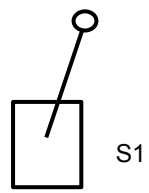
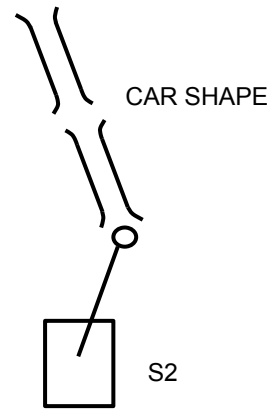
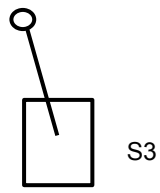
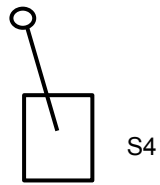


# Relay logic elevator

This dynamic circuit diagram shows how an old elevator basically works

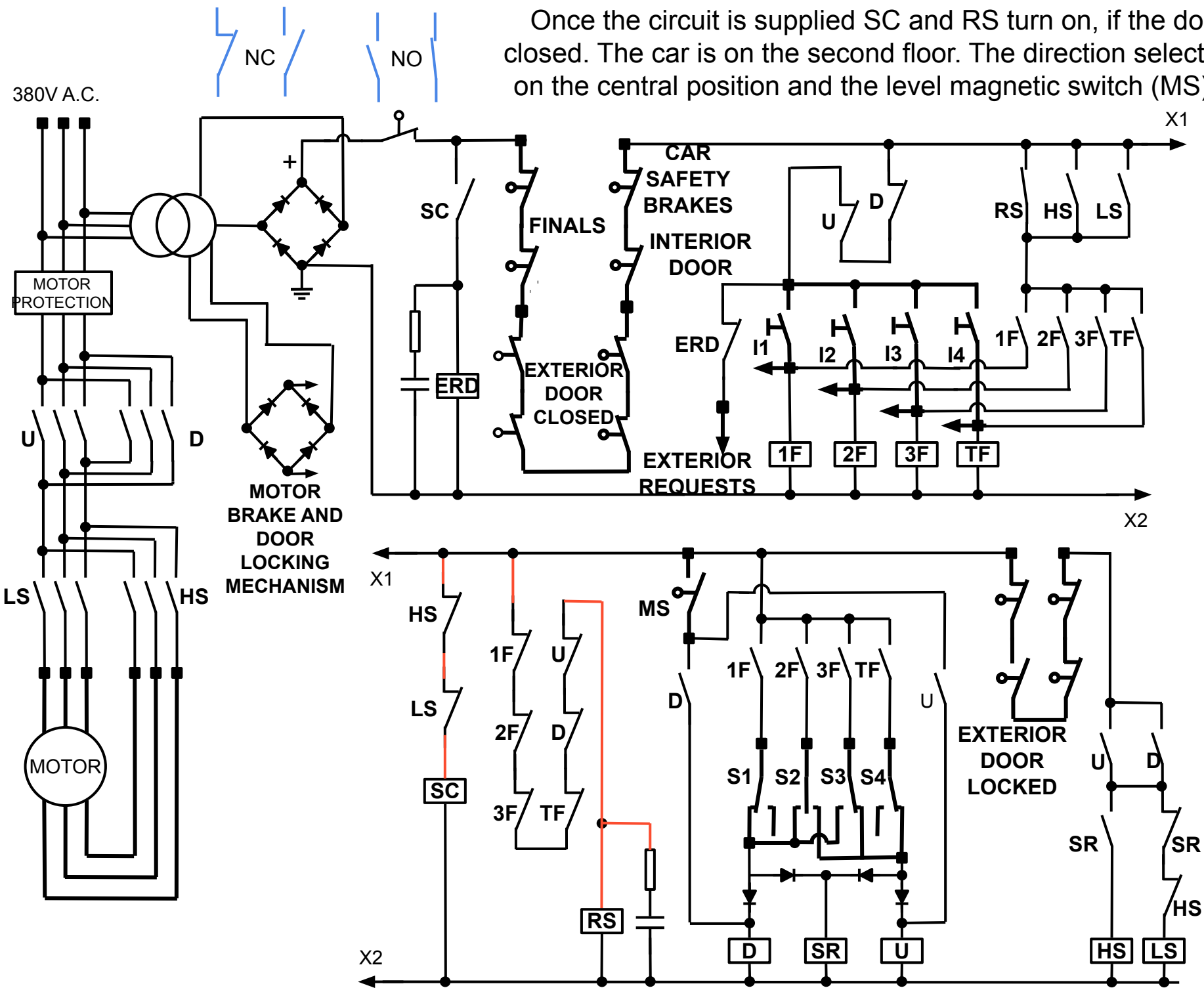
Note that actually relays and contactors have a time response of a fraction of seconds



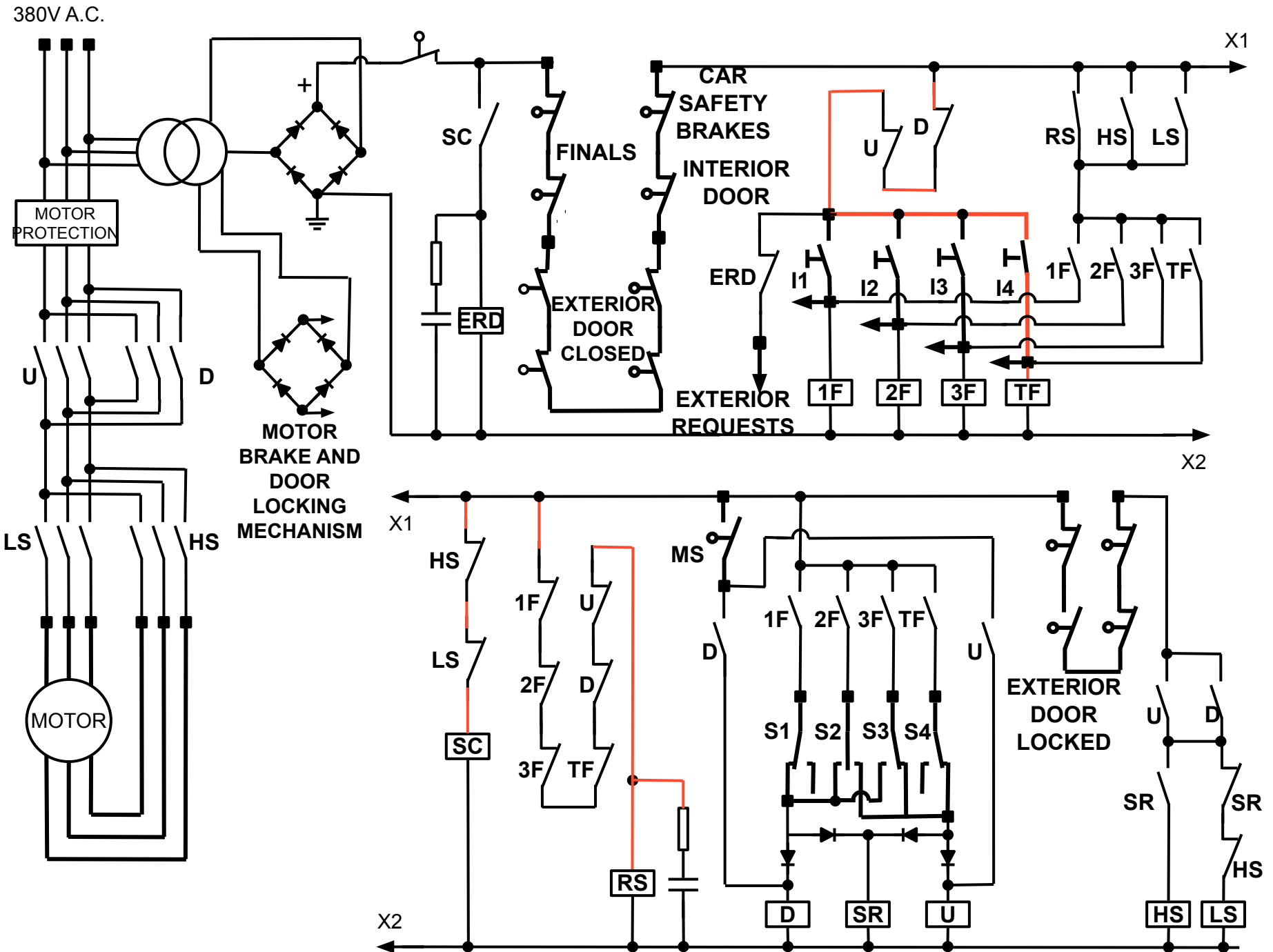
When a request button is pressed the elevator takes the right direction due to the selectors fixed in the shaft on each floor.

