2.3 Operations Arising when the OUT, SET/RST, and PLS/PLF Instructions of the Same Device are Used

If two or more OUT, SET/RST, and PLS/PLF instructions are executed using the same device during one scan, they operate as described in this section.
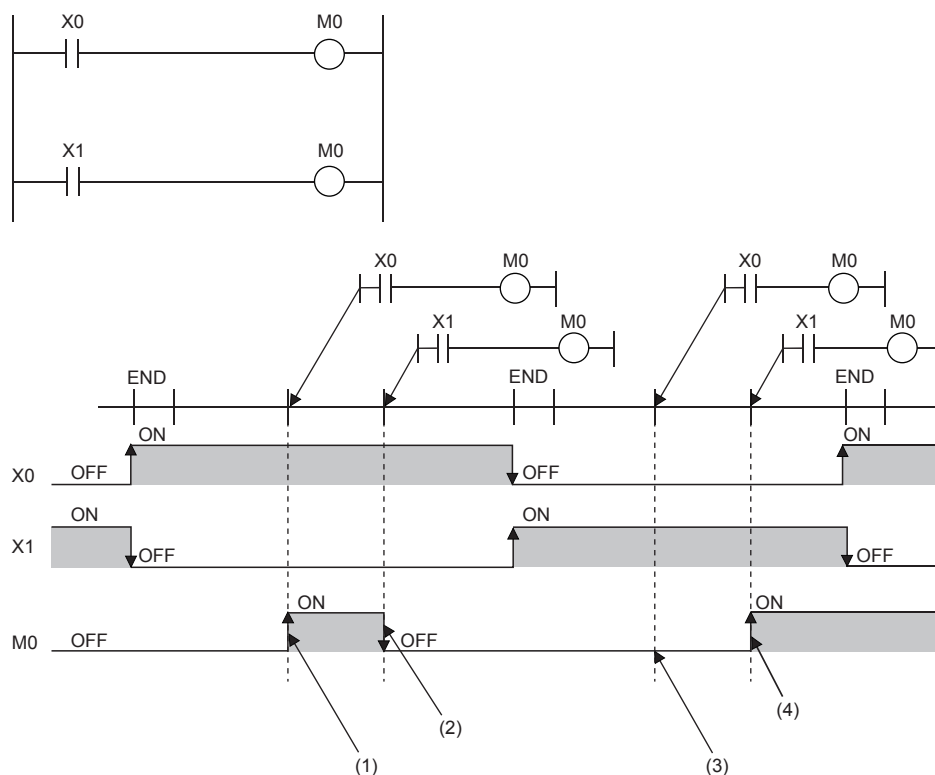
For OUT instructions of the same device

More than one OUT instruction of the same device must not be issued during one scan.

Otherwise, the specified device turns on or off, depending on the operation result up to each OUT instruction while it is in execution.

In this case, the device may turn on/off during one scan because the on/off state of the specified device is determined during execution of each OUT instruction.

The following figure shows the behavior arising when a circuit turning on/off the same internal relay (M0) is created with input X0 and X1.

(1) Since X0 is on, M0 turns on.
(2) Since X1 is off, M0 turns off.
(3) Since X0 is off, M0 remains off.
(4) Since X1 is on, M0 turns on.

If output (Y) is specified using an OUT instruction, the on/off state of the last OUT instruction executed during the one scan will be output.

If SET/RST instructions of the same device are used

■For SET instructions

The SET instruction turns on the specified device if the execution command is on, and causes no operation if it is off.

Thus, if two or more SET instructions of the same device are executed during one scan, the specified device turns on even if one execution command is on.
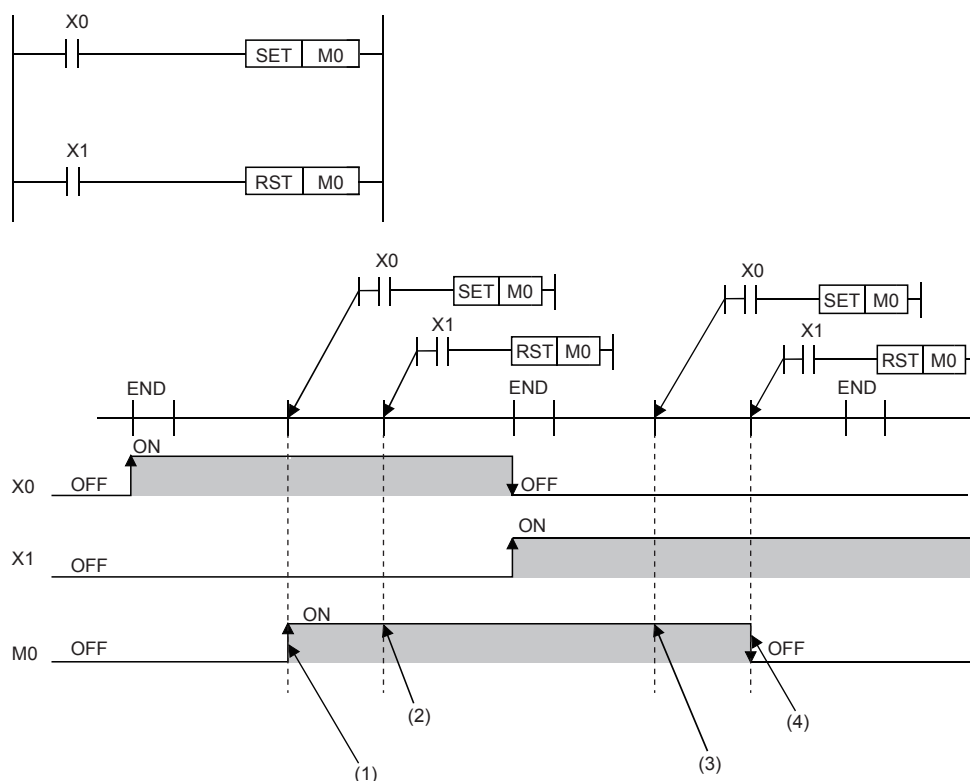
■For RST instructions

