【CLAIMS】

【Claim 1】

A washing machine comprising:

a main body including a laundry port therein;

a tub installed inside the main body and configured to accommodate water;

a drum rotatably installed inside the tub and configured to accommodate laundry;

a driver configured to rotate the drum;

a detector configured to detect a temperature inside the tub;

a main door installed in the main body to open and close the laundry port;

an auxiliary door installed in the main door and configured to be openable and closable separately from the main door;

a main locking device installed in the main body to lock or release the main door;

an auxiliary locking device installed in the main door to lock or release the auxiliary door;

a first inputter through which an operational signal for operating the washing machine is input;

a second inputter through which a laundry addition signal for adding additional laundry is input; and

a controller configured to:

in response to the operational signal, control the main locking device and the auxiliary locking device to lock the main door and the auxiliary door and control the driver to rotate the drum, and

in response to the laundry addition signal, control the driver to stop rotating the drum and control the auxiliary locking device to release the auxiliary door, based on the temperature detected by the detector being lower than a set temperature.

【Claim 2】

The washing machine of claim 1, wherein:

the detector is further configured to detect whether the drum is being rotated, and

the controller is further configured to control a locking of the auxiliary door based on whether the drum is being rotated.

【Claim 3】

The washing machine of claim 2, wherein the controller is further configured to inform a user of an openable or closable state of the auxiliary door according to a detected temperature inside the drum and whether the drum is being rotated.

【Claim 4】

The washing machine of claim 1, wherein:

the detector is further configured to detect a level of water stored in the tub, and

the controller is further configured to control a locking of the auxiliary door based on the detected level of water.

【Claim 5】

The washing machine of claim 1, wherein:

the auxiliary door is further configured to maintain a locked state during operation of the washing machine, and

the drum is further configured to stop rotating when the locked state of the auxiliary door is released.

【Claim 6】

The washing machine of claim 1, wherein the controller is further configured to control a locking of the main door based on the temperature detected by the detector in response to the operational signal.

【Claim 7】

The washing machine of claim 6, wherein the controller is further configured to:

compare the detected temperature with a set temperature, and

unlock the main door according to a comparison result.

【Claim 8】

The washing machine of claim 6, wherein:

the detector is further configured to detect whether the drum is being rotated, and

the controller is further configured to control the locking of the main door based on whether the drum is being rotated.

【Claim 9】

The washing machine of claim 8, wherein the controller is further configured to inform a user of an openable or closable state of the main door according to a detected temperature inside the drum and whether the drum is being rotated.

【Claim 10】

A method of controlling a washing machine including a main body having a laundry port therein, a tub installed inside the main body and configured to accommodate water, a drum rotatably installed inside the tub and configured to accommodate laundry, a driver configured to rotate the drum, a main door installed in the main body to open and close the laundry port, an auxiliary door installed in the main door and configured to be openable and closable separately from the main door, a main locking device installed in the main body to lock or release the main door, and an auxiliary locking device installed in the main door to lock or release the auxiliary door, the method comprising:

determining whether an operational signal for operating the washing machine is input;

in response to the operational signal, controlling the main locking device and the auxiliary locking device to lock the main door and the auxiliary door, and controlling the driver to rotate the drum;

determining whether a laundry addition signal for adding additional laundry is input while a cycle of the washing machine proceeds;

in response to the laundry addition signal:

detecting a temperature inside the tub; and

controlling the driver to stop rotating the drum and controlling the auxiliary locking device to release the auxiliary door, based on the detected temperature being lower than a set temperature.

【Claim 11】

The method of claim 10,

wherein the cycle of the washing machine includes a wash cycle, a rinse cycle and a spin dry cycle.

【Claim 12】

The method of claim 11, further comprising:

counting down a washing time at an input time of the operational signal when the operational signal is input during the wash cycle; and

extending a time of performing the wash cycle when the counted down washing time is compared with a set time and the washing time exceeds the set time.

【Claim 13】

The method of claim 11, further comprising:

determining a number of times of rinsing carried out at an input time of the operational signal when the operational signal is input during the rinse cycle; and

controlling the number of times of rinsing of the rinse cycle when the number of times of rinsing carried out is not one.

【Claim 14】

The method of claim 11, further comprising:

informing a user of an unopenable state of the auxiliary door according to a spin dry RPM at an input time of the operational signal when the operational signal is input during the spin dry cycle.