*On modern elevators this job is done by an electronic board that takes the signals from magnetic switches fixed on the car.*

Once the circuit is supplied SC and RS turn on, if the doors are closed. The car is on the second floor. The direction selector (S2) is on the central position and the level magnetic switch (MS) is open

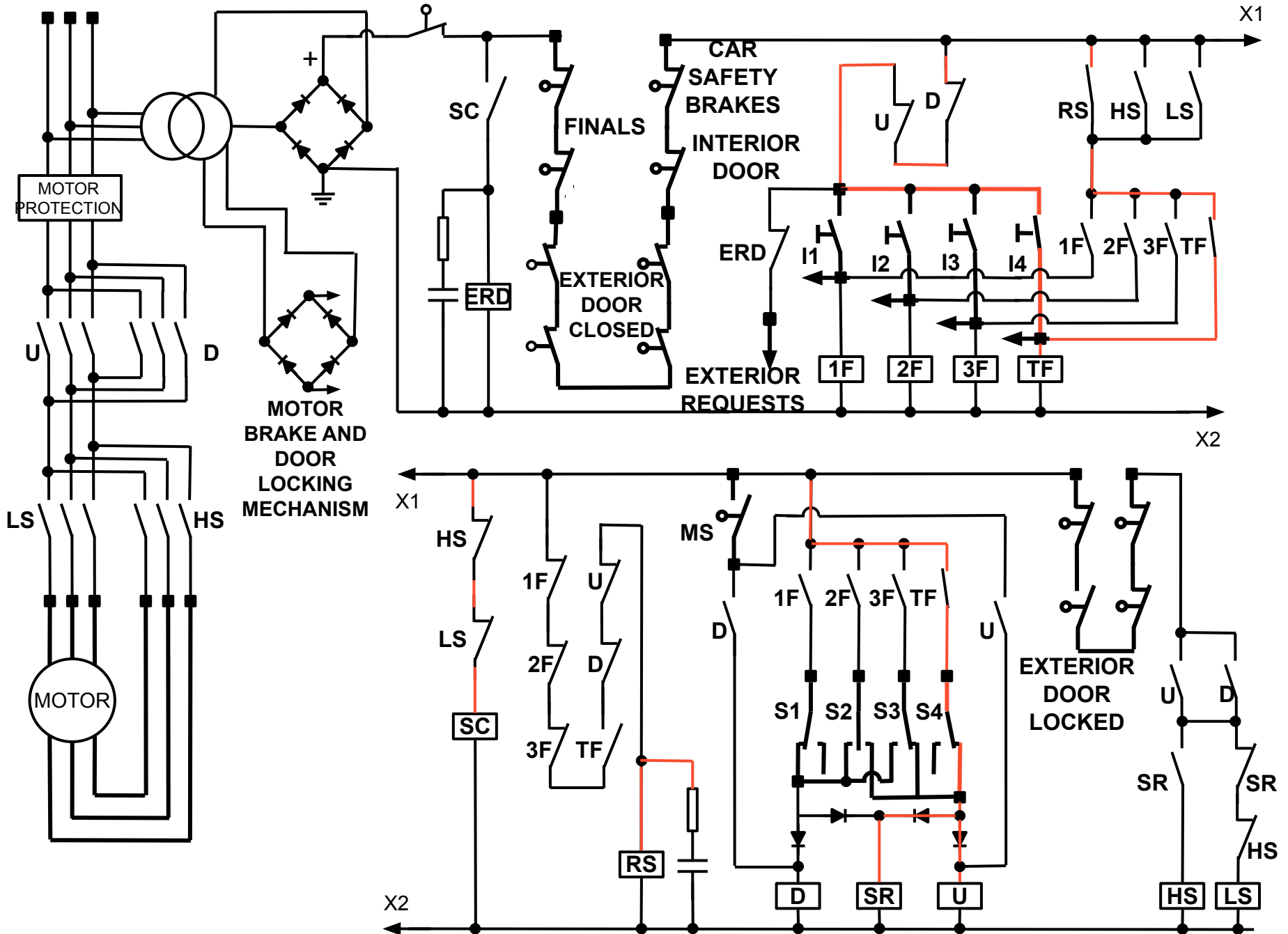


When pressed the request button (I4) energizes the top floor relay (TF)



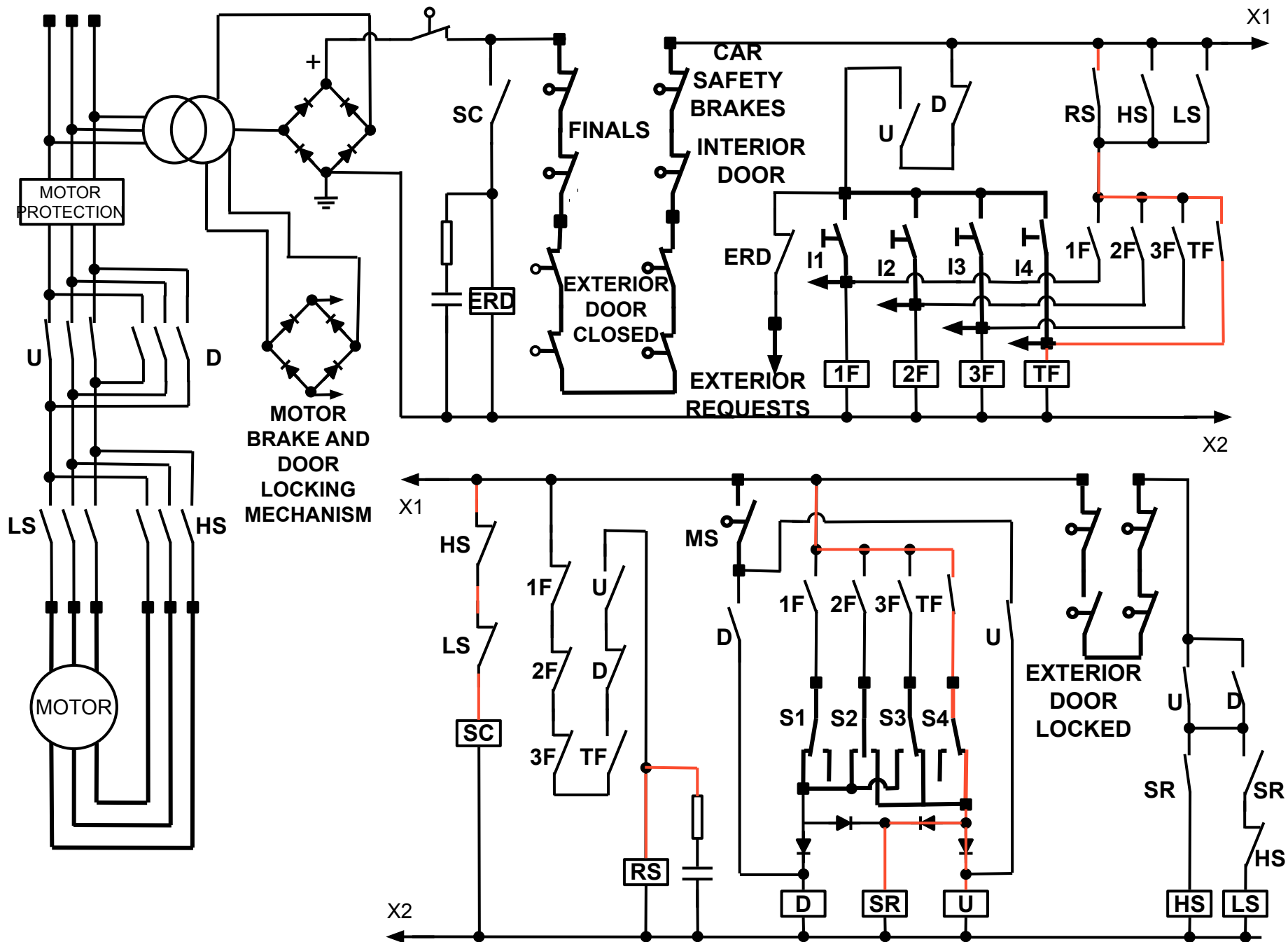
Then the direction contactor (U) and the speed relay (SR) are also energized

380V A.C.



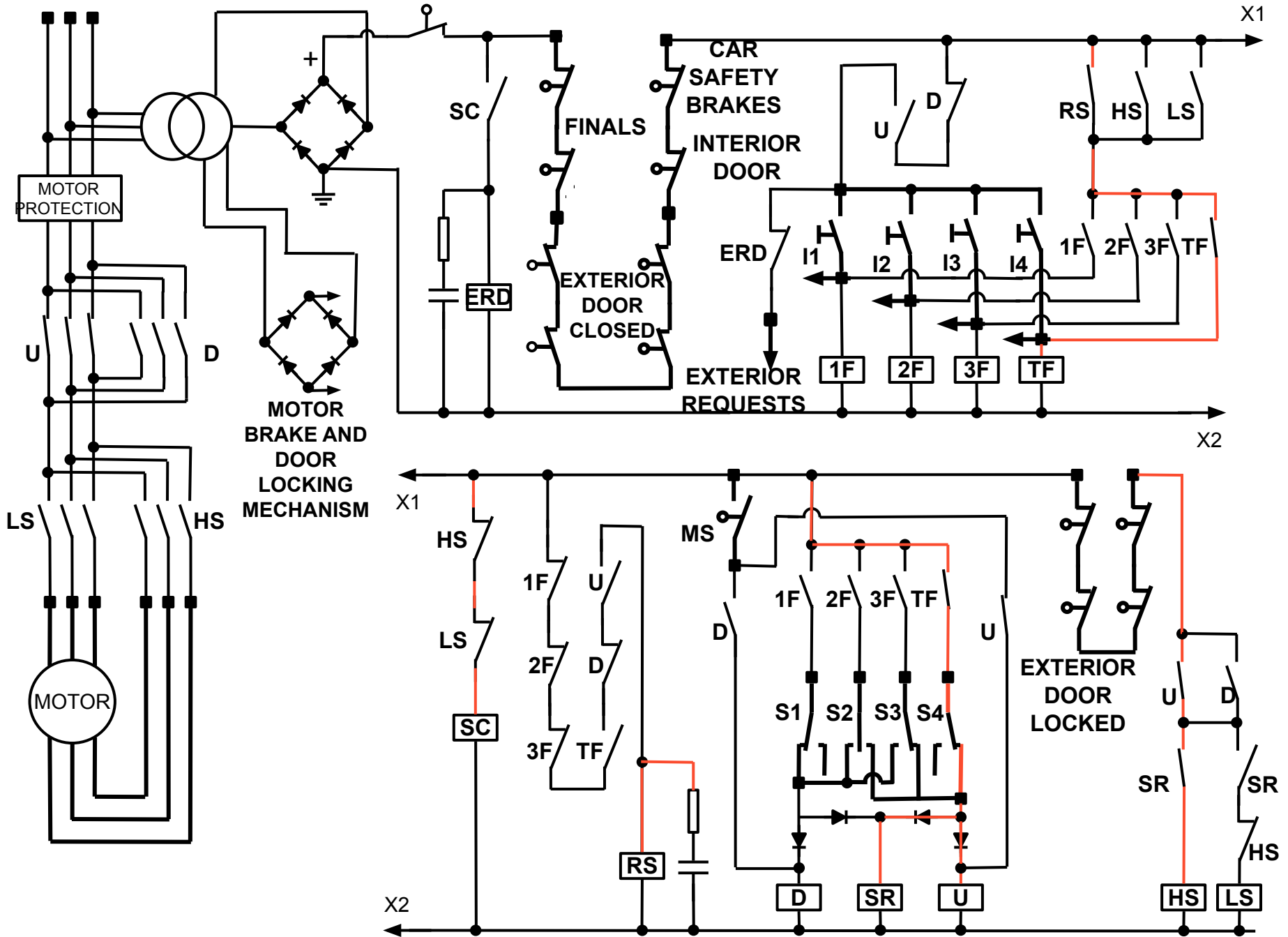
Then the direction contactor (U) and the speed relay (SR) are also energized  
 The reset relay (RS) keeps on for some seconds due to the capacitor

