Garage Door

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A HomeKit Garage Door service. This can be used to manage your garage door driver, or be a stand-alone fully working driver.

If you don't use a sensor, or use only one, Door Working Time will be used to determine door state. If you use both sensors (for open and close: `"f2"` to `"f5"`), Door Working Time will be used as a security measure alerting when an obstruction is detected if the door does not complete operation before the working time expires. If you also define an Obstruction Detection Time then the sum of the Working Time and Obstruction Detection Time is used.

Type	Service Type
`40`	Garage Door

The following configuration is available for garage doors:

Section	Key	Description
Actions	`"0"`, `"1"`, etc.	The actions performed by the service
Digital Inputs	`"b"`	GPIOs that invoke specific actions
Inching Time	`"i"`	Time period before returning service to close state
State & Status Inputs	`"f[n]"`	Inputs that manage service state
Service Notifications	`"m"`	Notifications sent from another service
Initial Lock State	`"ks"`	Lock state at boot
Initial State	`"s"`	State a garage door service enters on boot
Door Opening Time	`"d"`	Time door takes to open
Door Closing Time	`"c"`	Time door takes to close

Section	Key	Description
Obstruction Detection Time	`"e"`	Time allowed to detect door obstruction
Virtual Stop	`"vs"`	Simulates stop function from Home App
Service Characteristics		

Garage Door Example

```
{
  "c":{"l":13,"b":[{"g":0,"t":5}]},
  "a":[{
    "t":40,
    "d":18,
    "0":{"r":[{"g":12,"v":1,"i":0.5}]},
    "1":{"a":0},
    "2":{"r":[{"g":12,"i":1.5},{"g":12,"v":1,"i":0.5},{"g":12,"v":1,"i":2}]},
    "3":{"a":2},
    "f3":[{"g":14,"t":0}],
    "f4":[{"g":14,"t":1}]
  }]
}
```

This is an example of a device used to control a garage door (`"t":40`). The door takes 18 seconds to open (`"d":18`).

The four key actions are defined; Door is opened and receives closing order (`"0"`), door is closed and receives opening order (`"1"`), door is opening and receives closing order (`"2"`) & door is closing and receives opening order (`"3"`).

The door control is done using GPIO 12 and actions `"1"` and `"3"` are duplicates of actions `"0"` and `"2"` respectively (see Copy Action).

GPIO 14 indicates the the closed state of the door i.e. when the door is fully closed `"f3"` is triggered. When the door begins to open `"f4"` is triggered indicating, via GPIO `14` that the door is no longer closed.

Actions

A garage door has a number of actions as documented below:

Key	Action	Description
`"0"`	Close an open door	Handle request to close an open door
`"1"`	Open a closed door	Handle request to open a closed door
`"2"`	Close an opening door	Handle changing direction of opening action
`"3"`	Open a closing door	Handle changing direction of closing action
`"4"`	Opened door detected	Handle door has opened
`"5"`	Closed door detected	Handle door has closed
`"6"`	Opening door detected	Handle door opening
`"7"`	Closing door detected	Handle door closing
`"8"`	Obstruction removed	Handle the removal of an obstruction
`"9"`	Obstruction detected	Handle the detection of an obstruction
`"10"`	Emergency stop	Handle an emergency stop
`"11"`	Obstruction detected by time	Handle the detection of an obstruction by Obstruction Detection Time
`"12"`	Close a stopped door	Handle request to close a middle open stopped door
`"13"`	Open a stopped door	Handle request to open a middle open stopped door

The Digital Outputs `"r": [{}]` for each should be configured to attain the desired state.

Door Opening Time

The door opening time is defined by the `"d"` key contained within the service object.

Key	Value	Description
`"d"`	`30`	**Door takes 30 seconds to open (*default*)**
	`1` to `65535`	Integer value specifying number of seconds

This option specifies the time needed for the garage door to completely open. It is an integer (no decimals).

Door Closing Time

Door Closing Time was introduced in firmware version `1.0.0`

The door closing time is defined by the `"c"` key contained within the service object. If this key is not declared, the door opening time value will be used i.e. the value from the `"d"` key.

Key	Value	Description
`"c"`	`1` to `65535`	Integer value specifying number of seconds

This option specifies the time needed for the garage door to completely close. It is an integer (no decimals).

Obstruction Detection Time

Obstruction detection time was introduced in firmware version `0.8.7`

Obstruction detection time is defined by the `"e"` key contained within the service object.

Key	Value	Description
`"e"`	`0`	**Door obstruction detection disabled (*default*)**
	`1` to `65535`	Integer value specifying number of seconds

This option specifies the time allowed for the garage door to detect an obstruction when door open/close sensors are used. It is an integer (no decimals).

By default this option is disabled. When enabled, the timer begins when and wait until sensor detects movement, and once the Door Working Time has expired. The service then has the defined number of seconds to report an obstruction is detected.

Virtual Stop

When enabled, it simulates emergency stop function from Home App when Garage Door is moving and service is triggered again from Apple Home App, instead changing movement direction. It will exec Emergency Stop action.

Key	Value	Description
`"vs"`	`0`	**Virtual Stop disabled (*default*)**
	`1`	Virtual Stop enabled

Service Notifications

The list of notifications `"m"` supported by a garage door are as follows:

Value	Notification
`0`	**Door open (*default*)**
`1`	Door close
`2`	Emergency stop
`3`	Obstruction removed
`4`	Obstruction detected
`5`	Toggle door target state
`6`	Obstruction detected by Obstruction Detection Time
`10`	Set Door state to opened
`11`	Set Door state to closed
`12`	Set Door state to opening
`13`	Set Door state to closing
`-1`	Reset inching time

See the general Service Notifications section for details of how to configure these notifications.

Digital Inputs

Digital Inputs `"b"` are supported by this service.

See Digital Inputs for details on how to define this mandatory option.

State and Status Inputs

State inputs `"f[n]"` are supported by this service. The supported list is:

Key	Required State
`"f0"`	Set garage door to open
`"f1"`	Set garage door to close
`"f2"`	Indicates that garage door is open
`"f3"`	Indicates that garage door is closed
`"f4"`	Indicates that garage door is opening

Key	Required State
`"f5"`	Indicates that garage door is closing
`"f6"`	Indicates that there is not obstruction
`"f7"`	Indicates that there is obstruction
`"f8"`	Emergency stop

Refer to State Inputs for more detail and examples.

ICMP Ping Inputs

ICMP Ping inputs `"p[n]"` and `"q[n]"` are supported by this service. Refer to ICMP Ping Inputs for more detail.

Initial Lock State

The Initial Lock State about Service and Physical controls.

Key	Value	Notification
`"ks"`	`0`	All locked
	`1`	Service unlocked. Physical controls locked
	`2`	Service locked. Physical controls unlocked
	`3`	**All unlocked (*default*)**

Initial State

The Initial State key is supported by this service. Refer to Initial State for more details.

Key	State	Description
`"s"`	`0`	Open
	`1`	**Closed (*default*)**
	`5`	Last state before restart
	`6`	Opposite to last state before restart

Service Characteristics

Characteristic	Description
0	Current Door State
1	Target Door State
2	Obstruction detected

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