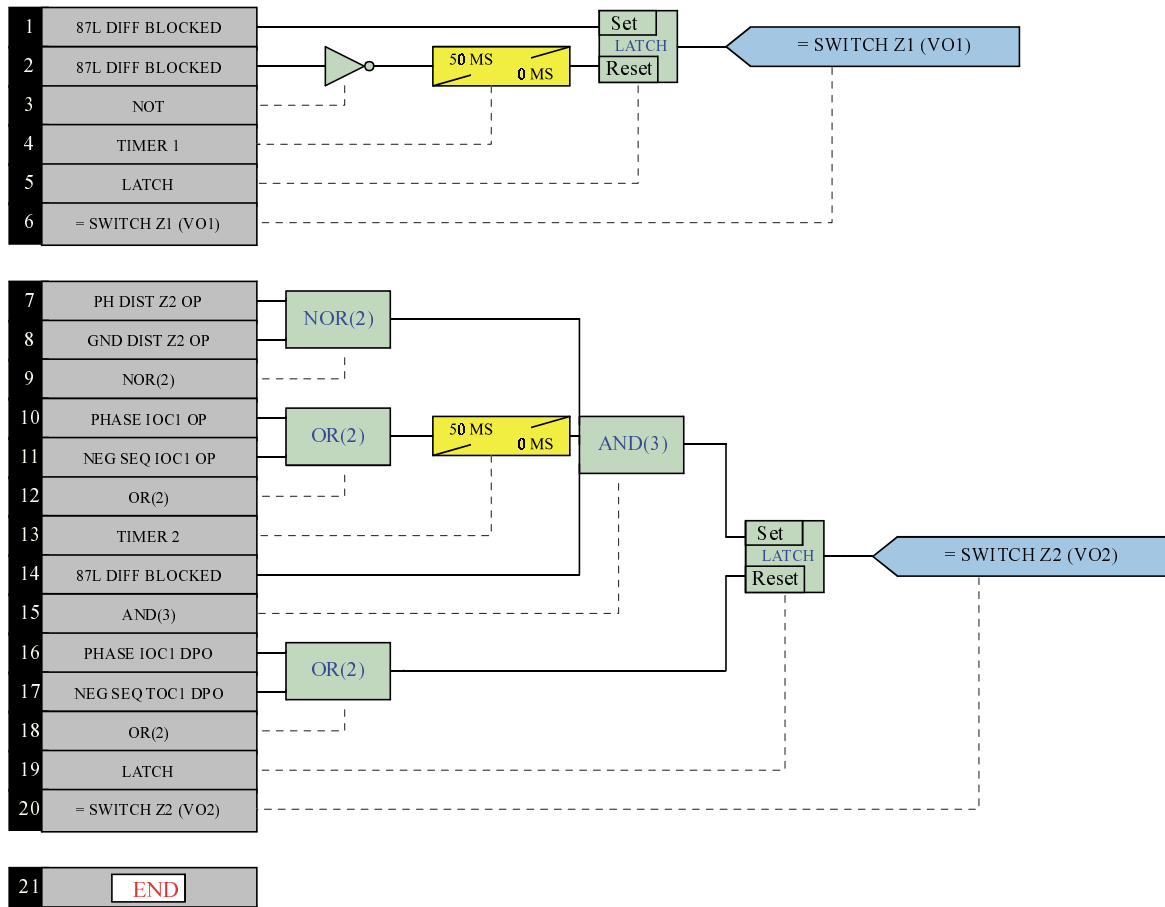


FIGURE 1. FlexLogic™ for Two-Zone Distance Backup Protection