380V A.C.

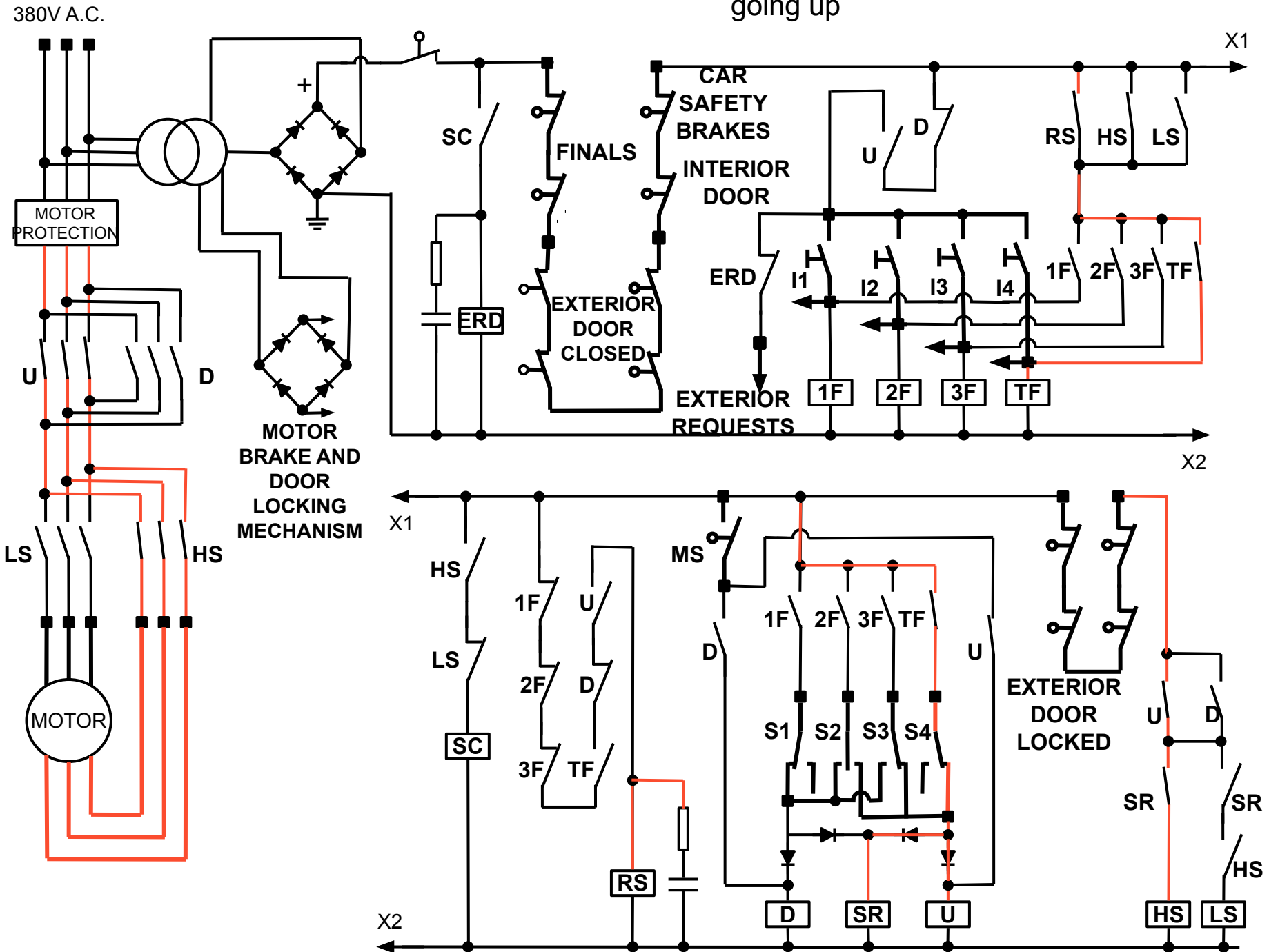


The direction contactor energizes the door locking mechanism. So, once the exterior door is locked, the high speed relay (HS) turns on

380V A.C.

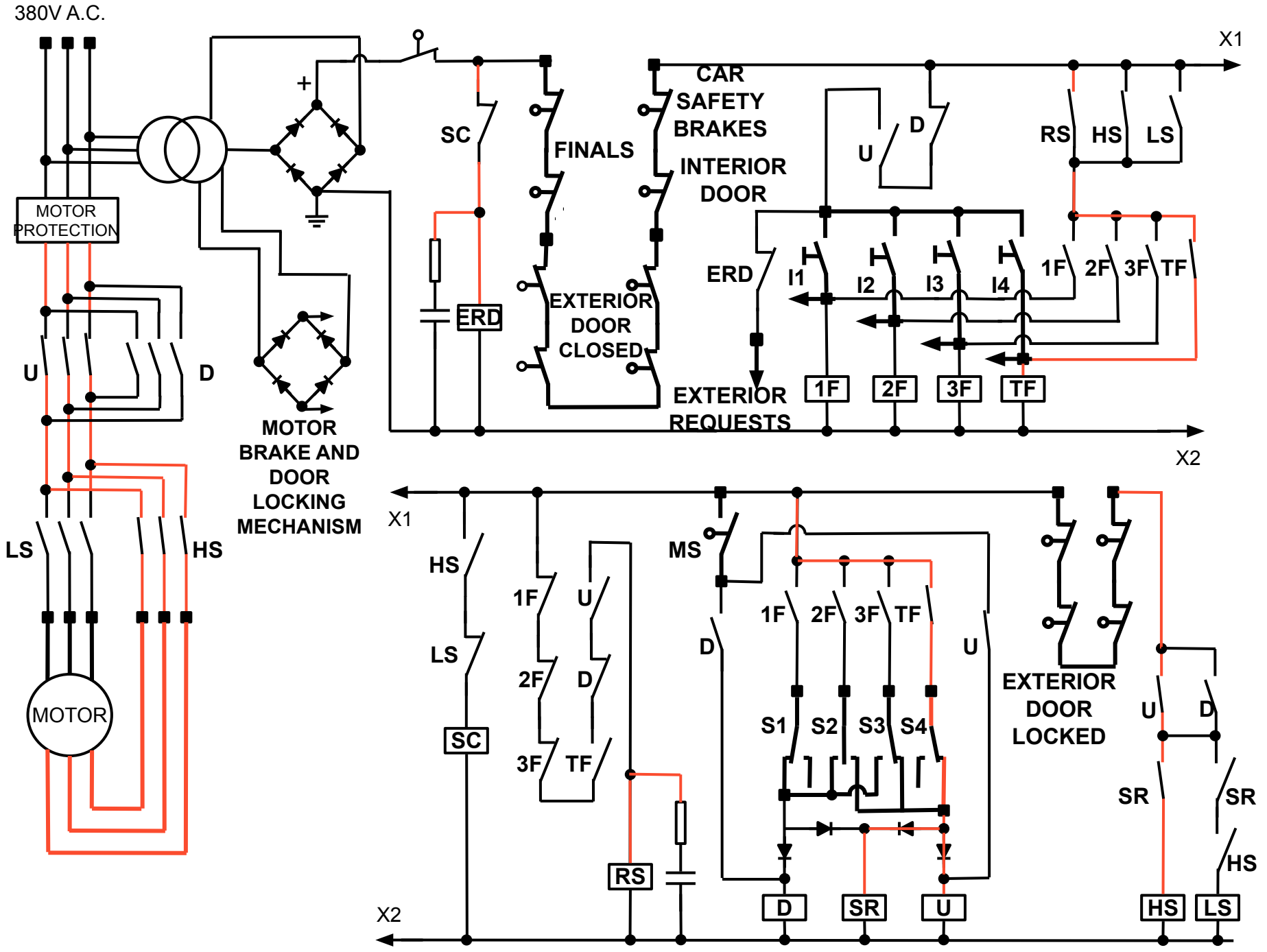


The direction contactor energizes the door locking mechanism. So, once the exterior door is locked, the high speed relay (HS) turns on and the car starts going up

