**NATURAL LANGUAGE SPECIFICATION: REQUIREMENTS  
(ORIGINALLY WRITTEN, BEFORE PREPROCESSAMENT)**

# Action aliases

ACTION\_1: Reset the flashing timer.

ACTION\_2: Reset the flashing counter.

ACTION\_3: Add 1 to the flashing counter.

ACTION\_4: Assign off to the left indication lights, assign off to the right indication lights.

ACTION\_5: Assign on to the left indication lights, assign off to the right indication lights.

ACTION\_6: Assign off to the left indication lights, assign on to the right indication lights.

ACTION\_7: Assign on to the left indication lights, assign on to the right indication lights.

#REQ-001 Flashing requires sufficient voltage

When the voltage becomes lower than or equal to 80, the lights controller component shall: ACTION\_4, ACTION\_2, ACTION\_1.

When the voltage is greater than 80,

... and the flashing mode is left flashing, and the flashing mode was not left flashing or the voltage was lower than or equal to 80, the lights controller component shall: ACTION\_5, ACTION\_2, ACTION\_1.

... and the flashing mode is right flashing, and the flashing mode was not right flashing or the voltage was lower than or equal to 80, the lights controller component shall: ACTION\_6, ACTION\_2, ACTION\_1.

... and the flashing mode is both flashing, and the flashing mode was not both flashing or the voltage was lower than or equal to 80, the lights controller component shall: ACTION\_7, ACTION\_2, ACTION\_1.

... and the flashing mode is no flashing, the lights controller component shall: ACTION\_4, ACTION\_2, ACTION\_1.

#REQ-002 Flashing with 340ms/320ms on-off periods

When the voltage is greater than 80, and the flashing timer is greater than or equal to 340, and the left indication lights are on or the right indication lights are on, the lights controller component shall: ACTION\_4, ACTION\_1, ACTION\_3.

When the voltage is greater than 80, and the flashing timer is greater than or equal to 220, and the left indication lights are off, and the right indication lights are off,

... and the flashing mode is left flashing or the flashing mode is left tip flashing, the lights controller component shall: ACTION\_5, ACTION\_1.

... and the flashing mode is right flashing or the flashing mode is right tip flashing, the lights controller component shall: ACTION\_6, ACTION\_1.

... and the flashing mode is both flashing, the lights controller component shall: ACTION\_7, ACTION\_1.

#REQ-003 Switch on turn indication left

When the turn indicator lever changes to the left position, and the emergency flashing is off, the flashing mode component shall: assign left flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-004 Switch on turn indication right

When the turn indicator lever changes to the right position, and the emergency flashing is off, the flashing mode component shall: assign right flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-005 Emergency flashing on overrides left/right flashing

When the emergency flashing becomes on, the flashing mode component shall: assign both flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-006 Left-/right flashing overrides emergency flashing

When the emergency flashing is on, and the emergency flashing was on,

... and turn indicator lever changes to the left position, the flashing mode component shall: assign left flashing to the flashing mode, ACTION\_2, ACTION\_1.

... and turn indicator lever changes to the right position, the flashing mode component shall: assign right flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-007 Resume emergency flashing

When the emergency flashing is on, and the emergency flashing was on, and the turn indicator lever changes to the idle position, and the flashing mode is not both flashing, the flashing mode component shall: assign both flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-008 Resume turn indication flashing

When the emergency flashing becomes off,

... and the turn indicator lever is on the left position, and the turn indicator lever was on the left position, and the flashing mode is not left flashing, the flashing mode component shall: assign left flashing to the flashing mode, ACTION\_2, ACTION\_1.

... and the turn indicator lever is on the right position, and the turn indicator lever was on the right position, and the flashing mode is not right flashing, the flashing mode component shall: assign right flashing to the flashing mode, ACTION\_2, ACTION\_1.

#REQ-009 Tip flashing

When the emergency flashing is off, and the emergency flashing was off, and the flashing counter is lower than 3,

... and the turn indicator lever changes from the left position to the idle position, the flashing mode component shall assign left tip flashing to the flashing mode.

... and the turn indicator lever changes from the right position to the idle position, the flashing mode component shall assign right tip flashing to the flashing mode.

When the flashing counter is greater than or equal to 3, and the flashing mode is left tip flashing or the flashing mode is right tip flashing, the flashing mode component shall: assign no flashing to the flashing mode, ACTION\_2, ACTION\_1.

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When the turn indicator lever is on the idle position, and the emergency flashing is off, and the flashing counter is greater than or equal to 3 or the turn indicator lever was on the idle position, and the flashing mode is not left tip flashing, and the flashing mode is not right tip flashing, the flashing mode component shall: assign no flashing to the flashing mode, ACTION\_2, ACTION\_1.

