Failure indicator

The indicator will detect the first input out of four to go from a logic 1 level to a logic 0 and can be used for monitoring power systems to indicate supply failure. Once an input fails, a signal is generated for controlling power to the monitored power system. All inputs are inhibited and a lamp illuminates to indicate the failed supply.

After reset, the clock line will be held high due to a feedback loop. If any one input goes to a logic 0, then the output of the multiple input NAND (SN7420) will go high, driving the clock line to zero via the reset NAND gate, thus inhibiting all the inputs to the quadruple latch (SN7475). The logic 0 will be retained by the latch and only one failure will be indicated, even when the other inputs go low with loss of power to the monitored system.

After the failure has been corrected, power is restored by taking the reset line momentarily to logic 0.

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