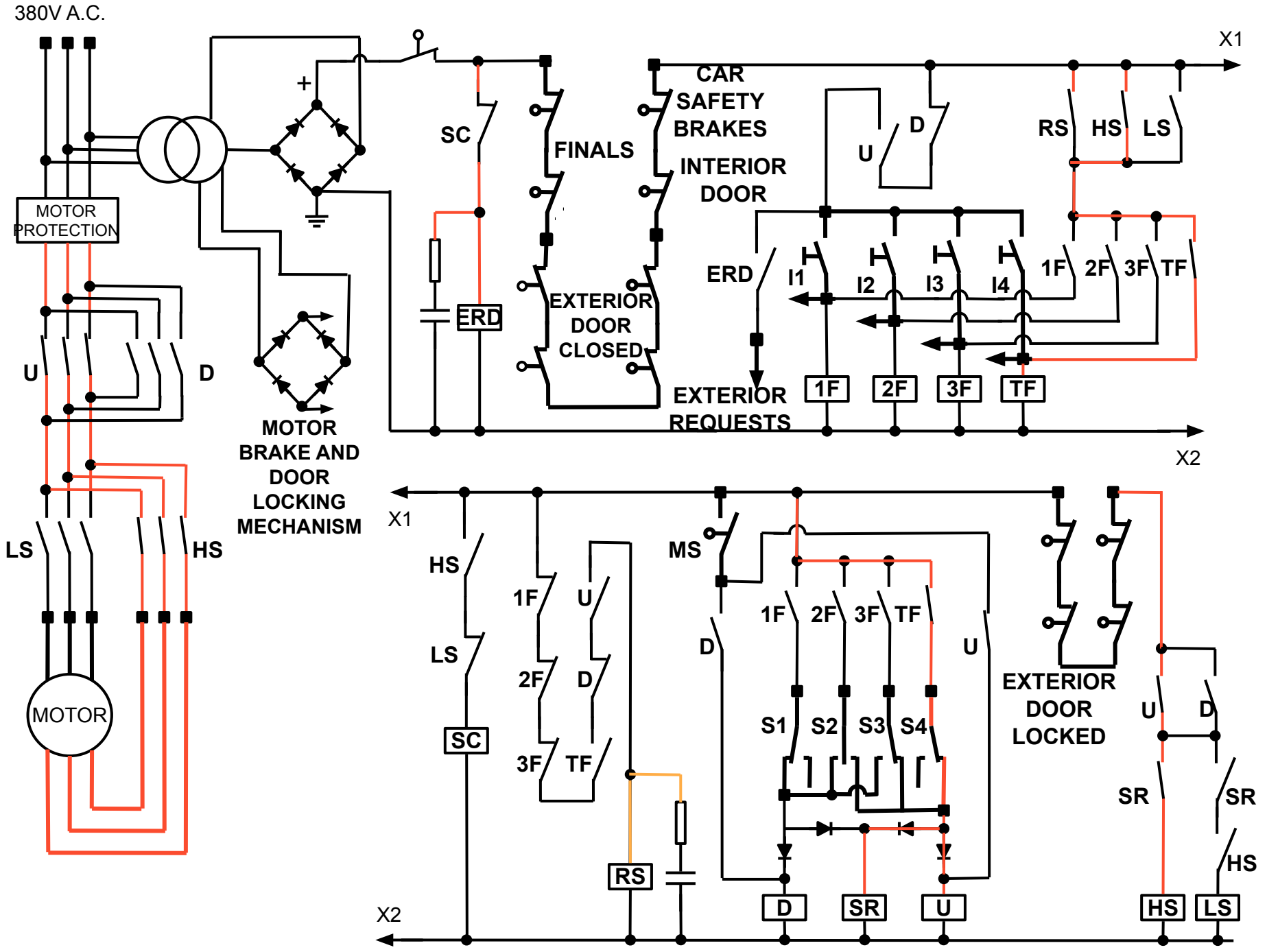




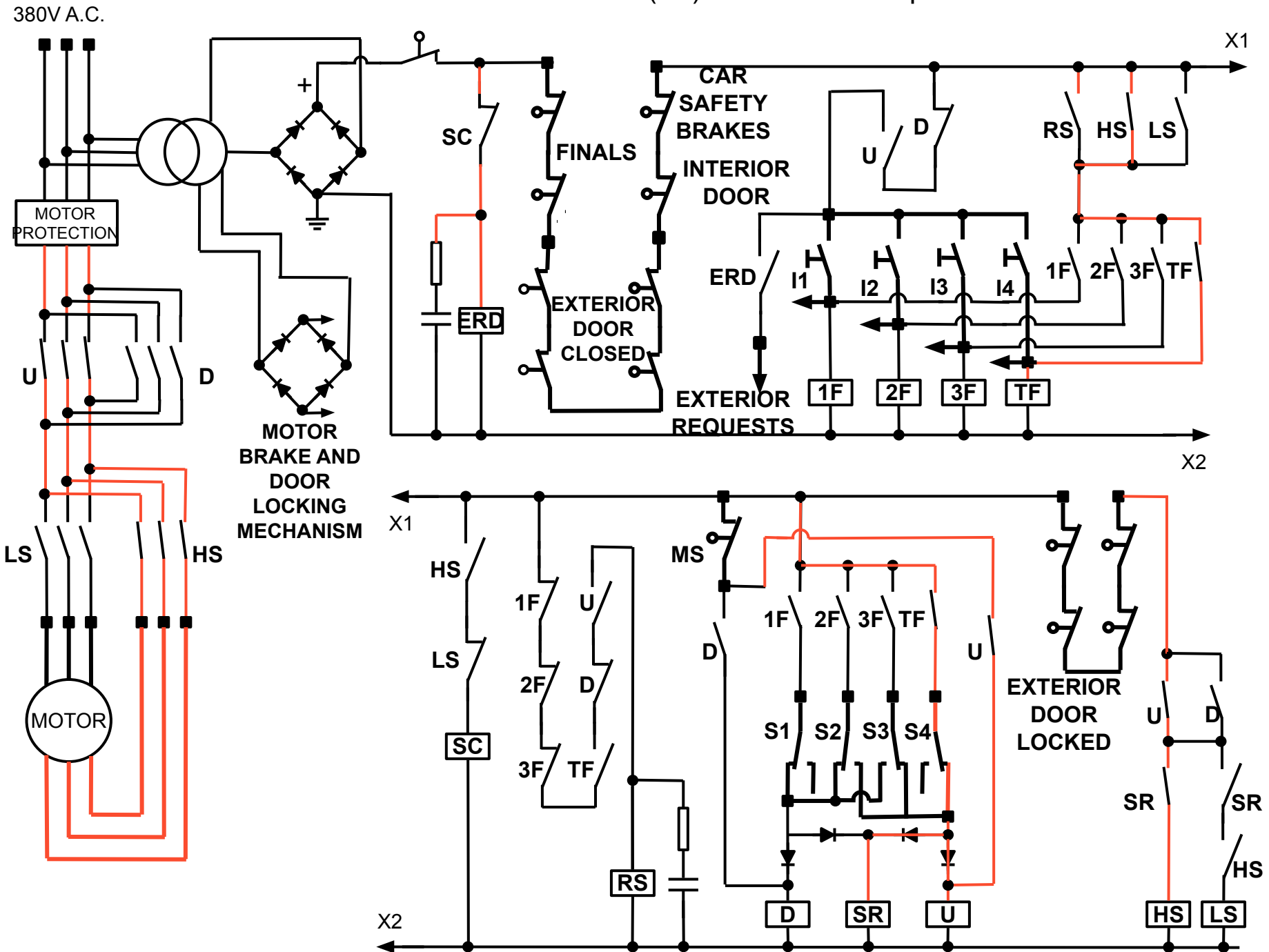
The exterior requests relay (ERD) turns on due to a NC (normal closed) contact of SC