**NATURAL LANGUAGE SPECIFICATION: REQUIREMENTS   
(GENERATED AFTER PREPROCESSAMENT)**

1. when the voltage becomes lower than or equal to 80 , the lights controller component shall : assign off to the left indication lights , assign off to the right indication lights , reset the flashing counter , reset the flashing timer .
2. when the voltage is greater than 80 , and the flashing mode is left flashing , and the flashing mode was not left flashing or the voltage was lower than or equal to 80 , the lights controller component shall : assign on to the left indication lights , assign off to the right indication lights , reset the flashing counter , reset the flashing timer .
3. when the voltage is greater than 80 , and the flashing mode is right flashing , and the flashing mode was not right flashing or the voltage was lower than or equal to 80 , the lights controller component shall : assign off to the left indication lights , assign on to the right indication lights , reset the flashing counter , reset the flashing timer .
4. when the voltage is greater than 80 , and the flashing mode is both flashing , and the flashing mode was not both flashing or the voltage was lower than or equal to 80 , the lights controller component shall : assign on to the left indication lights , assign on to the right indication lights , reset the flashing counter , reset the flashing timer .
5. when the voltage is greater than 80 , and the flashing mode is no flashing , the lights controller component shall : assign off to the left indication lights , assign off to the right indication lights , reset the flashing counter , reset the flashing timer .
6. when the voltage is greater than 80 , and the flashing timer is greater than or equal to 340 , and the left indication lights are on or the right indication lights are on , the lights controller component shall : assign off to the left indication lights , assign off to the right indication lights , reset the flashing timer , add 1 to the flashing counter .
7. when the voltage is greater than 80 , and the flashing timer is greater than or equal to 220 , and the left indication lights are off , and the right indication lights are off , and the flashing mode is left flashing or the flashing mode is left tip flashing , the lights controller component shall : assign on to the left indication lights , assign off to the right indication lights , reset the flashing timer .
8. when the voltage is greater than 80 , and the flashing timer is greater than or equal to 220 , and the left indication lights are off , and the right indication lights are off , and the flashing mode is right flashing or the flashing mode is right tip flashing , the lights controller component shall : assign off to the left indication lights , assign on to the right indication lights , reset the flashing timer .
9. when the voltage is greater than 80 , and the flashing timer is greater than or equal to 220 , and the left indication lights are off , and the right indication lights are off , and the flashing mode is both flashing , the lights controller component shall : assign on to the left indication lights , assign on to the right indication lights , reset the flashing timer .
10. when the turn indicator lever changes to the left position , and the emergency flashing is off , the flashing mode component shall : assign left flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
11. when the turn indicator lever changes to the right position , and the emergency flashing is off , the flashing mode component shall : assign right flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
12. when the emergency flashing becomes on , the flashing mode component shall : assign both flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
13. when the emergency flashing is on , and the emergency flashing was on , and turn indicator lever changes to the left position , the flashing mode component shall : assign left flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
14. when the emergency flashing is on , and the emergency flashing was on , and turn indicator lever changes to the right position , the flashing mode component shall : assign right flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
15. when the emergency flashing is on , and the emergency flashing was on , and the turn indicator lever changes to the idle position , and the flashing mode is not both flashing , the flashing mode component shall : assign both flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
16. when the emergency flashing becomes off , and the turn indicator lever is on the left position , and the turn indicator lever was on the left position , and the flashing mode is not left flashing , the flashing mode component shall : assign left flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
17. when the emergency flashing becomes off , and the turn indicator lever is on the right position , and the turn indicator lever was on the right position , and the flashing mode is not right flashing , the flashing mode component shall : assign right flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
18. when the emergency flashing is off , and the emergency flashing was off , and the flashing counter is lower than 3 , and the turn indicator lever changes from the left position to the idle position , the flashing mode component shall assign left tip flashing to the flashing mode .
19. when the emergency flashing is off , and the emergency flashing was off , and the flashing counter is lower than 3 , and the turn indicator lever changes from the right position to the idle position , the flashing mode component shall assign right tip flashing to the flashing mode .
20. when the flashing counter is greater than or equal to 3 , and the flashing mode is left tip flashing or the flashing mode is right tip flashing , the flashing mode component shall : assign no flashing to the flashing mode , reset the flashing counter , reset the flashing timer .
21. when the turn indicator lever is on the idle position , and the emergency flashing is off , and the flashing counter is greater than or equal to 3 or the turn indicator lever was on the idle position , and the flashing mode is not left tip flashing , and the flashing mode is not right tip flashing , the flashing mode component shall : assign no flashing to the flashing mode , reset the flashing counter , reset the flashing timer .