Interior Lights System Description - Control/Function

Interior Lights Control

Initial state of connection of electric power supply

In the initial state of connection of electric power supply, close/open of each door is detected and controlled without being affected by states of the vehicle mode and the driver's door lock knob switch.

Input			Output Control	
Each Door Switch	Ignition Key Switch*	Vehicle Mode	Before Input Change	After Input Change
All ON (Door open)	ON (Key inserted)	——	——	Lights ON
	OFF (Key removed)	——	——	Lights ON by timer condition 3
All OFF (Door close)	——	——	——	Lights OFF

*: Without keyless access system
NOTE: The "——" means that not use on this system.

Driver's door lock knob switch link

When the driver's door lock knob switch moves from the lock/unlock position, the MICU detects a driver's door open/close position, and controls the interior lights.

Input				Output Control	
Driver's Door Lock Knob Switch (ON: LOCK)	Each Door Switch	Ignition Key Switch*	Vehicle Mode	Before Input Change	After Input Change
ON → OFF	All OFF (Door close)	OFF (Key removed)	OFF (LOCK) mode	Lights ON	Lights ON by timer condition 1
				Lights OFF	Lights ON by timer condition 5
		ON (Key inserted)	OFF (LOCK) mode	——	Continue the status before input change
	Any ON (Door open)	——	OFF (LOCK) mode	——	
OFF → ON	All OFF (Door close)	——	OFF (LOCK) mode	——	Lights OFF
	Any ON (Door open)	——	OFF (LOCK) mode	——	Continue the status before input change

*: Without keyless access system
NOTE: The "——" means that not use on this system.

Each door switch link

Anytime a door switch closes (ON signal), the MICU provides a ground to the interior lights.

Input				Output Control	
Each Door Switch	Driver's Door Lock Knob Switch	Ignition Key Switch*	Vehicle Mode	Before Input Change	After Input Change
Any ON (Door open) ↓ All OFF (Door close)	OFF (UNLOCK)	OFF (Key removed)	OFF (LOCK) mode	Lights ON	Lights ON by timer condition 2
				Lights OFF	Continue the status before input change
		ON (Key inserted)	ON mode	——	Lights OFF

		——	——	——	Lights OFF
	ON (LOCK)	——	——	——	

*: Without keyless access system
NOTE: The "——" means that not use on this system.

Any OFF (Door close) ↓ Any ON (Door open)	——	OFF (Key removed)	OFF (LOCK) mode	Lights ON	Lights ON by timer condition 3 (Timer restart)
				Lights OFF	Lights ON by timer condition 3
			ON mode	——	Lights ON
		ON (Key inserted)	——	——	

*: Without keyless access system
NOTE: The "——" means that not use on this system.

Ignition key switch link (without keyless access system)

When the system detects that the ignition key is inserted into the ignition key switch, it provides a ground to the interior lights.

Input			Output Control	
Ignition Key Switch	**Each Door Switch**	**Vehicle Mode**	**Before Input Change**	**After Input Change**
ON (Key inserted) ↓ OFF (Key removed)	All OFF (Door close)	OFF (LOCK) mode	Lights ON	Lights ON by timer condition 1
			Lights OFF	Lights ON by timer condition 5
	Any ON (Door open)	OFF (LOCK) mode	——	Lights ON by timer condition 3
OFF (Key removed) ↓ ON (Key inserted)	All OFF (Door close)	OFF (LOCK) mode	——	Continue the status before input change
	Any ON (Door open)	OFF (LOCK) mode	——	Lights ON

NOTE: The "——" means that not use on this system.

Ignition switch or engine start/stop switch link

If all doors are closed and the vehicle is turned to the ON mode, the MICU fades off the interior lights.

Input			Output Control	
Vehicle Mode	**Ignition Key Switch***	**Each Door Switch**	**Before Input Change**	**After Input Change**
ON mode ↓ OFF (LOCK) mode	OFF (Key removed)	All OFF (Door closed)	Lights ON	Lights ON by timer condition 1
			Lights OFF	Lights ON by timer condition 5
		Any ON (Door open)	——	Lights ON by timer condition 3
		All OFF (Door closed)	——	Lights OFF
		Any ON (Door open)	——	Lights ON by timer condition 3
	ON (Key inserted)	——	——	Continue the status before input change
OFF (LOCK) mode ↓ ON mode	ON/OFF (Key inserted/Key removed)	All OFF (Door closed)	——	Lights OFF
		Any ON (Door open)	——	Lights ON

*: Without keyless access system
NOTE: The "——" means that not use on this system.