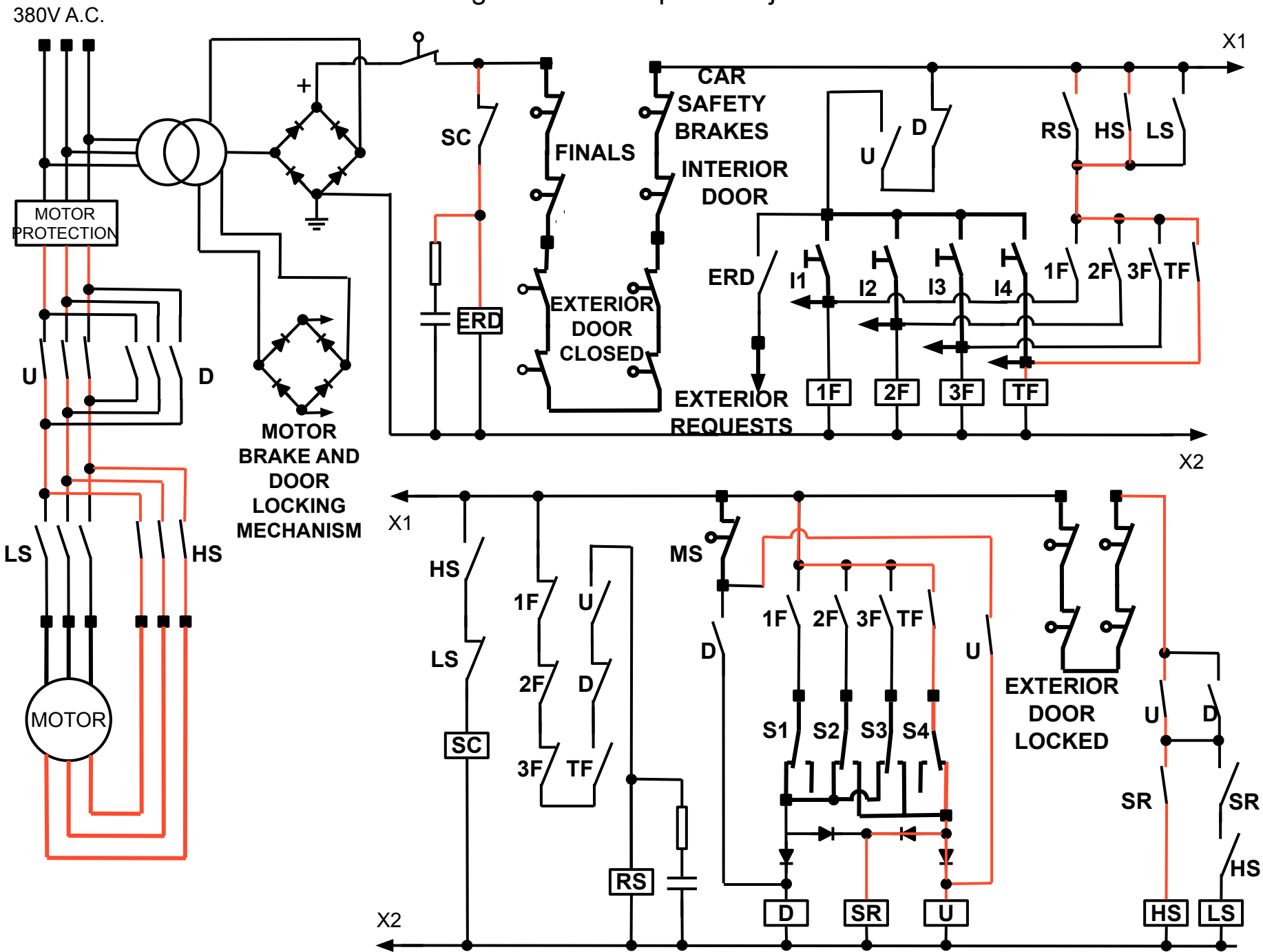
The exterior requests relay (ERD) turns on due to a NC (normal closed) contact of SC



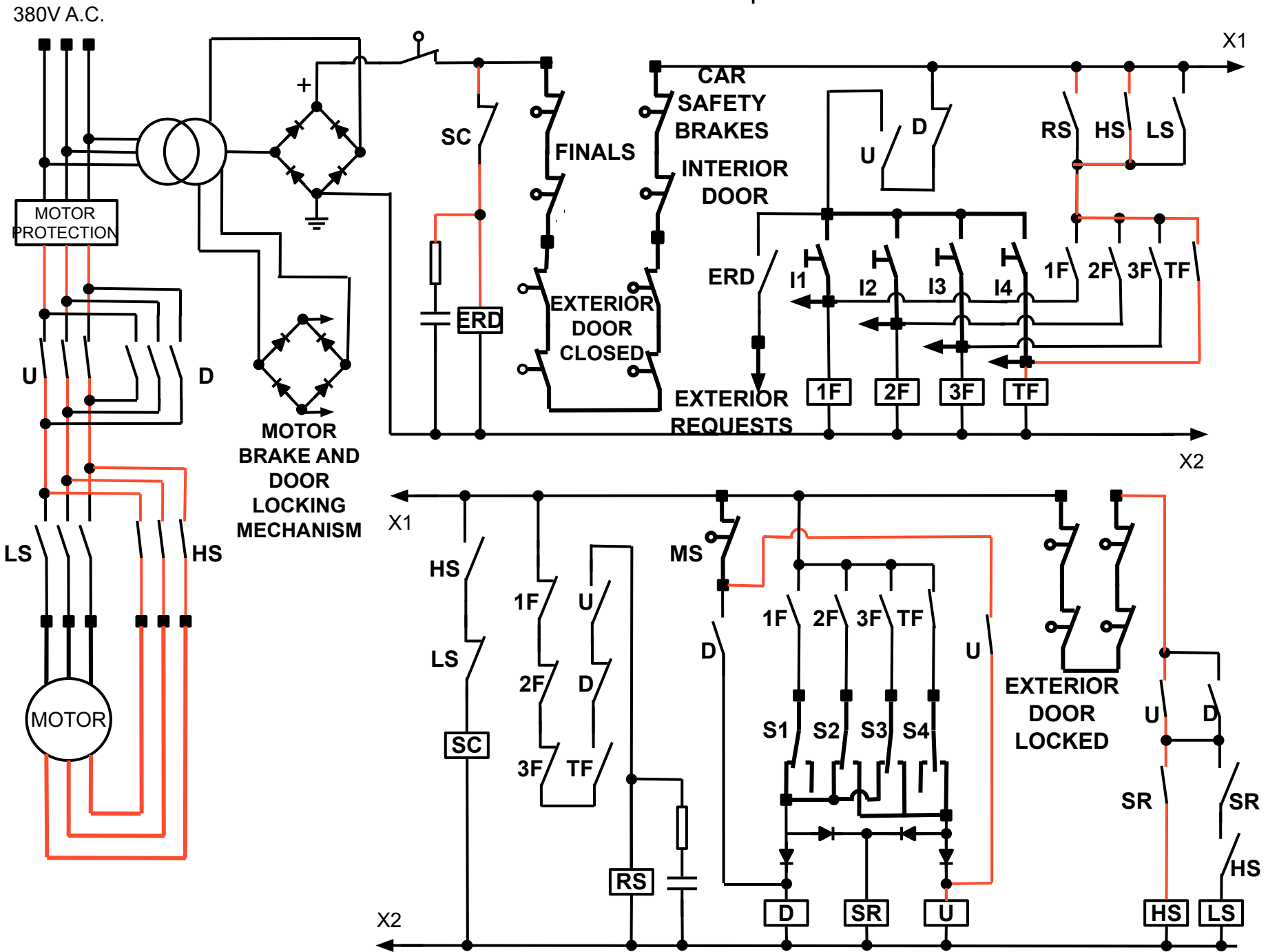
Since the car moves from the floor the level magnetic switch (MS) closes and the direction selector (S2) takes the down position



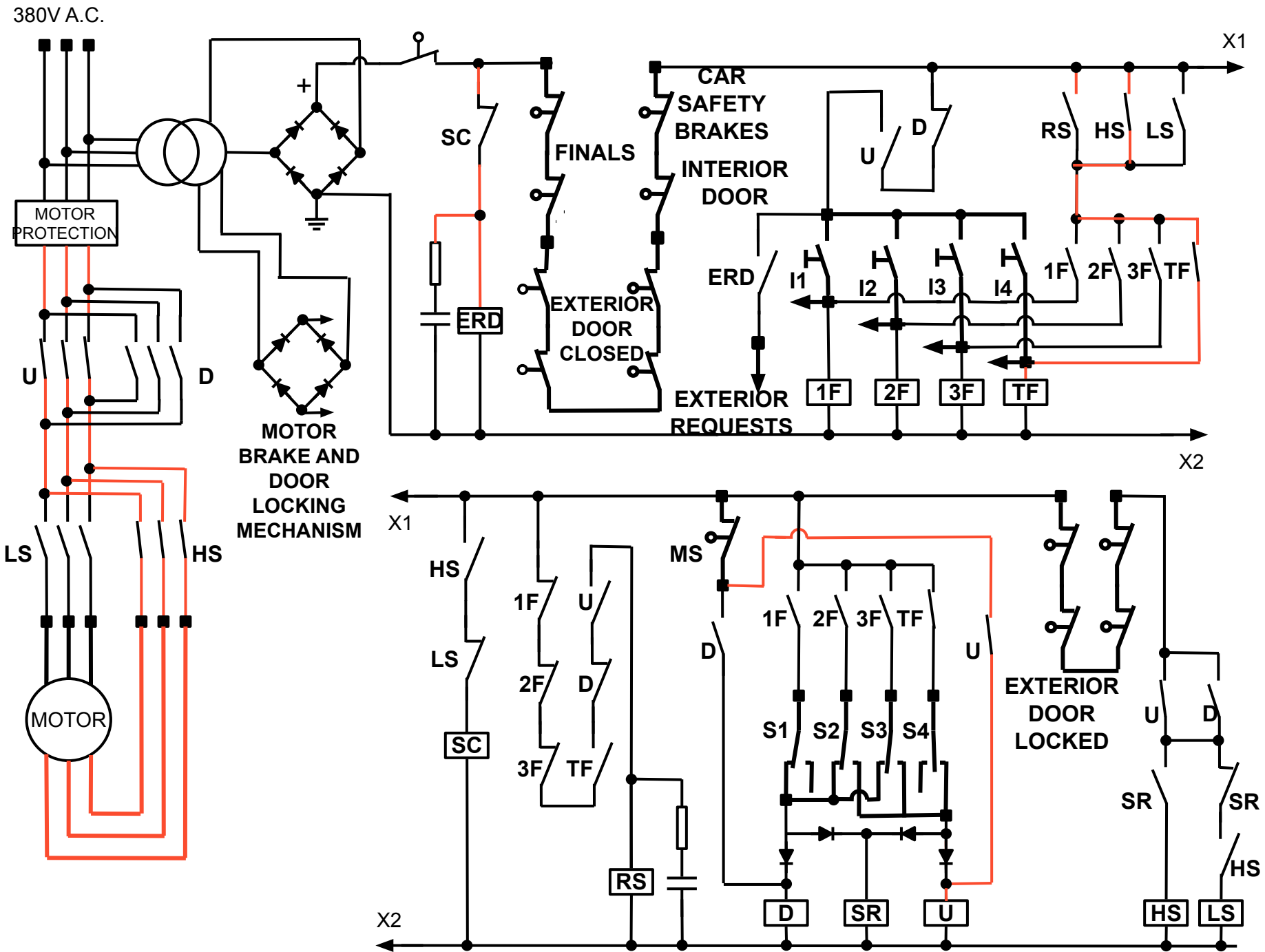
Third floor: the direction selector (S3) takes the down position and the level magnetic switch opens for just a moment



