**ATWS Software Detail Design**

1. Parameter Definition

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IN/OUT | Name | Type | Value Range | Description |
| IN | HW\_CentralunLock\_SW\_ST | UINT8 | 0,1 | Central Unlock 스위치 입력 |
| OUT | BCM\_LeftlightST | UINT9 | 0,1 | Turn Signal CAN 출력 |

1. Truth Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | SRC | DST | Input | Output |
| 1 | ATWS judgment | ATWS Enable | HW\_Centralunlock\_SW\_ST == ON (5s 이상 유지)  If one cycle BCM\_LeftlightST = ON(400ms), OFF(400ms) | ATWS enable 로 상태 천이 |
| 2 | ATWS judgment | ATWS Disable | HW\_Centralunlock\_SW\_ST == ON (5s 이상 유지)  If two cycle BCM\_LeftlightST = ON(400ms), OFF(400ms) | ATWS disable 로 상태 천이 |

1. Functional requirement

ID: FRS\_BFC\_PLUS\_ATWS\_001:

The AWS function call be configured by long pressing the central unlock switch for 5s.

When BCM is sent to DFMC at factory, it will be activated default. User can activate it by long pressing the central unlock switch for 5s.

If ATSW is off, BCM will always disarmed.

When ATWS is OFF, long pressing the central unlock sw for 5s, ATWS function will OPEN, and BCM will do a hazard flashing for 800ms (one cycle: 400ms ON, 400ms OFF).

When ATWS is ON, long pressing the central unlock sw for 5s, ATWS function will OFF, and BCM will do a hazard flashing for 1600ms(two cycles: 400ms ON, 400ms OFF, 400ms ON, 400ms OFF).

~~The ATSW function consists of 5states, which are Disarmed, Pre-armed, Armed, Partially Armed, and Alarm state~~.

1. SWRS

**ATWS\_1**. When ATWS is OFF, long pressing the central unlock sw for 5s, ATWS function will OPEN.

Input: central unlock switch [](http://localhost:31415/matlab/feval/rmiobjnavigate?arguments=%5b%22ATWS.slx%22,%22:1%22%5d)

Output: BCM left light state

**ATWS\_2**. BCM will do a hazard flashing for 800ms (one cycle: 400ms ON, 400ms OFF) after ATWS is enable from ATWS\_1. [](http://localhost:31415/matlab/feval/rmiobjnavigate?arguments=%5b%22ATWS.slx%22,%22:1%22%5d)

**ATWS\_3**. When ATWS is ON, long pressing the central unlock sw for 5s, ATWS function will OFF [](http://localhost:31415/matlab/feval/rmiobjnavigate?arguments=%5b%22ATWS.slx%22,%22:1%22%5d) .

**ATWS\_4**. BCM will do a hazard flashing for 1600ms(two cycles: 400ms ON, 400ms OFF, 400ms ON, 400ms OFF) after ATWS is disable from ATWS\_3. [](http://localhost:31415/matlab/feval/rmiobjnavigate?arguments=%5b%22ATWS.slx%22,%22:1%22%5d)

Description

1. ATWS is OFF: ATWS function is disable
2. ATWS is ON: ATWS function is enable
3. ATWS function will OPEN: ATWS state is enable
4. ATWS function will OFF: ATWS state is disable

Functionality

1. When the central unlock switch is pressed longer than 5 seconds, ATWS function is OPEN(enable) in case that ATWS function is OFF(disable). Emergency light is blink once simultaneously.
2. When the central unlock switch is pressed longer than 5 seconds. ATSW function is OFF(disable) after ATWS function is ON(enable). Emergency light is blink twice simultaneously.