Keyless link

When the MICU receives a keyless lock/unlock signal from the immobilizer-keyless control unit[*1] or the keyless access control unit[*2],

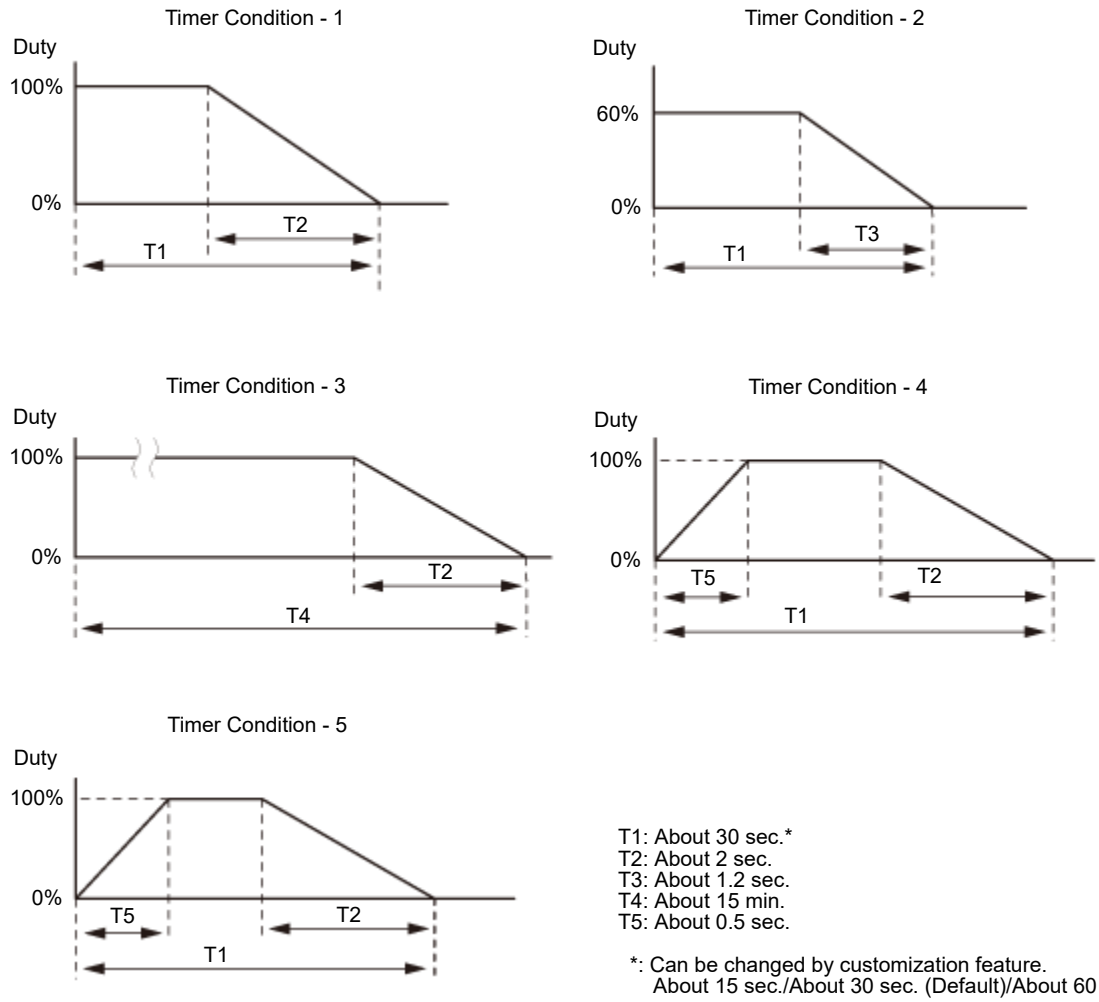
it provides a ground to the interior lights.

Input			Output Control	
Keyless Door LOCK/UNLOCK signal	**Each Door Switch**	**Driver's Door Lock Knob Switch (ON: LOCK)**	**Before Input Change**	**After Input Change**
UNLOCK signal	All OFF (Door close)	ON to OFF, or OFF	——	Lights ON by timer condition 4
		ON	——	Continue the status before input change
	Any ON (Door open)	——	——	Lights ON by timer condition 3
LOCK signal	All OFF (Door close)	OFF to ON, or ON	——	Lights OFF
		OFF	——	Continue the status before input change
	Any ON (Door open)	——	——	Continue the status before input change

*1: Without keyless access system
*2: With keyless access system
NOTE: The "——" means that not use on this system.

Timer Control

The chart shows lighting duration, along with the dimming function that occurs at the end of the timer period.



T1: About 30 sec.*
T2: About 2 sec.
T3: About 1.2 sec.
T4: About 15 min.
T5: About 0.5 sec.

*: Can be changed by customization feature.
About 15 sec./About 30 sec. (Default)/About 60 sec.

Trunk Link Control

The MICU controls the trunk light ON/OFF based upon the trunk lid latch switch signal.