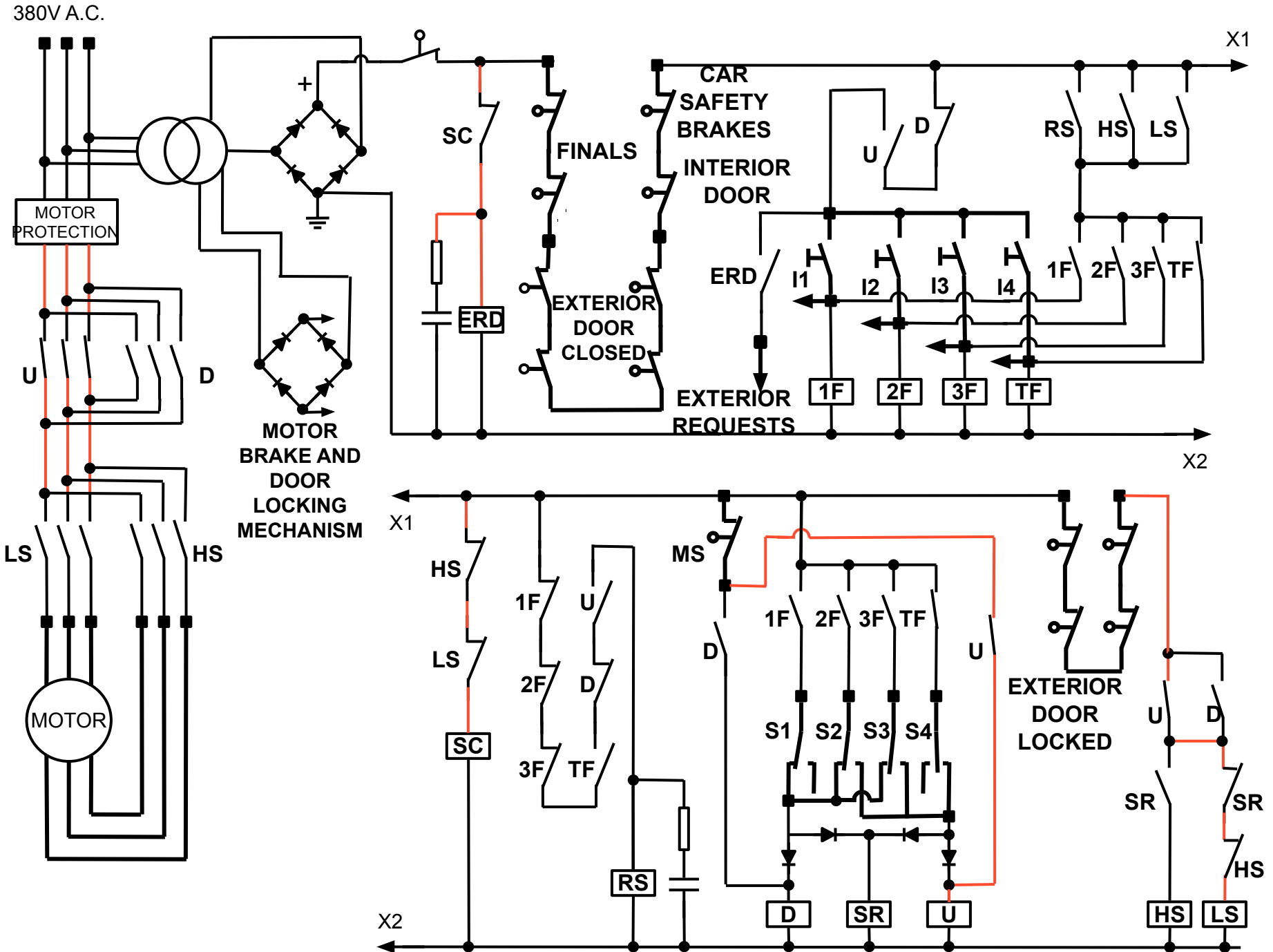
Once the car comes close to the requested floor the direction selector (S4) takes the central position



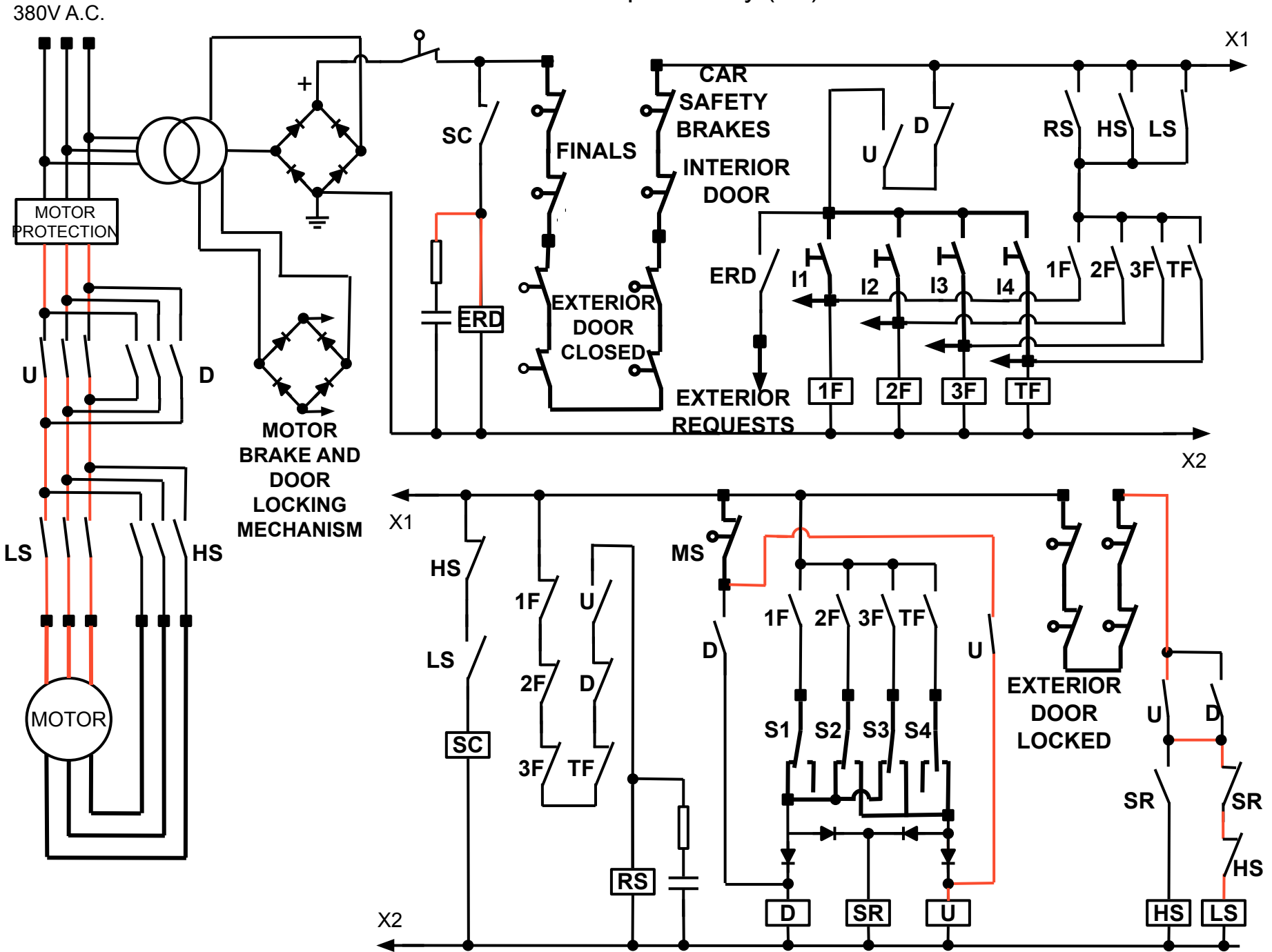
The direction contactor (U) is still energized, while the speed relay (SR) turns off due to the diode



The high speed contactor (HS) turns off, then the low speed contactor (LS) turns on