The RST instruction turns off the specified device if the execution command is on, and causes no operation if it is off.

Thus, if two or more RST instructions of the same device are executed during one scan, the specified device turns on even if one execution command is off.

■If the SET and RST instructions of the same device exist in one scan

If the SET and RST instructions of the same device exist in one scan, the SET instruction turns on the specified device if the execution command is on, and turns off the specified device if it is on.

If both the SET and RST instructions are off, the on/off state of the specified device will be unchanged.

(1) Since X0 is on, M0 turns on.
(2) Since X1 is off, M0 remains on. (The RST instruction results in non-processing.)
(3) Since X0 is off, M0 remains on. (The SET instruction results in non-processing.)
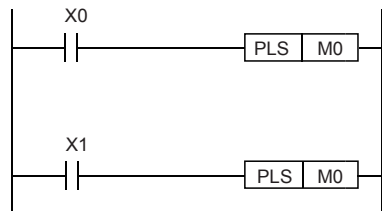(4) Since X1 is on, M0 turns off.

If output (Y) is specified using a SET/RST instruction, the on/off state of the last SET/RST instruction executed during the one scan will be output.

2 PRECAUTIONS ON PROGRAMMING
2.3 Operations Arising when the OUT, SET/RST, and PLS/PLF Instructions of the Same Device are Used

41

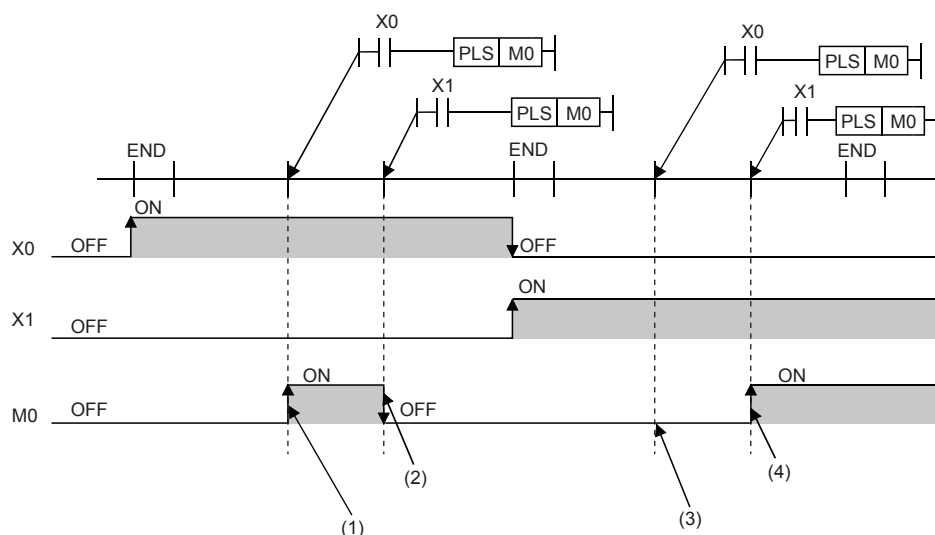## If PLS instructions of the same device are used

The PLS instruction turns on the specified device when the execution command specifies an off-to-on change. The specified device is turned off unless the execution command specifies an off-to-on change (i.e. off to off, on to on, on to off).

Thus, if two or more PLS instructions of the same device are issued during one scan, the specified device is turned on when the execution command of each PLS instruction specifies an off-to-on change. The specified device is turned off unless the execution command specifies an off-to-on change.

