

Control Logic and PLC's

Chapter 7 - Logic Instructions

- XIC vs XIO (pg. 143) : what each means and when each is true

Chapter 8 - Intro to Programming

- offline programming vs online programming
- what configuring is (fig 8-4 and 8-10) and why it is necessary

Chapter 9 Programming Considerations

- what a network is (fig 9-1)
- what you can do when your program requires more contacts than your network allows (fig 9-3a and b)
- the rule about putting contacts on verticle rungs (fig 9-7) (Allen Bradley won't allow you you to)
- branching
- how program scanning is done (fig 9-15)
- pg. 201 & 202 - holding contacts / discrete holding contacts / overload contacts

Chapter 10 - Program Control Instructions

- MCR's
- Latching / Unlatching relays
- "retentative" vs "non-retentative"
- external safety circuits (pg. 211 / fig 10-7)
- jump to label (pg. 212 / fig 10-7): what it is and and what its used for)
- jump to subroutine (what it is / what it is used for)
- temporary end (what it is / what it is used for)
- one shot (what it is / what it is used for)

Chapter 11 - Timers

- On Delay Logic (fig 11-13) vs Off Delay Logic (fig 11-14)
- TON (fig 11-18 & 19), TOF (fig 11-20 & 21), RTO (fig 11-22)
 - TON and TOF are non-retentative and are reset with loss of power or Reset command. RTO are retentative and must be reset with a Reset command of the same address.
- EN, TT, and DN bits associated with timers
- cascading timers (fig 11-27)

Chapter 12 - Counters

- can count up or count down
- how counters work (they increment a count up or down based on each "false to true rung transitions" leading up to the internal counter relay)
- CU, CD, DN, and OV bits associated with timers

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Chapter 13 - Data Manipulation thru Data Transfer and Data Comparison:

- Integer File (N7) (handout) (pg. 77 and 79)
- data transfer (MOV command (fig 13-2 to 13-4)
- data comparison (Greater than, Less than, Equal to, etc.) (pg. 254)
- limit test instruction (pg 261)

Chapter 14 - Math Instructions

- math instructions are a combination of "math" and "move" functions (example prob @ top of pg. 265 and fig 14-4)
- Compute (CPT) function (fig 14-10)