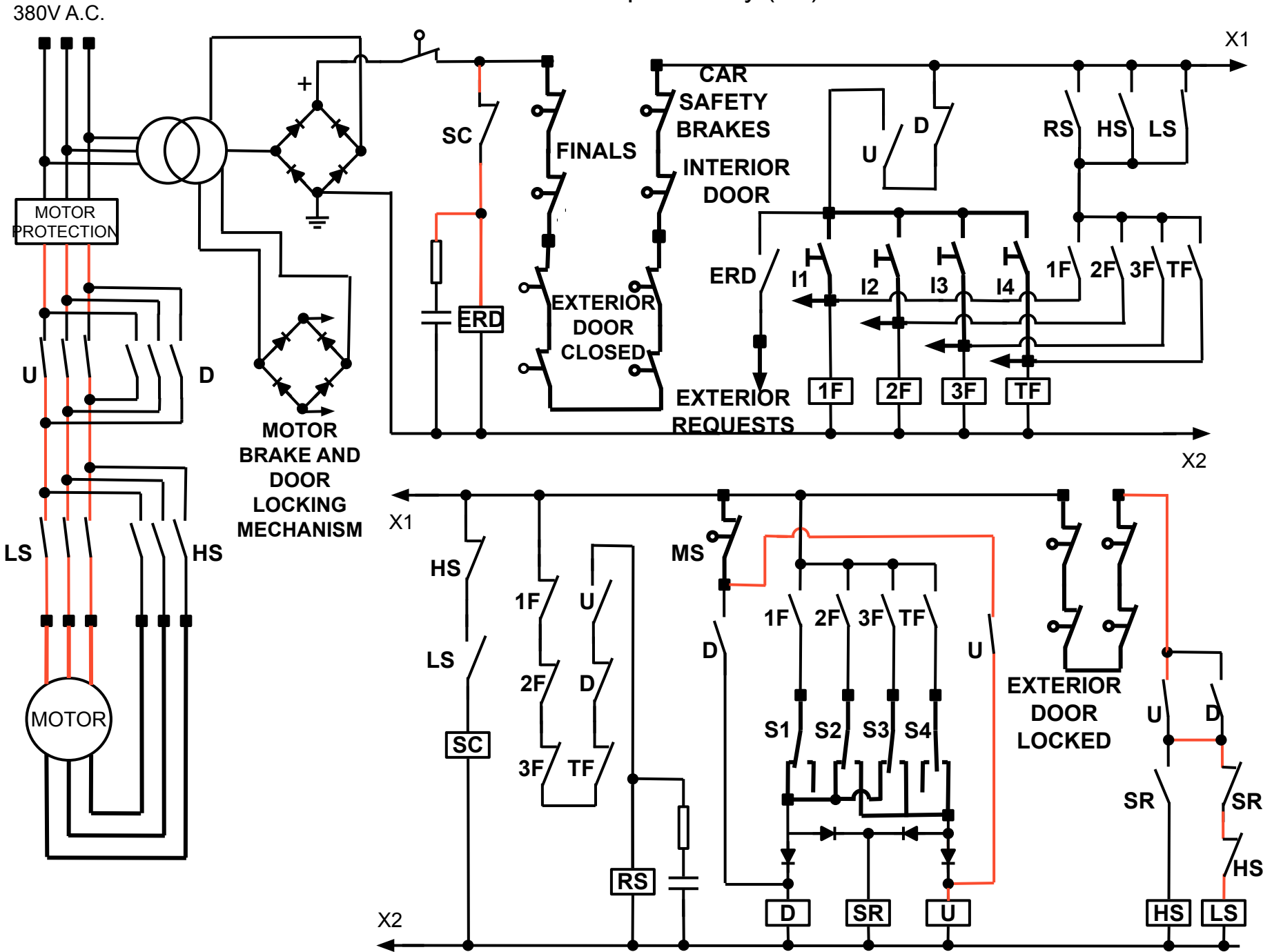


The high speed contactor (HS) turns off, then the low speed contactor (LS) turns on  
 The request relay (TF) turns off

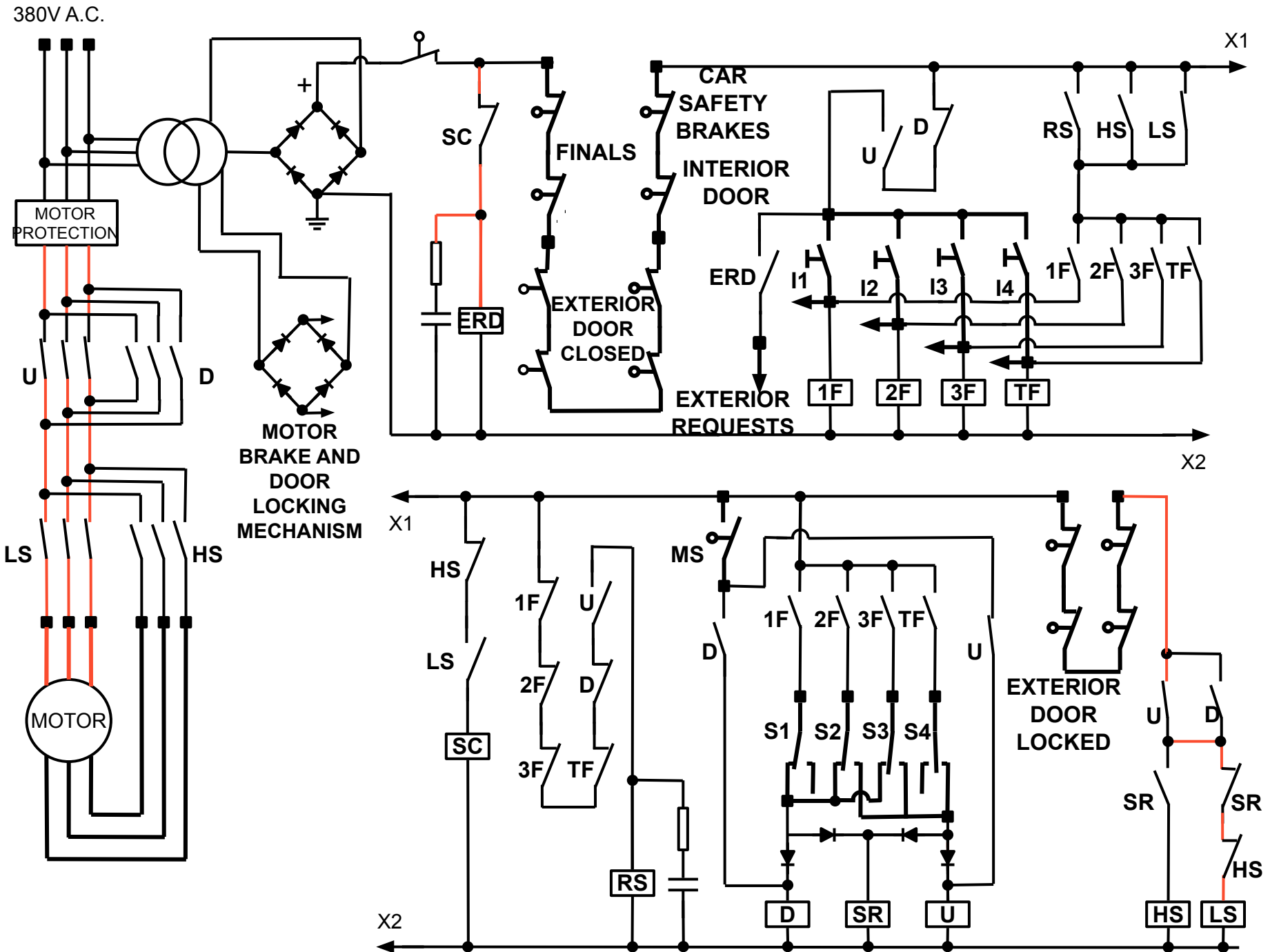




The high speed contactor (HS) turns off, then the low speed contactor (LS) turns on  
 The request relay (TF) turns off