Thus, if two or more PLS instructions are issued during one scan, the device turned on by a PLS instruction may not turn on for one scan.
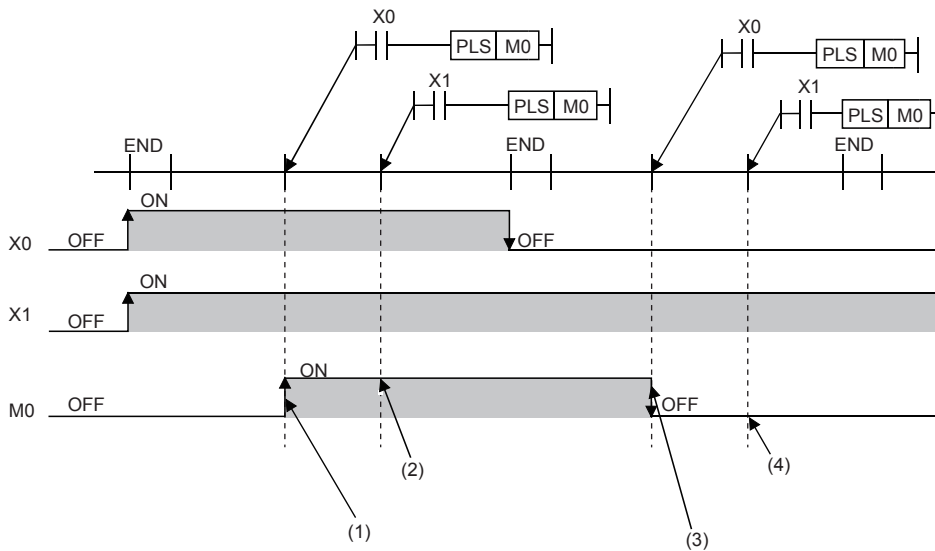

• If X0 and X1 differs in the on/off timing (i.e. the specified device does not turn on for one scan)

(1) Since X0 turns on, M0 turns on.
(2) Since X1 is other than turning on, M0 turns off.
(3) Since X0 is other than turning on, M0 remains off.
(4) Since X1 turns on, M0 turns on.

- If the off-to-on changes of X0 and X1 are at the same timing

(1) Since X0 turns on, M0 turns on.
(2) Since X1 turns on, M0 remains on.
(3) Since X0 is other than turning on, M0 turns off.
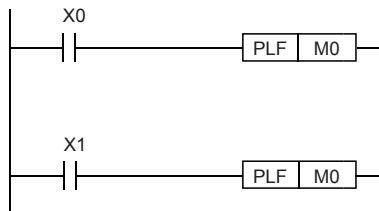(4) Since X1 is other than turning on, M0 remains off.

If output (Y) is specified using a PLS instruction, the on/off state of the last PLS instruction executed during the one scan will be output.

2 PRECAUTIONS ON PROGRAMMING
2.3 Operations Arising when the OUT, SET/RST, and PLS/PLF Instructions of the Same Device are Used

43

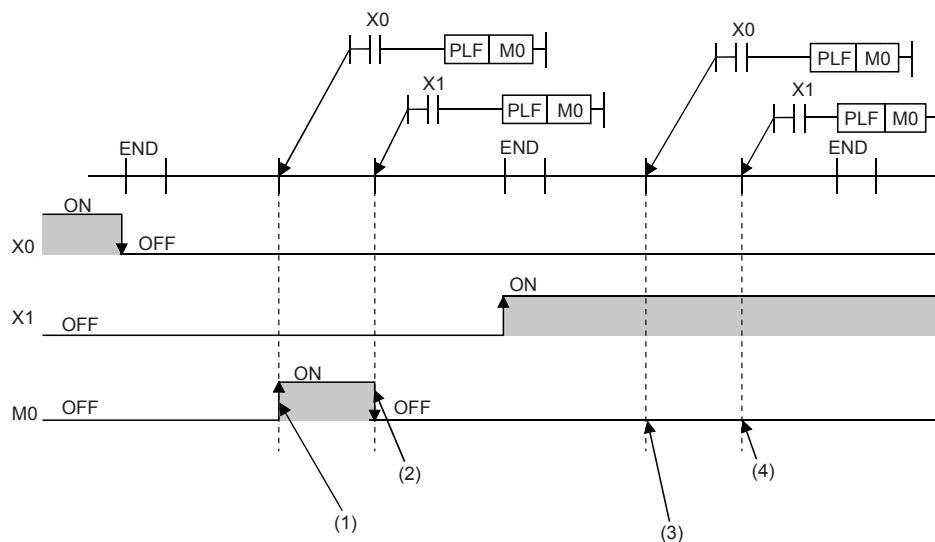## If PLF instructions of the same device are used

The PLF instruction turns on the specified device when the execution command specifies an on-to-off change. The specified device is turned off unless the execution command specifies an on-to-off change (i.e. off to off, off to on, on to on).

Thus, if two or more PLF instructions of the same device are issued during one scan, the specified device is turned on when the execution command of each PLF instruction specifies an on-to-off change. The specified device is turned off unless the execution command specifies an on-to-off change.

Thus, if two or more PLF instructions are issued during one scan, the device turned on by a PLF instruction may not turn on for one scan.

• If X0 and X1 differs in the on/off timing (i.e. the specified device does not turn on for one scan)

(1) Since X0 turns off, M0 turns on.
(2) Since X1 is other than turning off, M0 turns off.
(3) Since X0 is other than turning off, M0 remains off.
(4) Since X1 is other than turning off, M0 remains off.