E3ZM-V

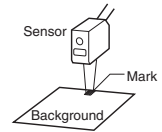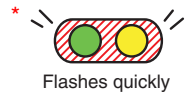### Teaching Procedure
Two-point Teaching (Button)

1. **Place the point at which you want the Sensor to turn ON in the spot position.**
   Then press the teaching button for at least 2 seconds.

Sensor
Mark
Background

↓

The teaching indicator (red) will start flashing quickly. (ON teaching is being requested.)
Perform the following operation within 7 seconds after first starting to press the teaching button. (After 7 seconds, the Unit will return to the original status.)

*
Flashes quickly

*The stability indicator (green) and operation indicator (yellow) will retain their lit or OFF status, and the teaching indicator (red) will flash.
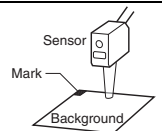
↓

2. **Press the teaching button for approximately 0.5 second.**
   The teaching indicator (red) will turn OFF for approximately 0.5 second, and then ON teaching will be completed.

Lit for approximately 0.5 second

↓

The operation indicator (red) will start to flash quickly again. (OFF teaching is being requested.)
This status will continue until the next teaching operation is executed.

Flashes quickly

↓

3. **Place the point at which you want the Sensor to turn OFF in the spot position.**
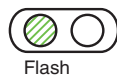
Sensor
Mark
Background

↓

4. **Press the teaching button for approximately 0.5 second.**
   The teaching indicator (red) will turn OFF for approximately 0.5 second, and then OFF teaching will be completed.

Lit for approximately 0.5 second

↙ **When Teaching Is Successful**   **When Teaching Is Not Successful** ↘

When Teaching Is Successful

The stability indicator (green) indicates whether detection is stable.

(1) Lit Indicator
   →Detection can be performed stably even with workpiece flopping.

Lit

(2) Flashing Indicator
   →Detection may be unstable because of workpiece flopping.

Flash

(3) Indicator OFF
   →Detection is unstable.

OFF

↓

Operation returns to normal.

	Stable detection	Unstable detection
Point at which the Sensor must turn ON	Lit Lit	OFF Lit
Point at which operation must turn OFF	Lit OFF	OFF OFF

When Teaching Is Not Successful

The teaching indicator (red) will flash slowly in cycles of approximately 6 seconds.

Flashes slowly

↓

Repeat the operation starting from step 1.

Remote Automatic Teaching

1. **Input a pulse with a pulse width of at least 2 seconds but less than 10 seconds into the remote control input (pink).**

2. **Teaching will be executed automatically when the side with the shorter detection time (i.e., the mark) passes by the spot.**
   - Allow a passing time of at least 1.5 ms.
   - Teaching will be completed when the mark has passed by seven times.
   - Teaching will not be successful if there is no difference in the amount of light between the mark and the background.

3. **When detection is started, the output will be ON when the shorter detection time (i.e., the mark) is detected.**

Note: Determine whether teaching has been completed according to whether the output if ON or OFF for the mark and background.
   If the output does not turn ON and OFF for the mark and background even after one minute has elapsed since the remote control input was turned ON, teaching was not successful. Turn ON the remote control input again.
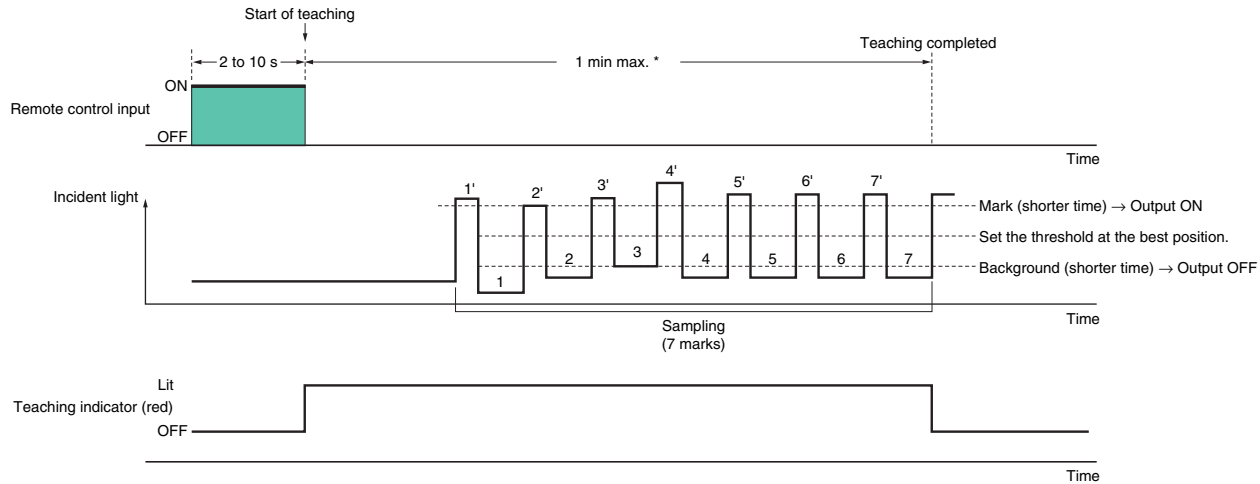
* Teaching will be cancelled if seven marks do not pass by within one minute after the remote control is input.

Precautions for Automatic Teaching (Remote)
- The operation mode can be set only to turn ON by the amount of light of the shorter detection time period. To set it to turn OFF by the amount of light of the shorter detection time period, use two-point teaching (manual).
- Automatic teaching (remote) may produce incorrect judgments if there is workpiece flopping or the workpiece surface has level differences or protrusions.
  In these cases, use two-point teaching (manual).
- This teaching function cannot be used if the background is not a solid color.