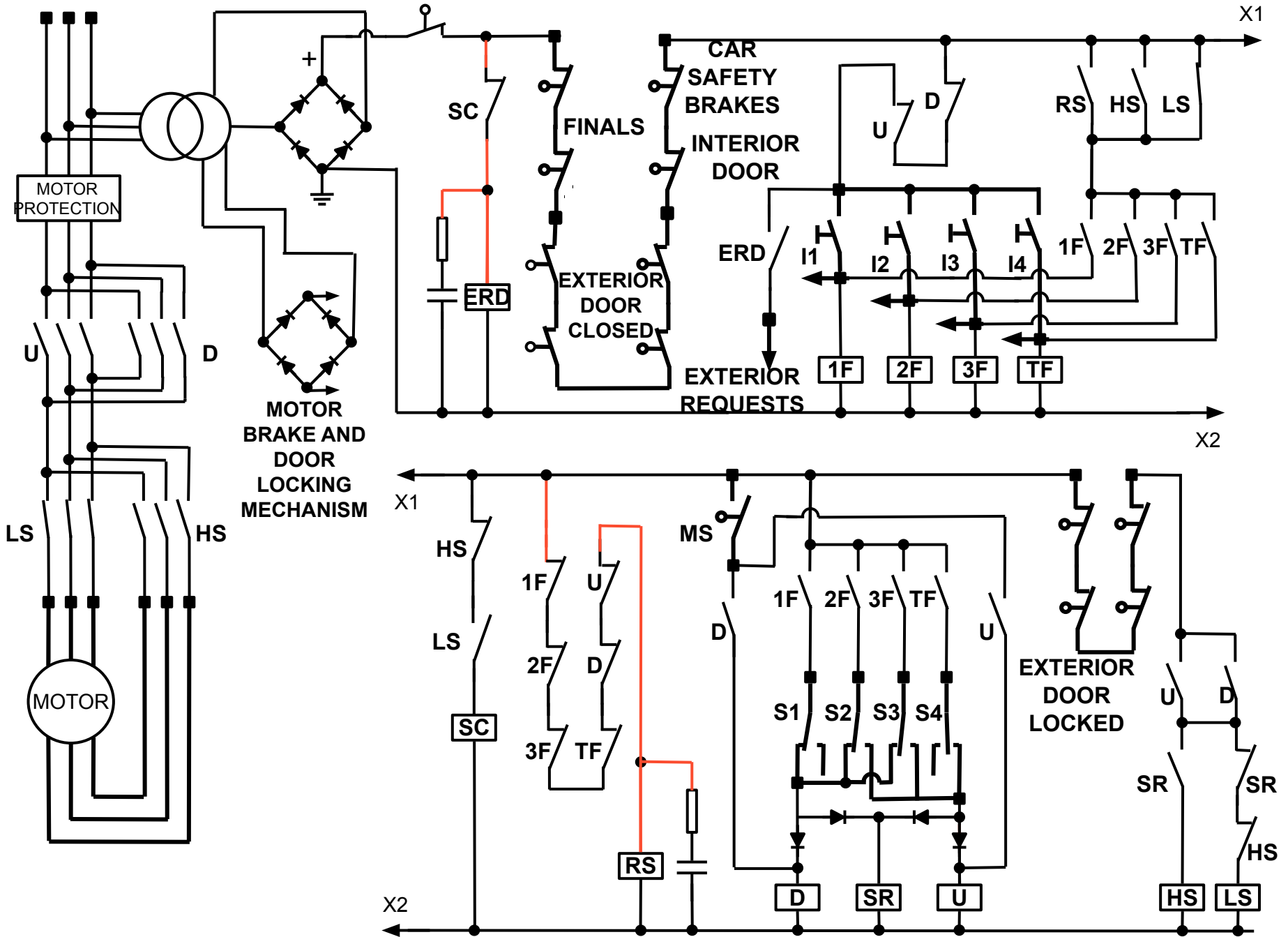


Once the elevator reaches the requested floor the level magnetic switch (MS) opens



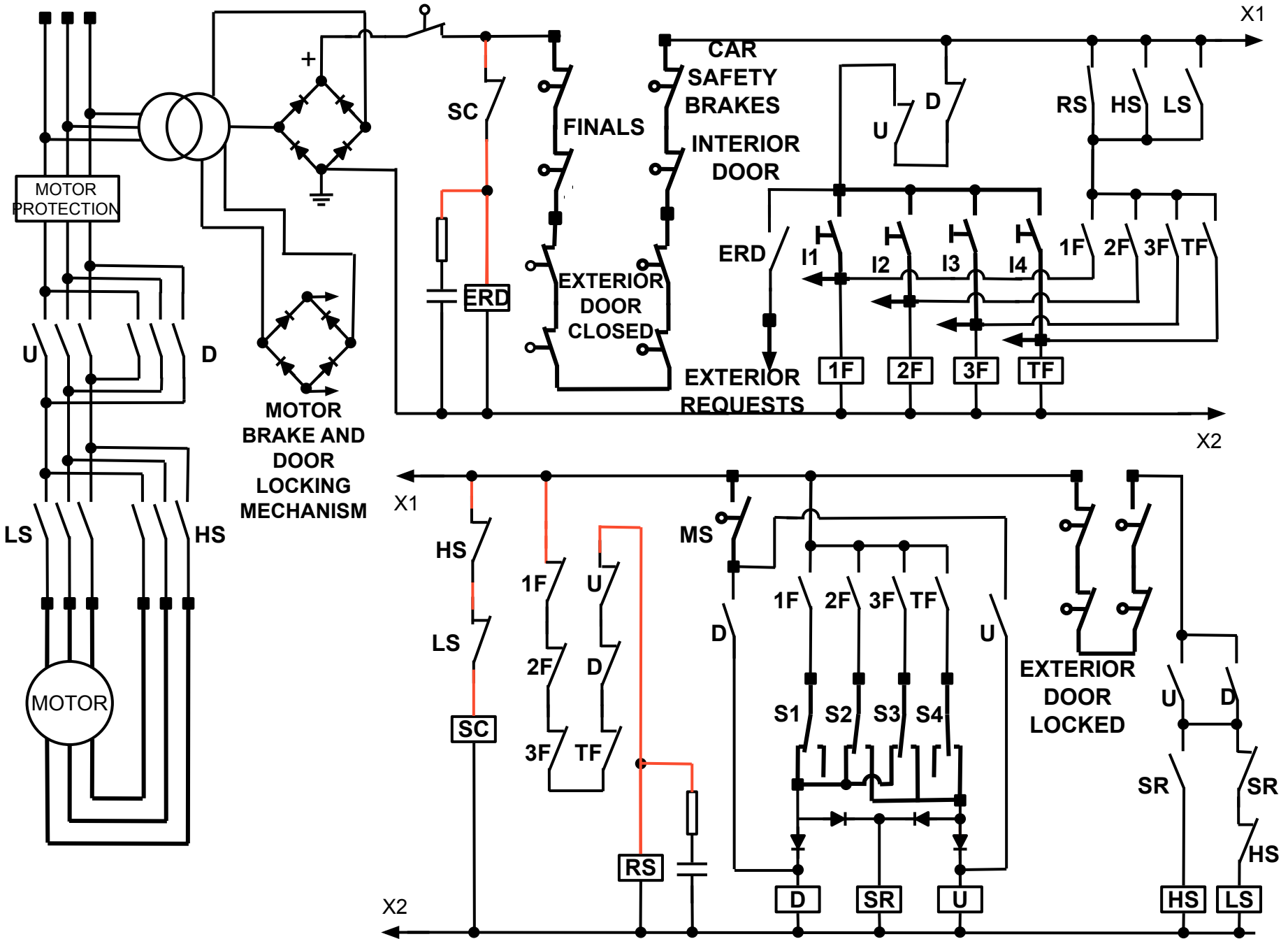
# The contactors and the door locking mechanism turn off

380V A.C.

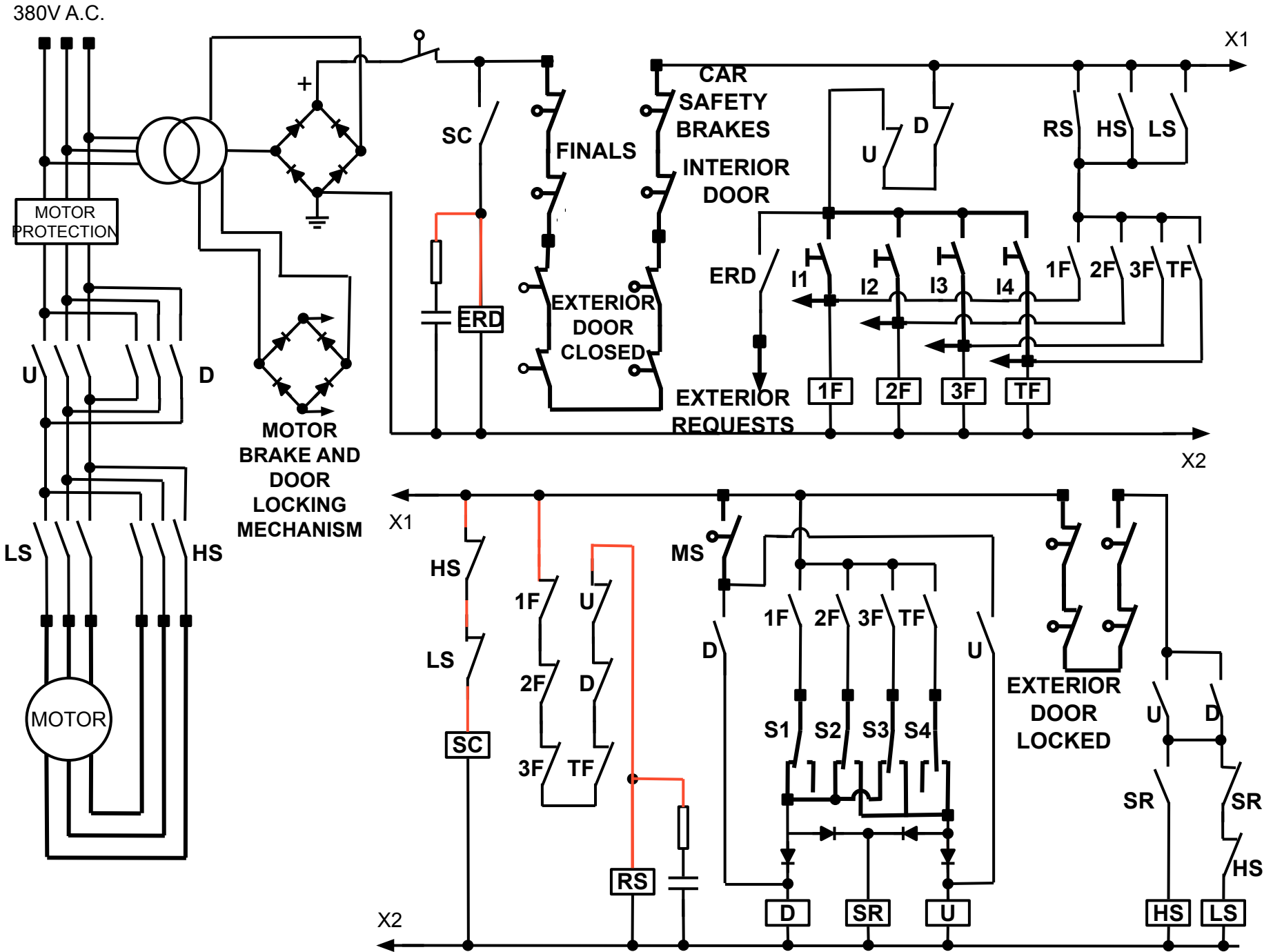


# The contactors and the door locking mechanism turn off

380V A.C.



The exterior requests relay (ERD) turns off some seconds later due to the capacitor



Warning: do not operate on electric and mechanical parts of elevators if you are not an expert

Thank you